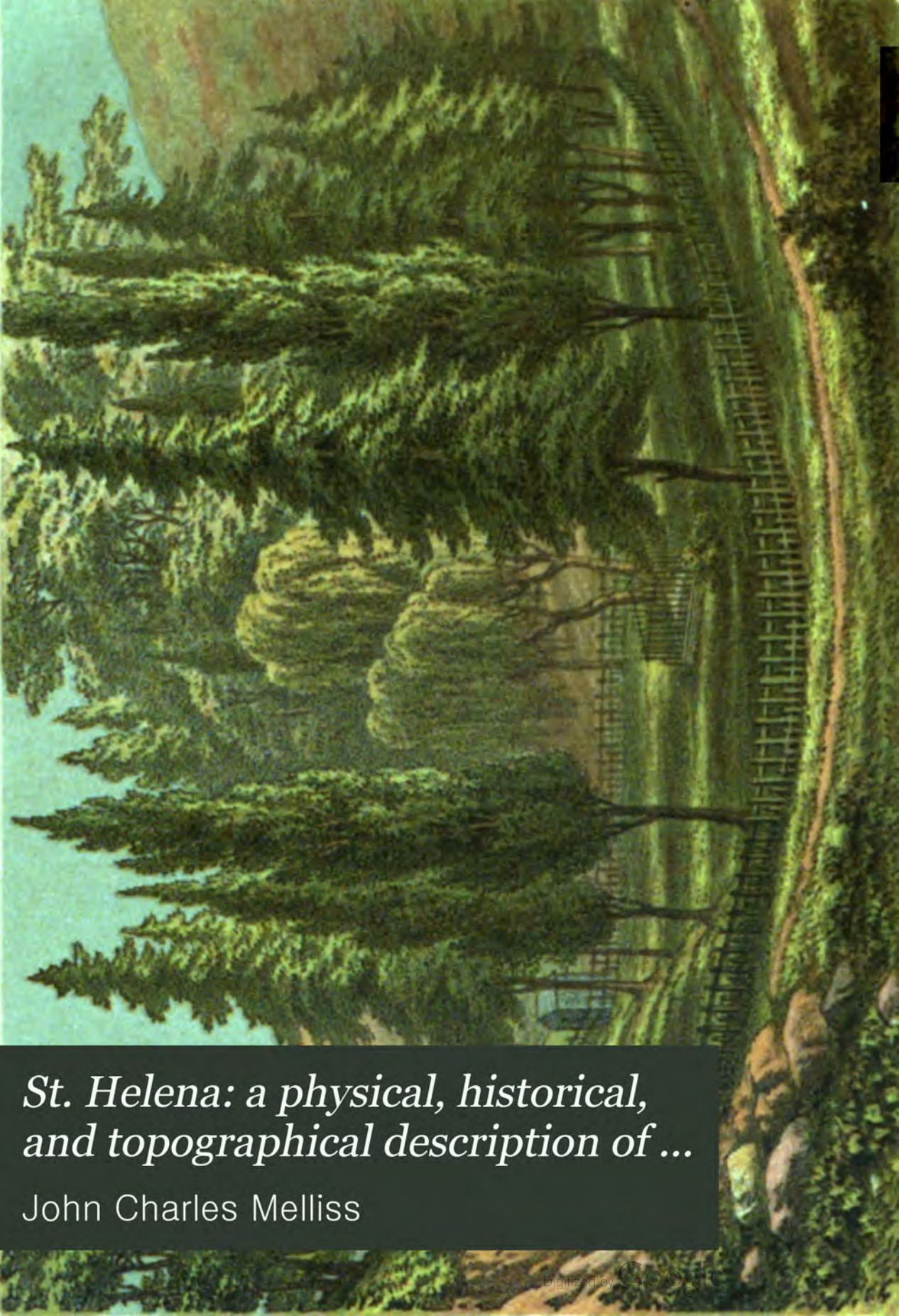


St. Helena: a physical, historical, and topographical description of ...

John Charles Melliss

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Vincent Brooks Lith

ST HELENA FROM THE ANCHORAGE.

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ST. HELENA:

A

PHYSICAL, HISTORICAL, AND TOPOGRAPHICAL DESCRIPTION OF THE ISLAND,

INCLUDING ITS

Geology, Fauna, Flora, and Meteorology.

BY

JOHN CHARLES MELLISS, A.I.C.E., F.G.S., F.L.S.

LATE COMMISSIONER OF CROWN PROPERTY, SURVEYOR AND ENGINEER OF THE COLONY.

THE BOTANICAL PLATES FROM ORIGINAL DRAWINGS

By MRS. J. C. MELLISS.



LONDON:

L. REEVE & CO., 5, HENRIETTA STREET, COVENT GARDEN.

1875.

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To the Memory

OF

MY FATHER,

WHO SERVED MANY YEARS IN ST. HELENA,

AND WHO GREATLY ENCOURAGED THIS WORK BY THE

DEEP INTEREST HE TOOK IN IT.

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PREFACE.

THERE is perhaps no other spot in the whole world which geographically presents so great an interest to the naturalist as St. Helena. A small Island, distinctly of volcanic origin, bearing no trace whatever of any continental land having existed nearer to it than a thousand miles or more, and yet possessing plants and insects that have not been found elsewhere in the world, at once suggests the inquiry, How did these things get there? The interest attaching to such a question was revealed to me by the late Sir William Hooker, about thirteen years ago, when he led me to see in the peculiar Fauna and Flora of such a spot subjects of the greatest scientific value. Subsequently encouraged by Dr. Hooker, C.B., F.R.S., General Sir Edward Sabine, R.A., K.C.B., F.R.S., Mr. T. Vernon Wollaston, M.A., F.L.S., Dr. Günther, F.R.S., F.Z.S., Dr. Gray, F.R.S., Mr. Francis Walker, F.L.S., Mr. J. Gwyn Jeffreys, F.R.S., the Rev. O. P. Cambridge, M.A., Mr. H. W. Bates, F.Z.S., and others, I realized the importance of some attempt being made to commence an account of the Fauna and Flora of what may be termed the South Atlantic Archipelago, comprising St. Helena, Ascension Island, Trinidad with Martin Vaz Rocks, Tristan d'Acunha with Nightingale and Inaccessible Islands, Gough's Island, Fernando Noronha near Cape St. Roque in South America, St. Paul's and St. Thomas's Islands near the Equator, Anno Bon off the coast of tropical Africa, and Possession Island on the coast of Southern Africa. A carefully prepared, and systematically arranged, account of the productions of each of these places, and a comparison between them and the productions of the adjacent continents of South America and South Africa, would doubtless reveal many truths in which science would delight; but such a work would occupy an amount of time and labour far surpassing that which one person, even were he free from official duties, could possibly supply.

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That a commencement, however, as a sort of foundation whereon others might continue to build, should be made, seemed to me desirable, as a first step whereby a whole might ultimately be attained. It being my lot to be stationed at St. Helena, I have endeavoured, with the limited time at my disposal, to make that Island a starting-point in such a work; and if it appears presumptuous to publish the little I have been able to achieve, I would explain, that it is done with the hope that others, who have the opportunity, may take up the thread of the subject, and add the Fauna and Flora of some one or more of the other Islands, until all shall be completed.

It is evident that as each year passes by it becomes more and more difficult to distinguish between the really indigenous species and those which have followed in the track of civilization; but the difficulty is not so great as at first sight appears, if peculiar circumstances are observed, localities carefully noted, and the collections investigated, as mine have been, by eminently scientific men. My warmest thanks are due not only to those gentlemen I have already mentioned, but others also, who have examined and described my specimens, and in many ways, with much kindness and courtesy, encouraged and assisted me in the undertaking; especially Mr. Francis Walker, who has named nearly the whole of my insects, excepting the Coleoptera, and permitted me to use his original descriptions of new species.* I have myself endeavoured to aim at accuracy, and not having collected elsewhere, I can claim exemption from the possibility of my specimens having become mixed with any from other places.

Those species which are without doubt indigenous to the Island are distinguished by an asterisk prefixed to their names, while others have their chief habitat denoted. To each I have endeavoured to add the local name or some short description, by which it may be readily recognised by persons who may be interested in continuing to collect, but who cannot spare the necessary time to make a full study of the subject.

My ideas on the geological formation of the Island were formed, and my notes thereon written, before I met with the account given by Mr. Darwin, after his short visit to the Island in the *Beagle*,

* Since this preface was written, I have, with very great regret, heard of the death of Mr. Walker, and I would wish to thank Mr. Janson for kindly correcting the proofs of Mr. Walker's original descriptions.

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thirty years ago, and before I had the pleasure of examining the Island in company with Captain J. R. Oliver, R.A., a few years ago, who subsequently published a pamphlet on the subject; and it is extremely satisfactory to me to find that in the main points we are all unanimous in opinion as to the geological construction of the Island.

Mr. Andrew Murray, F.L.S., in a very interesting paper, recently published,* on the geographical relations of the chief Coleopterous Fauna, taking as a basis the theory of "continuity of soil at some former period," to explain the present geographical distribution of plants and animals over the globe, expresses his conviction "that there has been one, possibly two, great continental routes of communication between the Northern and Southern Hemispheres, both now lying buried in the ocean, the one at the bottom of the Atlantic, the other in the depths of the Pacific;" and points to St. Helena as a crucial test to the hypothesis of a communication between the Northern and Southern Hemispheres by an Atlantic continent. Mr. Roland Trimen, F.L.S., F.Z.S., having himself visited some of the Atlantic islands, shows in a subsequent paper,† with some lucid notes, a disinclination to favour this theory of dispersal, and refers to the opinion of Mr. Darwin (Orig. of Spec., 4th edit. p. 427) as being also unfavourable to such an hypothesis. As regards the Oceanic Islands, of which St. Helena forms a type, it seems to me that the hypothesis is not in any way borne out by an investigation of the geological structure of the Island, but, on the contrary, every characteristic of that volcanic mass seems to point to an entirely insular land of vast antiquity.

No branch of Natural History is perhaps so calculated to convey a correct idea of a place as its Botany, and a careful and full account of even its exotic plants and flowers, with the particulars and peculiarities which surround them, would in this respect not be without some value. I have therefore endeavoured to make my list include every plant that is found in the Island; and in doing so I have had the aid of Dr. Roxburgh's Catalogue, and also been fortunate enough, through the kindness of Dr. Hooker, to have my own collection examined and identified at the Kew Herbarium, where I have received much kind and ready assistance from

* Journal Linn. Soc., vol. xi. No. 49, 1870. † Ibid. No. 52, 1871.

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the staff of botanists. I am also indebted to Mr. Hemsley for assistance in this portion of the work.

My collections of Mosses, Lichens, Fungi, and Seaweeds have respectively been examined and reported on by Mr. William Mitten, F.L.S., the Rev. W. Allport Leighton, B.A., F.L.S., the Rev. M. J. Berkeley, M.A., F.L.S., and Professor Dickie, F.L.S., to whom I would offer my best thanks; especially to Mr. Mitten and Mr. Berkeley for original descriptions and drawings of new species.

To Dr. Hooker I am extremely indebted for placing at my disposal the whole of Dr. Burchell's valuable collection of sketches, from which, and the "Icones Plantarum," Mrs. Melliss has added to her drawings of the Indigenous Plants the enlarged *details* of the flowers.

The Historical Notes have been gathered chiefly from old records and documents preserved in the Government Office at St. Helena, as well as from Brook's "History of St. Helena" (a book now long out of print, and for the possession of which I am indebted to the kindness of Colonel Ward, late of H.M. 91st Regiment), and have been added for the information of those whose interest in the Island may have been increased through residing at or visiting it.

The Meteorological Tables, given in the Appendix, are quoted from the published account of "Five Years' Observations at Longwood," under the direction of General Sir Edward Sabine, R.A.

JOHN CHARLES MELLISS.

LONDON, *January*, 1875.

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ERRATA ET ADDENDA.

Page 1, *for* "5° 49′ west longitude," *read* "5° 42′ west longitude."

„ line 8 from bottom, *for* "green" *read* "clad."

„ 85, *for* "*Calla*" *read* "*Richardia.*"

„ 93, *for* "*terebrata*" *read* "*religiosa.*"

„ 94, *for* "*Salsola*" *read* "*Schoberia.*"

„ 134, 135, 136, *for* "Nitioxenus" *read* "Notioxenus."

„ 245, Genus MELHANIA should also have for synonym PENTAPETES, Forst.

Species No. 95, should also have for synonyms *Dombeya erythroxylon*, Willd. and *Pentapetes erythroxylon*, Bot. Mag. t. 1000.

Species No. 96, should also have for synonym *Dombeya erythroxylon*, Andr. Bot. Repos. vi. t. 389, not of Willdenow.

„ 255, Species Nos. 155, 156, 157 should be placed under PITTOSPOREÆ.

„ 286, Plate 37, *for* "rugosum" *read* "glutinosus."

„ 356, *for* "*Dicksonia arborea*" *read* "*Dicksonia arborescens.*"

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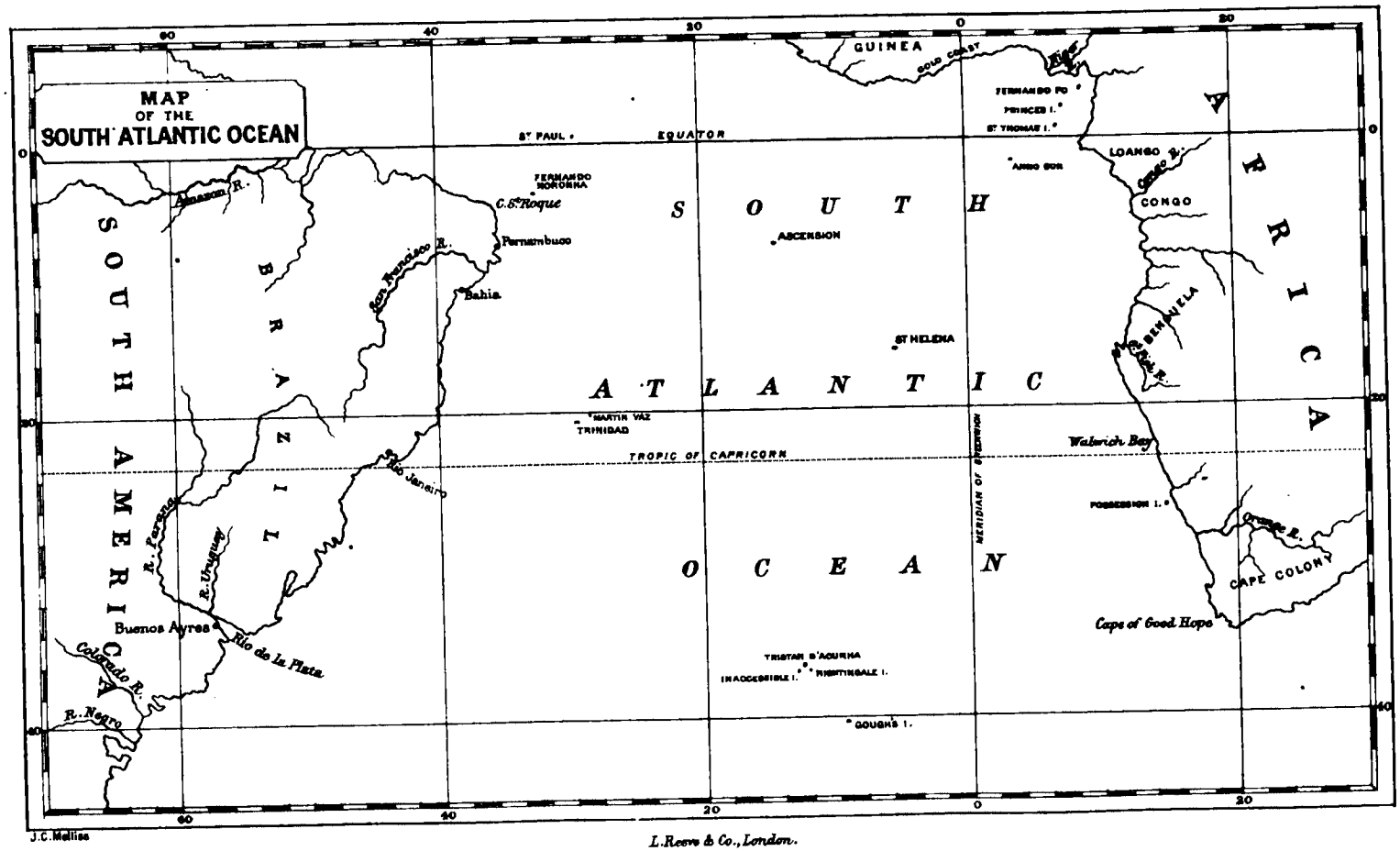
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ST. HELENA.

PART I.—HISTORICAL.

ST. HELENA is the most solitary island of the Southern Atlantic Archipelago. In 15° 55′ south latitude and 5° 49′ west longitude, alone it stands, in the very midst of the South Atlantic Ocean, 1140 miles distant from the African Continent on one side, 1800 from South America on the other, 698 from the Island of Ascension, and 4000 from England. No human eye ever saw this rocky spot in its primeval grandeur until the 21st of May in the year 1502, when one of the earliest and bravest navigators, Commodore John de Nova Castella, commanding a Portuguese fleet on its return from India, discovered it. He found there no aborigines, nor was any trace of man's work to be seen. This celebrated voyager with his companions had, however, the satisfaction of seeing the Island in all the pristine beauty of its native vegetation. Unfortunately in those days it never occurred to them to make a collection of its plants, or other productions; and all we know of it at that period is, that rich vegetation clothed its surface, the interior being described as an entire forest, with Gumwood and other indigenous trees overhanging some of the sea precipices. It requires some amount of faith on the part of the modern traveller, when told this, to see in the now dark, frowning, barren, rocky outside of St. Helena any probability of its ever having been green with verdure; but there are good reasons for believing the record of the discoverers to be correct. An abundance of fresh water, running down the valleys into the sea, existed then as now, but the only inhabitants seem to have been sea birds, seals, sea lions, and turtle; at least we are not informed of any others, although it is elsewhere recorded that one *land* bird was found there. These early navigators were generally on the look out for new islands, and

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were quite prepared to stock and to colonize them whenever it was their fortune to discover them. The former they were quite prepared for on this occasion, by the fact of their having with them, and their leaving at the Island, a supply of goats, asses, and hogs, but it does not appear that any human being remained; nature was left in possession to reign alone for eleven years longer, disturbed only by the battle which has waged ever since between the goats and the native vegetation.

The day of its discovery being the anniversary of the birthday of Helena, the mother of Constantine the Great, the island was called St. Helena, in honour thereof, by the Portuguese, and has retained the same name ever since.

In the year 1513, the Portuguese, partly with a view to colonize the place, and partly, as was their custom, to dispose of a prisoner, returned there from India, and left as its first human inhabitant Fernandez Lopez, a nobleman, who having incurred disgrace through desertion, was so rewarded; previously he had been mutilated by his nose, ears, right hand and little finger of the left hand being cut off, and he appeared to prefer this banishment to the reproach which he must suffer on being taken home to Europe. He thus had the honour of being the first Governor of St. Helena, and was provided with a few negro slaves, pigs, goats, poultry, partridges, guinea fowl, pheasants, peacocks, vegetables, roots, fig, orange, lemon and peach trees. After this poor creature had spent four years in cultivating the soil, his Robinson Crusoe style of life came to an end by his removal through orders from Portugal.

The Portuguese continued to make use of the Island as a place of call for homeward bound ships. On the 8th June, 1588, it was visited by Captain Cavendish, who anchored his ship off Chapel Valley (now James' Valley), and found there a settlement comprising several good buildings and a Roman Catholic church. The attempts of the Portuguese to introduce useful plants had evidently succeeded, for fig, lemon, orange, pomegranate, shaddock and date trees were then growing there, as well as parsley, sorrel, basil, fennel, aniseed, mustard, and radishes; he moreover found partridges, pheasants, guinea cocks or turkeys, with a large number of goats and wild pigs. Captain Cavendish had a good opportunity of investigating the place on this occasion, as it appears that he escaped meeting there the Portuguese homeward bound fleet by twenty

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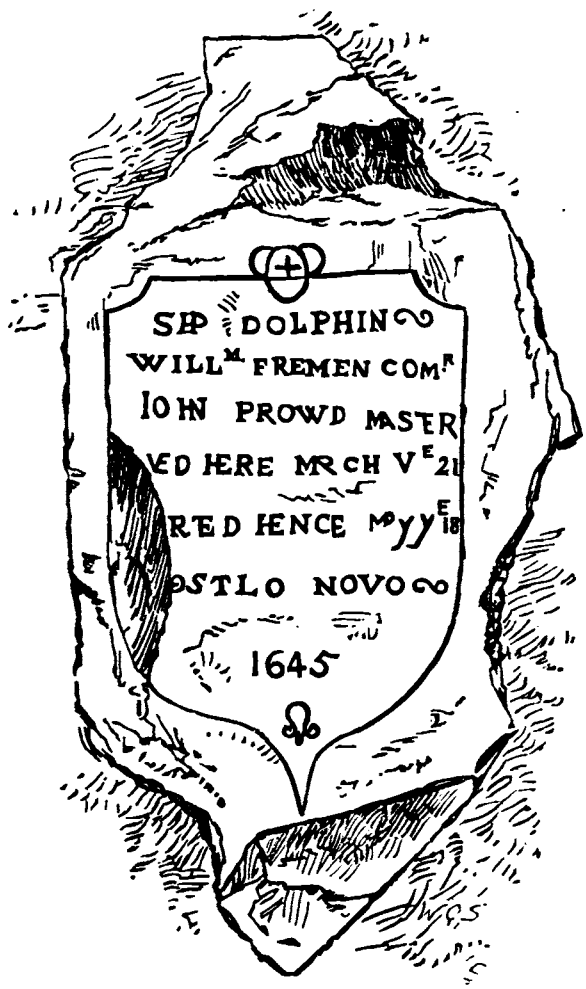
days, it having sailed just that time before his arrival. He does not seem to have molested the St. Helenians, for he took his departure after twelve days; and the next visit of the English appears to have been in the year 1591, when Captain Kendall, commanding one of three ships which undertook the first trading voyage to India, and having only reached the Cape of Good Hope, was obliged to return, and called at the Island. One of the ships, commanded by Captain Lancaster, succeeded in reaching India, and on its return he visited St. Helena on the 3rd April, 1593, remaining there nineteen days. The place does not then appear, notwithstanding the flourishing condition in which it was found by Captain Cavendish only five years before, to have been a very desirable residence, for it is recorded that Captain Lancaster found there one of the crew of Captain Kendall's ship, who was so overjoyed at once more beholding the faces of his countrymen, and the prospect of revisiting his native country, that for eight days he took no rest and died for want of sleep.

Probably the next visit of the English was when Captain Lancaster again arrived there, on the 16th June, 1603, on his return a second time from India, with two out of a fleet of four ships, that had left England in the interest of the East India Company. It became, about this time—little more than a century after its discovery—a resort of Dutch and Spanish ships, as well as English; and Portuguese authority seems to have lessened, through that power being interested in acquiring possessions elsewhere, and the Island was for awhile deserted, though still used by the captains and crews of ships as a South Atlantic Post Office. It was customary to place letters under huge boulders of stone, marked in a conspicuous manner, so that the crews of ships returning from India might obtain news from home. An interesting record of this period is still to be seen on a rude block of lava, measuring nearly five feet high, and two feet six inches wide, which has been preserved by being subsequently built into a large mass of masonry or mausoleum, in the Jamestown lower burial ground, erected "In Honour of the Memory of Mistress Ann Pyke, A.D. 1716," but hideous enough to terrify the ghost of that good lady, should it ever indulge in midnight rambles.

The Dutch traders to the East were the next to appropriate this deserted oceanic highway resting-place. They took possession of and retained it until the year 1651, when, in consequence of their esta-

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blishing a colony at the Cape of Good Hope, they left St. Helena, and the English East India Company, being fully alive to its value, immediately took possession of it. They held it for ten years, and then obtained from King Charles the Second a charter to secure them in



SOUTH ATLANTIC POST OFFICE OF 1645.

its further possession. This Company becoming absolute owners of the place, at once commenced to establish a small colony. They erected fortifications, introduced settlers from England as well as new plants and stock, so that a general improvement took place, which so excited the covetous desires of its recent possessors, the

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Dutch, that in the year 1665 they successfully attacked and again took possession of it. The English, however, speedily retook it, and within twelve months were in full possession; but these proceedings impressed them with the importance of strengthening their fortifications, and accordingly they pulled down the original fort, built in 1659, of which a stone record yet remains, and erected another, which doubtless forms the basement story of the present castle in Jamestown. This they called Fort James, in compliment to the then Duke of York (afterwards King James the Second), and this accounts doubtless for the change of name, about this period, from Chapel Valley to James Valley, and more recently to Jamestown.

Whether, during the first seven years of their renewed possession, the English were too much occupied with building fortifications and improving the place to spare time for recording their transactions or not is uncertain, but it is a fact that no written accounts of that period are forthcoming, and from tradition only is it gathered that the place was governed successively by men whose names were Dutton, Stringer, Swallow, Coney, and Bennett. They were succeeded by Captain Anthony Beale, during whose government, in the year 1673, the Dutch again took it, but not without considerable resistance on the part of the English, who were somewhat prepared for the attack. The Dutch, on this occasion, made their first attempt to land at Lemon Valley, on the leeward coast, but were observed by the English, who repulsed and drove them back with showers of rocks and stones hurled down the steep hill sides, until they were compelled to seek shelter on board of their ships. Even in modern warfare of the present day such a fusilade would be most formidable, but it only increased the determination of the Dutch for repossession; accordingly they waited until the darkness of night came on, when fortunately for them an Island planter, who with his slave had been fishing on the coast, lighted a fire to cook his supper. The Dutch, espying the light from their ships, directed their course towards it, and landed at a part called Bennett's Point. Probably by threats, they influenced the slave to guide them up the intricate paths of Swanly Valley to the mountain land near High Peak; but the English also were on the alert, and were there prepared to meet them with a force of 500 men from the Island garrison. The battle of High Peak, which then took place, resulted in favour

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of the invaders, who pushed onwards by way of Ladder Hill towards Fort James, into which the Governor and inhabitants had retired. After long and tedious attacks upon this fort it yielded to the Dutch. The Governor and English inhabitants, with their effects, made their escape on board of ships then in the harbour to the coast of Brazil, where, as good fortune would have it, they fell in with a British squadron under the command of Captain, afterwards Sir, Richard Munden, proceeding outwards for convoy to the East India homeward-bound fleet. Captain Munden, on learning what had happened at St. Helena, resolved to attempt its recapture, and immediately with his ships made sail for the Island, arriving there on the 14th May, 1673. Being unobserved, and quite unexpected by the Dutch, early on the following morning he landed 200 men, under the command of Captain Kedgwin, at a spot on the eastern coast, which they called Prosperous Bay, and with them also a slave named Oliver, who had lately fled from St. Helena with Governor Beale. Their landing-place still retains the name of Kedgwin's Rock. Oliver, the slave, being well acquainted with the Island, piloted this little army inland up the steep and rugged cliffs until they reached an almost insurmountable precipice, which seemed to check their further progress, when one of the party named Tom, taking with him a ball of twine, and encouraged by the repeated exhortations of his companions, achieved the difficult and dangerous task of scaling it. By means of his ball of twine, Tom was able to establish a rope communication to assist his companions up the cliff, and in honour to his exploit the place to this day retains the name of "Holdfast Tom." Captain Kedgwin and his army, having safely ascended the precipice, were able to gain the heights of Longwood, and proceeding by way of Huts Gate, where they obtained food from some cottagers, took up a position on the top of Rupert's Hill, overlooking Jamestown on its eastern side. During all this time Captain Munden, with his squadron, was making his way to the northern side of the Island, and appearing in front of Fort James just at the same time as Captain Kedgwin's army came up behind it, so astonished the Dutch that they immediately surrendered. The English then landed, and placing two guns in position on the hill to the eastward of Fort James, as a precautionary measure, thus commenced the fortification known to this day as Munden's Battery. This repossession by the English was accomplished in so short a space of time, and

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there being no mail steamers or cablegrams in those days, intelligence of it had not reached Holland before a governor had been sent out to succeed the Dutch officer (supposed to be named Dyke) who had been temporarily placed in charge of the Island. Captain Munden had therefore the satisfaction of taking him prisoner on his arrival at St. Helena, as well as making prizes of several richly-laden Dutch ships, which, in total ignorance of what had taken place, put into the roadstead on the homeward-bound voyage. He then left the Island in charge of Captain Kedgwin. King Charles the Second again granted, by Charter dated 16th December, 1673, the rights and powers of sovereignty to the East India Company, as lords proprietors of the Island,* who constituted a local government and raised an European garrison for its defence. Captain Kedgwin was, by his own wish, soon after succeeded by a new governor, Captain G. Field, and there is reason to believe that his valuable services, as well as Slave Oliver's, were remembered by the East India Company. Governor Field's members of council were not appointed by competitive examination; three of them being unable to sign their names, were well satisfied to assent to the Board's proceedings by affixing a hieroglyphical mark instead; nevertheless they managed very well the affairs of the country. Amongst other efforts to improve it they induced Europeans to settle there, obliging each owner of ten acres to maintain one European capable of bearing arms; landowners themselves also being required to do so, and to join the militia corps whenever danger threatened. They built batteries and mounted guns in various parts, and were no less strict in their moral code of laws than they were cruel in the punishments inflicted. Observance of Sunday was most strictly enjoined by proclamation as follows:—

"The Lord's Day be religiously observed through the said Island, and all persons hereby enjoyned to abstaine from all Bodily labour, unnecessary travell, or any secular employment (except workes of necessity and charity), and noe person presume to spend any part of that day in unlawfull sports, but all (who are able) are required to resort every Lord's day unto Publique place or places, where the worshipp of Almighty God is celebrated, and there joyne together in

* A copy of this charter as well as a copy of that of 1661 is printed in Brooke's Hist. of St. Helena.

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the solemne exercises of Right Duties, and attendance upon God's holy ordinances." Also carefully to avoid the "odious sinnes of prophane swearing and curseing or commonly takeing the holy name of the Great Glorious God in vaine, and to abstaine from Drunckenness, stealing, thieving, and other horrid vices and wickednesses."

Transgression of such laws was soon followed by punishment, for we read that one "Sarah Marshall had one-and-thirty lashes on her naked body at the flagstaffe for scandelizing Captain Bendall." And "Parnum was fined 5*s*. for working on the Lord's day, and his wife 1*s*. for cursing the Island." But the severe determination to maintain order is more apparent by the following:—Sottoe, a slave, being chastised by his master, retaliated by attacking him with his knife; he did not murder or do his master much harm, but there being some dread of an insurrection amongst the blacks at the time, poor Sottoe was destined to be made an example of. Vainly he pleaded that a fellow slave named Rowland had instigated the attack on his master, and that he was urged on while under the exciting influence of a pipe of tobacco which he had stolen and smoked. It was ordered that his hand, wherewith he attacked his master, was to be cut off; he was then to be hanged, and when dead his head cut off and placed on the top of the Market-house as a caution to all other transgressors. Rowland was not allowed to escape either; he was to be led, with a rope round his neck, to witness his companion's execution, and after forty stripes administered on his naked body to have a pair of iron pothooks riveted round his neck until further orders. This frightful sentence was not, however, fully carried out. Sottoe's hand was cut off in presence of all the blacks, but his life was spared. The most common military punishment adopted was riding the wooden horse, as we see in the case of a soldier named William Melling, who, for swearing and incivility, "doe ride the wooden horse two houres with a bag of shott at each heele;" also, "Richard Honeywood who doe rid ye wooden horse halfe an houre wth two musketts at each heele for slighting the Government and malitiously revenging himselfe." Slaves were punished by seventy-five lashes, with five drops of burning sealing-wax dropped on the naked body, for attempting to get away from the Island; while other terrible measures were dealt out to similar offenders.

The English occupation of the Island was never again disturbed

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by foreign powers, and it has remained a British possession ever since. Governor Field was succeeded by Major John Blackmore, a man of great piety, who unfortunately, in consequence of the bad roads existing at the time, slipped off the path near Chubb's Spring and was killed. This did not happen, however, until after he had done much for the improvement of the place; a court of justice, assembling four times in a year, was established; a similar code of laws as that in force at Bombay was adopted; but trial by jury, in consequence of the smallness of the community, was only allowed where life, limb, or land were concerned, all other cases being decided by the Governor and Council by vote. At this time, coroner's juries sat and brought in such verdicts as this—"That all unanimously agree and verily believe that the said Denning dyed a naturall death, he haveing bin long under a lingring distemper of the fflux and his body wornd to a perfect anathomy." In the year 1676, the Island was honoured by a visit from the celebrated astronomer Halley, for the purpose of observations; he pitched his tent on a high mountain ridge, still bearing the name of "Halley's Mount," but tradition says that clouds and mist so surrounded the position of the savant as to materially diminish his opportunities for observation. Governor Blackmore was succeeded by the Deputy-Governor, Captain Joshua Johnson. For upwards of twenty years the little colony had thrived and prospered. There were certain times when all the inhabitants were required to assemble, like one large family, at Fort James, to be inspected. Crime seldom exceeded the very easy one of getting into debt, or slander, or such trivial offences. Governor Johnson was notably a good man, but there had been certain feelings of dissatisfaction growing up amongst the soldiers which he had failed to observe, and which, for want of being nipped in the bud, terminated fatally for him. On the 21st April, 1693, he retired unsuspectingly to rest as usual within Fort James. Amongst the State guard, on that night, was a soldier named Jackson, who, with three of his comrades, had planned a scheme to rob the Treasury and escape from the Island. When all was quiet in the dead of night, and the Governor slept soundly, they let several soldiers from other guards who were in their secret into the fort, and then sent messages, one by one, to all the other guards, calling them in also. On imparting their plans, any who objected to join them were immediately imprisoned without

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noise in a dungeon built underground in the fort for the purpose of securing "villinous and desperat blacks." Governor Johnson was a remarkably early riser, and at daylight in the morning when he came out in his "gowne and slippers," according to custom, to give the keys to the sergeant of the guard, he was forcibly seized by Jackson and several others well armed; doubtless they intended putting him also into the dungeon alive, but, on the Governor resisting, three of the party fired at and hit him in the head, mortally wounding him, but at the same time wounding Jackson in the arm. Having so far succeeded, the determination and cruelty of these ruffians became unbounded; they hurriedly disposed of the wounded Governor by throwing him into the guard house, but in order to quiet his wife, who had been aroused by the noise, they permitted her, with the assistance of two negro women, to drag his body upstairs to her own bedroom. The surgeon whom they had taken from the dungeon to dress Jackson's wound, was permitted by them, after they were well assured of the impossibility of his recovery, to visit the Governor, who died that night. The next act of these murderers was to secure all the roadways by which intelligence might penetrate to the country, all soldiers from the garrison who came to the fort being cast into the dungeon where they already had fifty prisoners; others being sent to spike the guns overlooking the anchorage, while the ringleaders went into the Governor's closet and brought away all the treasure, the whole party proceeding with it on board of a ship named *Francis and Mary*, then lying in the roads, taking with them also the Lieutenant-Governor and several others, who, with the master of the vessel, they retained as their prisoners for the purpose of exchange, in order to procure the necessary supplies for their intended voyage. They sent one of their party on shore to intimate their intention of killing the prisoners unless their demand was complied with, and so they obtained provisions, exchanging their prisoners for them, at a spot half way between the ship and the shore, where they were beyond the range of the fort guns. Thus did these daring villains carry out their carefully planned scheme and escape no one knew whither. On shore a very chaos of excitement succeeded. The Lieutenant-Governor, Captain Richard Keelinge, took the reins of Government; but the success of this plot spread the spirit of insubordination throughout the colony, and he had greatly to exercise his ability to

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keep it in check, not only amongst the European garrison but the black slaves also. He saw the arrival of an era for decisive action, and, like the saving of our West Indian possessions and the lives of the white residents there, through Governor Eyre's prompt measures, he also no sooner became aware of a conspiracy on the part of the blacks to massacre the Europeans, and follow Jackson's steps, than, without waiting to ask his honourable masters in England what he should do, he stamped it out by securing the ringleaders, one of whom was "hanged alive in chains on Ladder Hill and starved to death," while the other two were also "hanged but cut down alive, and their quarters and heads put in some publique crossway for the publique view of all negros." Horrible as this was, we must remember that it happened nearly two centuries ago, when punishments were ten times as severe as they are now. Such is the change brought about by civilization, that a man who worries and tears his wife with a bull dog, is in England at the present time sentenced by an English magistrate to a *few* months' imprisonment only; while in those days a poor creature who attempted to injure his master by putting ground glass on the joint of meat served for his supper, was condemned to be burnt in the presence of all the adult blacks in the place, each one of them being compelled to bring in a load of wood to help in burning him.

Governor Keelinge died, after a long illness, in 1697, and was succeeded by Captain Stephen Poirier, whose government was unmarked by any particular events. News of the war between France and England reached them in due time, and defensive steps were taken; nevertheless two of the Company's ships were boarded and cut out of the roadstead by two French two-deckers, which went in under Dutch colours in broad daylight. As soon as they were discovered, the Governor gave orders to fire upon them. But alas! the powder was not at hand, neither would the sponges fit the guns; and, as he had no Whitworth or Armstrong cannon, the French ships with their prizes were soon beyond reach. To guard against another occurrence of this kind, the Company directed that all ships approaching the harbour should communicate first by boat with Bankses, and this was notified to them much in the same manner as is now the *Daily News, one penny,* to the British public at the Metropolitan railway stations; a huge board with large letters, directing them to "send a boat," was placed on Buttermilk Point,

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where it remains to this day, though not in such a fair and gaudy condition as the newspaper announcement.

Under the fostering care of the East India Company, this little colony continued to grow up and flourish, during the next hundred and thirty-years. They lavished large sums of money upon it in doing all that could be done to make it prosper; they fortified it in almost every spot where cannon could be placed, so that at the present time it is dotted all over with obsolete batteries and guns. They viewed it, in fact, as their pet child, and as many another has done, it turned out in the end to be their spoilt child. So jealous were they of its welfare, that lest it should in any way become contaminated, they punished witchcraft severely, turned Quakers away, and would not suffer a lawyer to dwell there, lest unnecessary litigation should occupy the minds of the people. But with all their anxiety, the Company was sadly unfortunate in the selection of its clergy; one after another they served to cause dissension instead of union, and to such an extent that, in 1719, Governor Pike deemed it necessary to interfere, and very justly "reprimanded the parson for making great alterations and omissions in the Church service; and since then, to make us amends, he had read the prayer for the Honble Company, but leaves out their being Lords proprietors of the Island; and whereas, before it was used by all chaplains that has been here to insert, immediately after the petition for those in the Company's service abroad, these words 'More especially the Govr and Council of this place;' and since he constantly omitts that sentence, and has given out by his brother that he don't think them worth praying for, the Governor says there is an old Proverb 'No penny no paternoster,' so we say, no paternoster, no penny, and are very well contented because we think the prayers of such a fellow can do us but little good." What effect the withholding of the parson's salary had is not recorded, but there is reason to think it only hardened him in the pursuit of his refractory course, because soon after he was "locked up and confined for persisting in reading the collect, epistle, and gospel for the 1st Sunday in Advent after the Governor call'd to him, in a very mild manner, saying 'Doctor, you are wrong, this is the second Sunday in Advent.'"

Neither was the Company always successful in obtaining very high-class men to rule their Island people, for, during the temporary succession of Governors Poirier and Goodwin, a period of disorder,

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through their administrative weakness, occurred. The energy and vigour of Captain John Roberts, who arrived in 1708, and Captain Mashborne's co-operation, however, caused matters to assume a healthier state; industry was encouraged, lime burnt, Munden's Battery erected, sugar-canes planted, bricks and tiles made, with many such undertakings, which gave employment to the islanders. The succession of Captain Bouchier was unfortunate, for of him it is chiefly recorded, that the Government gardens were laid waste and thrown into pasture for his asses, of which he kept a numerous stud; and in order to indulge in his favourite exercise of riding them in all weathers he erected a shed 400 feet in length at the Company's expense. His eccentricities continued until the close of his government, and it is said that "he stripped Government House of all that was portable when he left, even the locks and the keys from many of the doors, and everything else that might be serviceable to him on his voyage home."

At this period the population numbered 832, in about equal proportions of whites and blacks, and it went on steadily increasing at the rate of about forty-five or fifty each year.

Governor Pike's speciality appears to have been agricultural improvement. He also constructed the first safe roadway from the town to the country by way of Ladder Hill. His administration was, however, characterized by much severity, of which an anecdote is told that some soldiers, whom he had unjustly punished, escaped from the Island and his power in an open boat, and performed a voyage of near 4500 miles, eventually arriving at Nevis. He was transferred to Bencoolen, but was, in 1731, reappointed Governor of the Island, where he died seven years afterwards. On the 13th June, 1719, Mr. Edward Johnson assumed the government, and died after four years' administration. The Senior Member of Council, Mr. Edward Byfield, succeeded him for a short time until Captain John Smith arrived from England, who is described as a man capable of seeing others' faults more than his own; and, seeking popularity as a moral reformer, like others of his class, fell into disfavour through his inconsistency, and by orders from the Company was succeeded by Mr. Byfield, as Governor for the second time.

The change that was coming over the Island, through the destruction of the native vegetation, at this time attracted attention,

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and several plans for its preservation were adopted. Governor Byfield himself did good service in taking care of two young Redwood plants, which he discovered, until they produced a considerable quantity of seeds. Furze was abundantly planted to serve as fuel and lessen the cutting of indigenous trees for that purpose; all goats and sheep were destroyed for a period of ten years, so that indigenous plants shot up spontaneously in great numbers, and, it is said, many parts of the Island, where no trees had grown for many years, became covered with wood. It was not only in this that Governor Byfield characterized his reign; he distinguished himself as a sound economist, unalloyed by meanness, and retired from office in 1731, when Governor Pike's second rule commenced, during which he showed himself more arbitrary and severe than before. At his death Mr. Goodwin, Senior Member of Council, succeeded to the Governorship, but, as he only lived one year, an opportunity occurred for an intriguing knave called Duke Crisp, who was second in the Council Board, and therefore next to succeed to the office, to rob the Government to the large extent of 6284*l.* Knowledge of his proceedings having reached the Company, Mr. Robert Jenkins, commanding one of their ships, was sent out to investigate the matter. It was on the voyage out that his ship was boarded by Spaniards, who insulted and tortured him by tearing off one of his ears, which, it is said, upon his return to England, he exhibited before the House of Commons, and being asked by a member what he thought and did when they mangled him, made that memorable reply, "I committed my soul to God and my cause to my country."* Duke Crisp was, however, soon dismissed with disgrace, not only from the office of acting Governor, but also from the Company's service, Mr. Robert Jenkins taking his place at the head of affairs until the new Governor, Major Thomas Lambert, arrived on the 22nd March, 1741. He died a few months after, and, for a short time, until the arrival of Colonel Dunbar on the 11th March, 1743, an opportunity occurred for the Senior Member of Council, Mr. George Powell, who, as a matter of rule, succeeded to the acting premiership, to exhibit his unprincipled character. Governor Dunbar has left a memorial of his reign to the present day in the avenue of Peepul trees which he planted in Jamestown. After three years he was succeeded by Mr. Charles Hutchin-

* Brooke's History of St. Helena.

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son, who, amongst other improvements, introduced Scotch firs, oak, and cypress trees, and reformed the mode of conducting trials. After eighteen years of a useful public career, he retired on an annuity of 300*l.* a year, which the Court of Directors were pleased to award him in consideration of his valuable services. It was during his government that, in the year 1761, the Island was selected as a spot for the observance of a transit of Venus on the 6th June, and Dr. Maskelyne and Mr. Waddington visited it for that purpose. It is said that their observations were unsuccessful. They took up their position on the high land, at or near to Halley's Mount, and during the occurrence the mountain, as it frequently is now, was enveloped in clouds. The lower land is at all times much better suited for astronomical observations, because the atmosphere of the higher region is constantly more or less charged with moisture. Governor Skottoe, who followed next in order, turned his attention to the preservation of the native woods, and, amongst other works, caused the water from Chubb's Spring to be conveyed to the town by means of a leaden pipe instead of open drains; and also the erection of St. James's Church and the infantry barracks. After eighteen years he resigned the government to Mr. Daniel Corneille, who, in consequence of new regulations being put in force, which deprived the soldiers of their meeting-houses and free use of spirits, had, in the year 1783, very soon after his assuming the government, to suppress a mutiny which occurred in the garrison, and which his leniency caused to assume larger proportions than it would have done had he acted more decidedly at the commencement. On Christmas Eve the spirit of insubordination commenced to show itself; three days afterwards the men, in a drunken state, became riotous, and, under a Sergeant Tooley, assembled with their arms in a body of 200, with the intention of taking possession of Ladder Hill Fort. It happened, however, that while they were on their way, the Governor, with the Lieut.-Governor, Major Græme, was returning by Ladder Hill road from the country, and, looking down into the valley below, observed their movements; he accordingly directed Major Græme to procure arms, while he proceeded to meet and reason with them. This act on the part of the Governor had for a time its effect on the men, but they gained their desire, and the punch or drinking-houses were again opened to them. The evil effects of this success were very soon after apparent, and the Governor became aware of the mistake

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he had made, through the disorderly and riotous conduct of the soldiers which followed; accordingly he changed his policy towards them, and having secured Sergeant Tooley as a prisoner, he proceeded with the men of the main guard to the barracks to confront the mutineers, but only to find, on arrival there, that the larger portion of the garrison had betaken themselves to the high land with the view of gaining possession of the Alarm House, a position which commanded the town, and where there was a small guard with several guns. Major Græme, by the Governor's directions, proceeded immediately on horseback, by way of Side Path, to gain the Alarm House, if possible before the mutineers, who had taken the route directly up the steep, rugged hillside. At one part of Major Græme's perilous ride—for he took the shortest way that a horse could possibly travel—the mutineers were very close to, and fired several shots at him; but he succeeded in arriving at the Alarm House guard before them, and, with the assistance of the six men on duty, fired several rounds of grape shot from the field pieces stationed there at the mutineers as they advanced. It was then dark, and they cunningly evaded the discharge by throwing themselves flat on the ground at the time, then surrounding Major Græme, they pursued him for a considerable distance, firing at him several times. He escaped back to Jamestown late that night, but in the meantime the Governor had despatched Major Bazette with a detachment of seventy men, who, taking a circuitous route, approached the mutinous party in the rear, but found they had fortified their position on all sides with the Alarm House guns, and received him with a shower of grape shot. Major Bazette's party, however, made a dash at and secured the gun from which it proceeded, scattering those who had worked it, and, following up the attack with the aid of musketry, eventually overcame the mutineers, many of whom, taking advantage of the darkness, deserted their own, and joined the Governor's side, while others took refuge in the Alarm House. Two of Major Bazette's men were killed in this attack, while several of the mutineers were wounded, and one hundred and three taken prisoners. These were tried by court-martial, and, with the exception of four, all sentenced to death; eventually, however, nine only of the leaders were put to death.

On the resignation of Mr. Corneille, Mr. (afterwards Colonel) Robert Brooke was appointed Governor in 1787, and it was at this

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time that the trial of acclimatizing European troops for India, by a short period of previous service at St. Helena, was found to be so successful. The Island garrison was augmented to a battalion of Infantry and a strong corps of Artillery, while many other changes and improvements were also effected during the governorship of this energetic man, including the establishment of telegraphs, the conveyance of water from Plantation House to Ladder Hill Fort, also from near Diana's Peak to Longwood, and the construction of the lower wharf and crane at Jamestown. He also laid the foundation of the present Government House. It was in the year 1795, on receiving intelligence of the Dutch joining in the war with England, that, with the assistance of H.M.S. *Sceptre* and several of the Company's ships, he captured and made prizes of eight richly-laden Dutch East Indiamen, while calling at St. Helena on their way home to Europe. For this act, as well as his energetic despatch of a portion of the St. Helena garrison, consisting of near 400 men, nine pieces of ordnance with ammunition, ten thousand pounds in specie, and a quantity of provisions, to assist the then small garrison at the Cape of Good Hope, he was deservedly commended. In ill-health he retired from the Government in the year 1800, Lieut.-Colonel Robson acting in his stead for a few months until the arrival of Governor Colonel Patton in March, 1802, to whom is due the merit of improving the watercourses by puddling them with a mixture of lime, gravel, and clay, which he called puzzolana; also the construction of batteries, one of which, situated on the western side of Jamestown, to this day bears his name. In the year 1805, the garrison of St. Helena afforded a reinforcement, amounting to 260 men, to General Beresford's expedition against Buenos Ayres in South America. Much annoyance seems, just at this time, to have occurred to all in the Island through the rapid spreading of the blackberry plant, which had been introduced, it is said, about five-and-twenty years previously. It quickly overspread the best pasture lands, and, though never entirely extirpated, a considerable effort was made at that time to do so. A much more serious cause for alarm than brambles, however, occurred a few years afterwards, when, in the year 1807, measles was introduced, and, almost the whole population being at once attacked therewith, threw the place for a time into the greatest state of disorder. This disease again appeared in the year 1843, and in a similar manner

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attacked almost everybody in the Island, on each occasion causing considerable mortality. The price of labour was now increasing rapidly, in consequence of a good deal of attention being diverted from agricultural pursuits to trade, and, as at that time slavery existed, the price of a good slave increased during a period of twenty years from 40*l.* to 150*l.*

Lieut.-Colonel Lane succeeded Governor Patton, who left in bad health for Europe in July, 1807, and acted through twelve months, when, on the 4th July, 1808, he was succeeded by Major-General Beatson, a man of high intelligence and energetic habits, who, during the five years he remained at St. Helena, certainly did more than any Governor before him, and perhaps as much as any since, to improve and develop the resources of the place. His first act was to introduce men from England who were accustomed to farming, and also about 650 Chinese from Canton; these latter proved themselves so useful as mechanics and gardeners that much of their handiwork and patience may even to the present day be traced in the cut and carved lava stone which adorns some of the best buildings. It is much to be regretted that such industrious men have quite disappeared. A year or two ago the last remaining Chinaman died at a good old age, and besides what is mentioned above, the only records of their time exist in the Chinese cemetery, at a spot called New Ground, and an extremely picturesque little Jos house at Black Square; but both of these are fast falling into decay.

The chief object with Governor Beatson for introducing additional labour being to lower the price of Island-grown produce, he very soon had the satisfaction of seeing his efforts successful, and many articles of food, including potatoes, were in consequence reduced in price. With a view further to encourage the cultivation of land, he was the means of putting a stop to the practice, which had long existed, of provisions being sold from the Company's stores at less than cost price. In many ways he encouraged cultivation; he introduced many new plants, and tried numerous experiments in growing corn, roots, and vegetables—indeed, so identified himself with this subject that the results of his many trials are to this day quoted in evidence of the capabilities of the soil of the Island.* Of course when experiments are tried under entirely

* Most of Governor Beatson's experiments have been recorded in a volume called "Beatson's Tracts," but it is now out of print.

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favourable circumstances, such as it is quite possible to secure when dealing with small quantities, the results have to be received with caution; nevertheless, Governor Beatson demonstrated clearly that, with sufficient care, both soil and climate are capable of producing most uncommon results. The native or indigenous plants also attracted his attention, and, in order to preserve them if possible from destruction, he caused all the goats then running wild or uncared for to be destroyed, compensation being allowed to the owners. There were so many of these creatures at that time, and they were so destructive to young plants, that it was almost impossible to rear any new forest-trees; and when they were destroyed, the extension of plantations became very general.

Although so much of Governor Beatson's attention was devoted to agricultural and horticultural pursuits, his efforts in other channels for the good of the settlement were not the less successful. The evil effects of an excessive use of spirituous liquors amongst the soldiers were very apparent, and he determined to check, if not wholly correct this vice. Having been the means of preventing any further importation of rum, he substituted for it, as rations to the soldiers, beer, which at that time was brewed in the Island, and Cape wine. Other measures also were taken to render this change likely to have the desired effect, but, as might almost have been anticipated, a spirit of dissatisfaction arose which threatened serious consequences, and afforded an opportunity for a display of that firmness and decision of character, which, amongst other abilities, General Beatson possessed.

Threatening letters having come into the hands of the Governor, he took such precautions as seemed necessary for the occasion, and the circumstances which then occurred will be best told in General Beatson's own words, contained in his report to the Court of Directors. He wrote: "After issuing these orders I left the Castle, at four in the afternoon; but, contrary to my usual custom of returning home by what is called the Governor's path, I thought it proper to show to such as might be watchful, that the violent anonymous paper, the writing on the church, '*a hot dinner and a bloody supper*,' and that on the Castle gate, '*this house to be let on Christmas-day*,' the one alluding to the festival dinner, and the other to my vacating the Castle by being sent off the Island, had produced no apprehensions in my mind. I therefore desired my horses to be brought to the Castle

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gate, where I mounted, passed slowly in front of the main guard, who were supposed to be concerned in the intended mutiny, and I proceeded gently through the town, stopping occasionally, and conversing with several people I met. It seems that one of the most forward in the mutiny (Berwick, who has since been hanged) passed close to me. I did not observe him, but he was seen from a window, after I had proceeded a few yards beyond him, to turn round, and, in the most contemptuous manner, by his looks and the motions of his clenched fist and arm, fully to express his desperate intentions. This information did not reach me until after he was hanged. About five o'clock in the evening I arrived at Plantation House. I sent for Mr. Ford, the head overseer, to inquire regarding the characters and dispositions of the Artillery and Infantry stationed there as a working party. He assured me they were all good men, and that I might depend on them. Lieutenant David Pritchard, whom I had selected to take charge of this guard, soon after arrived. I desired him to inspect their arms, and to get the men immediately accoutred. I had previously ordered supplies of musket and rifle ammunition to be sent, which arrived before sunset.

"The men of the guard, consisting of thirty-two, were then ordered into Plantation House, and, as Captain Benjamin Hodson had been instructed to give a general alarm upon the first appearance of commotion (which would soon bring the volunteers to my post), I was certain, therefore, of being reinforced long before the mutineers could reach me; and, under these circumstances, I had no doubt as to the issue, being firmly determined not to yield a single point, nor to suffer my person to fall into their hands.

"According to information I have since received, the mutiny was not to have broken out until the morning of the 25th. It had been settled by the mutineers that when the troops paraded for relieving the guard, the whole of the regiment, joined by the main guard on duty, after seizing their officers, should march to Plantation House and seize me; but, most providentially, the measures I had adopted made a change in their plan; and the ringleaders, seeing I was preparing, considered that no time should be lost, and therefore they commenced their operations within five hours after I had left the Castle."

The brains of the mutineers were not idle either, and, instead of directing their attention at once to seizing the person

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of the Governor, they thought to render their undertaking more likely of success by proceeding at first in quite an opposite direction, to gain possession of Colonel Broughton, the Lieutenant-Governor, who resided at Longwood, and retain him as a hostage. An incorrect rumour of their intention reached the Governor, who continues his statement thus:—

"At half-past seven o'clock I received a report that the mutinous troops intended to proceed to Longwood, for the purpose of getting possession of some field-pieces and ammunition. Upon hearing this, although I did not know how far it might be depended on, I sent an express to the Lieutenant-Governor, in which I suggested the advance of some field-pieces to oppose the mutineers if they should move in that direction."

The mutineers, however, some 120 in number, arrived at Longwood before the Lieutenant-Governor was fully prepared for them, and, taking him by surprise, they compelled him to march with them towards Plantation House, the Governor's residence.

In the meantime the Governor had made his position strong with what faithful soldiers he could command, augmented by the volunteers or Island militia (which had been called out by a general alarm) amounting altogether to about 130 men.

Intelligence of the mutineers' proceedings seems to have preceded them in their march, and to have reached the Governor, for he continues: "This information gave me at first some uneasiness, on account of the danger to which my friend and colleague would be exposed in the intended attack upon the mutinous troops; but there was no alternative, for however much I value the life of Colonel Broughton, I could not permit considerations of a private nature to interfere with my public duties, nor to deter me from carrying into execution the plans I had formed, which were imperiously necessary for restoring military subordination and the peace and order of this settlement.

"At the same time I considered it proper to make an attempt to rescue his person from the impending danger. I therefore wrote a pencil note to Captain Sampson, directing him to advance with thirty chosen men, and with these it was intended to form an ambuscade on the left flank of the mutinous column, and to commence the attack by giving them one fire in such a manner as to avoid Colonel Broughton (who might be distinctly seen by the two

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lights which the mutineers had imprudently with them), and immediately after to rush upon them with the bayonet.

"I had just given these orders when Major Wright arrived, and informed me that the mutineers had halted within fifty or sixty yards of Major Kinnard's post, and had sent forward to offer the conditions on which they would surrender. The negotiations were intentionally protracted until daylight on the 24th, which having terminated in the unconditional surrender of the whole party, the attempt to rescue Colonel Broughton became unnecessary.

"The first proposals sent to me by the mutineers were, 'that grievances must be redressed, and a promise given that the soldiers should have regular issues of spirits from the stores:' to which I sent word by Major Wright, 'that I would grant no terms; I could not treat with rebels, and that if they did not instantly surrender, I would put every man to the sword.'

"Major Wright soon after returned, and told me the mutineers hoped I would grant terms; and it was suggested by some persons around me that the life of Colonel Broughton would be in great danger if the attack were made. To this suggestion I replied, that the mutineers having possession of the Lieutenant-Governor would be no security to themselves; and I returned them a second message, apprizing them of this resolution, and that I would instantly order them to be fired upon, and the whole destroyed, if they did not submit. Upon receiving this reply, they began to waver, and they finally proposed to Majors Wright and Hodson that all they would now ask was my promise of pardon; but this I positively refused, and at the same time informed them, if they did not yield unconditionally, that Major Kinnard had now received my orders to put the whole of them to death. It was now daylight, and, seeing a superior force opposed to them, they at length surrendered, saying they would trust to my mercy.

"Of about two hundred men that sallied at night from Jamestown, upon this mad and desperate enterprise, only seventy-five remained together in the morning."

The mutineers were then confined as prisoners at High Knoll, where on the following day (Christmas-day) nine of them, being ringleaders in the matter, were tried by court-martial and sentenced to death. Within a very short time after their sentence six of these were hung at High Knoll.

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The General Court-martial re-assembled again on the following day, when three more received similar sentences, but it was deemed sufficient to carry out one only, and that was done in the presence of the whole garrison assembled in Jamestown. Some of the remainder were committed to prison, and, the spirit of insubordination having been crushed out, they were finally permitted to return to their duty.*

A successful result of General Beatson's measures for checking the amount of drunkenness will be gathered from the following:—

"The houses for retailing spirits were abolished on the 15th of May, 1809. The garrison at that time consisted of about one thousand two hundred and fifty men, of whom one hundred and thirty-two were sick in hospital. Four months after that abolition the patients were reduced to forty-eight."†

Governor Beatson's energy and ardour as displayed in his war against the goats was, however, less successful; for, notwithstanding his efforts to effect their total extermination, his measures were imperfectly carried out, so that in a few years they increased again in numbers, and threatened to destroy not only the indigenous plants, but all other vegetation as well.

Of all the good that General Beatson proposed and did for the Island, perhaps none has caused a more lasting tribute to his memory than the measures he took for importing forest trees, planting the Island, the preservation of the indigenous flora, and his extensive and indefatigable experiments in agriculture, the results of which he has left on record, in a periodical work called "The St. Helena Register," as well as his "Tracts on St. Helena." General Beatson retired from the Government at the expiration of five years, but his successor, Colonel Mark Wilks, was a man of larger mind than to fall into the common course of undoing what a predecessor has done, and accordingly concurred in most of Governor Beatson's plans for the improvement of the place and its people. He arrived at the Island on the 22nd June, 1813, and it was during his reign that the most remarkable event occurred which ever befell St. Helena.

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* Governor Beatson, in thanking the loyal portion of the garrison, specially mentions the Artillery as being free from this spirit of insubordination.

† Beatson's Tracts on St. Helena.

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The British Government having determined on the undignified proceeding of banishing the Emperor Napoleon Buonaparte to the Island of St. Helena, he arrived there in H.M.S. *Northumberland*, under the command of Rear-Admiral Sir George Cockburn, on the 15th October, 1815. He was accompanied by Marshal and Countess Bertrand, Count and Countess Montholon, General Gourgaud, Count Las Cases with his son, and eight servants. The excitement caused in the Island was naturally very great, and rendered more so by the very unexpected nature of the event, the inhabitants having received no intelligence on the subject until a few days previously, when, by the arrival of H.M.S. *Icarus*, they were informed of the proximity of Napoleon.

It was of course necessary for the Crown to appoint the officer into whose custody Napoleon was to be entrusted, and accordingly Lieut.-General Sir Hudson Lowe arrived at the Island on the 14th April, 1816, in that capacity, and also relieved Colonel Wilks of the Government. The Island was still to belong to the East India Company, but as this appropriation of it would necessarily involve a heavy expenditure, it was arranged that the Company should bear the annual expenses of the place to the extent of the average sum which had been spent in former years, and that the Crown should bear the remainder.

The history of Napoleon's life and captivity at St. Helena has already, through differences of opinion, led to much discussion, and filled several large-sized volumes. It is not, therefore, intended here to enter further into the matter than to record the leading events connected with his sojourn at the Island.

The merits and demerits of Sir Hudson Lowe have been fully set forth, as well as Napoleon's behaviour under such severely trying circumstances. To a man of his mind and character his trial must have been of the most bitter kind, and if there had been any desire on the part of his captors to ameliorate or soften the galling circumstances which at every point surrounded him, there seems to have been a failure certainly in the selection of the man to whom his keeping was confided.

Until the arrival of Sir Hudson Lowe, the custody of Napoleon was in the hands of the Admiral who had taken him to the Island, and with whom he appeared to be upon the most friendly terms.

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The garrison sent to the Island at this time consisted of H.M. 66th Regiment and the second battalion of H.M. 53rd Regiment.

It was two days after his arrival that Napoleon first set foot upon his prison shores. He then walked to the house which had been hurriedly prepared for his reception. It is somewhat remarkable that this house, which still stands at the entrance to the Castle Gardens, was that in which the Duke of Wellington also remained for one night, when, some time previously, he had visited St. Helena on his return from India to Europe.

On the following day Napoleon, in company with Sir George Cockburn and Count Bertrand, visited Longwood, the spot which had been selected for his future residence; the house intended for his temporary abode being then occupied by the Lieut.-Governor. The road from Jamestown to Longwood passes by the Briars, a picturesquely situated residence, then occupied by a Mr. Balcombe. Napoleon was pleased with this spot, and wished to occupy, until Longwood House could be prepared for him, a small, partially detached building now known as The Briars Pavilion. Here he resided for nearly two months, and some account of his life at this period has been written by a daughter of Mr. Balcombe.*

From The Briars Napoleon removed to Longwood, and there occupied what is now known as the Old House. In 1819, the British Government commenced the erection of a large and commodious residence for his reception, at an enormous cost; but this pile of buildings, now known as Longwood New House, was scarcely finished before the Emperor's death. It is said that Napoleon used to watch the erection of these buildings, and was known to say that he would never occupy them.

It was during Sir Hudson Lowe's Government that water was conveyed from the mountain near Diana's Peak to Deadwood, and from a stream near Oak Bank to Francis Plain, with a view to affording a supply for the troops then encamped at those places. He also took much interest in the question of abolishing slavery, and was instrumental in bringing about the rule that all children born of a slave woman from and after Christmas-day, 1818, should be considered free.

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* Recollections of the Emperor Napoleon I., by Mrs. Abell (late Miss Elizabeth Balcombe). London: Sampson Low & Co.

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The Island, fostered and cared for in every way by the East India Company, had, at this time, risen to the very acme of its prosperity. The great increase in the circulation of money, caused by the large garrison which came in with Napoleon, was soon felt by the inhabitants to be to their advantage; but unfortunately this cause of prosperity, like the lavish expenditure of the Company, only tended to draw away the attention of the inhabitants from cultivating the soil to more easy and ready, but less certain, methods of earning a living. In the history of St. Helena it is much to be regretted that artificial sources of trade have always led to a neglect of agricultural industry, and as generation after generation grew up dependent upon other sources, the inhabitants, not having been forced to it, have never learnt the true value of the soil around them.

Napoleon, very soon after his arrival, showed a disinclination to be sociable; doubtless he was aware, even at that time, of the presence of a disease, which, unsuspected by those around him, was so silently but surely hastening a termination of his earthly career. His illness, as it became serious, was of brief duration, and at about six o'clock in the evening of the 5th May, 1821, he died at Longwood Old House.*

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* "*The Post-Mortem Examination of the First Napoleon's Body.*—In the exhibition at present open in the Mechanic's Hall, Dumfries, there is shown by Major Young, of Lincluden, a lock of hair cut from the head of the Great Napoleon after death, a letter in connexion with which is of some historical value. Hitherto French writers have represented that the *post-mortem* examination of Napoleon's body was an unwarrantable liberty, taken in opposition to the deceased's wish. The letter was only discovered, along with the lock of hair, three years ago, by Major Young, in a secret drawer of an old writing-desk belonging to his father, to whom the epistle was written by Dr. Short, a native of Dumfries, who held the office of principal medical officer of the British staff at St. Helena, and who superintended the dissection. It is as follows:—

"'St. Helena, 7th May, 1821.

"'MY DEAR SIR,—You will, no doubt, be much surprised to hear of Bonaparte's death, who expired on the 5th of May, after an illness of some standing. His disease was cancer in the stomach, that must have lasted some years, and been in a state of ulceration some months. I was in consultation and attendance several days, but he would not see strangers. I was officially introduced the moment he died. His face in death was the most beautiful I ever beheld, exhibiting softness and every good expression in the highest degree, and really seemed formed to conquer. The following day I superintended the dissection of his body—(at this time his countenance was much altered),—which was done at his own request, to ascertain the exact seat of the disease (which he imagined to be where it was afterwards discovered to be), with the view of benefiting his son, who might inherit it. During the whole of his illness he never complained, and kept his character to the last. The disease being hereditary, his father having died of it, and his sister, the Princess Borghese, being supposed to have it, proves to the world that climate and mode of life had no hand in it, and contrary to the assertions of Messrs. O'Meara and Stokoe, his liver was perfectly sound; and had he been on the throne of France instead of an inhabitant of St. Helena, he would equally have suffered, as no earthly power could cure the disease when formed.'"—*North British Advertiser, 2nd August*, 1873.

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NAPOLEON'S TOMB.

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His heart was placed in spirit, and in his military uniform the body lay in state on the two following days, the Star of the Legion of Honour on the side, and a crucifix on his breast. The room was draped in black, and there were in attendance Count and Countess Bertrand, Count Montholon, the priest, physician, and servants.

"Preparatory to the funeral, the body was put into a leaden coffin, in the dress in which it had lain in state, including boots and spurs. The leaden coffin was enclosed in two others, made of mahogany; the outer coffin had plain top and sides, ebony round the edges, and silver head screws. Pursuant to military orders for conducting the ceremony with the honours usually paid to the remains of a General of the highest rank, the left side of the road from Longwood gate, in a direction towards the burying place, was, on the 9th May, lined with all the troops of the garrison; the Royal Artillery on the right of the whole, then the 20th Regiment, the Royal Marines, the 66th Regiment, the St. Helena Artillery, the St. Helena Regiment, and on the left the St. Helena Volunteers. The body, in a car drawn by four horses, and the whole of the funeral procession, passed along the front of the line of troops, the band of each corps playing solemn music. When the procession cleared the left of the line it was followed by the troops, until they took up a position upon the road above the burying place; and at the moment the body was lowered into the grave three discharges were fired from eleven pieces of artillery."*

Thus, in a pretty little green verdure-clad valley, situated below Hut's Gate, and distant somewhat more than a mile from Longwood, was Napoleon buried. It is said that, when alive, he frequently resorted to this secluded spot, and, from a clear little spring of water which bubbled up through the moss-covered bank, had the water for his own use carried to Longwood, and that in accordance with his own expressed wish it was selected for his grave.

Sir Hudson Lowe left the Island on the 25th July following, Mr. Thomas Henry Brooke assuming the temporary government, and the troops which had been sent to the Island in consequence of Napoleon's residence were at once removed. The Island, as a watering station for East India traders, being of the utmost importance at this time, the lower wharf in Jamestown was much

* Brooke's History of St. Helena, 1824.

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enlarged, and additional accommodation provided for watering the ships which called at the port.

The value of the Island for purposes of British commerce with the East was now fully developed; indeed, without it that great trade could not have been carried on with the success that attended it, and Brigadier-General Walker, who arrived on the 11th March, was another of those highly distinguished Indian officers who then sought the post of Governor. Under these circumstances, it is not remarkable that the withdrawal of the large additional expenditure caused by Napoleon's captivity was so little felt by the inhabitants.

Governor Walker extended to St. Helena those philanthropic measures which had characterized his service in the Bombay Presidency, and he made great efforts to improve the religious as well as the moral condition of the St. Helena slaves.

The institution of agricultural fairs, ploughing matches, and other means of encouraging the inhabitants to rely more upon the produce of the soil, were prominent amongst his many undertakings. He laid the foundation of the Head School building in 1824, and, in 1827, commenced the building of the military offices on the main parade in Jamestown.

His successor, until whose arrival on the 29th of April, 1828, Mr. T. H. Brooke again filled the post of Acting Governor, was Brigadier-General Dallas, an officer of equally high standing, and in his energy for the welfare of the Island even surpassing any of his predecessors. Aided by an able executive he carried out many public works of improvement, amongst which were—the construction of the inclined plane or ladder from Jamestown to Ladder Hill, commenced in August, 1828, and finished in December of the following year; the sinking of a well to the depth of eighty-three feet in Rupert's Valley, in the year 1830, with a view to obtaining water and fertilizing that portion of the Island; and, in the following year, the construction of the infantry barracks in the town, and the establishment of fire plugs for service in case of fire.

It was during his government, in the year 1832, that the East India Company abolished slavery in the Island, purchasing from their owners the freedom of the slaves, at that time in number 614, for a sum of 28,062*l.* 17*s.*, thus putting an end, amongst other abuses, to such atrocious placards as the following:—

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"At the same time will be let for five years, two women servants, two girls, and a good fisherman."*

"Also will be sold at the said house, a slave boy aged nine years, and a slave girl aged seven years, with a few articles of furniture, &c."†

The East India Company having reared this little settlement in the lap of luxury through a period of 182 years, sparing nothing that could add to its prosperity and advancement, as well as to the comfort and enjoyment of its inhabitants, it is not to be wondered at that the latter little understood the meaning of self-reliance. The annual expenditure in the Island by the Company amounted to eighty or ninety thousand pounds, and they maintained a garrison there of three companies of artillery, called the St. Helena Artillery, a St. Helena Regiment of four companies, in all 700 strong, exclusive of a corps of militia; but ere long, a heavy blow fell upon this flourishing, peaceful, and happy British Settlement—one from which it has never recovered, and since which it has gradually descended in the scale of prosperity.

It was in the year 1833, that the St. Helenians received the almost crushing intelligence, that, by Act of Parliament dated 28th August of the same year, the Island was no longer to be ruled by the Honourable East India Company after the 22nd April, 1834, but to be transferred to His Majesty's Government. There was little time allowed for reflection; the garrison was dispersed, some being pensioned, some taking office under the new Government; while the Civil Establishments were broken up, and many who had been accustomed to affluence were reduced almost in a moment to comparative poverty.‡ On the 24th February, 1836, Major-General Middlemore arrived, and, with a garrison composed of H.M.'s 91st Regiment, took possession of the Island in the name of King William the Fourth.

The East India Company's Governor had received an income of about 9000*l.* a year, while the Governor appointed by the Crown was to receive about one-fourth of that amount. Plantation House, his residence, a mansion with its undulating and well-wooded park,

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* The Monthly Register, St. Helena, 1810. † *Ibid.*

‡ So hard did the Company's treatment of their servants press upon many of them, that twenty years after this event officers of high rank might be seen digging the soil side by side with their own negro servant in the struggle to support their families.

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pretty enough to satisfy the tastes of any English gentleman with an income of ten or fifteen thousand a year, was thus to be shorn of much of its ancient glory; and many other old, time-honoured institutions suffered in a similar degree. The establishment, however, continued to be composed of a Governor and Council, a large civil staff,* and a moderate garrison. As doubtless many of the labouring classes also felt this change, a small amount of emigration to the Cape of Good Hope took place in 1838, the same year which was rendered memorable in the annals of the Island by a short visit from Prince William Henry Frederick, a grandson of William I., King of Holland.

In the year 1840, H.M. Government established a Vice-Admiralty Court at the Island for the trial of vessels engaged in the slave trade on the western coast of Africa. Many of these vessels were taken to the Island during the following ten years, condemned, sold, and broken up; while their human cargoes were fed, clothed, and retained at a depôt formed for the purpose in Rupert's Valley, until they were sufficiently recovered from their emaciated condition to bear a voyage to the British West Indian possessions, where a demand existed for their labour.† A visit to a full-freighted slaveship arriving at St. Helena is not easily to be forgotten; a scene so intensified in all that is horrible almost defies description. The vessel, scarcely a hundred tons burthen at most, contains perhaps little short of a thousand souls, which have been closely packed, for many weeks together, in the hottest and most polluted of atmospheres. I went on board one of these ships as she cast anchor off Rupert's Valley in 1861, and the whole deck, as I picked my way from end to end, in order to avoid treading upon them, was thickly strewn with the dead, dying, and starved bodies of what seemed to me to be a species of ape which I had never seen before. One's sensations of horror were certainly lessened by the impossibility of realizing that the miserable, helpless objects being picked up from the deck and handed over the ship's side, one by one, living, dying, and dead alike, were really human beings. Their arms and legs were worn down to about the size of a walking-stick. Many

* A Supreme Court was established also in 1839.

† When able, during the interval before embarkation, they were employed on the Public Works in the Island.

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died as they passed from the ship to the boat, and, indeed, the work of unloading had to be proceeded with so quickly that there was no time to separate the dead from the living.

Not only did the establishment of the Liberated African Depôt at the Island afford a considerable amount of employment to the people, but it was also the cause of bringing to the place a large expenditure of money. Her Majesty's ships of war, composing the British squadron then cruising on the West Coast of Africa for the suppression of the slave trade, made it their head-quarters for recruiting health, and through this means thousands of pounds were annually circulated. This source of profit did not, however, last for many years, and while the Islanders were rejoicing in it, they were unaware of the disadvantages ultimately arising from it; viz., the introduction of a new race of people, which, after some few years, developed into a poverty-stricken, dependent portion of the population.

After some years the squadron was reduced, the Liberated African Establishment abolished, and, in 1874, excepting an occasional visit from a British gunboat, which appears more by accident than by any other means to get to St. Helena, the place, once so gay with naval men and ships, now knows them no more. But the negroes, which could have been best spared, still remain.

There was yet another, and even still greater, evil which arose out of this Liberated African depôt, and that was the introduction of the termites or white ants, which were taken into the Island in some logs of wood from one of the slave ships, and, creating much havoc in the houses and property of Jamestown, ruined many of its inhabitants. The St. Helenians naturally feel the strong claim they have upon Great Britain, their Island home having aided so much in building up her commercial greatness and prosperity; but apart from this they very reasonably expect aid from England, because it was through her successful efforts to suppress the slave trade on the West Coast of Africa that both the aforementioned causes have added so greatly to the impoverishment of the place.

It was on the 8th of October, in this same year, viz., 1840, that the French frigate, *La Belle Poule*, accompanied by the corvette *Favourite*, with his Royal Highness the Prince de Joinville and suite, arrived at the Island for the purpose of removing Napoleon's remains to France. The body was exhumed on the 15th, taken from the

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peaceful little "Vale of the Tomb," and, amidst military funeral honours, placed on board of the frigate, which sailed three days afterwards for France.

An establishment was formed at Longwood, under the direction of General Sir Edward Sabine, during this same year, for the purpose of meteorological observations, and a magnetic observatory erected there. The observations were conducted for a period of five years, by officers and non-commissioned officers of the Royal Artillery, selected for the purpose, and were then published.

In the year 1842, Governor Middlemore was succeeded by Colonel Hamelin Trelawney, and in the same year the Island was garrisoned by an European regiment of five companies, raised expressly for the purpose and styled the St. Helena Regiment, instead of, as hitherto, by a regiment of the line. The garrison at this time consisted of a battery of Artillery in addition to the St. Helena Regiment.

During the following year, St. James' Church was extensively repaired and a new steeple and spire erected.

On the death of Colonel Trelawney on the 3rd May, 1846, Colonel George Brodie Fraser, R.A., the senior officer commanding the troops, succeeded by virtue of his official position to the Government; but on the arrival of Colonel John Ross to assume command of the St. Helena Regiment a few months afterwards, he, being senior in the army to Colonel Fraser, took the post of Acting Governor until Major-General Sir Patrick Ross, the newly-appointed Governor, arrived at the Island in November, 1846.

The erection of a fine Hospital, with every requisite for medical and surgical treatment, took place in the year 1847. It being intended, by the imposition of a small fee upon all ships anchoring in the roadstead, that their masters and crews should receive the benefits of the institution free of any further charge. Many a seafaring man, and many ships' crews, stricken down by scurvy or other diseases, have reason to be grateful to this valuable institution which, open to all nations, lay directly on the high road of their voyage home.

Sir Patrick Ross took a general interest in the welfare of the place, especially in the promotion of the agricultural and horticultural exhibitions, and it was during his government that the new church of St. Paul was erected in place of "the old country church,"

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Vincent Brooks, Lith.

ST PAUL'S CHURCH.

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and a new road made from The Briars over Cat Hole to Francis Plain, the labour employed thereon being chiefly that of prisoners and liberated Africans. On his death, in August, 1850, Lieut.-Colonel Clark, the officer commanding the Royal Artillery, acted as Governor for a few months, until the arrival of Colonel (now Sir) Thomas Gore Browne, C.B., in July, 1851. Governor Gore Browne remained only three years and a half, when he was promoted to the Governorship of New Zealand. His chief object at St. Helena was to make some changes in the civil establishments, so as to reduce the annual grant made by the Government for their support. This was of course a disadvantage to the place; still Colonel Gore Browne merely carried out his instructions. Amongst the special objects of his attention may be mentioned a scheme for establishing a village or settlement at Rupert's Valley, to relieve the overcrowded state of Jamestown, and, with a view to furthering this end, he caused a new jail, a sort of model prison, designed by Colonel Jebb, and sent out from England,* to be erected there, and also conveyed water to the valley by means of iron pipes leading from The Briars over Rupert's Hill. The departure of Governor Gore Browne with his family was a matter of much regret to the inhabitants, for they had won respect and esteem on all sides. The senior military officer, Colonel Vigors, acted as Governor until the arrival of Sir Edward Hay Drummond Hay, Kt., on the 10th October, 1856.

Hitherto the Church of England had reigned supreme in the Island, it having been included in the See of Cape Town, and subject to periodical visits from that Bishop; but as the Church was represented on the spot only by a colonial chaplain and a garrison chaplain, a very inadequate number of clergymen, Dissent, which was introduced by a Scotch Baptist Minister about the year 1847, soon spread, and became a popular sectarian distinction amongst the native population.

The first Bishop of St. Helena was appointed in the year 1860, his diocese including the neighbouring island of Ascension, the British residents at Rio, and other similar places situated on the coast of South America. With most characteristic energy and ability, Bishop Piers Claughton mapped out the Island into several

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* This building, being chiefly constructed of timber, was burnt to the ground in less than an hour by a military prisoner confined therein, in the year 1867.

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parishes, pressed forward the work of church building until each parish had its church, and, appointing a clergyman to each, he was just upon the point of visiting the wealthy settlements on the Brazilian coast, and Europe as well, to raise funds for the permanent establishment and endowment of this compact little church fabric, when, unfortunately for the Island and its people, his translation to the See of Colombo took place. His strong influence for good over the minds of others did much to raise the moral tone of St. Helena society, and, though his residence was a short one, no departure was ever more grieved over than that of Bishop Claughton and his family.

Sir Edward Hay Drummond Hay devoted much attention to public works, and carried out some schemes which had been projected by his predecessor, Colonel Gore Browne, amongst which may be mentioned the settlement in Rupert's Valley, and the main drainage works of Jamestown. Improved dwellings for the poor were erected in one of the worst localities in the town; new custom houses were built, and the supply of water for the ships increased by additional lines of pipes. His attention was also given to the improvement of the local corps of militia. In 1857, the church of St. John in Jamestown was commenced, and, in 1861, that of St. Matthew at Hut's Gate was built; but of all the events which occurred during Governor Drummond Hay's time, the most important by far, was a visit to the Island, in September, 1860, by His Royal Highness Prince Alfred (now Duke of Edinburgh), who was an officer serving in the Royal Navy at the time, on board of H.M.S. *Euryalus*. As might be expected, the first visit from a Royal Prince of England threw the whole place into a flutter of excitement. Triumphal arches, garlands, and floral decorations of all kinds lined the streets and wharves, in such a way as perhaps had never been seen before. Everything was ready, everything was perfect. As minutes passed away, and as the time named for the ship's arrival approached, the very height of expectation was attained, but no proud and gallant ship made its appearance that day, nor yet the next, and great was the grief of the Islanders at the prospect of the Prince arriving only to see the faded remnants of their loyal demonstrations. After a few days' suspense, however, the good ship with the Prince did arrive, and gave the people of St. Helena an opportunity of pouring out their pent-up feelings in a right hearty loyal welcome.

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Vincent Brooks, Lith

ST MATTHEWS CHURCH, LONGWOOD

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His visit was but a brief one; he honoured the Governor by dining at Plantation House, attended a ball at the Castle, and sailed again on the evening of the same day that he arrived.

Admiral Sir Charles Elliot, K.C.B., relieved Governor Drummond Hay on the 3rd July, 1863, and administered the Government for seven years, during the whole of which time his kind, courteous, and gentle manners won for him the highest esteem and respect from all classes. He was, perhaps, one of the most energetic Governors that ever ruled at St. Helena, and in every way endeavoured to promote the advancement of the place; though struggling against great difficulties, viz., a diminishing revenue, he achieved many highly successful results.

Almost his first act was to declare war against the termites or white ants, and he reconstructed nearly the whole of the public buildings in Jamestown, which they had destroyed, in a substantial manner, with stone, iron, and teakwood. For the first time, a direct monthly mail communication from England by steamers was established. He largely augmented the water-works of the town, both for supplying ships and for a supply in case of fires. But no Governor, since General Beatson, has done so much to encourage the introduction of new and valuable plants. Amongst others, he imported a large number of Mexican pines, which have taken well to the climate and the soil at Plantation, and the quantities of Norfolk Island pines and Bermuda cedars which Sir Charles reared and distributed throughout the Island, give promise of a lasting memorial to his name. It was at this time that Dr. Hooker, the Director of the Royal Gardens at Kew, judging from his acquaintance with the soil and climate of St. Helena, advised the Government to undertake the culture of the Cinchona plant on the mountainous parts of the Island. Sir Charles Elliot most readily supported and assisted the scheme. A skilled gardener was sent out from Kew, and a plantation of Cinchona soon sprang up in the neighbourhood of Diana's Peak, promising the greatest success and a source of much profit; but, most unfortunately, Sir Charles Elliot's successor being unable to see the advantage of such an undertaking, the plantation was neglected and ultimately abandoned.

Sir Charles Elliot was succeeded in the government by Admiral Patey, in the year 1870, who took out to the Island in his pocket the

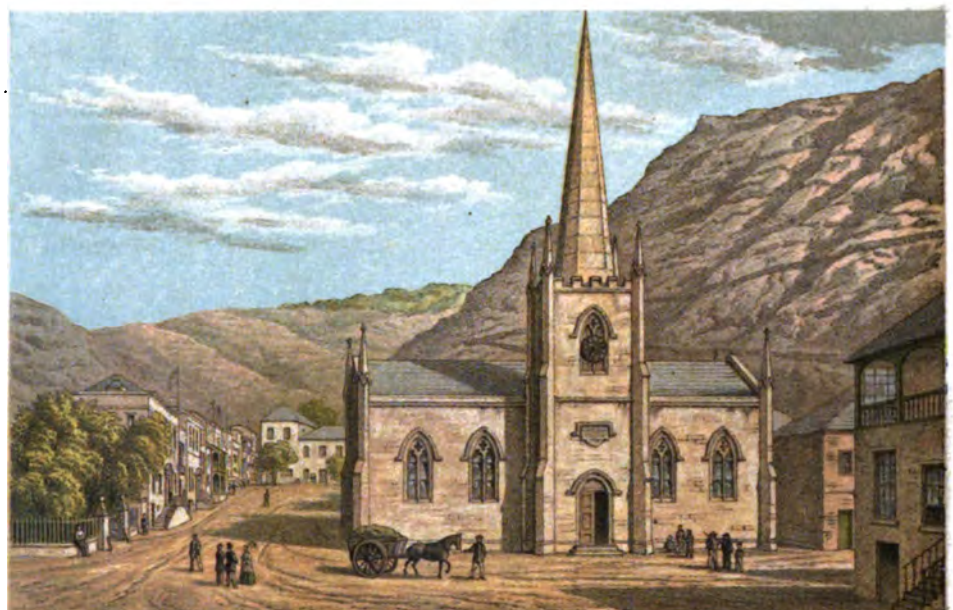
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pruning knife of retrenchment. It is true that the Civil Establishment was very much larger than need be, but to reduce it without injuring its efficiency required much care and judgment, and after he had spent a year or two in endeavours to lessen the expenditure, the Home Government considerably reduced the salary, and appointed the then Colonial Secretary, Hudson Ralph Janisch, Esq., to succeed him as Governor of the Island.

Twenty years ago St. Helena was left, so far as communication with Europe was concerned, quite outside of civilization; five months at a time elapsed without its inhabitants hearing a word of home news, or even seeing a newspaper; but now the great strides of oceanic steam navigation have brought it, as well as other places, so to speak, nearer to England, and by mail packet from Southampton it may be reached in from seventeen to twenty-one days. The first week of the voyage is occupied in reaching Madeira, by which time the sea-sick voyagers, about whose sufferings so many accounts have been written, have sufficiently recovered to enjoy the enchanting break afforded by a few hours ashore in that lovely island. The next few days are occupied in steaming down amongst the beautiful islands of the Canarian Archipelago, with, generally, a fair view of the renowned Peak of Teneriffe towering high above the clouds. A sight of Cape Verde, on the coast of Africa; and a day or two, by way of change, of that intolerable damp, steamy, hot atmosphere so inseparably associated with equatorial regions; and then a week or ten days amongst the fresh South-east trade winds, the deep blue seas of the South Atlantic, with bright sunny skies, and St. Helena is reached; the voyager looking back with pleasure to what has been in reality nothing more than an agreeable yachting trip, instead of the much-dreaded long sea voyage. The arrival of the English mail, the greatest event of the month, was formerly announced with a great display of bunting and firing of guns, but, the spirit of economy having extended to that remote spot, much of this has passed away. Even the long familiar boom of the morning and evening gun has ceased to gladden the ears of the people by reminding them that theirs is a garrison town; and the most striking announcement of important arrivals is the reverberating shouts and screams of "St-e-e-e-e-a-mer! M-a-n-o-o-w-a-r!" which the street boys and the whole out-door population send forth on the occasion. The dark, barren cliffs of the Island, rising from six to seven hundred feet

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ST JAMES'S CHURCH, JAMESTOWN

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perpendicularly from the sea, when viewed from the roadstead where the mail packet anchors, seem to frown fiercely at the new arrival, and, without any doubt, are most forbidding. The little town appears oddly enough placed in a deep-cut ravine in this mighty wall of rock. No verdure, a few Peepul trees excepted, meets the eye to relieve the tedious monotony of dust-coloured rocks and dust-coloured houses. Nevertheless, there is something that strikes the beholder as picturesque in what lies before him. On either side of the town the hills bristle with cannon; on the left is Munden's Battery; on the right is Ladder Hill, the chief fortress of the place, where a small garrison, consisting of a company of Artillery and one of Engineers, is quartered, and where waves the British Union Jack, so dwindled down in size through the spirit of economy as to call from visitors the universal inquiry, "What flag is that?" To the left of Munden's is Rupert's Valley, where a recently formed village appears, and where stands the deserted establishment for the reception of Africans rescued from slavery by British cruisers on the West Coast of Africa. On landing, the stranger is beset by a whole rabble of dirty boys, each eager to get possession of his order to find him a horse or carriage to visit Napoleon's tomb, to conduct him to an hotel, or in some way to make something out of him. Horses there are plenty of, and even carriages can be found for a trip to the tomb and back at the moderate charge of two or three pounds! But hotel accommodation is wretched, unless a new one has been established and has not had time to fall into the degraded "wine and beer shop" condition of its predecessors. Fair board and lodging can, however, be obtained privately either in the town or country at the moderate rate of 6*s*. daily for each person. The town is entered by a fine open quadrangle or parade, around which stand the church, court-house, castle, and other Government buildings. A long and wide street stretches up the valley, with houses on each side, amongst which are the foreign Consulates, private dwellings of no ordinary pretensions, and shops. The latter supply almost every class of European goods at about 30 to 75 per cent. higher than English prices, but the shops themselves have a dusty, neglected, and uninviting look, as though the articles exposed in the windows had been there since the days of Noah. The arrival of a mail steamer or man-of-war throws the whole place, from the Governor downwards, into a state of excitement; but still there remains something of the every-day look of dejection about it.

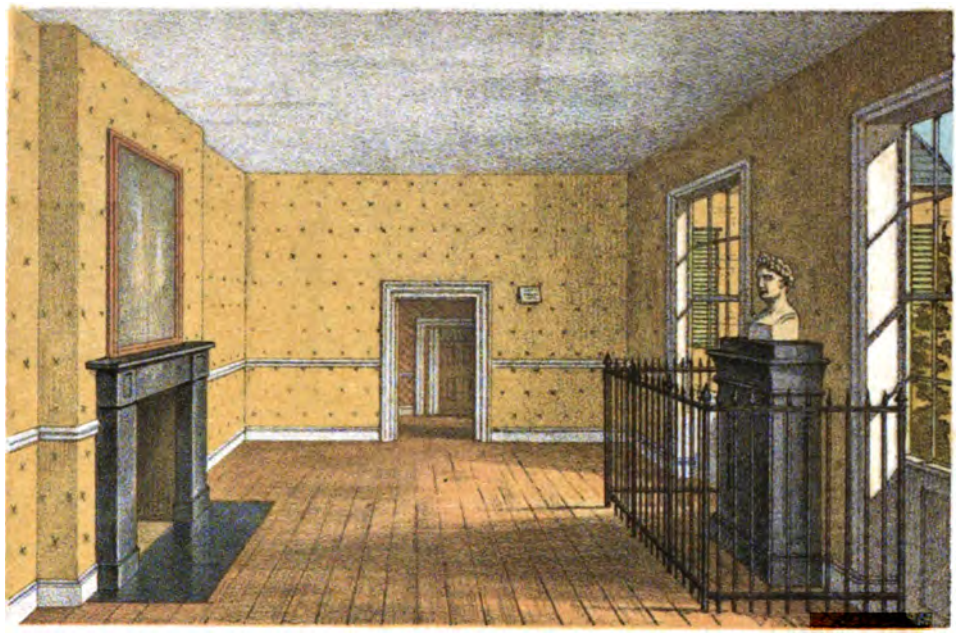
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The officers' guard-house is converted into a Customs baggage warehouse, while the sentry boxes are playthings for ragged little black boys; and the large barracks are left, almost empty, to fall a prey to the white ants. Upon the whole the town is strikingly better in appearance than would be expected. The streets are good, and so are the houses, but there are no gas or other lamps to rival the brilliant light of the moon and stars. With its immediate neighbourhood it numbers about 290 houses, which, a few years ago, were valued at 120,000*l.*, including two churches, a chapel, two hospitals, a market-hall, and at least six schools. There are three gardens, two of which are public, and the other, well known to visitors as "The Maldivia Fruit Gardens," is situated at the head of the town and valley in which it lies, and where grow the only mango trees in the Island. The population of the town is somewhat more than one-half that of the whole Island, or about 3500 persons. The most striking erection in the place is "The Ladder," the ascent of which is much more fatiguing than at first sight appears. Some visitors accomplish it, and even descend it again, but only to pay the penalty next day of being scarcely able to move their limbs.

Three roads lead from the town to the high land, or country, as it is generally called; one follows up the direction of the ravine, and, passing Francis Plain cricket-ground, about two miles distant from the town, leads to Oak Bank, one of the prettiest country residences, and the central part of the Island generally; but the road is exceedingly steep and unfit for riding or driving, and the same spots are better, though not so quickly, reached by the other roads which zigzag up the face of the hills on either side of the town. That on the east, called "Side Path," passes close to The Briars, where Napoleon Bonaparte lived for a time previous to his residence at Longwood, and winds round the valley of "The Tomb," through the village of Hut's Gate to Longwood, distant about four and three-quarters miles from the starting-point. Deadwood and Longwood together form a large open plain, nearly 2000 feet above the sea, now scarcely wooded at all, but attractive through the lovely and picturesque mountain scenery of its neighbourhood. Deadwood is the spot usually selected for fairs, races, and such like amusements, and Longwood constitutes the largest farm in the island. After the death of Napoleon on the 5th May, 1821, the house he occupied, as well as that newly-erected for him,

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Vincent Brooks Lith

THE ROOM IN WHICH NAPOLEON DIED AT LONGWOOD

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with Marshal Bertrand's house, were all considered as part of Longwood farm, and the former, used as barns and cattle-yards, fell into a state of ruin until the year 1858, when it, with the site of The Tomb, was purchased by the Emperor Napoleon the Third, with a view of restoring the last residence of his illustrious uncle, and guarding from further desecration that spot in the little green valley, so lonely and so distant, yet so sacred to the hearts of all true Frenchmen. Three officers, with a party of Engineers, were sent out from France to carry out these restorations, upon which a large sum of money was expended; and ever since, the "Old House" at Longwood, and the "Valley of the Tomb," have been under the immediate charge of a non-commissioned officer residing at each, and an officer who rents and occupies a portion of the "New House." Very great care was exercised, in rebuilding the "Old House," to restore it as near as possible to its state when occupied by the Emperor, and as much of the old materials as could be used were again employed. A great difficulty, however, appeared towards the completion—not a scrap or vestige of the original wall-papers remained, and no clue as to their design or colour could be obtained; when a remarkable instance occurred of the highly objectionable habit of Englishmen carrying away relics, being turned to useful account. Aware of the difficulty experienced by the engineer in this respect, I mentioned it in conversation in presence of an officer who had just arrived at the Island, on his way home from India. This officer had visited Longwood thirty years previously, and carefully preserved a scrap of paper from the wall of each room; he kindly placed these specimens at the disposal of the French officer, who sent them to Paris, where new papers, exactly resembling the original, were manufactured and sent out to St. Helena. Thus restored, unfurnished, but with a beautifully-executed white marble bust of the Emperor placed on the spot where he breathed his last, now stands "Longwood Old House."

The tomb, where his body rested from the 8th of May, 1821, until the 15th of October, 1840, when it was removed to a handsome sarcophagus in the Hôtel des Invalides in Paris, to lie, in accordance with his expressed wish, on the banks of the Seine, is, together with the little spring of clear water which bubbles from the rock, carefully railed round and guarded, so that no ruthless hand now, as formerly, hacks and chops away the remains of two

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old willow trees which still hang over the tomb itself. These trees, though descended from, are not the original willows; and it is commonly rumoured that more than one or two generations have been carried away piecemeal by visitors as relics.

There are fifty miles of road throughout the Island, and well laid out, considering the very steep nature of the country. They have, moreover, been kept, until recently, in good repair; and the ride or drive along the mountain-tops, from Longwood across Sandy Bay-ridge, and by Government House to Ladder Hill and Jamestown, is, for beauty of scenery, scarcely to be surpassed. The shady lanes, lined on each side with bright yellow blossoms of gorse, brilliant scarlet geraniums, and the deeper tints of the fuchsia mixing with the blue-green foliage and orange-coloured blossoms of the buddlea, and the pale-green leaves of the young oak trees, are very charming, and not less so when these suddenly give place to a rich meadow or sunny hayfield. The intricate nature of the roads, winding in and out of numerous valleys and ravines, sometimes making it necessary to travel more than a mile to reach a spot but a few hundred yards distant, conveys an impression of greater size than that which the place really possesses, and several days, at least, are necessary to obtain even a general idea of the Island. The most picturesque and English-like lane is that leading from the Cathedral to the westward of the Island, and is well worthy of a visit from the passing stranger.

The Island was until lately divided into three parishes, respectively called Jamestown, St. Paul, and Longwood. Each had its church, and the former the district church of St. John in addition. The Baptists have erected three chapels. There are at least fifteen schools in the Island, and about one-seventh of the whole population attend them.

There are eight or nine institutions, some of them very excellent, but all are suffering severely from the poverty which now prevails throughout the community. Amongst the principal may be mentioned the Library, established in 1813, and supported by subscriptions; it contains many interesting old books, but few modern publications. The Benevolent Society, founded in 1814, for educational purposes and acts of benevolence, is one of the most valuable institutions of the place; it supports three schools entirely, and gives such aid to others as the funds, which are dependent upon

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donations and subscriptions, will allow. The Hussey charity, established in 1865 for the education of Africans at St. Helena, is well endowed and capable of carrying on extensive work. The African Benefit Society, instituted in the same year, is supported by subscriptions, and affords pecuniary relief to Africans in sickness, and provides them with means for decent interment. The Mechanics' and Friendly Benefit Society, founded in 1838, and supported by subscriptions, is a most excellent society, numbering several hundred members; its objects are to afford relief to them when ill, to grant annuities to widows and orphans, and assistance towards funeral expenses of deceased members. The Poor Society, established in 1844, has almost similar objects, but fewer members. The Social Society, commenced in 1845, is similar to the last two, but under different regulations; and the Church Society, established in 1845, distributes aid to the clergy, catechists, and scripture readers, from funds collected by subscriptions, and grants from the English Society for the Propagation of the Gospel in Foreign Parts. There are two Masonic Lodges, and a Regiment of Militia, as well as a Corps of Rifle Volunteers; and, in internal telegraphic communication, St. Helena is not behind the rest of the world, electric wires stretch from post to post, along the roads and up and down the hills throughout the Island. The superficial area, that is the horizontal base upon which the Island stands, now measures 45 square miles, or 28,800 acres; of this 1816 acres are quite barren, indeed for a mile inland from the sea, excepting in the ravines where they intersect the coast, few plants are to be seen; next to this, advancing towards the interior, there is a belt of semi-barren land, principally covered with wire grass, cactus, and other shrubs with a few trees, leaving the interior, an area of 8284 acres, covered with the richest verdure to the very mountain tops. About 6100 acres are private freehold property; the remainder belongs to the Crown, and is occupied thus: let on lease, 1950 acres; appropriated as common pasture, 1800 acres; used for Government purposes, 250 acres; and, not in use, 18,700 acres. A large part of this last is barren, but a considerable portion of it is suitable for sheep pasture; the soil is productive, and capable of growing oats, barley, potatoes, mangold wurzel, and other crops with great success. Wheat has subsequently been found not to answer, as the ear mildews in consequence of the moisture always present in the atmosphere. I feel assured, however, that the blights

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port for fresh provisions, &c., they called at St. Helena, finding it safer and more accessible than the Cape of Good Hope, and a thousand ships a year was the average number that cast anchor in the roadstead. But they now make swifter passages, they are better manned, better provisioned, and can easily make a voyage from the East to Europe without the delay of an intermediate stoppage. It is these causes, more than the opening of the Suez Canal route, that lessen the number of ships calling at St. Helena and reduced it in the year 1870 to 677. This, of course, chiefly tends to lessen the prosperity of the place, but the disbanding of the St. Helena Regiment, and, after it had been replaced for several years by detachments of Line regiments from the Cape of Good Hope, the entire withdrawal of that portion of the garrison, aided very considerably in reducing the local revenue from 21,000*l.* to about 14,000*l.* per annum.

The view taken of St. Helena by the Home Government has, I think, altogether been a mistake. It has been looked upon as a colony, and, under the management of the Colonial Office, made self-supporting. It has, however, no claim to the former, and endeavours to make it the latter must end in failure. The place is really a fortification, and, as the key to the whole South Atlantic, is one of England's greatest fortresses, and as such ought to be under the control of either the Admiralty or the War Department.

The Government maintains there now only a small garrison, consisting of a battery of Artillery and a company of Royal Engineers, and it spends annually about 1000*l.* upon military works, so that the fortifications are in ruins and neglected, and what new batteries have been undertaken remain in an unfinished state, while the modern guns sent out from England lie here and there unmounted and half buried in rock and débris.*

An artillery officer told me a few years ago, that if he was required to man the batteries in the Island he would be able to place but one man to each gun; and the defences altogether wear such a dilapidated appearance that foreign naval and military

* It must not be understood that the officers stationed at St. Helena are responsible for this state of things. Governors, as well as able engineer officers, including, of late years, Colonel Stace, R.E., and General Freeth, R.E., have repeatedly urged upon the Home Government the importance of maintaining the Island in an efficiently fortified state.

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visitors to the place are struck with astonishment. Of course the idea of the Government in allowing these things so to be, is that of economy, but it is highly questionable economy, and there can be little doubt that Koffee Kalkalli, King of Ashantee, against whom England lately went forth to war, has, to some extent, taken his measure of British greatness from the ruined and deserted batteries of St. Helena, and the apparent inability of England to place and maintain them in proper order.*

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* Many liberated Africans, after residing for thirty years at St. Helena, whose only knowledge of England has been her ruined fortresses there, and her apparent inability to spend more than a few thousand pounds occasionally upon them, have returned to their native country, Africa, and doubtless taken with them many tales of England's poverty.

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PART II.—GEOLOGY AND MINERALOGY.

The map of the Island shows it to be a most irregular-shaped piece of land, with an extreme length from East to West of ten and a quarter miles, an extreme width from North to South of eight and a quarter miles, and having several small islets dotted here and there around its jagged coast. A high central ridge, varying in altitude from two thousand to nearly three thousand feet, commences on the south-eastern side of the Island, and, taking a semicircular course towards the south-western side, separates the Island into two portions; that portion to the south of the ridge takes the form of a huge bowl with its edge partly broken away, now known as Sandy Bay; while that on the East, North, and West, slopes gradually away, at angles varying from 8° to 10°, towards the sea, terminating at the coast line in perpendicular cliffs from 450 to 2000 feet in height. This great wall of rock, which, on approaching the Island from all but a southerly direction, seems to defy an entrance, is intersected by a number of deep and narrow gorges running at right angles from the coast line towards the central ridge, where they lessen considerably in depth and width. The only town is situated in one of these gorges on the north side of the Island; it being one of the largest, may, probably, in some measure, account for its selection as a site for the first settlement. In size they vary considerably, and in some places lie close together, separated only by a narrow ridge several feet in width, while in others they are more than a mile apart.

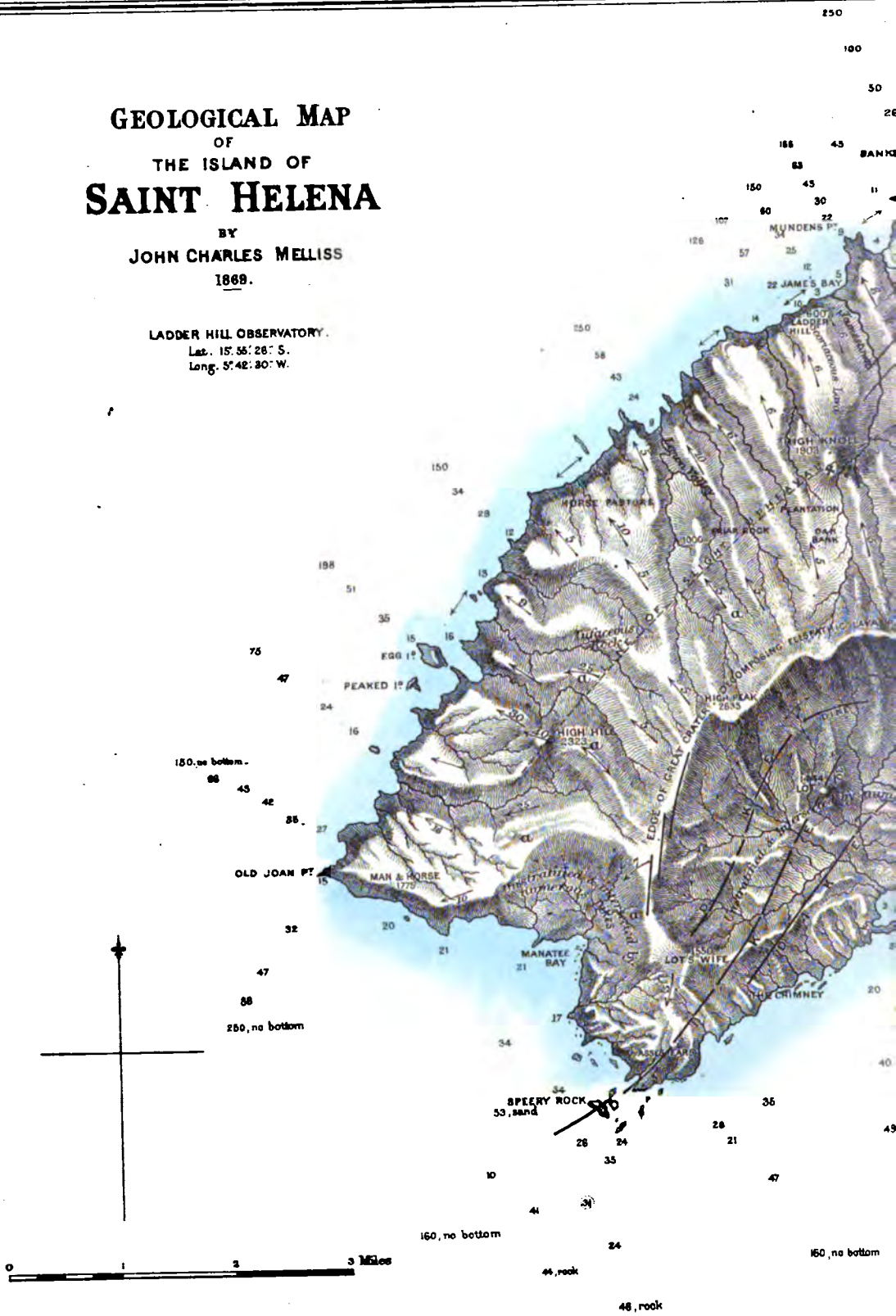
The soundings, which are of much value in computing the original line of coast, are quoted from a chart by Mr. George Thoms, of H.M.S. *Northumberland,* under the command of Rear-Admiral Sir George Cockburn, in the year 1815; they show that the sea bottom slopes gradually to depths of 60 or 70 fathoms at a distance of about a mile and a half from the present coast, but immediately beyond that there appears to be no bottom recorded at a depth of, in some places, as much as 250 fathoms. It will be quite necessary

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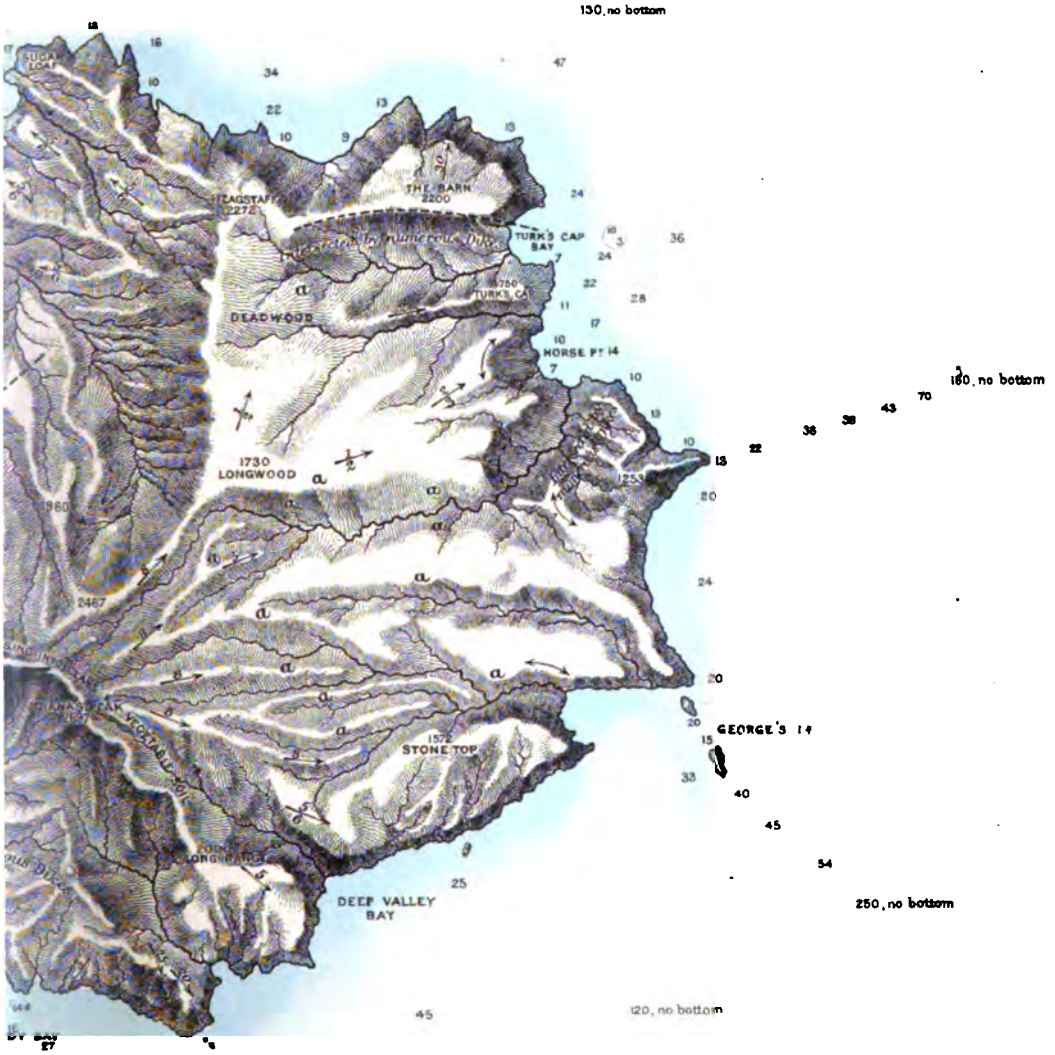
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GEOLOGICAL MAP
OF
THE ISLAND OF
SAINT HELENA
BY
JOHN CHARLES MELLISS
1869.

LADDER HILL OBSERVATORY.
Lat. 15° 55' 28" S.
Long. 5° 42' 30" W.



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REFERENCES.

- ● . *Centre of Great Crater.*
- ✖ . *Lateral Volcanic Cone.*
- —— *Dikes.*
- ---- *Line of Upheaval.*
- ⟶ *Direction of flow of Lava.*
- ⟶ 5 *Denotes that the angle of indiriation of the Strata is 5°.*
- ⟶ 2/3 *Denotes that the angle of inclination is from 2° to 3°.*
- ..... *The figures denote, Elevation above Sea level in feet, and depth below Sea level in fathoms.*
- ⟷ *Denotes horizontal stratification.*
- ∴ *Site of extinct Solfatara.*
- a ..... *Ochre beds and coloured Marls.*

39

120, no bottom

60

180, no bottom

30, no bottom

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to obtain some further information relative to this very remarkable submarine ledge, which appears to surround the Island, before entertaining the theory of a general subsidence of the land, or indeed any theory with reference to the cause of its existence.*

The geological structure of this remarkable land has often been curtly described in the few words, "it is volcanic," and the explanation as often considered sufficient, inasmuch as the truth of such an assertion cannot be doubted, even by the most casual observer. This rocky pile, however, so often briefly dismissed as troublesome to inquire into, presents not a few points, in searching out truth, well worthy of the student's attention. The manner of its formation, together with the time occupied therein, and the period that has since elapsed in bringing it to its present shape and dimensions, are each subjects affording unusual interest in reading that page of nature's book which throws light upon the ancient geography of the Southern Atlantic region.

Its isolated position, its peculiar fauna, and its very remarkable insular flora, together with its geological character, present strong reasons for placing St. Helena amongst the oldest land now existing on the face of the globe. It represents a very fair type of an oceanic volcano similar to Palma of the Canaries, St. Paul's Island, in the Indian Ocean, and others, of which Sir Charles Lyell makes the following remarks:—"Every crater must almost invariably have one side much lower than all the others, viz., that side towards which the prevailing winds never blow, and to which, therefore, showers of dust and scoriæ are rarely carried during eruptions. There will also be one point on this windward or lowest side more depressed than all the rest, by which in the event of a partial submergence the sea may enter as often as the tide rises, or as often as the wind blows from that quarter. For the same reason that a sea continues to keep open a single entrance into the lagoon of an atoll or annular coral reef, it will not allow this passage into the crater to be stopped up, but will scour it out at low tide, or as often as the wind changes."† There is, in the Island of St. Helena, precisely such a

* I hope that this subject may be investigated during the present cruise of H.M.S. *Challenger*, as Mr. Gwyn Jeffreys has most kindly promised to bring it before the notice of Professor Wyville Thomson.

† Manual of Geology, by Sir Charles Lyell, M.A., F.R.S., 1855, p. 513.

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crater, as is thus described, of enormous dimensions, forming that side of the Island called Sandy Bay. The southern edge of this crater, being that exposed to an ever prevailing south-easterly trade wind, is broken away below the level of the sea, and the crater itself which measures four miles across, thus exceeding in size the remarkable La Caldera of the Island of Palma, is covered by the sea to the extent of about two-fifths of its full size. The remaining three-fifths stand above the sea, resembling the larger part of a broken bowl, its edge rising to an elevation varying from 2000 to 2697 feet, and forming the central ridge or backbone of the Island known as "Sandy Bay Ridge." On this ridge are situated the highest mountain peaks in the Island, viz., Diana's Peak 2697, and High Peak 2635 feet above the sea level. The ridge itself, for about five or six miles along its central portion, is tolerably horizontal, but slopes at its eastern and western extremities towards the sea, meeting it at its terminations in steep precipices. On its south side the fall into the crater is very nearly perpendicular for some six or seven hundred feet down, where, amongst the vegetable soil and indigenous plants now clothing the upper portion, are still easily traced thick lava strata running in a horizontal direction around the side of the bowl, assuming here and there the appearance of gigantic steps, and dipping northwards at an angle of about 6° to 8°.

This ridge, or crater edge as we shall now call it, is covered with a layer of rich vegetable soil, under which can be traced felspathic lavas in all stages of decomposition. First comes, as seen above Swampy Gut, the damp red, yellow, or bluish white clay; a little deeper the semi-decomposed lava; and finally, at a depth where the influence of atmospheric moisture has failed to penetrate, we find the compact hard lava in its natural cool state. Many lumps of these decomposing lavas have become detached and slid away down into the crater; above Sandy Bay School large masses of basalt are to be seen embedded in the soil, which have evidently rolled down from some lava strata, now itself quite passed away into surface soil. Amongst the grass below Rose Cottage also may be seen cropping up large masses of basalt, which have there found resting-places in their descent, while many more, some of a deep reddish tint, lodge in the neighbourhood of Bay House and Cole's Rock. Some of them are huge in size and angular in shape, while they vary in composition

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GEOLOGICAL SECTION THROUGH THI

FROM NORTH TO SOUTH AND TRANSVERS

(From Munden's Poi

BY

JOHN CHARLES

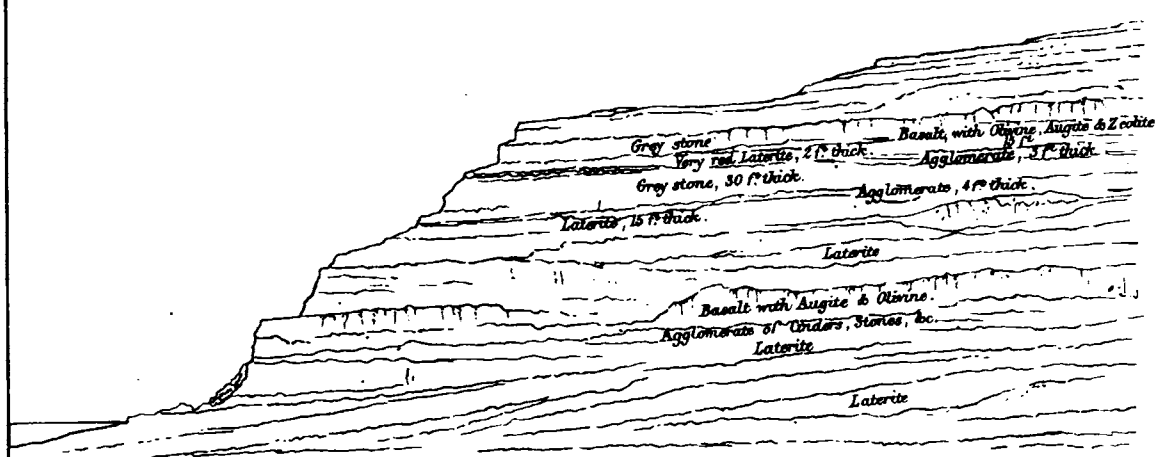
18



Vegetable soil.
Felspathic lavas.
Basaltic lavas, alternating with beds of laterite, or volcanic mud baked red, and volcanic agglomerate of small stones, ashes, and cinders.

ENLARGED SECTION THROUGH NORTH COAST

(MUNDEN'S POINT AND PART OF RUPERT'S HILL.)



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THE ISLAND OF SAINT HELENA,

RSELY ACROSS THE GREAT CRATER.

rt to Sandy Bay Beach.)

ES MELLISS.

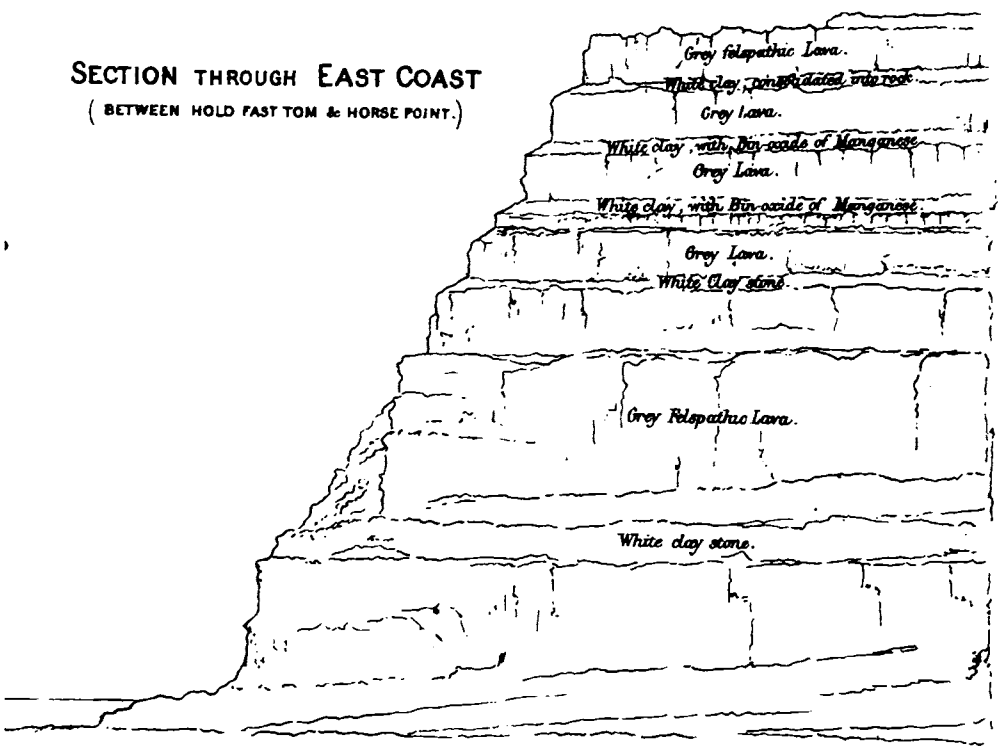
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0 1/4 1/2 3/4 1 2 Miles.

SECTION THROUGH EAST COAST

(BETWEEN HOLD FAST TOM & HORSE POINT.)



200 400 Feet.

London.

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from greystone to basalt; the formation in which they lodge appears for the most part to be a conglomerate of spheroidal nodules of greystone, variously coloured marls, and basaltic earths, overlying lava beds which have flowed back to some extent into the crater; the surface soil scarcely exceeds eighteen to twenty-four inches in thickness. The edge of the crater at an early period is apparently traced at Cole's Rock, where massive perpendicular faces of basalt occur, showing little sign of inclination or stratification, excepting at one point where a dip of twenty degrees towards the north is observable. Below Fairy Land, also, a further indication of an early edge of the crater seems to be apparent, where several thick layers of lava incline towards the north at an angle of thirty degrees.

Thick vegetation, for the most part indigenous plants, now clothes the central portion of the crater edge for about four miles in length, and extends down into the bowl for near three-quarters of a mile, where it is met almost abruptly by barren ground, producing at most only stunted grass with a few straggling shrubs, including those indigenous plants whose habitat is the low rocky land near to the sea-coast.

The inside of the crater is thickly peopled, and the civilizing influence of man's presence, exhibited in houses, vineyards, fruit gardens, and cultivated plots scattered all around its sides, tends to add to the peaceful, quiet aspect now worn by this once seething, fiery cauldron. The descent from the edge, for a considerable depth, is by a very steep winding carriage road, from which bridle paths branch and ramify right and left in and out of the ravines which heavy rains and much surface water have deeply cut into the sides of the bowl. This descent into the crater, although rather trying to the nerves of those who visit it for the first time, well repays the undertaking. The scenery, though on a small scale, is truly grand. Labourers' cottages, with neat little gardens, scattered here and there amidst bright green grassy slopes and hay fields, have more than ordinary claim to picturesqueness; while almost every turn in the road reveals a pretty rural English-like dwelling, snugly placed in some romantic glen, amidst thick groves of trees, whose bright verdant foliage charmingly contrasts with the grey lichen-clad rocks and the rich purple red and yellow tints of the more distant sides of the crater, occasioned by the presence in the soil of manganese and iron in composition. The most striking view of the crater is

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obtained from the somewhat perilous summit of the mass of rock called Lot, where the spectator, elevated nearly 1500 feet, on a pinnacle almost in the very centre of the huge bowl, obtains an unintercepted view of the whole. The ascent of Lot is a tedious climb, but well repays the labour bestowed upon it.

At the foot of the almost perpendicular fall from the crater's edge, the ground begins to slope more gradually, but very irregularly, down towards the sea. The formation, as we proceed towards the floor of the crater, becomes unstratified and confused, and is intersected by numerous dikes, varying in thickness from a couple of inches to a hundred feet or more. As the centre of the crater near Sandy Bay Beach is approached, these dikes increase in number, sometimes lying closely side by side, even also crossing each other at right angles, and varying in composition just as much as in their outward form and colour. They soon appear numberless, and are so complete that scarcely a fault or displacement of the adjacent ground can be traced; they have much the appearance of brick or stone walls running up and down and across the crater sides in all directions, even extending out to sea like so many well built landing-piers. Of some of the largest of these dikes, three or four are very remarkable features in the structure of the Island, striking, as they do, in parallel lines from the north-east to the south-west right across the crater; and, when viewed from its edge, much resembling the trail of some great serpent or monster which had wended its way across it. Some of them testify strongly to the amount of disintegration and denudation that has, through long ages, been in progress on the surface of the Island. One especially of them, which may be traced for four miles or more, being formed of a fine hard crystalline felspathic greystone, much harder than the surrounding rocks, has worn away much less rapidly than the adjacent ground, and left huge monolithic columnar remains of itself at intervals throughout its length. One of these great piles of rock has just been mentioned as bearing the name of Lot. It stands almost in the middle of the now remaining portion of the crater, at an elevation of 1444 feet above the sea, having a base 100 feet in thickness, and an altitude of 290 feet. A second, called Lot's Wife, stands about a mile and a half further to the south-west, elevated 1550 feet above the sea, with an altitude of 260 feet, its upper portion being considerably larger than the base

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Vincent Brooke, Lith

VIEW IN SANDY BAY.

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upon which it stands. A mile further on, in the same direction, stands a third of these columnar remains, called the Ass's Ears; and still further on for about another mile, rising as an islet from the sea, detached from the main land, is seen Speery Rock, the last visible portion of this great dike.

There is no difficulty in tracing the relationship of these rocks as portions of the same great dike, because in character and composition they agree exactly, while the rocks which enclose them are of a very different construction, consisting for the most part of unstratified blue basaltic, hard-red, and other marls, containing embedded crystals of augite, and traversed in all directions by numerous very small dikes. These features are so intimately associated with the great crater of Sandy Bay that it is difficult to omit noticing them in connexion therewith; but, in tracing out the geological structure of the Island in due order, their introduction at this point is somewhat out of place, as will be understood when it is remembered that they were certainly formed after, perhaps long after, the great volcano had ceased to be active; and as yet we have not seen what became of the products cast outside of the crater-walls during its activity.

With the intention, then, of returning to this subject in connexion with the denudation and probable age of the Island, let us take a view of what surrounds the great crater edge, or Sandy Bay Ridge, on its northern, eastern, and western sides—in other words, the great masses of lavas, ashes, and mud, which, ejected from the crater, have built up the remaining portions of the Island.

We find no trace whatever of granite or any other primitive or plutonic rocks, or indeed any formation to encourage the slightest suspicion of a continental land having ever occupied that particular latitude and longitude where St. Helena now stands. Continental land may at some *extremely* remote period have occupied the same place, but, be this as it may, there can be little doubt that, previous to the appearance of St. Helena, the broad expansive South Atlantic swept over the site it occupies; and the first sign of disturbance there was probably a bubbling and spouting up of the water on a vast scale, just at or near to the spot now called Sandy Bay Beach. Then followed a stream of molten lava, shot up from the depths of the ocean, and, guided by the south-east wind, falling into it again more on one side than the other, laid the foundations of that pile,

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which, in the course of future events, became the prison of one of Europe's greatest monarchs.

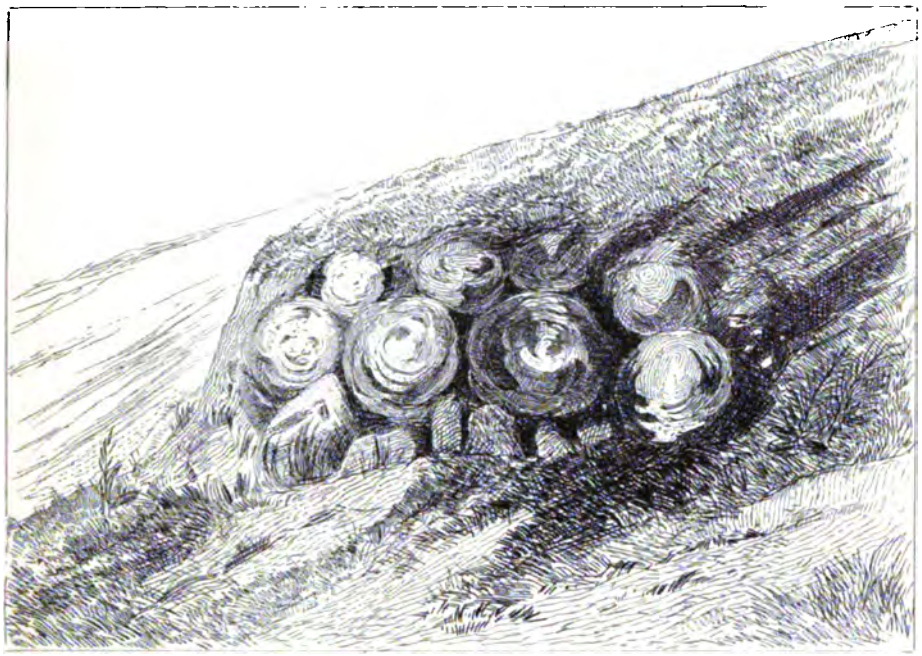
Repeated outpourings of lava would in time raise the crater-edge above the surface of the water, and the flow of lava inclining from it would eventually bring up the land to the same elevation. At an early period the crater would doubtless have its edge intact, and would necessarily contain water, which, during the interval between volcanic action, would mix with bits of broken rock, débris, and dust rolling down into it from the disintegration of its sides, and produce volcanic mud. A renewal of volcanic activity would first of all discharge from the crater this mud, accompanied with steam and water; the rubble, or small fragments of rock, which, being heaviest, would sink to the bottom, would next be shot forth, and finally the molten lava would follow, thrown up high into the air amidst smoke, dust, and heavy clouds, just as in the present day we witness it at Vesuvius; sometimes so high that detached fragments of lava, rendered spherical by their passage through the air, would descend in the form of bombs weighing half a ton or more. The lava would, for the most part, however, descend in huge sheets of liquid matter. A period of quiescence, or rest from volcanic discharge, extending over a century or two,* would then intervene, when another similar outpour would follow: first mud, then rubble, followed by the pure lava, and this would, with intervals of rest, be repeated through hundreds of centuries until the edge of the great crater was built up to thousands of feet in height, with the land on its outer sides, excepting that towards which the prevailing wind blows, sloping outwards at such angles as the flow of lava naturally takes, probably 5° or 7°. Now this is precisely what we find on examining that part of St. Helena which is outside of the crater-walls. The whole of this portion of the Island is thus built up of numerous layers of mud, rubble, and lava; occasionally the former two are missing in the regular order, and beds of lava overlie beds of lava, but such is the exception; and although it is difficult now, in consequence of disintegration and surface-soil overlying them, to trace the distinct strata, it is easy to count, on the northern face of the Island, at least forty or fifty

* C. Piazzi Smith states, with reference to Teneriffe, that volcanic outbursts occur once in a century.

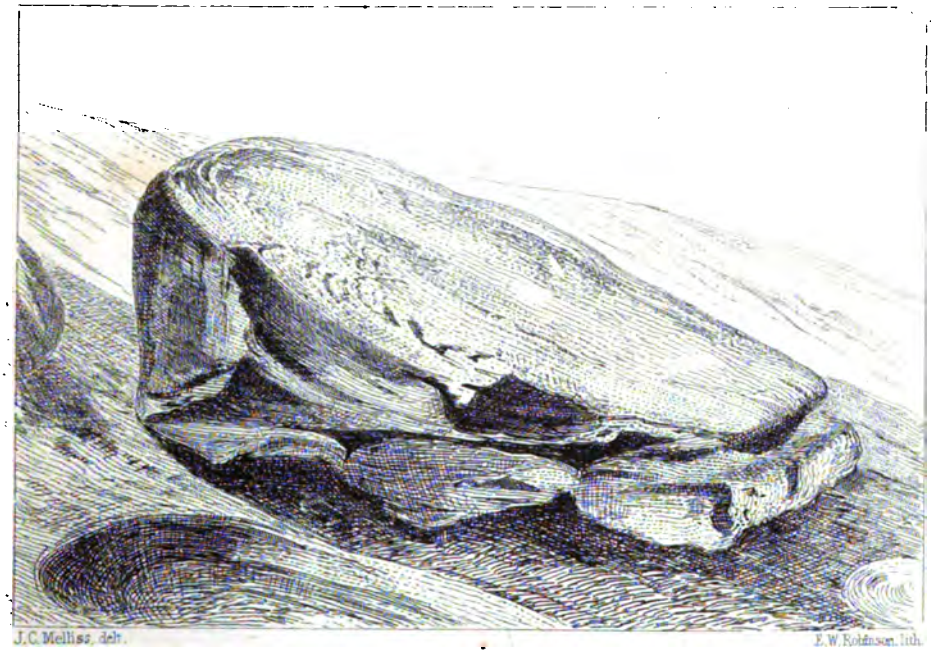
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VOLCANIC BOMBS. ROAD SIDE, SWAMPY GUT. *p. 52.*



J.C. Mellis, delt. E.W. Robinson, lith.

BELL STONE. A MASS OF PHONOLITE NEAR SHIPWAYS
WHICH WHEN STRUCK EMITS A SOUND RESEMBLING A DEEP TONED BELL.

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layers of lava, besides eleven of volcanic mud; while at Horse Pasture, on the same coast section, seventy layers of the former and six of the latter, are plainly distinguishable.

These layers or strata vary considerably in composition and very greatly in thickness, so that their examination next claims our attention. The volcanic mud or laterite beds are in colour generally of a yellowish brown passing into red, and where the non-intervention of rubble happens their bright red edges show plainly the effect produced by immediate contact with the burning hot lava. They vary from eight or nine inches to several feet in thickness, and, where the mud has fallen into irregular hollows or bowls in the surface of the lava, they attain a greater thickness, exhibiting also quite a sedimentary form of deposit. In many places this mud is to be seen burnt as hard as a brick, while in others it is little harder than cheese; some extremely thick massive beds of it exist at the Red Quarry, Rock Cottage, &c., passing into the form of a vitrified scoriaceous kind of slag, in which state it is a good deal used for building purposes; being easily dressed for faced work, many of the principal buildings in Jamestown are constructed of it; when protected by a thin coating of plaster or cement it is found to be durable enough for such uses. Traces of small roots of plants occur in some of these beds of laterite. I have noticed them especially near Pierie's Revenge, but they are probably recent, and no fossiliferous remains are found in them beyond embedded fragments of volcanic rock, scoriæ, and pumice, similar to those which make up the beds of rubble. Some of these mud or ochre beds, as they are called, exhibit the most brilliant red, yellow, and purple tints, which at first sight are suggestive of fitness for colouring pigments; but no use being made of them in this respect, their real value seems to exist in forming indicatory records of subsequent disturbance, or otherwise, in the general strata.

The rubble or agglomerate beds of small fragments of stones, ashes, and cinders, which generally immediately overlie the mud strata, range from two to three feet in thickness; the stones of which they are made up are about two or three inches in size, in appearance much worn and slightly rounded, and somewhat adhering together. The face of the hill between Jamestown and Ladder Hill affords a good opportunity for inspecting these rubble beds. Generally the lava has flowed over them without disturbing them much,

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but in some places it has, in its sluggish course, pushed the rubble before it until a great heap has accumulated, when either it has broken through the mass and continued its course underneath, or poured over it in order to resume its way on the other side. An instance of this is to be seen to the south of Ladder Hill signal station, where an immense accumulation of rubble has been forced forward by the huge stream of lava overlying Pierie's Revenge. In some of the earliest, as well as the latest of these beds, there exist cylindrical holes, which are now quite empty, but close examination removes almost any doubt as to their once having been filled by stems of trees. It is most improbable that trees grew upon any part of the Island at that period when the rubble beds were being formed, and whether the stems embedded in them grew on some near adjacent land, or were floated from some distant country across the sea and through the agency of currents into the crater, cannot now be determined; but the latter theory seems very probable because in the present day seeds of plants which grow eastward of the Cape of Good Hope are conveyed and cast up by the sea on to Sandy Bay Beach, the very centre of the crater. Had these stems been enveloped in the lava, they would have been quickly burnt; this may have occurred with some of them of which no trace now remains, but it seems most probable that they would be cast out of the crater with the rubble before the ejection of lava commenced; and we thus find them in these beds. The heated rubble would suffice to burn the wood, converting it into carbon, which in conjunction with steam and other gases would easily cause its disappearance in the form of carbonic acid gas, &c., so that, while the rubble would have sufficiently hardened to retain a cast of the external shape of the stem, no trace of the tree itself would remain. Possibly, remains of the wood may yet be found in some newly-opened cast. I have only seen those which have been long ago cut through in making roads, when perhaps if they contained anything it was never noticed. Although no remains of the original wood were to be seen in those which I examined, there was no difficulty in tracing, on the side of the casts, an imprint of the coarsely imbricated form of the stem, showing it to have borne the characteristics of a palm or large tree fern.

A very complete cast of this kind, which measures nine inches in diameter and forty-two inches in length, occurs in one of the

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earliest rubble beds, and may be seen on the western side of "The Shy Path," opposite to the storehouse called "California" in Jamestown. Another occurs in a bed of more recent formation, six hundred feet or more higher up on the same hillside, just behind the observatory on Ladder Hill. And in various parts of the Island others, in a more or less perfect state, are to be seen.

The lava beds which follow on the rubble, and of which, as already stated, at least sixty or seventy may be easily counted, vary so much more in composition than either the mud or the rubble that more time and space need to be devoted to their examination. The first layers of lava which are seen above the sea line along the northern, eastern, and western coasts, excepting that portion between Holdfast Tom and Horse Point, are for the most part composed of a very dense compact basalt, containing very few cavities; they vary in thickness from a foot or two to ten or twenty feet. Although the cavities are few, some of them in these lower basaltic strata contain a most interesting relic of the age when they were formed, being filled with sea water, which through hundreds of centuries has been hermetically sealed up in them. I discovered this one day, while looking at the blasting of stone for the public works, in a small quarry on the western hillside in Jamestown; during the operation, immediately that a fresh fracture of the rock took place, a wet circle appeared surrounding some of the little pea-shaped cavities which had been split open by firing the blast. The water thus released from its long imprisonment was not sufficient to admit of its being collected, but, by a quick application of the tongue, its nauseous flavour afforded tolerably good evidence of its really being sea water. Little were those rough quarrymen aware of the extremely interesting fact they were revealing in disentombing water which had existence thousands of years before, and which had been so carefully preserved by nature through all that time from any change.

After several layers of this hard basaltic character, in which either augite or felspar slightly predominate, at an altitude of two hundred feet, the nature of the lava changes; and a single layer of quite a different composition intervenes, viz., a very heavy dark blue basalt, much more augitic in character than the lower basalts, and containing embedded crystals of augite and olivine. Next in order, above this, the layers are again simple basalt, only changed sometimes by strata of a more felspathic nature, such as greystone

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and phonolite. This order of succession is repeated several times, the occurrence of the layers of heavy blue basalt, with embedded crystals as before mentioned, being at altitudes of 200, 300, and 400 feet above the sea line, until the whole Island is built up to the crater's edge.* While some of the lava beds are very compact, others are more or less scoriaceous and cellular,† their elongated almond-shaped cavities clearly indicating the direction of their flow. In addition to this evidence, and that of the angles of inclination, that the strata have scarcely been disturbed from their original positions, when flowing from Sandy Bay northward, we also find the embedded crystals of augite, one of the most brittle of minerals, to exist in a perfect state only around the neighbourhood of Sandy Bay. All the embedded augite, on the northern side of the Island, has been broken into small irregular fragments, evidently by attrition while flowing to so great a distance. Scarcely is a complete crystal of this mineral to be found beyond the walls of the crater, while inside the crater itself, as at Lot and other places, the most perfect crystals exist in large numbers.

It is somewhat remarkable that, excepting the beds of hard basalt containing embedded crystals, the lavas show a gradual tendency to a more felspathic composition as they approach the highest part of the Island; the most recent being also the most felspathic. Lavas of such a character are more readily acted on by atmospheric influences, and, being more easily reduced by disintegration into alluvial soil, seem to indicate a thoughtful care on the part of the Great Creator, in thus facilitating the process for forming a surface soil to this rocky land. Still more strikingly is this illustrated by the fact that all the uppermost layers of lava which once existed, and have now through disintegration entirely worn away from the high central parts of the Island, had felspar for their chief constituent.

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* These Basaltic layers are seen cropping out on Munden's Point and Hill; they appear also at the following places: above Chubb's Spring House, immediately over the bridge and little waterfall at the foot of Barnes' Road, about half way up Barnes' Road, at Francis Plain and along the watercourse road, and also at Southerns, where a thick flow on the roadside is most probably the same as that seen at Francis Plain; "The Rock" in Plantation grounds, as well as a stratum at Arnos Vale entrance iron gates, show the same composition; while immediately over Cat Hole there occurs a layer of greystone with only a few small widely scattered crystals of olivine. It is not these but the *pure* basaltic lavas which generally follow on the beds of laterite.

† Towards the lower part of Barnes' Road a layer of very cellular lava, with cavities about the size of peas lined with very minute zeolitic crystals, occurs.

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Having thus noticed the building up of the Island to the present edge of the crater, and turning our attention to those thick, almost horizontal, beds of lava, highly felspathic in their composition, which appear on the eastern side of the Island, and are plainly visible at Horse Point, we cannot resist coming to the conclusion that the Island was at one time very much higher as well as much longer and broader than its present dimensions, and that these beds are the fragmentary remains of the latest lava ejections from the crater.

We get a further sight and knowledge of these recent lavas, which once capped the whole, by a visit to the high conical hills situated on the south-eastern corner of the Island, called Great and Little Stone Top. Here, together with the broad thick layers at a lower altitude not far distant, running round the promontory on the eastern coast, known as Horse Point and Holdfast Tom, we see the last remnants of a series of greystone lavas, which were the most recent of all, and once, so to speak, crowned the whole mountain top of this volcanic pile, but, being subsequently worn away, left it as it now exists. Portions of these layers of lava, nine or ten in number, still remain, in resemblance much like gigantic steps, where they reached down to the sea at Horse Point, of quite a different formation from the remainder of the coast. They are composed of a very finely crystalline felspathic greystone lava, separated by beds of white marl, produced through the decomposition of the lava itself, and traversed by veins of pyrolusite or black oxide of manganese. They incline seawards at an angle of one to two degrees. The greater the altitude at which this lava exists, the more has it passed into a sort of whitish clay or marl, thus exemplifying the facility with which it would, by atmospheric action be removed from the highest parts of the Island. The few fragments which still remain on the very summits of Great and Little Stone Tops, as well as on the loftiest portion of Horse Point itself, show plainly the influence produced upon it by the higher regions.

It is this formation in the eastern portion, differing so much from other parts of the Island, which has given rise to the idea that it once was part of a Continent. Could we glance at the Island as it stood when volcanic action ceased, we should see its mountain peaks rising high into the clouds, a thousand feet perhaps, or even more, above their present altitude; the huge crater lying on one side, and on the other sloping plains, stretching several miles further out to sea than

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the coast line now, and we should fail to recognise, in its present form, the same Island. Atmospheric action upon the rocks, through long ages, bringing about gradual denudation, has reduced its elevation, and, with the aid of heavy rains and slight upheaving force, rendered its surface irregular; while the unceasing wear and tear of the restless ocean on its rocky coast has reduced its area to almost one half of its original size.

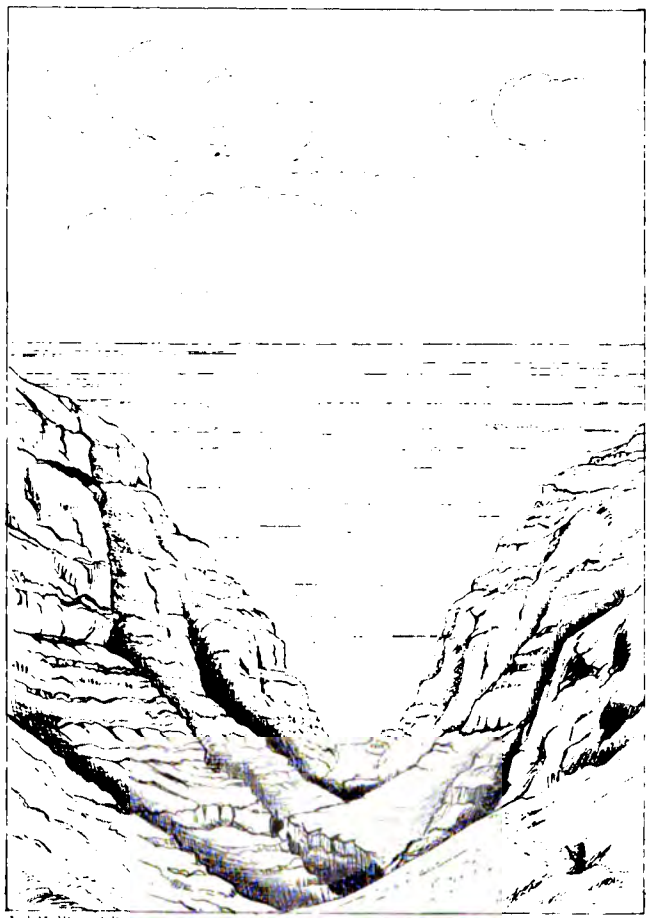
With this figure of the Island in mind, we may next proceed to view the effects produced by such causes, as have just been mentioned, upon its surface; and first in order examine the water-cut gorges which have been already referred to as intersecting the northern, eastern, and western portions. These ravines, the largest of which number about sixteen, originate on the high land near the crater's edge, but deepen and widen as they approach the sea coast, where some of them measure not less than one-eighth of a mile across at the bottom, three-eighths of a mile across the top, and a thousand feet in depth. Lemon Valley, viewed from Thompson's Hill, affords a good type of these huge channels. The strata on each side correspond in position so regularly, that any suspicion of their being caused by convulsive fractures is dispelled. The passage of rain water from the mountain tops towards the sea is doubtless the chief agent by which they have been formed, and the process of deepening and widening may still be seen going on during heavy rains. The water which falls on the high land rushes down towards the sea, and, in its course washing out the rubble and mud beds, undermines the lava until it splits off in great fragments, rolls down, and in its turn is carried away. Many caves, formed by the undermining of the lava beds in this manner, may be seen along the hillsides which enclose these ravines, and they also abound along the sea shore where the waves have washed out the laterite beds for many feet in a horizontal direction. Some of them constitute the only habitations owned by fishermen; others nearer the water level are in consequence inaccessible, and serve only to increase the roar of the waves as they roll in and out of them. There is a large one at Frying-pan Cove, twenty feet in depth, and there are some situated on the coast near Deep Valley, which are stalactitic, but these latter are only accessible by boat at low tide.

In this manner these channels or gorges have, in course of time, been gradually increased in size, their enlargement doubtless being

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VIEW NORTHWARD DOWN LEMON VALLEY



DETACHED PORTION OF CLIFF N.E SIDE OF GRECOVILLE

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more rapid at that period when the land being higher attracted more clouds, and consequently there was greater rainfall, and probably snow water, to assist the process. Although this action is sufficient to account for the present size and appearance of these ravines, I am inclined to think that they had their rudimentary origin, or their courses traced out previous to their enlargement by running water, in the sheets of lava as they spread outwards from the crater's edge in a semi-fluid or viscous state. Flowing in a sluggish manner, the outer edge of the lava would naturally terminate in a form somewhat similar to that of the fingers of a human hand when spread out flat upon the palm; each subsequent flow or stratum taking the same course and shape, the spaces left between the fingers, as it were, would represent the commencement of the ravines. That the lavas have travelled very slowly is evidenced by the elongation, in the direction of the flow, of the air cavities contained in them, as well as by the remarkable forms which the scum has assumed where it has accumulated, before cooling, very like the froth on the surface of stagnant water. In the locality of High Knoll and Ladder Hill, this hardened scum so greatly resembles in texture the stems of trees as to be commonly mistaken for petrified wood. Some of it is so scoriaceous or full of minute cavities that it floats for a considerable time when placed in water; it is, in fact, a kind of coarse pumice.

A confirmation of the opinion that the larger ravines had their origin in the flows of lava, I think, may be obtained by walking along the ridge, or present crater edge, and noticing the natural forms of the spurs or divisions which separate one from the other. Standing on Diana's Peak, and looking down eastward, the flow of lavas appears to have taken two directions. One stream, that nearest to the hill on which stands Sunberry Cottage, has flowed irregularly for about a quarter of a mile easterly, when it seems to have divided; one branch has flowed northerly towards Prosperous Bay, on which is situated Arnos Vale, and now shows a very rugged steep ridge for about a mile, until it reaches "Shark's Valley," when it turns in an easterly direction towards George's Island, and then gradually slopes down, losing itself in Shark's Valley, about three-quarters of a mile distant from the sea shore; the other branch seems to have travelled on still more easterly, forming that very irregular portion of the Island lying between Stone Top Bay and Deep

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Valley Bay. In this second direction the flow appears still to form the side of the crater for about a quarter of a mile down from the top of the Peak, indeed, until it reaches Cuckold's Point, where it separates into two streams, one running south-easterly down to Deep Valley, the other south-westerly, overlying and destroying the edge of the crater, and then winding down to Green Hill and White Hill. In a similar manner may be traced the courses of Halley's Mount and Alarm Ridge, Casons and Merryman's Hill, with several others, as one travels westward towards High Peak, from whence also a lava stream takes its course north-westerly towards Horse Pasture, with an adjacent arm to the westward. A little distance eastward of West Lodge is seen another, forming a narrow low hill between Horse Pasture and High Hill. The next is plainly traced as High Hill itself, and then westward, in succession, come Bottleys, Man and Horse, Churchyard, and Devil's Hole Ridge.

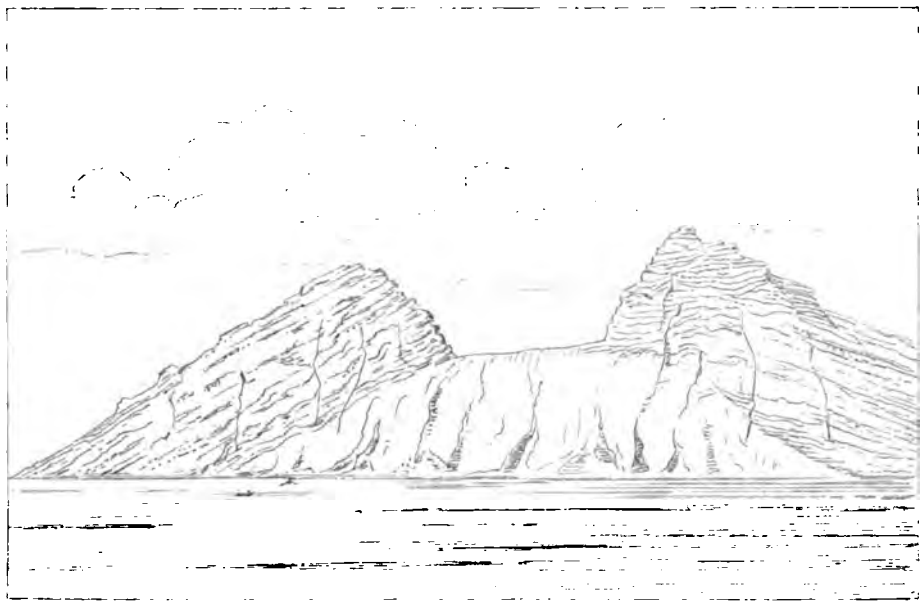
The features we shall next notice are the effects produced by a slight upheaval, which some subterranean force, volcanic or electrical, or both, has caused. This force, though doubtless considerable in itself, has in its results been moderate. It has acted vertically throughout an imaginary line drawn from the crateriform hollow of Turk's Cap Bay on the north-east, to the similarly formed hollow at Manatee Bay on the south-west, across the northern part of the Island, and slightly tilted more seawards that portion which lies on its outer side. Inasmuch as it would be impossible to walk, because of its intersecting nearly at right angles the deep and rugged water-cut ravines with ridges and plateaux separating them, let us glance along this line commencing at the Barn Rock on the eastern corner of the Island. Here, between it and Flagstaff Hill, we see a strange upheaval of the unstratified cinereous sub-base of the Island* protruding high out of the sea, and causing the lava strata which overlie it to dip eastward and westward at angles of 35° and 20°. As might be expected, small dikes abound at this spot, traversing in a vertical direction both

* From the Barn to the King and Queen or Prosperous Bay Telegraph, this formation, which consists of cinereous rocks of a yellowish reddish hue, intersected in all directions by numerous small dikes, may be seen underlying the lava strata similar to the formation on the face of Ladder Hill, &c.

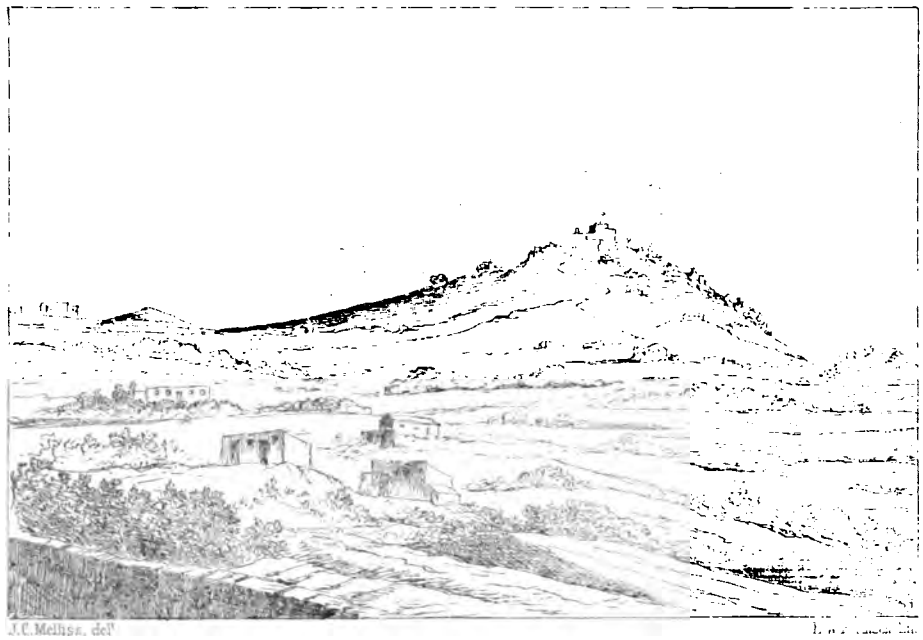
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VIEW LOOKING SOUTH FROM SEA, OF THE BAY & FLAGSTAFF H[illegible] p. 62.



VIEW LOOKING SOUTH, OF LATERAL VOLCANIC CONE, HIGH KNO[illegible] p. 67.

L Reeve & Co. London.

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the unstratified and the stratified formations. The Barn itself is a long, huge pile of alternating strata of mud, débris, and lavas, similar to what has been already described, rising almost perpendicularly to 2000 feet; the strata inclining 20° to the eastward, and 35° to the northward. Passing along in front of Longwood, over Deadwood and Rupert's Valley, to the ridge which separates the latter from James' Valley, the upheaval is plainly recognised at a point situated some little distance north of Sampson's Battery, by the sudden change in the inclination of the strata from about 6° to 8°, or 10°, and the presence of two very felspathic dikes, each fifteen or twenty feet in thickness, which intersect the ridge in a south-westerly direction; one of these dikes, the material of which may be fused at no very high temperature into a kind of coarse black glass, can be traced across James' Valley, passing above the Military Hospital, and up the eastern side of the plateau which supports the hill called High Knoll, a lateral volcanic cone formed by lavas ejected through the fissure which this disturbing force had caused. This cone has a height of its own of about 500 feet, while its entire altitude above the sea is 1903 feet. It is composed of very frothy, scummy lavas, tufas passing into breccias or pudding-stones, mixed with ashes and cinders. None of the lavas are compact, but sufficiently close in texture to form a good building-stone easily worked with the chisel, hence "High Knoll stone" is much in request for the best style of building, including the fortifications and other military works. Most of the lava is however very scoriaceous, resembling a coarse kind of pumice-stone, and bearing more recent marks of fire than any other rock in the Island. The formation of the cone exhibits in a most interesting and striking way the influence of the wind upon ejected matter from a volcano. That side which immediately faces the south-east trade wind is quite perpendicular, while the whole of the ejected matter has been blown in the opposite direction and built up three sides of a most complete cone, with its slopes inclined at angles of about 20° or 25°. It is remarkable that the decomposition of this High Knoll lava produces an ashy kind of soil, in which few plants will grow and scarcely any thrive. Upon the top of this cone I picked up what appeared to be a lava internal cast of a bivalve shell, about six inches in length, and very much resembling *unio sheppardianus*, or some similar species. It is quite possible that

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the hot, frothy lava scum obtained admittance into the shell, and, while cooling itself, so as to retain the form of an internal cast, burnt the shell, causing it to fall away as quicklime; but how a sea shell, if such it really was, got on to the top of this lofty volcanic pile has yet to be solved.*

The ejection of lava appears to have occurred more in the form of bubbling up and overflowing, while the cinders were thrown to a considerable height. The former, in many places, is twisted into almost all imaginable tortuous shapes, by a fresh flow running over the half-consolidated one which preceded it, and pushing or curling up the frothy scum into the fibrous forms which the scoriæ still retains. On the western side of the cone, low down in the valley adjoining New Ground, the thin flows of lava down the face of the cone, at an angle of 30°, are easily traced.

Leaving High Knoll, and proceeding westward along the line of upheaving force, across the plains and ridges called New Ground, Rock Cottage, Friar's Ridge, High Point, Horse Pasture, High Hill, and Bottleys, on this side of Manatee Bay, we see evidences of a disturbance in the strata at each point. The high sharp division between two ravines, called Friar's Ridge, exhibits a striking illustration of shattering and squeezing up of very compact lavas, the lateral pressure having been so great as to cause a sort of columnar structure to appear, while the angle of inclination of the lava-beds northwards is changed from 5° and 6°, to 10° and 12°. Much crumbling away of the rocks at this point has occurred, through the extreme narrowness of the ridge, and on its very crest there still remains a pile of stones about twelve or fourteen feet in height. Worn, weather-beaten, and lichen-covered, it has stood for many years until it has assumed, when viewed from a distance, a most strikingly correct resemblance to a cloaked and hooded figure, giving rise to the following legendary story:—

"The place where the Friar now stands was supposed once to have been the site of a Roman Catholic Chapel, adjoining which was the residence of the officiating priest, a monk of the Franciscan order, who was considered as an example of Christian piety and humility, his life being passed in the performance of acts of charity and

* I still have this specimen packed away with others, and hope to get it carefully examined.

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Vincent Brooks, Lith.

THE FRIAR ROCK.

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benevolence, such as attending the sick, relieving the oppressed; and often did he interpose his charitable interference between the severe taskmaster and his wretched slaves, when the latter were condemned, for some trifling offence, to undergo fearful mutilations or the cruel lash. Thus, in acts of piety, this man of God pursued his way, blessing and blessed, till his senses became enthralled by the surpassing beauty of a mountain nymph, who dwelt in a cottage not far removed from the friar's lonely habitation. It was in one of his rambles, in search of some object of charity, that his eyes first encountered this lovely daughter of the Atlantic Isle, tending a herd of her father's mountain goats on the adjacent hill, called 'Goat Pound Ridge.' They had strayed so far that she had vainly tried to collect them, and was returning tired and sad to her dwelling, when encountering the monk, she humbly told her tale, and asked his assistance. It was readily accorded, for who could resist such an appeal, enhanced by so much beauty? The scattered flock was re-united, and the young girl, gracefully acknowledging his services, with a light heart returned to her home. It would have been well for the good Father had that interview been the last, but fate ordained it otherwise. Again and again he sought her mountain cot, pouring into the maiden's ear his tale of love and adoration, and finally besought her to be his bride. She promised, but on one condition only, to listen to his suit—he must renounce his creed and become of her faith. Upon these terms alone would she consent, and until he had resolved thus to prove his devotion he must not hope to see her again. The struggle was a fearful one in the breast of the monk, but love triumphed in the end: he forsook the faith of his fathers, broke his vows, and became a renegade.

"In due course of time the wedding day was fixed; the ceremony was to be performed in that very chapel which had so often re-echoed the apostate's pious prayers for his suffering flock, and the bride, accompanied by her attendant maidens, approached the altar. The service was read, and just as the bridegroom was clasping the hand of his beloved a fearful crash resounded, the rock was rent asunder, and every vestige of the chapel, and of those it contained, for ever disappeared. In its place stands the gaunt image of the grim friar, an example and a sad warning to those who suffer their evil passions to prevail over their better judgment."

At Burnt Rock, on Horse Pasture, near the back of Woodlands

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Farm, the angle of inclination of the strata changes from 6° to 20°, while at High Hill, 2323 feet above the sea, the effects of upheaval are, with the exception of The Barn, much more strikingly visible than at any point along the whole line. Here the ridge, on the northern side, has been forced up and elevated some hundred feet above the southern portion, and its strata have been inclined seawards or northwards at an angle of 25°, while the strata abutting against it on the southern side are nearly horizontal, leading almost to the idea that they flowed from the crater after instead of before the upheaval.

The next ridge in succession, known as Bottleys, shows, though in a less degree, a complete disjointing, with one portion forced higher than the other, and the strata inclining seawards at a greater than their original angle. From Bottleys we obtain a good view looking down into Manatee Bay, a large crateriform bowl with its grassy green edge in the foreground, its many-tinted barren lava sides intersected by numberless variously-coloured dikes as a middle distance, and for a background, Speery Island rising like a pillar of silver from a sea of the deepest azure blue, the whole making up one of the finest landscapes in this grand and striking scenery.

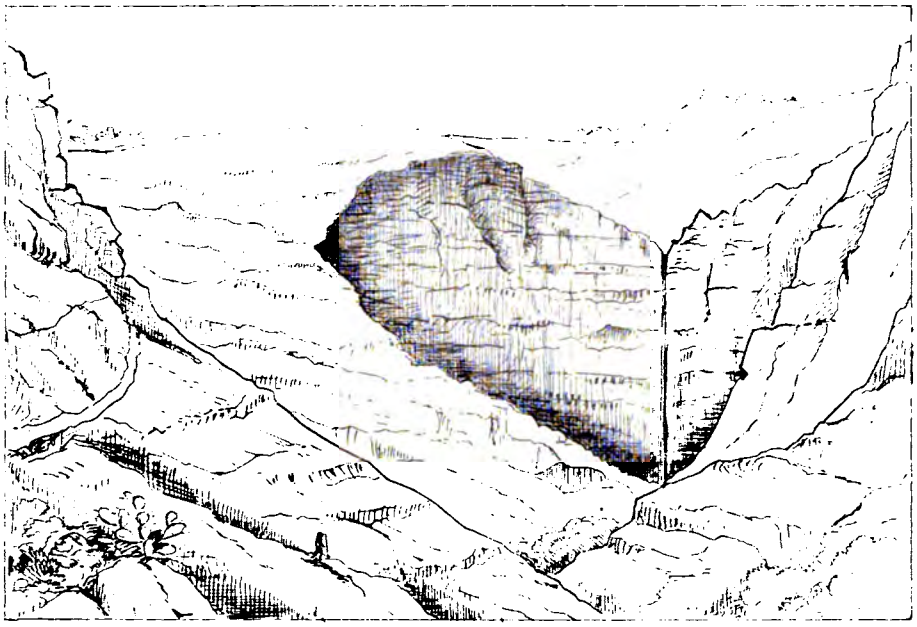
Throughout the length of this upheaval line, the occurrence of a substratum of red marly earth is visible, where it intersects the ridges, particularly at the Red Quarry, Rock Cottage, and Horse Pasture.

That a volcanic, suboceanic as well as subterranean, force did however exist at parts of this line of upheaval, previous to the Island itself being formed, may be inferred, after a careful examination of a locality situated on the eastern side of High Knoll, and called "The Waterfall;" here, in the ravine or upper part of James' Valley, there is a perpendicular drop of three hundred feet. Each flow of lava, as it took its course northwards from the great crater of Sandy Bay, appears at this point to have been abruptly stopped in its progress. It was not driven back so as to accumulate to a thickness greater than that it originally possessed, but seems to have had its edge cut clean off and removed away from the spot: in this manner a sort of horseshoe-shaped crater, about 150 yards in diameter, with perpendicular sides on the east, south, and west, rising to 300 feet, and its fourth side open, has been

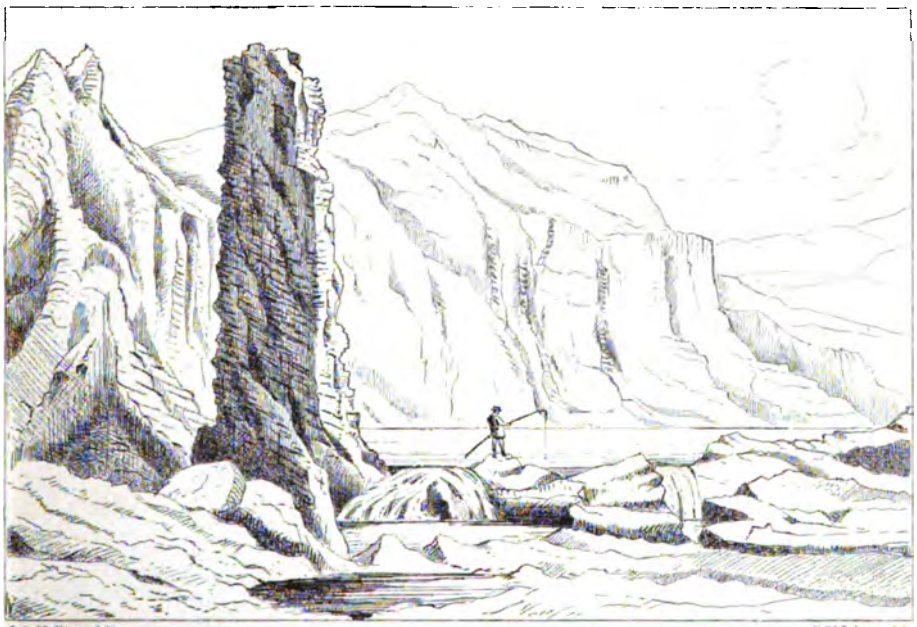
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VIEW, LOOKING SOUTH OF THE WATERFALL, SIDE OF AN EXTINCT SOLFATARA. p. 65.



J.C. Mellvaine, delt. E.W. Robinson, lith.

DIKE CALLED THE CHIMNEY ON SOUTH COAST. p. 72.

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formed. It is not unreasonable to conclude that, long ere fiery vapour and lavas began to belch forth from the Sandy Bay crater, or the work of building up the Island commenced, this spot, where now simply a mountain stream trickles over the cliff falling in showers of spray to the bottom, was the site of a Solfatara of no moderate size and force, emitting water, aqueous vapour, and other gases, unaccompanied by the ejection of lava, cinders, or ashes. Such being the case, the discharge of steam and water must have continued with great force until after the lavas and other matter ejected from the Sandy Bay crater, which was distant three and a half miles south-westerly from it, had built up the Island to a height of a thousand feet or more above the level of the sea, each flow of lava northwards being checked in its course and so flowing round the watery discharge of the Solfatara. At a subsequent period, perhaps after the Island had been built up to its full height, this Solfatara or fountain of steam, probably at a time of its minimum power, became choked by an accumulation of fragments of rocks and other débris; and to its imprisoned force, struggling to obtain an outlet, may be attributed that shattering of the whole Island, which resulted in the upheaval of its northern portion, and the numerous rents across it, which being subsequently filled with lavas from below formed the various dikes we now see traversing the Island in the same direction as the line of upheaval—viz., from north-east to south-west. Although the large bowls at either end of this line of upheaval—the one situated at Turk's Cap Bay and the other at Manatee Bay—are very crateriform in appearance, there are no traces of lava strata which by their position can be said to have come from them.

Turk's Cap Valley, as it is called, lying between The Barn, Gregories, and Deadwood plain, presents an interesting part of the Island. From Deadwood it is easiest of access. Walking being out of the question, one has to slide down a number of deep furrows or narrow valleys cut in the ochres and variously coloured clays for near two thousand feet, in order to reach the bottom. The furrowed and rugged surface of these steeps is intersected in every direction with dikes of all sizes. I noticed some of them less than two inches wide, while others are as large as three or four feet in thickness. In almost every case they present marked instances of vitreous edges, showing plainly that they were formed after the mass in which they occur had cooled. In this

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space, not exceeding fifty acres in area, I counted hundreds of them, in some places lying almost side by side, in others crossing one another, and varying so much in composition that the difficulty was to find two alike. Some are almost entirely of augite, and I observed one much resembling granite in mechanical structure. In this valley I saw masses of compact calcspar of a pale yellowish colour and translucent nature, in form, apparently, as though it had bubbled up and over the lava rocks previous to its hardening. At a depth of about thirty feet below the surface there occurs a kind of yellow jasper which turns red in colour when exposed to heat. It is, however, not obtainable in any great quantity. Crystals of augite occur in this valley embedded in the lava, which, from their perfect form, scarcely seem to have travelled all the way from the Sandy Bay crater. The surface of the ground in many places is, similarly to Deadwood plain, thinly covered with small nodules of brown hematite.

The ground lying between Bottleys and Churchyard, extending down to Manatee Bay, is very similar in formation to that of Turk's Cap Valley just described. Streams of lava have flowed from the Great Sandy Bay crater's edge, on one side towards Man and Horse, and on the other towards Speery, inclosing a crateriform space of some considerable size, the most practicable descent into which, and down to the sea shore, is along the ridge of an arm or lateral branch caused by a divergence of the lava streams towards Man and Horse. This part of the Island is certainly not without great interest. It is barren, excepting here and there, where, being inaccessible, the grass has escaped the reach of cattle, goats, or sheep, and grown luxuriantly. The marks of fire and fusion are evident on all sides, and the whole valley strikingly illustrates the appropriateness of its local name, "Shaken Rocks." It certainly has been shaken and rent throughout, and is intersected by thousands of dikes crossing one another in every direction. Scarcely fifty square yards exist in any part, altogether in extent about forty acres, that are not crossed by a dike. These dikes vary greatly in composition; some are highly augitic, others felspathic, and in some instances these different formations lie side by side with each other. They do not, however, so distinctly show a vitreous selvage as those on the north-eastern side of the Island, thus, I think, proving the existence of greater heat of longer duration in this part. Descending into the bowl, the strata become more augitic and basaltic in character, and then lower down

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Fig. 35

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very zeolitic. In some places the zeolite occurs in bands and seams an eighth of an inch in thickness, but there is a marked absence of laterite beds when compared with the other parts of the Island. The sea has worn away the rocks to a distance of fifty feet or more at the beach, forming a plateau of dikes. The beach itself is formed of loose shingle, and the ground around is covered with fragments of a laminated phonolitic-looking dike. A greystone laminated or schistose dike, traversed by one purely augitic, may also be seen amongst the many varieties which occur at this spot.

It is asserted that Manatees have been seen on shore at this portion of the coast; if such be true they have proved their race to be able navigators to have traversed the tortuous passages formed by the projecting dikes, which, running out into the sea, have resisted the destructive action of the waves, and stand up from the water like masses of crumbling masonry and tottering castle walls. The naturally wild, desert-like aspect of this portion of the Island is somewhat increased by the appearance here and there of the dead carcase of a sheep, and the wild scream of the sea fowl mingled with the ceaseless voice of the ocean.

To investigate the probable age of the Island, apart from the time occupied in building it up from its foundation to its summit,* recourse must be had to an examination of the denuding action of the atmosphere upon the surface, and of the sea upon the coast line; and although no exact estimate can be arrived at, it is possible, by a calculation formed upon careful bases, to approximate near to it.

The possession of a peculiar fauna and flora in itself points to *very* great antiquity, but its geological formation alone is sufficient to distinguish it as perhaps the most ancient volcanic production of its character.

It may even still be startling to some who cling to the idea that the world is no older than six thousand years, to be informed that the Island is a veteran of at least eight or ten times that period; and that there it has stood, alone, weather-beaten and worn, unvisited perhaps by any save wild seabirds, through hundreds of centuries before the birth of man. But, be this as it may, we are bound to read the Book of Nature aright, knowing well that

* At St. Helena sixty or seventy distinct flows of lava can even still be counted, and if these occurred at intervals of a century, it would give a period of six or seven thousand years for the building up of the Island.

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in doing so, prejudices must disappear, and that scientific investigation only helps us the better to understand revealed Scripture.

Without taking into consideration the period occupied in building up the Island, the data we have to guide us in fixing its birth so long ago are those changes which have manifestly occurred in the contour of the land. If then we are able to fix definitely the outline of the formation as it originally stood, and then assume, after careful observation, a rate for its disintegration and decomposition, we may easily arrive, by a simple calculation, at a fairly correct estimate of the time required for it to assume its present size and shape. If we pick up a piece of stone anywhere on the higher land and break it across, we see directly that its interior presents a hard bright metallic lava fracture very different in colour and texture from its external coating, which for about a quarter of an inch in thickness is soft and friable. We quite fail, indeed, to recognise the inside and the outside of the stone as the same substance; but it is only exposure to wet and dry weather alternately that has thus oxydized or rotted and changed the external surface, which crumbling away and falling into clay or dust allows the atmospheric influence to continue acting on the stone, eating deeper and deeper into it until it becomes, in time, completely reduced to powder. This process is continually going on in large rocks as well as small stones, and the higher the altitude, where the most moisture exists, or the nearer the rocks are to the influence of the sea, so much quicker does disintegration and decomposition take place. There remains no landmark whereby to judge how much higher the edge of the great crater, or central mountain ridge, once was than it is at present, but that it was much higher is certain. Its lava edges have through ages (just as is still the case, with the assistance also of vegetation), gone on passing into alluvial soil, which in its turn has been washed down by rains to the valleys and plateaux of the lower districts. Much of the upper surface of the Island has in this way been removed, while much also still remains as marl in a transition state from lava rock to surface soil; indeed most of the upper parts of the Island are now covered with these grey, blue, or yellow marls, but they do not extend to more than a few feet in depth, when the hard lava again occurs. There are many opportunities of observing this in the road-side pits which the road-menders, searching for material, have opened.

The rapidity with which rocks disintegrate or wear away varies

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according to their nature; often the harder rock, lying side by side with those of different quality, is left standing while its adjacent ground disappears. We have already noticed this in the case of the large dike traversing the Sandy Bay crater, and to which we shall again recur in connexion with the subject now before us. There are, however, in addition to that dike, other large ones intersecting the edge of the crater, which by the same process have been laid bare; some of these are of considerable size, and, although not so conspicuous and easily traced as the Great Lot dike, they all partake of the same general direction and lie parallel with it. At intervals, where the directions coincide, the crater edge itself is at present formed for some distance by the exposed edge of a dike. This may be seen to the westward of Diana's Peak, where the narrow roadway leading to the highest mountain top appears to pass along the top of a wall, this wall being nothing more than the dike itself, with perpendicular faces of a hundred feet or more, and a width of only eight or ten feet. But for the ferns and other native vegetation which thickly clothe it, and conceal the danger, this perilous way would certainly be less popular with pleasure-seekers and pic-nic parties *en route* for Diana's Peak. The edge of the crater, about three miles further to the westward, a little beyond West Lodge, is again cut by some of these dikes crossing it at very acute angles. Three of them of considerable thickness, but not rendered so strikingly conspicuous by denudation of the surrounding rocks, lie within the space of half a mile; and, although placed in such near proximity to one another, differ entirely in composition. Proceeding in the direction already indicated, to a short distance beyond the old Piquet House on the ridge, we arrive at the first of these dikes. It is composed of a compact dolerite, of a deep brownish hue, containing disseminated augite and chrysolite, partly amygdaloidal and zeolitic, the cavities being filled or lined with minute white transparent crystals in form resembling chabazite. Massive boulders of this rock have become detached and rolled down the hillside, where they lie scattered about, protruding above the grassy slopes on either side of the road leading from West Lodge down to Thompson's Wood. Upon nearing Thompson's Wood House, where a small patch of weather-beaten Pine trees stands in its rear, other boulders similarly lodged occur, but of a somewhat more laminated character. Their composition also is found on exami-

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nation to be very different from those already passed, and, being composed of phonolite or clinkstone with a very whitish-grey fracture and a perfectly white marginal surface, afford a good illustration of the decomposition which atmospheric influences are working on their exterior. These masses of rock have rolled down several hundred feet from the dike which crosses the crater-edge above, while, on the other side also, similar boulders have fallen down into the crater, where, on the steep sides, they lodge in strange positions. Along the road to Lot's Wife Wood, just after passing Lufkins, one or two of these great stones, measuring some forty or fifty feet in length, may be seen perched up in most curious positions.

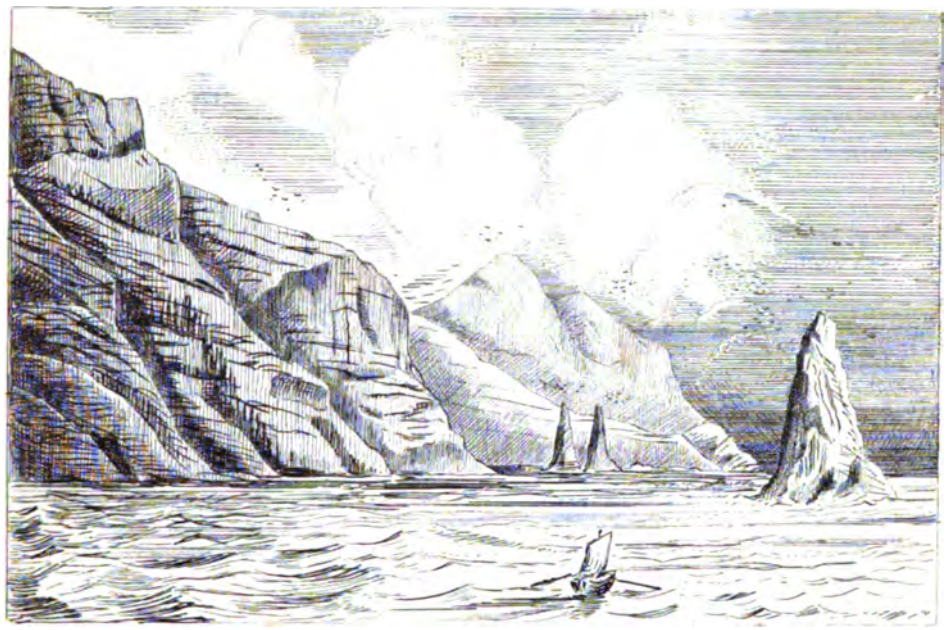
Further still to the westward, on the main ridge or crater edge, occurs the third dike to which allusion has been made. It is composed of altogether a different material from the others, being of a dark blue basalt, with embedded crystals of augite and olivine; boulders have also become detached from it, and rolled down the sides of the hill; many of them, weather-worn into fantastic shapes, have lodged on a plateau, and, through their resemblance to mammoth tombstones, have obtained for the locality the name of "The Churchyard."

It is the great Lot dike, however, which is best suited for illustrating our present subject. The average height of those elevated columnar portions of it, called Lot and Lot's Wife, above the adjacent ground which has been worn away, is 275 feet. They are, as has been mentioned, formed of a hard felspathic finely crystalline greystone, and would, as is seen to be the case, naturally wear down more slowly than the surrounding rocks, which are much softer and altogether of a different composition. Supposing, then, the latter to weather away at the rate of one-tenth of an inch faster each year than the hard dike, which seems to be a fair estimate, we should obtain the period of 33,000 years as that which has elapsed since the dike and the inclosing land stood at the same height, which they undoubtedly did when the dike was formed. A still longer period of existence is indicated by the denuding effect of the sea waves. Rocks exposed to their action have not only the corroding and oxydating influence to wear them away, but are in addition subjected to a mechanical mode of destruction. The sea undermines the layers of lava, by washing out the volcanic mud and rubble beds which underlie them; consequently pieces split off, roll

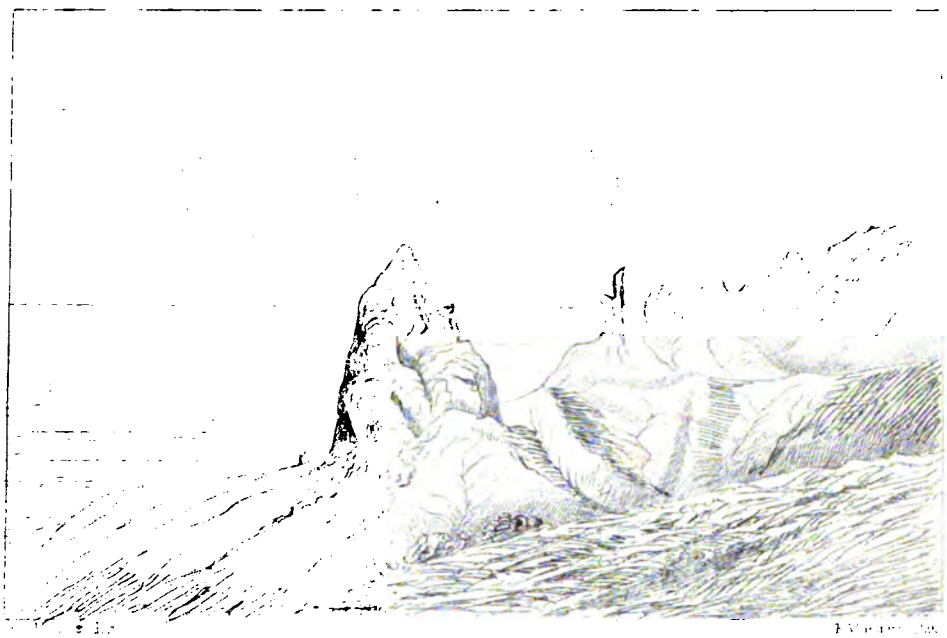
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SOUTH WEST PORTION OF GREAT DEER SPEERY *p. 51*



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down into the sea, are broken into fragments and washed away. Many instances of this undermining may be seen around the coast; at Bankses there is a very good example, where a thick layer of lava is deeply undercut. It is, however, not so quick a process as may at first sight appear, and such falls around the coast of St. Helena rarely occur, though, when they do, a good slice of rock comes away. The northern coast has in this manner been cut into by the sea making its way inland for a distance of 1233 yards, or nearly three-quarters of a mile, leaving a perpendicular face to the cliff of 600 or 1000 feet. This is what we find on the leeward side, where the sea is generally calm, excepting occasionally when disturbed by the rollers; but the denuding action of the Atlantic waves, which sweep with great force before the south-east trades against the windward side, has been much greater. There, at Holdfast Tom near Prosperous Bay, Stone Top, and Old Joan Point, the Island has been worn away until perpendicular cliffs of full 2000 feet have been formed.

An effect of this kind is visible also at Ascension, which, being a more recent formation, has been less acted on by the rollers along its northern coast, but has been considerably denuded on that side which is exposed to the prevailing winds. Again, at Madeira it is seen that those parts of the coast which are exposed to the broad sweep of the Atlantic are the most worn away.

By prolonging the direction of the strata, and making due allowance for any displacement, the original coast line can be ascertained with tolerable correctness, and this we find at Holdfast Tom was once 3300 yards, or nearly two miles, further seaward than it is at present. If then the wearing away, in a horizontal direction, of the coast at this exposed point, was at the rate of three inches in a year, it would require a period of 39,600 years to elapse since the action of the sea commenced to produce this change; or, taking the less exposed side of the Island, as at Ladder Hill, an encroachment by the sea of one inch horizontally per year would suffice to give 44,388 years. This estimate of the encroachment by the sea on those hard iron-bound basaltic cliffs, is, to one who has for many years carefully watched its progress, rather a minimum than a maximum rate. Year after year passes without any perceptible change in the line of cliff; the undercut strata at Bankses, already mentioned, has through a number of years remained appa-

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rently unchanged, and though occasionally slices of cliff do fall away, such instances are rare, at long intervals, and scarcely ever known by any one person to happen at the same spot. At the present time progressive rates of three inches and one inch per year are certainly too great, but we may fairly take such an average, because the horizontal advance of the sea would lessen each year as the vertical depth of the cliff to be removed increased.

The Island is now bounded by a coast line of 30 miles. Its superficial area measures 45 square miles, or 28,800 acres. A careful calculation estimates the entire encroachment of the sea at 30 square miles, or 92,928,000 square yards, while no less than 11,587,280,000 cubic yards of solid land have been removed through its denuding power. Now assuming, from our previous calculation, the Island to have existed only 40,000 years, we have an annual encroachment of the sea on the land of 2323 square yards, and a yearly removal by denudation of the enormous mass of 289,682 cubic yards. The numerous dikes which jut out around the windward coast from Turk's Cap to Man and Horse show this action of the sea, especially at a place called "Lot's Wife Ponds," where a fine illustration of this terribly destructive agency is seen in the ruins of many dikes, which the devastating power of the waves has brought down to their own level. They have all the appearance of regularly built jetties running out through the surf into the sea. It would be difficult, however, to land at the spot, as they cross each other and lie in almost every direction just below the surface of the water. A portion of one of the hardest, a very dense block of black basaltic rock, has long defied the force of the water, and stands in a striking position, about twenty feet away from the mainland. It measures about fifty feet in height, thirty in width, and from four to six in depth, and from its remarkable appearance bears the name of "The Chimney."

Several small islets, some of which stand sufficiently away from the coast to allow a ship of large size to pass between, also testify to this destructive action of the sea. Both Egg Island and George's Island show the same formation of lava beds as the adjacent coast, while Speery Island marks a portion of the great Lot dike, and Peaked, or Lanark, Island is a curious remnant of a scoriaceous mass of cinders firmly cemented together, the counterpart of which is seen in a thick bed of rubbish on the mainland opposite.

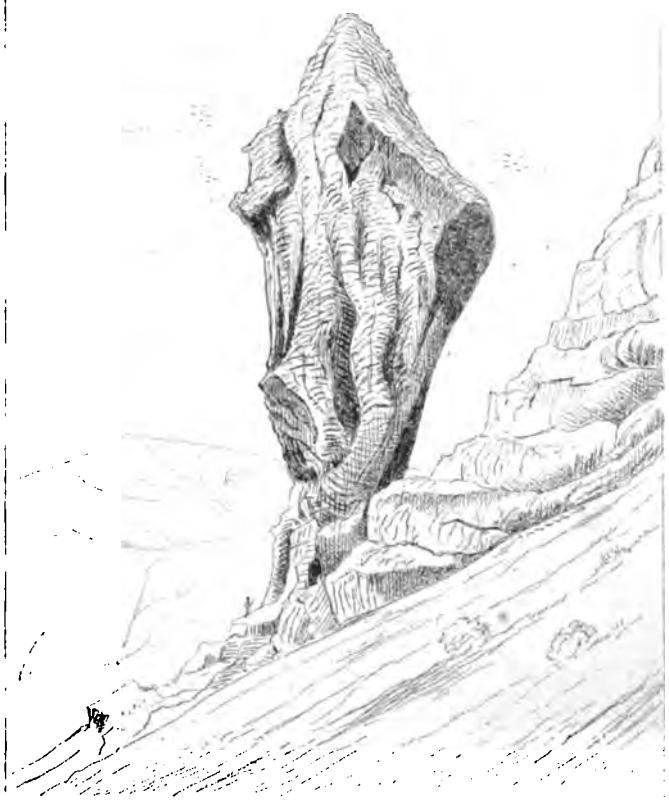
At a time when the plains of Rupert's Hill, Half-tree Hollow,

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New Ground, Horse Pasture, and other portions of the Island, sloped gently down to the sea without intervening precipices, there doubtless existed long, low-lying coasts, upon which accumulated a white sand of broken shells, finer in grain but not unlike that now found at Ascension. This sand, having drifted into secluded places, and becoming compressed and hardened, now appears in the form of limestone beds, fragments of which occur at Lot's Wife Ponds, Bankses Ridge, and Rupert's Beach. These beds vary very greatly now in altitude, some being on a level with the sea, others as much as four or five hundred feet above it. They contain embedded fragments of very old looking lava rock, and are inclined inland, as at Lot's Wife, at an angle of 20°, but whether this inclination is due to drift or slight upheaval it is difficult to determine. The stratification of the beds, however, rather indicates the latter. The hardest of this limestone, when burnt, yields an excellent building mortar, but it exists in small quantities.

In many respects there exists evidence of the great mass of the Island having cooled slowly. It is indicated by the entire absence of obsidian, as well as by the vitreous edges of the dikes. The hot matter which formed the dike, coming into contact with the cold sides of the opening which it filled, would quickly cool and account for the glass-like edges, in some places passing into serpentine, which occur in many of the dikes at St. Helena.

Earthquakes happen so rarely, and when they do are so slight, that they scarcely need be noticed as occurring at all. Four only have been recorded during the last 370 years—viz., one on the 15th June, 1756; another in 1780; one on the 21st September, 1817; and the last on the 15th July, 1864.

It is not a little remarkable that in so complete a volcanic formation no traces of sulphur occur, either native or in combination with other substances; and of the numerous springs of water which exist only some few appear impure, and that caused only by the presence of sea salt, which is plentiful in some of the higher beds of laterite and rubble. Not a single instance of a spring above the ordinary temperature is found, and, indeed, no recent signs whatever exist anywhere to indicate proximity to a volcanic locality.*

* The St. Helena Monthly Register for 1810 states that "a warm mineral spring was a short time ago discovered near Longwood. It rises from under an immense body of solid rock, its temperature is 66° Fahr. which was 6° above the temperature of the surrounding atmo-

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The large supply of water found in the Island is remarkable, there being, apart from the numerous small brackish springs which occur on the outskirts and the low lands, no less than 212 fresh water springs, yielding daily about 8000 tuns of the purest quality. There is, indeed, scarcely a paddock or meadow without its spring of the very clearest water. For such a bountiful gift to this Island, while the neighbouring one of Ascension is entirely dependent upon condensed sea water and collected rain water stored in tanks, I think the difference in geological structure accounts. Clouds very frequently envelope the high mountainous parts of both these Islands, as they do at Madeira and the Canary group, though not to so great an extent, and, except on those bright cloudless days which sometimes occur, a condensation of moisture is taking place night and day. The water thus deposited soaks into the soil, and, flowing along the impenetrable upper surface of some substratum of thick lava, finds its exit, where the edge of that stratum crops out, in the form of a fresh water spring. Ascension appears to differ in this respect; the lava strata do not exist in such broad massive sheets or layers, but the whole formation partakes more of a cindery, scoriaceous, and porous nature, so that whatever moisture is deposited from the clouds on the mountain top penetrates vertically down through the Island, and is not, as at St. Helena, arrested in its progress by any solid strata.

The lava beds on the high land, where they have now passed into a hard grey or whitish marl, are considerably perforated by cylindrical holes, measuring from three-quarters to an inch in diameter and two or three inches deep. These holes pass occasionally into one another, and generally terminate in a conical form. Upon close examination their interior surface shows a roughly-grooved texture, the furrows running transversely round the sides, plainly indicating the marks of some apparatus by which they have been bored. In considerable numbers these perforations may be seen along the roadside banks, in the neighbourhood of Joho's Hole, Green Gate, Halley's Mount, and very generally at the same

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sphere at the time of examination. It is found to hold in solution a considerable quantity of neutral salts, principally sulphate of magnesia, and is a mild and effectual cathartic. It very nearly resembles the Bristol Hot Wells, but is not so unpleasant to the taste and would most probably be found equally useful in the cure of those diseases for which that celebrated spring is used." My failing to meet with this spring would not be altogether conclusive that it does not now exist.

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altitude of about 2000 feet above the sea. Mostly they are filled with mud, and altogether present a very ancient appearance. It being contrary to all evidence that these rocks were ever in such positions as to be bored by pholades, or any creatures inhabiting the sea, we may reasonably form the conclusion that the litho-domous perforations which we now find in them have been made by the great land snail of St. Helena, the *Bulimus auris vulpina*, previous to its becoming extinct in the Island. This opinion is strengthened by the non-existence of any other creature likely to have bored them, as well as by the fact that a comparison of some of the shells with the holes shows a very accurate correspondence. Some additional force may also, I think, be derived from the fact mentioned to me by Mr. Gwyn Jeffreys, that this extinct bulimus must have lived in water or swamps, as well as on land. It is true that nothing like a lake or a swamp of any size now remains in the Island, but there is no reason why, previous to its being so broken up and drained by denudation, large ponds and swamps should not have existed—indeed it seems most probable that they did, and also that their edges or coasts were formed of these very rocks in which the perforations occur. The existence of so much moisture would have greatly facilitated the passing of the lavas into felspathic marls, and thus account for the large masses which occur in a tumbled, displaced position from what they must originally have occupied as strata.

The subsequent disappearance of swamps by drainage, as the Island became smaller, would very probably account for the death and extinction of this bulimus by depriving it of its natural element, and perhaps also of its food, in some semi-aquatic plants, the existence of which might also be brought to an end as the land became drier.

It is also not a little remarkable that the dead bulimus shells are now found on the north-eastern side of the Island, where, no doubt, judging from the appearance of the land, swamps would have existed at a more recent period than at any other part.

The Island cannot be said to be rich in minerals, nothing having yet been discovered of much commercial value. Pyrolusite, or black oxide of manganese, has been exported to Europe and obtained a fair market price, but it is an ore of a hard description, and difficult to separate from the clay-beds in which it occurs. This,

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combined with the heavy expense of transport, prevents it from being worked.

A very large variety of clays exists in many places between the lava beds and on the high land. Several of them are of a pure white, which leads to the idea that some value might attach to them as material for the manufacture of porcelain. They have, however, been pronounced valueless for such a purpose. In the year 1868, a large and carefully-made collection of them was tested by Mr. John Mortlock, of Oxford Street, London, and he reported that trials made with them showed that, without an exception, they all contained more or less iron, which rendered them totally unfit for potter's purposes.

Such rocks and minerals as are found chiefly to occur are, together with localities and particulars, as follows:—

Dense, very finely crystalline basalt.

Ditto, containing disseminated crystals of augite and olivine—s.g. 2·83 to 3·13.

Ditto, with iron chrysolite.

Dense basalt, with few cavities containing sea water—s.g. 2·84; James' Valley.

Highly scoriaceous lava.

Amygdaloidal lava.

Phonolite or clinkstone; great Lot dike, Ass's Ears, &c.

Numerous varieties of felspathic lavas, varying from basalt and greystone to trachyte—s.g. 2·61.

Volcanic bombs or pear-shaped masses of lava.

Porphyritic basalt, containing crystals of felspar, augite, &c.—Dike in Turk's Cap Valley.

Amygdaloidal greystone, containing embedded augite and iron chrysolite, some of the cavities being lined with very minute, brilliant, and perfect cubic crystals of zeolite, probably chabazite.

Amygdaloidal greystone, the cavities filled with zeolite in very small boitroidal masses, composed of extremely minute radiating fibrous crystals, probably natrolite.

Amygdaloidal lava filled with perfectly spherical, very minute cavities, coated on the inside with a thin layer of zeolitic mineral.

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Cellular Lava.—Many varieties.

Trachyte.—s.g. 2·523.

Ditto, passing into white clay; below Bamboo Hedge, at Ladder Hill, &c.—s.g. 2·75.

Lamelliferous greystone dike from immediate proximity to augite and other dikes; Manatee Bay.

Laterite.—Various colours and degrees of hardness, between beds of Lava.

Volcanic tufa, between layers of lava.

Volcanic breccia or pudding stone; Ladder Hill, &c.

Volcanic scoriaceous agglomerate.

Compressed tufaceous rock.

Compressed tufaceous rock, coloured red by oxide of iron, and containing augite, &c.; Red Quarry, Woodlands, Rock Cottage, Ruperts; a compact variety, much hardened by plutonic action and pressure between the thick layers of lava, is largely used as a dressed stone for building purposes. A coating of mortar on the exposed face preserves it from atmospheric action. The basalts and harder rocks are used chiefly for rubble building and for macadamizing roads.

Agglomerate rocks formed of masses of scoriæ and volcanic ashes lying between the beds of laterite and lava.

Porphyritic lava, containing disseminated crystals of carbonate of lime; Holdfast Tom.

Volcanic scoriæ and pumice; High Knoll.

Volcanic ashes.

Fossiliferous-like masses of scoriæ; High Knoll.

Augite rock; Turk's Cap, Manatee Bay, &c.

Siliceous rock—Flint, coloured by oxide of iron, chiefly in pebbles on seashore at Manatee Bay.—s.g. 2·60.

Dolerite, containing disseminated augite and chrysolite, partially amygdaloidal and zeolitic. The cavities containing crystallized chabazite.—s. g.2·85. Dike on crater edge above Thompson's Wood.

Red porphyritic lava from dike at Prosperous Bay.

Trachyte dikes, very laminated, exhibiting, through colouring by oxide of iron, a false appearance of stratification.—s.g. 2·64. Prosperous Bay.

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Selenite—Sulphate of lime or gypsum, foliated, fibrous, crystalline, and stalactitic; Bankses, Ruperts, in veins on rocky outskirts.

Augite crystals; Manatee Bay, Lot, Turk's Cap, &c.—s.g. 3·08.

Olivine.—Crystals.

Ditto, having undergone change to iron chrysolite.

Calcite or calcspar in masses, fibrous and compact.—s.g. 2·78. Turk's Cap Valley.

Yellow jasper, changes by the application of heat to a reddish-brown colour; Valley near Turk's Cap.

Quartz.—Various varieties of chalcedony and agate.

Zeolite from cavities in basalt, in radiating acicular crystals, probably natrolite or skolecite.

Boitroidal nodules of inferior brown hæmatite (iron ore) varying in size from half an inch to four inches in diameter. s.g. 3·11.—Large quantities on the plains at Horse Pasture, Rock Cottage, Flagstaff and Deadwood.

Silicate of iron (very impure iron ore) near Shipways.—s.g. 2·92.

Pyrolusite.—A very hard binoxide of manganese, containing 66·47 per cent. of manganese, occurs in veins in beds of claystone at Holdfast Tom, Fisher's Valley, Turk's Cap, &c. The ore protrudes through the clay in scraggy scattered boitroidal forms.—s.g. 3·62, 4·18, 4·40.

Carbonate of lime, zeolitic, in radiating boitroidal masses, measuring about eighteen inches across, containing embedded nodules of trachyte and carbonate of lime; Prosperous Bay.

Ditto, pure crystals; s.g. 2·77.—Prosperous Bay.

Ditto, crystals and almond-shaped nodules from cavities in basalt; s.g. 2·96, 3·02.—James' Valley.

Ditto, stalactitic and stalagmitic.

Ditto, limestone.

Ditto, dog-tooth spar; face of Sandy Bay Barn.

Serpentine.—Near The Barn.

Asbestos.—Fibrous white silicate of magnesia from Horse Point, near Turk's Cap and Holdfast Tom.

Rock salt.

Argillaceous clay.—Many varieties.

Rich vegetable soil, produced by disintegration of felspathic lavas.

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PART III.—ZOOLOGY.

I. VERTEBRATA.

CLASS I.—MAMMALIA.

Homo, Linn.

H. sapiens, Linn.—As is elsewhere stated, there were no human beings on the Island when it was discovered; yet in the present day the term "natives" has, it appears, its significant application there. The "natives" of St. Helena are rather tall, slight built, good featured specimens of the human race, with straight hair, good evenly-set white teeth not prone to decay easily, and pleasing countenances; their general colour is a very light brown or copper, sometimes deepening into nearly black, and in other cases becoming almost white. They speak very fair English as their only language, and are not a little proud of their local designation of "Yam stalks." Their ancestors came from various parts of the world, though chiefly from Europe and Asia, and there is now some difficulty in tracing the prevailing element in their composition, or in saying which predominates, whether it is Portuguese, Dutch, English, Malay, East Indian, or Chinese. Their early history was that of slavery through a couple of centuries, indeed until the year 1832, when they were emancipated by the East India Company purchasing their freedom for a large sum; but, as might be expected, they possessed none of those qualifications which are absolutely necessary to command success in settlers. The habits of dependence and indolence, as well as ignorance, which so long a period of slavery had engrafted, remain to this day evident, not only in individuals, but pervading the whole character of the place. The "Yam stalks" must not be confounded with the Africans or negroes, as the greatest insult they can hurl at one another is the epithet of "nigger;" they respect and look up to the Europeans and white population, but consider themselves as occupying a much higher step on the ladder of social position than the Africans, who certainly had the disadvantage of arriving at the Island

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just eight years after the "natives" became free men. They are a very quiet, tractable, inoffensive people, amongst whom crime is small, murder unknown, and burglary so little thought of that doors and windows of houses are not secured by bolts and bars, or even locks and keys; their greatest vice is drunkenness, and their thieving does not go beyond mere pilfering of the poultry yard, the orchard, or the pantry. There is, however, one exception to this, in the partiality some few of them possess for stealing sheep, though it is invariably the case of the hungry man meeting the sheep without a shepherd, and if the sheep were better looked after by their owners this crime would soon disappear. They are very superstitious, and still retain some belief in witchcraft. My servant told me on one occasion that a man's protracted illness was caused by an enemy poisoning his tools while he was absent at his meals, and that his recovery was hopeless until his enemy permitted it; he further informed me that some few persons could reveal the image of the enemy in a bowl of water without mentioning the name, but that such was an expensive art. As domestic servants, when carefully and kindly treated, they are excellent, becoming closely attached to their employers, and exceedingly jealous of whatever belongs to them, but still they are as indolent as most inhabitants of warm countries.

The negroes, or pure West Coast Africans, who constitute about one-sixth of the population, were introduced after the year 1840, when her Majesty's Government established at St. Helena a court of adjudicature for vessels engaged in the slave trade and captured by British cruisers on the West Coast of Africa. The slaves were landed at Rupert's Valley, where an establishment for taking care of them was formed, and some thousands of the poor miserable creatures were there restored to health and strength previous to being sent on to our West Indian Colonies. Many of them remained at the Island as domestic servants in the first instance, and, very soon adopting the English language, the tall black hat, and the green cotton umbrella, became settlers also. They are a strong race of men, capable of doing any amount of hard work upon a scanty supply of food, and are very tractable and well-behaved until their jealousy is excited or passion roused, when, in a sort of momentary phrensy, they will commit crime even to murder. With the "natives" they do not blend, but live apart in little colonies or set-

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tlements; not half a dozen instances of intermarriage have occurred during thirty years, and the "natives" still consider themselves superior.

The European or White population is chiefly formed of Government officials, a few clergymen, a small garrison of about 200 men, a certain number of mariners including shipwrecked seamen, and those, with their descendants, who settled there during the East India Company's government, either as merchants, shipping agents, or farmers of the land.

The total number of the population is 6860, of which 4844 were born on the Island, thus giving 152 persons to each square mile or, after deducting 20,000 acres of barren, almost useless land, a proportion of nearly one-and-a-half acres of arable and pasture to each person.

Order Rodentia.

Rabbits, rats, and mice alone represent this order at St. Helena; the former, or common rabbit (*Lepus cuniculus*) is plentiful. In colour it is grey or black, and inhabits chiefly the grassy commons round the central portion of the Island, where its warrens abound, but also steals into the gardens of the interior, where it is most destructive. It is considered as game, and protected by law during six weeks in April and May of each year. The cost of a licence to kill rabbits and partridges during that time is 40*s.*; but rabbits may be destroyed on private land throughout the remainder of the year without a licence.

Mus, Linn.

M. decumanus, Linn.—Rats abound everywhere, from the water's edge to the mountain-top, building their nests either in holes or in high trees, just as rooks and crows do in England, and are as cunning and destructive as rats in general. They have, most probably, been introduced in ships, and have long been in possession. In 1694 they were recorded as plentiful, and "after destroying everything else, fell to destroying each other." It might seem a pity that they relaxed in this occupation, were it not for the amusement which Mr. O'Meara says they afforded Napoleon.* He

* An Exposition of some of the Transactions that have taken place at St. Helena since the appointment of Sir Hudson Lowe, in answer to an anonymous pamphlet, entitled, "Facts illustrative of the treatment of Napoleon Bonaparte," &c.; by Barry E. O'Meara, late surgeon to Napoleon, 1819.

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writes: "The rats are so numerous at Longwood, and so fearless, that they often assemble, even in the daytime, in flocks to feed when the offal of the kitchen is thrown out, and have not unaptly been compared to broods of young chickens collected about the parent hen. The floors of Longwood were so perforated with their holes as to resemble a sieve. Over these the servants had nailed pieces of tin, to keep them out. Napoleon's dining-room was particularly infested with them; and it is a fact that one of these noxious animals sprung out of his hat when he was going to put it on one day after dinner. The devastations committed by them were almost incredible, and latterly rat-hunting became a favourite sport at Longwood. The chase was performed in the following manner:—A little before dark the holes were uncovered, and entrance afforded to the game. Soon after, five or six of the servants rushed in, with lights, sticks, and followed by dogs, covered the holes as fast as possible and attacked the rats, who, when driven to desperation, made a vigorous defence, assailed the dogs, and sometimes even the men, by running up their legs and biting them. Sixteen were killed in this manner in less than half an hour in one of the rooms!"

M. musculus, Linn.—The little brown field mouse has few enemies in St. Helena. Birds, excepting the domestic fowl, trouble it not, and dogs and cats very little, so that mice exist everywhere in considerable numbers, in the houses as well as in the rocks and fields. This, with the foregoing species, has been kindly identified by Mr. Gerrard, of the British Museum.

Order Carnivora.

Felis, Linn.

F. domestica, Linn.—The domestic cat is as plentiful as in other parts of the world; it also assumes wild habits, existing abundantly on the rocky outskirts of the Island in holes and caves, where, amongst the eggs and young of partridges and other birds, it commits such havoc that sportsmen never lose an opportunity of killing it. Cats abound at a place called Cat Hole, where they live chiefly upon pigeons. There is no record of their introduction.

Canis, Linn.

C. familiaris, Linn.—The domestic dog, which numbers about

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250. There may be a couple of fair pointers, a Scotch terrier or two, and perhaps a sheep-dog of decent breed to be found, but the rest are the most mongrel curs that exist anywhere. If over-much education be a reason for dogs going mad, the neglect of it may account for no single instance of hydrophobia ever occurring at St. Helena. For the support of the poor of the Island a tax of 10*s.* a year is levied upon all dogs over three months old.

Order Ungulata.

Equus, Linn.

E. caballus, Linn.—Horses, of which about 225 are found at the Island, appear to have been a modern introduction, for we read in Viscount Valentia's travels that at so recent a period as 1802, "The fair daughters of the Governor arrived this morning at the castle, drawn in a light carriage by oxen, the only animals adapted to ascend and descend Ladder Hill."* It seems almost a pity that this mode of transport has not been continued, for the steep roads, with their sharp turns, are far better suited to the sledge carriages of Madeira than the modern carriage and pair of Hyde Park, which now conveys His Excellency the Governor's family up and down the precipitous hills. Horses are imported from the Cape of Good Hope and South America, but the former soon appear delicate, and do not stand either the dampness of the atmosphere or the steep hills, neither are they so suited to the requirements of the place as the slight, short-legged, firmly-built, Island-bred pony. A horse is a necessity, and not a luxury at St. Helena; all the heavy traffic is carried on by them with carts or drays. A horse may be stabled and kept well for 55*l.* a year, including the groom's wages; and a pretty fair stud turns out immediately the arrival of a mail steamer or passenger ship is announced. The charge for a ride to Napoleon's Tomb and Longwood is from 10*s.* to 12*s.* 6*d.*; but Jack Tar generally manages to have his money's worth out of the poor beast by keeping him the whole day. There is a good race-course, full a mile in length, on Deadwood Plain, where races are held once a year at Christmas-time. Each horse is taxed by the Government at from 5*s.* to 10*s.* a year, according to the purpose for which it is kept.

E. asinus, Linn.—Donkeys are far more useful than horses,

* Voyages and Travels to India, &c., in 1802-6 by Viscount Valentia.

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but like many other useful creatures, their value is greatly underrated. There are about 400 of them in the Island, and the labouring man could not get on without his donkey or donkeys, which are driven up and down the steep roads in packs of twenty or thirty at a time. Firewood, vegetables, hay, milk, poultry, and all country produce that is not carried by cart or dray, are conveyed into the town on their backs, and they fetch out supplies of food, manure, and other necessaries for the tiller of the soil. It has often struck me that if the donkeys of St. Helena could express a wish, it would be for a branch establishment of the Royal Society for the Prevention of Cruelty to Animals. Poor creatures! Up and down those steep roads they travel with that patience which only donkey-nature knows, often having to bear an overload independent of the owner striding across the top of it, while an unfeeling urchin of a boy, with a big stick, whacks the poor brute up the hill, sometimes bleeding, to its home; there it is unloaded, and, with a kick from its owner, sent to browse upon furze bushes or anything else it can pick up on the nearest common until next day, when it has, perhaps, to go through a similar programme. No attempt is made to improve the breed, and the donkeys of St. Helena are small though hardy animals. Their number has been of late considerably reduced through their being employed to carry in lime from Lot's Wife Ponds and Sandy Bay, so that their price has risen from 10*s.* to 2*l.* or 3*l.* each. They were introduced soon after the discovery of the Island by the Portuguese. Mules are not much used in St. Helena, though a few have lately been imported.

Bos, Linn.

B. taurus, Linn.—Oxen and cattle in number average about 1300, but a larger quantity could be well reared and supported in the Island, and prevent, to some extent, the large importation that annually takes place from the Cape of Good Hope. The St. Helena cow (of which there is no record when it was introduced) is a rather small well-built animal, adapted to the hilly country which it inhabits. It gives a scanty supply of milk, which might, without doubt, be increased by better feeding than that to which it is generally accustomed.

Ovis, Linn.

O. aries, Linn.—Sheep run almost wild over the hilly outskirts of the Island. It has been estimated that there are about 5000,

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and that many more could be supported. Nevertheless, they are not much cared for or looked after, and large numbers are annually imported for consumption from the Cape of Good Hope. "Island mutton" is exceedingly good, preferable to that imported from the Cape, and much resembles Welsh mutton both in appearance and flavour.

Hircus, Linn.

H. ægagrus, Linn.—Goats are quite wild. It has been estimated that 1000 or more of them exist. They have been one cause of the extinction of the indigenous plants, and, although war has been waged against them, and even their extermination threatened on several occasions, they still remain almost useless and destructive to vegetation.

Sus, Linn.

S. scrofa, Linn.—Few cottages or huts exist without a pig, which, as in the Irish cabin, takes its place as a member of the family. It feeds chiefly on acorns and the roots and stems of Guinea yam, *Calla æthiopica*, when boiled. It was introduced by the Portuguese when the Island was discovered, with a view to affording food for future voyagers, and there are white as well as black, and long as well as short-nosed pigs.

Order Cetacea.

At St. Helena, the neighbourhood of which affords a good whaling ground, there are five kinds of cetaceous animals commonly known. The exciting, and in many instances highly remunerative, occupation of whaling is, however, exclusively carried on in the South Atlantic by American vessels, at least sixty or seventy of which call at the Island every year. They are ships averaging from 80 to 200 tons burthen, and rendezvous at the Island for refitting, re-provisioning, and transhipping their oil to those vessels which may be homeward bound, about the month of October, previous to their cruising southward towards Tristan d'Acunha. The local whaling ground extends from 30 to 180 miles off the Island, but the vessels are constantly seen cruising close to the land during that portion of the year from April to July, and whales have even been taken within a few miles of the roadstead. Beyond the circulation of money which these vessels calling at the Island necessarily occasion, the St. Helenians derive no profit whatever from this source of wealth, which lies at their very doors. One or more whaling ships have been fitted

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out from the Island, but the spirit of enterprise which originated the expeditions succumbed to the misfortunes which befel each attempt. The following are the species generally taken by whaling ships for the oil they afford:—

Balæna, Linn.

B. mysticetus, Linn.—The Common or Humpback Whale. Occasionally, though rarely, one of these huge creatures is cast ashore dead on the windward side of the Island with several harpoons in its body, showing plainly how it met its fate. An enormous skeleton of one long remained on the eastern coast, a single one of whose vertebræ may now be seen placed in flower gardens to serve for a seat.

Physeter, Linn.

P. macrocephalus, Linn.—The Spermaceti Whale.

Delphinus, Linn.

D. sp. ?—One kind only of Dolphin has been observed, but the male differs somewhat from the female in having a broader head. Captain Snow, of the American whaler *Cape Horn Pigeon*, says that these creatures do exhibit prismatic colours immediately they are taken on board after capture. They sometimes venture into very shallow water. Some small boys, when bathing, encountered one within a few yards of the landing steps, and, laying hold of its tail, towed it ashore, in spite of its efforts to tow *them* out to sea. Being thus successful, they carried their prize round the town in triumph, and eventually sold him to me for half-a-crown. His ultimate destination was the British Museum.

Phocæna, Linn.

P. sp. ?—Two kinds of Porpoise may be seen, tumbling head over heels and indulging in their absurd antics. They yield about one gallon of oil each, but are taken by whalers more for the sake of food. They are distinguished as the "Right Whale Porpoise" and the "Sperm Whale Porpoise." The latter has a fin on the back; the former has none.

Order Sirenia.

Manatus, Linn.

M. sp. ?—The manatee, or sea cow, as it was called, which once frequented the Island, was probably *M. senegalensis*, Desm., which is

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found near the mouths of the West African rivers, or it may have been *M. americanus*, Linn., which is found near the mouths of the Amazon, Orinoco, and other South American rivers. It would be difficult now to determine, inasmuch as it has ceased to visit the Island, and the cause for its departure is not known. About half a century ago one or two were seen on shore at an unfrequented spot on the S.W. coast called Manatee Bay; it does not appear that they were abundant, as their arrival was considered of sufficient importance to be recorded, and thus we read that the 28th April, 1691, and the 25th September, 1739, were days on which sea cows were discovered; on the latter day it was at Old Woman's Valley; as they yielded a good supply of oil they were when seen seldom allowed to escape. As recently as the year 1810, it is recorded that one came on shore at Stone Top Valley beach, and was shot by Mr. Burnham; it measured seven feet in length, and ten gallons of oil were obtained from it. Another was also seen in the same year at Manatee Bay.

CLASS II.—AVES.

CARINATÆ.

The feathered portion of the St. Helenian fauna can scarcely be said to be so interesting from a scientific point of view as the rest; still it possesses one land and at least eight sea species which are indigenous; the former, the "Wire-bird" of the Islanders, doubtless so named because of the similarity between its legs and bits of thin wire, has been the subject of much confusion, until clearly demonstrated by Mr. J. E. Harting, in the *Ibis* for July, 1873; and it is to that gentleman and to the Editor of the *Ibis* that I am so much indebted for their kind permission to use the plate of this bird which appeared in that journal. Mr. Harting says: "It frequently happens that a general description of form and colour, intended to indicate a particular species, applies so well to another for which it was not intended, that unless measurements are added, or some marked specific character pointed out, it is impossible to discriminate the two without reference to the type or types which furnished the description.

"A case in point is afforded by the *Charadrius pecuarius* of Temminck. When that eminent ornithologist described and figured (Pl. Col. 183) a little plover from the Cape of Good Hope, he doubtless imagined that his plate would convey to the eyes of his readers what

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he might have failed to make clear by his text; but, unfortunately, there are two species to which, in the absence of all measurements, the description and plate will equally well apply. Not unnaturally therefore they have been applied by different naturalists to different birds, some supposing that Temminck intended to refer to the smaller of the two species, sometimes known as *Ch. Kittlitzi*, which is generally distributed throughout the continent of Africa, and does not visit St. Helena; others maintaining that the description and plate sufficiently indicate the larger bird, which, strange to say, is exclusively confined to that remote Island.

"To clear up the difficulty is the object of the present paper; and, to plunge *in medias res*, I will first state the conclusions at which I have arrived, and then adduce the reasons which have led me to such conclusions.

"The bird upon which Temminck bestowed the specific name *pecuarius* is the smaller of the two allied species, which inhabits Africa generally, but is not found in St. Helena. An older name for it is *Charadrius varius*, Vieillot.

"The St. Helena bird, popularly known in the Island as the 'Wire-bird,' is at present without a scientific appellation; and I propose, therefore, to name it *Ægialitis sanctæ-helenæ*.

"Before I could form any opinion on this subject, it was of course material that I should examine the type or types of Temminck's description. Accordingly I visited the rich museum at Leiden, where, although a week was too short to admit of my inspecting all the ornithological treasures, I was enabled to satisfy myself conclusively upon this point, which was one of the chief objects of my visit.

"The types were found duly labelled in Temminck's handwriting, *Charadrius pecuarius*. They are from the Cape of Good Hope, and belong undoubtedly to the smaller continental species.

"Further than this I saw no specimens of the St. Helena bird in the Museum, and, from the observations made to me at the time by Professor Schlegel, I feel assured that Temminck was not acquainted with that species. On carefully taking the measurements of the specimens which he had labelled, I find that they correspond almost exactly with those of the figure of *Ch. pecuarius* in the 'Planche coloriée,' 183, which may therefore be said to be of life-size, although not so characterized in the accompanying letterpress. . . . . .

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J.G.Keulemans lith.

M & N Hanhart imp

ÆGIALITIS SANCTÆ-HELENÆ.

L. REEVE & Cº LONDON.

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"On placing the two species in juxtaposition, their relative sizes appear as follows:—

	Bill. in.	Wing. in.	Bare tibia. in.	Tarsus. in.	Mid. toe. in.
Æ. varius s. pecuarius .	·6 ...	4·0 ...	·5 ...	1·2 ...	·7
Æ. sanctæ-helenæ . .	·8 ...	4·5 ...	·7 ...	1·5 ...	·95

"Independently of its larger size, longer and more robust bill and tarsi, the 'Wire-bird' may be distinguished from its continental ally by the colour of the primaries, in which the shaft of the first quill only is white, the other shafts being dusky brown; in the other species all the shafts are mesially white."

The seabirds are also interesting, inasmuch as they bear so great an analogy to those of the Polynesian Islands in the South Pacific ocean.

In the following list several cage-birds have been included, being those most abundantly kept in the Island, and it being just possible that, like the Java Sparrow, they may also breed there; many other West-African birds are taken to the Island and kept as cage-birds in addition to those mentioned. Not included in this list is another land-bird, a small Finch, of the size of *Crithagra butyracea* or *Euplectes madagascariensis*, which during the last year or two has made its appearance in the Island, and been called the "Orange bird;" there is nothing to show how or whence this bird came thither. It is most probably a mixture of the cardinal and canary, and has its name from its breast being of the colour of a ripe orange. It is very scarce.

It is said that two more species also not included in this list exist in the Island, namely, a larger Ground Dove, and a sea-bird called the "Blackbird." I have not met with either of these, but as a large species of Noddy does exist at St. Helena I am not quite sure that the latter may not be found identical with it, though I am inclined to believe, from the description of it given by fishermen and others who have seen it, that it may turn out to be a black Tern different from the Noddy. Strange birds do occasionally visit the Island, but generally one at a time. In 1869 a small black swallow hovered about the rocky cliffs at Ladder Hill for several days, and a solitary rail, not unlike the *Gallinula cristata* of Java, was caught at Lemon Valley. There are other instances also of new species appearing for a short time. The opinion that such birds naturally

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and unaided migrate from other lands should be received with much caution—the nearest mainland being 1200 miles distant, and, situated right in the heart of the south-east trade winds, is nearly always to leeward of St. Helena; the Cape of Good Hope is nearly 2000 miles, and the South American Continent just as far away; and the Island being directly in the track of homeward-bound, and not very far from that of outward-bound ships, birds may escape from them and find a resting-place thereon. The following extract from the local records of a period when there was much less traffic by sea, would, however, tend to show that, notwithstanding its isolation, birds have migrated to the Island:—

"17th October, 1727. There being several birds of a different species from those that frequent the Island lately come hither, the bodies of which are as large as a pheasant, their leggs long and black, but their claws opened and not webed like sea-fowle, with long bills, resembling those of a Snipe, but thicker and longer in proportion to the bulk of their bodies, which probably may breed here if not destroyed or disturbed—

"*Ordered*, that all persons be publickly forbid by advertizement either to kill or disturb any of the said birds or destroy any of their eggs."

There being no bird answering to this description now in the Island, it may be presumed that in spite of this precaution these visitors did not remain at St. Helena. It is difficult also to account fully for the almost total disappearance of some species, which once were abundant, such as the Frigate-bird, and possibly the entire disappearance of the Albatross, which does not now come so far north as St. Helena; though in Seale's "Geognosy of the Island of St. Helena" it is stated that innumerable skeletons of it, associated with those of the Tropic-bird, lie buried from ten to ninety feet deep in earthy beds near Hold-fast Tom and Sugar Loaf. I have not found any of these remains, though, in justice to Mr. Seale, I must add that I have not been able to spend much time in searching for them.

Many attempts have been made from time to time to introduce new birds. American mocking, as well as English song birds, have been imported,* but without success, until three years ago when I

* In 1852, thrushes, blackbirds, larks, and starlings were let loose; and in 1865-67, through the kind assistance of Mr. E. L. Layard, I turned loose some Cape pheasants, *Francolinus*

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took out to the Island a carefully selected lot of English birds, comprising twenty-six London sparrows, five green linnets, seven blackbirds, and six thrushes. These were turned loose at Plantation House, but the sparrows immediately migrated to the houses and more inhabited parts near the town, where they soon increased in number. The other birds also were fairly established before I left the Island in 1871, and the song of the thrush was not uncommon in the country woods at early morn. Sparrows were introduced with the hope that they might assist in destroying the white ants, and that they may render some assistance in this matter seems very probable.

It is with thanks that I have to acknowledge the assistance of Mr. E. L. Layard, and Mr. R. B. Sharpe, in identifying the following species :—

ORDER PASSERES.

Fam. Fringillidæ.

Estrelda, Sw.

E. astrild, Linn.—Averdevat. *Hab.* South Africa. One of the most abundant field-birds in the Island, which may be seen in flights of a hundred or more at a time, especially in the neighbourhood of hay-fields as the grass-seed is ripening; it is by no means a timid bird, but behaves much like the common English sparrow in frequenting the doors of country houses to pick up crumbs and the like. It builds in high trees, generally preferring the Scotch fir and Botany-Bay willow (*Acacia longifolia*), and consequently suffers much by high winds blowing the nests down; the nest is spherical in form, about seven inches in diameter, with an almost closed tubular entrance on one side, and is generally built of grass and feathers, lined with cotton and wool.

Averdevats are caught in large numbers, and a small trade carried on with them between the natives and ships calling at the Island; they are sold at two or three shillings a dozen, according to the demand.

Padda, Reich.

P. oryzivora, Linn.—Java Sparrow. *Hab.* Java. A tolerably abundant bird, inhabiting the low rocky lands on the northern side

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clamator, and partridges, *F. afer*. In 1869 Mr. Andrew Anderson introduced Indian grey quail, and a year or two before that, Mr. George Moss took a number of larks to the Island and turned them out at The Briars.

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of the Island. These birds are frequently seen hopping about in pairs, and also in flights in the interior when the corn is ripening. It is not many years since they were introduced, and they appear to thrive well and to be increasing in numbers.

Vidua, Cuv.

V. paradisea, Linn.—Widow Bird. *Hab.* West Africa. Imported as a cage-bird from the West Coast of Africa.

Euplectes, Sw.

E. madagascariensis, Linn.—Cardinal. *Hab.* Madagascar, Mauritius. A common field-bird, where it may be seen associating with *Crithagra butyracea*, and in all probability breeds with it. It is not plentiful, but may be seen occasionally in flights of a hundred or more when the corn is being reaped. It is caught by the natives and sold to passengers on board ship. It changes its plumage regularly from red to brown every year. This bird has a habit of frequenting those parts of the Island where the common flag (*Antholyza æthiopica*) grows; it will sit perched on the long flower-stalk enjoying the honey, sucking it through an aperture which it bites at the bottom of each long tubular flower.

Crithagra, Sw.

C. canaria, Linn.—True Canary. *Hab.* Canary Islands. Bred in cages; and recently a few of this species have been seen in a wild state near The Briars.

C. butyracea, Linn.—Canary. *Hab.* South Africa. Next to the averdevat, the most abundant field-bird in the Island, and it is to be regretted that its numbers are diminishing, very probably owing to the trade in birds carried on between the natives and shipping. The note of this bird is less shrill and much sweeter than that of the real canary; perched on the branch of a tree, it will on a summer's morning sing unceasingly for hours. It associates with the cardinal and averdevat, and is particularly fond of fruit, especially ripe peaches.

Fam. Sturnidæ.

Gracula, Linn.

G. religiosa, Linn.—Mynah. *Hab.* India. This bird was introduced in the year 1829, and has not multiplied to any extent;

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It is still to be found inhabiting the Peepul trees (*Ficus terebrata*) in Jamestown, but is rare.

ORDER PREHENSORES.

Fam. Psittacidæ.

Psittacula, Cuv.

P. pullaria, Linn.—Love-bird. *Hab.* West Africa. As a cage-bird.

Psittacus, Linn.

P. erithacus, Linn.—Grey Parrot. *Hab.* West Africa. Largely imported from the West Coast of Africa, and becomes domesticated, but does not breed in the Island.

Palæornis, Vigors.

P. docilis, Vieill.—Green Parrakeet. *Hab.* West Africa. Kept as a cage-bird.

Melopsittacus, Gould.

M. undulatus, Shaw.—Shell Parrot. *Hab.* Australia. Kept as a cage-bird.

Cacatua, Wagl.

C. sulphurea, Gm.—Lesser Yellow-crested Cockatoo. *Hab.* Moluccas. A few kept as pet birds.

Lorius, Vigors.

L. domicella, Vigors.—Crimson Lory. *Hab.* New Guinea? Kept as a cage-bird.

ORDER COLUMBÆ.

Fam. Columbidæ.

Columba, Linn.

C. livia, Linn.—Rock Dove. *Hab.* Europe. Abundant in the Island; existing both in a wild and a domestic state. Wild Pigeons frequent chiefly a place called the Waterfall, a perpendicular cliff about 300 feet in height, situated inland about two miles and a half from the sea, and take their daily flight to the cornfields of Longwood or Broadbottom for food.

Geopelia, Sw.

G. tranquilla, Gould. — Ground Dove. *Hab.* New South Wales. Abundant all over the Island. Generally to be seen in

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pairs, inhabiting both the tall firs and other trees on the highest land, as well as the rocky plains lower down.

Order Gallinæ.

Fam. Phasianidæ.

? Caccabis, Kaup.

? **C. chukar**, J. E. Gray.—Partridge. *Hab.* Northern India. The existence of this partridge in St. Helena is mentioned in Cavendish's "Travels" as early as the year 1588, where it is stated:—"There are also upon this Island a great store of partridges, which are very tame, not making any great haste to fly away, though one come very near them, but only run away and get up into the cliffs. They differ very much from our partridges which are in England, both in bigness and also in colour." Like the pheasant, this bird is protected by game-laws, and only allowed to be shot during three months of the year. It abounds on the rocky outskirts of the Island, and only comes inland to feed in the corn-fields. Partridge-shooting in St. Helena is very fatiguing work, the ground to be gone over being very rough and precipitous; and it is quite necessary to have two parties, one at the bottom of the valley and one at the top of the enclosing hills, in order to be sure of any sport at all. The birds being also very wild, and the coast very rugged, it is exceedingly difficult to get at them. They generally make their nests in the ledges of rock and in the samphire-bushes (*Salsola salsa*) on the open barren plains. Cats are their great enemies, and destroy both eggs and young. Although there appears to be no record to show whence the partridge was introduced to St. Helena, it is most probably the chukar-partridge of Northern India; and as it differs somewhat in plumage, possibly change of climate or food may have produced the variation. A closer examination of the bird, however, is desirable.

Phasianus, Linn.

P. torquatus, Gm.—Ring-necked Pheasant. *Hab.* China. Cavendish mentions pheasants being found in St. Helena as early as 1588, in the following words:—"There are likewise no less plenty of pheasants in the Island, which are also very big and fat." They still exist abundantly, inhabiting the interior of the Island, and

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quite maintain the characteristics mentioned by Cavendish. They are protected by game-laws, which permit them to be killed, on payment of the licence, for six weeks in the summer or autumn of each year: and hundreds of them are generally killed during one shooting season. They find plenty of covert, and generally make their nests in the long tufty fields of cow-grass (*Paspalum scrobiculatum*). There is much fear of these beautiful birds being exterminated through poaching, which of late years has become common.

Gallus, Temm.

G. bankiva, Temm.—Common Fowl. *Hab.* India. Reared abundantly in the Island; and on the high lands exists in a state almost as wild as pheasants. The Spanish, large black-and-white Malabar, and other breeds are kept.

Pavo, Linn.

P. cristatus, Linn.—Pea-Fowl. *Hab.* India. None now remain in the Island; but I include it here because it once existed in a wild state. It is said that pea-fowl inhabited the high lands and ridges, under cover chiefly of the indigenous plants; but the farmers found them so destructive to their gardens, that they took every opportunity of killing them; consequently, about half a century ago they were exterminated.

Meleagris, Linn.

M. gallopavo, Linn.—Turkey. *Hab.* Mexico. The existence of the Turkey in St. Helena dates back as far as 1588. Cavendish says, "We found, moreover, in this Island, plenty of Guinea-cocks, which we call Turkeys."

Numida, Linn.

N. meleagris, Linn.—Guinea Fowl. *Hab.* West Africa. Partly domesticated and partly wild, having recently been much encouraged in the Island, where it inhabits the high land.

ORDER GRALLÆ.

Fam. Charadriidæ.

Ægialitis, Boie.

***Æ. sanctæ-helenæ,** Harting.—*Charadrius pecuarius,* Layard, Ibis, 1867, p. 251; Birds S. Africa, p. 297, 1867; Newton, Ibis, 1867, p. 251, note; Baker, Zoologist, 1868, p. 1475; Melliss, Ibis, 1870, p. 104; Harting, Ibis, 1873, p. 260. The "Wire Bird"

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is a true native of the Island. It chiefly frequents the outskirts, and is generally to be seen running about on the hot stony plains more or less covered with wire-grass (*Cynodon dactylon*). It feeds upon beetles and a small snail (*Succinea* sp.?) found adhering to and hiding under the rocks and stones with which the ground is partly covered. It is rarely, but occasionally, seen inland, sometimes in pairs, sometimes in flocks of five or six. It lays, in the summer months of December and January, two eggs, in colour grey with black markings. It is stated, upon the pretty good authority of several persons long resident in the Island, that this bird makes no nest, but lays its eggs in dry cow-dung on the exposed open ground; it slightly covers them over, but does not sit upon them,* merely returning occasionally to see that they are safe, and to take care of the young birds as soon as they are hatched. The colour of the eggs so much resembles the material in which they are laid and the dry wire grass, that it is difficult to distinguish them without careful search. After heavy rain the Wire Bird may be seen frequenting and running along the edges of the pools of water; but generally it finds few ponds now in the Island to indulge its wading propensities; this deprivation does not appear, however, to interfere with its happiness, for it is very doubtful if it ever leaves the Island.

ORDER ANSERES.

Fam. Anatidæ.

Anser, Briss.

A. ferus, Linn.—Domestic Goose. *Hab.* Europe. Reared in the Island.

Annas, Linn.

A. boschas, Linn.—Domestic Duck. *Hab.* Europe. Reared abundantly in the Island.

Cairina, Flem.

C. moschatas, Linn.—Muscovy Duck. *Hab.* South America. A few have been imported into the Island.

Procellaria, Linn.

***P. glacialoides**, A. Smith.—Right-whale-bird. Two were

* Mr. Harting considers that this must be a mistake, and that the bird only covers its eggs to hide them in its absence, as is the case with *Gallinula chloropus*, *Podiceps minor*, and other species.

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caught with an ordinary fishing-hook and line, in October, 1868, off Speery Island; but it is rare.

Fam. Pelecanidæ.

Thalassidroma ?, Sw.

***T. melanogaster** ?—Mother Carey's Chicken. A small species of petrel frequenting the sea around the Island, but not very abundant; lays in November.

Sula ?, Briss.

***S.** sp. ?—Booby. This bird is seldom found on the Island, but frequents the neighbourhood. It is often seen from shipboard near the land, but I have not had an opportunity of examining a specimen.

Tachypetes, V.

***T. aquilus,** Linn.—Man-of-war-bird. Although there is a part of the south-west coast designated "Man-of-war Roost," deriving its name from this bird, and there is still living evidence of its having once frequented even the landing-steps at Jamestown, it is seldom now to be met with, nor is it easy to assign a reason for its disappearance from the Island.

Phaeton, Linn.

***P. æthereus,** Linn.—Tropic-bird. Very abundant on the southern and eastern, or windward coasts of the Island, which, being furthest away from the haunts of man and also more precipitous than other parts, are well adapted to the bird's peculiar habit of dropping itself down from a ledge in order to enable it to rise on the wing, a feat which it is unable to accomplish when sitting on the ground. It inhabits holes in the perpendicular face of the cliffs, from one to two thousand feet above the sea, and goes out regularly in the early morning to fish for food, returning homewards about three or four o'clock in the afternoon. At this time of the day Tropic-birds are easily shot; and it is to be regretted that these beautiful and peaceful creatures suffer so much persecution as they do for the sake of the plumes they afford for ladies' hats. Tropic-bird-shooting at St. Helena is accomplished by taking up a position on the ledges above their holes and nests, while a boy is

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sent down into the valley or ravine below to pick up the birds as they fall. Cats are great enemies to these birds, as well as to the game-birds in the Island, by preying on the young.

Fam. Laridæ.

Sterna, Linn.

***S. fuliginosa**, Gmel.—Egg-bird. Not *very* abundant, but inhabits George's and Speery Islands, with other rocky islets off the coast, in considerable numbers. Egg-birds do not remain all the year at St. Helena, and probably migrate to Ascension, nearly seven hundred miles distant, where they are to be found in tens of thousands, and are so tame and plentiful at a spot called "Wide-awake-Fair" that they may be knocked down by hundreds with a walking-stick. They are there protected for the sake of the eggs, which form an article of food with the inhabitants. They arrive in St. Helena at the end of the year, and lay in January, February, and March. Much risk of life is run in obtaining the eggs, which are brought to the market, and by some persons are considered a delicacy equal to plovers'. These birds seldom, if ever, come near the inhabited parts of the Island.

Gygis, Wagl.

***G. candida**, Wagl.—White-bird. One of the most abundant sea-birds in the Island, in numbers perhaps next to the Noddy. It associates intimately with the Tropic-bird, but comes more inland, building its nest in rocky cliffs and columnar basaltic dikes, such as Lot, Lot's Wife, and others situated several miles from the sea-coast; occasionally it is seen flying high over the central part of the Island. Its curiosity is very remarkable; it is easily attracted by a white object, and will come within a foot or two, often in a disagreeable manner, peering into the face of a person wearing a white hat or some white article of clothing.

Anous, Leach.

***A. stolidus**, Linn.—Noddy-Tern. A less shy and retiring species than the other sea-birds, generally frequenting the roadstead, where, in the neighbourhood of ships at anchor, it may be seen sitting on the surface of the water or on boats. It inhabits principally the cliffs of the islets, such as Egg Island, where it breeds in

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swarms. It does not appear to associate with either the Tropic or the White-bird, but is one of the most abundant species at St. Helena.

CLASS III.—REPTILIA.

Order Lacertilia.

Hemidactylus, Cuv.

H. frenatus, Schleg.—A small brown harmless lizard, about four inches in length, which lives under stones and old timber in the warm lower parts of the Island. It seldom enters houses unless in pursuit of flies or scorpions, but is plentiful about the neighbourhood of Jamestown, where in the evening its loud chirp is frequently heard.

Order Chelonia.

Chelonia, Flem.

***C. viridis** ?, Schn.—Turtle are taken at St. Helena, generally on the surface of the water, near the leeward coast; about six or eight of a very large size are caught and brought to market during the year.

Caretta, Merrem.

***C. imbricata**, Schweig.—The Hawk's-bill Turtle, which is of so much value on account of the tortoiseshell of commerce being obtained from it, is occasionally caught on the leeward coast, but it is rare. It is a native both of American and Asiatic Seas.

Testudo, Linn.

T. indica,? Gm.—Two of these very large tortoises have, it is said, for no one knows when they were introduced, lived at Plantation for a century or more. They are remarkably strong, easily carrying a man and walking with him a considerable distance. Unwieldy and ugly as they are, they appear to enjoy their uninteresting life in travelling about the garden and grounds, but always return to their hole in the earth, under cover of a tuft of thick long grass on the lawn. They have not bred in the Island.

Occasionally a small imported species of Tortoise is seen in the Island, but they do not appear to live long.

There being no snakes or alligators, the other orders of this class are unrepresented at St. Helena.

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CLASS IV.—AMPHIBIA.

Nil.

CLASS V.—PISCES.

There are no less than seventy-five different kinds of fishes at St. Helena, but they are all marine. Although there are brooks and running streams which fish might inhabit, there is no record of the East India Company, or any one since their time, having endeavoured to introduce fresh-water fishes, and the only importation in this respect is characterized by the little gold fish *Cyprinus auratus*, which was doubtless taken to the Island from China, and is still met with occasionally in garden ponds, as well as in glass globes on sitting-room tables.

A collection of the St. Helena fishes had never been made until I presented mine to the British Museum; and fortunately it fell into the hands of Dr. Albert Günther, who, with his well-known ability and care, examined and described sixty-five,* including one new genus and sixteen species which had hitherto been unknown to science. These seventeen may therefore be considered as quite peculiar to the place, and to them it seems to me admissible to add, as natives, thirty-one more, which, though found elsewhere, are so closely identified with the Island, through inhabiting the rocky shores in shallow water, as to merit a distinction from some twenty others which are inhabitants of deeper water and are common to tropical and Atlantic seas.

Nine species of the St. Helena fishes are found also in the West Indies; and others, amongst those in my collection, have also been taken as far off as Pondicherry, Japan, Australia, Panama, Zanzibar, Madeira, and the Mediterranean.

So far, the examination of the fish fauna of the Island has progressed, but there are doubtless many hidden treasures still in those waters surrounding it to repay the future naturalist who undertakes to search for them. Seven more, which were not in my collection, are known to exist—viz., two varieties of the albicore, the baracoota (which, with mackerel and the former, constitutes the chief food of the population), the bream, the Roman-fish, the bread-fish, and the

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* Proceedings of Zoological Society of London, March 26, 1868, and April 8, 1869; also Catalogue of Fishes in the British Museum, by Dr. Albert Günther, vol. viii.

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cod. These last four are now rarely seen, simply, I believe, through the indolence of the fishermen.

But with all this bountiful supply of good fish, the visitor to St. Helena cannot fail to be astonished at the indifference with which it is regarded. The fisherman there has no storms or angry seas to battle with, but still there is no system of fishing, and there is no fishing trade. Beyond a very partial and scanty contribution to the supply of food for the six or seven thousand inhabitants, no use is made of the fish or profit derived from it.

In the Monthly Register of the year 1810, it is recorded, and the authority is reliable, that in the month of October, 3613 pounds of mackerel, 11,453 pounds of albicore, and 528 pounds of ground fish, that is the best table fish, were taken and brought into the market; so that, during one month, the fishing at St. Helena yielded nearly seven tons of fish, not only good for food, but of the finest quality. It is not very probable that the fishes, weary of the neglect to catch them, through succeeding years, or missing the good cheer of the Honourable East India Company, have packed up their traps and gone elsewhere; but on the contrary, having had everything their own way for half a century, it is most probable that there are more fishes in the sea at St. Helena now than there were in the year 1810. The simple fact is that, in 1874, no fishery exists, and that if it did, and the fishes were properly sought for, a greater abundance than the yield of 1810 would be the result. This would not only materially assist the distressed population of the place, by affording a supply for home consumption, but also a very profitable article of export in the form of salted, dried, and otherwise cured fish.

With means, lying at their very door, which in other countries would be and are turned to profitable account, the natives of St. Helena are curiously regardless of it. The very fish of which upwards of 11,000 pounds were taken at St. Helena in one month, is the same as the Tunny fish, which, in the Mediterranean and along the southern coasts of France, is the source of so large a trade.

The small desultory amount of fishing which is now carried on at St. Helena is with the hook and line only, either from the shore or from small rowing boats which venture only some short distance out to sea. Most of the natives fish for themselves; they run down to the sea shore, or the "fishing-rock" as they term it, spend a night there and bring back enough fish for a few days' food, and if

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they cannot go they send the wife or child to perform a similar errand. Those men who prefer exclusively to follow the noble calling of fishermen number about eighty or ninety, but they are a class who through years past have lived away from civilization; their wives and children occupying small miserable huts, or nearly inaccessible caves along the rocky shores, where they are altogether far removed, partly through their occupation and partly through their long-acquired habits of indolence and demoralization, from any beneficial influences. The men themselves, although there are some few exceptions, are for the most part satisfied to bring in just sufficient fish as will afford food and obtain a supply of Cape wine for a few days, when, after indulging in excess in the latter, and recovering from their half-stupefied state, they proceed out again for the same purpose.

With the present materials it would be almost impossible to accomplish anything to improve the fishery at St. Helena. It needs, however, but a small amount of capital, with suitable boats and tackle, and good steady fishermen with European energy, to make it successful; so great a prejudice exists, however, through the indolence of the present fishermen, that I doubt if any resident would undertake its management; and until it is done by the Government, it is scarcely likely that a St. Helena fishery can become a source of profit by yielding an article of commerce.

There are cod-banks close to the Island,* and in the year 1810, it is recorded that codfish of 9½ lbs. weight were caught in 111 fathoms, off Lemon Valley. Such fish are never seen now, neither are the boats or men capable of going out to seek for them.

ORDER ACANTHOPTERYGII.

Fam. Percidæ.

Centropristis, Cuv.

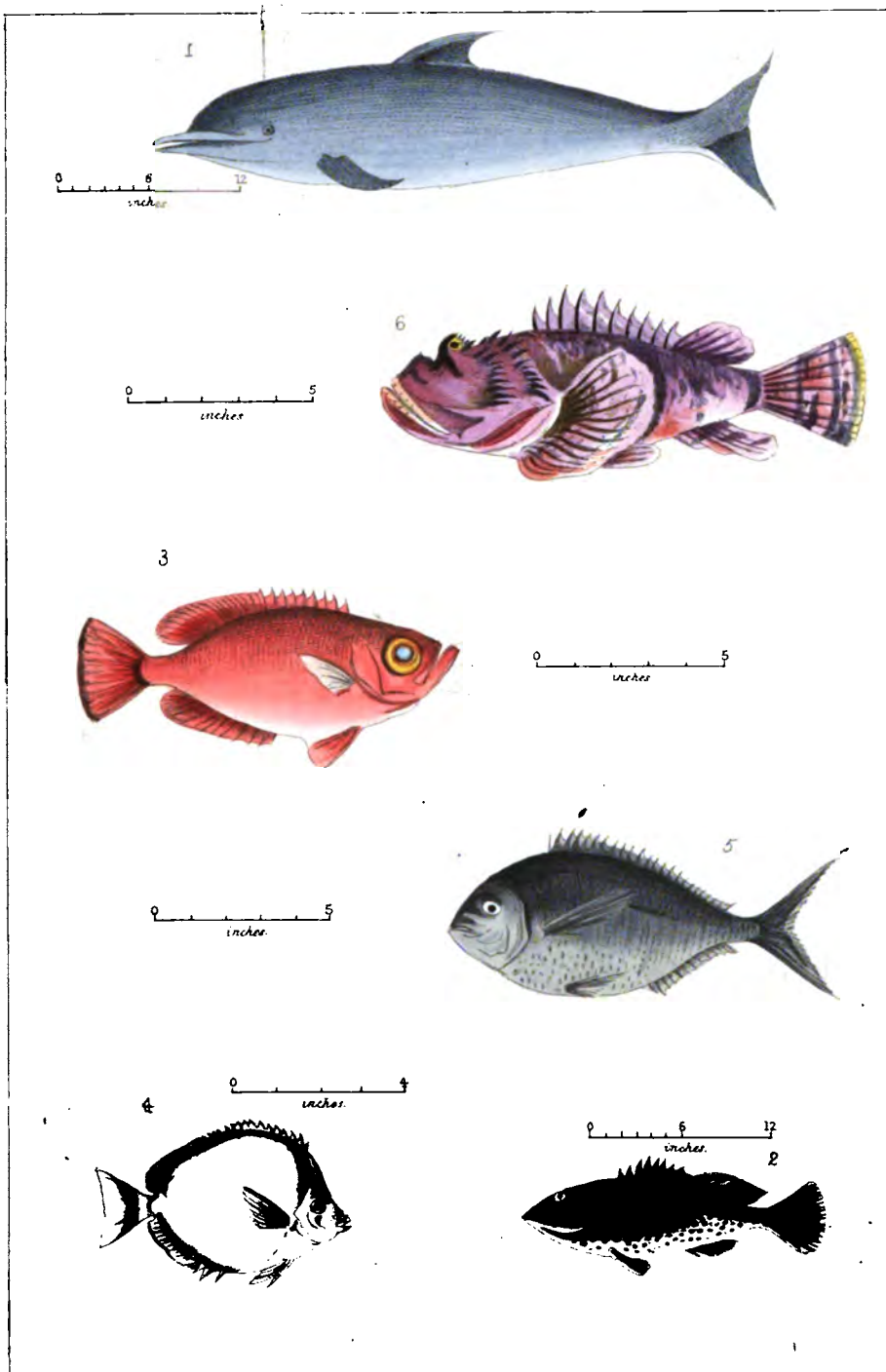
***C. brasiliensis,** Barnev.—The Deep-water Brown Mullet,

* The banks that have already been discovered are four in number, as follows:—New Ledge, about six miles S.S.W. of the Island, with soundings of 25 to 45 fathoms and a bottom of rock and sand. Speery Ledge, about 4 miles nearer to the shore than the last, in 3½ or 4 fathoms water. Barn Ledge, about 2 miles off Prosperous Bay, in soundings of 4 to 16 fathoms; and Goodwin's Ledge, in soundings of 50 to 80 fathoms, about 3 miles distant from the shore on the leeward side of the Island. The first three positions are to windward, and the weather often boisterous, so that the small fishing-boats now in use cannot remain long near them in safety and consequently they are unfrequented.

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J.C. Mellissa delt. E.W. Robinson. lith.

1 DELPHINUS .... sp.° .... p. 86.
2 SERRANUS IMPETIGINOSUS p. 103.
3 PRIACANTHUS. .. .. sp.° .... p. 103.
4 CHÆTODON SANCTÆ HELENÆ. p. 104.
5 SARGUS CAPENSIS. .... p. 104.
6 SCORPÆNA MELLISSII. ..... p. 104.

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which has also been taken in the West Indies, may be caught throughout the year, and is good for eating.

Holanthias, Gthr.

***H. fronticinctus,** Gthr.—Although this fish is of a bright yellow colour, it is somewhat remarkable that it goes by the local name of Deepwater Green-fish. It is fair eating, and peculiar to the Island. A figure of it is given in the Proceedings of the Zoological Society for March 26, 1868, p. 228.

Serranus, Cuv.

***S. impetiginosus,** Müll. & Trosch.—The St. Helena Jack is likewise a native of the West Indies, and may be caught at any time in very shallow water along the rocky shore, where it inhabits holes to protect it from sharks and other enemies. It is an extremely good table fish, but so delicate that in hot weather it will scarcely keep fresh for twenty-four hours. It is one of the most abundant fish in the Island market.

Rhypticus, Cuv.

***R. saponaceus,** Bl. Schn.—The Lathercoat of St. Helena, so called from the lather that it produces when rubbed in the hands like a piece of soap. It inhabits the rocky shore in shallow water, but is not taken for food. It is also found at the Cape of Good Hope, the West Indies, and Cape Verde Islands.

Priacanthus, C. & V.

***P. boops,** Forst. — The Deep-water Bull's-eye, a large and excellent table fish, taken in 100 fathoms water generally all the year through. It is quite peculiar to the locality.

***P.** sp. ?—The Bull's-eye inhabits the shallow water along the rocky coast, and in the summer months of December to March is very plentiful. It is an exceedingly good fish for food. Bull's-eye fishing by moonlight is a favourite sport—perhaps not lessened by the anticipation of fried bull's-eyes for breakfast. It is quite peculiar to the Island, and differs from the other species by being half the size.

Apogon, Lacép.

***A. axillaris,** Val. — The Red Mullet of St. Helena is also

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found at the neighbouring Island of Ascension. It is a deep-sea fish, generally taken through the year, and is good for food.

Pomatomus, Risso.

*P. telescopium, Risso.—The Black Mullet is also obtained in the Mediterranean and neighbouring parts of the Atlantic. It is rare at St. Helena, but is caught throughout the year in shallow water on the coast, and used for food.

Fam. Squamipinnes.

Chætodon, Art.

*C. sanctæ helenæ, Gthr.—The Cunning-fish is quite peculiar to St. Helena, and is one of the most beautiful little creatures ever seen. All the year round it inhabits the shallow water on the coast, and is so tame that amongst the boats at the landing-steps it may be seen through the clear water, its pearly hue, mounted by bright yellow fins, making it a most conspicuous and pretty object.

*C. dichrous, Gthr. — The Bastard Cunning-fish is a very similar species, but marked across the body with dark bands. It is peculiar to St. Helena, but comparatively rare. A figure of it is given in the Proceedings of the Zoological Society for April, 1869, p. 238.

Fam. Sparidæ.

Sargus, Klein.

*S. capensis, Smith.—The Old Wife of St. Helena, found also at the Cape of Good Hope and Ascension Island, is abundant throughout the year, and is an excellent table fish. It inhabits the shallow water round the coasts in large numbers.

Cirrhitichthys, Blkr.

*C. fasciatus, C. & V.—The Granny Fish, also obtained at Pondicherry, is not at St. Helena taken for food, it being of insignificant size.

Fam. Scorpænidæ.

Scorpæna, Art.

*S. mellissii, Gthr.—Quite peculiar to St. Helena, where it is called Sand or Deepwater Gurnard. It is not considered good for

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food, but is eaten by some of the natives who are able to overcome the prejudice against its extreme ugliness.

*S. scrofina, C. & V.—The Mail or Rock Gurnard is also found in Brazil. At St. Helena, it inhabits the shallow water around the coast, and may be taken throughout the year, but is not much esteemed as food.

Sebastes, C. & V.

*S. nigropunctatus, Gthr.—This splendid fish, the Deep-water Jack, peculiar to St. Helena, is excellent as food. It is caught throughout the year in 80 to 100 fathoms of water, and generally found to be dead when brought to the surface, being killed by hauling it up through so great a depth.

Fam. Berycidæ.

Myripristis, Cuv.

*M. jacobus, C. & V.—Bastard Soldier, not very abundant at St. Helena, also found at the West Indies and Brazil.

Holocentrum, Art.

*H. longipinne, C. & V.—The Soldier of St. Helena, also found in the West Indies, is taken along the shore in shallow water during the summer months. It is one of the best table fish.

Polymixia, Lowe.

P. nobilis, Lowe.—The Beard-fish is also found at Madeira; it inhabits deep water, and is rarely taken at St. Helena.

Fam. Xiphiidæ.

Xiphias, Art.

X. gladius, ? Linn.—The Sword-fish, which occurs also in the Mediterranean and the Atlantic Seas, is sometimes taken from deep water off St. Helena.

Fam. Acronuridæ.

Acanthurus, Schn.

*A. chirurgus, Bl.—The Trooper of St. Helena. A fine fish, but rarely taken, though it inhabits shallow water near the shore. It is also found on the Atlantic coasts of tropical America and Africa.

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Fam. Carangidæ.

Caranx, Cuv.

C. crumenophthalmus, Bl.—Peculiar also to tropical seas and called Horse Mackerel at St. Helena, where it is not very abundant but is taken for food.

C. dentex, Bl. Schn.—This fish, of wide range from the Mediterranean to the coast of Brazil, is at St. Helena known as the Cavalley, and is one of the best table fish, being indeed the salmon of St. Helena. It is taken in considerable numbers chiefly during the summer months around the coast in not very deep water; it varies in length from 9 inches up to 2 or 3 feet.

***C. hippos**, Linn.—The Coal-fish of St. Helena, also a native of tropical seas, is more scarce than the Cavalley, and is esteemed a finer table fish. It is rare, perhaps not more than one or two being taken in the year, and is considered a delicacy in consequence, though really differing little in flavour from the last species. It inhabits the shallow water close to the shore.

***C. muroadsi**, Schleg.—In its full grown state the Kingston, in its smaller state the Stonebrass, of St. Helena, also found at Japan. It is generally taken in the summer months after Christmas, in shallow water near the shore. It is not so abundant as the mackerel, but is associated with it in the market.

Seriola, Cuv.

S. lalandii, C. & V.—The Yellow Tail of St. Helena is obtained also in the Atlantic, at Japan and Australia; it inhabits shallow water near the shore, is less rare than the Coal-fish, but not so abundant as the Cavalley. It is taken of various sizes, from 10 inches to 3 feet in length, and forms one of the best table fish.

Lichia, Cuv.

***L. glauca**, Linn.—This pretty little fish, when first taken from the water, resembles a piece of polished silver, hence its name of Silverfish. It is very abundant in shallow water round the rocky coast, and is a very good table fish. It is also found at the neighbouring island of Ascension, in the Mediterranean, and in the Atlantic generally.

Fam. Scombridæ.

Auxis, C. & V.

A. rochei, Risso.—Mackerel Bonita. A deep-water fish; very

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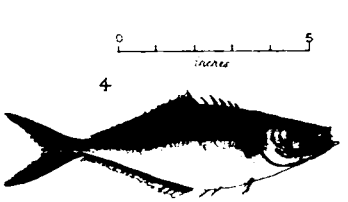
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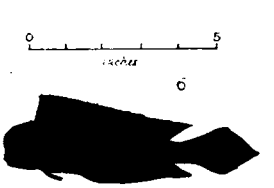












J. C. Melliss del.

E.W. Robinson, lith.

1 SEBASTES NIGROPUNCTATUS p. 105
2 HOLOCENTRUM LONGIPINNE p. 105
3 SERIOLA LALANDII p. 106
4 LICHIA GLAUCA p. 106
5 SCOMBER COLIAS p. 107
6 SALARIAS ASIANTICUS p. 108

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abundant. It forms a considerable portion of the poor man's food, and is a fish common to tropical seas.

Scomber, Art.

***S. colias,** Gm.—This species of Mackerel is peculiar to the North Atlantic, where almost any quantity may be taken from shallow or deep water throughout the year, though sometimes it is more plentiful than at others. It is excellent eating, being quite as fine as the English mackerel, and forms one of the chief articles of food with the natives of St. Helena.

Thynnus, C. & V.

T. thynnus ?, Linn.—There are three varieties of albicore, called respectively the Long Fin, the Bastard, and the Coffrey, which constitute one of the chief articles of food with the residents. It is the same as the Tunny-fish of the Mediterranean. At St. Helena it inhabits deep water, and is taken by means of hook and line throughout the year, many of them being as large as 3 or 4 cwt. in weight. It is in the winter months that they are most plentiful. It is well known in that part of the world as "St. Helena beef," and I have known people to praise the excellence of "the veal cutlets" after having partaken of fried albicore! It is curiously sold in the market at so much per *cut*, three or four pence sufficing to secure a cut or slice weighing several pounds. There are various ways of cooking and making it very palatable, and for a curry there is no better substitute.

Echeneis, Art.

E. naucrates, Linn.—The Sucking-fish, peculiar to the tropics, is sometimes taken at St. Helena, adhering to sharks, sun-fish, and other deep-water creatures, but is not used for food.

Fam. Frichiuridæ.

Thyrsites, C. & V.

T. prometheus, C. & V.—Also a Madeira fish, and at St. Helena called the Night Serpent. Fishermen speak of two kinds of serpent-fish, that which they catch at night being black, and that during the day brown in colour. They are not eaten.

Fam. Pediculati.

Antennarius, Commers.

A. pinniceps, C. & V.—A small fish, striped with brown like a

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tiger, common to tropical seas, but apparently without a local name at St. Helena.

*A. multiocellatus, var. Gthr.—A small species of a reddish hue, very like the other; rare at St. Helena; also found in the Caribbean Sea.

Fam. Blenniidæ.

Salarias, Cuv.

*S. atlanticus, C. & V.—This curious little black creature may be seen in the pools on the rocky seacoast, darting about rapidly like a flash of lightning. It is in consequence most difficult to capture, and has earned for itself the name of Devil-fish.

Fam. Fistulariidæ.

Aulostoma, Lacép.

*A. coloratum, Müll. & Trosch.—The Trumpet-fish; long, thin creatures, quite useless for food, but, nevertheless, pretty, inasmuch as they occur in a variety of colours, such as brown, black, red, yellow, and variegated; also found in the West Indies.

Order Acanthopteryghii Pharyngognathi.

Fam. Pomacentridæ.

Pomacentrus, Lacép.

*P. leucostictus, Müll. & Trosch.—The Bastard Cavalley Pilot of St. Helena; also found in the West Indies. A small fish not taken for food.

Glyphidodon, Lacép.

*G. saxatilis, Linn.—The most delicate little fish that is eaten at St. Helena, where it is named, from the bands across its body, Five Finger. It exists in considerable numbers in ponds along the rugged coast, and is generally considered to be in season during the months of June and July; also found in the West Indies.

Heliastes, Cuv.

*H. insolatus, C. & V.—The Bastard Five Finger of St. Helena is a small fish, not very common or frequently taken. It also occurs at the West Indies and on the coast of Peru.

*H. marginatus, Castel.—A small fish called the Cavalley Pilot, found also on the coasts of Brazil and California.

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Fam. Labridæ.

Cossyphus, C. & V.

***C. pectoralis**, Gill.—The Parrot-fish of St. Helena inhabits the rocky sea coast in shallow water. It is not used for food. It also occurs on the Pacific coasts of Central America (?) and at the West Indies.

Novacula, C. & V.

***N. sanctæ helenæ**, Gthr.—Although the colour of this fish is light purple, it is curiously and commonly called at St. Helena, where it is quite peculiar, the Sand or Deep-water Green-fish.

Julis, C. & V.

***J. sanctæ helenæ**, C. & V.—The Green-fish of St. Helena is quite peculiar, and, in the shallowest water round the coast, exists in great numbers throughout the year, though most abundant in summer. It is a most beautifully coloured fish, and esteemed as good eating, but most annoying through its greedy propensity of seizing on a bait directly it is thrown into the water.

Scarus, Blkr.

***S. strigatus**, Gthr.—The Rock-fish of St. Helena is peculiar to the spot, and inhabits the shallow water around the rocky coast. Its colours are most brilliant, and as variable as they are beautiful, but it is not used for food.

ORDER ANACANTHINI.

Fam. Gadidæ.

Physiculus, Kaup.

***P. dalwigkii**, Kaup.—The Skulpin of St. Helena is also found at Madeira. It is a deep-water fish, taken at a depth of 80 or 100 fathoms at any time throughout the year, but is not generally used for food.

Fam. Pleuronectidæ.

Rhomboidichthys, Blkr.

***R.** sp.?—The Flounder is a small, unimportant species, although peculiar to the Island. It is taken close to the shore in shallow water.

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ORDER PHYSOSTOMI.

Fam. Scopelidæ.

Saurus, C. & V.

***S. atlanticus**, Johnson.—The Rock-spear of St. Helena; found also at Madeira and Zanzibar.

S. myops, Forst.—The Sand-spear of the Island is common to tropical seas. Both of these species are good as food, but not very abundant, and are too bony to be popular, excepting with the labouring people.

Fam. Scombresocidæ.

Exocætus, Art.

E. cyanopterus, C. & V.—This species of Flying-fish is a large one, generally measuring eighteen inches in length, and therefore probably a more acceptable morsel to its pursuer the porpoise, which chases it until it flies ashore and falls powerless on to the stony beach. It is also found at Brazil.

Belone, Cuv.

***B. lovii**, Gthr.—Pike-fish; inhabits the shallow water close to the rocky shore; also found at Cape Verde Islands.

Fam. Murænidæ.

Conger, Cuv.

C. vulgaris, Cuv. var. Nigra.—The Common Conger Eel, which is found in the seas of Europe, South America, East Indian Archipelago, Japan, and Tasmania, also takes its place in considerable numbers at St. Helena; where it attains a large size, and often when caught and brought into a boat is a formidable antagonist, requiring a considerable thumping and pounding about the head before it is conquered. It is generally taken in about 100 fathoms of water, and is rather popular as food.

Congromuræna, Kaup.

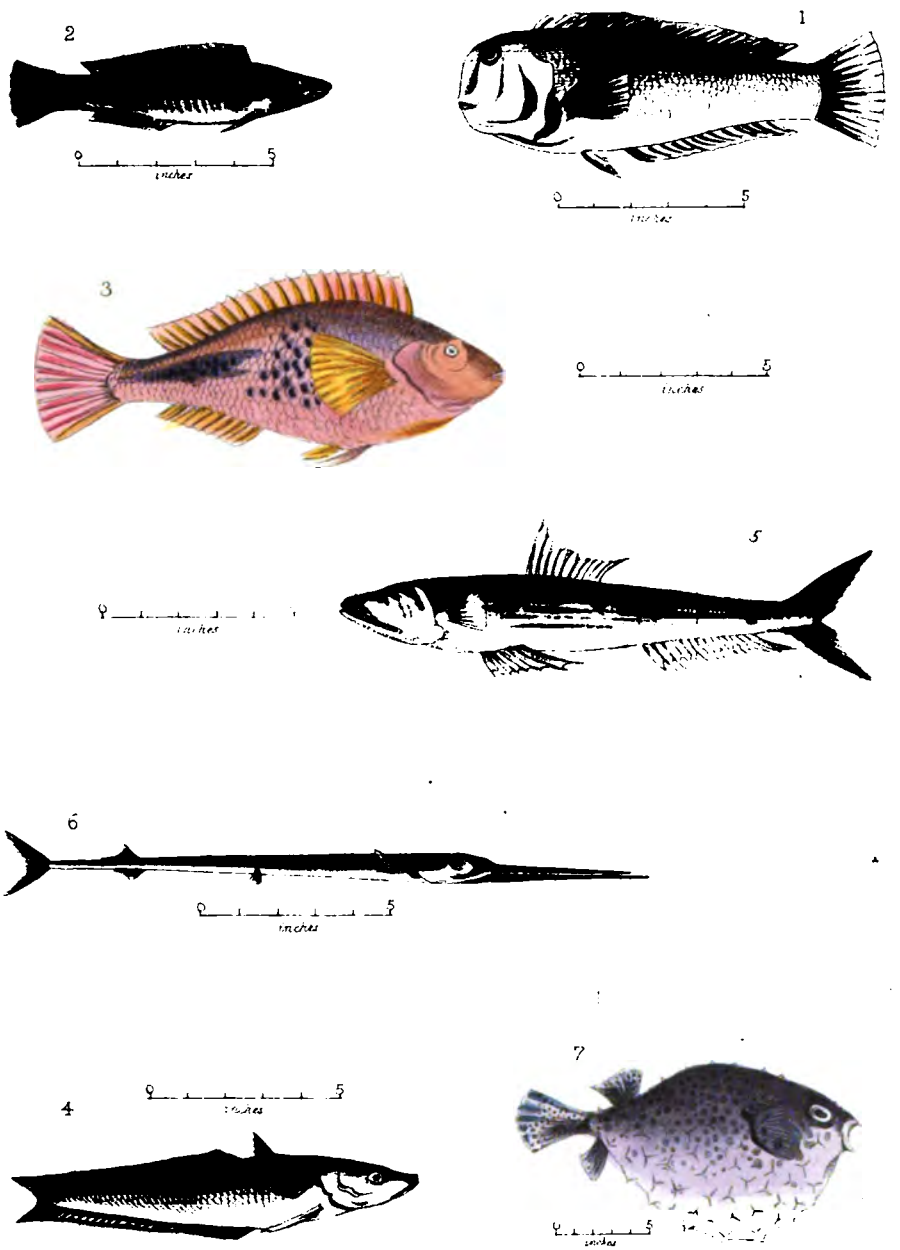
***C. mellissii**, Gthr.—The Silver Eel is not very abundant, but is esteemed as food. It is peculiar to the Island.

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J C Melliss del.

E.W.Robinson lith.

1 NOVACULA SANCTÆ HELENÆ. *p. 109.*
2 JULIS SANCTÆ HELENÆ. *p. 109.*
3 SCARUS STRIGATUS. *p. 109.*
4 PHYSICULUS DALWIGKII. *p. 109.*
5 SAURUS MYOPS. *p. 110.*
6 BELONE LOVII. *p. 110.*
7 CHILOMYCTERUS RETICULATUS. *p. 111.*

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Ophichthys, Gthr.

***O. regius**, Rich.—Generally known as Sea Snakes. They are of no use as food. Specimens of these creatures were brought to Europe by Captain Cook, but as he had not recorded the locality whence he took them it remained unknown until my collection of fishes reached the British Museum.

Myroconger, Gthr.

***M. compressus**, Gthr.—The Red Eel, of the Islanders is very commonly taken in about eight or nine fathoms water and used for food. It is peculiar to the Island.

Muræna, Gthr.

M. flavopicta, Kaup.—The Large Speckled Conger is perhaps the most abundant of this class of fish, and is taken in considerable quantities in deep water. Salted and grilled, it forms one of the chief articles of food to the poor.

M. moringa, Cuv.—The Common Conger is abundant, and, like the last species, is taken for its value as food, at a depth of eight or nine fathoms.

***M. sanctæ helenæ**, Gthr.—The Bird-eye Conger is another species, also taken for food. It derives its local name from the external marks on its skin, and is peculiar to the Island.

***M. unicolor**, De la Roche.—The small Brown Eels, called Griggs, are caught close in shore in shallow water, where they lie in holes in the rocks for any bait that may chance to come in their way.

Order Plectognathi.

Fam. Ostracionidæ.

Ostracion, Art.

***O. quadricornis**, Linn.—The Hog or Trunk-fish is, with the following five species, quite unfit for food. It is also found in the West Indies, and is not very common at St. Helena.

Fam. Gymnodontidæ.

Chilomycterus, Gthr.

***C. reticulatus**, Linn.—An enormous creature, about two feet in length, frequently taken close in shore, and called the Lantern-fish;

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so named from the use made of its horny skin after the contents are removed and it is well dried.

Tetrodon, Linn.

*T. **cutaneus**, Gthr.—The Bottle-fish is also found at the Cape of Good Hope.

*T. **sanctæ helenæ**, Gthr.—The Bastard Hog-fish has been found also at Japan.

Orthagoriscus, Bl. Schn.

O. sp. ?—Sun-fish are taken in deep water off the Island by whaling ships, chiefly for the sake of the oil which their livers afford, but they are seldom, if ever, now captured by the Islanders.

Fam. Balistidæ.

Balistes, Cuv.

*B. **buniva**, Lacép.—The File-fish, so called from the resemblance to a file which it wears on its back. It is of no use as food.

Order Lophobranchii.

Hippocampus, Leach.

*H. sp. ?—Called the Sea Horse from the striking resemblance between its head and that of a horse. This pretty little bright red creature is occasionally brought up from a considerable depth by fishermen's lines and boats' moorings.

Order Chondropterygii.

Carcharias, Cuv.

C. sp. ?—The Common Shark attains a length of fifteen or sixteen feet. Sharks prowl about the coast and bays, even approaching close to the landing-steps in search of prey. Few accidents, however, have been caused by these creatures, and as bathers are not over-cautious, it may be through some distaste for the St. Helenians, one of them having, it is said, a long while ago, swallowed a soldier, with great-coat, musket, and bayonet, just as he fell from his post as sentry, and, suffering so much discomfort, was easily captured next day.

C. **glaucus**, Linn.—The Blue Shark, of small size, is occasionally taken. It generally inhabits tropical seas.

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C. obscurus, Lesueur.—The Mackerel Shark is often brought to the market, and the poorest people consider it fair food.

Lamna, Cuv.

L. glauca, Müll. & Henle.—The Dog-tooth Shark, which occurs at Java, Japan, and the Cape of Good Hope, is also occasionally taken at St. Helena.

II. MOLLUSCA.

In Conchology the Island does not offer a very wide field for the naturalist's researches, but it affords one of extreme interest. The extinct land-shells, although described as having some affinity with those of the Polynesian Islands, Central America, Africa, Mozambique, and the Seychelles, are for the larger part unique, and unmistakably point to the individuality of the Island and its non-connexion at any time with the existing continental lands of Africa or America. The amount of dredging that has yet been accomplished off the Island is very small, but the treasures it has yielded to the scientific world are quite sufficient to encourage the enthusiastic naturalist. My own collection of shells, now in the British Museum, has been made almost without the aid of dredging, the marine species having been picked up on the beach or taken from the rocks a short distance below high water. I have therefore been careful to distinguish those which I found in a living state, because, until the rest have been found in a similar condition, there exists a probability of their having been thrown overboard from ships. I am most fortunate in being able to record the examination of the collection by so eminent an authority as Mr. J. Gwyn Jeffreys, who, in the Annals of Natural History for April, 1872, gives a list of the species, and writes as follows :—

"With the assistance of my friend, Mr. M'Andrew, I have examined a collection of shells made by Mr. J. C. Melliss at St. Helena. Most of the marine shells were picked up on the beach, and are consequently in bad condition. The only specimen procured from deepish water (about fifty fathoms) is *Ostrea crista-galli;* and this is covered with two kinds of stony coral, which Professor Duncan refers to *Sclerohelia hirtella* and a species of *Balanophyllia*. The land-shells of St. Helena have been already noticed by the late Mr. G. B. Sowerby in the Appendix to Mr. Darwin's work on Volcanic Islands, as well as by Mr. Blofeld and

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the late Professor E. Forbes in the *Quarterly Journal of the Geological Society of London*, for August, 1852. In the opinion of the last-named author 'a closer geographical relationship between the African and American continents than now maintains is dimly indicated' by the marine mollusks of St. Helena; and 'the information we have obtained respecting the extinct and existing terrestrial mollusks of this isolated fragment of land would seem to point in the same direction, and assuredly to indicate a closer geographical alliance between St. Helena and the west [? east] coasts of South America than now holds.' And in the Report of the British Association for 1851 will be found an abstract of a paper by the same distinguished naturalist, entitled, 'On some Indications of the Molluscous Fauna of the Azores and St. Helena.' It is here stated that 'the marine mollusks [of St. Helena] would seem to point to the submergence of a tract of land probably linking Africa and South America before the elevation of St. Helena. Along the sea-coast of such a tract of land the creatures common to the West Indies and Senegal might have been diffused.' I am not quite satisfied with this hypothesis, and I believe that more information is needed to support it. Some of the land-shells of St. Helena are European, and may have been introduced by the agency of man; others are peculiar to the Island. A few of the marine shells are Mediterranean, while the greater number are well-known inhabitants of the Indian Ocean and the West Indies; all these may have originated anywhere. But it must be borne in mind that St. Helena is separated from Africa and South America in every direction by very deep water, which is nowhere less than 2000 fathoms or 12,000 feet. It therefore seems scarcely probable that such an abyssal and extensive tract of the sea-bed could have been dry land or 'sea-coast,' in a geologically recent period, so as thus to account for the diffusion of littoral species such as *Mytilus edulis*, *M. crenatus*, and *Littorina striata*. I should be rather inclined to attribute the present distribution of the marine fauna of St. Helena (not to a supposed continuity of land between Africa and South America in that or any other direction, but) to the action and influence of the great Agulhas Current, which issues from the Indian Ocean and flows round the Cape of Good Hope northwards towards St. Helena, and thence past Ascension to the West Indies. The partial correspondence between the Mollusca of the Indian Ocean and of the Mediterranean may have been owing to the Guinea

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Current, as well as to a passage which formerly existed across Africa in the line of the Sahara—a very wide tract, which certainly was submerged during the quaternary period. I must admit, however, that our information as to the marine Mollusca of the South-Atlantic region, including St. Helena, is very scanty and unsatisfactory. The only dredging that has ever, to my knowledge, been attempted off St. Helena was made by Dr. Wallich in 1857, on his return home from India; and this was at a depth of from twenty to thirty fathoms. It produced a few small shells, which Dr. Wallich kindly gave me. Many of these appear to be undescribed species. The promised circumnavigation expedition, under the auspices of the Royal Society, will doubtless enable us to learn something of the South-Atlantic fauna.

"Mr. Edgar Smith will describe such of the species, and those dredged by Dr. Wallich, as are new to science."

Of the land-shells eleven species are now found in a living state, the rest are all in a more or less subfossil condition, embedded in the superficial soils of the upper parts of the Island, varying at heights of 1200 to 1700 feet above the sea, and entirely confined to the north-eastern quarter of the Island. Mr. Darwin, who visited the Island thirty-eight years ago, attributes their extinction possibly to the loss of food and shelter they experienced by the destruction of the native woods which occurred during the early part of last century, when the old trees died and were not replaced by young ones, these being destroyed by the goats and hogs, which had run wild in numbers from the year 1502.* The state of the shells and the positions in which they are now found on the barren parts of the Island seem to indicate that such was the case with the last surviving members of the family, but I am inclined to date the commencement of their decline to a more ancient period—viz., that time when those parts where the shells are now found were swamps clothed with vegetation and such elements as were essential to the existence of *Bulimi*, but which, as the Island became smaller through the encroachments of the sea, lost their moisture by drainage and consequently with it their vegetation and suitability to sustain snail life.

These beds of extinct land-shells, which occur chiefly on Flagstaff

* Journal of Researches. By Charles Darwin, M.A., F.R.S., p. 582.

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Hill and The Barn, appear to have been noticed first by Mr. Seale,* who thought the shells were of marine origin; and this opinion was shared by Lamarck and others for some time, but their true character was subsequently discovered. The late Professor Edward Forbes, F.R.S., in reference to ten species of them, writes as follows:†—

"Of five subfossil *Bulimi*, the affinities of two are decidedly and remarkably South American. The *Bulimus auris-vulpina* is unlike any old-world form, and its relations must be sought for in the Brazilian *B. bilabiatus*, and probably *B. melanostoma* and its allies. For allies of the equally peculiar *Bulimus darvinianus* we must also go to Brazil and compare with *B. goniostoma* and similar types. Of the other two, the affinities are with species now living in St. Helena. *Bulimus sealeianus* is nearly allied to *Bulimus helena* of Reeve (not of Quoy) and the *Achatina exulata* of Benson. *Cochligena fossilis* of Sowerby is allied to this, but very distinct. *Bulimus blofeldi* is nearly allied to an existing undescribed species found by Mr. Alexander feeding on the cabbage-trees only on the highest points of the Island. The affinities of the latter are decidedly West African; those of the former point in two directions, African and South American, the latter character possibly prevailing.

"An *Achatina*, called *Cochlicopa subplicata* by Mr. Sowerby, is chiefly connected with West Indian forms, but has also relations on the West Coast of Africa, such as the *A. clavata* of Sierra Leone. Mr. Sowerby described an allied species under the name of *Cochlicopa terebellum*.

"The subfossil *Succinea* is of a very ordinary character, as is the case with the majority of species of this genus all the world over, though, curiously enough, one of the living St. Helena *Succineæ* is remarkable for its peculiarities.

"One of the *Helices* is most nearly related to Madeiran types. Mr. Sowerby has described four species, *H. bilamellata*, *H. polyodon*, *H. spurca*, and *H. biplicata*, in his note on Mr. Darwin's collection. I have examined the first and third of these.

"I have endeavoured elsewhere‡ to show that all the information we possess respecting the Marine Mollusks of the coast of St. Helena would lead us to infer the very ancient isolation of that

* Geognosy of the Island of St. Helena, by Mr. Seale.
† Proceedings of Geological Society, March 10th, 1852, p. 196,
‡ Rep. Brit. Assoc. for 1851.

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Island, whilst at the same time a pre-existing closer geographical relationship between the African and American continents than now maintains is dimly indicated. The information we have obtained respecting the extinct and existing terrestrial mollusks of this isolated fragment of land would seem to point in the same direction, and assuredly to indicate a closer geographical alliance between St. Helena and the west [? east] coasts of South America than now holds."

Mr. J. H. Blofeld, F.G.S., also records, in reference to the conditions under which he found these subfossil shells of St. Helena, about half a mile behind Longwood, at an elevation of about 1700 feet above the sea, on a hill-side worn into numerous clefts or ravines by the heavy rains, as follows:*—"The shells are met with in various elevated parts of the Island. The surface of the hill to a depth of five to six feet consists of dark mould, and under this is a stratum of a greyish-brown friable earth about three to four feet thick; in this latter bed the shells occur.† This earth also contains bird-bones,‡ perfect and fragmentary, in abundance; and it was suggested that possibly in some cases the shells may have been brought to the spot by birds that fed on their living occupants.

"The *B. auris-vulpina* is accompanied by *B. subplicata* and *Helix bilamellata*. In the 'shell-bed' are found numerous lumps of several sizes, composed of a white powdery substance, and associated with a harder yellow substance.§ Some specimens of a new species of *Bulimus* (*B. blofeldi*, E. Forbes) were found (together with some young *Helix bilamellata*) in a reddish clay or loam on the side of a

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* Proceed. Geol. Soc., March 10, 1852, p. 195.

† "This deposit is composed chiefly of vegetable matter and carbonate of lime. The latter is present, both in the form of prismatic crystals (shell tissue ?) and as the coating of vegetable fibres. The majority of the specimens of *B. auris-vulpina* presented to the Geological Society's Museum by the late Mr. Seale, F.G.S., were embedded in a whitish coherent sand, consisting of grains (chiefly inorganic) coated with calcareous matter."

‡ "Professor Owen, having examined these bones, pronounces them to belong to marine birds. The Professor has also examined some specimens of similar bones from Turk's Cap Bay, St. Helena, presented to the Geological Society by Captain Wilkes, R.N. These also are all bones of marine birds, most of them being of the Petrel kind; some of them belong to the subgenus *Puffinus*. The bones from Turk's Cap Bay are from a greyish-brown earthy deposit, containing much inorganic sand, the grains of which are partially coated with calcareous matter."

§ "This white substance has been chemically examined by Dr. Percy, F.G.S., who observes, that it consists of matter soluble in nitric acid with effervescence, with the exception of a small quantity of insoluble residue, probably siliceous. The soluble matter is carbonate of lime, sulphate of lime, carbonate of magnesia, and phosphoric acid in combination with sesquioxide of iron. The harder yellow portion was found to contain organic matter, possibly the cause of the yellow colour, and to be similar in constitution with the white powder."

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hill overlooking The Briars, in the cutting of the road from Jamestown to Longwood, about 1200 feet above the sea-level, and about two miles in a direct line from the spot where the larger *Bulimi* were found."

I have examined the spot above The Briars referred to by Mr. Blofeld, and the soil, with its embedded shells, gives unmistakable evidence of having been washed down to its present resting-place from some higher altitude by the agency of heavy rains.

CLASS I.—CEPHALOPODA.

Order Dibranchiata.

Fam. Octopidæ.

Octopus, Cuv.

***O. sp.?**—This repulsive-looking creature, commonly known as the Cat-fish, is plentiful in the nooks and rocky holes on the coast, about high water-mark, occasionally reaching a considerable size, and measuring from eighteen to twenty-four inches across the arms from tip to tip. The natives use it as food, in spite of its appearance, but more generally cut it up as bait for fishing.

Argonauta, Linn.

A. argo, Linn.—The Paper Nautilus is rarely seen, but I found two small shells, which had been washed or blown ashore, on the beach at Sandy Bay.

CLASS II.—GASTEROPODA.

Order Pulmonobranchiata.

Fam. Limacidæ.

Limax, Linn.

L. gagates, Draparnaud.—This British Slug is probably an introduction through the medium of Wardian cases containing living plants.

***L. n. sp.**
***L. n. sp.**

Two species of Garden Slugs which are very abundant and very destructive. They are chiefly confined to the high central land.

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Fam. Helicidæ.

Succinea, Draparnaud.

***S. picta**, Pfr.—This native of the Island is still to be found feeding upon the plants of boxwood (*Mellissia begonifolia*), which grow on Long-range and other south-eastern parts of the outskirts of the Island. The ground beneath those bushes is covered with its reddish-amber-coloured dead shells. This species appears to keep to the lower and hotter climate at an altitude of five or six hundred feet above the sea, as it is not found on the high land.

***S. asperula**, Pfr.—A native shell, found abundantly in a dead and somewhat fossil state in the surface soil on Flagstaff Hill, The Barn, and Sugarloaf Hill. The ground under the bushes of Samphire (*Salsola salsa*) and other scrubwood is covered with its pure white, opaque, and bleached dead shells, some of which are found embedded in the limestone beds on the south side of Sugarloaf Hill.

***S. rudorina**, Gould.—Still found alive feeding upon the cabbage trees and native vegetation which grow on the high central ridge, 2600 feet above the sea. It may be distinguished by its *light* amber-coloured shell.

***S. bensoniana**, Forb.—Found now only in a subfossil state, embedded in the surface-soil. This species is figured and described "Proceed. Geol. Soc.," March 10, 1852, p. 198, pl. v. f. 7.

***S. solidula**, Pfr.—A small species still found living underneath and clinging to the rocks and stones on the low land, at New Ground, &c., altitude above the sea 1200 feet, where it appears to take refuge from the Wire Bird (*Ægialitis sanctæ helenæ*), which inhabits those parts and feeds upon it. The little shells of this species become coated with earth, which, being of the same colour as the rocks and stones, serves to conceal them.

***S. helenæ**, Forb.—A small species, the delicate little white shells of which are found only in a dead state in the neighbourhood of The Barn.

Helisiga, Less.

***H. sanctæ helenæ**, Less.—This very beautiful bright amber-coloured creature, a true native of the Island, may easily be distin-

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guished by its size, being the largest of all the species. It is still found alive in considerable numbers, feeding upon the cabbage trees, tree ferns, and native vegetation generally in the damp, cool region on the high central ridge, at an altitude of 2600 feet above the sea.

Zonites, Gray.

Z. cellarius, Müll.—This native of the British Isles has probably been introduced through the agency of the earth contained in Ward's cases of plants. It is easily recognised, being a small, flat, spirally-formed snail, very abundant in gardens, where it assists the common garden snail with its voracious aptitude for the destruction of young vegetation.

Z. alliarius, Miller.—Another British species, found commonly associated with the other.

Helix, Linn.

H. aspersa, Müll.—This world-wide distributed creature, the Common Garden Snail, is abundant all over the Island, and has, without doubt, been introduced in the earth contained in Ward's cases of plants. It exists in large numbers on the somewhat barren plains of Longwood and Prosperous Bay, where it finds a cool and moist atmosphere as well as food amongst the creeping plants of the Hottentot Fig (*Mesembryanthemum édule*). In the hot season, when those plants partially die away, the empty snail-shells may be gathered from beneath them by hundreds.

***H. polyodon**, G. B. Sow.=**H. Alexandri**, Forb.—A small shell now found, together with the following five species, all of which are natives of the Island, in a subfossil state, embedded in the surface-soil on the north-eastern quarter of the Island, at an altitude above the sea of 1200 to 1500 feet. Described and figured "Proceed. Geol. Soc.," March 10, 1852, p. 198, pl. v. f. 9; also in Mr. Darwin's work on Volcanic Islands.

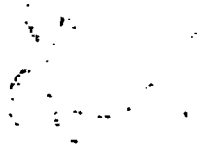
***H. helenensis**, Forb.—A small, round, whitish-brown, spirally-formed shell, of a Pacific type, from the roadside banks on Side-Path above The Briars.

***H. cutteri**, Pfr.—A smaller species than the last, but found associated with it.

***H. spurca**, G. B. Sow.—From near Flagstaff Hill; altitude above the sea 1600 feet. Described in the appendix to Mr. Darwin's

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Plate 22



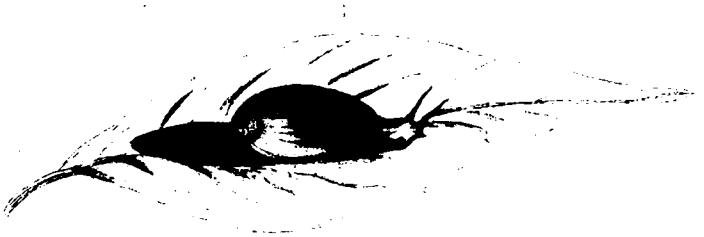
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E.W. Robertson. lith.

1. HELISIGA SANCTÆ HELENÆ. p. 119. (Habitat).
2. BULIMUS AURIS VULPINA. p. 121. (Half size).
3. CRAB CAUHT AT BREAKNECK VALLEY p. 246.

L. Reeve & Co. London.

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work on Volcanic Islands, and figured in "Proceed. Geol. Soc.," March 10, 1852, p. 199, pl. v. f. 10. Easily distinguished from *H. polyodon* by its wide, toothless aperture.

***H. biplicata**, G. B. Sow.—Described in the appendix to Mr. Darwin's work on Volcanic Islands, p. 155.

***H. bilamellata**, G. B. Sow.—From Side-Path road, near The Briars. Described in Mr. Darwin's work, with the last species, and figured in "Proceed. Geol. Soc.," March 10, 1852, p. 199, pl. v. f. 8.

Bulimus, Bruguière.

***B. auris-vulpina**, Chemn.—This true native, "The great extinct Land Snail of St. Helena," is now found only in a semi-fossil condition on the north-eastern quarter of the Island. The shells occur in surface-beds of whitish-coloured earth on the north-western side of Flagstaff Hill, at an altitude of 1611 feet above the sea, where they have probably died or been carried by surface rain-water many centuries ago. They are almost colourless, being of a dirty brownish-white appearance. Being exceedingly anxious to discover if this creature still lived, I explored the locality very carefully, about four years ago, and enlisted the sympathies of some of the peasantry in my cause. The wife of a labouring man, living in a small cottage in the valley at the back of Longwood, assured me that she often saw them alive, and that after heavy rains they came out of the earth and fed upon the Hottentot Fig plants. Thinking she meant the common garden snail (*Helix aspersa*), so abundant in the same neighbourhood, I examined her on this point; but so positive was she that she had seen the real, living *Bulimus auris-vulpina*, and that her children had used them as playthings, which statement the children confirmed, that I felt scarcely able to doubt their existence still in a living state. Possibly some few may lurk hidden somewhere; but, considering the changes which have taken place in the physical character of that part of the Island, and that the offer of a liberal reward to my sanguine acquaintance failed to produce a living specimen, I must confess that I am still sceptical upon this point. It has been recently stated that this remarkable shell is found in a living state in China, but so interesting a discovery requires confirmation. It has no living analogue in Africa, but is said to be "a member of a group characteristic of Tropical America (to which the names *Plecochilus*, *Pachyotis*, and *Caprella* have been

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given), including *B. signatus*, *B. bilabiatus*, *B. goniostomus*, and *B. sulcatus*." "The only other group of *Bulimi* resembling the St. Helena shells occurs in the Pacific Islands; *B. calidonicus*, at Mulgrave Island; *B. auris-zovinæ*, at the Solomons; and *B. shongi*, in New Zealand."

***B. darvinianus**, Forb.—With the following six species, all of which are natives of the Island, this shell is now found only in a semi-fossil state, embedded in the surface-soil in the ravines formed by rain, on the north-eastern quarter of the Island, at altitudes from 1200 to 1700 feet above the sea. They are all distinguished by being slenderer and smaller than the last species. Figured by the late Professor Forbes in "Proceed. Geol. Soc.," March 10, 1852, pl. v. f. 1.

***B. blofeldi**, Forb.—Found in the surface-soil on the Side-Path road above The Briars. Figured *Ibid.* pl. v. f. 2.

***B. sealeianus**, Forb.—Figured *Ibid.* pl. v. f. 3.

***B. subplicatus**, G. B. Sow.—Figured *Ibid.* pl. v. f. 6. Also described in appendix to Mr. Darwin's work on Volcanic Islands, p. 155. See *Cochlicopa subplicata*.

***B. terebellum**, G. B. Sow.—A species more cylindrical in form than the last. Figured *Ibid.* pl. v. f. 5. Also described in appendix to Mr. Darwin's work on Volcanic Islands, p. 155. See *Cochlicopa terebellum*.

***B. fossilis**, G. B. Sow.—Figured and described with the last species, pl. v. f. 4. Found in the surface-soil on Side-Path road above The Briars. See *Cochlogena fossilis*.

***B. relegatus**, Benson.

***B. helena**, Quoy.—A stout, opaque shell, about three-quarters of an inch in length, found under the dying shrubs on The Barn, at an altitude of 2000 feet above the sea. It is a native, and although the shells are now dead, they appear of more recent date than the former species, and are of a South African, Mozambique, and Seychelle Island type.

Pupa, Lamarck.

P. umbilicata, Draparnaud.—A little British Snail, probably introduced in the earth with plants, easily distinguished by its minuteness. It is very abundant on the high lands, where, in every

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garden or damp spot, it is found in large numbers clinging to rotten wood, stumps of trees, and old palings.

Achatina, Lam.

*A. exulata, Benson.—Both this and the following species are now found only in a semi-fossil state embedded in the surface-soil on the Side-Path road above The Briars, &c.

*A. subplicata, G. B. Sow.

ORDER SIPHONOBRANCHIATA.

Fam. Conidæ.

Conus, Linn.

*C. testudinarius, Martini.—Picked up, but not alive, on the windward sea coast.

*C. irregularis, G. B. Sow.—Found under similar circumstances as the former species.

Fam. Cypræidæ.

Marginella, Lam.

*M. n. sp.—A very beautiful little pearly-white shell, about one-eighth of an inch in length, found amongst the sand in the pools on the West Rocks.

Cypræa, Linn.

*C. lurida, L.—A rather large dark brown shell, about an inch and three-quarters in length, picked up somewhat abundantly, but not alive, on the windward coast.

*C. spurca, Lam.—A smaller species, of a light brown colour, spotted or mottled in appearance; found under similar circumstances as the last.

*C. turdus, Linn.—A still smaller species, about three-quarters of an inch long, brown in colour, with spotted sides, found with the other species.

C. moneta, Linn.—The common white money-cowrie is occasionally picked up on the beach, but only in a dead state; and, as it is often carried about in ships, especially those trading on the coasts of Africa, it may possibly have fallen overboard in the roadstead

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and been washed on shore; if this is the case, it cannot properly take a place amongst the shells of the Island.

Fam. Nassidæ.

Cassidea, Bruguière.

***C. testiculus**, Linn.

Nassa, Lam.

***N. incrassata**, Ström. var.—A very beautiful little white and brown shell, about a quarter of an inch in length, found amongst the sand in the pools on the West Rocks, but not alive. It is a British species.

Columbella, Lam.

***C. cribraria**, Lam. (H. and A. Adams).—A beautifully-marked, smooth, brown and white shell, about one-third of an inch in length; found under similar circumstances as the above.

Cominella, Gray.

***C. lugubris**, C. B. Adams.—A small shell, not unlike the last in appearance, but having an irregular surface; found under similar circumstances.

Fam. Muricidæ.

Triton, Lam.

***T. variegatus**, Lam.—A large conch, about ten or eleven inches in length; rarely seen. I obtained two living specimens, which came ashore at Lemon Valley.

***T. olearium**, Linn.—A large yellowish-brown shell, about three inches long; found on the Windward Coast, but rarely, and not living.

Ranella, Lam.

***R. cælata**, Broderip.—A large yellowish-brown shell, about two inches long, picked up in a dead state on the Windward Coast. It occurs at Panama.

Murex, Linn.

***M.** n. sp.—An irregular rough-shaped shell, about three-fourths of an inch in length, found alive in considerable numbers adhering to the rocks around the coast at high-water mark.

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Fam. Buccinidæ.

Purpura, Adanson.

***P. rudolphi**, Lam.—A shell about an eighth or a quarter of an inch in length; found abundantly in a living state adhering to the rocks around the sea-coast at water-mark.

ORDER PECTINIBRANCHIATA.

Fam. Patellidæ.

Patella, Linn.

***P. cærulea**, Lam.—The Blue Limpet of St. Helena, found plentifully alive and sticking to the rocks on the sea-coast about high-water mark.

***P. plumbea**, Lam.—Found also alive with the other species.

Tectura, Aud. & Mlne. Ed.

***T. virginea**, Müll.—A minute limpet-shell, of a tortoise-shell appearance, picked up on the sea-shore.

Hipponyx, Defrance.

***H. mitrula**, Lam.—Found living, but not common, clinging to the rocks at water-mark on the Windward Coast; a shell about one-fourth to one-half an inch in diameter.

***H. radiatus**, Quoy and Gaimard.—A species similar to but smaller than the last.

Fam. Fissurellidæ.

Fissurella, Bruguière.

***F. arcuata**, G. B. Sow.—A small limpet-shaped shell, picked up on the sea-shore abundantly, but not alive.

Fam. Littorinidæ.

Littorina, Fer.

***L. helenæ**.—A small periwinkle, found abundantly alive and sticking to the rocks all around the sea-coast at and above high-water mark.

***L. striata**, King.—Also found alive with the other species.

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Fam. Scalariidæ.

Scalaria, Lam.

*S. modesta, C. B. Adams.—A very beautiful, fluted, spiral shell, about three-quarters of an inch in length, found alive on the Windward Coast adhering to the rocks. Very rare.

Fam. Pyramidellidæ.

Odostomia, Flem.

*O. circinata, H. Adams.

Fam. Ianthinidæ.

Ianthina, Lam.

*I. fragilis, Bruguière.—This beautiful purplish-blue and white shell is cast ashore in a living state in large quantities on the beach at Sandy Bay, on the windward side of the Island, during strong S.E. trade-winds, and with it are associated large numbers of the Portuguese Man-of-War and a species of *Velella*.

Fam. Eulimidæ.

Eulima, Risso.

*E. n. sp.—A very beautiful small, long, thin, pearly-white shell, about one-third of an inch in length, found in a dead state in the pools of the West Rocks, but in good preservation and apparently recent.

Fam. Naticidæ.

Natica, Bruguière.

*N. nitida, Donovan.—A British shell found on the sea-shore.

CLASS III.—CONCHIFERA.

Order Lamellibranchiata.

Fam. Ostreidæ.

Ostrea, Linn.

*O. crista-galli, Linné.—This scallop-lipped Oyster, which is common in the Asiatic seas, is occasionally taken in a living state off St. Helena at a depth of fifty or sixty fathoms.

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Fam. Aviculidæ.

Pinna, Linn.

***P. pernula**, Chemnitz.—I obtained only one specimen of this large shell, which had been washed ashore on the beach at Lemon Valley. It did not contain an occupant.

Avicula, Lam.

***A. hirundo**, Linn.—This shell, which is known on the English and the Mediterranean coasts, is also found on the sea-beach at St. Helena.

Fam. Mytilidæ.

Mytilus, Linn.

***M. edulis**, Linn.—The Mussel, which is common on the English and Mediterranean coasts, is found alive adhering to the long pieces of seaweed which drift on shore at Sandy Bay beach.

***M. crenatus**, Lam.—A yellowish-brown bivalve, found with the other species on the floating seaweed.

Lithodomus, Cuv.

***L. lithophagus**, Linn.—This perforator or stone-borer is to be found embedded in its holes in the specimens of *Lithothamnion*, which are washed up on the sea-beach at Lot's Wife Ponds and other places on the Windward Coast.

Fam. Arcidæ.

Arca, Linn.

***A. domingensis**, Lam.—A whitish shell, about half an inch in length, found in the pools on the sea-shore, and in such a condition as to warrant the belief that it exists there in a living state.

Fam. Lucinidæ.

Lucina, Bruguière.

***L.** n. sp.—A flat white shell, about half an inch in diameter, found under the same circumstances as the last, and in good preservation.

Fam. Chamidæ.

Chama, Linn.

***C. gryphoides**, Linn.

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ORDER SIPHONATA.

Teredo, Linn.

T. navalis? Linn.—The Common Sea-Worm inhabits also that portion of the South Atlantic around St. Helena, and is as destructive to timber under water as in other parts of the world, but fortunately it has little opportunity for exhibiting its destructiveness at the Island; the sea-bottom being too hard and rocky to admit of driving piles, there are no piers or sea-works of timber in existence.

III. CŒLENTERATA.

CLASS I.—ACTINOZOA.

ORDER CORALLIGENA.

The absence of coral at St. Helena is remarkable. With the exception of one species there is none on the coast, and but two or three kinds have been discovered in deep water. These have been identified through the kindness of Dr. Gray, and Mr. Saville Kent, of the British Museum.

Phymactis.

***P. sanctæ helenæ,** Mlne. Ed.—A dark-brown leather-like substance sticking to the rocks on the shore about high-water mark, sometimes expanded, at others closed like a hemispherical-shaped cushion. In the pools on the West Rocks, Lot's Wife Ponds, and elsewhere on the coast, several other species of sea anemones exist and exhibit their lovely purple and white tints, though only to disappear the moment they are touched. It is to be hoped that drawings of them, which would be both interesting and valuable, may be made by some future visitor at the Island.

Bugula, Oken.

***B. neritina.**—A brown, fine silk-like coralline, of wide distribution. At St. Helena it is found entirely covering pieces of wreck or timber that have been floating about in the sea and then washed ashore.

Antipathes, Pall.

***A. pinnatifida,** Mlne. Ed.—The Sea-tree of St. Helena,

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where it is often brought up from deep water by fishermen's lines and on boats' moorings. It is also found in the seas of the Indian Ocean.

Sclerohelia.

***S. hirtella,** Mlne., Ed.—The Branching Coral of St. Helena, where it is taken, by fishermen's lines, boat moorings, &c., from a depth of 60 or 80 fathoms. It is of a bright reddish pink colour when taken, but soon bleaches pure white by exposure.

Balanophyllia, Wood.

***B.** sp. ?—This beautiful, bright orange-coloured, cup-shaped Coral has been detected by Professor Duncan growing upon a specimen of an oyster (*Ostrea Crista-galli*) taken from about 50 fathoms water. It is rare, but occasionally taken in good-sized masses by fishermen's tackle, from deep water on the leeward side of the Island.

Mæandrina? Lamk.

***M.** sp. ?—Brain Coral, found growing in small masses from two to six inches in diameter about high-water mark on the sea-coast, more particularly on the windward side of the Island near Sandy Bay.

CLASS II.—HYDROZOA.

Order Siphonophora.

Physalis, Til.

P. atlantica, Less.—The Portuguese Man-of-War is swept ashore at Sandy Bay beach whenever a strong south-east trade wind succeeds to a partial calm. It may then be picked up by thousands.

Velella, Lamk.

V. limbosa?, Lam.—A white horny substance, which, brought in by the waves, accumulates amongst the shingle on Sandy Bay beach.

IV. ANNULOSA.

CLASS I.—INSECTA.

It may at first appear that the insect world of so small a place is easily mastered, but a fuller knowledge of the locality will prevent such an idea being long encouraged. Were the whole Island to constitute one low-lying flat or plain it might be so; but,

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with its variations in climate, its different altitudes, its alternating valleys, sheltered glens, and exposed plains, in some parts richly clothed with verdure, in others barren sunny wastes, there is an immense diversity of habitations for insect life. It is remarkable how in many cases insects occupy little colonies of their own, and I have often found that a turn in the road, the intervention of a small hill, or the addition of a few yards in altitude, would take me completely out of the habitat of that particular insect for which I was seeking.

It has been remarked, and I am to some extent inclined to agree therewith, that introduced insects, after a period of existence, disappear from the Island. This is known to have been the case with the Honey Bee and also the Death's-Head Moth; and as peach trees are again plentiful and no insect now exists answering to the following description, it may be presumed that it also has taken its departure:—"The Peach used to be the most abundant fruit in the Island, but there are few of these now remaining. This valuable fruit tree, which was introduced here many years ago, throve and multiplied amazingly." . . . . "But about thirty years ago an insect, imported either from the Mauritius or from the Cape of Good Hope, along with the Constantia Grape, has destroyed almost all the Peach trees, and no means have hitherto been found of checking its ravages. It settles on the trunk of the tree, which becomes covered with a white crust, and shortly after withers and dies. The inhabitants have tried all methods of destroying it, but hitherto without effect. They have smoked the trees, scraped off the white crust, and washed the stem with a decoction of tobacco, &c. But none of these methods have answered. This destructive insect is so minute that it is not visible to the naked eye. It attacks some other trees, particularly the native Gum-wood trees and the Mulberry; but the trunk of the Peach seems to be its favourite lodgment. It is a curious circumstance that this insect, which, according to the testimony and belief of the inhabitants, was imported with the Constantia Vine from the Cape of Good Hope, or with some shrubs from the Mauritius, should not now settle on any of the plants on which it is supposed to have been brought hither. Its ravages are almost exclusively confined to the Peach, the Mulberry, and one or two of the native island shrubs. An old inhabitant, describing and lamenting the ravages it had made, could not forbear crying out, the tears almost starting into his eyes—'We would with pleasure have

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given up to it half the trees of the place had it only spared our Peaches, which we valued so much.' But this inexorable little foe will listen to no such composition; and, having hitherto resisted every offensive means employed against it, is likely to continue its progress till it has completely deprived the inhabitants of this wholesome and delicious fruit."*

As the inhabitants at the present time enjoy perfect immunity from any insect of this kind, and rejoice in their peaches as fully as ever their ancestors did, they have every reason to take courage and look for the realization of their devout hope that the Termites or White Ants, which have destroyed their homes and property in Jamestown, may before very long be exterminated.

It is not difficult to account for the presence of imported insects. The Island having shared for about three centuries and a half in Europe's traffic and commerce with the Eastern World, they would be conveyed thither in ships, in bales of merchandize, and even in timber, just as the White Ant was taken all the way from South America to Africa and thence to St. Helena.

There is another mode of conveyance, which will doubtless account for the presence of those European and garden insects which are common, and that is the Wardian cases filled with earth and living plants, which have been so largely introduced through many years into the Island.

Order Coleoptera.

Eleven years ago, a few species of Beetles which Mr. Bewicke collected at St. Helena were investigated by Mr. T. Vernon Wollaston, M.A., F.L.S., who published an account, with figures of some of them, in the *Journal of Entomology* for December, 1861, and it is from the same eminent naturalist and high authority that science has received a careful examination and report of 95 species,† nearly all of which, mainly owing to his encouragement, I collected at the Island during my residence there. Mr. Wollaston's most valuable

* A Description of the Island of St. Helena, published by R. Phillips, 6, Bridge Street, Blackfriars. 1805.

† Since writing this account, Mr. Wollaston has increased the total number of species to 96, by the addition of *Cydonia vicina*, Muls., which Mr. G. R. Crotch informs him he possesses from St. Helena, and which Mr. Wollaston records in the Annals of Natural History for February, 1872, together with a diagnosis of *Microxylobius westwoodii*, which he had lately had an opportunity of examining and recording as a *distinct* species from *M. vestitus*.

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papers, which have appeared in the *Annals and Magazine of Natural History* for October, 1869, and December, 1871, demand a special reference for a study of the Coleoptera of St. Helena, since they contain much important matter in addition to what I have here quoted. The Beetles act a much larger part in the destruction of vegetation than at first sight appears, through their being nocturnal in their depredations; but the leafless grape vines and perforated lace-like leaves of the loquat and oak trees at St. Helena plainly show how much mischief these little creatures are capable of working. In a scientific point of view, they form perhaps the most wonderful portion of this isolated insect fauna; and Mr. Wollaston writes on the subject as follows: "That a special interest should attach to the productions of any island which is unusually remote, I need scarcely state; and when we recollect that St. Helena is about 1200 miles from the nearest point of the African continent, we shall at once acknowledge that, for the geographical naturalist, a more isolated field could hardly perhaps be found. The manifest deterioration of the Island, in a scientific point of view, during the last 300 years, is a subject on which I need not dilate; for the primeval forests which are said to have more or less clothed it at its discovery have succumbed beneath the ruthless hand of 'civilization,'—a few detached patches alone remaining, on the extreme summit and more inaccessible slopes, to harbour what is left of that noble fauna the fragments of which are so eccentric that one cannot but suspect the *quondam* occurrence of many intermediate links (now, in all probability, long exterminated) which must, as it were, have 'articulated them on' to the recognised types with which we are familiar. Of course in an island of this kind, which has become intensely cultivated since the period of its colonization, we naturally should not expect to meet with many traces of its primeval species; for the gradual rooting-out of the native vegetation, and the introduction, year after year, of more 'useful' plants (chiefly from European latitudes, but in the present instance, perhaps, partly from the Cape of Good Hope), accompanied by their inevitable train of insect parasites, would so far alter the entire country as to destroy the apparent peculiarity of its productions, and give a mixed character to its fauna and flora to which aboriginally it had no kind of claim. Happily, however, in cases like this, when the species are brought fairly together, it is usually not difficult for a practised eye

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to separate *in a general way* the species which are strictly endemic from those which have subsequently been introduced and become naturalized:" and thus it is that out of the 95 which are enumerated in the following catalogue there are only 17 concerning which Mr. Wollaston (in that particular respect) has much doubt. He says: "Indeed what we may term the '*ultra*-indigenous' species speak at once, and unmistakably, for themselves; and in like manner as regards those which are more or less cosmopolitan, or which have found their way, through human agencies, into nearly every country which has the slightest intercommunication with the civilized world, there can be no question. These manifest *importations* last mentioned, which, however, figure so largely in the St. Helena list, have no real bearing on the true fauna of any single region beyond those whence they were originally disseminated, and for the most part owe their presence in local catalogues merely to the amount of research which may happen to have been made in the houses, stores, gardens, and merchandize around the various ports and towns. Yet, on the other hand, they cannot be omitted or ignored; for some of them may have taken so firm a hold on the newly acquired area as to occupy a prominent place amongst its primeval organisms, and even perhaps to have aided indirectly in their very extermination. This latter contingency, however, seems to me to represent the exception rather than the rule; for I have myself generally observed that the species which are manifestly imported linger almost exclusively about the 'inhabited regions,' and seldom attach themselves to those which are emphatically wild and uncultivated—and even if in a few instances they should do so, that their *modus vivendi* is totally different from that of the veritable *autochthones* of the soil." Mr. Wollaston, bearing in mind the above considerations, concludes that out of the 95 species, only 42 (or less than one-half) appear to be *unmistakably* indigenous, whilst the *evidently imported* ones (species which through human agencies have become widely disseminated over more or less of the civilized world) amount to about 36, leaving a residuum of 17 which he would perhaps characterize as "doubtful," but the majority of which, nevertheless, have *in all probability* been naturalized.

Those which Mr. Wollaston believes to be indigenous, and not derived from any other country, are the following:—

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Haplothorax burchellii.
Calosoma haligena.
„ helenæ.
Bembidium mellissii.
Adoretus versutus.
Pentarthrum subcæcum.
Nesiotes squamosus.
„ asperatus.
„ horridus.
Trachyphlœosoma setosum.
Sciobius subnodosus.
Heteronychus arator.
Mellissius eudoxus.
„ adumbratus.
Anchastus atlanticus.
Microxylobius angustus.
„ cossonoides.
„ dimidiatus.
„ westwoodii.
„ vestitus.
„ lacertosus.
Microxylobius lucifugus.
„ terebrans.
„ obliteratus.
„ debilis.
„ chevrolatii.
„ conicollis.
„ monilicornis.
Nitioxenus bewickii.
„ ferrugineus.
„ rufopictus.
„ dimidiatus.
„ alutaceus.
Hoincœodera rotundipennis.
„ coriacea.
„ alutaceicollis.
„ pygmæa.
Longitarsus helenæ.
„ mellissii.
Cydonia lunata.
Hopatrum hadroides.
Mordella mellissiana.

whilst the thirty-six which he gives as having followed in the track of civilization and commerce are these:—

Læmophlœus pusillus.
Mycetæa hirta.
Typhæa fumata.
Dermestes cadaverinus.
„ vulpinus.
Attagenus gloriosæ.
Aphodius lividus.
Cryptophagus affinis.
„ badius.
„ gracilipes.
Corynetes rufipes.
Gibbium scotias.
Anobium velatum.
„ paniceum.
„ striatum.
Anobium confertum.
Homalota coriaria.
Rhizopertha bifoveolata.
„ pusilla.
Hylurgus ligniperda.
Sitophilus oryzæ.
Otiorhynchus sulcatus.
Aræocerus fasciculatus.
Alphitobius diaperinus.
„ piceus.
Gnathocerus cornutus.
Tribolium ferrugineum.
Tenebrio obscurus.
Creophilus maxillosus.
Carpophilus dimidiatus.

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Carpophilus hemipterus.	Curtomerus pilicornis.
Trogosita mauritanica.	Coptops bidens.
Silvanus surinamensis.	Philonthus longicornis.

leaving the following seventeen as "doubtful," but which have *most likely* been, through various causes, naturalized :—

Pristonychus complanatus.	Bruchus advena.
Dactylosternum abdominale.	Aspidomorpha miliaris.
Sphæridium dytiscoides.	Epilachna chrysomelina.
Cryptamorpha musæ.	Zophobas concolor.
Tribalus 4-striatus.	Thea variegata.
Saprinus lautus.	Xantholinus morio.
Tomicus æmulus.	Oxytelus alutaceifrons.
Stenoscelis hylastoides.	„ nitidifrons.
Bruchus rufobrunneus.	

Mr. Wollaston further says: "If it be permissible, from material so limited as that which has hitherto been amassed, to build up a rough estimate of the true Coleopterous population of St. Helena, it is clear that the 'cosmopolitan' species, which have manifestly followed in the wake of mere commerce and civilization, must be altogether set aside; and in that case, giving the more or less equivocal ones the advantage of the doubt, we should have fifty-nine to represent the aboriginal (and evidently much reduced) fauna of this remote deteriorated island. When commenting, in 1861, on even the fourteen species which had been collected by Mr. Bewicke, I called attention to the extraordinary fact that not only did the weevils number nearly two-thirds of the entire batch, but were likewise *all of them endemic, both as regards species and genus!* whilst certainly three, if not indeed more, out of the remaining six (belonging to other families) possess a wide geographical range. This led me to remark that the *Curculionidæ* would, in all probability, be found to play a most important part in the Coleopterous fauna of St. Helena; and I then expressed my belief, *from the mere diversity of configuration* presented by the five species of *Microxylobius* which had been brought to light, that the members of that abnormal little group would *almost certainly* be ascertained to be locally abundant, and, 'since the same might be urged with no less force for that extraordinary genus *Nitioxenus*,' that there was 'every

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reason to suspect that the *Rhynchophora* of this mountain-island are, in proportion to its size, both numerous and eccentric.'

"I have thought it worth while to allude to these casual observations of my own, because they have been so strictly and literally verified. Not only have *Microxylobius* and *Nitioxenus* been augmented by newly discovered exponents, but everything tends to prove that they are immeasurably the most significant of the island forms; indeed an undescribed and closely related *genus* has been detected alongside the latter, as though still further to enhance the local importance of that particular Anthribideous type. Scarcely less characteristic, however, than even these three, are, perhaps, the obscure Curculionideous groups *Nesiotes* and *Trachyphlœosoma;* and, if indeed it be truly aboriginal (and there is no reason for suspecting the contrary), that curious little blind Cossonid, the *Pentarthrum subcœcum*, may be added to the number, in which case the *Rhynchophora alone* would monopolize no less than six of the most anomalous endemic *genera!* Indeed the only other manifestly indigenous forms which I should define as *par excellence* 'abnormal' are *Haplothorax* of the Carabidæ, and perhaps *Mellissius* of the Lamellicorns, neither of which, however, are so eccentric in their structure as the six Rhynchophorous ones to which I have just alluded.

"*Apart*, however, from their singularity of type, it may be useful, in order to illustrate the mere numerical preponderance of the weevils (as regards both species and genus) in the St. Helena catalogue, to distribute the fifty-nine members of the fauna (to which I have already called attention) under the twelve great sections into which the Coleoptera are usually supposed to arrange themselves. I am well aware that the paucity of the list itself, and *perhaps* likewise the totally unexplored state of the pools and streams, may be sufficient to account for many an apparent anomaly—such as, for instance, the complete absence of the water-beetles and *Brachelytra;* but still, after making every allowance for the manifest imperfection of the material, the broad fact does undoubtedly remain that the researches of Messrs. Melliss, Bewicke, and others (and that, too, whilst by no means neglecting the minuter groups) have brought to light more representatives of the *Rhynchophora* than of all the other departments combined. And that this is truly the case, a glance at the following table will suffice to show:—

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Rhynchophora	31
Cordylocerata (*i.e.* Lamellicorns, &c.)	6
Geodephaga	5
Brachelytra	4
Heteromera	3
Phytophaga	3
Pseudotrimera	3
Philhydrida	2
Necrophaga	1
Priocerata	1
Hydradephaga	0
Eucerata	0

"If we exclude from consideration the thirty-six species (above alluded to) which have *unquestionably* been brought into the Island through the medium of commerce, and which enter into the fauna of nearly every civilized country, I need scarcely add that the St. Helena list, as hitherto made known, possesses nothing whatever in common with those of the three sub-African archipelagos which lie further to the north—though the great development of the Curculionideous sub-family *Cossonides* is a remarkable fact which is more or less conspicuous throughout the whole of them."

Fam. Carabidæ.

Haplothorax, Waterh.

***H. burchellii,** Waterh.—This truly indigenous and noble black carabid may be distinguished by its being the largest Beetle that is found in St. Helena. It is confined to the north-eastern corner of the Island, at an altitude above the sea of 2000 feet. It appears to have been detected by the African traveller, Dr. Burchell, a good many years ago; it is now extremely scarce, being met with occasionally only, after considerable hunting, under stones on Deadwood or Flagstaff, and sometimes in the ploughed fields at Longwood.

Calosoma, Weber.

***C. haligena,** Woll.—A large dull brassy or nearly black Beetle, about an inch in length; it is, with the other species, easily distinguished from the *Haplothorax* by the presence of metallic spots

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on the elytra or wing-covers. It inhabits both the high and low land, but chiefly the north-eastern quarter of the Island, where it may be detected, generally in pairs, under stones, or sometimes in broad daylight walking across a roadway, in the neighbourhood of Rupert's Valley or Longwood. Mr. Wollaston says: "It seems to belong to the same type as the African species *senegalense* and *rugosum*, from the former of which it is nevertheless abundantly distinct. From the latter it differs (*inter alia*) in being more depressed, and in having its coppery punctures smaller, in its prothorax being more deeply rugose before and behind, and in its legs being less robust." This creature emits a most unpleasant odour when taken in the hand, and is frequently covered with very small parasitic insects.

***C. helenæ**, Hope.—A Beetle very like the last species in appearance, but smaller and blacker, and perhaps more generally distributed in the Island.

Pristonychus, Dej.

P. complanatus, Dej.—A glossy black Beetle, rather more than half an inch in length, inhabiting the high land of the central parts of the Island; found under stones, fallen trunks of trees, &c. Mr. Wollaston writes of it thus: "It is a species of Mediterranean latitudes—occurring in Portugal, Spain, the South of France, Italy, Sardinia, Sicily, Egypt, Barbary, &c. It is abundant also in the Azores, Madeiras, and Canaries, and has been reported even from Chili."

Bembidium, Auct.

***B. mellissii**, Woll.—A very beautiful little light-brown Beetle, one-sixth of an inch in length, taken from the high land, of which Mr. Wollaston writes, that "it belongs to the same group as the European *B. varium* and *flammulatum*. It is well distinguished by its dull brassy-green head and prothorax, and lurid-testaceous elytra—the latter of which are ornamented with a number of darker fasciæ and cloudy patches, forming (on each elytron) a large sub-apical blotch, a postmedial zigzag (or deeply dentate) fascia, and two squarish antemedial spots placed in an oblique direction (from the shoulder) on the fore disk. The elytral striæ are coarsely and closely punctured, or crenate, and there are two large punctiform impressions on the third interval from the suture."

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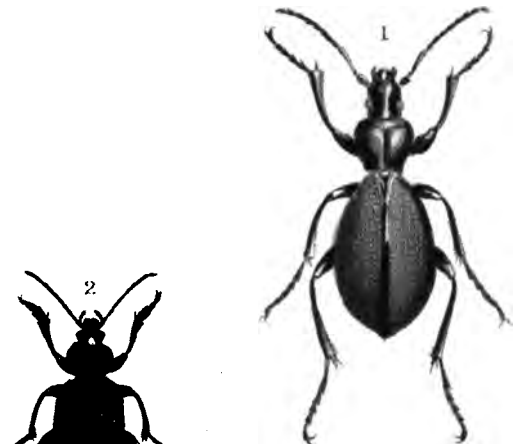


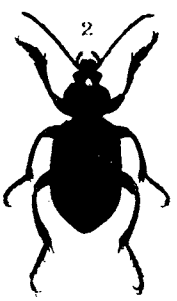


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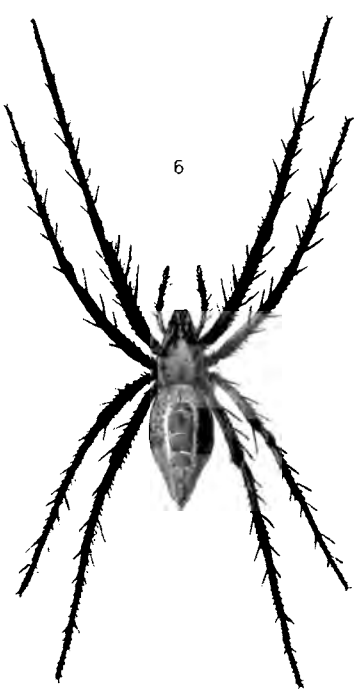
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E.W. Robinson, lith.

1. HAPLOTHORAX BURCHELLII *p. 187.*
2. CALOSOMA HALIGENA *p. 137.*
3. MELOLONTHA ALUMBRATUS *p. 145.*
4. SCIOBIUS SUBNODOSUS. *p. 155.*
5. CYDONIA LUNATA *p. 159.*
6. PASITHEA PULCHRA *p. 216.*

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Fam. Sphæridiadæ.

Dactylosternum, Woll.

D. abdominale, Fab.—Of this shiny, broad, black Beetle, about a quarter of an inch in length, Mr. Wollaston writes: "Several specimens of this widely spread insect were taken in St. Helena by Mr. Melliss, and there can be no doubt that the species has become naturalized in the Island through human agencies. Although found more particularly in Mediterranean latitudes, it has acquired an extended geographical range—occurring in the Azorean, Madeiran, Canarian, and Cape Verde archipelagos, and being reported even from Madagascar, Bourbon, and the East Indies."

Sphæridium, Fab.

S. dytiscoides, Fab.—Mr. Wollaston says: "I have no means of determining what this insect (the diagnosis of which I have copied *verbatim* from the 'Systema Entomologiæ') really is; but, judging from the rough figure of it which is given by Olivier, it would appear to me to be either a true (though possibly small) *Sphæridium* or else an unusually large *Cercyon*, or (still more probably perhaps) a *Cyclonotum*—with the head and prothorax rufo-ferruginous and the elytra black. Nevertheless, as it was described by Fabricius from a specimen (or specimens) in the cabinet of Sir Joseph Banks, which had been obtained at St. Helena, I have no choice but to include it in the present enumeration; and I can only hope that some future collector in the Island may again bring the species to light, and so enable us to decide positively what it is."

Fam. Nitidulidæ.

Carpophilus, Steph.

C. dimidiatus, Fab.—A small black Beetle, of which Mr. Wollaston writes: "A widely diffused insect, which appears to have been naturalized, through the medium of commerce, in most parts of the civilized world, and which has established itself in the Madeiran, Canarian, and Cape Verde archipelagos."

C. hemipterus, Linn.—A thicker, shorter species, and, as Mr. Wollaston says, "equally diffused with the last (through human

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agencies) over the civilized world. It is common, chiefly in the warehouses and stores, throughout the Madeiran, Canarian, and Cape Verde groups."

Fam. Trogositidæ.

Trogosita, Oliv.

T. mauritanica, Linn.—A dark reddish-brown, flat Beetle, one-third of an inch in length, taken in the town, of which Mr. Wollaston says: "Of course totally unconnected with the true fauna of the Island, yet, having been taken by Mr. Melliss, it would seem at any rate to have established itself in the storehouses and granaries of St. Helena, in like manner as it has done in most regions of the civilized world. It is very common throughout the Madeiran, Canarian, and Cape Verde archipelagos."

Fam. Cucujidæ.

Læmophlœus, Erichs.

L. pusillus, Schön.—A minute brown Beetle, one-tenth of an inch in length, of which Mr. Wollaston writes: "An insect very liable to transmission, along with grain and other articles of commerce, throughout the civilized world; but, having clearly no connexion with the real fauna of the Island, it is of little geographical importance. The species has, in like manner, established itself in the Madeiran and Canarian groups."

Cryptamorpha, Woll.

C. musæ, Woll.—A light-brown Beetle, one-sixth of an inch in length, of which Mr. Wollaston writes: "In Madeira it occurs beneath the loose outer fibre of banana stems, in and around Funchal;" and in St. Helena I found it abundantly amongst the old banana trees and rotting vegetation in a pond at The Hermitage, 2000 feet above the sea.

Silvanus, Lat.

S. surinamensis, Linn.—A minute brown Beetle, of which Mr. Wollaston writes: "A single example of this almost cosmopolitan *Silvanus* is amongst the collection of insects taken recently by Mr. Melliss at St. Helena; and although, of course, totally unconnected

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with the native fauna of the Island, yet, as the species is allowed to figure in the local list of nearly every civilized country, we can scarcely deny it a place in our present enumeration." It is, like many of the imported species, found amongst dead leaves and vegetation in gardens.

Fam. Cryptophagidæ.

Cryptophagus, Hbst.

C. badius, St.—A small light-brown Beetle, which, Mr. Wollaston says, "seems to be the common European *cryptophagus badius;* and I may add that Mr. Rye is likewise of opinion that it should be referred to that species. I have therefore little hesitation in recording the *C. badius* amongst the insects which have been naturalized in the Island through the medium of commerce, though the individual now before me presents perhaps a *slight* shade of difference from the ordinary type."

C. affinis, St.—A somewhat smaller species than the last, of which Mr. Wollaston writes: "A common European *cryptophagus* which—like *Læmophlœus pusillus*, *Mycetæa hirta*, and others—must clearly have been imported into the Island from more northern latitudes; and therefore, even if fairly established (as is the case with it in the Azorean, Madeiran, and Canarian groups), it can of course have no connexion whatever with the original fauna of St. Helena."

C. gracilipes, Woll.—A still smaller species than the others, taken on the high land amongst garden rubbish, &c. Mr. Wollaston says: "Several examples of this most distinct and interesting little *Cryptophagus* are amongst the Coleoptera collected at St. Helena. It differs very essentially from every member of the genus with which I am acquainted; and Mr. Rye, who has paid unusual attention to the *Cryptophagi*, assures me that he is not aware of any species upon record with which it can be made to agree. Apart from its rather small size, convex body, and dark rufo-ferruginous hue, its most distinctive features consist in its extremely coarsely and densely punctured surface, which is beset all over (though especially on the elytra) with very elongate and nearly erect, soft, whitish hairs. Its limbs, too, are marvellously slender—even more so, perhaps, than is the case in the particular section of the group (represented by the *C. Vini* in Europe, and *C. hesperius* in the Canarian archipelago) to which it belongs. Its incrassated anterior prothoracic angle is

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rather largely developed, with the hinder point of it more or less acute; but there seems to be no central lateral denticle, the sides being merely minutely crenulated—so minutely, indeed, as sometimes to appear nearly simple."

Fam. Mycetophagidæ.

Mycetæa, Steph.

M. hirta, Gyll.—A very small, widely distributed, European Beetle, which Mr. Wollaston considers to have been naturalized in St. Helena, as it has been in the Azorean and Madeiran archipelagos.

Typhæa, Steph.

T. fumata, Linn.—A reddish-brown Beetle, about one-eighth of an inch in length, of which Mr. Wollaston writes: "There is scarcely any insect which has acquired (doubtless through human agencies) a wider geographical range than the common European *T. fumata*; and therefore it is not surprising that it should have been met with by Mr. Melliss at St. Helena. It occurs in the north of Africa, and abounds in the Azores, Madeiras, Canaries, and Cape Verdes; and it has even been reported likewise from the United States."

Fam. Dermestidæ.

Dermestes, Linn.

D. cadaverinus, Fab.—I have not detected this Beetle at St. Helena, but Mr. Wollaston has included it because of its having originally been described by Fabricius (in 1775) from a St. Helena example in the collection of Sir Joseph Banks. "Being peculiarly liable to transmission, in various articles of merchandize and commerce, throughout the civilized world, it has been made to acquire a very extensive geographical range—being recorded not only in Europe, but even from South America, Mexico, Otaheite, the East Indies, Siberia, Arabia, &c.; and it was obtained abundantly, by the late Mr. Bewicke, at Ascension."

D. vulpinus, Fab.—A somewhat oval-shaped, black Beetle, half an inch in length, common about the town and low land in its neighbourhood. It is evidently an introduced insect, which, Mr. Wollaston says, "is eminently liable to accidental dissemination

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along with various articles of commerce and merchandize. It has been established equally in the Madeiran, Canarian, and Cape Verde groups."

Attagenus, Lat.

A. gloriosæ, Fab. — A small, thick, mottled-brown Beetle, about one-sixth of an inch in length, common about the town and low land in its locality; I have caught it crawling over my office table. Its introduction is doubtless due to the medium of commerce, and, Mr. Wollaston says, "it has likewise established itself in the Island of Ascension, and it is reported also from India, Eastern Africa, and America."

Fam. Histeridæ.

Tribalus, Erichs.

T. 4-striatus, Woll.—A Beetle, one-eighth of an inch in length, of which Mr. Wollaston writes: "The rather small size and entirely punctulated surface of this little Histerid, combined with its semicircular *un*carinated forehead, and the fact of its elytra being totally free from a sutural stria (which is only traceable as a very short subscutellar arcuated impression), affiliate it with the small group of species which constitute the genus *Tribalus;* but it seems to differ (*inter alia*) from the whole of them in having *four* very distinct dorsal punctured striæ continued to about the middle of each elytron. Apart from other characters, its piceous-black hue, subrufescent limbs, and perpendicular pygidium will serve additionally to distinguish it."

Saprinus, Erichs.

S. lautus, Woll.—A Beetle, about a quarter of an inch in length, of which Mr. Wollaston says: "The blue tinge (at any rate on the elytra) and by no means small size of this *Saprinus* are somewhat suggestive at first sight of the widely spread *S. semipunctatus;* but the fact of its epistome being divided from the forehead by a strong transverse line, in conjunction with its sutural stria being complete, and uniting in front with the fourth discal one, remove it into a totally different section of the genus—characterized by such North-American species as *javeti*, *patruelis*, and *dimidiatipennis*, which, however, appear to be of considerably smaller stature and less punctured on the surface."

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Fam. Aphodiadæ.

Aphodius, Illig.

A. lividus, Oliv.—A light-brown, glossy Beetle, a quarter of an inch in length, taken amongst decaying oak leaves and herbage in gardens on the high land. Mr. Wollaston says of it: "This widely spread European *Aphodius*—which occurs throughout Northern and Western Africa, and in the Azorean, Madeiran, Canarian, and Cape Verde archipelagos—is an insect which easily becomes disseminated through indirect human agencies (particularly the transportation of cattle), and I feel satisfied has no connexion whatever with the original fauna of so remote an Island."

Fam. Rutelidæ.

SUB-FAM. ANOPLOGNATHIDES.

Adoretus, Castln.

***A. versutus**, Harold.—Well known at St. Helena as the Vine Beetle, in consequence of the devastation it causes to the grape-vines. It is abundant, generally inhabiting the low, warm parts of the Island, especially at The Briars, Maldivia Gardens, Southens, &c., where it is a terrible pest, devouring the leaves and young shoots of the vines so voraciously as very soon to reduce a vine from full leaf to bare stems. As it hides away under stones and wood-work during daylight, only emerging as night comes on, the gardener finds it requires special exertion to keep it in check. The first time I saw this insect was at The Briars, when I was much puzzled to make out what the gardener was about groping under the vines with a lantern in one hand and a soda-water bottle containing hundreds of captured beetles in the other.

Fam. Dynastidæ.

SUB-FAM. PENTODONTIDES.

Heteronychus, Burm.

***H. arator**, Fab.—A very shiny black Beetle, half an inch long, and stout in proportion, very common on the upper central land, where it seems to prefer the neighbourhood of grass-lands and

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hayfields. Often it may be seen crawling lazily across the surface of a roadway or roadside-bank, and frequently lying dead in numbers along the highway-road. Mr. Wollaston writes of it: "The South-African *H. arator* appears to be common at St. Helena, where it was taken by the late Mr. Bewicke in 1860, and subsequently in considerable abundance by Mr. Melliss. It is conspecific with the insect characterized by Blanchard in the Entomological portion of Dumont d'Urville's 'Voyage au Pôle Sud sur les Corvettes l'Astrolabe et la Zélée' (p. 105, pl. 7, f. 6) under the title of *H. sanctæ-helenæ*."

Mellissius (Bates), Woll.

With reference to this genus, Mr. Wollaston writes: "The structural features of the group bring it into close proximity to the Australian genera *Cheiroplatys* and *Isodon*; but a reference to the diagnosis will show that it is abundantly distinct from them both. Unlike them, also, it appears, at any rate in one of the two species described below, to have organs for slight stridulation; and its prothorax is apparently entire in both sexes (for as it is so in fifteen *males* which are now before me, we may conclude that this is equally the case in the opposite sex); and its anterior male tibiæ are not enlarged as in *Cheiroplatys*. The *Mellissii* are practically apterous, their wings being very small and rudimentary, and they seem to be eminently fossorial. In its simple (or unimpressed) prothorax the genus agrees with the European and African group *Pentodon*; but, apart from other differences, the members of the latter have their organs for stridulation exceedingly conspicuous, occupying, however, the central part only of the propygidium."

***M. eudoxus**, Woll.—A shiny chocolate-coloured Beetle, common under the grass and surface-soil of pastures on the high lands.

***M. adumbratus**, Woll.—A species somewhat similar in size and colour to the last, but, being larger, more of a red-chocolate colour, and less glossy, is easily distinguished from it. Both species are plentiful, and occur in similar localities. Their larvæ, the large, fat, whitish grubs called "hog-worms," play so important a part in the destruction of the grass on some of the high lands, by feeding on its roots, that large patches, and sometimes whole fields, are laid bare. General Beatson writes thus:* "There is a white maggot

* Beatson's Tracts.

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('hog-worm,' as it is here named, from hogs being extremely fond of it) which is found in great numbers in old grass-lands when newly broken up. It has not hitherto been injurious to potatoes or crops of corn, yet it is very destructive to pasture-lands. I knew not until lately the cause of the barren appearance I had observed in many parts of the pastures; I had been told it proceeded from the shallowness of the soil, or from barren clays under the soil; but, upon breaking up some old lays, it was discovered that under these *apparently* barren spots, this 'large white grub, with a red head, six short legs, and nine breathing-holes in each side, and measuring from an inch to an inch and a half in length,' had been at work, and had absolutely separated the sward for an inch or more from the subsoil. I have examined many spots where the verdure had disappeared, and invariably have found this destructive maggot. I have seen some taken out at twelve or fifteen inches under the surface, and, at other times, have caught them destructively employed within a few inches of the grass, feeding on its roots and occasioning the mischief." It is said that the only way of destroying these creatures is to turn a herd of swine for a few days into the field where they are; *they* destroy both grass and grubs, but of the two evils they are the least. I have also found this insect under stones on the low barren plains near Prosperous Bay.

Fam. Elateridæ.

Anchastus, Lec.

***A. atlanticus**, Cand.—A long, thin Beetle, three-eighths of an inch in length, black on the upper and somewhat whitish on the under surface. It is found under stones, in the dry earth to the eastward of Arnos Vale; and I have also captured it on the top of Flagstaff Hill, on the eastern side of the Island, at an altitude of 2000 feet above the sea.

Fam. Cleridæ.

Corynetes, Hbst.

C. rufipes, Thunb.—A Beetle which Mr. Wollaston recognises as a common European species, and which has doubtless made its way into St. Helena, as it has to Ascension, the Canarian, and Cape

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Verde archipelagos, through the medium of commerce. It is about the sixth part of an inch in length, and easily recognised by its metallic green colour. It inhabits only the low land in the neighbourhood of the town and Ladder Hill.

Fam. Ptinidæ.

Gibbium, Scop.

G. scotias, Fab.—Like the last, a European species, imported into the Island as it has been at Madeira. Its bright, dark brown, glass-like body, about the size of a large pin's head, and long thin legs, serve easily to distinguish it from the other Beetles.

Fam. Anobiadæ.

Anobium, Fab.

A. velatum, Woll.—This and the three following species, taken from the neighbourhood of the town, are small light-brown Beetles, which Mr. Wollaston recognises as importations into the Island, *A. velatum* also occurring at Madeira.

A. paniceum, Linn., has also established itself in the Azorean, Madeiran, Canarian, and Cape Verde archipelagos.

A. striatum, Oliv.—A common European insect, which, like the last species, has established itself in the above-named islands.

A. confertum, Woll.—Of which Mr. Wollaston says: "Having no information concerning the precise places of capture of Mr. Melliss's various Coleoptera, I cannot but look with suspicion upon a single example of an *Anobium* now before me, as having, in all probability, become introduced into the Island, and been found by him in some house or cultivated spot; yet, as it is well characterized by its very peculiar sculpture, and I cannot identify it with any member of the genus to which I have had access, I have thought it desirable to enunciate the species on the chance that it will be ascertained to have been undescribed."

Fam. Bostrichidæ.

Rhizopertha, Steph.

R. bifoveolata, Woll.—This and the following species, taken

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from the neighbourhood of the town, are both recognised by Mr. Wollaston as imported through the medium of commerce, he having found them also at Madeira and the Cape Verdes in the warehouses and stores. They have doubtless reached St. Helena in bags of rice or casks of flour.

R. pusilla, F.

Fam. Tomicidæ.

Tomicus, Lat.

T. semulus, Woll.—This insect, Mr. Wollaston considers, may be an indigenous one; but as I only met with one specimen, and have no recorded locality to it, I am unable to say whether it was taken from the high or the low land.

Fam. Hylesinidæ.

Hylurgus, Lat.

H. ligniperda, Fab.—A dark brown, almost black, Beetle, a quarter of an inch in length, very common amongst the pine or fir trees on the high lands, about Plantation, and other localities of the same altitude. It is an European insect, which, Mr. Wollaston says, has been also naturalized in the Azorean, Madeiran, and Canarian groups.

Fam. Curculionidæ.

SUB-FAM. COSSONIDES.

Stenoscelis, Woll.

S. hylastoides, Woll.—An almost black, cylindrical-shaped Beetle, one-sixth of an inch in length, taken from the wood of decaying branches of trees on the high land. Mr. Wollaston says of it: "The examples which I originally described of this curious insect, and for the reception of which I found it necessary to establish a new genus, were taken by the late Mr. Bewicke, in 1860, at the Cape of Good Hope; and it is an interesting fact, therefore, geographically, that (judging from an extensive series which was captured by Mr. Melliss) the species would appear to be common also at St. Helena. After giving, in the *Journal of Entomology*, a lengthened diagnosis of the group, I added: 'So very closely does the present insect, at first sight, assimilate *Hylastes*, that I had regarded

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it, previous to a critical examination, as an abnormal member of that group, in which the external edge of the tibiæ was edentate. But, on closer inquiry, it proves to be undoubtedly one of the *Curculionidæ*, the entire structure of its slender, toothless, *apically uncinate* tibiæ, and its unreceived tarsi, assigning it to that family. From *Rhyncolus*, however, to which it is clearly related, it recedes completely in its excessively short, broad, thick, and subtriangular rostrum, in its very abbreviated and differently constructed antennæ (which have apparently no lateral *scrobs* for the reception of their scape), in its minute punctiform scutellum, its more globose, exposed head, and in its longer feet; and I should consider that the Madeiran *Hexarthrum* is perhaps its nearest described ally, though in that genus the funiculus is only 6-articulate, whereas in *Stenoscelis* it is 7.'"

Microxylobius, Chevr.*

Of this genus Mr. Wollaston writes: "The excessive importance at St. Helena (where it is manifestly aboriginal, and to which it seems to be peculiar) of the little Curculionideous genus *Microxylobius* induces me to enter more fully into its details, in this memoir, than I should otherwise have thought it necessary to do." It comprises small black Beetles, varying from a twelfth to a quarter of an inch in length, and generally so extremely bright and glossy as to be easily distinguished from the other Beetles of the Island; moreover, they are chiefly confined to the native vegetation on the high land, at an altitude of 2700 feet above the sea, where they may be found abundantly in the stems and branches of the cabbage-trees; some few have extended down to an altitude of about 1700 feet, and taken up their abode in oak, loquat, and other exotic trees; but it is fully manifest that, with the cabbage-trees, they form a portion of the aboriginal occupants of the Island.

***M. westwoodii**, Chevr., of which Mr. Wollaston writes: "This species being the one for which the genus was originally founded by M. Chevrolat, I have no choice but to regard it as the type of the group; and it is therefore extremely unfortunate that I

* In a subsequent paper on the Genera of the Cossonidæ, Trans. Ent. Soc. 1873, Pt. IV. Oct. p. 520, 521, Mr. Wollaston separates this genus into three, placing *M. cossonoides* under a new genus named Lamprochrus., Woll., and *M. chevrolatii*, *M. conicollis*, *M. monilicornis*, *M. terebrans*, *M. obliteratus*, *M. debilis*, and *M. angustus* under the genus Acanthomerus, Boheman: the others remaining as Microxylobii.

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should have been unable to obtain a glance at the individual from which Prof. Westwood's excellent figure which accompanied the diagnosis was drawn. Judging from the plate *alone*, I should have been contented to cite the following species (which I describe under the trivial name of *vestitus*) as the true *M. westwoodii*, had not Chevrolat distinctly stated his insect to be *glabrous*, and not only to have its elytra less parallel (or more expanded behind the middle) and with the base and suture raised, but its tibiæ likewise (as I believe) to be more curved and robust. Still it is not impossible that Chevrolat's example may have been an old and worn one, from which the rather sparing and delicate pubescence had been rubbed off, in which case there is at least an additional *chance* that it may prove eventually to be identical with my *M. vestitus;* but, as the group is evidently rich in species, I am inclined to suspect that the 'raised suture' and other minute characters (as recorded) will tend to separate the *M. westwoodii* from its manifestly near ally."

***M. vestitus**, Woll.—Slightly under one-eighth of an inch in length; a rare species, and confined to the native vegetation on the upper land.

***M. lacertosus**, Woll.—A small dull black, very slight Beetle, an eighth of an inch in length, taken from the dry stems of *Lachanodes leucadendron* and other native trees on Diana's Peak.

***M. dimidiatus**, Woll.—A small species, apparently not much, if at all, larger than the last, of which Mr. Wollaston writes:—"Although with abundant distinctive features of its own, in certain respects it is slightly intermediate between the *lacertosus* and *lucifugus*, combining somewhat the size and outline of the former with the less opaque and more punctured surface of the latter; yet neither in outline nor in sculpture is it in anywise identical with either of them." "It has a faint tendency, under a high microscopic power, to be studded posteriorly with minute cinereous pubescence. Instead of being opaque, alutaceous, and tuberculated, like the *lacertosus*, it is, as in the case of the *lucifugus*, faintly shining and punctured. Its punctures, however, are not so densely crowded together, or so coarse, as in the latter species; and its elytra (which are scarcely so long as the anterior portion of the body) are more conspicuously striate, and with a single row of punctures down each interstice. Its legs are exceedingly short, like those of the *lacertosus;* and its prothorax is very largely developed—indeed, more so, perhaps, in proportion

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to the size of the insect, than in any of the other members of the genus which have hitherto been brought to light."

***M. lucifugus**, Woll.—A stout Beetle, a quarter of an inch in length, less glossy than some of the others, and passing from black to a dull red in colour. It is certainly the most abundant species of this genus, and occurs plentifully in the stems of exotic plants as well as of the native gobblegheer (*Psoralea pinnata*) and rosemary (*Phylica rosmarinifolia*), at an altitude of 2000 feet above the sea.

***M. terebrans**, Woll.—A species undoubtedly rare at the present time, since I failed to meet with it. It was captured at St. Helena by the late Mr. Bewicke in 1860, and Mr. Wollaston says of it: "In its brassy hue and shining surface it recedes from the preceding members of the group, and assimilates those which follow; but the fact of its tibiæ being simple will at once separate it from the whole of the latter except the *M. obliteratus* and *debilis*. Apart, however, from its different outline, and perhaps rather less intensely brassy tinge, it may be known from both of these by its larger size and by being altogether more coarsely and closely punctured. Its elytral striæ, moreover, are deeper at their extreme base, and have the appearance at first sight of short divergent grooves."

***M. obliteratus**, Woll.—A short, thick, ovate, highly-polished black Beetle, in general appearance somewhat resembling *M. conicollis*, but it is not found so abundantly in the Island.

***M. debilis**, Woll.—A very shiny black species, about the same length as the last, viz., one-eighth of an inch, but much thinner; taken from the cabbage-trees and ferns on the high land near Diana's Peak.

***M. angustus**, Woll.—Mr. Wollaston describes this as rather larger than the last species, "and also relatively longer, narrower, and more cylindrical, the elytra (instead of being considerably rounded outwards behind the middle) being very little expanded at the sides." It also inhabits the indigenous plants on the high land.

***M. cossonoides**, Woll.—This large, very shiny black Beetle, taken from the native cabbage-trees on the highest land near Diana's Peak, is about one-third of an inch in length, and not very abundant. Mr. Wollaston writes of it: "The comparatively gigantic size and elongated rostrum and limbs of this fine *Microxylobius* would of themselves suffice to distinguish it from every other

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member of the group which has hitherto been brought to light: and although equally brassy with several of the other species, its general aspect is somewhat more in accordance with the sub-family *Cossonides* than is the case with its numerous (and more or less eccentric) allies."

***M. chevrolatii**, Woll. (*Acanthomerus armatus, Boheman*).—This fine large species, a little less than one-third of an inch in length, is found only in the native cabbage-trees, especially *Lachanodes leucadendron*, on the high central land, and is somewhat rare.

***M. conicollis**, Woll.—A very glossy black Beetle, with a short, ovate, thick body, about one-tenth of an inch in length, very abundant amongst the indigenous cabbage-trees, and also in the rotten branches and stems of oak trees at the lower altitude of 2000 feet above the sea.

***M. monilicornis**, Woll.—A slightly more oblong species, but very much resembling the last. It is equally bright, black, and glossy, and more abundant amongst the indigenous cabbage-trees on the high land and the exotic plants at a lower altitude.

Pentarthrum, Woll.

***P. subcæcum**, Woll.—This little blind Beetle, Mr. Wollaston writes, "possesses so unmistakable an affinity (in its five-jointed funiculus and the general contour of its narrow, subcylindrical, sculptured body) with the genus *Pentarthrum* (as known hitherto through the *P. huttoni* from the west of England and the *P. cylindricum* which was found by Mr. Bewicke at Ascension) that I cannot persuade myself that it should be separated therefrom, even whilst equally aware that its obsolete eyes and scutellum would, of *themselves*, tend to affiliate it rather with the little group *Mesoxenus*, of the Madeiran and Canarian archipelagos. Yet I feel so satisfied that it has more in common with *Pentarthrum* than with *Mesoxenus* that I have preferred assigning it to the former, even should my doing so necessitate the diagnosis of that genus being so far widened as to embrace representatives in which (like the *Mesoxeni*) the eyes and scutellum are obsolete. Perhaps, in reality, however, it will be found desirable, in the end, to treat it as the type of a yet additional group, combining the external aspect of *Pentarthrum* with the escutellate sub-eyeless body of *Mesoxenus;* but as these little Cossonideous assemblages are already perhaps somewhat too numerous

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I will not at present add another to their number, but will be content to cite the very interesting weevil now before me as an *aberrant Pentarthrum* in which there are no traces of a visible scutellum, and none also (beyond the merest rudimentary punctiform specks—of *the true existence* of which I can scarcely satisfy myself, even beneath the microscope) of eyes."*

SUB-FAM. RHYNCHOPHORIDES.

Sitophilus, Schönh.

S. oryzæ, Linn.—Mr. Wollaston writes of this small Weevil: "This almost cosmopolitan spotted Curculionid has apparently established itself at St. Helena, just as it has in the Azorean, Madeiran, Canarian, and Cape Verde archipelagos."

SUB-FAM. SYNAPTONYCHIDES.

Nesiotes, Woll.

Mr. Wollaston says the singular little Curculionids, for the reception of which this genus was established, "are so remarkable that I was totally unable to come to any satisfactory conclusion as to their precise affinities; but the invaluable and more recent work of Lacordaire has given a position to the group which certainly I had little anticipated, but which tallies well with the various details of its structure. He regards it as related to the European *Trachodes*, and still more so to *Echinosoma* of Madeira, in the latter of which the funiculus is likewise only 5-articulate; and he consequently erects these three genera, together with *Synaptonyx* from Australia, into a little sub-family (under the title of *Synaptonychides*) of his sixteenth tribe, '*Tanyrhynchides*.' This arrangement brings it into juxtaposition with one of the most anomalous and endemic of the Madeiran weevils, the *Echinosoma porcellus*; and it supplies another instance of that curious analogy by which so many of the most extravagant forms of these widely scattered Atlantic islands are mysteriously bound together."

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* In a subsequent paper on the "Genera of the Cossonidæ," Trans. Ent. Soc. 1873, Pt. IV. Oct. p. 525, Mr. Wollaston states that this insect is a new genus, which he describes under the name of Pseudomesoxenus, and not a Pentarthrum.

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*N. horridus, Woll.—The largest of the three species; a black Beetle, a quarter of an inch in length, and a true native of the indigenous plants on the high land.

*N. squamosus, Woll.—A curious little dark brown Weevil, less shiny than the former, about an eighth of an inch in length, found amongst dry leaves and sticks on the elevated parts of the Island, and figured in the *Journal of Entomology* for Dec. 1861, pl. xiv. fig. 3.

*N. asperatus, Woll.—A dark brown, mud-coloured Beetle, about the same length but thinner than the last, very common amongst dead oak leaves and rotten branches that have fallen on to damp ground, at an altitude of 2000 feet above the sea, at Oak Bank, Plantation, &c. Mr. Wollaston considers these species to be unmistakably indigenous at St. Helena, being without doubt amongst the most characteristic of the aboriginal forms.

SUB-FAM. TRACHYPHLŒIDES.

Trachyphlœosoma, Woll.

Mr. Wollaston writes of this genus: "The insignificant little brown Curculionid which is manifestly one of the most indigenous of the St. Helena Coleoptera, has so much the *primâ facie* appearance, in its short oval outline and the mud-like scales and setæ with which it is clothed, of a minute Trachyphlœus that it required a close examination to convince me that it should not be referred to that group. When carefully inspected, however, it will be seen to have many essential points of difference; for not only is its rostrum more abbreviated and conical, and *truncate* (instead of triangularly scooped out) at the tip, but its scrobs is likewise more bent downwards (and that very suddenly) beneath the still smaller and less prominent eye, from which, consequently, its lower edge is much more remote; its antennæ also are a trifle less incrassated, and inserted appreciably nearer to the apex of the rostrum; and its feet have their third joint less broadly bilobed, and their claws a little more developed. On the whole, I should say that it had more in common with my Madeiran genus *Scoliocerus* than with *Trachyphlœus* proper; nevertheless, the position of its rostral grooves and its less curved scape will of themselves suffice to separate it therefrom."

*T. setosum, Woll.—A dull muddy-brown Beetle, about one-

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tenth of an inch in length, taken amongst dead leaves and sticks from an altitude of 2000 to 2700 feet above the sea.

SUB-FAM. OTIORHYNCHIDES.

Sciobius, Schönh.

***S. subnodosus,** Woll.—A light brown Beetle, about a quarter of an inch in length, very abundant, and equally destructive to vegetation on the high land. In sheltered valleys and ravines, where there are gardens, it is most difficult to get plants to grow in consequence of this creature; it lies stupid and dormant during daylight, easily concealing itself, because of the similarity of its colour, in dry sticks and leaves; sometimes under the string with which a plant may be tied to a stick, at other times inside of a flower, this cunning little insect finds a hiding-place until darkness comes on, when it turns out in numbers and attacks the tender branches of plants, generally eating the soft stem so that the young shoots break off and fall to the ground. Mr. Wollaston says: "I have no doubt it is referable to the Otiorhynchideous genus *Sciobius*, all the exponents of which, hitherto known, appear to be South African." And he also considers it, in all probability, to be a truly indigenous insect at St. Helena.

Otiorhynchus, Germ.

O. sulcatus, Fab.—A Beetle very similar to the last, but nearly twice as large and of a dark colour, almost black, with brown spots on the back. It is not so abundant as the last but its habits are very similar, hiding through the day and devouring vegetation at night. It appears to be confined to the gardens on the high land, and has a habit, the object of which I imagine to be predatory, of indulging in nocturnal rambles in houses after lights are extinguished. Mr. Wollaston considers it to be the common European *O. sulcatus*, which has become naturalized, as it has at the Azores, from more northern latitudes.

Fam. Anthribidæ.

SUB-FAM. ARÆOCERIDES.

Aræocerus, Schönh.

A. fasciculatus, De Geer.—Stout, thick, dark brown Beetles, about one-sixth of an inch in length, which, Mr. Wollaston says,

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"I feel almost confident are referable to the *A. fasciculatus* (which is usually known in collections as the *coffeæ* of Fabricius), though I have thought it desirable to give a careful diagnosis of them, in the event, perhaps, of their being identified hereafter with some cognate form. The insect, however, is evidently a variable one; and there are individuals in the British Museum bearing the label '*coffeæ*,' which seem in no way to differ from the pair now before me; whilst the fact that the species (the larva of which appears to subsist within various seeds and berries which are used as articles of food) has become naturalized, through the medium of commerce, in most of the warmer countries of the civilized world, would go far to render it probable that the St. Helena one is the true *fasciculatus*, and has been established in the island (as elsewhere) by indirect human agency."

SUB-FAM. NOTIOXENIDES.

Notioxenus, Woll.

Mr. Wollaston writes of this interesting genus, that "in conjunction with *Microxylobius*, *Nesiotes*, and *Trachyphlœosoma*, of the *Curculionidæ*, it is amongst the most characteristic and truly indigenous of the Coleopterous forms which have hitherto been detected at St. Helena."

***N. bewickii**, Woll.—A black Beetle, the largest of the species yet known, about a quarter of an inch in length, taken from the indigenous plants on the high land. A figure of this insect is given in the *Journal of Entomology* for Dec. 1861, pl. xiv. fig. 1.

***N. rufopictus**, Woll.—A Beetle with a shiny black surface, little more than half the size of the above, taken from similar localities by the late Mr. Bewicke, and figured in the *Journal of Entomology* for Dec. 1861, pl. xiv. fig. 2.

***N. dimidiatus**, Woll.—A species little less than one-sixth of an inch in length, and very glossy. Mr. Wollaston writes: "This species appears to be a little more ovate, and perhaps also (on the average) a trifle smaller, than the *N. rufopictus*; and it is abundantly distinguished by its greenish-brassy, shining, and coarsely but sparingly pubescent surface, by its greatly elevated and evidently curved subbasal prothoracic line, and by the striæ and largely-developed punctures becoming evanescent on the posterior half of its elytra."

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***N. alutaceus,** Woll.—A smaller species, found in similar localities.

***N. ferrugineus,** Woll.—Mr. Wollaston writes, compared with the others, this species "may immediately be known by its narrower and more oblong outline and pale ferruginous hue, the elytra only being obscurely decorated with a darker suture and a more or less interrupted and anteriorly evanescent discal line, both of which are sometimes barely traceable and at others conspicuous." All the species inhabit the vegetation of the high land.

SUB-FAM. HOMŒODERIDES.

Homœodera, Woll.

Small black Beetles, taken from the vegetation on the high land, and at first sight much resembling those last described as *Notioxeni.*

***H. rotundipennis,** Woll.—About one-twelfth of an inch in length.

***H. alutaceicollis,** Woll.—Very common in the oak-leaf soil about Oaklands and The Hermitage; altitude 2000 feet above the sea.

***H. pygmæa,** Woll.—A somewhat smaller, but very similar species, and taken with the latter.

***H. coriacea,** Woll.—A very minute species, taken with the others.

Fam. Bruchidæ.

Bruchus, Geoffr.

B. rufobrunneus, Woll.—A small, square-shaped, thick Beetle, about an eighth of an inch in length, and of a reddish-brown colour, very common in houses on both high and low land, and extremely fond of getting into rice, with which it may probably have been introduced into St. Helena. Mr. Wollaston remarks, that "it is peculiarly liable to accidental importation throughout the civilized world, along with various seeds and fruits."

B. advena, Woll.—A very similar species to the other. Mr. Wollaston says: "I feel it extremely likely that both of them are natives of the same country (wheresoever that may be), and may perhaps have become naturalized, through the medium of commerce, in the stores and granaries of St. Helena."

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Fam. Cerambicidæ.

Curtomerus, Steph.

C. pilicornis, Fab.—A narrow, light reddish-brown Beetle, of nocturnal habits, about half an inch or more in length. I captured it on the window-blind inside of the house at Maldivia, in the town, where it had evidently been attracted through the open window by the light of a candle. It is not very common, and most likely a recent importation, inasmuch as Mr. Wollaston writes: "It is the opinion likewise of Mr. Pascoe that it is not truly a native of St. Helena; for he informs me that its proper country is the West Indies, and that it is so liable to accidental transportation (I presume, along with timber), that it has been taken alive on one or two occasions even in England."

Fam. Lamiidæ.

Coptops, Serv.

C. bidens, Fab.—A large mottled brown and grey Longicorn, from a half to two-thirds of an inch in length, and robust in proportion, not common, but occasionally seen about the houses and trees in Jamestown only. It is undoubtedly an importation into the Island.

Fam. Halticidæ.

Longitarsus, Lat.

***L. mellissii**, Woll.—Both this and the following species are pretty, very black, and shiny little Beetles, which inhabit only the fresh green fern and cabbage-tree foliage, on the highest land, near Diana's Peak. That they are purely indigenous cannot be doubted; and they are easily distinguished from all the other Beetles by their power of hopping, which they exercise as readily as the grasshopper, rendering their capture not at all easy.

***L. helenæ**, Woll.—A species very similar to the other, but about half its size.

Fam. Cassididæ.

Aspidomorpha, Hope.

A. miliaris, Fab.—I did not meet with this insect, and Mr.

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Wollaston says that he knows nothing of it beyond the mere fact that Fabricius states it to have come from St. Helena.

Fam. Coccinellidæ.

Cydonia, Muls.

***C. lunata**, Fab.—The Ladybird of the Island is abundant everywhere, but most common in the central part where vegetation abounds and it can feed upon the aphides of the rose-bushes; I have nevertheless seen the larvæ hanging suspended under large rocks and stones on the barren, hot, lower land. It is a pretty little creature, in colour generally bright red and black, but sometimes yellow and black. Mr. Wollaston says: "Although with a wide geographical range (it having been recorded from Senegal, the Cape of Good Hope, Caffraria, Madagascar, the islands of Bourbon and Mauritius, the East Indies, and Java), it was originally described by Fabricius (in 1775) from St. Helena specimens, now in the Banksian collection; and therefore, whatever doubt may be entertained as to the claim for specific separation of some of the extreme states which have been ascribed to it, there can at least be no question about the St. Helena form, which must of necessity be looked upon as the typical one."

C. vicina, Muls.—A species common over the African continent, as well as in the Cape Verde archipelago.

Thea, Muls.

T. variegata, Fab.—A small pale yellow and black Ladybird, about half the size of the other, and less common; almost the only examples I met with were bred from larvæ which were given to me from the grape-vines at Scotland, a position about 2000 feet above the sea. Mr. Wollaston says: "It is a species which occurs at the Cape of Good Hope, and which was recorded by Erichson from Angola; and it is not improbable, therefore, that it may have been introduced into St. Helena from perhaps the former of those localities."

Epilachna, Chevr.

E. chrysomelina, Fab.—Mr. Wollaston says: "Although I have never seen a St. Helena example of the Mediterranean *E. chrysomelina*,

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I can scarcely refuse it a place in the present memoir, inasmuch as it was originally described by Fabricius, in 1775, from an example (or examples) in the collection of Sir Joseph Banks, which had been obtained in that Island." I have not seen this insect on the Island, but the larvæ which I saw hanging to the rocks, and prickly-pear bushes in the locality of New Ground, supposing them to belong to *Cydonia lunata*, may possibly have belonged to this species, as it seems to attach itself to that plant.

Fam. Hopatridæ.

Hopatrum, Fab.

***H. hadroides**, Woll.—A brown, mud-coloured Beetle, about one-third of an inch in length, generally covered with a thin coating of earth. Of all the Coleoptera in the Island, this is the most plentiful. It is found everywhere, but inhabits chiefly the high land, where, at Longwood and other farms, it abounds in the ploughed and cultivated fields. I have turned over the surface soil with my foot and exposed hundreds of these insects to view. They are especially fond of congregating around the stems of potato plants, and as they do not appear in any way destructive to the plant, I imagine their object is to seek its shelter from the heat of the sun. Mr. Wollaston says: "The *H. hadroides* is very nearly akin to a species which was taken by Mr. Bewicke at the Cape of Good Hope; but it is altogether rather larger, broader, and more parallel, its head is a little wider, with the *genæ* more rounded, its prothorax is less deeply scooped out in front, with the anterior angles consequently less porrect and more obtuse, the hinder angles also are somewhat less produced, and its shoulders are more rectangular."

Fam. Ulomidæ.

Alphitobius, Steph.

A. diaperinus, Kugel.—Mr. Wollaston writes of this insect: "Judging from the specimens which were taken by Mr. Melliss, the widely-spread *A. diaperinus* has become established at St. Helena, as is the case with it in the Madeiras, Canaries, Cape Verdes, and Ascension, and indeed throughout the greater portion of the civilized world; but I need scarcely add that it is no more con-

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nected, in reality, with our present fauna than it is with that of any other country where it has in like manner been introduced through the medium of commerce." It is a shiny black Beetle, about one-third of an inch in length, and nearly half as broad as it is long; common about Jamestown and that locality.

A. piceus, Oliv.—A species very like the last, but only about half the size; found in similar localities. Mr. Wollaston says, as at St. Helena, so it has been naturalized, through the medium of commerce, "in the Azores, Madeiras, Canaries, Cape Verdes and at Ascension, in which last-mentioned island it was found, in company with the *A. diaperinus*, by the late Mr. Bewicke, *not* in houses and amongst farinaceous substances, as we should have expected, but 'in the dung of sea-birds, *miles from habitable parts*,' which is undoubtedly a singular habit for these common and almost cosmopolitan insects to have acquired."

Gnathocerus, Thunb.

G. cornutus, Fab.—This reddish-brown Insect has been introduced through the medium of commerce, in like manner as it has been at Madeiras, Canaries, Cape Verdes, and Ascension. It is common about houses and store-rooms, both in town and country, in fact wherever flour, biscuit, and other farinaceous substances are stored.

Tribolium, MacLeay.

T. ferrugineum, Fab. — A somewhat smaller Insect, of a reddish-brown colour, introduced through the medium of commerce, as it has also been in the Azorean, Madeiran, Canarian, and Cape Verde archipelagos. It is very common at St. Helena in similar localities as the last species.

Fam. Tenebrionidæ.

Tenebrio, Linn.

T. obscurus, Fab.—A rather large, long, thin, black Beetle, about an inch in length, which has become naturalized in the Island, as it has "almost universally throughout the Azorean, Madeiran, and Canarian archipelagos." It is somewhat rare at St. Helena, but is found on both high and low land, generally in straw, about

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stables and outhouses. It is quite nocturnal in its habits, and may be occasionally captured prowling about the inside of houses, especially near to a lighted stove or fire.

Zophobas, Blanch.

Z. concolor, Woll.—A long black Beetle, somewhat like the *Tenebrio*, but more massive, and about five-sixths of an inch in length. It is rare, and found only in the houses in the town.

Fam. Mordellidæ.

Mordella, Linn.

***M. mellissiana**, Woll.—This beautiful and gracefully-formed, reddish-brown, armadillo-shaped Beetle, about a quarter of an inch in length, is truly indigenous. It is found only on the high land, sometimes in decaying branches of trees, but generally at night in houses, where, attracted by the light of a lamp, it is often seen hopping about on the table-cloth at dinner-time.

Fam. Staphylinidæ.

SUB-FAM. ALEOCHARIDES.

Homalota, Mann.

H. coriaria, Kr.—A very small black Beetle, about one-tenth of an inch in length, with elytra much shorter than the body, common about gardens on the high land, at an altitude of 2000 feet above the sea. It is a common European species, and has established itself also in the Madeiran, Canarian, and Cape Verde archipelagos.

SUB-FAM. STAPHYLINIDES.

Philonthus, Steph.

P. longicornis, Steph.—A long black-bodied insect, about one-third of an inch in length, with very short elytra or wing-covers, common in flower-gardens and damp places on the high land, at an altitude of 2000 feet above the sea. I took several specimens at The Hermitage. Mr. Wollaston notes it as a common European species, and says: "It is recorded from the Azores by Mr. Crotch;

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and it has been captured abundantly by myself and others in the Madeiran, Canarian, and Cape Verde archipelagos; and it was met with by the late Mr. Bewicke even at Ascension."

Creophilus, Steph.

C. maxillosus, Linn.—Although this great creature, nearly an inch in length, and in appearance something between a large Bee and a Beetle, is rare, it is occasionally met with on the high land, particularly in the neighbourhood of churchyards and cesspools. Mr. Wollaston notes it as a common European species, which has also become naturalized in the Azores, Madeiras, and Canaries.

SUB-FAM. XANTHOLINIDES.

Xantholinus, Dahl.

X. morio, Woll.—Mr. Wollaston writes: "The single example, taken by Mr. Melliss, has been carefully examined by Mr. Rye, who remarks that it is unknown to him, but might nevertheless perhaps prove to be the European *atratus* of Heer. Judging from the description, however, of that species, it would appear to be not only smaller and blacker than the *atratus*, and with darker limbs, but (as I imagine) to have its head more sparingly punctured, and the dorsal punctures of its prothorax more numerous."

SUB-FAM. OXYTELIDES.

Oxytelus, Grav.

O. alutaceifrons, Woll.—Of which Mr. Wollaston writes: "An *Oxytelus* which is in some respects allied to the European *O. luteipennis* (and less so to the *O. piceus*), but at the same time differing in many important respects from that species. It has been examined by Mr. Rye, who considers it totally distinct from anything with which he is acquainted."

O. nitidifrons, Woll.—Of which Mr. Wollaston writes: "A most extraordinary little *Oxytelus*, which, from its abbreviated head and prothorax, and the fact of its antennæ having the *three* apical joints (rather, perhaps, than the usual seven) conspicuously thickened, might seem at first sight almost to merit generic separation."

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Order Orthoptera.

The Earwigs, the Cockroaches, the Crickets, and the Grasshoppers together occupy rather a considerable place in the insect world of St. Helena. The latter two inhabit chiefly the grassy mountain tops of the high land and keep up their loud, shrill chirp through the fine summer evenings, and far into the night. The earwigs occupy much the same position as they do in England, frequenting both fruit and flowers, but are also found under the loose stones which lie about the outskirts of the Island, where, in the warmer climate, they attain a large size. Cockroaches are a terror to all housekeepers whose fate it is to live on the low lands, indeed anywhere below an altitude of six or eight hundred feet above the sea, where a warm climate exists, and more especially in Jamestown and at Ladder Hill. Occasionally they make their way into the kitchens of houses at a higher altitude, but not in large numbers. They are the most objectionable creatures existing in the Island, and their curiosity knows no bounds. They will crawl up a lighted candle to see what is at the top, until burnt by the flame they beat a hasty retreat; they tumble into wine bottles, jam pots, get up the side of tumblers, and in their endeavours either to see or taste what they contain, fall headlong in without a chance of escape; but their most unpleasant amusement is a habit of crawling over you when in bed and asleep at night, and peering down your throat if you happen to have your mouth open wide enough. It is always prudent to decant your wine in a cockroach country, as I once knew a gentleman who thoroughly enjoyed his bottle of crusty old port until on one occasion, with the last glass, out poured the porty carcase of an old grey cockroach.

Grasshoppers are very numerous on the high central ridge adjacent to Diana's Peak, nearly 3000 feet above the sea, amongst the cabbage-trees, ferns, and other native vegetation, where they seem merry and happy enough all through the day; those whose habitat is amongst the grass and leaves, are in colour chiefly green, slightly marked with black or brown; but those inhabiting the lower portions of the Island, where little verdure exists, are entirely brown, partaking much of the colour of the earth and stones of the locality. The Crickets appear to be fully sensible of the safety afforded by

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taking up their abode under large loose stones, for they exist in pairs under almost every one of them.

Of this order Mr. Walker has examined twenty-four species, and he has described one half of those as new.

Fam. Forficulidæ.

Forficula, Linn.

F. flavipes, Fabr.—The common Earwig, which is very large in size, and abundant on the high land and under stones on the outskirts, such as Thompson's Wood, Dead Wood, and similar places, also inhabits Africa.

Fam. Panchloridæ.

Panchlora, Burm.

P. maderæ, Fabr. Ent. Syst. 11, 6. (Blatta).—A very large grey Cockroach, which is found abundantly in houses in Jamestown, Ladder Hill, and other warm low parts of the Island. It has been distributed over many parts of the world.

Proscratea, Burm.

P. illepida, Walk. Cat. Blatt. 185.—A large brown, flat Cockroach, easily distinguished by its very offensive odour. It also is very plentiful in the houses of Jamestown and neighbouring parts, and occurs under stones in the gardens attached to them. Mr. Walker says: "It has been found in St. Domingo and in the Canaries, and it may have been transferred by shipping from one to the other of these places."

Fam. Corydidæ.

Euthyrrapha, Burm.

***E. sanctæ helenæ,** Walk.—An extremely pretty and unobjectionable, little black and bright orange-coloured Cockroach, generally found under stones in the gardens of Jamestown, Ladder Hill, and New Ground. It is also sometimes found in the houses, but is not very common. Mr. Walker gives the following description of it:—"*Female* black, oval, ferruginous beneath. Prothorax luteous along each side. Abdomen luteous beneath. Forewings with a round luteous spot in the disk beyond the middle; length of the body four lines. It has much resemblance to E. pacifica, of Barbadoes; it is

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more pubescent, the antennæ are piceous instead of black, the luteous marginal stripes of the prothorax are longer and broader, and extend nearly to the foreborder; the head is piceous, testaceous about the mouth, the pectus and legs are ferruginous, and the abdomen is luteous."

Fam. Blattidæ.

Epilampra, Burm.

***E. signatura**, Walk.—A medium-sized, grey Cockroach, commonly found in the Jamestown houses and gardens. Mr. Walker gives the following description of it:—"*Female* testaceous, fusiform, shining. Head with a black band between the eyes, and with a broad irregular brown band on the front; eyes piceous; antennæ brown, shorter than the body; prothorax short conical; a black abbreviated and nearly interrupted stripe on each side; an incompletely scutcheon-shaped brown patch in the disk; sides rounded. Abdomen beneath mostly brownish, with a pale testaceous stripe along each side. Legs short, stout; tibiæ beset with stout brown spines. Forewings brownish, extending nearly to the tip of the abdomen, with a pale testaceous costal stripe, extending to half the length from the base. Length of the body twelve lines."

Blatta, Linn.

B. germanica, Linn. Syst. Nat. ii. 688.—A rather small, long, thin-shaped, light-coloured Cockroach from the low land. It is rare in St. Helena, but has been dispersed from Europe to North America, Mexico, Ceylon, and Australia.

***B. bicincta**, Walk.—A very minute Cockroach, easily distinguished by the stripes or bands across it. It is commonly found in the houses and gardens on the low land. Mr. Walker gives the following description of it:—"*Female* black, elongate, oval, smooth, shining, with a white band on the mesothorax and with an interrupted white band on the base of the abdomen. Antennæ submoniliform, rather stout, pale yellow at the base. Legs piceous; knees and tarsi pale yellow. Length of the body two lines."

Periplaneta, Burm.

P. repanda, Walk. Cat. Blatt. 125.—The common red Cockroach is very abundant on the low land, and an occupant of most

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houses, where it frequents the kitchens, pantries, cupboards, and even the bedrooms. It is also found in some of the kitchens of houses on the high land. Out of doors too it occurs, generally under loose stones, and I have even found it amongst the rocks in the neighbourhood of Lot, more than a mile away from any house. Mr. Walker states that it also inhabits the West Indies, South America, and some of the eastern isles.

P. emittens, Walk. Cat. Derm. vi. 37.

Polyzosteria, Burm.

P. latipes, Walk. Cat. Blatt. 165.—A very shiny, dark brown, oval-shaped Cockroach, found abundantly, generally in pairs, under stones on the low land, in the Castle Gardens and similar situations. Mr. Walker states that it also inhabits Sierra Leone.

P. subornata, Walk. Cat. Derm. vi. 34.—A small Cockroach, found associating with the others in the warm situations of the Island.

***P. oniscoides,** Walk.—A rather small Cockroach of a brown colour, found associating with the others, and of which Mr. Walker gives the following description:—"*Female* piceous, dull, elongate, oval. Head much narrower than the prothorax, extending a little in front of it. Antennæ longer than the body. Abdomen beneath with a testaceous band on each segment. Cerci very short. Legs testaceous, short, stout; tibiæ with a few short spines. Length of the body three and a half lines."

Fam. Gryllidæ.

Gryllus, Linn.

G. domesticus, Linn. Syst. Nat. i. 2, 694.—The Ground-Hopper, which is found in houses. It occurs also in Europe, Africa, and Asia.

G. capensis, Fabr. Ent. Syst. ii. 31 (Acheta).—The very common large Field Cricket of St. Helena, where it is found abundantly in the hay-fields and grass lands of the higher parts, as well as under rocks and stones on the lower and warmer portions of the Island. It is one of the most familiar insects of the place, due, perhaps, to its cheerful chirp, which is heard during almost every evening, and sometimes through the daytime, in the woods and fields. It is an inhabitant of most parts of the world.

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G. marginalis, Walk. Cat. Derm. i. 25.—A rather small black Cricket, tolerably abundant in similar localities to the last mentioned species. It also inhabits Madeira.

Zaora, Walk.

***Z. bifasciata**, Walk.—Known in the Island as the Ground Hopper; this small light brown creature takes up its abode under stones and rocks in Jamestown and Rupert's Valley and similar localities where the climate is warmest. It is usually found in pairs and is not very abundant. Mr. Walker gives the following description of it:—"*Female* testaceous, smooth. Head shining, as broad as the prothorax, with a large brown patch between the eyes and between the antennæ where the vertex is rounded in front and includes a testaceous spot. Eyes not prominent. Palpi clavate. Antennæ much more than twice the length of the body. Prothorax on each side with a brown spot extending from the fore border and connected by a short brown line with a brown band on the hind border, this band extending along the hind part of each side; sides rounded; fore part broadest. Mesothorax, metathorax, and abdomen with brown marks which form three irregular stripes. Metathorax with a brown band. Femora with brown spots. Oviduct somewhat longer than the abdomen. Wings rudimentary. Length of the body eight lines. The cerci and legs of the specimen described are mutilated."

Fam. Locustidæ.

Conocephalus, Thunb.

C. mandibularis, Charp. Hor. Ent. 106 (Locusta).—A very large green Grasshopper, found in hay-fields and gardens on the high land. Inhabits, also, S. Europe and N. Africa.

Fam. Acrididæ.

Œdipoda, Charp.

***Œ. obumbrata**, Walk.—A thick-built, medium-sized, brown Grasshopper, abundant in the Island, of which Mr. Walker gives the following description:—"*Male* ferruginous. Head short; vertex triangular and with a rim on each side in front of the eyes; front with four slight keels, the inner pair parallel, the outer pair

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diverging towards the face. Antennæ not longer than the head and the thorax together. Prothorax with three slight keels; lateral keels interrupted and oblique; hind border angular in the middle. Femora and four anterior tibiæ with some black marks. Hind tibiæ pale luteous, shorter than the hind femora. Wings much shorter than the abdomen. Forewings with some rows of indistinct brown dots. Length of the body eight lines."

Stenobothrus, Fisch.

***S. viridipes**, Walk.—A medium-sized Grasshopper, having a light brown body and green legs. It is abundant on the high central ridge and adjacent slopes, at altitudes of two to three thousand feet above the sea. Mr. Walker gives the following description of it:—"*Male* testaceous. Head slightly ascending; front mostly or wholly black. Antennæ black, as long as the body. Prothorax mostly overspread with black, this hue including some variable testaceous marks on each side; lateral keels slightly inclined inward. Legs green; tarsi tawny; hind femora vivid green; hind tibiæ pilose, with black spines. Forewings cinereous. Length of the body six to six and a half lines. This and the following species are distinguished from the Stenobothri previously described by their long antennæ."

***S. annulicornis**, Walk.—One of the dark black-and-brown Grasshoppers which are common in the Island, and of which Mr. Walker gives the following description:—"*Male* black. Head and prothorax with a broad testaceous stripe on each side. Head with a transverse testaceous mark on the hind border above; a fusiform furrow between the eyes; front with a testaceous spot and with two anterior testaceous bands, the second rounded on the foreside and abbreviated. Antennæ black, somewhat shorter than the body; each joint with a testaceous band. Prothorax with some testaceous patches on each side, and with a testaceous dentate band on the hind border; lateral keels partly testaceous, slightly curved inward. Abdomen testaceous beneath. Four anterior femora with black dots. Hind femora with black patches on the outer side. Wings somewhat shorter than the body. Forewings blackish, this hue including several small testaceous marks; a broad cinereous streak along the outer part of the costa; a row of black dots in the disk. Length of the body nine lines."

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***S. undulifer,** Walk.—Another of the numerous Grasshoppers, a medium-sized, variegated brown one, of which Mr. Walker gives the following description:—"*Male* testaceous. Head above and disk of the prothorax luteous. Head slightly ascending, with a nearly linear furrow between the eyes; front with four slight keels. Antennæ black, somewhat shorter than the body, tawny at the base. Prothorax on each side, with a large black patch, which emits an undulating black line to the foreborder. Four anterior femora with some black marks; hind femora with a ramose black streak on each side. Wings much shorter than the abdomen. Forewings with three rows of black spots. Length of the body eight and a half lines."

***S. vittifer,** Walk.—Another medium-sized Grasshopper, of a brown colour, which is described by Mr. Walker as follows:—"*Male* brown. Head and thorax with a testaceous stripe. Antennæ much shorter than the body. Prothorax with a black stripe on each side of the testaceous stripe; lateral keels curved inward, a large pale testaceous patch on each side. Abdomen and legs tawny; hind femora green beneath, with a short black streak on the outer side. Spines of the hind tibiæ with black tips. Wings cinereous, much shorter than the abdomen. Forewings with a row of brown dots in the disk. Length of the body eight lines."

There are doubtless other species of Grasshoppers inhabiting the high lands, which would well repay the attention of any future collector.

Tinaria, Stäl.

***T. calcarata,** Stäl, Eug. Resa. 338, pl. 5, f. 8.

***T. sanctæ helenæ,** Stäl, Eug. Resa. 338.

Order Neuroptera.

This order, though small in numbers, is represented by the White Ant, and is, perhaps, on that account, one of the most important in the list. It contains one native species only.

Fam. Libellulidæ.

Libellula, Linn.

L. sp.? ——.—The common large red-bodied Dragon-fly, which is abundant all over the Island.

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Fam. Hemerobiidæ.

Chrysopa, Leach.

C. congrua, Walk.—One of the green Lace-wing-flies. Inhabits also West and South Africa.

C. vulgaris, Schneid.—Another species.

***C. exul**, M'Lach.—A very beautiful pale-green gauze or Lace-wing-fly, a native found in hay-fields and flower-gardens on the high land, but not very abundant. Ent. Mon. Mag. vol. vi. p. 23. 1869.

Fam. Termitidæ.

Termes, Linn.

T. tenuis, Hagen.—White Ants, as they are called, were introduced into the Island, in the year 1840, in some timber from a slave-ship captured by H.M. cruisers on the West Coast of Africa, and sent to St. Helena for adjudication. The identical spot where this timber was deposited in the town is pointed out to this day, the whole population of the place having good reason to remember the surreptitious entrance into their camp of an enemy such as Termites have proved. The species was supposed to be of African origin, until, three years ago, I brought some specimens to England, and, through the kindness of Mr. H. W. Bates, it was identified by Mr. M'Lachlan as one peculiar to tropical America: as many of the slavers were Brazilian vessels, it is easy to understand how both timber and Termites originally came from that quarter. After their appearance in the town, a quarter of a century passed by without much evidence of the terrible work of destruction in which they were engaged. It was known that they were eating books, furniture, papers, and clothes, with occasionally a beam or two in the houses, but no one entertained the idea that in an additional five or six years their houses would be in ruins and an expenditure of 60,000*l.* at least imperatively necessary to reconstruct them. Such, however, has happened. Public and private interests have alike suffered to a large extent, and the whole colony has been taxed beyond its powers merely to replace what a few years before it possessed.

It was a melancholy sight five years ago to see the town, which had hitherto not been without its claims for admiration, devastated as

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by an earthquake, or, as a visitor remarked, a state of siege—the chief church in ruins, public buildings in a deplorable state of dilapidation, private houses tottering and falling, with great timber props, butting out into the streets and roadways, meeting the eye at every turn, and astounding the stranger by a tale of some awful risk incurred merely when walking along the pavements; while the Governor in his council-chamber, the Chief Justice, and other officials, were accessible only through a labyrinth of fir-poles and old ship-planking set on end to prevent ceilings falling on their heads, or, worse still, whole buildings collapsing around them. Many valuable lives of illustrious visitors were, during that period, risked in climbing over temporary galleries or propped-up floors, merely to show the usual respect for the Governor by an official call. .

Termes tenuis is the most voracious species I have ever heard or read of, its whole object in life seeming to be destruction. It spares none of its time for domestic arrangements, or the construction of those curiously-formed homes, in the shape of hillocks or mounds, with which other species amuse or occupy themselves in the desert plains of tropical Africa and elsewhere. It is true it inhabits the ground, but it has other motives for being there than mere home arrangements, and does not indulge in a queen, that enormous fat creature, the care of whom devolves upon her subjects, and of whom we read, with reference to other species, that, if she escapes being eaten by black natives, she lays an innumerable quantity of eggs and then dies.

The St. Helena Termites are fragile little creatures, of a dirty-white colour, about one-third of an inch long, and succumb immediately on exposure to bright sunshine. In proportion to about ten of the workers there is one armed with a formidable pair of red forceps, an eighth of an inch in length, which is called a soldier. This creature superintends the work done by the others, and acts the part of a sentinel, giving immediate notice throughout the band or colony of the approach of danger. It is most curious to watch them at work building a tunnel or covered passage by which to travel from one spot to another, for they do everything under cover, and nothing by the broad light of day. The work proceeds by pellet after pellet of a sticky, brown, mud-like matter, which they employ, being added round the edge from the inside, and moistened to make it adhere to the rest. Occasionally, as a worker deposits

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his pellet and retires, up bobs the great head and red forceps of a soldier, as it were from a watch-tower, for a general view around, to see that all is right, and, if it is not so, his excitement becomes very great. Illustrative of this, and the rapidity with which they communicate to each other, I placed some books partly eaten by them in the middle of a teak window-seat. In four days they constructed a tunnel along the angle formed by the window-seat and frame, for a length of about five feet, communicating with the pile of books by two branch tunnels, each four inches long. They worked away busily at each end prolonging the tunnel, about an inch of that last executed being moist similar to newly-mixed mortar. Workers were running out in the direction of the proposed extension of the tunnel, and returning without any apparent result, until a closer observation showed that they were conveying back with them minute fragments of *débris* fallen from the books, no doubt to be remasticated and converted into fresh mortar to help on the progress of the work; and thus these little engineering builders worked on until I broke the branch tunnels, and almost instantaneously the workers at each end of the main tunnel, more than two feet distant, were withdrawn, and the red forceps of an excited soldier protruded, showing plainly that injury of the branch tunnels and imminent danger to the whole colony was in a moment, as if by electricity, telegraphed throughout the whole line of work. On the same occasion I also tested their perseverance, for they continued to repair the damage I repeatedly caused to their work, through several days, before abandoning the locality.

Like other species they swarm in a winged state, when each insect is provided with four narrow, fawn-coloured, gauzy wings, about twice as long as the body. They generally fly at night, after rain, in the months of December and January, I believe as soon as they emerge from the eggs; when they settle and pair together they wriggle off their wings and enter either the ground or anything that is near and suitable to their taste. The conditions almost indispensable to them are, heat with moisture, darkness, and perfect stillness, so that they rarely attack doors, window sashes, or things that are frequently in motion. What they love best is a water cask in a sunny place, or the massive tiebeam of a building, into which they enter by one or two small holes no larger than pins, heads, and trouble no one until the whole collapses in a cloud of dirt and dust, perhaps

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bringing down the building with it.* Their manner of attack is generally, in the first instance, through the ground'; they ascend the interior of walls, mortar, lime or even a soft building stone forming no barrier, and enter any woodwork that is in contact with them; sometimes they travel up the outer surface of a wall or iron column under cover of their tunnels, which are about one-eighth of an inch in diameter; it is probable that they employ this plan when their object is to reach some article, which they could not attain from the inside of a wall; by means of these tunnels they have been known to get into a valuable ship's cargo, which, stored upon iron floors and not nearer to any wall than eight or ten inches, was thought to be safe from them; they simply crossed over the spaces between the walls and the bales of goods by carrying their tunnels suspended horizontally from point to point like tubular bridges.

Nothing escapes their marvellously instinctive powers; furniture, clothing, paper, merchandize, all share alike, and, with a few hours' quiet, they will make themselves just as much at home inside of a sack of rice or sugar as anywhere else; their partiality for the stationery in the Engineer office was remarkable, and, after various unsuccessful attempts to secure it from them, I felt certain an iron chest would preserve it; but not so, they ate the putty from the seams of the chest, and gained an entrance. There are few things that they will not get through by some means or another, if there is anything to be got on the other side that suits them; the ingenious manner by which they gain access to preserved meats, sardines, and vegetables, shows that they will even make their way through metallic substances. They deposit on the iron or tin case, somewhere out of sight, a mass of wet, muddy looking stuff, which soon corrodes it sufficiently for them to penetrate to the inside; probably there is something in the chemical composition of this stuff that hastens decomposition of the metal. Smeathman relates that a party of Termites once took a fancy to a pipe of fine old Madeira, not for the sake of the wine, almost the whole of which they let out, but of the staves, which, however, may not have proved less tasteful from having imbibed some of the costly liquor;† but this is

* A specimen of one of the beams removed from a public office during the reconstruction of Jamestown may now be seen in the British Museum.

† The Tropical World, by Dr. G. Hartwig.

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little compared to the bacchanalian achievements of the Termites at St. Helena, which first destroy the metallic capsules from bottles of champagne and Bass's ale, and then the corks.

They seem to possess a particular mode of torment for others as well as the householder and the merchant, for the contractor finds that before he can complete the upper portion of a building, they attack the lower, disfiguring his lately-plastered fabric with blisters formed by pushing the lime before them in their exit from the newly-built walls. The shopkeeper also, who, proud of his trim and well-arranged goods, reaches down from its shelf a box of Dutch toys, is horrified to find it contains nothing more or less than a mass of dirt and dust.

Not only do they destroy property, but also necessitate considerable loss of labour, in the constant removal of goods from place to place to avoid them. Upon one occasion I saw a man employed for days sorting iron and copper brads and tacks which had become indiscriminately mixed together; it appeared that they had been made up in small paper packets, and placed in a barrel, but the Termites had destroyed every atom of the paper.

They sometimes desert certain things and places for others more suited to their tastes, but seldom before they have wrought utter destruction, and they scarcely ever quit a house, while there is any juice or sap left in it, or until it is reduced to a mere shell, literally a shell, because they will eat away the whole of the wood from the interior, leaving only the unbroken coating of paint wherever it is thick enough to support itself. As the demolition of a building approaches completion, their work manifests itself somewhat suddenly. In the year 1860, when His Royal Highness the Duke of Edinburgh visited St. Helena, the reception room at the castle was in sufficiently good order for him to hold a levee, and for a Governor's ball on the same evening; six years afterwards it was a complete ruin!

Amongst other valuable property, they devoured a considerable portion of the books of the Public Library, showing a decided preference for theological literature, very probably because such works generally remain longest untouched on bookshelves. They enter a book by very minute holes, destroy every atom of the interior, without showing any sign of their presence, and then depart, leaving the binding and gilt or marbled edges of the leaves apparently as perfect as when new.

The suddenness with which their operations are sometimes

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revealed is attended with a good deal of danger and surprise. On a calm fine day, a couple of policemen standing at the Court-house door, with as great an appearance of dignity as St. Helena policemen can possess, were quite unnerved by the antics of a staid old Margossa tree in full foliage, which, long a shelter from the sun's heat, suddenly fell to pieces and prostrated itself around them—on examination it was found that Termites had completely hollowed out the stem and branches nearly to the bark.

The destruction of the town became a matter of such grave importance, and the necessity for rebuilding with other materials than those similar to what the insects had destroyed so evident, that many valuable experiments were tried with various materials, at the instigation of the then Governor, Admiral Sir Charles Elliot, K.C.B., and the results, affording much useful information, are embodied in a published official report. Numerous timbers and various compositions were contributed from different parts of the world, but the Termites at St. Helena devoured most of them excepting teak timber, cedar, Brazilian yellow-wood, timber of the tree called *Cunninghamia lanceolata*, and creosoted deal. There were also some very hard, close-grained timbers from South America and Africa, which they would not touch, but the cost of working them, together with other reasons, rendered it impracticable to use them at St. Helena. Of the compositions tried, creosote alone defied them, but the difficulty of getting timber completely impregnated with it has been experienced at St. Helena as elsewhere. Teak has been most generally used in reconstructing the town; at present the Termites only bore through it; what they may do, if they remain at St. Helena, which I am inclined to doubt, after the teak has well dried and there is no timber which they like better, remains to be seen.

It is extremely fortunate that these insects have so far been confined to the town and its neighbourhood, and have not penetrated to the country or high land; this may in a great measure be attributed to the fact of their having been introduced on the leeward side of the Island, and their inability in their migration by flight to make progress against the trade wind, rather than to their dislike for a colder climate. Their habit being to occupy the earth, they might descend to a considerable depth, so long as any vegetable matter exists in the soil, and thus continue to live in much colder climates if once sufficiently established.

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Order Hymenoptera.

The Ichneumon Flies chiefly represent this order, and Mr. Walker considers that they are new, but advises the publication of descriptions to be deferred. Out of thirteen insects which he has examined in this order, eight are indigenous to the Island.

Fam. Poneridæ.

Pheidole, Westw.

P. pusilla, Westw.—The common, small, red Ant is identical with the house Ant of Madeira, and is also found in London. Without exception it is the most abundant insect at St. Helena, where it exists in swarms on both high and low land. Most houses are plagued with it, more especially in wet weather, when it is driven indoors. It attacks everything and even finds its way into beds, hats, brushes, and clothing. Out of doors it exists in colonies under stones on barren land, where it is difficult to discover what it feeds upon. A colony generally consists of five distinct forms of inhabitants. First, there are large numbers of the ordinary-sized ants or workers; second, a lesser number of larger ants, about one-third of an inch long; third, a lesser number again of still larger ants, about half an inch long, which appear to be females; fourth, a moderate number of winged ants; and fifth, a large number of transparent white eggs or larvæ. When one of these settlements is disturbed, the small ants or workers rush about most frantically, each laying hold of and carrying away one of the larvæ. There is another species which appears to be confined to the town; it is slightly larger, quite black, and more active in its movements.

Fam. Sphegidæ.

Ampulex, Jur.

A. compressa, Fabr.—This most brilliant green, blue, and red Fly is rather abundant in the summer months, on the low land about Jamestown, where it feeds upon cockroaches. It is common in India and Ceylon, but at St. Helena is erroneously called Spanish Fly, for it is a green *beetle* and not a fly at all that supplies the cantharides for blisters. It inhabits, also, E. Africa, Mauritius, Hindostan, China, and Java.

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Fam. Apidæ.

Apis, Linn.

A. mellifica, Linn.—About thirty years ago, the common Honey Bee was very abundant, and chiefly wild, in the Island. It swarmed and entered old rat holes, holes in the rocks, and even the roofs of houses, getting in between the ceiling boards and the covering. It almost suddenly disappeared about eighteen or twenty years since, but whether its destruction was occasioned by the persecution met with through boys smoking it to death in order to obtain the honey, or the Death's-Head Moths robbing it of its honey, or some other cause, has not been ascertained. It was re-introduced about six years ago, and is again becoming wild about the rocky outskirts of the Island.

Fam. Evaniadæ.

Evania, Fabr.

E. lævigata, Latr.—A black, bob-tailed Fly, inhabiting the warm low lands of Jamestown, Ladder Hill, &c., where it is likely to meet with cockroaches, as it selects those creatures as a living depository for its eggs. As this curious little insect is very much less objectionable than the Cockroach, and is not very abundant, the St. Helenians, especially the residents of Jamestown, would do well to encourage it. It may often be seen crawling over the trunks of trees in Maldivia gardens, and even in the houses in the town and at Ladder Hill. It inhabits, also, many parts of Africa and of Asia.

Fam. Ichneumonidæ.

Ichneumon, Linn.

***I. maculifemur**, Walk.—A black-bodied Ichneumon Fly, the body being four to four and a half lines in length. This as well as the following species is somewhat commonly found on the high land, inhabiting damp places. My specimens were taken at The Hermitage, where, amongst the Moon plants, they fly about during the day time and evening in considerable numbers.

***I. difficilis**, Walk.—Another black-bodied Fly, but smaller in size, measuring only four lines.

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***I. latipes**, Walk.—A still smaller species, having a shiny black body, measuring only two and three-quarter lines in length.

Cryptus, Fabr.

***C. triangulifer**, Walk.—An insect very similar to the last, and about the same size, with a black body. The specimens were taken with the Ichneumon flies.

Pimpla, Fabr.

***P. sanctæ helenæ**, Walk.—A large black-bodied Ichneumon Fly, perhaps more abundant than any of those before mentioned. Frequently it is seen in houses at night, and generally about gardens on the high land as evening approaches. The length of the body is from five and a half to seven and a half lines, and it is easily recognised by its being the largest of those flies which have a black body. It selects the large green caterpillars of *Plusia aurifera* in which to deposit its eggs; and many chrysalides which I watched with much care, hoping to see the rightful occupant emerge, yielded only one of these troublesome creatures.

Paniscus, Grav.

***P. piceus**, Walk.—A large red-bodied Ichneumon Fly, more abundant still than any of the aforementioned. The length of the body is from seven to nine lines. On the high land, at night, these flies come into the houses in considerable numbers and behave in a very disagreeable manner; they dash into your face with unpleasant force, and I have often seen them extinguish the flame of a candle by tumbling into it one on the top of another, until they literally choke it out.

Fam. Braconidæ.

Alysia, Latr.

A. cephalotes, Hal.—An extremely minute Ichneumon Fly, taken at The Hermitage on the high land, and not abundant. It also inhabits Madeira.

Fam. Chalcidiæ.

Pteromalus, Swederus.

***P. ipsea**, Walk. — A small green Fly, taken by Mr. Darwin from the high central land, and, with the following species, described by Mr. Walker in his "Monographia Chalciditum," vol. ii. p. 97.

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Cirrospilus, Westwood.

*C. nireus, Walk.—A species about the size of a pin's head.

ORDER LEPIDOPTERA.

The varied hues of the St. Helena landscape need little to add to their brilliancy, or the almost entire absence of Butterflies would be more striking. There are but four species in the Island, and they have all been imported. With the Moths it is quite different. They abound, as is evidenced not only by their own presence, but by the multitude of their large and small caterpillars or larvæ, which cause so much destruction to garden plants. There is one of them, known as the common black grub, which at certain times literally swarms in the earth, and proves as formidable an enemy to the farmer and the gardener as they are likely to meet with. Most of the Moths are nocturnal in habit, and sometimes, attracted by a light, come into a room in such numbers as almost to extinguish the flame of a candle. Mr. Walker has identified forty-three species, of which he has described twenty as new to science.

Fam. Nymphalidæ.

Danais, Latr.

D. chrysippus, Linn.—The Asclepias Butterfly is the largest and most showy, and is very common in the warm parts of the Island, where it is evidently attracted by the Asclepias bushes, upon which its beautiful black and yellow caterpillars feed, and from which, like handsome eardrops, its bright green and gold pupæ or chrysalides are suspended.

Diadema, Boisd.

D. bolina, Linn.—Black-and-white Butterfly, of which only a few exist on the low warm land about Jamestown, where it associates with the Asclepias Butterfly.

Pyrameis, Hübn.

P. cardui, Linn.—The common, ubiquitous, Painted Lady, or orange and red Butterfly, is one of the most abundant, frequenting all parts of the Island, but chiefly the gardens on the high land.

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Its black and yellow, very hairy caterpillar is not very destructive, as it confines itself to mallows, nettles, and other weeds.

Fam. Lycænidæ.

Lycæna, Fabr.

L. bœtica, Linn.—The small blue Butterfly is the most abundant everywhere, especially on a damp sunny day, which appears to suit it best. I have not met with the larvæ anywhere but in the pods of green-peas; though they must feed elsewhere, as this vegetable is scarcely sufficiently cultivated to account for so large a number of the butterflies.

Fam. Sphingidæ.

Chærocampa, Dup.

C. celerio, Linn.—This widely-distributed creature, known as the Brown Hawk Moth, with red wings, is not very common in the Island; but its large green or brown larvæ, or caterpillars, are very destructive to the grape-vines, devouring the young shoots and leaves immediately they are put forth in the spring months of October and November. They very quickly destroy every vestige of foliage on a large vine.

Acherontia, Ochs.

A. atropos, Linn.—The Death's-Head, or, as it is commonly called, the Fernando Po Moth, is said to have first appeared in the Island in the year 1835, and was afterwards very plentiful until 1854, when it disappeared almost simultaneously with the Honey Bee, to which it was a troublesome enemy. As many as five or six would inhabit one hive, getting access to it in spite of all precautions to keep them out, and would feed upon the honey as well as destroy the Bees. Whether they were instrumental in exterminating the Bees or not, it is difficult to ascertain, but both disappeared at the same time.*

Fam. Leucanidæ.

Leucania, Ochs.

L. extranea, Guén.—A large light-brown Moth, about three-

* The Honey Bee was re-introduced a few years ago, and it is a remarkable fact, that this moth has just (1874) reappeared in the Island, after an absence of twenty years.

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quarters of an inch in length, with dark, longitudinal markings, and a white spot on each wing; rather abundant on the high land, where it flies into houses at night, two or three at a time. The larva is the large fat brown caterpillar, which is so very destructive in gardens. The chrysalis is of a mahogany colour, generally buried without much protection under the surface of the soil, and chiefly under grass borders of flower beds. It inhabits also North and South America, Hindostan, Australia, and New Zealand.

L. punctosa, Treit.—A pale grey Moth, about an inch in length, with a small white spot in the centre of each wing, and a double row of small black spots along the extremities of the wings. The caterpillar is smooth, in colour light brown, with dark brown (approaching to black at each joint) and nearly white longitudinal markings. When about to change to the chrysalis it conceals itself under stones. Inhabits also South Europe.

Fam. Orthosidæ.

Anchoscelis, Guén.

***A. insularis**, Walk.—Of this native Moth, Mr. Walker gives the following description:—"*Male* brown, cinereous beneath. Front with two black bands. Palpi porrect, hardly extending beyond the head; third joint conical, less than one-fourth of the length of the second. Antennæ minutely pubescent. Abdomen and hindwings cinereous, the former crested near the base. Forewings with three irregular undulating double transverse lines; first line very near the base; second antemedial; third postmedial; orbicular and reniform marks white, of the usual form. Hindwings brown about the exterior border. Length of the body six lines; expansion of the forewings fifteen lines. *Female* ochraceous, stout. Palpi porrect, not extending beyond the head; third joint minute, short-conical, not more than one-sixth of the length of the second. Abdomen brown; apical tuft ochraceous. Forewings, with the orbicular mark, represented by a whitish, blackish-bordered point, which is contiguous to a black zigzag transverse line; reniform, represented by a narrow black lunule whose disk is of the ground colour; an exterior white blackish-bordered zigzag line, which forms the inner border of a brownish band, whose outer border is incompletely blackish; underside with a blackish disk, excepting a space which includes

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the orbicular and reniform marks, which are black and very large. Hindwings with a dark-brown lunule in the disk, and with a very broad dark-brown marginal band; fringe cinereous. Length of the body seven lines; expansion of the forewings eighteen lines." It is easily recognised by its brick-red colour, with brown and white markings, and dark-brown silky underwings. The caterpillar is of an opaque green, or light brown, or flesh colour, marked with very fine longitudinal lines, and very slightly hairy; it measures about an inch and a quarter in length, and usually feeds upon geraniums and other garden plants on the high land. The chrysalis is of a light mahogany colour.

Fam. Noctuidæ.

Agrotis, Ochs.

A. obliviosa, Walk.—This Moth inhabits also South Africa, but it almost seems to be a native of the Island. It is of a brown colour, measuring about three-quarters of an inch in length; the outer wings are marked transversely, with one or two dark-brown waved lines and several large spots; the under wings much resemble white silk; the legs are dark-brown spotted with white. Its larva is the common blue or black garden grub, which is such a pest to farmers and gardeners. It lives in the soil, and destroys whole fields of vegetation. When changing to the chrysalis (which is of a light amber colour) it envelopes itself in a coating of earth, the exterior of which somewhat resembles a small walnut, the cavity inside being spacious and perfectly smooth. General Beatson made a series of careful experiments with these grubs, which he found to be entirely vegetable feeders, so that the best mode of ridding the land of them is to starve them by a clean fallow during the warm dry weather. These exceedingly troublesome creatures are not, however, without their natural enemies, as I discovered after having kept several of them in a box for a week. They shrivelled away, and a small brown ovule forced its way through the skin from the inside of each, which, in about three weeks, developed into a species of fly somewhat like the common house fly.

***A. pallidula,** Walk.—Of this native, Mr. Walker gives the following description:—"*Female* pale fawn colour. Body whitish beneath. Antennæ slender. Palpi obliquely ascending, not rising to the height of the vertex, densely clothed with short hairs; third

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joint elongate-conical, about one-fourth of the length of the second. Antennæ slender. Femora broadly fringed; hind tarsi spinulose beneath. Forewings with the orbicular and reniform marks black, of the usual form; a blackish undulating line extending from the reniform to the inner border; two black points between the orbicular and the base, one towards the costa, the other towards the inner border; a broad pale-brown dentate band, with a darker outline, between the reniform and the exterior border. Hindwings with a brown lunule in the disk and with a broad, dark-brown marginal band. Length of the body eight lines, of the wings twenty-one lines." It is easily recognised by its pale brick colour, with one black spot on each wing.

Fam. Apamidæ.

Apamea, Ochs.

***A. subvelata,** Walk.—This native is described by Mr. Walker as follows:—"*Male* ferruginous brown, stout, cinereous beneath; palpi porrect, hardly extending beyond the head; third joint short conical, about one-sixth of the length of the second; antennæ minutely setulose. Abdomen with a large ochraceous apical tuft. Forewings with the orbicular and reniform marks of the usual form; orbicular cinereous patch very large, black-bordered; reniform patch large, black-bordered; an exterior zigzag transverse black line which approaches very near another zigzag black line between the reniform and the inner border, a less distinct submarginal zigzag black line and a row of marginal black points. Hindwings with a continuation of the exterior line and with a black mark in the disk; fringe white; underside and that of the forewings with similar markings. Length of the body seven lines; expansion of the forewings sixteen lines." It is easily distinguished by its very dark-brown colour.

Prodenia, Guén.

P. testaceoides, Guén.—A variegated brown and white Moth, about three-quarters of an inch in length. The upper wings are brown, irregularly veined with white; the underwings are silky, almost white, with a very slight pink tint. The caterpillar is a large fat brown one, about an inch and a half in length, marked more or less with jet black and bright yellow spots in two longitudinal rows down the back. It is very abundant on the high land, destructive to

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vegetation, and, when about to change into its mahogany-coloured chrysalis, crawls into the earth, concealing itself under grass flower-borders, &c. It also inhabits Mauritius, Hindostan, and Ceylon.

Caradrina, Ochs.

***C. indicata**, Walk.—This Moth is very rare, and appears confined to the highest land. I obtained but two or three specimens at The Hermitage only. It is a stout-built creature, about three-quarters of an inch in length, of a pale grey colour, with a small black spot on each wing.

Fam. Gonopteridæ.

Cosmophila, Boisd.

C. indica, Guén.—A medium-sized Moth, in colour orange and brown, which, attracted by the light of a lamp or candle, comes into houses at night. It inhabits also Africa, S. Asia, and Australia.

C. xanthindyma, Boisd.—A beautifully-coloured Moth, dark brown and deep orange, and a handsomer species than the last. I obtained one specimen only, from Scotland, on the high land. It inhabits also W. Africa, N. Hindostan, Ceylon, and Australia.

Fam. Plusiidæ.

Plusia, Ochs.

P. aurifera, Hübn.—A good-sized Moth, in colour light reddish-brown, with golden wings, very commonly seen hovering about flowers in the dusk of evening, and occasionally in houses after lamps or candles are lighted, both in Jamestown and on the high land. The caterpillar is the emerald green one, about an inch and a half in length, which is so very destructive in gardens. When changing, it selects a green leaf, turns back the edge and encloses itself in a finely spun web. The chrysalis is at first green but changes to black, and frequently produces, instead of the moth, an Ichneumon fly (*Pimpla Sanctæ helenæ*), which appears to select the caterpillar as a place of deposit for its egg. It inhabits also Teneriffe, Senegal, S. Africa, Madagascar, Hindostan, Ceylon, and Java.

P. limbirena, Guén.—A medium-sized, dark brown, bull-headed Moth, with a peculiar silver mark on each wing. It is very abundant,

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and commonly flies into houses at night after lamps are lighted. The chrysalis is usually found enveloped in a web and concealed under stones, or attached to the underside of green leaves of plants. It inhabits also Abyssinia, S. Africa, and Madagascar.

Fam. Ophiusidæ.

Achæa, Hübn.

A. melicerta, Drury.—A very large, dark brown-and-white Moth, sometimes called the Peach Moth from its habit of perforating ripe peaches. It is one of the largest found in the Island, but not very abundant, and is generally seen on the low land in Jamestown, sometimes flying about during the daytime. Its larva is found on trees and plants in the Botanical Gardens. It is a looper caterpillar, about two inches in length, with six legs at the head, eight a little further back than midbody, and two at the end. It is of a flesh-colour, finely marked and speckled with black, the underside being lighter than the back. The body is smooth; the head black and white in colour, and very hard and hairy. It has two hard spikes, forming a reddish bifid sort of tail. In the middle of the foremost loop, on the back, is an oblong black spot with three white spots along its margin. The front legs are hard and shiny, the others are soft and divided into two at the foot. When changing, it encloses itself in leaves united together with web, and produces a rather stout mahogany-coloured chrysalis, about an inch and a quarter in length, which at first is coated with a flesh-coloured bloom.

Ophiodes, Guén.

O. hottentotta, Guén.—A large Moth about the size of the last-mentioned, but yellowish in colour. It is very rare, and I only met with some fragments of the wings amongst the grass near Oaklands, until I was leaving the Island, when a friend gave me two larvæ or large brown caterpillars; these I kept in a box through their several changes, and obtained specimens of the moths. The caterpillar and chrysalis both resemble those last described.

Fam. Acidalidæ.

Acidalia, Treit.

***A. separata,** Walk.—This exceedingly pretty, little grey Moth,

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with beautifully-marked wings, frequently flies into houses at night, and alights on the walls or ceiling of a room. It appears to inhabit the high land, and I have often seen it at The Hermitage. Mr. Walker gives the following description of it:—"*Female* hoary, minutely speckled with black. Head with a narrow black band between the eyes. Palpi black, obliquely ascending, not rising to the height of the vertex; third joint extremely minute. Abdomen above tinged with brown, except along the hind border of each segment. Wings mostly tinged with brown; each with a black dot in the disk and with an exterior undulating oblique white line which is partly and broadly bordered with blackish-brown on the inner side; marginal lunules black. Underside cinereous; a very broad space along the exterior border shaded with brown and including a hoary undulating line. Length of the body four and a half lines; expansion of the forewings eleven lines."

***A. atlantica,** Walk.—An equally beautiful but somewhat smaller species than the last, with similar habits. The following is the description by Mr. Walker:—"*Male* and *female* hoary, minutely speckled with black. Head black, except the vertex, which is white. Antennæ of the male testaceous, thickly setose. Wings with a black dot in each disk; four zigzag oblique and undulating brown lines; first line near the base; second close to the outer side of the dot, more faint than the others; third and fourth parallel and near to each other, at half the distance between the dot and the exterior border; marginal lunules black. Underside with similar but less distinct markings. *Var. B.* white; the space between the third and fourth lines brown, and thus forming a band which is bordered with black on the inner side. Length of the body three and a half to four lines; expansion of the forewings ten to eleven lines."

Fam. Fidonidæ.

Sterrha, Hübn.

S. sacraria, Linn.—This very pretty, pale-yellow or almost white Moth, with brown bands across the wings, is not very abundant; but on a damp sunny day I have seen it in considerable numbers flying about amongst the short grass near Cleugh's Plain. It inhabits also South Europe, North Africa, West Africa, South Africa, and Hindostan.

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Fam. Herminidæ.

Herminia, Latr.

***H. rectalis**, Walk.—I obtained but two specimens of this beautiful, soft, light-brown Moth, which were lying concealed, alongside of stones of the same colour, in the garden at The Hermitage. The following is the description which Mr. Walker gives of it:—"*Female* pale, cinereous fawn-colour, pale cinereous beneath; palpi smooth, slender, compressed, curved, reflexed over the head; third joint lanceolate, shorter than the second; forewings, with two indistinct undulating slightly darker lines, one antemedial, the other postmedial; a more exterior straight white, slightly oblique line, which appears faintly on the pale cinereous hindwings; length of the body six lines; expansion of the forewings fifteen lines."

Fam. Pyralidæ.

Pyralis, Linn.

P. farinalis, Linn.—A very pretty Moth, in colour light-brown, in length about three-quarters of an inch, with geometrical markings on the wings. It is somewhat rare, and on the high land occasionally flies into lighted rooms at night. It inhabits also Europe, North America, Madeira, South Africa, and Australia.

Fam. Asopidæ.

Hymenia, Hübn.

H. recurvalis, Fabr.—A small dark-brown Moth, with white bands across the wings. The most abundant species of all. I have seen these moths literally swarm into lighted rooms at night, and extinguish the flame of a candle by choking the wick with their bodies. They are found at Ascension Island, and also inhabit the West Indies, South America, West Africa, Turkey, Hindostan, China, Australia, and New Zealand.

Fam. Margarodidæ.

Phakellura, L. Guild.

P. indica, Saund.—A small Moth, having white wings with

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deep brown borders; occasionally seen hovering around lighted candles in houses at night, both in Jamestown and on the high land. It inhabits also Africa, Asia, and Australia.

Fam. Botydæ.

Botys, Latr.

B. abstrusalis, Walk.—A dark-brown, medium-sized Moth; inhabits also Ceylon and China.

B. creonalis, Walk.—A small whitish Moth, with waved brown markings on the wings. Not very abundant, but sometimes seen in lighted rooms at night on the high land. It inhabits St. Domingo.

B. œdipodalis, Guén.—A very beautiful, large, pure white Moth, very rare, but occasionally seen during the daytime, or early evening, in the neighbourhood of Southens. Inhabits also the West Indies and South America.

Scopula, Schr.

S. ferrugalis, Hübn.—A small-sized, dark-brown Moth, the larva of which is a small transparent pale-green caterpillar, about three-quarters of an inch in length, the head slightly marked with brown, and having sixteen legs—viz., eight in the middle, six near the head, and two behind. It is uncommon, and the specimens I obtained were taken from a common yellow marigold bush growing at an altitude of 1800 feet above the sea. When about to undergo change, the caterpillar assumes a primrose tint, envelopes itself in leaves bound together by web, and turns into a small mahogany-coloured chrysalis, about one-third of an inch in length. It inhabits also Europe and Madeira.

***S. delineatalis**, Walk.—A small brownish Moth; a native, of which Mr. Walker gives the following description:—"*Female* pale cinereous; forewings, with two broad irregular brown bands, one antemedial, the other postmedial, and forked in front, each intersected by a zigzag white line, the second of these forked in front; a brown line along the exterior margin, bordered on the outer side by a white line, which is accompanied by black points; orbicular and reniform marks, blackish. Length of the body three and a half lines; expansion of the forewings nine lines."

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Meyna, Guén.

M. rusticalis, Hübn.—This brilliant orange-coloured Moth is somewhat rare, but, on a sunny day after mist or rain, may be seen flying about amongst the tufts of cow-grass on the high land in the neighbourhood of Scotland and The Hermitage. It inhabits Europe.

Fam. Scoparidæ.

Scoparia, Haw.

***S. nigritalis**, Walk.—A small, long, dark-coloured Moth, which Mr. Walker describes as follows:—"*Male* and *female* blackish; abdomen, hindwings, and underside cinereous, shining; forewings near the base with a cinereous band, which is irregularly bordered on both sides with deep black; orbicular and reniform marks, an exterior undulating transverse line and marginal dots deep black; length of the body three lines; expansion of the forewings eight lines."

***S. lucidalis**, Walk.—A Moth which flies into the houses abundantly at night. The following is Mr. Walker's description of it:—"*Female* silvery whitish; forewings with two deep black irregular bands, and with three deep black exterior patches; first band very near the base; second antemedial; first patch costal and postmedial; second near the interior angle, third costal and subapical; exterior border with deep black dots; length of the body four lines; expansion of the forewings ten lines."

Fam. Phycidæ.

Nephoteryx, Zell.

***N. privata**, Walk.—A long, thin, dark-coloured Moth, which Mr. Walker describes as follows:—"*Female* cinereous, with a very slight testaceous tinge, pale cinereous beneath. Forewings with a slightly darker spot, which extends from the costa to the disk, at a little beyond one-third of the length from the base. Hindwings white, semihyaline. Length of the body three and a half lines; expansion of the forewings eight and a half lines."

Fam. Tineidæ.

Tinea, Linn.

***T. ursella**, Walk.—Mr. Walker describes this species as follows:—"*Male* and *female* brown, cinereous beneath; head with a thick,

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short, erect tuft; palpi stout, curved, ascending, a little longer than the breadth of the head; second joint with a short thick tuft beneath; third nearly as long as the second; antennæ slender, a little shorter than the body; abdomen and hindwings cinereous; tarsi blackish, with whitish rings; forewings on the costa and in the disk with several black dots, which are variable in number and in size. Length of the body five to six lines; expansion of the forewings twelve to thirteen lines." These long, thin, brown Moths are very abundant, and many other species doubtless exist in the Island.

***T. binotatella**, Walk.—The following is Mr. Walker's description of this species:—"Brown, shining, cinereous beneath; front broad, rounded; palpi as long as the breadth of the head; second joint clavate; third shorter than the second; hind tibiæ with a long, thick tuft of hairs; forewings with a black spot in the disk at somewhat beyond two-thirds of the length. Length of the body three lines; expansion of the forewings nine lines."

The larva of this moth is well known in the Island as the Potato Worm. It is a small, translucent, maggot-like creature, of a dirty-whitish hue, marked with four longitudinal rows of small brown spots, and having a few long fine hairs on its body. In length it varies from a half to three-quarters of an inch. The head is hard, and of a chocolate-brown colour, and the little creature moves backwards quite as easily as it does forwards. It abounds in the Island, and is a thorough pest to the potato crops. Either the eggs are laid in the potatoes, or the larva enters them in an early stage of its growth, and, through its depredations, renders them quite unfit for food. When changing to the pupa state, it wraps itself up in a strong web, in the form of a close, tough envelope, and the chrysalis is of a light mahogany colour, with the positions of the wings and legs, even in its early stage, strongly marked longitudinally down the outside of the case or skin.

***T. subæneella**, Walk.—Another native species, of which Mr. Walker gives the following description:—"Cinereous. Head, thorax, legs, and forewings above æneous brown; palpi rather stout; second joint with a short fringe; third shorter than the second. Length of the body three lines; expansion of the forewings seven lines."

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Fam. Plutellidæ.

Plutella, Schr.

P. cruciferarum, Tell.—One of those very minute Moths which are so abundant in the Island.

Cerostoma, Latr.

***C. anticella**, Walk.—A long, thin Moth, a native of the Island, of which Mr. Walker gives the following description:—"Æneous brown, shining, silvery-whitish beneath; head palpi above, and a broad stripe on the thorax, all very white; palpi lanceolate, fringed beneath, longer than the breadth of the head; forewings with an elongated transverse black spot in the disk before the middle, and with a round black spot in the disk beyond the middle. Length of the body three lines; expansion of the forewings eight lines."

Fam. Gelechidæ.

Gelechia, Hübn.

***G. Sanctæ helenæ**, Walk.—A long, narrow, whitish Moth, which Mr. Walker describes as follows:—"*Male* and *female* cinereous, smooth, shining; head, thorax, and forewings pale fawn colour; front broad; palpi longer than the breadth of the head; third joint much shorter than the second; forewings without any markings. Length of the body four to five lines; expansion of the forewings eleven to fourteen lines."

***G. ligniferella**, Walk.—A somewhat smaller species than the last, also described by Mr. Walker:—"Pale, cinereous; head thickly tufted above; palpi ascending; second joint subclavate; third elongate-conical, less than half the length of the second; thorax with three brown stripes; forewings with some brown lines and with one black line, which extends from the base; exterior part with several brown streaks. Length of the body four lines; expansion of the forewings ten lines."

Fam. Lithocolletidæ.

Lithocolletis, Zell.

***L. aurifascia**, Walk.—An extremely minute and very beautiful Moth, of which Mr. Walker gives the following description:—"Steel-

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colour, silvery beneath forewings, with a broad gilded silver-bordered band beyond the middle. Length of the body one line; expansion of the forewings three lines. The state of the specimen recorded will not allow a more minute description."

Cnemiostoma, Zell.

***C. auronivea,** Walk.—Another of those very small native Moths, which Mr. Walker thus describes:—"Pure white; front broad, rounded; eyes black; palpi decumbent; forewings gilded from one-third of the length to the tips. Length of the body one line and a half; expansion of the forewings four lines."

Fam. Pterophoridæ.

Pterophorus, Geoffr.

P. rutilalis, Walk.—This yellow Plume Moth is not common, but is occasionally found hovering over flowers in the gardens on the high land. I captured one or two specimens of it in the lily flowers, and also amongst the honeysuckle blossoms at The Hermitage. It also inhabits Natal.

Platyptilus, Zell.

***P. subnotatus,** Walk.—A grey Plume Moth, easily recognised by its similarity at first sight to a large Mosquito. It is very rare, and I obtained one specimen only, which was taken at The Hermitage on the high land. Mr. Walker describes it as follows:—"Hoary antennæ and legs white; forewings with three black costal dots near the tip and opposite to three more which are near the interior border. Length of the body three lines; expansion of the forewings six lines."

ORDER DIPTERA.

One of the most largely represented Orders, and that which the visitor in the summer months, especially if fresh from Europe, will not fail to become acquainted with in less than twenty-four hours after arriving at the Island. The Mosquitos are certainly not either abundant, large, or voracious, but in every respect troublesome enough to cause a sleepless night, and a firm resolve not to pass another in the place without the aid of mosquito curtains. The day mosquito, which is, however, the most voracious, and which produces large blisters on every part of the body to which it can gain access,

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is entirely confined to the lower lands in Jamestown and at Ladder Hill. The night mosquito, which is very abundant all over the Island, is in appearance like an English gnat. It comes into houses in clouds during the hot months, and it is questionable which is the most distressing, its sting or the noise it makes; but I certainly prefer the latter.

On a hot summer's day in Jamestown, one is frequently reminded of the plagues of Egypt, at least of one of them, visions of which forcibly appear. I do not suppose that the Island is equal to most hot climates in this respect, but the inhabitants of Jamestown certainly receive their fair share of punishment from the swarms of flies which take possession of their houses during certain portions of the year, from January to March.

Out of the following twenty-seven species, which were submitted to Mr. Walker, it seems probable that ten, which are yet undescribed, may be new and peculiar to the Island.

Fam. Pulicidæ.

Pulex, Linn.

P. irritans, Linn.—The habits and customs of this insect are much the same at St. Helena as in other parts of the world, and, as they are so generally known, little need here be said concerning them. When it takes possession of a vacated house or cottage, as it often does, a sure mode of destruction to it is to strew the floors with branches of wild mint. *P. canis* is also abundant.

Fam. Mycetophilidæ.

Leia, Meig.

***L. Sanctæ helenæ**, Walk.—A Gnat-like Fly inhabiting the high land. Mr. Walker remarks that "the description of this and of the other species is deferred in order that their affinities with other species may be more examined."

Fam. Chironomidæ.

Chironomus, Meig.

***C.** sp. ?
***C.** sp. ? } Two species, the specimens of which Mr. Walker says were too much injured for description. They are Gnat-like insects, which fly about in damp situations on the high land during the evening time.

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Fam. Culicidæ.

Culex, Linn.

C. pipiens, Linn.—The common night Mosquito, which swarms in the Island during the summer months, more especially in the neighbourhood of streams or stagnant pools.

C. formosus, Wied.—The day or spotted black and white Mosquito, which is entirely confined to the low land. It enters houses, and flies about silently during the day-time, when it makes its unsuspected attack, and, often settling on the bald head of some hardworked official, raises a large blister before its presence is detected. It is not so abundant as the other species. Mr. Walker says:—"It inhabits Sierra Leone. *C. inexorabilis,* Walk., may be identical with this species."

Fam. Phlebotomidæ.

Psychoda, Latr.

***P. sp.** ?—A very minute Fly.

Fam. Tipulidæ.

Limnobia, Meig.

***L.** sp. ?—Which Mr. Walker says is nearly allied to *L. atlantica.* It is a large grey Daddy-long-legs. Both this and the following species are very abundant, and at night-time come into the houses on the high land in considerable numbers.

***L.** sp. ?
***L.** sp. ?

Two other species of Daddy-long-legs; one almost black, and the other a small grey one; both are abundant on the high land, where they come into houses at night, and hover round lighted lamps and candles.

Fam. Syrphidæ.

Eumerus, Meig.

***E.** sp. ?—A short-bodied, thick-built Fly, somewhat like a common house-fly.

E. ingens, Wied.

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Syritta, St. Farg.

S. pipiens, Linn.—A long, thin, black Fly, with yellow rings round the body, somewhat like a miniature wasp; occurs very plentifully in the Island, and, during the day-time, may be seen hovering around garden plants, especially fennel bushes, both on the high and the low lands.

S. spiniferella, Thoms.

Fam. Œstridæ.

Gasterophilus, Leach.

G. equi, Linn.—The common Bott-fly, best known in the Island as the Horse or the Donkey-fly. It is not very abundant, but most annoying to both horses and donkeys, which become almost frantic when one of them is near. The latter animal, in its endeavours to escape from one of these insects, has been known to fall over a precipice and break its neck. Horses become almost unmanageable when attacked, or even long before, as they seem instinctively to know when a bott-fly is near. Upon one occasion the horse I was riding jumped about the road in a ridiculous manner for some minutes before I could detect the immediate presence of one of these flies. I endeavoured to get away from it by a smart gallop, but in vain; there it was alongside of us immediately we stopped. After dismounting, it was near half an hour before I was able to capture it, which at last I accomplished by a blow of my riding-whip. That identical specimen, though somewhat mutilated, is the one which has been examined by Mr. Walker. I never saw a horse more frightened than on this occasion; it trembled from head to foot, and seemed fully to understand what had happened when the creature was killed.

Fam. Tachinidæ.

Tachina, Fabr.

***T.** sp.?—A medium-sized Fly, somewhat resembling the common house-fly. Mr. Walker has deferred giving a description of this insect.

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Fam. Muscidæ.

Sarcophaga, Meig.

S. hæmorrhoidalis, Fall.—Not unlike the common House-fly, but having a body striped throughout with black and white.

Calliphora, Desv.

C. vomitoria, Linn.—The Blue-bottle Fly is very abundant, and as great a nuisance in houses as it is in other parts of the world.

Musca, Linn.

M. emoda, Walk. var.?—Somewhat like the common House-fly, but having a bright green, glossy body. It is abundant about stables and dung-beds. *M. emoda* inhabits Egypt.

M. corvina, Fabr.—Very much resembling the common House-fly, but smaller.

M. domestica, Linn.—The common House-fly is plentiful throughout the Island, and almost as numerous and troublesome in Jamestown, during the summer months, as it is probably in any part of the world.

Stomoxys, Geoff.

S. calcitrans, Linn.—Somewhat like the House-fly, but having whitish bands across the body.

Fam. Anthomyidæ.

Anthomyia, Meig.

A. lardaria, Fabr.—A House-fly, larger in size than the common one.

Fam. Scatophagidæ.

Scatophaga, Meig.

S. stercoraria, Linn.—A yellow Fly, a little larger than the common house-fly, abundant on the high land. It lurks about the leaves of garden plants, occasionally coming into houses in search of its prey, *Musca domestica.* It darts upon its victim, clasping it firmly in its legs, and a tremendous struggle ensues; both fall to the ground, spinning round and round and buzzing loudly; in most

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cases the prey is secured, but sometimes it escapes, leaving the disappointed enemy exhausted with his warlike exertions. In a similar way it attacks *S. merdaria.*

S. merdaria, Fabr.—Both this and the last species are the common Dung-flies of Europe; they are very abundant along the roads and in the fields at St. Helena.

Fam. Geomyzidæ.

Drosophila, Fall.

***D. repleta,** Walk.—An extremely small Fly, very abundant near streams of water, and in wet marshy places. It is sometimes so plentiful in such localities as to produce a sensation of choking, when you inhale them in the act of breathing. It is general throughout the Island.

Fam. Hippoboscidæ.

Hippobosca, Linn.

H. equina, Linn.—Known as the Horse-fly. This insect is rare in the Island. Mr. Walker says:—"Perhaps *H. variegata* is a variety of this species."

ORDER HEMIPTERA.

The Bugs are not largely represented; one very characteristic species is, however, as well known in St. Helena as in most parts of the world. Aphides are very abundant, many of them occurring upon the native vegetation, and therefore well worthy of the attention of future collectors.

Eight species of this Order have been examined by Mr. Walker; two are described as natives, and it is probable that two others may also prove to be so.

Fam. Pentatomidæ.

Rhaphigaster, De Lap.

R. prasinus.—A large green, garden Bug, whose disagreeable odour soon denotes its proximity. It is found in most gardens both on the high and low lands.

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Fam. Acanthidæ.

Acanthia, Fabr.

A. lectularia, Linn.—The common Bed Bug, found everywhere, excepting where cleanliness prevails.

Fam. Saldidæ.

Salda, Fabr.

***S.** sp. ?—A black, plant Bug, taken from native vegetation on the high land.

Fam. Fulgoridæ.

Cixius, Latr.

***C. Sanctæ helenæ,** Stäl.—A brown Bug or Beetle-like creature, capable of considerable hopping power, found in gardens on the high land.

Issus, Fabr.

I. coleoptratus, Fabr.

Fam. Aphididæ.

Aphis, Linn.

***A.** sp. ?—Taken from the branches and leaves of the native Redwood trees growing on the high land, and described as follows by Mr. Walker:—" Wingless, brown, very convex, a little longer than broad; antennæ, nectaries, and legs pale; antennæ much shorter than the body; nectaries very short; legs rather short. Winged, green; head, antennæ, disk of thorax, nectaries, tarsi, and tips of femora and of tibiæ black. Size of *A. rumicis,* and very like it in structure."

Many other species of aphides exist in the Island which have not yet been collected.

Fam. Coccidæ.

Coccus, Linn.

C. cacti, Linn.—Notwithstanding several introductions of the Cochineal insect, and there being an abundance of the prickly-pear

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plants upon which it feeds, it does not appear to succeed in the Island. It was reintroduced a few years back, but a few only of the insects remain, and these, about two years ago, were at Maldivia Gardens.

*C. sp. ?—A white insect, which covers the stems and branches of the apple tree and ultimately kills the plant. In appearance it much resembles the Cochineal, but is smaller, and produces no dye colour.

ORDER MALLOPHAGA.

For assistance in identifying the few insects which live as parasites on birds taken at St. Helena, I am indebted to the late Mr. Henry Denny.

Fam. Philopteridæ.

Docophorus, Nitzsch.

D. phaëtoni, Denny.—A small insect taken from the feathers of the Tropic Bird.

Lipeurus, Nitzsch.

L. procellariæ, Denny.—An insect from the feathers of the Whale Bird (*Procellaria glacialoides*).

Fam. Acanis.

Hypoderas ?

H. sp. ?

ORDER THYSANURA.

One solitary representative of this Order has been detected by Mr. Walker.

Fam. Lepismidæ.

Lepisma, Linn.

L. sp. ?—This creature is best known by the appellation of "The Mackerel Moth." It is abundant all over the Island, and most destructive to books, clothes, papers, &c. It is generally found in houses, but I have also seen it amongst the barren rocks on the sea coast, at Egg Island and in its neighbourhood.

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CLASS II.—MYRIAPODA.

The small Wire Worm and the Centipede are perhaps the best known of this class: the former is very troublesome and destructive to all root-crops; the latter, though its bite is said to be severe, is seldom seen, but it inhabits old timber yards, old stone walls, and similar places in Jamestown, Rupert's Valley, Lemon Valley, Ladder Hill, and the low land along the northern side of the Island. It is never seen inland, but may generally be found under loose stones on the warm barren portions of the Island in the localities above mentioned. In size it averages about 3 to 4 inches, but in some instances attains as great a length as 7 or 8 inches. Mr. Walker identifies ten species under this class, as follows:—

Fam. Scolopendridæ.

Cermatia, Hardw.

C. coleoptrata, Linn.—Inhabits also the South of France, and along the Mediterranean coast.
C. rubrolineata, Newp.—Inhabits also N. Africa.

} These extremely elegant little creatures, known as "Thousand Legs," are very abundant, both on the high land and in Jamestown, where, during the evenings, they may often be seen venturing out of their hiding-places, and crawling over the walls or ceiling of a room in search of moths and flies.

Scolopendra, Linn.

S. angusta, Lucas.—It is quite probable that on a further investigation, two species of Centipede may be found in the Island. Mr. Walker states, in reference to the specimen submitted to him, as follows:—"It does not seem to differ from *S. leachii*, Newport, a West African species. *S. leachii* is the *S. morsitans* of Leach, not the *S. morsitans* of Linn., which is a South American species. The Egyptian *S. canidens*, of Newport, is nearly allied to *S. angusta*."

Lithobius, Leach.

L. forficatus, Linn.—A dark-red creature, about two inches in length, resembling in form a small Centipede, very abundant on the high land in gardens, earth banks, under stones, in old stems

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of trees, and such like places. It is apparently the same as the European species.

Cryptops, Leach.

C. hortensis, Leach.—A very thin Millepede, about two inches or more in length, and red in colour; very abundant in gardens on the high land, where it is found in the earth, under stones, under the bark of decaying tree-stumps, and similar damp localities.

Craspedosoma, Leach.

C. sp. ?—A thick-built Millepede, about an inch or somewhat less in length, and very abundant. It is easily recognised by its peculiar and disagreeable odour, and its habit of coiling itself into a small circular roll. It is of a dark reddish-brown colour, and almost white underneath. The legs are very small and numerous. It is pretty general in the Island, and one of the most abundant insects on the high land, where in moist localities it swarms, especially under old boxes and decaying woodwork. In some of the houses situated in damp places, like The Hermitage, this creature comes into the rooms at night, and crawls about the floors in considerable numbers, causing a very unpleasant sensation when crushed under foot. Mr. Walker says of this species, that it "differs from *C. rawlinsii*, and from *C. polydesmoides*, of the Mauritius."

Geophilus, Leach.

G. longicornis.—A very long, thin Millepede, about two inches or more in length, and of a pale colour, almost white. It is somewhat abundant, and is found on the high land in similar places as *Cryptops hortensis*.

Fam. Julidæ.

Julus, Linn.

J. pulchellus, Leach.—The Wire Worm, well known as one of the most destructive insects in the Island to all root-crops. It is very abundant.

J. sp. ?
J. sp. ?

Two species, larger and thicker than the common Wire Worm, and found in all gardens on the high land. Mr. Walker says in reference to them—"Perhaps not European, though very like some of that Continent."

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CLASS III.—CRUSTACEA.

Mr. Spence Bate, F.R.S., has very kindly examined and named my collection of Marine Crustacea; and Mr. Walker has done the same with the land species, in conjunction with the insects. The former includes two species, which are used as a substitute for lobsters, and afford an excellent article of food, whether eaten plain, curried, or in salad. The various Crabs, some four or five in number, which occur along the rocky sea-coast, have yet to be investigated.

Podophthalmia.

Order Brachyura.

Varuna, Mlne. Ed.

***V. atlantica,** Spence Bate.—A pretty little bright-blue Crab, of which I saw only one specimen, which was taken from the hull of a ship anchored in the roadstead.

Order Anomura.

Dromia, Fab.

***D. vulgaris,** Mlne. Ed.—The Sponge Crab, so greatly resembling a piece of sponge that no difficulty exists in recognising it. It is only occasionally found; inhabits also the Mediterranean.

Pagurus, Fab.

***P. bernhardus,** Reaumur.—The Hermit Crab is occasionally found washed up on the sea-shore, inhabiting some shell to which it has no legal claim.

Order Macrura.

Scyllarus, Fab.

***S. latus,** Latr.—A large shell-fish, called "The Stump." It is caught in shallow water at 15 to 20 fathoms, in considerably large quantities during the months of November to January, and sold in the market at 3*d.* or 4*d.* apiece. The mode of catching it is with a trap made of four hoops and split bamboo, somewhat after the plan of a gigantic mouse-trap, several feet in length, and 18 inches

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in diameter, and baited with albicore heads. The Stump is able to crawl in at either end, but not to make its exit again.

Palæmon, Fab.

*P. forceps, Mlne. Ed.—The Prawn is not common, but I have seen several very fine specimens brought up from the sea on the leeward side of the Island by fishermen's tackle and boats' moorings.

Palinurus, Fab.

*P. sp.?—The largest shell-fish that occurs at the Island, and known as "The Long Legs." It is not so plentiful as the Stump, and is taken in deeper water with hook and line instead of bamboo traps. It is an exceedingly good substitute for the lobster, and therefore is in great demand.

Order Stomapoda.

Squilla, Fab.

*S. stylifera, Lamarck.—A long reddish-coloured Crustacean, about three inches in length, and half an inch in diameter, taken occasionally in deep water. It is sometimes found adhering to fishermen's tackle.

Edriophthalmia.

Order Amphipoda.

Orchestia, Leach.

O. platensis, Kroy.—These little black, hopping creatures inhabit the land as far away from the sea as they possibly can. They keep to the central mountain parts, where, in the gardens, millions of them are to be found. One has only to turn over a sweet-william or carnation plant to get a sight of dozens of them, hopping and tumbling about like mad creatures. They take but a short time to stow themselves away and hide after being once disturbed. They appear to be very harmless in every way.

Order Isopoda.

Ægа, Leach.

*Æ. sp.?—Known best in the Island as "The Sea Cockroach." This creature is not unlike a large white woodlouse; it is not

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common, but is occasionally taken from deep sea by means of fishermen's tackle and boats' moorings.

Ligia, Fabr.

L. aquatica, Oliv.—A large Woodlouse, inhabiting damp places, and also the outskirts of the Island, where it lives under stones, &c.

Porcellio, Latr.

P. scaber, Latr.—The small garden Woodlouse, which is abundant on the high parts of the Island. In gardens it is one of the most common insects, and frequently finds its way into houses which are in damp situations.

Oniscus, Linn.

O. asellus, Linn.—A medium-sized, Woodlouse, found abundantly in association with the last-named species.

Order Cirripedia.

Coronula, Lam.

***C. balænaris,** Gmelin. — A parasitic creature found firmly attached to the backs of turtle.

Chelonobia.

***C. caretta,** Spengler.—A small parasitic creature which is commonly attached to the shells of crabs.

Lepas. Linn.

***L. (Pentelasmis), anatifera,** Linn. — Barnacles are frequently cast ashore with logs of wood, &c., which, by floating in the sea, have become covered with them. Old wine-bottles are sometimes washed up so thickly covered by them as to hide almost every portion of the glass. At all times they may be picked up adhering to something or other, on Sandy Bay Beach, on the windward coast.

Balanus, Lam.

***B. tintinnabulum,** Linn.—Masses of hard, barnacle-like shells, one built upon the top of the other, known as Sea Acorns, frequently washed on shore on the windward side of the Island.

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In addition to the marine crustacea above mentioned, there are several kinds of crabs. That known locally as the "Purple Rock" or "Peeling Crab," is found on the rocks at water-mark, and is much sought for by fishermen, who consider it the best bait for catching fish. The common "Black Crab" is much more abundant, and exists in thousands along the sea coast, where, on the hard lava rocks, in colour very similar to its own, it may be seen scrambling about as crabs only can scramble, in and out of the creeks and holes into which the surf dashes. A somewhat small bright orange-red coloured crab is very rare, but one specimen was brought to me from Breakneck Valley, on the leeward side of the Island. The "Purple Sand Crab" is also uncommon; it has very large claws, and is taken occasionally in deep water.

CLASS IV.—ARACHNIDA.

Although doubtless there are still more to be found with careful search, there are not many Spiders in the Island; those, however, which have been brought to light form a very interesting portion of its fauna, since nineteen species out of forty which have been collected have been pronounced by the Rev. O. P. Cambridge, who has examined and described* my several collections, and to whom I am much indebted for other kindness and ready assistance, to be new to science, and, as such, I do not think it would be too presuming to conclude, also indigenous to the place. Of the remaining twenty-one species, nine are indigenous to Great Britain, two European, five Egyptian, two Algerian, two from Ceylon and India, and one from East Central Africa. These have all most probably been introduced through the medium of commerce and the introduction of plants in Wardian cases. Mr. Cambridge says, in reference to the characteristics of this portion of the Island fauna, after his final examination of the several collections, that "The European stamp observed upon in regard to the spiders of the former collection is thus equally marked in those now recorded and described."

It is worthy of note that the native spiders are, almost as a rule, least abundant now in the Island; in each case where I met with only one specimen it turned out to be a new species. It is therefore

* Proceedings of Zoological Society, London, Nov. 25, 1869, and March 4, 1873.

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not at all improbable that, like the native plants and the snails, which we know are fast disappearing, some having gone entirely, the spiders, for some cause or other, are also yielding up their native land to foreign invaders.

There are but two species of Scorpion, and they are not abundant; they are both introductions, and to Mr. Cambridge I am indebted for their identification as well as that of a small pseudo-scorpion of which I found only one specimen, and that in the neighbourhood of some very old dry-looking law books in the Supreme Court House. Whence he came remains yet to be ascertained;* what he was doing there will probably never be known.

Order Scorpionidea.

Fam. Scorpionidæ.

Lychas, C. Koch.

L. americanus, C. Koch.—A small brown Scorpion, with rather a long tail, inhabiting the hot, barren, rocky outskirts of the Island; found in damp situations under stones and old timber, and very rarely in the town houses. It is not sufficiently abundant to cause inconvenience, and never reaches the high land; most probably it has been introduced through the medium of commerce.

L. maculatus, C. Koch.—A species which associates with the other, and is scarcely distinguishable from it, though smaller in size.

Fam. Pseudo-scorpionidæ.

Chelifer, Geoffr.

C. sp.?—A minute brown creature resembling a scorpion without a tail, found inhabiting some dry rubbish behind the Court House, in the Castle gardens on the low land. It is very rare.

Order Araneidea.

Fam. Filistatidæ.

Filistata, Latr.

***F. condita**, Cambr.—This Spider, which is peculiar to St. Helena, has been described and figured by Mr. Cambridge in "Proceed. Zool.

* Mr. Cambridge has kindly promised to ask Dr. L. Koch to examine this species.

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Soc.," March, 1873, p. 211, pl. xxiv. fig. 1. "It is of a dull whitish drab-yellow colour, clothed sparingly with coarsish brown hairs, and marked on the hinder half of the upper side with a series of four or five strong and well-defined transverse angulated bars or chevrons of a dull rusty reddish colour, the apex of each one (except the foremost) running into the one before it." As Mr. Cambridge only discovered one specimen in my collections, and that a female not yet adult, it certainly is a rare species.

Fam. Dysderidæ.

Dysdera, Latr.

D. crocota, C. Koch (*D. rubicunda*, Bl.).—This fleshy, red-coloured spider is easily distinguished. It is rather abundant on the high land, where it appears to spin no web, but a couple are almost certain to be found under every large-sized stone in the country gardens and neighbourhood of old buildings. It is indigenous to Great Britain.

Segestria, Latr.

S. senoculata, Walck.—Indigenous to Great Britain.

S. perfida, Walck.—This large black Wall-spider, which Mr. Cambridge says he has met with in Corfu, and that it has been taken once or twice in England and is common in Spain, is very abundant both in the town and on the high land. It spins its tubular nest between the joints of stones in walls, opening out to the surface of the wall in a funnel-shaped aperture. It is fond of stables, outhouses, cellars, and such like places, but is frequently caught prowling about the inside of houses after dark, never seeming to come out of its hole during the day-time. It fights desperately with its own species, and thus affords considerable amusement to the street-boys, who are very fond of indulging in a "spider fight," to witness which schoolboys will even risk the penalties of escaping from church during the time of service.

Fam. Drassidæ.

Gnaphosa, Latr.

***G. lugubris**, Cambr.—This rare native Spider, of which I was only able to capture one specimen, is described and figured by

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Mr. Cambridge, "Proceed. Zool. Soc.," March, 1873, p. 212, pl. xxiv. f. 2, who describes the abdomen to be of a narrow, oblong-oval form, of a black colour with a somewhat silky bottle-greenish reflection in some positions, well clothed with hairs, and having four indistinct pale dots, forming nearly a square, near the middle of the upper side.

Clubiona, Latr.

***C. dubia,** Cambr.—A small liver-coloured Spider, inhabiting the high land, often found inside of lily and other flowers, and generally amongst plants in gardens, where it seems to prey upon some kind of fly or moth which is partial to such localities. It generally comes out of its abode at night, and may then commonly be seen running across the outside of window panes in pursuit of moths. It is described and figured by Mr. Cambridge, "Proceed. Zool. Soc.," Nov. 1869, p. 532, and also March, 1873, p. 213, pl. xxiv. f. 3. I captured a specimen also in the stem of an old palm-tree in Jamestown.

Cheiracanthium, C. Koch.

***C. mellissii,** Cambr.—After much spider hunting in the Island, I only met with one specimen of this native. Having occasion to get up one morning rather earlier than usual, I met him just in the earliest dawn, proudly walking across my sitting-room floor at The Hermitage, situated on the high land. He had not long to lament that moment—evil for him, but otherwise for science—for he was soon secured in my specimen-bottle. The circumstances under which I met with this spider, doubtless prove its being of nocturnal habits, and therefore not likely to be commonly met with, still I am inclined to believe that it does not now exist to any extent in the Island. It is a large yellow spider, very unlike any other found in St. Helena, and may be easily recognised by the very accurate figure given of it by Mr. Cambridge in "Proceed. Zool. Soc.," March, 1873, pl. xxiv. f. 4, where it is also described, and said to be allied to *C. italicum*, Canestr. e Pav.

***C. planum,** Cambr.—Another rare, native Spider, of which I found only one specimen, which is described and figured, "Proceed. Zool. Soc.," March, 1873, p. 215, pl. xxiv. f. 5 :—"The abdomen is of moderate size and oval form; its colour is a dull luteous yellow,

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sparingly clothed with silky, yellow hairs, and thinly covered on the sides and upper side with whitish yellow, cretaceous spots or small patches, many of them being nearly conterminous, and leaving a clear short sword-shaped or slightly cruciform marking on the fore part of the upper side."

Fam. Agelenidæ.

Amaurobius, C. Koch.

***A. crucifer**, Cambr.—A native Spider, of small size, which, either from its scarcity or its peculiar habits, almost eluded my search, inasmuch as I succeeded in capturing only two. It is figured "Proceed. Zool. Soc.," March, 1873, pl. xxiv. f. 6, and it is also described as having an abdomen "oval, rounded, and rather bluff behind; the ground-colour is a pale luteous yellow, and it is more or less irregularly marked all over with black streaks and markings; among those on the upper side, near the middle, is a fairly-defined cruciform marking, followed towards the spinners, in a longitudinal series, by several rather short, blunt-angular, transverse, black stripes. In front of the ordinary spinners is a broad, transverse, supernumerary one."

Tegenaria, Latr.

T. civilis, Bl.—One of the most abundant Spiders in the Island, found also in Great Britain as well as in many other parts of the world. It is the common, mottled-brown, garden-wall spider of the high land, and is found plentifully in corners of old out-buildings, earth banks, beneath stones, &c., where it conceals itself behind a small insignificant web or nest, constructed in the joints of rubble stone walls, stems of old decaying trees, &c., ready to dart upon its prey when it comes near, in the form of moths, flies, and other insects of that class.

***T. proxima**, Cambr. (*T. atrica*, "Proceed. Zool. Soc.," 1869, p. 533).—A native Spider, nearly resembling the last, but much less common. It is the light pinkish-brown spider found inhabiting the edges of window sashes, and the eaves of outbuildings on the high land. It spins little web, and generally appears to be lying in wait for its prey.

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Fam. Scytodidæ.

Scytodes, Latr.

S. thoracica, Walck.—A rare Spider, of which I only obtained one in the Island. It has occurred (three times only) in Great Britain.

Fam. Pholcidæ.

Pholcus, Walck.

P. distinctus, Cambr.—One of the "Daddy-long-leg" Spiders.—"Linn. Soc. Journ.," vol. x. p. 380, pl. xi. figs. 28, 30. It is found also in Ceylon and India, whence probably it has been introduced to St. Helena.

P. phalangioides, Walck. — The common "Daddy-long-leg" Spider is smaller than the other species. It is very abundant both on the high and low lands in houses, where it soon establishes itself in the corners of cellars, cupboards, and even drawing-room ceilings, often telling a tale as to the activity of the housemaid's broom. It spins little web, and feeds chiefly upon flies, moths, and the Money Spiders (*Salticus*). It has the habit of spinning round and round so fast for about half a minute, when it is touched or disturbed, as to become scarcely visible. It is indigenous to Great Britain.

Artema, Walck.

A. convexa, Bl.—A large brown "Daddy-long-leg" Spider, found abundantly on the low land, in cellars and outbuildings in Jamestown, clinging to the ceiling beams, where it spins but little web. It is also found in Ceylon and India.

Fam. Theridiidæ.

Ariamnes, Thor.—Ariadne, Dol.

***A. mellissii**, Cambr.—This very beautiful, little golden Spider almost tells its own tale as a genuine native, for it exists only on the very mountain tops at Diana's Peak, nearly 3000 feet above the sea, as far removed from the habitats of imported creatures as it is possible to be. It is very rare indeed, but in that damp region, under the shade of indigenous cabbage-trees and ferns, it may still be found suspended from their branches with apparently a slight

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web. It is described, and a beautiful figure of it given, by Mr. Cambridge in "Proceed. Zool. Soc.," Nov. 1869.

Theridion, Walck.

T. punicum, Lucas.

T. fulvolunulatum, Lucas.—Both this and the last species are found also in Algeria.

T. tepidariorum, C. Koch.—A small slender, brown Spider, found in gardens on the high land, on the aloe leaves, &c., apparently without much web. The egg cases are spherical, about a quarter of an inch in diameter, light-brown in colour, and much resembling leather. It is a widely dispersed species, indigenous to Great Britain, and is found in Brazil as well as Ceylon.

Latrodectus, Walck.

L. erebus, Savig.—I found but one of this Spider in the Island. It is also found in Egypt.—"Sav. Arachn. de l'Egypte," pl. 3, f. 9.

Linyphia, Latr.

L. leprosa, Ohl. (*L. confusa*, Cambr., "Trans. Linn. Soc.," xxvii. p. 429, pl. 55, No. 21, *a*, *b*, *c*, *d*, *f*, *g*).—A common Spider at St. Helena, and a native of Great Britain.

***L. albimaculata**, Cambr.—A native Spider, but so rare that I obtained only one specimen, and that latterly. It is described "Proceed. Zool. Soc.," Mar. 1873, p. 219, from which the following is taken:—"The abdomen is of ordinary form, very convex above, and projecting over the base of the cephalothorax; the ground-colour is of a dark leadenish hue, marked with black patches and markings, the sides and upper surface being pretty thickly and rather symmetrically covered with bright white cretaceous spots; some of these form slightly oblique lines on the hinder points of the sides, and others a sort of horizontal cincture on either side of the forehalf; others, again, form a broken horizontal band along the lower part of each side. The general character and disposition of the abdominal markings bear a near resemblance to that of *L. leprosa* (Ohl.); but the markings and colours of the cephalothorax distinguish it from that species at a glance."

***L. trifididens**, Cambr —Another native Spider, of which a full

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description is given by Mr. Cambridge, "Proceed. Zool. Soc.," March, 1873.

Argyrodes, Sim.

A. epeïræ, Sim.—A small chocolate-coloured Spider, with silver markings on the body, found parasitic in webs of *Argiope aurelia*. Mr. Cambridge says:—"I have found it common in webs of *Epeïra opuntia* in Palestine, and Mr. Simon has found it very common also in similar webs in Spain." It is very common about the lower land at St. Helena, where, in the large webs that cover the prickly-pear bushes, it is almost always to be found.

Fam. Epeïridæ.

Tetragnatha, Latr.

T. pelusia, Savig.—A long thin-legged, long thin-bodied Spider, of a light brown and golden colour, found crawling along the sides of streams, &c., in gardens on the high land. I found it tolerably abundant at The Hermitage amongst the grass and water-cresses. It does not appear to make much web. It preys upon other spiders, and has a habit of extending its legs fore and aft, so as to resemble a small dry twig, and thus escape notice. It has been found in Egypt.

Meta, C. Koch.

***M. digna**, Cambr. (*Tetragnatha digna* and *T. indigna*, Spiders of St. Helena, "Proceed. Zool. Soc.," 1869, pp. 535–537, pl. xlii. fs. 3,4).—This appears to be the native spider which has best held its own against the invasion of foreign spiders, for it is still one of the most abundant garden and outdoor species in the Island. It is found equally on the low, the medium, and the very highest lands; but those inhabiting the mountain top, near Diana's Peak, where there is a cooler atmosphere, are more slender and smaller than those found lower down. It is easily recognised, being the handsome brown and golden garden spider which spins a large and beautiful geometric web, stretching from shrub to shrub, or from tree to tree, sometimes without support for 30 or 40 feet, and some 10 or 20 feet above the ground. It has always been a puzzle to me how this spider manages to construct suspension bridges, so to speak, of such magnitude, and across such wide spaces. After having built such an enormous web, it seems generally to prefer living

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at the very furthermost end of one of its main supports, under cover of a leaf or branch, or the corner of a building to which it may be fastened, ready to dart down into its web, spread out like a net to catch its prey. It has the habit, especially when disturbed, of arranging its legs fore and aft, so as to assume a linear appearance.

Epeïra, Walck.

E. solers ? Walck.—A prettily marked, yellowish-brown, outdoor Spider, which is commonly found spinning a geometric web, of considerable size, from leaf to leaf of the prickly-pear bushes, especially in the neighbourhood of Maldivia and the low warm land. I have also found it in houses in Jamestown. If it be *E. solers* (Walck), which is rather doubtful, it is indigenous to Great Britain; it occurs also in Bombay, Ceylon, and South-east Africa, from any of which places it may have been introduced to St. Helena through the agency of ships.

Argiope, Savig.

A. aurelia, Savig.—This is by far the largest Spider found in the Island. It is a large, striped, yellow, black and silver creature, which inhabits the warm sheltered spots of medium altitude (from 300 to 1500 feet above the sea). It is quite an outdoor insect, and spreads its large, strong, geometric web across the tops of the coarse grass, called guinea-grass, and from leaf to leaf of the common prickly-pear bushes. One web generally contains a colony of some nine or ten inmates, in addition to several huge egg bags, including two or three smaller *Argiopes*, and six or seven *Argyrodes epeïræ*. A good supply of captured moths hung up at one corner of the web completes the establishment, and all seem to live peaceably together. It is one of the most abundant spiders in the Island, particularly in the upper part of James' valley. It is not easily alarmed, and it requires a considerable amount of interference to cause the big fellow at the head of the colony to vacate the centre of the web. It is also found in Egypt.

Fam. Uloboridæ.

Uloborus, Latr.

U. williamsii, Bl. (*Orithyia williamsii,* Bl.)—A small, light-

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coloured, mottled Spider, with legs banded across with black and white, found hanging to the ceiling or roofing beams of outoffices, warehouses, and cellars in Jamestown, where it spins a very neat, fine, and pretty, geometric web, about 12 inches in diameter. The egg-bag is flat, septilateral, and of a light purple hue.

Fam. Thomisidæ.

Xysticus, C. Koch.

X. grammicus, C. Koch.—A light-brown Spider, found on shrubs in flower-gardens at an altitude of 2000 feet above the sea, and also on the cabbage-trees on the ridge behind West Lodge. It is not unlike a crab in its appearance and movements. Its four front legs are long and of the same colour as the body, and the four hind legs are very short and of a different colour, being almost white. It is not common in the Island, and does not spin a geometric web, but constructs a house, or nest, by binding together with a very fine silky web two or three green leaves; the edges of the leaves are firmly bound together, leaving an opening at each end, to serve as a back as well as a front entrance. Small moths appear to constitute the chief food of this insect. The male is much smaller and darker coloured than the female. It is also found in Europe.

Philodromus, Walck.

***P. signatus**, Cambr.—This is a native Spider, and, like most of the others, is rare. I obtained females only of it, and caught a specimen running across the dining-room table at The Hermitage, on the high land. It is a small speckled white and brown spider, and is described and figured "Proceed. Zool. Soc.," Nov. 1869.

Heteropoda, Latr.

***H. (Olios) tridentigera**, Cambr.—A medium-sized, chocolate-coloured, hairy-legged house-spider, frequently seen crawling about floors and walls of rooms during the evenings in warm situations. It is a native, and is described and figured "Proceed. Zool. Soc.," Nov. 1869.

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Fam. Sphasidæ.

Pasithea, Blackw.

P. pulchra, Bl.—This extremely handsome, large, green garden-Spider, with yellow and red markings, inhabits the low warm parts of the Island, where it spins its web across the topmost branches of geraniums and other leafy garden shrubs, the green leaves of which, corresponding with its own colour, serve to conceal it from view. It is not very abundant, and I took it principally at Maldivia Gardens and at Ladder Hill, but could only succeed in obtaining females, although I made special search for more than a year to find specimens of the other sex. In capturing this spider, I could not fail to be greatly struck with the extreme care it has for its egg-bag, or nest. It rushes to it immediately on being alarmed, and holds it with such tenacity as not again to relinquish it; and even after a specimen has been killed it will sometimes be found with the nest still in its grasp. An extremely beautiful figure of this spider is given by Mr. Cambridge in "Proceed. Zool. Soc.," Nov. 1869, pl. xlii. f. 7. This spider was first described from examples received from the east of Central Africa.

Fam. Lycosidæ.

Lycosa, Latr.

***L. (Trochosa) dolosa,** Cambr.—Walking amongst the ferns and native vegetation on the high mountain ridge, in the neighbourhood of Diana's Peak, one cannot help observing the ground and the hard clay banks, abundantly pierced by circular holes about a quarter or three-quarters of an inch in diameter. On digging into these holes they are found to be most carefully bored into the earth to a depth of six or eight inches, and to terminate in a chamber excavated to about the size of a walnut; and in this chamber is found the large brown spider, with its young family, for the reception of which it appears to have constructed such a peculiar habitation. A slight silky web secures the earth from falling into the hole in some cases, but does not penetrate to the chamber with the young spiders, which is simply excavated in the damp earth, or clay. One of these habitations was found to contain the adult spider with about forty young ones, each nearly one-third full grown, and much in the position of a hen with chickens. The

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chamber contained nothing else, not even traces of food, or the remains of insects, which might have been devoured for food. It is one of the most abundant native spiders now remaining, and is described in "Proceed. Zool. Soc.," March, 1873.

***L. ligata,** Cambr.—A somewhat large, brown, native Spider, with yellow body, of which I captured several specimens. An excellent figure, and a description of it, are given in "Proceed. Zool. Soc.," Nov. 1869, p. 540, pl. xlii. f. 8.

***L. inexorabilis,** Cambr.—A brown, native Spider, very similar, but stouter than the last, and rarely found. Figured and described in "Proceed. Zool. Soc.," Nov. 1869, p. 541, pl. xlii. f. 9.

Fam. Salticidæ.

Salticus, Latr. Bl.

***S. nigrolimbatus,** Cambr.—The large black and white "Fly-catcher," or "Money-spider," as it is commonly called. This funny little creature receives this latter name because of a popular superstition which the natives entertain. They say that one of these insects approaching a person signifies that a gift of money will follow. It conceals itself generally behind a small web, inserted between the window-sashes and the frame-beadings, ready to dart out upon its prey. It manages in a most clever manner to run along a pane of glass, and then with a spring darts with the rapidity of lightning through the air, a distance of several inches, upon some unsuspecting fly. It is described and figured in "Proceed. Zool. Soc.," Nov. 1869, p. 542, pl. xlii. f. 10.*

S. adansonii, Savig.—The Black "Money-spider," or "Fly-catcher," which occurs also in Egypt.

***S. inexcultus,** Cambr.—A small native species, with habits resembling those of the others. Described "Proceed. Zool. Soc.," March, 1873.

***S. subinstructus,** Cambr. (*S. illigeri*, "Proceed. Zool. Soc.," Nov. 1869.)—A small black, native "Fly-catcher," or "Money-spider," found abundantly underneath the large stones on High Knoll, and in similar places on other barren and hot parts of the Island. Described "Proceed. Zool. Soc.," March, 1873.

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* Mr. Cambridge informs me that this species has since been most unexpectedly found at Freshwater, in the Isle of Wight.

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Order Acaridea.

There is work yet to be done under this order. The following have, however, been added to Mr. Walker's list :—

Acarus, Linn.

A. domesticus.—The Cheese-mite.

Ixodes? Latr.

I. plumbeus ?—Cow-tick.

Leptus? Latr.

L. autumnalis ?—This "Hay-bug," as it is called, is larger in size and deeper in colour than the English Harvest-bug, and may therefore be quite different. It is abundant during hay time, and has yet to be identified.

CLASS V.—ANNELIDA.

The late Dr. W. Baird described the following species of Earth-worms in the "Linnean Society's Journal: Zoology," vol. xi. 1871.

Lumbricus, Linn.

***L. rubro-fasciatus,** Baird.—About 2 to 3 inches in length, of a dirty yellowish colour, banded across the back with a broad fascia of a red hue.

Megascolex, Temple.

***M. (Perichæta) Sanctæ helena,** Baird.—From 1 to 3 inches in length, of a dull red colour, with 86 rings about the body; both species inhabit the earth in moist situations on the high land. At certain times in the year they may be seen lying in a dead and half dying state on the hard surface of the roadways.

V. ANNULOIDA.

CLASS I.—SCOLECIDA.

There is yet work to be accomplished, more than I have been able to do, in this branch; but, so far, the following will embrace pretty nearly the most abundant species of the *Echinodermata.*

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CLASS II.—ECHINODERMATA.

Order Echinidea (or Sea-urchins).

Cidaris, Klein.

***C. metularia,** Lamck.—The thick-spined Sea-Egg of the Island is taken from deep water round the coast. It is found also at the Mauritius, the Seychelles, and St. Domingo. There are two varieties of this species found at St. Helena.

Echinometra, Breyn.

***E. acufera,** Blainville.—The common thin-spined, black Sea-Egg, which abounds on the rocky coast all along the sea-shore just below high-water mark. This creature bores a hole in the solid basaltic rock sufficiently deep to protect itself. It occurs also at Ascension Island, Vera Cruz, Martinique.

There is a third, a very fine-spined Sea-urchin, the fragments of which I have picked up occasionally on the windward sea-coast, but I never obtained a complete specimen.

Order Asteridea (or Star-fishes).

Asterina, Gray.

***A. minuta** ?—A small greenish Star-fish, found abundantly sticking close to the rocks around the sea-coast, about high water mark.

Order Ophiuridea (or Sand-stars).

Echinaster, Gray.

***E.** sp. ?—A bright orange-coloured Sea-star. This brilliant creature may often be seen lying at the sea bottom near the shore, at the depth of a fathom or two.

There are several species of sand-stars, some of them very large and taken from deep water. I sent a collection of them to the British Museum with the fishes, but as yet they have not been examined.

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ORDER CRINOIDEA (or Feather-stars).

Comatula, Lamck.

*C. sp.?—This very pretty, purple, feathery creature, not unlike the head of a miniature palm-tree, is occasionally taken from the pools of sea-water on the West rocks, and other parts of the coast. I found one specimen at Lemon Valley, but it is extremely rare.

VI. INFUSORIA.

CLASS I.—INFUSORIA.

Under this head, search has yet to be made at St. Helena.

VII. PROTOZOA.

CLASS I.—SPONGIDA.

There is a small brown Sponge, seen growing in the pools of sea-water on the coast, which does not attain to any size. Pieces of it as large as a cricket-ball are frequently picked up on the sea beaches. Through the kindness of Professor Dickie, it has been examined by Dr. Bowerbank, who says "it belongs to the genus *Halispongia* of De Blainville. The characters are the same as those of the coarse sponges of commerce from the West Indies."

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PART IV.—BOTANY.

A most interesting subject for investigation is afforded by the Botany of the Island. The plants growing there at the present time number about 1048; for the presence of the larger portion of these, it is not difficult to account, they having followed through a period of three hundred and seventy-two years in the track of man and civilization; but a most interesting question as to their origin is dictated by the remaining 77 species, which form a remnant of that Flora characteristic of the little lonely oceanic spot previous to man's first visit there.

This most wonderfully curious little Flora, which has been aptly termed "a fragment from the wreck of an ancient world," was made a prominent subject in a very able and highly interesting lecture upon Insular Floras, delivered before the British Association for the Advancement of Science at Nottingham in 1866. In that lecture Dr. Hooker, in reference to St. Helena, with its indigenous Flora, says: "When discovered, about 360 years ago, it was entirely covered with forests, the trees drooping over the tremendous precipices that overhang the sea. Now all is changed, fully 5-6ths of the Island are utterly barren, and by far the greater part of the vegetation that exists, whether herbs, shrubs, or trees, consists of introduced European, American, African, and Australian plants. The indigenous Flora is almost confined to a few patches towards the summit of Diana's Peak, the central ridge, 2700 feet above the sea.

"The destruction of the Madeira forests, you will remember, was by fire. A much more insidious agency has operated with tenfold greater effect in St. Helena—viz., goats. These were introduced in 1513, and multiplied so rapidly, that in 1588 Captain Cavendish states that they existed in thousands, single flocks being almost a mile long.

"In 1709, trees still abounded, and one, the native Ebony, in such quantities, that it was used to burn lime with. At this time, however, the Governor of the Island reported to the Court of Directors

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of the East India Company, that the timber was rapidly disappearing, and that the goats should be destroyed for the preservation of the Ebony wood, and because the Island was suffering from droughts. He received the laconic reply, 'The goats are not to be destroyed, being more valuable than Ebony.'

"Another century elapsed, and in 1810 another Governor reports the total destruction of the great forests by the goats, which greedily devour the young plants, and kill the old by browsing on their leaves and bark, and that fuel was so scarce that the Government paid for coal (and this in a tropical islet) 2729*l.* 7*s.* 8*d.* annually. Still, even then, so great was the amount of seed annually shed, so rich the soil, and so rapid the growth of the native plants, that the Governor goes on to say, that if the goats were killed and the Island left to itself, it would in twenty years be again covered with indigenous vegetation.

"About this time the goats *were* killed, but another enemy to the indigenous vegetation was at the same time introduced, and which has now rendered it in all probability impossible that the native plants will ever again resume their sway. Major-General Beatson, then Governor, an active and sagacious officer, proposed and carried out the introduction of exotic plants on a large scale, and from all parts of the world; these have propagated themselves with such rapidity, and grown with such vigour, that the native plants cannot compete with them. The struggle for existence had no sooner begun, than the issue was pronounced; English broom, brambles, willows, and poplars, Scotch pines and gorse bushes, Cape of Good Hope bushes, Australian trees and American weeds, speedily overran the place; and wherever established, they have actually extinguished the indigenous Flora, which, as I have said before, is now almost confined to the crest of the central ridge.

"It is therefore now impossible to distinguish the introduced from the native plants of St. Helena; but most fortunately Herbaria exist, made at the beginning of this century, that to a great extent supply the deficiency. Of these, the most complete was formed by the late Dr. Burchell, the eminent South African and Brazilian traveller, who spent five years in St. Helena, from 1805 to 1810. Unfortunately for science, Dr. Burchell never published, and scarcely allowed any naturalist access to his Herbarium. On his death, last year, his magnificent botanical collections were presented to Kew

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by his sister, and amongst them I found his invaluable St. Helena Herbarium in a capital state of preservation.

"It includes 169 flowering plants, but most unhappily Dr. Burchell has not indicated which are *bonâ fide* natives, and which have followed the track of man and animals introduced by him, and have thus become quasi-indigenous or naturalized. Some years after Dr. Burchell's visit, however, an eminent Indian botanist, Dr. Roxburgh, visited St. Helena, and drew up a catalogue of the indigenous, naturalized, and cultivated plants then existing, carefully indicating the truly indigenous ones that were then surviving. Dr. Roxburgh's collection was much less complete than Burchell's, but by collating the two, and with my own observations made during two visits to the Island, I have arrived at a fairly accurate estimate of the number and affinities of the native vegetation remaining.

"According to these data, about forty-five indigenous species inhabited the Island before Major-General Beatson destroyed the goats, and introduced the European, &c., plants; to which five dubious natives may possibly be added. All are shrubs, trees, or perennial plants; not one is an annual (though introduced annual plants abound, both tropical and temperate). Forty of them are absolutely confined to the Island, and five are tropical weeds, or sea-side plants of very wide distribution. These forty are absolutely peculiar to St. Helena, and, with scarcely an exception, cannot be regarded as very close specific allies of any other plants at all. No less than seventeen of them have been referred to peculiar genera, and of the others, all differ so markedly as species from their congeners, that not one comes under the category of being an insular form of a continental species. Many of them are excessively scarce, being now found in very small numbers, and on single rocks; not a few have never been gathered since Dr. Burchell's visit; some are certainly now extinct, as the beautiful Ebony tree, and probably nearly one-fifth have totally disappeared during the last half century, or are now all but extinct.

"From such fragmentary data it is difficult to form any exact conclusions as to the affinities of this Flora, but I think it may be safely regarded as an African one, and characteristic of Southern extra-tropical Africa. The genera Phylica, Pelargonium, Mesembryanthemum, Osteospermum, and Wahlenbergia, are eminently characteristic of Southern extra-tropical Africa, and I find amongst

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the others scarce any indication of an American parentage, except a plant referred to Physalis. The Ferns tell the same tale; of twenty-six species, ten are absolutely peculiar, all the rest are African, though some are also Indian and American.

"The Botany of St. Helena is thus most interesting; it resembles none other in the peculiarity of its indigenous vegetation, in the great rarity of the plants of other countries, or in the number of species that have actually disappeared within the memory of living men. In 1839 and 1843, I in vain searched for forest trees and shrubs, that flourished in tens of thousands not a century before my visit, and still existed as individuals twenty years before that date. Of these I saw, in some cases, no vestige, in others only blasted and lifeless trunks cresting the cliffs in inaccessible places. Probably 100 St. Helena plants have thus disappeared from the Systema Naturæ since the first introduction of goats on the Island. Every one of these was a link in the chain of created beings, which contained within itself evidence of the affinities of other species, both living and extinct, but which evidence is now irrecoverably lost. If such be the fate of organisms that lived in our day, what folly it is to found theories on the assumed perfection of a geological record which has witnessed revolutions in the vegetation of the globe, to which that of the Flora of St. Helena is as nothing."

By a recent examination of the mosses, the lichens, the fungi, and the sea weeds, the number of plants absolutely peculiar to St. Helena, has been increased to seventy-seven.

Mr. Mitten has added thirty-two new species from the mosses.

Mr. Leighton has also augmented the list by three from amongst the lichens collected in the Island by Dr. Burchell, others, and myself. In an account of these collections, published in the "Transactions of the Linnean Society of London," vol. xxvii., he says—"Though not numerous, they are highly interesting and instructive, as well from their insular locality itself, as more especially from their approximate similarity to the '*Lichenes Amazonici et Andini*' of Mr. Richard Spruce."* The three species which he describes as new may be considered as absolutely peculiar to St. Helena, leaving it as uncertain how the remainder found their way into the Island.

Mr. Berkeley has supplied a drawing and descriptions of two

* Linn. Trans., vol. xxv. p. 433 *et seq.*

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new species from my collection of Fungi, but the examination of the sea-weeds does not reveal any that are absolutely confined to St. Helena.

We know that plants are carried from place to place on the globe through the agency of birds eating the seeds, or conveying them in their beaks, or on their feet or feathers. Mr. Darwin gives many proofs of this. Also that the atmosphere wafts minute winged or feathery seeds over many miles of distance. And we see the oceanic currents daily taking their part in the transportation of seeds from place to place; at this little Island itself, the large *Entada* and other seeds, borne on the surface of the sea, over thousands of miles, round the Cape of Good Hope, unharmed by exposure to the marine element, are still deposited on its southern shore, where they have been known to germinate and grow.

But if we attempt to account for the indigenous Flora of St. Helena by any one or all of these means, we must look elsewhere for corresponding species; and these we do not find. Dr. Hooker has been able sufficiently to establish the fact, that, in its affinities, the Flora partakes slightly of a Southern extra-tropical African character; still we do not find the same plants occurring in Africa. The exploration of the vicinity of the Congo shows that there nothing is identical;* while, on the other hand, we do not find what we seek for in South America.

Other theories may be appealed to in order to account for the presence and position of this wonderfully curious little Flora. Continental land at one time spreading over the South Atlantic Ocean, with its own peculiar Flora and Fauna, has been started as a plausible theory; but the geological investigation of St. Helena forbids us to look upon it as a remaining portion of some disappearing continent to which the last vestige of a Flora, still struggling for existence, may be clinging; and the great depth of ocean† around it also seems to deny the possibility of its connexion at any time with either African or American land. Still we cannot tell what geological

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* "It might perhaps have been expected that the examination of the vicinity of the Congo would have thrown some light on the origin, if I may so express myself, of the Flora of *St. Helena*. This however has not proved to be the case; for neither has a single indigenous species, nor have any of the principal genera characterizing the vegetation of that Island, been found either on the banks of the Congo or on any other part of this coast of Africa."—*R. Brown, Appendix to Capt. Tuckey's Narrative of the Congo Expedition*, 1818, p. 476.

† St. Helena is said to be separated from the Continents of Africa and America by a depth nowhere less than 12,000 feet.

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changes, hundreds or even thousands of centuries may have witnessed in that portion of the globe, leaving, perhaps, this unique little floral remnant, now fast disappearing, as almost the only record of what once was.

Dr. Hooker says that "neither geological considerations, nor botanical affinity, nor natural selection, nor all these combined, have yet helped us to a complete solution of this problem, which is at present the *bête-noire* of botanists. Oceanic islands are, in fact, to the naturalist what comets and meteorites are to the astronomer. And even that pregnant doctrine of the origin and succession of life, which we owe to Darwin, and which is to us what the spectrum analysis is to the physicist, has not proved sufficient to unravel the tangled phenomena."

So far, therefore, the manner in which this once incandescent mass first received its Flora, whether by the agency of birds or atmospheric and oceanic currents, or direct from that Hand by which all things were created, still remains unfathomed. Geology helps us to penetrate a little further into the history of the Island, beyond the infinitesimally small period of its existence since man first visited it, and enables us slightly to trace some of those physical changes with which its indigenous Flora and Fauna have had to contend. It teaches us that, long ages ago—so long that, as Mr. Darwin remarks, the mind recoils from an attempt to grasp the number of centuries—the dimensions of the Island were much larger than they are now; that it was much longer and broader, and more lofty than it now appears, when, probably with snow-capped mountain tops, and lower lying swampy lands, it possessed a very different climate from what we find in the present day. What effect these changes, together with long isolation, may have produced upon species, or what variations* they may have brought about, it is not easy to determine. But we may safely regard change of climate, with alterations in the physical condition of the land, as additional causes to the introduction of goats and exotics for the gradual extinction of the indigenous Flora.† Dr. Hooker

* It is a remarkable peculiarity that the indigenous flowers are, with very slight exceptions, all perfectly colourless.

† Another cause which assisted in the extermination of the Redwood and Ebony appears through the following extract from the MSS. Records, 1709:—"Forasmuch as the Redwood and Ebbonywood (whose Barks are fitt for Tanning Leather) are most of 'em destroyed by the Tanners, that for lasieness never took the paines to barke the whole trees but only the bodys,

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estimates that in three centuries and a half one hundred species may thus have become extinct, and we are now witnessing the disappearance of the remaining fragment. We have only to see the old weatherbeaten veteran Gumwoods on Longwood Plain, grown hoary with long white lichen; the hard struggle of the Scrubwood, Mellissia, Frankenia, and Plantago, for existence; and to learn from those who have tried to cultivate the native plants in the Island the extreme difficulty in growing them,* to be convinced that they were originally surrounded by some other climatic conditions than now exist.

The green vegetation once seen clothing the Island to the water's edge, was doubtless, with some lost species, formed of Ebony, Scrubwood, Frankenia, Mellissia, Plantago, Mesembryanthemum, Pelargonium, Pharnaceum, and Tripteris, these being still found to occur on the outer and lower zone of the Island near the sea, with perhaps the addition of the Rosemary and Gumwood, which occupy an intermediate zone between the outskirts and the central highest parts of the Island, where all the rest of the remaining indigenous plants are now found. This vegetation was probably so thick as to prevent the existence of grass; the absence of which is remarkable in the native Flora, one species only occurring, and that confined to the high land, while exotic grasses freely and fully overrun the Island.

Viewing in the present day the dry, barren, soilless, frowning, lichen-coated, rocky outskirts of the Island, it requires strong faith to realize its ever having been green with vegetation, were it not that the record of such a fact handed down to us is endorsed by the Ebony trunks and stems still existing where no vestige of life can now be found; and also by the manuscripts preserved at the Castle,† telling of

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leaving the best of the bark on the branches, by which means has destroyed all those trees, at least three for one, and therefore to prevent the like for ye future and to preserve and recover so usefull and necessary a thing for the Island use. Ordered—That no more Hides be sold to the People, for that We are about to engage one John Orchard, a Tanner, who has offered himself to Tan and dress those Hides at 3*s.* 6*d.* apiece." One condition of his agreement being that he would get the bark off the common, the great advantage of which would be the preservation of the trees.

* Notwithstanding the great difficulty in propagating these plants, Dr. Hooker has succeeded in the introduction of thirteen of them, in addition to most of the St. Helena ferns, into the conservatories of the Royal Gardens at Kew.

† "Two soldiers being suddenly killed while on duty at the Crane Battery by falling rocks, it was resolved to make a timber covering over the Battery, and for this work 240 pieces of Gummwood timber, of ten foot long and five inches broad, be cut in the next adjacent

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localities whence Ebony was gathered for fuel, and Gumwood felled for building purposes, where now no trace of either can be seen.

Persons living in the Island can also recollect losing their way in the Gumwood forests at Longwood, where now grassy plains with scarcely a tree exist.

Of the low-land plants, the Scrubwood is perhaps the most abundant now remaining; and next to that the Frankenia. Most of the others are found only as isolated individuals; but all of these, which occupy the outer portion of the Island, are scarcer than the Gumwood and the Rosemary, which are plants of mid-altitude; and these latter in their turn are less plentiful than some of the high-land species. The most abundant indigenous plant at present is undoubtedly the Whitewood Cabbage-Tree; the Black-wood is the next; while then in order of quantity comes the He-Cabbage-Tree, followed by the She-Cabbage-Tree, with the Dogwood perhaps taking the next position. Some species have dwindled down to a single plant only; this is the case with the *Psiadia rotundifolia*, which had almost been classed with the extinct species, until, after long and patient search, I experienced the great delight of discovering *one* tree of it in the Black field at Longwood Gate. It is an old tree, probably the only one alive anywhere, and

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wood that is neerest to the ffort—viz., at the head of Sayne Valley."—*MSS. Records*, 1678.

"That one day in the week it employs all the Blacks to fetch wood from the Horse pasture and Greatwood."—*MSS. Records*, 1709.

"Nearly all the Ebony wood was burnt up in providing 1000 or 1200 bushels of lime for building the Castle on Mnnden's Point."—*MSS. Records*, 1709.

"We find ye place called the Great wood in a flourishing condition, full of young trees, where the Hoggs (of w^{h} there is a great abundance) do not come to root them up. But ye Greatwood is miserably lessened and destroyed within our memories, and is not near the circuit and length it was. But we believe it does not contain less now than fifteen hundred acres of fine woodland and good ground, but no springs of water but what is salt or brackish, wch we take to be the reason that that part was not inhabited when ye people first chose out their Settlem^{ts} and made Plantations; but if wells could be sunk, which ye Govern^{r} sayes he will attempt when we have more hands, we should then think it ye most pleasant and healthiest part of ye Island. But as to healthiness we don't think 'twill hold so, if the wood y^{t} keeps ye land warme were destroyed, for then ye rains wch are violent here would carry away ye upper soil, and it being a clay marle underneath would produce but little; as it is, we think in case it were enclosed it might be greatly improved." . . . "When once this wood is gone the Island will soon be ruin'd." . . . "We viewed the wood's end which joyns to the Honb^{le} Comp^{ys} Plantation called the Hutts, but the wood is so destroyed that the beginning of the Great wood is now a whole mile beyond that place, and all the soil between being washt away that distance is now entirely barren."—*MSS. Records*, 1716.

"Several persons, in contempt and defiance of the ancient laws made for the preservation of The Greatwood, have nevertheless lately felled and caryed away several young trees from that part called The Flagstaff and Deadwood."—*MSS. Records*, 1727.

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likely soon to follow the fate of the Ebony and Stringwood, both of which, after much careful seeking for them, I am inclined to believe exist no longer.

I saw the Ebony once about twenty years ago; it was growing in a garden on the high land, one miserable little plant, only six inches in height, and yet it blossomed. Further than this, I have only seen the crooked, hard old stems disentombed from the surface soil in the locality of Lot's Wife, and similar barren spots. Dr. Roxburgh, in recording this plant as "a native of the barren rocks near the sea, and not far from Sandy Bay, on the south side of the Island," says that he saw it in two gardens only, where it had in many years grown to the height of two to three feet, with many longer branches spreading flat on the ground, well decorated with abundance of foliage and large beautiful flowers, which are white when they first expand, but become pink or rosy by age. The few trees that were then alive (1813) in their native soil and situation are described by him as "being 10 to 15 feet high, their trunks crooked, and about as thick as a man's thigh; the branches very numerous, spreading," &c. &c. It is fortunate that Dr. Burchell made a drawing of this plant; and with the kind permission of Dr. Hooker it has been copied. With this exception, and that of the Stringwood, which has been taken from a dried specimen, and also the blossom of *Pelargonium cotyledonis*, which has been kindly supplied by Miss Hooker, from the figure given of it in L'Heritier's Geraniaceæ, the drawings have been made and coloured from living specimens of the plants.

The beautiful little Stringwood, I last saw about fourteen years ago, growing as a carefully tended plant in the garden at Oakbank. It was only about 18 inches high, but flowering freely.

With its semi-temperate, semi-tropical climate, the Island is perhaps as well adapted as any spot on the surface of the globe for an acclimatization station. In this point of view it has, throughout the last century, been regarded by many persons, including the Governors, Generals Beatson and Walker, who introduced many new plants, and did much to extend and improve the exotic vegetation; but little or no practical use has been made of it for acclimatization purposes. Through the exertions of these gentlemen and others, the exotic flora has been gradually enlarged until it reaches about 971 species, which have found their way thither from all parts of the

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world. Plants from temperate climes are there seen to grow and flourish side by side with others from tropical regions; groves of stately Oaks, in full leaf, mingle with clusters of Bamboo, whose slender, graceful branches overtop the foliage of their companions; while beneath the shade of both, Bananas and Arums, in rich profusion, grow along the banks of pearly mountain streams. Many valuable and useful plants have, from time to time, been introduced into the Island, which in other countries are made the source of much profit: Cotton, Coffee, Sugar-cane, Olive, Tobacco, Palma Christi (Castor-oil plant), and New Zealand Flax, with other fibre-producing plants, all now grow wild, and bear evidence to the very small attention that has been paid by the inhabitants to the soil and its productions, in the fact that none of them are made use of; and although in one year no less than 18,267 lbs. of tobacco, and 1620 lbs. of cigars, upon which a high duty is levied, were imported into the Island, not a single pound of native-grown tobacco is gathered either for home consumption or for exportation. Circumstances in the history of the Island have tended very much to draw away the attention of the residents from the cultivation of its soil as a source of profit; and now that they no longer exist to the same degree, and the value of the soil forces itself forward, the necessary capital for planting is not forthcoming. The land contained in the Island may be classified as follows:—

	Acres.
Pasture and hayland	7,450
Forest trees	575
Under cultivation with roots and crops	144
Orchards and gardens	65
Flower gardens and miscellaneous	50
Barren	1,816
Commons belonging to the Crown ($\frac{1}{3}$ indifferent pasture, $\frac{2}{3}$ barren)	18,700

Notwithstanding its limited area there does not appear any reason why many of the useful plants, now growing in a wild and semi-wild state on the Island, should not be cultivated and yield considerable profit. General Beatson, in his "Tracts on St. Helena," gives the results of many experiments, showing plainly what the soil is capable of producing; and although his trials were made under the most favourable circumstances, and must therefore be

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received in their results accordingly, they are, nevertheless, valuable as showing what the well-watered, rich, basaltic soil of St. Helena is capable of producing.

The Ailanthus tree, introduced from the Royal Gardens of Kew ten years ago, already proves that it is favourable to the Island. With this plant, and the *Ricinus communis*, as well as the common Mulberry, growing wild in great abundance, the production of silk at St. Helena might very easily be undertaken.

The cultivation of the Cinchona plant on the mountain land was, a few years ago, commenced by the Government; and although the experiment, after three or four years' careful management, promised the greatest success, and cost but a few hundred pounds a year, it has most unfortunately been abandoned, in consequence of the efforts of a recent Governor to retrench expenditure.

In the preparation of the catalogue of plants growing in St. Helena, I have viewed the Island as possessing three different climatic zones. The first is a rocky belt extending all round the coast, and for a mile inland; it possesses a hot, scorching atmosphere, 10° F. higher in temperature than the mountain top, with every altitude from the sea level up to 2272 feet, and, but for the sheltered and watered ravines which intersect, is quite barren, if we except the short wire grass (*Cynodon Dactylon*), a few exotics, and those indigenous plants which are peculiar to it. Where the term low land is used it applies to it; and the letter C is employed to denote that a species is either entirely or principally confined to this locality.

The second, or middle zone, is that belt lying inside of the first, and extending for three-quarters of a mile inland from it, with altitudes above the sea varying from 400 to 2000 feet. It is less rocky than the first, has a climate of about 5° F. lower temperature, and is characterized by a scanty vegetation, furze-clad slopes, the native Rosemary and Gumwood trees, with Fir trees and a considerable amount of exotic vegetation. The letter M is used to denote those species which are more particularly confined to this part.

The remaining portion is the very centre of the Island, measuring about four miles long, and two and a quarter miles wide, with good depth of soil, and entirely covered with vegetation, where, in the cool temperate climate on the mountain top, grow the indigenous Compositæ, or Cabbage-trees and Ferns, surrounded by grassy slopes,

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meadows, hayfields, farms, gardens, and well-wooded glens of Oak and other mixed foliage. The altitudes above the sea range from 1200 to 2704 feet. The term high land applies to it, but, as many plants seem to grow in peculiar situations even in this area, special localities are in some cases also recorded.

In these zones very different conditions are to be found suitable to the growth of plants, according to the exposed or sheltered state of the locality; many exotic plants now growing in the Island have sought out the spot most suited to them, and flourish there, while they refuse to grow at some place perhaps only a few yards removed. Where no reference letter is used, it will be understood that the plant grows on the same interior central land as those denoted by the sign H. L. or high land.

In denoting the altitude above the sea at which a plant grows in the Island, a number or decimal part of a number is employed, which it will be necessary in each case to multiply by 500, the result giving the altitude in feet; this plan has been adopted for the purpose of lessening the number of figures that would otherwise have to be printed in denoting high altitudes.

Wherever a local name could be found it has been added, and in its absence some brief description of the plant given, by which in a general way it could be readily locally identified.

There are some plants mentioned by Dr. Roxburgh, as seen in the Island in the year 1813, which have not been met with recently. It seems probable that they were at that time new introductions, and have not succeeded, but since died out; they are, however, repeated in the present catalogue, because single specimens of them may possibly still lurk hidden in the wooded parts, and even if they do not it will continue a record of the effort made for their introduction.

The following is an explanation of the signs and abbreviations which have been adopted in the catalogue:—

Alt.	denotes	altitude or elevation above the sea level.
Ht.	„	height which a species attains.
C.	„	near the sea coast.
M.	„	midway between the coast and mountain.

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H. L.	denotes	high land or the central mountain range and interior of the Island, comprising about eight or nine square miles.
Wild	„	thoroughly naturalized, or plants which seed and propagate themselves without cultivation.
Uncultivated . .	„	somewhat naturalized, or plants which seed and propagate themselves in *gardens* without artificial aid.
Cultivated . . .	„	growing only with care in gardens, &c.
Very common . .	„	growing in most parts of the Island.
Common . . .	„	growing in localities, over 100 specimens in all.
Rather common .	„	twenty to 100 specimens only.
Rather rare . .	„	ten to twenty specimens only.
Rare	„	two to ten specimens only.
Very rare . . .	„	one or two specimens only.
Hk. Icon. Plant. .	„	Hooker's Icones Plantarum.
Bot. Mag. . . .	„	Botanical Magazine.

CLASS I.—DICOTYLEDONS.

1. Ranunculaceæ (*Crowfoot Family*).

Adonis, Linn.

1. **A. autumnalis**, Linn. — Pheasant's-eye; seeds freely and grows uncultivated in some gardens. Alt. 3·8.—Distr. Europe, W. Asia, N. Africa.

Clematis, Linn.

2. **C. Vitalba**, Linn.—Traveller's Joy; seeds and grows uncultivated in gardens. Rather rare. The Hermitage, &c. Alt. 3·2.—Distr. Europe, N. Africa, W. Asia.

Delphinium, Linn.

3. **D. Hendersoni**, Hort.—Large double dark-blue Larkspur, recently introduced into gardens, grows well at alt. 3·8, but is rare.

4. **D. Ajacis**, W.—Common blue, pink, and variegated Larkspur.

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Seeds freely, grows wild, and is common about the gardens and shrubberies generally.—Distr. Europe and N. Africa.

Nigella, Linn.

5. **N. damascena,** Linn.—Devil in the Bush; seeds freely, and grows uncultivated; rather common in gardens. Alt. 3·8.—Hab. S. of Europe.

Ranunculus, Linn.

6. **R. bulbosus,** Linn.—Buttercup, grown in gardens only as a great rarity.—Distr. Europe, Asia, W. Africa.

7. **R. sceleratus,** Linn.—Celery-leaved Buttercup; seeds freely, grows wild, and is very common in damp places and streams of water. Napoleon's Cabbage-tree-road, Hermitage, &c. Alt. 3·5 to 5. —Distr. Europe, N. Asia.

2. MAGNOLIACEÆ (*Magnolia Family*).

Liriodendron, Linn.

8. **L. tulipifera,** Linn.—Tulip-tree, grows to a height of 30 feet, one or two specimens only, at Oak Bank. Alt. 3·8. Bot. Mag. 275.—Hab. N. America.

Michelia, Linn.

9. **M. Champaca,** Linn.—Mentioned by Roxburgh as growing in one garden only.—Hab. E. Indies.

Magnolia, Linn.

10. **M. purpurea,** Curt.—Grows to a shrub about 6 feet high, and commonly called "Purple Tulip," uncultivated; rather common in shrubberies. Alt. 3·6. Hermitage, &c. Bot. Mag. 390.—Hab. China.

11. **M. conspicua** ? Salisb.—White Tulip-tree grows cultivated, in gardens; rare. Alt. 3·8, attains a height of 10 ft.—Hab. China.

12. **M. fuscata,** Andr.—Two varieties of the common sweet-scented Magnolia grow to trees of 18 ft. in height; common and uncultivated. Alt. 3·8 to 5. Bot. Mag. 1008.—Hab. China.

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3. Anonaceæ (*Custard-apple Family*).

Anona, Linn.

13. **A. muricata,** Linn.—The Soursop.—Hab. W. Indies.

14. **A. squamosa,** Linn.—The Sweetsop.—Hab. S. America.

15. **A. reticulata,** Linn.—The Custard Apple or Bullock's Heart.—Hab. S. America. These three species are mentioned by Roxburgh as growing in the Island, but I am not certain that they now grow there.

16. **A. cherimolia,** Mill.—The Cherimoya is one of the most abundant and delicious fruits in the Island. It grows, almost uncultivated, plentifully on the high and low lands to a tree 15 or 20 ft. in height, and bears fruit to perfection. C. to H. L.—Hab. S. America.

4. Myristicaceæ (*Nutmeg Family*).

Myristica, Linn.

17. **M. moschata,** Thunb.—Nutmeg. One tree only is said to grow, in Plantation gardens.—Hab. Molucca Islands.

5. Papaveraceæ (*Poppy Family*).

Argemone, Linn.

18. **A. mexicana,** Linn.—This universally distributed weed is found also at St. Helena, where it may be recognised as "The Yellow Thistle." It seeds freely, grows wild, and is common on the rocky low land, C. Alt. 1 to 2. It is also found at Ascension Island.—Hab. Mexico.

Eschscholtzia, Cham.

19. **E. californica,** Cham.—This beautiful yellow flower is cultivated in the high land gardens, and seeds well. Bot. Mag. 2887.—Hab. N.W. America.

Papaver, Linn.

20. **P. orientale,** Linn.—Tall Scarlet Poppy, grows in gardens on the high land, uncultivated, and is rather rare (both double and single-flowered). Seeds well.—Hab. Asia Minor.

21. **P. Rhœas,** Linn.—Dwarf Scarlet Poppy, grows rarely, cultivated in gardens.—Distr. Europe, N. Africa, W. Asia.

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22. **P. Argemone**, Linn.—Prickly Red Poppy, grown in gardens only, rare.—Distr. Europe, N. Africa, W. Asia.

6. Fumariaceæ (*Fumitory Family*).

Fumaria, Linn.

23. **F. capreolata**, Linn.—Commonly called Chickweed, grows wild, and is very common throughout the Island. One of the greatest garden pests as a weed.—Distr. Europe, N. Africa, W. Asia.

7. Cruciferæ (*Mustard Family*).

Alyssum, Linn.

24. **A. maritimum**, Linn.—Grows wild on the low land in the neighbourhood of The Waterfall, The Briars, &c.; a small plant with sweet-scented white flowers, like a dwarf Candytuft or Shepherd's Purse. It comes up after the heavy rains.—Distr. Mediterranean region.

Brassica, Linn.

25. **B. oleracea**, Linn.—Several varieties of Cabbage are abundantly grown, both for home consumption and for supplying ships.—Distr. S.W. Europe.

26. **B. campestris**, Linn. and **B. rapa**, Linn.—Turnips are abundantly grown both as a vegetable and as food for cattle.—Distr. Europe, Asia.

27. **B. campestris**, Linn. var.—The Nolekole is a vegetable very much grown and used at St. Helena.—Hab. Europe.

Capsella, Vent.

28. **C. Bursa-Pastoris**, D.C.—Shepherd's Purse, or small white Candytuft, grows wild and is common, M.—Hab. Central and N. Europe.

Cheiranthus, Linn.

29. **C. Cheiri**, Linn.—Wallflower, seeds well and grows cultivated in gardens; rather common.—Distr. Temp. and arctic Europe, N. Africa and Asia.

Cochlearia, Linn.

30. **C. Armoracia**, Linn.—Horseradish grows almost wild in

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the ravines and shrubberies of some gardens on the high land, but is not very common.—Origin and native country unknown.

31. **C. saxatilis,** Lam.—Scurvy Grass, a plant like a small white-flowered Candytuft, very abundant as a weed on the rocky parts about Barnes' Road, &c. M. Alt. ·4 to 4.—Hab. S. of Europe.

Iberis, Linn.

32. **I. umbellata,** Linn.—Pink Candytuft, seeds well, and is cultivated and common in gardens. Alt. 3·8.—Hab. S.W. Europe.

Lepidium, Linn.

33. **L. ruderale,** Linn.—A weed with flowers resembling a small white Candytuft, grows wild, and is common.—Distr. Europe, Asia, Africa, Australia.

Matthiola, R. Br.

34. **M. incana,** R. Br.—Ten or fifteen varieties of the common stock or gillyflower are cultivated abundantly in gardens.—Distr. Mediterranean region, Canary Islands.

35. **M. odoratissima,** R. Br.—Persian Stock.—Hab. Asia Minor.

Nasturtium, R. Br.

36. **N. officinale,** R. Br.—Watercresses grow wild and are very common in the ravines and along the mountain streams and ponds. C. and M. to H. L. Alt. ·2 to 5.—The Islanders carry on a small trade in Watercresses with the shipping, and bags of St. Helena Cresses are far-famed amongst sea-going men.—Distr. Europe, W. Asia, N. Africa. Seeds well.

Raphanus, Linn.

37. **R. sativus,** Linn.—Four varieties of Radish are cultivated—viz., the long red, round red, round white, and black.—Hab. China.

Senebiera, Poir.

38. **S. didyma,** Pers.—A Cress-like weed, very troublesome in gardens, growing wild, particularly amongst paving-stones and on garden-walks. Alt. 4. Very common.—Widely dispersed in temperate and warm countries.

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Sinapis, Linn.

39. **S. nigra**, Linn.—Mustard grows wild about the neighbourhood of cornfields, and has probably been introduced with barley or oat seed.—Distr. Europe, N. Africa, W. Asia. Flowers in August.

8. CAPPARIDACEÆ (*Caper Family*).

Cleome, Linn.

40. **C. dendroides**, Schult.—Purple-flowered or stinking Cleome, grows uncultivated but is rather rare in gardens, H. L. Alt. 3·8.—Hab. Brazil.

9. RESEDACEÆ (*Mignonette Family*).

Reseda, Linn.

41. **R. odorata**, Linn.—Mignonette grows uncultivated in gardens at most altitudes. Seeds freely.—Hab. Egypt.

10. BIXINEÆ.

Aberia, Hochst.

42. **A. caffra**, Hk. f. & Harv.—Kei Apple, a plant recently imported to St. Helena from S. Africa by Mr. George Bennett. It thrives well on the low land, and grows at Maldivia Gardens in Jamestown, where it fruits abundantly. The fruit, about the size of a very small orange, is very acid, and is used with other fruits for making jams, tarts, &c., to which it gives a very peculiar flavour. C. —Hab. S. Africa.

11. VIOLACEÆ (*Violet Family*).

Viola, Linn.

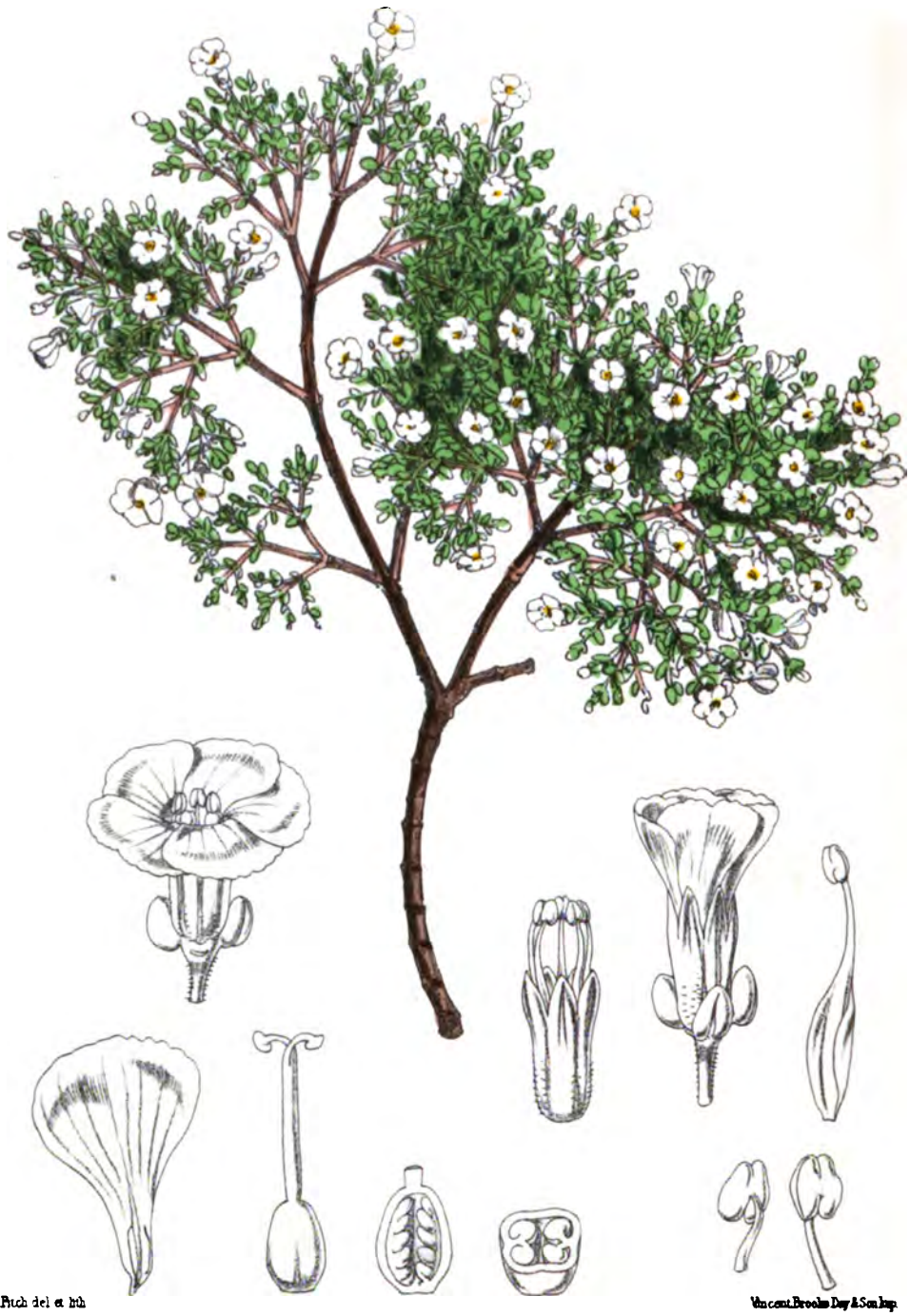
43. **V. odorata**, Linn.—Single Sweet Violet, grows wild in gardens; rather rare. Alt. 3·8.—Distr. Europe, N. Africa, N.W. Asia.

44. **V. odorata**, Linn. var.—Double Blue Violet, uncultivated in gardens; rather common.—Hab. Britain.

45. **V. tricolor**, Linn.—Common Heartsease, three or four varieties grow wild and are very common about gardens. Alt. 3 to 4.—Distr. Europe, temp. and arctic, N. Africa, N.W. Asia.

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12. HYPERICACEÆ (*St. John's Wort Family*).

Hypericum, Linn.

46. **H. hircinum**, Linn.—Stinking St. John's Wort, seeds well, grows wild, and is rather common. Alt. 3·8, Oakbank, Hermitage, &c.—Hab. Mediterranean region.

13. FRANKENIACEÆ (*Sea-Heath Family*).

Frankenia, Linn.

47. ***F. portulacæfolia**, Spreng. — *F. Beatsonia*, Schultes; *Beatsonia portulacæfolia*, Roxb.; St. Helena Tea. This beautiful little plant is endemic and grows to a small round bushy shrub, about two feet in height, covered with pure white blossoms. It still exists plentifully on the southern and eastern sides of the Island, growing on the barren, dry, rocky ground near the sea coast at alt. ·1 to 2. It is most abundant at Sandy Bay Barn and near The Asses Ears, and, excepting a few stray plants on the eastern side of High Knoll, does not exist on the northern side of the Island. The stems are very shrubby and brittle, and very crooked, the thickest does not exceed two inches in diameter; the wood is hard and of a mahogany colour. I find no record of the plant having been ever used as a substitute for tea; possibly its name may be derived from its small leaves when dry somewhat resembling the appearance of black tea. PLATE 25; Hk. Icon. Plant. 1058.

14. CARYOPHYLLACEÆ (*Pink Family*).

Agrostemma, Linn.

48. **A. Coronaria**, Linn.—A small plant with silvery velvety leaves and crimson flowers, growing cultivated in gardens, but rare. —Distrib. S. Europe, W. Asia.

Cerastium, Linn.

49. **C. glomeratum**, Thuill.—A white-flowered plant, growing wild in hayfields on the high land. Distrib. Temp. and arctic Europe, N. Africa, W. Asia.

Dianthus, Linn.

50. **D. Caryophyllus**, Linn.—Several varieties of Clove Pink and

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Carnation grow well on the high land, where they form some of the chief garden flowers.—Distr. Mediterranean region.

51. **D. chinensis**, Linn.—Indian Pink grows in gardens cultivated; rather common. Bot. Mag. 25.—Hab. China.

52. **D. barbatus**, Linn.—Several garden varieties of Sweet William are cultivated and rather common in gardens. Alt. 2 to 4. Bot. Mag. 207.—Hab. Pyrenees, &c.

Drymaria, Willd.

53. **D. cordata**, Willd.—Small white-star-flowered weed. Grows wild and is very common. Alt. 2 to 5.—A common weed in tropical countries.

Polycarpon, Linn.

54. **P. tetraphyllum**, Linn.—One of the most abundant small weeds, occurring everywhere on the gravel walks of flower gardens, &c. The Hermitage.—Distr. Europe, Asia, Africa.

Silene, Linn.

55. **S. gallica**, Linn.—Small pink-flowered Catch Fly, occasionally found growing in the neighbourhood of cornfields at Broad Bottom, &c.—Hab. S. Europe.

Spergula, Linn.

56. **S. arvensis**, Linn.—This little trailing plant, with its small white blossoms, is one of the greatest weeds of the place, growing in hayfields, gardens, roadsides, &c. Wild and very common. Alt. 3 to 5. Flowers in August.—Distr. Temp. and arctic Europe, N. Africa, &c.

15. PORTULACACEÆ (*Purslane Family*).

Portulaca, Linn.

57. **P. oleracea**, Linn.—Purslane grows wild and is very common over the barren rocky outskirts of the Island. C. Alt. ·04 to 3. After the rains in the months of March and July, this plant springs up, and gives quite a greenish hue to the otherwise barren, rocky parts. It is gathered by the native people and used as spinach, for which it affords a very good substitute.—Widely distributed and probably indigenous in St. Helena.

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MESEMBRYANTHEMUM CRYPTANTHUM.

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16. Ficoideæ (*Fig-Marigold Family*).

Mesembryanthemum, Linn.

58. ***M. cryptanthum**, Hk. f.—This most singular native plant resembles when young a bright green succulent mass, changing to yellow as it gets old, and finally drying up, as the hot weather approaches, in the months of November and December. It grows on the hottest parts, in the most barren, arid, rocky soil near to the sea, in the neighbourhood of Sandy Bay beach and Turk's Cap Bay, and is to be met with generally on the Southern and Eastern outskirts of the Island. The young plants appear after the winter rains in June and July, and soon put forth their somewhat concealed white flowers. A single plant seldom spreads more than fifteen inches in diameter, and only reaches one or two inches in height. The plant is so very succulent that it will not support its own weight when held up from the ground, and water is seen to drop from it when simply carried in the hand without any pressure. Plate 26. It is also figured and described in Hk. Icon. Plant. 1034.

59. **M. emarginatum**, Linn.—Brilliant purple-flowered Mesembryanthemum, growing almost wild in some places on the high exposed land, where it attains to a small shrubby bush. When in blossom the plant presents one bright mass of purple, which for several miles distant is a most conspicuous object.—Hab. Cape of Good Hope.

60. **M. crystallinum**, Linn.—The Ice plant grows wild, and is very common, though confined to the Northern side of the Island, about Ladder Hill, Half-tree Hollow, &c. C. Alt. 1·2; seeds freely.—Hab. Greece, Cape of Good Hope, Canary Islands, &c.

61. **M. edule**, Linn.—The Hottentot Fig grows wild, and is very common; towards the Eastern portion of Longwood Farm, it overruns considerable tracts of land. M. Alt. ·1 to 4. The fruit does not come to perfection as it does at the Cape of Good Hope.—Hab. Cape of Good Hope.

62. **M. cordifolium**, Linn.—Quite a weed, bearing a small bright pink star-flower, grows wild, and is very common generally in the Island. M.—Hab. Cape of Good Hope.

63. **M. sp.** ?—Orange-flowered Mesembryanthemum, cultivated in gardens. Alt. 3·8. Rather rare.

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Pharnaceum, Linn.

64. *P. acidum, Hk. f.—This pretty little indigenous plant, a small shrub about eight inches in height, with bluish-green succulent leaves and pure white blossoms, grows on the extreme south side of the Island, within a few yards of the sea shore at Sandy Bay, where the hot barren ground and saline atmosphere seem suitable to it. The only plant I know of now in the Island grows on the pathway from Sandy Bay Lines to Horse's Head. Its succulent leaves are of an agreeable acid flavour, and are known to the natives of the Island as a good substitute for salad. It flowers in August. PLATE 27. Also Hk. Icon. Plant. 1035.

Tetragonia, Linn.

65. T. expansa, Murray.—New Zealand Spinach, a plant resembling a *Mesembryanthemum*, with small green and yellow blossoms, growing wild about the cornfields at Longwood. M. Alt. 4. Bot. Mag. 2362.—Hab. New Zealand, Australia, Japan, and S. America.

17. MALVACEÆ (*Mallow Family*).

Althæa, Linn.

66. A. officinalis, Linn.—Marsh Mallow, growing wild and abundantly over the Island generally.—Hab. Britain.

67. A. rosea, Cav.—Hollyhock, grown in gardens.—Hab. China.

Gossypium, Linn.

68. G. indicum, Lam.—The Cotton Plant, introduced by the East India Company in 1678, now grows somewhat wild on the low land at altitudes of 1 to 2, where it attains to a shrub of ten or twelve feet high. It grows in some of the poorest soil, and bears excellent cotton; might easily be cultivated as it seeds freely.

69. G. barbadense, Linn.—Barbadoes Cotton, mentioned by Roxburgh as growing in the Island.—Hab. Barbadoes.

Hibiscus, Linn.

70. H. Abelmoschus, Linn.—Musk Okro, occasionally seen in gardens, but does not appear to thrive well.—Hab. India.

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71. **H. armatus.**—Rock Rose; grows wild, seeds well, and is very common at all altitudes, generally in the roadside fences, where its beautiful yellow blossoms are remarkable.

72. **H. cannabinus,** Linn.—Hemp-leaved Hibiscus, mentioned by Roxburgh as growing in the Island.—Hab. E. Indies.

73. **H. diversifolius,** Jacq.—Mentioned by Roxburgh as growing in the Island.—Hab. E. Indies, Africa, and Australia.

74. **H. mutabilis,** Linn.—White-flowered Hibiscus, mentioned by Roxburgh as growing in the Island.—Hab. E. Indies.

75. **H. phœniceus,** Linn.—Purple-flowered Hibiscus, cultivated as a shrub in gardens on the high land; rather rare.—Hab. E. Indies.

76. **H. populneus,** Linn.; *Thespesia populnea.*—Called Gamboge Tree. Grows well to a height of fifteen or twenty feet in the Castle Garden, in the low warm valley of Jamestown. C. ·1. Seeds well; rather rare.—Distr. Tropical Asia, Africa, and Pacific Islands.

77. **H. Sabdariffa,** Linn.—West Indian Sorrel, mentioned by Roxburgh as growing in the Island.—Hab. E. Indies.

78. **H. urens,** Linn.—Mentioned by Roxburgh as growing in the Island.—Hab. Cape of Good Hope.

79. **H. rosa-sinensis,** Linn.—Thrives well as a garden shrub; the double red of two shades, and the single crimson especially; uncultivated; rather common; seeds well. C. to H. L. Bot. Mag. 158.—Hab. China.

80. **H. Trionum,** Linn.—Small dwarf yellow and purple-flowered Hibiscus, grows wild on the low land in the neighbourhood of New Ground, &c., and in hayfields. M. Alt. 1 to 3. Seeds freely.—Distr. S. Europe, Africa, Australia, and New Zealand.

81. **H. liliiflorus,** Cav.—The large single-flowered, pale yellow, brick-coloured, and light red or rose-coloured Hibiscus. A shrubby plant, grown in gardens both on the high and the low lands. Alt. ·6 to 4, rather rare. Seeds well.—Hab. Isle of Bourbon.

82. **H. syriacus,** Linn.—Several garden varieties thrive well, including the buff, red, and a shrubby plant with white blossoms with a purple centre; grows in gardens on the high land. Bot. Mag. 83.—Hab. Syria. Cultivated throughout India and China.

83. **H. Ludwigii** ? E. and Z., or *H. mutabilis*? Willd.—The Hollyhock, or Changeable Rose of the Island, a slender shrubby plant, with large single, rose-coloured flowers; grows equally well in an uncultivated state on the high and low lands. The blossom opens

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pale pink, or almost white in colour, and very soon changes to a deep rose-colour. Seeds well.—Hab. S. Africa.

84. **H. speciosus**, Ait.—Large single red Hibiscus, cultivated, rather rare. Alt. 3·8. Bot. Mag. 360.—Hab. N. America.

Malvastrum, A. Gr.

85. **M. tricuspidatum**, A. Gr.—Very small yellow-flowered Hibiscus-like plant, growing wild amongst the rocks on the road leading to Lemon Valley. C. ·3. A common tropical weed.

Malva, Linn.

86. **M. sylvestris**, Linn.—Small pink-flowering Mallow, grows wild, and is common. M. Alt. 2 to 3.—Distr. Temp. regions of N. Hemisphere.

87. **M. parviflora**, W.—Very small pink-flowered Mallow. Grows wild, and is common generally about fields, roadsides, &c. Alt. 3·8.—Hab. Mediterranean region.

Paritium, St. Hil.

88. **P. tiliaceum**, St. Hil.—A small shrubby tree, about twelve feet high, with large, single, pale yellow flowers; growing between the Civil and the Military Hospitals, on the low land in Jamestown; commonly called the Gamboge Tree in St. Helena; one tree only. Widely dispersed in tropical countries.

89. **P. elatum**, Don.—Recently introduced from the Royal Gardens at Kew.

Sida, Linn.

90. **S. cordifolia**, Linn.—A very small pale yellow-flowered Hibiscus, that grows wild amongst the rocks on Rupert's Hill and other warm lowland situations. C. Alt. 1·4.—Hab. Tropics generally and Cape of Good Hope.

91. **S. acuta**, Burm.—A small Hibiscus-like plant; both this and the following species are said by Roxburgh to grow in the Island.

92. **S. microphylla**, Cav.

93. **S. rhombifolia**, Linn.—Small yellow-flowered Hibiscus, that grows wild in the field above Oaklands, and also near The Briars Pavilion. M.—Hab. India.

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18. BYTTNERIACEÆ.

Pterospermum, Schreb.

94. **P. suberifolium**, Willd.—A tree said by Roxburgh to grow in the Island. Bot. Mag. 1526.—Hab. E. Indies.

Melhania, Ait.;—Trochetia, D.C.

95. ***M. erythroxylon**, Ait.; *Trochetia erythroxylon*, Benth. et Hk. f.—The Redwood of the Islanders. Grows to a tree twenty feet in height, with handsome slender foliage of a pale green; the flowers first appear pure white, changing after a day to pink, and finally to a brownish-red as they begin to fade. The wood is hard, and of a dull-brown colour. One or two specimens of this beautiful indigenous plant still remain growing amongst the Cabbage-trees, Ferns, and other native plants in the glens near Diana's Peak and High Peak, alt. 5. It is, however, very quickly disappearing, and ere long will probably become altogether extinct. Some cultivated specimens exist in gardens as low down as alt. 3·7; but altogether not more than seventeen or eighteen plants are now to be found in the Island—viz., two at Arnos Vale; one at Oakbank; three or four at Bowers's, in Sandy Bay; two at Sam. Alexander's; one at Southens; six or eight young trees at The Hermitage; one at Diana's Peak; and one at High Peak. It flowers in June. PLATE 28. Also Bot. Mag. 1000.

96. ***M. melanoxylon**, Ait.; *Trochetia melanoxylon*, Benth. et Hk. f.—The Native Ebony of St. Helena. This plant I believe to be now extinct. It formerly grew on the outer portions of the Island near the coast, at alts. of 2 to 4, where the weatherbeaten stems are still found deeply embedded in the surface soil. The last plant I saw was a small one growing in the garden at Oakbank, about twenty-five years ago, but it is not there now, and I have searched the whole Island over for another, but in vain. The leaves were dark-green, and the flowers white; the wood is very hard, heavy, black in colour, and extremely brittle. It is still collected and turned into ornaments, which are much prized on account of its rarity. That this tree once formed a considerable portion of the vegetation clothing the Island on those parts that are now quite barren, is strongly evidenced by the many references to it in the local records. PLATE 29.

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19. Sterculiaceæ.

Cheirostemon, Humb. et Bonpl.

97. **C. platanioides,** Humb. et Bonpl.—Two of the celebrated "Hand-trees" are growing at Oakbank, alt. 3. In 1787 only one tree was supposed to exist in the world, but in 1801 forests of it were discovered in Guatemala. Bot. Mag. 5135.—Hab. Mexico.

20. Tiliaceæ (*Linden Family*).

Grewia, Juss.

98. **G. oppositifolia,** Roxb.—One small plant, with white blossoms, growing in the Ladies' Garden at Plantation.—Hab. E. Indies.

99. **G. occidentalis,** Linn.—A small shrub growing uncultivated at Bertrand's House, Longwood. Very rare. Alt. 3·8. Bot. Mag. 422.—Hab. Cape of Good Hope.

Triumfetta, Linn.

100. **T. tomentosa,** Bojer.—A small yellow-flowered bush, growing in the Ladies' Garden Plantation. Alt. 3·4. One plant only.—Hab. Zanzibar.

21. Ternstrœmiaceæ.

Camellia, Linn.

101. **C. Sasanqua,** Thunb.—Small single white-flowered Camellia, of which there is one tree only, growing in the garden at Oakbank. Alt. 3·2. Seeds.—Hab. China and Japan.

102. **C. japonica,** Linn.—The China Rose. The double-pink variety grows wild, and is common, attaining to trees of twenty or twenty-five feet in height, at West Lodge, alt. 4·6, and other places as low down as 3·6. The common Fuchsia, *F. coccinea*, climbs up the stems of these trees and falls in festoons from the top over their bright glossy dark-green leaves, which contrast favourably with its crimson blossoms. The white Camellia also grows well, at alt. 3·8 to 5. It attains a height of eight feet, and blossoms freely; rather common. The variegated white and red comes next in order

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several trees, eight or ten feet high, grow at Oakbank, Mount Pleasant, &c., and occasional plants of the dark-red and single red varieties also exist.—Hab. China and Japan. The double-pink variety seeds.

Thea, Linn.

103. **T. chinensis,** Linn.—Tea Plant. One or two plants only at Plantation, Oakbank, West Lodge, &c. Alt. 3·8 to 4·8; seeds well. Bot. Mag. 998.—Hab. China.

22. AURANTIACEÆ (*Orange Family*).

Cookia, Sonner.

104. **C. punctata,** Retz.—The Wampee of the Chinese, mentioned by Roxburgh as growing in the Island.—Hab. China.

Citrus, Linn.

105. **C. Limonum,** Risso.—Two varieties of the Lemon, the Sweet and the Sour, occur. Formerly the Island was quite a Lemon garden, producing fruit in perfection, but now visitors, and mariners after long sea voyages, look for them in vain. The trees growing old, their roots penetrated through the upper soil to the rock, and no new ones were planted, so that about ten years ago Lemons became a scarce article. The tree once grew plentifully in such places as Lemon Valley, Lemon Tree Gut, &c., where now scarcely a vestige of one is to be seen. A replanting of this valuable and handsome tree has, however, been recently commenced, and promises success. It grows to ten feet in height, equally well at alt. 1 to 4. Introduced in 1718.—Hab. Asia.

106. **C. Limetta,** Risso.—The Lime, once so abundant, suffered the same fate as the Lemon, and I doubt if a Lime can now be obtained in the Island. A replanting of trees, however, with proper treatment and care, is, I believe, all that is requisite to re-establish it, notwithstanding the blight which attacks the leaves of all the young plants of this genus. This blight assumes the form of a black deposit over the surface of the leaves, causing many of them to become knotty, crumpled, and sickly in appearance.—Hab. Asia.

107. **C. Aurantium,** Linn.—The Sweet Orange grows and fruits

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pretty well, but not to perfection; no orange groves like those of South Africa or Spain are to be found in St. Helena, but only a few trees here and there bearing fruit of fair size and flavour. It grows at alt. 1 to 4, but appears to answer best in the low valleys, such as The Briars, and Maldivia, where it obtains most warmth.—Hab. Asia.

108. **C. vulgaris,** Risso.—The Seville Orange grows and fruits well, though not in any great quantity. The fruit is in demand for marmalade.—Hab. Asia.

109. **C. nobilis,** Lour.—The Mandarin Orange grows to a large tree, fifteen feet or more in height, and bears fruit abundantly at alt. 1 to 3. The trees are now getting old, and require to be replaced by new ones.—Hab. China.

110. **C. sp.** ?—The Narchee Orange of South Africa is represented in the Island by one or two small trees only.

111. **C. medica,** Linn.—The Citron fruit was, about twelve years ago, produced at Oakbank as fine as could be wished for, but I doubt much if a single tree now exists in the Island.—Hab. Asia.

112. **C. decumana,** Linn.—The Shaddock tree grows to a height of twenty feet, and flowers well, but the fruit does not arrive at perfection. There are about twenty or thirty trees in the Island, growing at alt. 1 to 3·5.—Hab. India.

Murraya, Linn.

113. **M. exotica,** Linn.—Red-berried China-box; two or three trees only. Attains a height of fifteen feet; flowers and fruits well. One at Maldivia, C. Alt. ·8, and also at Oakbank, H. L, 3·6.—Hab. E. Indies.

23. Meliaceæ.

Melia, Linn.

114. **M. Azedarach,** Linn.—Margossa; grows wild to a tree ten to thirty feet in height, and is very common. C. and M. Alt. ·1 to 3·8. This is one of the handsomest plants in the Island, more especially at Christmas time, when its masses of lilac-coloured sweet-scented blossoms, contrasting richly with its bright green leaves and yellow seeds, render it a conspicuous object

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amongst other foliage. It grows well in Jamestown, where the white ants are very fond it; they make their way up through the roots into the stems, leaving the bark untouched. The tree continues to grow, and the first sign of their presence is the snapping off of the trunk, when the whole of the wood inside has been eaten away. Many of these trees, while alive, when tapped with the finger on the outside, sound like a drum, being quite hollow inside. The timber is not much used, but the leaves are much thought of by the Islanders, who, steeping them in hot water, use them as an outward application for sprains, bruises, &c. Bot. Mag. 1066.—Hab. Syria and E. Indies.

115. **M. superba**, Roxb.
116. **M. robusta**, Roxb.

M. composita, Willd. Mentioned by Roxburgh as growing in the Island.

24. Cedrelaceæ (*Mahogany Family*).

Cedrela, Linn.

117. **C. Toona**, Roxb.—Two large specimens of this fine Indian timber tree grow at Mr. Elliot's, Woodlands. Alt. 3·6. They seed freely.—Hab. E. Indies.

Swietenia, Linn.

118. **S. Mahagoni**, Linn.—The Mahogany tree is said by Roxburgh to grow in the Island; but I have not seen either it or *S. febrifuga*, the East Indian Fever-bark tree, which he also includes in his list of plants.—Hab. W. Indies.

25. Linaceæ (*Flax Family*).

Linum, Linn.

119. **L. usitatissimum**, Linn.—Flax is occasionally seen about fields on the high land; probably introduced with barley or oat seed.—A cultivated form whose native country is unknown.

26. Geraniaceæ (*Cranesbill Family*).

Erodium, L'Hérit.

120. **E. romanum**, W.—Small pink-flowered Geranium; grows

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wild, and is common under walls and stones along roadsides, Cleugh's Plain, &c. M. Alt. 2·4.—Hab. Italy.

Pelargonium, L'Hérit.

121. *P. **cotyledonis**, L'Hérit.; *Erodium sempervivum*, Roxb.—This plant, to which the St. Helenians have given the name of "Old Father Live for Ever," from its power of retaining vitality for months without either soil or water, is the most curious of all the indigenous plants. It is now very rare, but still to be found at alts. ·1 to 2, clinging to the barren, exposed, rocky cliffs overhanging the sea-coast on the windward side of the Island, where there is least soil and moisture. The colour of its stem is a chocolate-brown, considerably mottled by the grey lichens growing upon it, and so nearly resembles the dark basaltic cliffs and soil upon which it is found, that at the time when the plant is leafless it is most difficult to distinguish it from the rock upon which it grows. It seems to seek out the most inaccessible places, where there is no other vegetation—indeed, where nothing else would grow; and not without some risk are the plants of it to be obtained. It throws out its leaves and white blossoms about May or June, after the summer rains; these soon die away again, leaving the plant for the most part of the year very much like a knotted mass of old fir-tree roots. It is now chiefly found on Sandy Bay Barn and Man and Horse Cliffs; and the only places inland where it occurs, and that very rarely, are Cole's Rock, in Sandy Bay, and the eastern side of High Knoll, alt. 3·75. Plate 30. Also L'Héritier Geraniaceæ, t. 27.

122. **P. denticulatum**, Jacq.—Nutmeg Geranium; grows wild about the high land shrubberies, especially in the neighbourhood of St. Paul's churchyard, where it is very common.—Hab. Cape of Good Hope.

123. **P. graveolens**, Ait.—Geranium with the odour of a Rose, said by Roxburgh to grow in the Island.—Hab. Cape of Good Hope.

124. **P. hybridum**, Ait.—Bastard Scarlet Geranium; grows wild, associated with the larger variety.—Hab. Cape of Good Hope.

125. **P. glutinosum**, Ait.—Oak-leaf Geranium; grows wild and abundantly about the woodside hedges and St. Paul's

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churchyard. Alt. 3 to 4. Bot. Mag. 143.—Hab. Cape of Good Hope.

126. **P. zonale,** Willd. var.—Common pale red Geranium, of which there are various shades, all being garden varieties, or hybrids of this species; grows wild, and is very common about the roadside hedges and churchyards, Southens, &c. Alt. 3 to 4.

127. **P. betulinum,** Ait.—White-flowered Geranium, said by Roxburgh to grow in the Island. Bot. Mag. 148.—Hab. Cape of Good Hope.

128. **P. capitatum,** Ait.—Rose-scented Geranium, with purple blossoms, said by Roxburgh to grow in the Island.—Hab. Cape of Good Hope.

129. **P. angulosum,** Ait.—Marshmallow-leaved Geranium, with purple blossoms, said by Roxburgh to grow in the Island.—Hab. Cape of Good Hope.

130. **P. cucullatum,** Ait.—Hooded-leaved Geranium, with purple flowers, said by Roxburgh to grow in the Island.—Hab. Cape of Good Hope.

131. **P. inquinans,** Ait.—Common Scarlet Geranium; grows wild, and is very common both on the low and high lands. Alt. 1·6 to 4. It is very abundant, and grows amongst the Prickly-pear bushes at The Briars and on Barnes' Road, where its bright blossoms contrast prettily with the grey lichen-coloured rocks. It also abounds in the central part of the Island, along roadside hedges, and about St. Paul's churchyard.—Hab. Cape of Good Hope.

27. Balsaminaceæ (*Balsam Family*).

Impatiens, Linn.

132. **I. Balsamina,** Linn.—The Garden Balsam grows and flowers abundantly in many varieties of colour. Cultivated in gardens.—Hab. E. Indies.

28. Tropæolaceæ (*Nasturtium Family*).

Tropæolum, Linn.

133. **T. majus,** Linn.—Several varieties of the Nasturtium grow wild and are very common at most C., M., and H. L. alts.—viz., Brown, Red, Orange, and Yellow-flowered; while several other and more

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choice kinds are cultivated in gardens. The seeds are pickled while green, and used as a substitute for capers.—Hab. Peru.

134. **T. aduncum**, Sm.—Cultivated in gardens, generally, though rare. It seeds well.—Hab. Peru.

29. Oxalidaceæ (*Wood Sorrel Family*).

Averrhoa, Linn.

135. **A. Carambola**, Linn.—Chinese Gooseberry; grows in The Briars garden, M. alt. 1·6, to a good-sized tree, and bears fruit abundantly, which is chiefly used for preserves.—Hab. Probably China or Hong Kong.

Oxalis, Linn.

136. **O. caprina**, Thunb.—Sour Bell. This beautiful yellow-flowered Oxalis grows wild, and is very common, alt. 3·8, covering whole fields with its bright blossoms.—Hab. Cape of Good Hope.

137. **O. caprina**, Thunb. var.—The small pink-flowered Sorrel, which grows wild in gardens on the high land. Alt. 3·8.

138. **O. corniculata**, Linn.—The very small yellow-flowered Sorrel, which forms one of the most abundant weeds all over the Island. Found in all parts of the world except the coldest.

139. **O. variabilis**, Jacq.—Ladies' Thimble; grows wild in gardens on the high land. Bot. Mag. 1712.—Hab. Cape of Good Hope.

140. **O. rubella**, Jacq.—Small Red Oxalis, in gardens, uncultivated, and rather common. Oakbank, &c. Bot. Mag. 1031.—Hab. Cape of Good Hope.

141. **O. Martiana**, Zucc.—Pink Oxalis; uncultivated; common in gardens and on the high land.—Hab. Brazil.

30. Zygophylleæ.

Melianthus, Linn.

142. **M. major**, Linn.—Honey Flower; grows about shrubberies, &c. Alt. 3·8. Wild, rather common.—Hab. Cape of Good Hope.

143. **M. minor**, Linn.—A smaller species, found in similar situations, but less common.—Hab. Cape of Good Hope.

Tribulus, Linn.

144. **T. terrestris**, Linn.—I have only seen one plant of this low creeping bush, with bright yellow blossoms and curious-shaped

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prickly seeds, and that was growing on the rocky ground near the sea at Prosperous Bay Telegraph Station.—Hab. S. of Europe, Asia, Africa, &c.

31. Simarubeæ (*Quassia Family*).

Ailanthus, Desf.

145. **A. glandulosa**, W.—One plant, introduced to Plantation Garden from Kew in 1864, in six years attained the height of eighteen or twenty feet. Many cuttings have also been taken from the original plant, and it might be greatly extended for the purpose of rearing silkworms.—Hab. China.

32. Rutaceæ (*Rue Family*).

Calodendron, Thunb.

146. **C. capense**, Thunb.—Wild Chestnut; a tree with beautiful clusters of pale pink flowers, growing near the stables and Ladies' Garden at Plantation, and also at Woodlands. It seeds, but is rather rare.—Hab. Cape of Good Hope and New South Wales.

Diosma, Linn.

147. **D. ericoides**, Linn.—Sweet Thyme; grows in gardens on the high land, but does not seed or easily propagate by cuttings. Alt. 3·8. Cultivated, and rather rare.—Hab. Cape of Good Hope.

Ruta, Linn.

148. **R. graveolens**, Linn.—Rue; grows cultivated in gardens on the high land; rather rare.—Hab. S. of Europe.

Toddalia, Juss.

149. **T. lanceolata**, Lam.—One tree only growing on the Island, at Joho's Hole, in Plantation grounds, where it attains a height of thirty feet or more; flowers and seeds.

33. Anacardiaceæ (*Cashew-nut Family*).

Harpephyllum, Bernh.

150. **H. caffrum**, Bernh.—The Caffre or Sour Red Date;

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uncultivated and common. Alt. 3 to 4. Grows to a tree about forty to fifty feet in height, and bears a bright red fruit, shaped like a date. It is very acid, but being of a pleasant flavour is eaten by children, &c. Seeds abundantly.—Hab. S. Africa.

Mangifera, Linn.

151. **M. indica**, Linn.—Three kinds of Mango grow in St. Helena at low altitudes, C. ·8 to 1·4, and bear fruit to perfection. The Yellow East Indian Mango (of which there is a tree at Maldivia Gardens which has borne fruit since 1827, and whose branches extend over an area forty feet in diameter), bears fruit abundantly, and is considered by travellers and others capable of judging to be equal in flavour to any Mangoes in the world. I cannot help here remarking on the absurdity of importing these and other Tropical fruits into England, where they are no more like the real fruit than a turnip is like a peach. There can be no doubt that a Tropical fruit must be eaten in a Tropical country, if its characteristics are to be appreciated and enjoyed, and the endeavour in the present day to place these fruits on the English dinner-table is a failure as well as an injustice to the natural production itself.

There is also in St. Helena the large Green Mango, which is nearly as good as the Yellow; and also a small bastard kind growing at The Briars, which is not eatable. The Mango is not one of the most abundant fruits, as there are scarcely more than half a dozen trees in the Island, but they bear abundantly in the months of March and April, and the seeds germinate readily. Bot. Mag. 4510.—Hab. E. Indies.

Pistacia, Linn.

152. **P. Terebinthus**, Linn.—Cypress Turpentine tree; recently introduced from the Royal Gardens at Kew.—Hab. Mediterranean region.

Rhus, Linn.

153. **R. sp.** ?—Called Wild Mango; one tree only growing at The Briars.

154. **R. sp.** ?—A small Sumach plant, recently introduced from Kew to Plantation Gardens.

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Pittosporum, Banks.

155. **P. tobira,** Ait.—China Box; grows to a shrubby tree about ten feet high, uncultivated, and is common. Alt. 4. A good deal used as hedges in shrubberies, &c. Bot. Mag. 1396.—Hab. China.

156. **P. undulatum,** Vent.—Tree Pittosporum; uncultivated and rather common. Alt. 3·8. One of the handsomest trees in the Island, growing large and bushy to a height of thirty or forty feet, and flowering profusely. The rich perfume of its blossoms extends over a considerable area.—Hab. New South Wales.

157. **P. viridiflorum,** Sims.—One of the most abundant shrub plants, growing wild about St. Paul's new churchyard and other places at alt. 3·8, where its delicious perfume, when in blossom, easily reveals its locality. It attains a height of ten or twelve feet. Bot. Mag. 1684.—Hab. Cape of Good Hope. All these species seed well.

34. Vitaceæ (*Vine Family*).

Vitis, Linn.

158. **V. capensis,** Thunb.; *Cissus capensis.*—Velvet Thorn; grows uncultivated and fruits well at Rosemary Hall, Plantation, &c. H. L. Alt. 3. Rare.—Hab. Cape of Good Hope.

159. **V. vinifera,** Linn.—The Grape was introduced in 1718. Four kinds grow in the Island; cultivated for the sake of the fruit; rather common. C. and M. Alt. ·4 to 3. It thrives best in the hot valleys, such as James' Valley and that below Longwood. I have seen splendid grapes grown at St. Helena, but lately they appear to have been somewhat blighted. In some places where gardens formerly existed, the Vine now grows in an almost uncultivated state. There is no record of any attempt having been made to cultivate the plant for the purpose of making wine in the Island. This is remarkable, inasmuch as the climate and soil of St. Helena are very similar to those at Madeira. It is possible that the energy of the islanders may not have been directed in that way, because of the facilities which exist for obtaining wine from the Cape of Good Hope.

35. Rhamneæ (*Buckthorn Family*).

Noltia, Reichb.

160. **N. africana,** Rchb.—A small Birch-like shrub, growing

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wild at Walbro' Cottage, Plantation, Oakbank, &c. Alt. 3. Common.

Nesiota, Hk. f.

161. ***N. elliptica**, Hk. f.; *Phylica elliptica*, Roxb.—This handsome indigenous plant, known as the Wild Olive of Diana's Peak, growing amongst the ferns and other native vegetation on the north side of the central ridge, attains to a stout shrubby tree, about fifteen or eighteen feet high. It puts forth its small pink-tinted blossoms in the months of June to October, and seeds well; but very few trees now remain, probably not more than twelve or fifteen at the most, and these grow chiefly on the northern side of the central ridge, where it is easily recognised by its deep-grey foliage, in contrast with the pale-green which characterizes the other indigenous plants. Alt. 5·2. PLATE 31. Also Hk. Icon. Plant. 1052.

Phylica, Linn.

162. ***P. ramosissima**, D.C., *P. rosmarinifolia*, Roxb.—The native Rosemary is a very pretty shrubby plant, ranging in height from a small bush to about twelve feet; the leaves are bright-green on the upper, and white on the under side, which gives a silvery appearance to the foliage; the stems are very crooked, attaining a size of about four to ten inches diameter, and the wood is white and hard, very suitable for turning. I have not seen it either above or below the alt. of 3 to 4; it grows mostly at Fairy Land, Plantation, Rosemary Hall, Oaklands, Oakbank, and other places of similar position, but its most remarkable locality is on the top of the pile of rock called Lot, where about a dozen large bushes of it seem to thrive without any soil. This plant is gradually disappearing, perhaps not more than 100 specimens now exist. PLATE 32. Also Hk. Icon. Plant. 1051.

36. CELASTRINEÆ (*Spindle-tree Family*).

Celastrus, Linn.

163. **C. sp. ?**—One small plant only, growing near the western side of Plantation House; seeds well.—Hab. Cape of Good Hope.

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37. MALPIGHIACEÆ.

Acer, Linn.

164. **A. Pseudo-platanus**, Linn.—Sycamore Maple, mentioned by Roxburgh as growing in the Island.—Hab. Britain.

38. SAPINDACEÆ (*Soapberry Family*).

Euphoria, Juss.

165. **E. Longana**, Juss.—One or two trees, about twelve feet high, with dark-reddish leaves, grow in the valley above the Jos House, at Plantation. Alt. 2·6; does not fruit.—Hab. China.

Nephelium, Linn.

166. **N. Litchi**, Don.—Litchi; a fine tree grows at Oakbank, on the high land, alt. 3, and bears fruit, but not in perfection. It is the only tree in the Island.—Hab. China.

167. **N. lappaceum**, Linn.—The Rambutan of the East; grows well to a good-sized tree in the Botanical and the Maldivia Gardens, C. alt. ·5 to ·7, in Jamestown, in the former of which it fruits well. This fruit is mistaken for the Litchi in the Island; it is very rare. Bot. Mag. 4096.—Hab. China.

39. POLYGALACEÆ.

Muraltia, Neck.

168. **M. heisteria**, D.C.—Prickly Heath; growing in gardens, very rare, cultivated. Bot. Mag. 340.—Hab. Cape of Good Hope.

Polygala, Linn.

169. **P. myrtifolia**, Linn.—Wild Senna; a small shrub with flowers purple inside and green outside; grows uncultivated in shrubberies, &c.; rather common. Alt. 3·8. Plantation, Lot's Wife Wood, &c.—Hab. Cape of Good Hope.

40. LEGUMINOSÆ (*Pulse Family*).

SUB-ORD. PAPILIONACEÆ.

Abrus, Linn.

170. **A. precatorius**, Linn.—Wild Liquorice; mentioned by

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Roxburgh as growing in the Island. This plant has often been introduced, but does not appear to succeed.—Hab. West Indies.

Sesbania, Pers.

171. **S. aculeata**, Pers.—Recorded by Roxburgh as growing in the Island.—Hab. India.

Cicer, Linn.

172. **C. arietinum**, Linn.—Chick Pea; mentioned by Roxburgh as growing in the Island. Bot. Mag. 2274.—Hab. S. of Europe and Asia Minor.

Clitoria, Linn.

173. **C. Ternatea**, Linn.—Blue Clitoria; cultivated as a garden plant; seeds well. Bot. Mag. 1542.—Hab. E. Indies.

Sutherlandia, R. Br.

174. **S. frutescens**, R. Br.—Bladder Senna; a scarlet-blossomed plant, cultivated in gardens. Alt. 3·8; rare; seeds freely.—Hab. Cape of Good Hope.

Coronilla, Linn.

175. **C. glauca**, Linn.—This plant, with its pretty yellow, pea-shaped blossoms, grows in gardens, cultivated; and very rare. Alt. 3·8; seeds freely.—Hab. S. of France.

Crotalaria, Linn.

176. **C. incana**, Linn.—Growing in Lowe's Gardens, recently introduced from the West Coast of Africa, where, it is said, the natives use it as a substitute for beans and peas.—Hab. West Indies.

177. **C. retusa**, Linn.—Yellow and purple flowered; said by Roxburgh to grow in the Island.—Hab. E. Indies.

178. **C. laburnifolia**, Linn.—Mentioned by Roxburgh as growing in the Island.—Hab. E. Indies and Ceylon.

179. **C. arborescens**, Lam.—A tall shrub with yellow blossoms, commonly, but erroneously, called Laburnum. Grows wild, but not abundantly, in the neighbourhood of Plantation. H. L. Alt. 4.—Hab. Cape of Good Hope.

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Dalbergia, Linn.

180. **D. frondosa,** Roxb.—This and the following species are large timber trees of Bengal, and are recorded by Roxburgh as growing in the Island. It is probable that they were at that time introduced, and have not succeeded.—Hab. Bengal.

181. **D. Sissoo,** Roxb.—Hab. Bengal.

Desmodium, Desv.

182. **D. argenteum,** Wall.—A very pretty shrubby plant, with silvery leaves and purple pea-shaped flowers, growing at The Hermitage, Plantation, &c., uncultivated; seeds freely, but is rare.—Hab. S. America.

183. **D. arenarium,** H. B. et K.—A small shrub, with yellow blossoms, somewhat like those of the Laburnum, growing wild in Maldivia Gardens. C. Alt. ·8.—Hab. America and West Indies.

Dolichos, Linn.

184. **D. lignosus,** Linn.—Common pink Dolichos; cultivated in gardens; seeds well, but is rare. Bot. Mag. 380.—Hab. E. Indies.

Erythrina, Linn.

185. **E. caffra,** Thunb.—Cock and Hen, or Cape Coral Tree; grows wild, and is very common, from Jamestown, alt. ·5, up to the high land, alt. 4. It attains to a large tree, forty feet in height, with a stem four or five feet in diameter. Its bright scarlet flowers contrast well with its dark-green leaves. It is much used in hedges as fences, but is objectionable because it requires, in consequence of its very rapid growth, so much attention. The roots also extend to a considerable distance, and greatly impoverish the surrounding land. The timber is tough, very coarse, and little used; the leaves, however, afford good food for cattle, and in seasons of drought become very valuable for that purpose. Two species grow in the Island. One of them, *E. corallodendrum*?, flowers when out of leaf, and the apparently dead tree, covered thickly all over with bunches of deep scarlet blossoms, is a singular object. This is the least common of the two, and may be seen in Jamestown, and at the foot of Barnes' Road. The brilliant red seeds are worked

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into necklaces, ornamental baskets, and mats. C. to H. L.—Hab. Cape of Good Hope.

186. **E. speciosa**, Andr.—A smaller species, growing wild, and rather common at Terrace Knoll, Hut's Gate, &c. Alt. 3 to 3·8. Attains a height of eight or ten feet.—Hab. W. Indies.

Hardenbergia, Benth.

187. **H. monophylla**, Benth.—A very pretty little pink-blossomed plant, recently introduced, and growing well in the Gardens at Scotland, and Oaklands.—Hab. Australia.

Indigofera, Linn.

188. **I. tinctoria**, Linn.—The Indigo plant; was introduced in 1678, and grown in Oakbank and other gardens, at alt. 3·5, but is now very rare.—Hab. E. Indies.

Lathyrus, Linn.

189. **L. tingitanus**, Linn.—Tangier Pea; grows wild and is common about The Hermitage, Myrtle Grove, &c. Alt. 3·7.—Hab. Morocco.

190. **L. odoratus**, Linn.—The Sweet Pea and Painted Lady, with several other varieties, grow well and abundantly, cultivated in gardens generally.—Hab. Mediterranean region.

Lupinus, Linn.

191. **L. angustifolius**, Linn.—A blue-flowered Lupin, which grows wild and is common at Rosemary Hall, alt. 4, and has there quite taken possession of one or two paddocks.—Hab. S. Europe.

192. **L. luteus**, Linn.—Yellow Lupin grows cultivated in gardens; rare. Alt. 4·8.—Hab. Sicily.

Medicago, Linn.

193. **M. nigra**, Willd.—Small yellow Trefoil; wild, and very common about Plantation, &c. Alt. 3·8. Quite a weed.—Hab. S. Europe.

194. **M. maculata**, Sibth.—A small yellow-flowered Trefoil, growing as a weed, and common about the high lands.—Hab. Europe, N. Africa.

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195. **M. denticulata,** Willd.—Small yellow-flowered Trefoil; a weed, and very common about the fields on the upper land.—Hab. S. of Europe, N. Africa, W. Asia, to India.

196. **M. sativa,** Linn.—Lucerne grows to a small extent, uncultivated, below the Stables at Plantation; rare.—Hab. Europe.

Melilotus, Juss.

197. **M. parviflora,** Desq.—A small yellow-flowered Plant, rather common, and growing wild on Barnes' Road, and other rocky low land situations. The flowers have a strong perfume, resembling that of newly-mown hay. M. Alt. 3.—Hab. Europe.

Pisum, Linn.

198. **P. sativum,** Linn.—Garden Pea; several varieties are cultivated.—Hab. S. of Europe.

Psoralea, Linn.

199. **P. pinnata,** Linn.—The Native "Christmas," or "Gobble Gheer." It is difficult to trace the origin of the latter name; the former is in consequence of the plant flowering but once a year, and that at Christmas time. At that season it is greatly used in floral decorations, for churches and houses, and to the St. Helenian is quite what Holly and Mistletoe are to the people of England. It grows wild to a slight tree, about ten feet in height, and is very common. M. Alt. 3·6 to 4. Doubtless this plant existed in the Island on its discovery.—Hab. St. Helena?, and Cape of Good Hope.

Phaseolus, Linn.

200. **P. lunatus,** Linn.—Lima Bean; said by Roxburgh to grow in the Island.—Hab. E. Indies.

201. **P. vulgaris,** Linn.—Several varieties of Kidney Bean are cultivated.—Hab. India.

Sophora, Linn.

202. **S. japonica,** Linn.—Recently introduced from the Royal Gardens at Kew.—Hab. Japan and China.

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Spartium, Linn.

203. **S. junceum**, Linn.—Spanish Broom grows and blossoms well in some of the gardens on the high land. Alt. 3·7.—Hab. S. of Europe.

Trifolium, Linn.

204. **T. pratense**, Linn.—Common Red Clover. This plant does not thrive, although repeated attempts have been made to introduce it. It merely exists as a few plants here and there.—Hab. Europe, N. Africa, N.W. Asia.

Ulex, Linn.

205. **U. europæus**, Linn.—Fuz-bush, Furze, Gorse, or Whin, as it is called, grows wild, and is *very* common. M. and H. L. Alt. 2 to 5·2. One of the most abundant plants in the Island, covering many acres of the somewhat barren outskirts of the high land. The stems are much used for firewood in preference to the wood of the fir-tree, in consequence of its containing no turpentine. Many of the natives make a living by cutting and sending it on their donkeys into the town, for sale as firewood. Blossoms in October.—Hab. Denmark to Italy and Greece, Canaries and Azores.

Vicia, Linn.

206. **V. faba**, Linn.—Several varieties of the Garden Bean are cultivated in gardens as a vegetable, and sold in the market.—Hab. Egypt.

207. **V. sativa**, Linn.—The pink-flowering Tare, grows wild and is very common in the hayfields and meadows on the high land. Alt. 3·8.—Hab. Europe, N. Africa, W. Asia to India.

Virgilia, Lam.

208. **V. capensis**, Lam.—This beautiful tree, known as the Sophora, flourishes on the high land, where in an uncultivated state it attains a height of twenty feet. It bears its richly perfumed blossoms freely, but seldom seeds, and the plant is less abundant now than it was ten or twelve years ago. Bot. Mag. 1590.—Hab. Cape of Good Hope.

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SUB-ORD. CÆSALPINEÆ.

Bauhinia, Linn.

209. **B. purpurea**? Linn.—One tree growing in Maldivia Gardens. C. Alt. ·7. Blossoms and seeds well.—Hab. E. Indies.

Cassia, Linn.

210. **C. occidentalis**, Linn.; *C. aurea*, Roxb.—Yellow Cassia; on the rocky ground in Lemon Valley, &c. C. Alt. ·2 to 1. Wild and common.—Hab. Tropics generally.

211. **C. lævigata**, Willd.—Common yellow Cassia; grows wild to a small tree about six feet high along the roadsides, &c., on the high land. Alt. 4. Here and there clumps of these trees, in full, rich, golden blossom, form a conspicuous feature.—Hab. Tropics generally.

212. **C. microphylla**, Willd.—Small-leaved Cassia; said, with the following two species, by Roxburgh, to grow in the Island.—Hab. Santa Cruz.

213. **C. alata**, Linn.—Broad-leaved Cassia.—Hab. Tropics.

214. **C. Sophera**, Linn.; *C. esculenta*, Roxb.—Round-podded Cassia.—Hab. E. Indies, Egypt, China.

Cæsalpinia, Linn.

215. **C. Sappan**, Linn.—Prickly, yellow-flowered Poinciana, grows wild, but is rather rare, in hedges, &c., near Rural Retreat. Alt. 2·4 to 3·6.—Hab. E. Indies.

Gleditschia, Linn.

216. **G. sinensis**, Lam.—One of these beautiful trees exists in the Island, and grows a little to the west of Plantation House, alt. 3·8, where it has attained to a height of thirty feet, or more. It blossoms and seeds freely. There is also a tree near Bertrand's House, at Longwood, which probably may be the same species.—Hab. China.

217. **G. horida**, W.—One tree mentioned by Roxburgh as growing in the Governor's garden.—Hab. China.

Guilandina, Linn.

218. **G. Bonduc**, Linn.—The hard, slate-coloured seeds of this plant are frequently washed ashore on the beach at Sandy Bay;

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they are probably brought from the eastward round the Cape of Good Hope by sea currents. I have not met with an instance of their having germinated at St. Helena.—Hab. India, &c.

Parkinsonia, Linn.

219. **P. aculeata,** Linn.—A tree bearing thorns and orange-coloured blossoms, said by Roxburgh to grow in the Island.—Hab. W. Indies.

Poinciana, Linn.

220. **P. pulcherrima,** Linn.—Barbadoes Pride; one or two plants grow in the garden of the Old Jail at Rupert's. C. Alt. 6. Flowers and seeds. Bot. Mag. 995.—Hab. E. and W. Indies.

Schotia, Jacq.

221. **S. tamarindifolia,** Afz.—Coral Tree; only one plant in the Island, about seven feet in height, growing at Francis Plain; blossoms well and bears seed. M. Alt. 26. Bot. Mag. 1153.—Hab. Cape of Good Hope.

Tamarindus, Linn.

222. **T. indica,** Linn.—There are but four or five Tamarind trees, which grow in James Valley. They attain a height of thirty feet, flower well, and fruit fairly. C.—Hab. India.

SUB-ORD. MIMOSEÆ.

Piptadenia, Benth.

223. **P. peregrina,** Bth. — The Seed Work Acacia of the Islanders attains to a tall shrub of eight feet, and is rather common and uncultivated, chiefly in Jamestown, but also at C. and M. Alts. 3. The seeds are gathered, dyed black, and strung together to form bracelets, brooches, and other ornaments.—Hab. Brazil.

Acacia, Willd.

224. **A. dealbata,** Link.—Fine-leaved Acacia; with blue-green foliage and yellow blossoms, rather common, and growing wild at Plantation, Rosemary Hall, Prospect, &c., to a shrubby tree twenty feet in height.—Hab. Australia.

225. **A. decurrens,** Willd.—Fine-leaved Acacia, with bright-green foliage and clusters of small, round, yellow blossoms emitting a delightful perfume, growing wild, and is common at Sydenham, Oak-

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bank, &c., to an upright tree about twenty feet high.—Hab. New South Wales, Port Jackson.

226. **A. implexa**, Bth.—A tree very like the Port Jackson Willow Acacia, but having globular flowers, growing uncultivated, and is rather rare, in the valley above the Jos House at Plantation.—Hab. Australia.

227. **A. longifolia**, Willd.—The Port Jackson Willow is one of the most abundant plants, and at the same time one of the most beautiful in the Island; it varies in size from a large bush to a tree thirty feet high, and in the spring months of September and October, when it is covered with a mass of bright gamboge-yellow flowers, the contrast it forms with the dark green foliage of the firs and light green oaks is very striking and beautiful. It grows wild and is common at all heights, but apparently best at mid altitudes, where in some places small forests of it exist. The timber is very beautiful, in appearance something between Walnut and Satinwood; it is close-grained and hard, and takes a fine polish; it may be abundantly obtained in planks as wide as twelve or fifteen inches. The bark of the tree, which contains a large quantity of tannin, might be collected and used in the preparation of leather; but up to the present time little use has been made of either timber or bark beyond that of firewood. Bot. Mag. 2166.—Hab. New South Wales.

228. **A. verticillata** *latifolia*, Willd.—Acacia; with pale-yellow blossoms, very like those of *A. longifolia*, but with short, stiff, prickly, dark green leaves. Grows uncultivated, but is rare, to a good-sized tree at Plantation, &c. Bot. Mag. 110.—Hab. New Holland.

229. **A. spectabilis**, Cunn.—Large round yellow-flowered Acacia; bearing very long thorns or spikes; is common and grows wild to a bushy tree, about ten feet high, on the low land, at The Briars, Ladder Hill, &c.

230. **A. suaveolens**, Willd.—A small plant about four feet high, with yellow Acacia-like flowers; grows at Fairyland. Seeds, but is rare.—Hab. New South Wales.

231. **A. melanoxylon**, R. Br.—A tree recently introduced, and appears to thrive well. Two or three specimens of it, about twenty feet in height, grow in a field at the back of Scotland. Alt. 3·8. The leaves of this tree resemble those of *A. longifolia*, but the flowers are globular.—Hab. Australia, Van Diemen's Land.

232. **A. arabica**, Willd.—Gum Arabic tree. Roxburgh men-

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tions this plant as growing in the Island, but I have only seen a few young plants occasionally in gardens.—Hab. E. Indies.

233. **A. rangraensis,** ——.—Has recently been introduced to the Island from the Royal Gardens at Kew.

Albizzia, Durazz.

234. **A. Lebbek,** Bth.—I have seen but three specimens of this tree, which attains a height of ten feet or so, growing in the Island, and they occur in Jamestown. C. Alt. ·2. It blossoms and seeds abundantly, but does not multiply.—Hab. Egypt, &c.

235. **A. lophantha,** Bth.; *Acacia lophantha,* Willd.—The Blackboy of the islanders; grows wild, and is common at M. alts. from ·2 to 4; attains a height of ten to fifteen feet, and, when young, forms most graceful, pretty foliage. As the tree grows up, however, it loses its leaves, and therewith its beauty. It grows a good deal over the low, barren parts, and affords firewood to the natives. Bot. Mag. 2108.—Hab. Australia.

Entada, Linn.

236. **E. scandens,** Linn.—Sea Bean. These large beans are cast ashore on the windward side of the Island, having been brought from the Mauritius, or elsewhere, by sea currents. They have been known to germinate, and the plant to attain a considerable size in the Island; but it is doubtful if one now exists there.—Hab. India.

Mimosa, Linn.

237. **M. sensitiva,** Linn.—I have seen this in gardens, but it is very rare.—Hab. Brazil.

Pithecolobium, Mart.

238. **P. dulce,** Mart.—Two small shrubs grow near the marble column in the Castle Gardens, Jamestown. C.

41. ROSACEÆ (*Rose Family*).

SUB-ORD. AMYGDALEÆ.

Amygdalus, Linn.

239. **A. communis,** Linn.—The Almond; a few trees only.—Hab. N. Africa, Asia Minor, &c.

240. **A. persica,** Linn.—The Peach; grows wild to trees

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thirty feet in height, at all C. to H. L. alts., and is very common.—Hab. Persia. There are at least twenty varieties, some partaking of the flavour of the Nectarine, others of the Apricot, as follows:—

White . . . { Clingstone. / Dry, freestone; 2 kinds, large and small. / Juicy.

Red . . . . { Clingstone, resembling nectarine in flavour. / Real juicy peach. / Dark red. / Light red. } Freestone.

Yellow . . . { Dry, freestone; 2 kinds. / Small; clingstone. / Island, or very large ditto.

White and Red { Clingstone. / Freestone.

Red and Yellow { Clingstone; 2 kinds. / Juicy, freestone. / Dry ditto.

Flat . . . . { White. / Red.

Cerasus, Juss.

241. **C. Laurocerasus**, Bosc.—Common Laurel, grows uncultivated in shrubberies on the high land to a height of eight or nine feet. Not very abundant; blossoms, but seldom seeds.—Hab. S.W. Europe.

Prunus, Linn.

242. **P. Armeniaca**, Linn.—Apricot; a few trees on the high land, which do not appear to thrive or bear much fruit.—Hab. Levant.

SUB-ORD. ROSEÆ.

Fragaria, Linn.

243. **F. vesca**, Linn.—The Wild Strawberry; grows wild about gardens, and in the woods near Mount Pleasant; not very common. Alt. 4·5.—Hab. Britain, Europe, N. Africa, Siberia, W. Asia to the Himalaya, E. and W. N. America.

244. **F. elatior**, Linn.—Garden Strawberry; cultivated, alt. 3·8, but does not bear fruit well.—Hab. Europe, &c.

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Geum, Linn.

245. **G. urbanum**, Linn.—A weed with strawberry-like blossoms, growing wild, and is very common. Alt. 1 to 4.—Hab. Britain, Europe, N. Africa, Siberia, W. Asia to the Himalaya, E. and W. N. America.

Rosa, Linn.

246. **R. triphylla**, Roxb.—Large single White Rose; grows wild, and is rather common, in the roadside hedges on the high land. Alt. 4. Flowers in September and October.—Hab. China.

247. **R. indica**, Linn.—Single White Rose; mentioned by Roxburgh.—Hab. China.

248. **R. rubiginosa**, Linn.—Sweet Briar; grows in gardens on the high land. Alt. 3·8, cultivated, and rather rare.—Hab. Europe, Siberia, W. Asia to N.W. India.

249. **R. multiflora**, Thunb.—Multiflora Rose; grows wild abundantly and is common in St. Paul's churchyard, &c., as a hedge plant; flowers very freely. H. L. Alt. 3 to 4. Bot. Mag. 1059.—Hab. China.

250. **R. centifolia**, Linn.—Mentioned by Roxburgh.—Hab. S. of Europe.

251. **R. centifolia muscosa**, Ait.—Moss Rose; mentioned by Roxburgh, but not now to be seen. There is a Rose, however, very like it, without the moss, common and almost wild in the Island.—Hab. Europe.

252. **R. bracteata**, Roxb.—Macartney Rose; grows well in gardens. Bot. Mag. 284.—Hab. China.

253. **R. microphylla**, Roxb.—Commonly called "The Thousand-leaved Rose." It grows uncultivated, and somewhat abundantly, in shrubberies. H. L. Alt. 4. Bot. Mag. 3490.—Hab. China.

254. **R. Banksiæ** ? R. Br.—Seven Sisters Rose; growing in the garden at Terrace Knoll only. Bot. Mag. 1954.—Hab. China.

Rubus, Linn.

255. **R. rhamnifolius**, Weih. et Nees.—A large-fruited Blackberry; growing on the high land in the neighbourhood of Plantation, &c., where it is called English Blackberry, to distinguish it from the common bramble. It is confined to a few small patches

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only, alt. 3 to 4; but although it fruits well, it does not spread.—Hab. Britain.

256. **R. pinnatus**, Willd.—The Common Blackberry of the Island (introduced in 1775) is one of the most abundant of all plants. It is confined to Alt. 3 to 5·4, and overruns large patches of land. It affords good cover for pheasants, and the fruit is gathered for making jams and tarts; beyond this I do not know of its usefulness in any way. It quickly spreads over the grass lands if left unchecked, and is now overgrowing the native plants on Diana's Peak and the high ridge. It is thus assisting in the destruction of the indigenous flora, preventing the seeds from germinating by excluding both light and air from the soil upon which they may fall. It may be described as very common, and growing wild on the whole of the upper land.—Hab. Madeira.

257. **R. idæus**, Linn.—English Raspberry; grows cultivated in some gardens. Alt. 3·8, rare, and does not fruit.—Hab. Europe, N. Africa, Siberia, W. Asia.

258. **R. rosæfolius**, Sm.—Known by the name of Wild Raspberry; grows wild and is common pretty generally, but mostly on the south side of the Island, at M. alt. 4. Its beautiful bright-red berries are gathered in quantities by the natives, and sold in the market for the purpose of making jam.—Hab. Mauritius.

Spiræa, Linn.

259. **S. Reevesiana**, Lindl.—The May of the Islanders; a pretty, small shrubby plant, growing about four feet high, and making showy hedges, especially when covered with its white blossoms, which resemble the English May. It grows on the high lands in an uncultivated state. Very common, does not seed, and is easily propagated by cuttings.

260. **S. corymbosa**, Rafin.—Mentioned by Roxburgh as growing in the Island.—Hab. N. America.

SUB-ORD. POMEÆ.

Eriobotrya, Lindl.

261. **E. japonica**, Lindl.; *Mespilus japonica*, Thunb.—The Loquat is one of the most abundant and best fruits of the place. Grows to a

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tree eighteen feet in height, wild, and common. C. to H. L. Alt. ·6 to 4.—Hab. China.

Pyrus, Linn.

262. **P. malus**, Linn.—Crab Apple; only a tree or two in the valley near the Jos House, at Plantation.

263. **P. malus**, Linn. var.—Eatable Apple; grows, cultivated, to a tree twelve feet in height; rather common. Alt. 3·8. The Apple fruits well, but, at best, is only fit for cooking purposes.—Hab. Europe, Caucasus, &c.

264. **P. chinensis**, Sprengl.—Common Pear; grows well and abundantly, uncultivated, to a tree thirty feet high, on the high land, and is common. The fruit, which appears in July, is very large, and excellent when preserved. These pears are chiefly sold to the shipping at the moderate price of 2*s.* 6*d.* to 3*s.* 6*d.* a hundred. It is propagated by cuttings.—Hab. China.

265. **P. communis**, Linn.—English and Cape Pear. A few trees, of two or three varieties, grow and fruit, but do not thrive.—Hab. Europe.

266. **P. Cydonia**, Linn; *Cydonia vulgaris*.—Quince; grows and fruits well on the high land, but is rather rare.—Hab. Europe.

42. Myrtaceæ (*Myrtle Family*).

Eugenia, Linn.

267. **E. Jambos**, Linn.—Rose Apple; is common, and grows wild to a tree twenty-five feet in height, C. to H. L. Alt. ·8 to 4. The fruit is abundant, and esteemed by some persons.—Hab. E. Indies.

268. **E. Ugni**, Hk. & Arnott.—Recently introduced from the Royal Gardens at Kew.—Hab. Patagonia.

269. **E. Pimenta**, D.C.—Allspice tree; ditto.—Hab. West Indies.

270. **E. sp.**?—China Rose Apple; one tree in the Botanical Gardens, Jamestown; bears fruit well. C. Alt. ·5.

Eucalyptus, L'Hérit.

271. **E. viminalis**? Labil.—The common Eucalyptus; is rather

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common on the high land, and grows wild to a large timber tree. One of these trees, which recently grew at Rock Rose Hill, at an altitude of more than 2000 feet above the sea, and was blown down by the wind in the year 1867, measured 126 feet in length; the first branch being 48 feet above the ground; and the trunk, at 6 feet above the ground, measured 16 feet in circumference.—Hab. Australia.

272. **E. globulus,** Labill.—The Blue Gum; grows well to a large tree, and is tolerably abundant on the high land. Alt. 3. It is a later introduction than the other species, but already blossoms and seeds well.—Hab. Tasmania.

Leptospermum, Forst.

273. **L. lævigatum,** Gærtn.—A branching tree, about eighteen feet high, with myrtle-like flowers, growing at Rock Rose Hill. M. Alt. 4. One tree only; flowers, but does not seed well.—Hab. Australia.

Myrtus, Linn.

274. **M. communis,** Linn.—Common Myrtle; grows to a good-sized tree, about ten or twelve feet in height. Uncultivated, and rather common; blossoms and seeds freely. C. to H. L. Alt. ·8 to 4.—Hab. S. Europe.

275. **M. communis** *tarentina,* Linn.—Box-leaved Myrtle; uncultivated and common in hedges, &c., about Plantation, and similar alts., 3·8. The peculiar custom prevails of scattering sprigs of this plant along the road in front of a funeral procession, and also into the grave before it is covered in.—Hab. S. Europe.

276. **M. sp.?**—Broad-leaved large Myrtle. A few trees only, attaining a height of ten feet, at Oakbank, &c. Flowers and seeds freely.

277. **M. lucida,** Linn.—Surinam Cherry; grows in the Ladies' Garden at Plantation, &c.; a few trees only; bears fruit occasionally. —Hab. Surinam.

Punica, Linn.

278. **P. Granatum,** Linn.—Pomegranate; grows uncultivated, and is common, in the gardens in Jamestown. C. Alt. ·6. Fruits well. The rind is collected and used at the hospitals as an astringent

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medicine. Grows also on the higher land, but does not fruit at that alt.—Hab. S. Europe.

Psidium, Linn.

279. **P. pomiferum**, Linn.—Common Guava; one of the principal fruits of the place, is common and grows wild, in the lower part of Sandy Bay, &c., to a bushy tree, 12 feet in height. C. and M. Alt. 6—Hab. W. Indies.

280. **P. pyriferum**, Linn.—Large-fruited Guava; cultivated in gardens in Jamestown; rather rare. Several other varieties of the Guava are said to grow in Maldivia Gardens; the fruit of all is eaten. C.—Hab. W. Indies.

Syzygium, Gærtn.

281. **S. zeylanicum**, D.C.—A small shrubby tree, about fifteen feet high, with pink and primrose-coloured, myrtle-like leaves, growing in Plantation House flower-garden. One tree only. Does not blossom.—Hab. Ceylon.

43. MELASTOMACEÆ.

Olinia, Thunb.

282. **O. cymosa**, Thunb.—A tree with white blossoms; grows on the high land at Walbro Cottage, but is rare.—Hab. Cape of Good Hope.

44. LYTHRACEÆ.

Lagerstrœmia, Linn.

283. **L. reginæ**, Linn.—A tree or two of this plant, with its rich clusters of red flowers, is to be found in the gardens at Maldivia and Oakbank. C. and H. L. Alt. 6 and 3.—Hab. E. Indies.

45. COMBRETACEÆ.

Terminalia, Linn.

284. **T. Catappa**, Gærtn.—Two or three trees of the Bengal Almond grow on the warm low land in James' Valley, and several also in Lemon Valley, to a height of about twenty feet; they flower and fruit well, but scarcely exceed half a dozen in number.—Hab. E. Indies.

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46. Onagraceæ (*Evening Primrose Family*).

Fuchsia, Linn.

285. **F. coccinea,** Linn.—The common Crimson Fuchsia; grows wild, and is very common, on the high lands, at alt. 3 to 5·4, even amongst the indigenous cabbage-trees and ferns at Diana's Peak, where its crimson blossoms contrast well with the white flowers of the Compositæ. It quite takes possession of large trees, such as the oak and camellia, climbing up their stems and descending in rich foliage and flowers over the branches. About mid altitude it is a good deal used in gardens and shrubberies for hedges, &c.; flowers profusely, especially during the month of June, and seeds freely, but is chiefly propagated by cuttings. Bot. Mag. 5740.—Hab. unknown; said to be Chili.

286. **F. corymbiflora,** Ruiz et Pav.—A large tree-like Fuchsia; grows well and abundantly in gardens, at alt. 4, to a height of eight feet; flowers and seeds freely, and is somewhat uncultivated. Bot. Mag. 4000.—Hab. Peru.

287. **F. globosa,** Lindl.—Globe Fuchsia; grows uncultivated, and is rather common, in gardens on the high land.

In addition to the above, there are ten cultivated varieties of Fuchsia growing and flowering in great profusion in gardens on the high land, including some of the most modern kinds, such as "Gazelle," "Schiller," "Beauty of Clapham," "Hugh Mollon," "Arabella," "Alexandrina," &c. &c.

Œnothera, Linn.

288. **Œ. purpurea,** Curtis.—Purple-flowering Œnothera; cultivated in gardens; rare. Bot. Mag. 352.—Hab. N. America.

289. **Œ. longiflora,** Jacq.—Evening Primrose; grows wild, and is common about pasture fields. Alt. 3·8. Bot. Mag. 365.—Hab. Buenos Ayres.

290. **Œ. tetraptera,** Cav.—White Evening Primrose; cultivated in gardens; rather rare. Bot. Mag. 468.—Hab. Mexico.

47. Cactaceæ (*Cactus Family*).

Cereus, Haw.

291. **C. leptophis,** D.C.—Cat's-tail Cactus; grows and flowers in gardens; cultivated and rare. Alt. 3·8.

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292. **C. speciosissimus**, D.C.—Large Crimson-flowered Cactus; cultivated in gardens, where, on the high land, at M., alt. 3, it blossoms freely. Bot. Mag. 2306.—Hab. S. America.

293. **C. sp.** ?—Small Pink-flowering Cactus, cultivated in gardens.

294. **C. triangularis**, Haw.—The Night-blooming Cereus grows wild, and is rather common, about the gardens and rocky cliffs of Jamestown, also on many parts of the high land; C. and M., alt. 3 to 4; but it is chiefly in the town that it blossoms in perfection, and when on a moonlight evening they yield forth their fragrance in and about Maldivia Gardens, they form a pleasing attraction. It rarely fruits, but does so occasionally in the gardens just mentioned. Bot. Mag. 1884.—Hab. West Indies.

Opuntia, Mill.

295. **O. vulgaris**, Mill.—The Common Prickly Pear is wild and abundant on the northern side of the Island, on the rocky barren parts, C., alt. ·04 to 3. It grows also at Sandy Bay, Longwood, and Man and Horse, on the southern side, but in less quantities. Flowers and fruits freely. Bot. Mag. 2393.—Hab. S. America.

296. **O. cochinillifera**, Mill.—The so-called English or White Prickly Pear is less abundant than the last species, but grows with it on the northern side of the Island. Though there are a few cochineal insects on the Island, their cultivation is not attended to, and the only use made of this plant is to gather the fruit and sell it in the market-place, C.—Hab. S. America.

Echinopsis, Zucc.

297. **C. Eyriesii**, Otto.—Cushion Cactus; grows cultivated, and is rather rare in gardens, alt. 3·8. Blossoms well.—Hab. Buenos Ayres.

Pereskia, Mill.

298. **P. Bleo**, D.C.—The Leaf-bearing Cactus grows well and blossoms freely in gardens on the medium high land, alt. 3, where its pretty purple blossoms are easily distinguished; rather rare. Bot. Mag. 3478.—Hab. S. America, Mexico.

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48. PASSIFLOREÆ (*Passion-flower Family*).

Passiflora, Linn.

299. **P. ligularis,** Jussieu.—Yellow-fruited Granadilla; recently introduced, but already grows and fruits well, on the high land. Bot. Mag. 3004.—Hab. Peru.

300. **P. cærulea,** Linn.—Passion Flower; grows wild and somewhat abundantly, climbing over roadside hedges, trees, and old buildings. Bot. Mag. 28.—Hab. Brazil.

301. **P. cæruleo-racemosa,** Linn.—Pink Passion Flower; grows wild, with the blue one. Both species blossom freely, but neither of them fruit. They are propagated by cuttings and layers.—Hab. Brazil.

302. **P. edulis,** Sims.—Purple-fruited Granadilla; grows wild abundantly, even amongst the native vegetation, on the central ridge. The fruit sells in the market at 6*d.* to 9*d.* a dozen. Bot. Mag. 1989.—Hab. West Indies.

303. **P. quadrangularis,** Linn.—Napoleon's Creeper; grows well in gardens over banks, verandahs, &c. Flowers abundantly, but very seldom fruits. Rather rare.—Hab. Jamaica.

Tacsonia, Juss.

304. **T. mollissima,** H. B. K.—Sometimes called French, at others Pink-flowering, Granadilla; grows uncultivated and abundantly, generally on the high land, in gardens, alt. 3·6, and fruits well. Bot. Mag. 4187.—Hab. Peru, New Granada.

305. **T. Van-Volxemii,** Funck.—Large crimson-flowered, handsome climbing plant, recently introduced from the Royal Gardens at Kew to Plantation Gardens. Bot. Mag. 5571.—Hab. Tropical S. America.

49. PAPAYACEÆ (*Papaw Family*).

Carica, Linn.

306. **C. Papaya,** Linn.—Papaw; grows in James Valley to a tree twelve feet high, and bears fruit abundantly in November. Cultivated, and rather rare. C. Alt. ·1 to 1. Bot. Mag. 2898.—Hab. S. America, and cultivated in most tropical countries.

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50. BEGONIACEÆ.

Begonia, Linn.

307. **B. nitida**? Ait.—Shining-leaved Begonia; cultivated in gardens.—Hab. Jamaica.

51. CUCURBITACEÆ (*Gourd Family*).

Lagenaria, Sering.

308. **L. vulgaris**, Sering.—The Bottle Gourd; grows wild, and is rather common about the rocky, low, barren outskirts of the Island. No use is made of it, excepting occasionally the hard, dry shell serving as a scoop for dipping water. C.—Hab. India and Africa.

Cucurbita, Linn.

309. **C. Pepo**, Linn.—Five or six kinds of Pumpkin at least grow abundantly; amongst them the hard shell, or mealy kind. They grow to a large size, and are a good deal cultivated to sell to the ships.—Hab. Levant.

310. **C. Melopepo**, Tournef.—Vegetable Marrows, of several varieties, are grown in numbers, with great success.

Cucumis, Linn.

311. **C. Citrullus**, Sering.—The Water Melon is occasionally grown, but the fruit is small and imperfect.—Hab. S. of Europe.

312. **C. sativus**, Linn.—Several varieties of Cucumber are cultivated, and succeed very well.—Hab. E. Indies.

313. **C. Melo**, Linn.—Melons are occasionally grown, and bear fruit, but seldom arrive at perfection.—Hab. India.

Momordica, Linn.

314. **M. Charantia**, Linn.—A Vine plant, closely resembling Pumpkin, mentioned by Roxburgh as growing in the Island.—Hab. E. Indies.

52. CRASSULACEÆ (*Stonecrop Family*).

Bryophyllum, Salisb.

315. **B. calycinum**, Sal.—Chandelier Plant; grows wild, and

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is common, about the woods at Oakbank, &c. Alt. 3·8 to 5. Propagated by the leaf. Bot. Mag. 1409.—Hab. E. Indies.

Crassula, Linn.

316. **C. cultrata,** Linn.—Sharp-leaved Crassula. A few plants of this and the following species are found growing in gardens on the high lands at Plantation House, &c.—Hab. Cape of Good Hope.

317. **C. obliqua,** Ait.—Yellow-flowered Crassula.—Hab. Cape of Good Hope.

Cotyledon, Linn.

318. **C. orbiculata,** Linn.—Liver Plant; grows wild, and is rather common on the somewhat barren ground at Half-tree Hollow, Mount Eternity, &c. M. Alt. 2·4 to 3·8. Bot. Mag. 321.—Hab. Cape of Good Hope.

Sempervivum, Linn.

319. **S. sp.** ?—Yellow-flowered Crassula; cultivated and rare, in gardens on the upper land.—Hab. Canaries.

53. SAXIFRAGACEÆ (*Saxifrage Family*).

Cunonia, Linn.

320. **C. capensis,** Linn.—Mentioned by Roxburgh as growing in the Island.—Hab. Cape of Good Hope.

Hydrangea, Linn.

321. **H. Hortensia,** D.C.—The Pink Hydrangea, the flowers of which change to blue, green, and brown; grows to a good-sized bush, uncultivated and is common. At Rose Cottage, alt. 4·4, it grows abundantly, and flowers so freely that the hedges of it are quite a remarkable sight. Does not seed, but is easily propagated by cuttings. Bot. Mag. 438.—Hab. China.

54. UMBELLIFERÆ (*Parsley Family*).

Apium, Linn.

322. **A. Petroselinum,** Linn.—Common Parsley, of two varieties, grows abundantly in the Island, not only cultivated in gardens, but

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also wild on the rocky lower lands, such as The Waterfall, and similar places. M.—Hab. Sardinia.

323. **A. graveolens**, Linn.—Celery; grows well in gardens, and is cultivated.—Hab. Europe, N. Africa, W. Asia.

Anethum, Linn.

324. **A. fœniculum**, Linn.—Fennel; grows as a weed abundantly about gardens and shrubberies on the higher parts. Alt. 2.—Hab. Europe, N. Africa, W. Asia.

Bupleurum, Linn.

325. **B. rotundifolium**, Linn.—Hare's Ear; occasionally seen about gardens, probably introduced with corn seed.—Hab. Europe, Asia Minor, &c.

Caucalis, Linn.

326. **C. pumila**, Gouan.—Wild Bur Parsley; grows wild about the rocky parts, Barnes' Road, &c. M.—Hab. S. of Euorpe.

Daucus, Linn.

327. **D. carota**, Linn.—The Common Carrot is plentifully cultivated; it flowers and seeds well.—Hab. Europe, Asia, &c.

Hydrocotyle, Linn.

328. **H. asiatica**, Linn.—Pennywort; mentioned by Roxburgh, as growing in the Island.—Hab. Asia, Australia, Cape of Good Hope, &c.

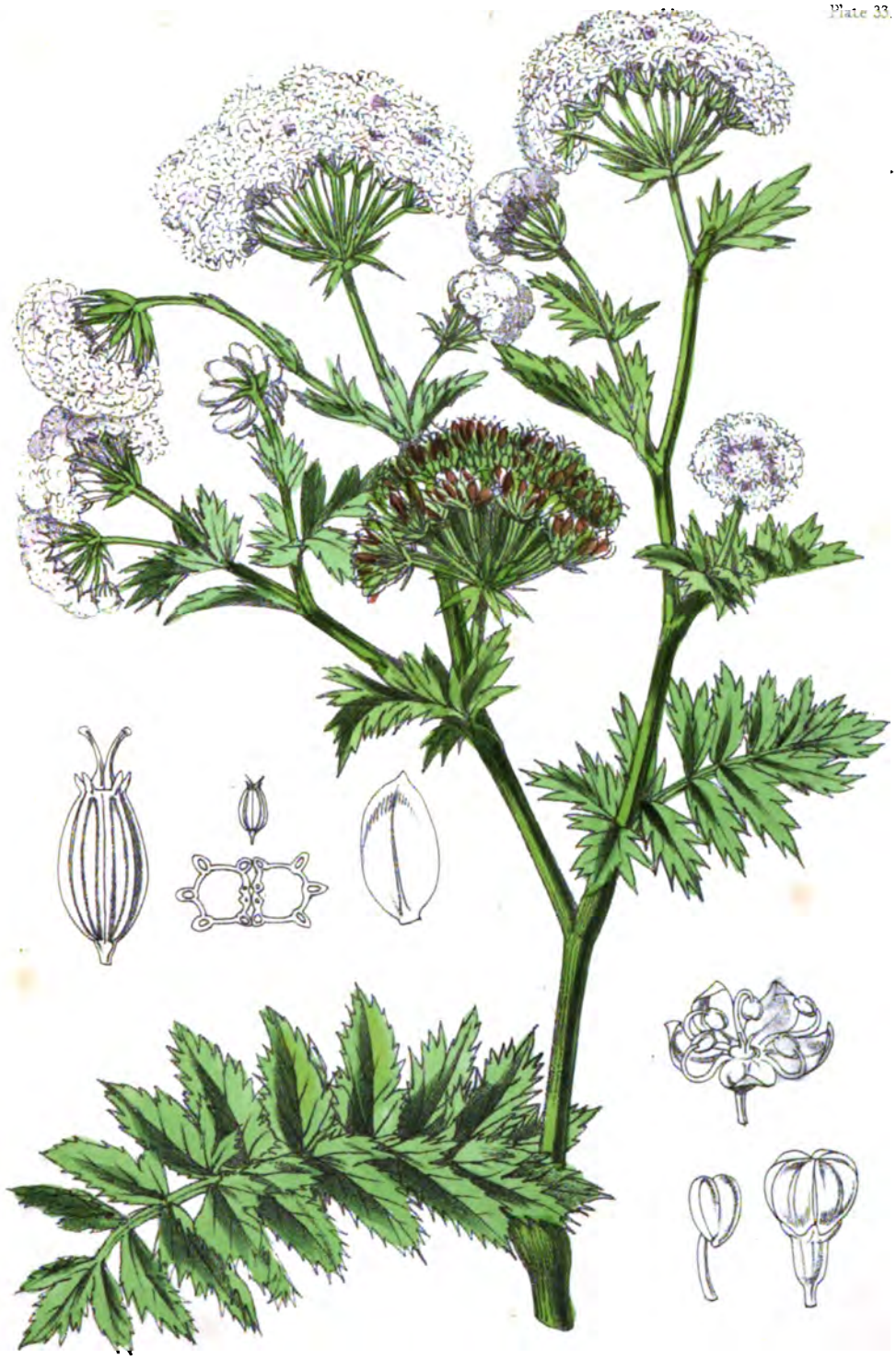
Lichtensteinia, Cham.

329. ***L. Burchellii**, Hk. f.—Dwarf Angelica of the Islanders. This plant is now very rare, but is occasionally found growing on the southern precipitous sides of the high central ridge near the Gap of Dunloe, towards Diana's Peak, and also at High Peak. Alt. 5 to 5·1. It flowers in the month of December. PLATE 33. Also Hk. Icon. Plant. 1033.

Pastinaca, Linn.

330. **P. sativa**, Linn.—Parsnip; cultivated in gardens, but does not succeed well.—Hab. Europe, N. Asia.

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Sium, Linn.

331. *S. Helenianum, Hk. f.—*Angelica bracteata,* Roxb.—The Angelica of St. Helena. This beautiful umbelliferous plant grows to a height of six or eight feet, amongst the cabbage-trees and ferns in the ravines that traverse the mountain sides of Diana's Peak, at an alt. 5 above the sea. The stems of the plant are eaten raw by the native people, being brought to the market much like bits of bamboo, and sold under the name of *Jelico*. PLATE 34. Also Hk. Icon. Plant. 1032.

55. ARALIACEÆ (*Ivy Family*).

Aralia, Linn.

332. **A. papyrifera**, Hook.—The Rice-Paper plant has recently been introduced from the Royal Gardens, Kew.

Hedera, Linn.

333. **H. Helix**, Linn.—Ivy; grows on trees and old walls at Lufkins and Oaklands, uncultivated and rare. Alt. 4. It does not flower.—Hab. Europe, Asia, &c.

Paratropia, D.C.

334. **P. venulosa**, W. and A.—*Aralia digitata*, Roxb.—A pretty shrub, with very remarkable clusters of orange and black-coloured berries, growing on the high land, alt. 3·6, uncultivated, but not very abundant, in shrubberies, &c. It seeds freely.—Hab. E. Indies.

Tupidanthus, Hk. f. et Thoms.

335. **T. calyptratus**, Hk. f. et Thoms.—An only tree of this curiously fruited plant, which attained a height of fifteen feet, was recently cut down at the eastern side of Plantation House; but some six or eight young ones, raised from seeds of the old plant, are now thriving well between the house and White Gate.—Hab. E. Indies.

56. CORNACEÆ (*Dogwood Family*).

Aucuba, Thunb.

336. **A. japonica**, Thunb.—Gold-dust plant; grows uncultivated, and is rather rare. Alt. 3·6. Plantation and Oakbank

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gardens, &c. Does not seed, but grows from cuttings. Bot. Mag. 1197.—Hab. Japan.

Curtisia, Ait.

337. **C. faginea,** Ait.—The tree from which the Hottentots and Caffres of South Africa make their assegai shafts. Two or three plants, about twenty-five feet in height, grow in Plantation grounds below Constantine's Cottage, where they blossom and seed well.—Hab. Cape of Good Hope.

57. CAPRIFOLIACEÆ (*Honeysuckle Family*).

Sambucus, Linn.

338. **S. nigra,** Linn.—The Elder-tree is rare, but grows at Oak-bank, and in Sandy Bay, where there is a cottage taking the name of Elder Cottage. It flowers and fruits.—Hab. Europe, N. Africa.

Lonicera, Linn.

339. **L. Periclymenum,** Linn. — Honeysuckle; grows uncultivated, almost wild in some places, and is rather common about shrubberies. Alt. 3·8. Flowers and seeds, but is chiefly propagated by cuttings.—Hab. Europe, N. Africa.

58. RUBIACEÆ (*Madder Family*).

Coffea, Linn.

340. **C. arabica,** Linn.—Coffee is common, and grows uncultivated in some of the sheltered parts of the south side of the Island, also in the ravines on the eastern and western parts at Mulberry Gut and Terrace Knoll. Alt. 3 Several attempts have recently been made to cultivate Coffee, but until lately only one plantation existed, the property of G. W. Alexander, Esq., called Bamboo Grove; some of the Coffee grown there, and exhibited at the London Exhibition in 1851, took the prize for first quality. The St. Helena Coffee is indeed quite as good as the best Mocha. The plant grows to a height of fifteen feet, and blossoming and fruiting freely is one of the most ornamental of plants. Its pure white blossoms, bright-red berries, and dark, glossy, green leaves,

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contrast most favourably together. Bot. Mag. 1303.—Hab. Yemen.

Cinchona, Linn.

341. **C. officinalis,** Linn.—The cultivation of this valuable plant, which yields the Peruvian Bark, and the medicine called Quinine, has been undertaken on the south side of the high central ridge of the Island, at a spot called Newfoundland, near to Diana's Peak. Alt. 5 to 5·4. The undertaking was commenced five years ago under such favourable auspices, and promised such success, that it is much to be regretted the experiment was not continued. In the year 1871 there were three hundred plants of this species growing amongst the native vegetation—the cabbage-trees and ferns—and although then only about three years old, they had already attained a height of four feet six inches, with a healthy appearance. The first Cinchona plant ever raised in the Island was from seed sent from the Royal Gardens at Kew in 1866–7; it was placed out on the high ridge to the south of Diana's Peak, on the 14th October, 1868, and thirty months afterwards measured nine feet two inches in height, and was covered with blossoms. Bot. Mag. 5364.—Hab. Peru.

342. **C. succirubra,** Pavon.—This species thrives best of all at St. Helena, and about five hundred plants of it have been placed out with those of the last species; and, in the same period—viz., about three years—some of the trees had attained a height of six feet. —Hab. Peru.

343. **C. calisaya,** Weddell.—Neither this species nor the following thrive so well in the Island as the other two.—Hab. Peru.

344. **C. pahudiana,** Howard.—Hab. Peru.*

Canthium, Lam.

345. **C. sp.** ?—Privet, or Iron Wood; a shrub growing wild, is common on the high land, alt. 4, where it is used for hedges, and for making walking-sticks. It blossoms freely, but is propagated from the roots.

* A recent account (1874) of the St. Helena Cinchona Plantations states:—"Although much neglected, and some of the plants have failed, others are thriving in a way which proves that they have the right soil and climate."

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Gardenia, Linn.

346. **G. florida**, Linn.—The Cape Jasmine is one of the most deliciously perfumed of the cultivated garden plants on the high land, where at alt. 4 it thrives well.—Hab. China and Cape of Good Hope.

347. **G. Thunbergii**, L. f.—Starry Gardenia; mentioned by Roxburgh as growing in the Island. Bot. Mag. 1004.—Hab. Cape of Good Hope.

348. **G. radicans**, W.—Rooting Gardenia; also mentioned by Roxburgh.—Hab. China.

Hedyotis, Linn.

349. ***H. arborea**, Roxb.—The native Dogwood; one of the remaining indigenous plants, and perhaps taking the fifth place for abundance now in the Island. It grows to a tall, slim tree, about twenty feet in height, on the high central ridge from Diana's Peak to High Peak, alt. 5·4, extending down on the northern side some two or three hundred feet. It flowers with bunches of small white blossoms in the months of January and February, seeding in March to June. PLATE 35. Also Hk. Icon. Plant. 1031.

Plectronia, Linn.

350. **P. mundtiana**, Pappe.—Several trees grow on the high land between White Gate and Plantation House, to a height of twenty or thirty feet, and bear a sort of berry, pink in colour when ripe, and much in request by the native children, who eat its sweet, succulent, outer covering; rather rare.—Hab. S. Africa.

351. **P. spinosa**, Klotz.—A shrubby plant, growing at Rock Cottage, to a height of ten or twelve feet; the blossoms are small and white, and the branches are thinly covered with long thorns. Flowers, but does not seed. Very rare.—Hab. S. Africa.

Serissa, Comm.

352. **S. fœtida**, Comm.—From its peculiar odour commonly called "Stinking White Flower." A very small plant, with white star-shaped flowers, growing uncultivated in gardens, but rare, alt. 3·25, at Oakbank, The Hermitage, &c.—Hab. Japan.

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HEDYOTIS ARBOREA.

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59. VALERIANACEÆ (*Valerian Family*).

Valeriana, Linn.

353. **V. montana?** Linn.—Pink-flowered Valerian; both this and the following species grow almost wild in some of the gardens on the high land. Alt. 3.—Hab. Switzerland.

354. **V. phu?** Linn.—White-flowered Valerian.—Hab. Germany.

60. COMPOSITÆ (*Composite or Sunflower Family*).

Tribe EUPATORIACEÆ.

Ageratum, Linn.

355. **A. conyzoides,** Linn.—Cat's Eye, or Wild Heliotrope; grows wild, and is a very common plant everywhere. In Sandy Bay, at an alt. 3·5, as well as elsewhere, it covers whole fields, which, when it is in blossom, yield a most delicious perfume, and present broad sheets of lilac colour; nevertheless, as a weed it is a great pest. M. and H. L. Alt. 3·8 to 4. Flowers in August.—Hab. America.

Eupatorium, Linn.

356. **E. pallidum,** H. & A.—A slender shrub attaining a height of six feet, with a profusion of sweet-scented white flowers; grows uncultivated, and is rather common in garden shrubberies, at alt. 4, Terrace Knoll, Longwood Rectory, &c. Is propagated chiefly by cuttings.—Hab. Brazil.

Tribe ASTEROIDEÆ.

Aster, Linn.

357. ***A. Burchellii,** Hk. f.; *Commidendron Burchellii,* D.C.—This most interesting indigenous plant is now almost extinct. After long searching, I discovered one small tree of it, about six feet in height, growing amongst a clump of *A. gummiferus,* near the old Picquet House, above West Lodge; and I believe this to be the only plant now in existence. Dr. Hooker, in Icones Plantarum, p. 44, describes it as very similar to *A. glutinosus,* but with leaves longer and conspicuously white and woolly beneath. PLATE 36.

358. ***A. glutinosus,** Roxb.;—*Conyza rugosa,* Ait. Hort. Kew;—

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Commidendron rugosum, D.C.—The indigenous plant called "Scrub-wood" is a native of the low, outer zone of the Island, where, adjacent to the sea, it grows on the rocky land in the hot scorching atmosphere peculiar to those parts, as a straggling bush, about three or four feet in height. It still is plentiful in some parts, such as The Barn, Stone Top, Longrange, &c., even growing on the summit of the rocky pile called Lot; and, although almost confined to the eastern and south-eastern outskirts of the Island, is nevertheless found in small quantities inland at High Knoll. Appears to blossom all the year round.—PLATE 37. Dr. Hooker states, in the Icones Plantarum, p. 45, from Burch. MSS., that it is also very rare in Ascension. In the same work it is also figured, 1057.

359. ***A. gummiferus**, Hk. f.;—*Commidendron spurium*, D.C. —This native plant, called "The Little Bastard Gumwood," is very rare indeed, though still to be found growing to a shrubby tree, eight or nine feet in height, on the high central ridge at High Peak, and near the old Picquet House above West Lodge. Flowers in January and February. Alt. 5·4. PLATE 38. Also Hk. Icon. Plant. 1056.*

Commidendron, D.C.

360. ***C. robustum**, D.C.;—*Conyza gummifera*, Roxb.—This highly interesting indigenous tree, known as the native "Gum Wood," was probably once the most abundant plant in the Island, and covered much of the lower zone of the land at that period when verdure clothed those parts which now show only sterility and barrenness. The introduction of goats has, perhaps, done more to exterminate this tree than the rest of the native plants, because it grew on those parts they chiefly occupied; and it is now fast disappearing, neither its unique foliage nor its insular characteristics being sufficient to induce the islanders to care for its preservation. It grows to a height of twenty feet, its crooked, rugged, black, lichen-covered stem being surmounted by a flat, umbrella-shaped mass of pale-blue foliage. Formerly, previous to the introduction of exotic plants, it supplied the chief fuel to the inhabitants, who also obtained a drink from its

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* In the *Icones Plantarum* Dr. Hooker includes these three species under Aster, but in Bentham and Hooker's *Genera Plantarum* they are referred back to Commidendron.

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stem, by tapping it and catching the liquid that flowed from the wound.

The Gum Wood does not grow on the central and most elevated land where the native cabbage-trees and inhabitants of the cooler region are found. Scarcely a tree exists at a greater altitude than 1900 feet above the sea; and there is still sufficient evidence to show that its habitat was on the now semi-barren slopes which stretch away to the sea-coast, and encircle the middle zone of the Island—such as Longwood, Deadwood, Man and Horse, New Ground, and similar localities. Longwood and Deadwood, as their names imply, were originally covered with trees; nor is this the only evidence of their having been abundantly wooded, for natives still living on the Island, as well as the records, tell of thick woods once covering those now grassy plains. Knowing this to be the case, there is no reason to doubt that other parts of the Island, which now appear so barren and so unlikely to support vegetation, were once also, down to the sea cliffs, clothed with green woods, as stated by the early visitors to the Island. PLATE 39.

There are not more than about 1300 or 1400 Gum Wood trees remaining in the Island (1868), according to an approximate estimate, and they are scattered about in the following positions:—

	Trees
Longwood, Deadwood, and Lowe's Gardens, about	700 or 800
Man and Horse	about 50
Plantation	24
Harpur's	2 or 3
Thompson's Wood	50
Rock Cottage	2
Plantation School	2
Valley at Shipway's	15
Valley next to Shipway's, Eastward	2
Valley next to Shipway's	58 or 60
Valley next to Rock Rose Hill	about 100
Arnos Vale	18 or 20
Woody Ridge	3
Valley between Rock Rose Hill and Green Hill	30
Head of the Vein	2
Valley between Rock Mount and Peak Dale	about 100
Valley between Peak Dale and Lufkins	„ 100.

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Melanodendron, D.C.

361. *M. integrifolium, D.C.; *Solidago integrifolia*, Roxb.—The native Black Cabbage-tree grows to a large, handsome, spreading tree, about fifteen feet high, on each side of the central ridge; now the most abundant of all. It is covered with masses of white blossoms in the months of October and November. PLATE 40. Also Hk. Icon. Plant. 1045.

Psiadia, Jacq.

362. *P. rotundifolia, Hk. f.; *Solidago rotundifolia*, Roxb.—Only one tree of this species is now known to exist in the world, and that grows in a field to the left of the entrance gates at Longwood, called The Black Field. Roxburgh states that the islanders called it *Bastard Gum Wood*, or *Cabbage-tree*. After a careful search, extending over a year or more, the plant above mentioned was discovered in the year 1868. It is a tree about twenty feet in height, and apparently very old. It grows side by side with a Gum Wood, and without close examination might be mistaken for that species; indeed, I discovered it only by riding up to it to look for blossoms of the Gum Wood, and was surprised to find it covered with small white flowers of a different plant. It is much to be desired that a plant of such singular interest should be propagated before it is entirely lost. It flowers in May and June. PLATE 41.

Bellis, Linn.

363. B. perennis, Linn.—Common Daisy; grown in gardens, and is very rare, notwithstanding the many efforts which have been made to naturalize it.—Hab. Europe, N. Africa, &c.

Tribe HELIANTHOIDEÆ.

Blainvillea, Cass.

364. B. rhomboidea, Cass.—A common weed on the rocky ground in the neighbourhood of Barnes' Road, &c. Flowers are white, and appear in July. Wild and common. M. Alt. 1 to 2.—Hab. Brazil.

Dahlia, Cav.

365. D. variabilis, Desf.—Many varieties of Dahlia are cultivated in the gardens on the high land, and flower and seed exceed-

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ingly well. Some of them grow uncultivated to a small extent.—Hab. S. America.

Siegesbeckia, Linn.

366. **S. orientalis,** Linn.—Yellow-flowered, clammy-leaved weed, growing wild and very common on the high land.—Hab. India.

Petrobium, R. Br.

367. ***P. arboreum,** R.Br. {**Spilanthes tetrandra** (masc.) / **Bidens arborea** . . . (fœm.)} Roxb.; *Laxmannia arborea,* Forst.—The Whitewood Cabbage-tree of the islanders is one of the most abundant of the indigenous plants still remaining. It attains a height of about twenty feet, and flowers in the months of March to June. It grows now chiefly on the south side of the high central ridge extending from Diana's to High Peak, at alt. 5·2. PLATE 42. Also Hk. Icon. Plant. 1053.

Zinnia, Linn.

368. **Z. multiflora,** Linn.—Several varieties grow in gardens. Alt. 3·8. Cultivated and rather rare.—Hab. Mexico.

Helianthus, Linn.

369. **H. multiflorus,** Linn.—Sunflower; two varieties grow in gardens; cultivated, and rather common. M. Alt. 2. Seeds well.—Hab. N. America.

Tribe HELENIOIDEÆ.

Tagetes, Linn.

370. **T. erecta,** Linn.—The Yellow African Marigold; grows almost wild in gardens.—Hab. Mexico.

371. **T. patula,** Linn.—French Marigold; one or two garden varieties grow uncultivated; rather common, at C. M. and H. L. Alts. ·1 to 3·8. Bot. Mag. 150.—Hab. Mexico.

Gaillardia, Foug.

372. **G. bicolor,** Lam.—Grows cultivated, and is rather common in gardens. Bot. Mag. 3551.—Hab. Texas.

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Tribe ANTHEMIDEÆ.

Chrysanthemum, Linn.

373. **C. sinense** ? Sab.—This showy plant, with its bright yellow blossoms, grows wild and is rather common in the gardens on the high land, where it is called "Camphor."—Hab. China.

Cotula, Linn.

374. **C. coronopifolia** ? Linn. or *C. anthemoides* ? Linn. var. ?—The little yellow-flowered Pagoda plant, which grows abundantly wild over the rocky outskirts of the Island about Jamestown, Ladder Hill, and at C., alts. from ·02 to 3, is so named from the resemblance between its flowers and a small golden coin, called a Pagoda, value 4*s.*, which was current during the East India Company's holding of the Island. It flowers in August, and probably existed at the Island previous to its discovery.—Hab. Cape of Good Hope.

375. **C. australis**, Hk. f.—A smaller species than the above, with less conspicuous flowers; grows on higher land; wild and very common in gardens, roadsides, &c.—Hab. Australia.

Artemisia, Linn.

376. **A. Absinthium**, Linn.—Wormwood grows in an uncultivated state in gardens at an alt. 2·4, but is not abundant. It is doubtful if it seeds to perfection.—Hab. Distr. N. temp. zone.

Tribe INULOIDEÆ.

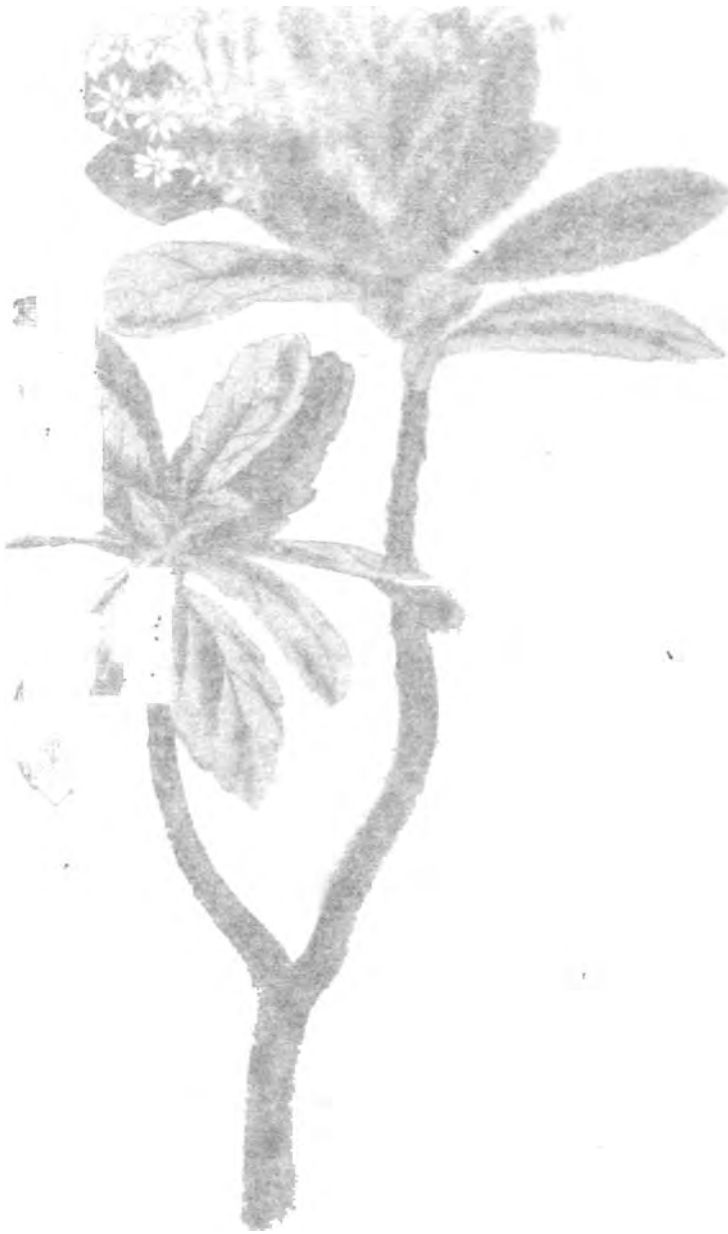
Helichrysum, Gærtn.

377. **H. bracteatum**, Willd.—The Yellow Everlasting. This showy flowering plant is a thorough weed in the Island, covering large patches of land on the somewhat barren parts, at M. alt. 2·4 to 3·8. It grows readily, and quickly overruns pasture and grass lands, but is confined to the outskirts of the most cultivated land. It reaches a height of three to four feet. The flowers are much used in church and other floral decorations, especially at Christmas time.—Hab. Australia, Queensland, N. S. Wales.

378. **H. bracteatum** var. **monstrosum**.—The White Everlasting Flower, grows commonly in some gardens on the high land. Alt. 3·8.

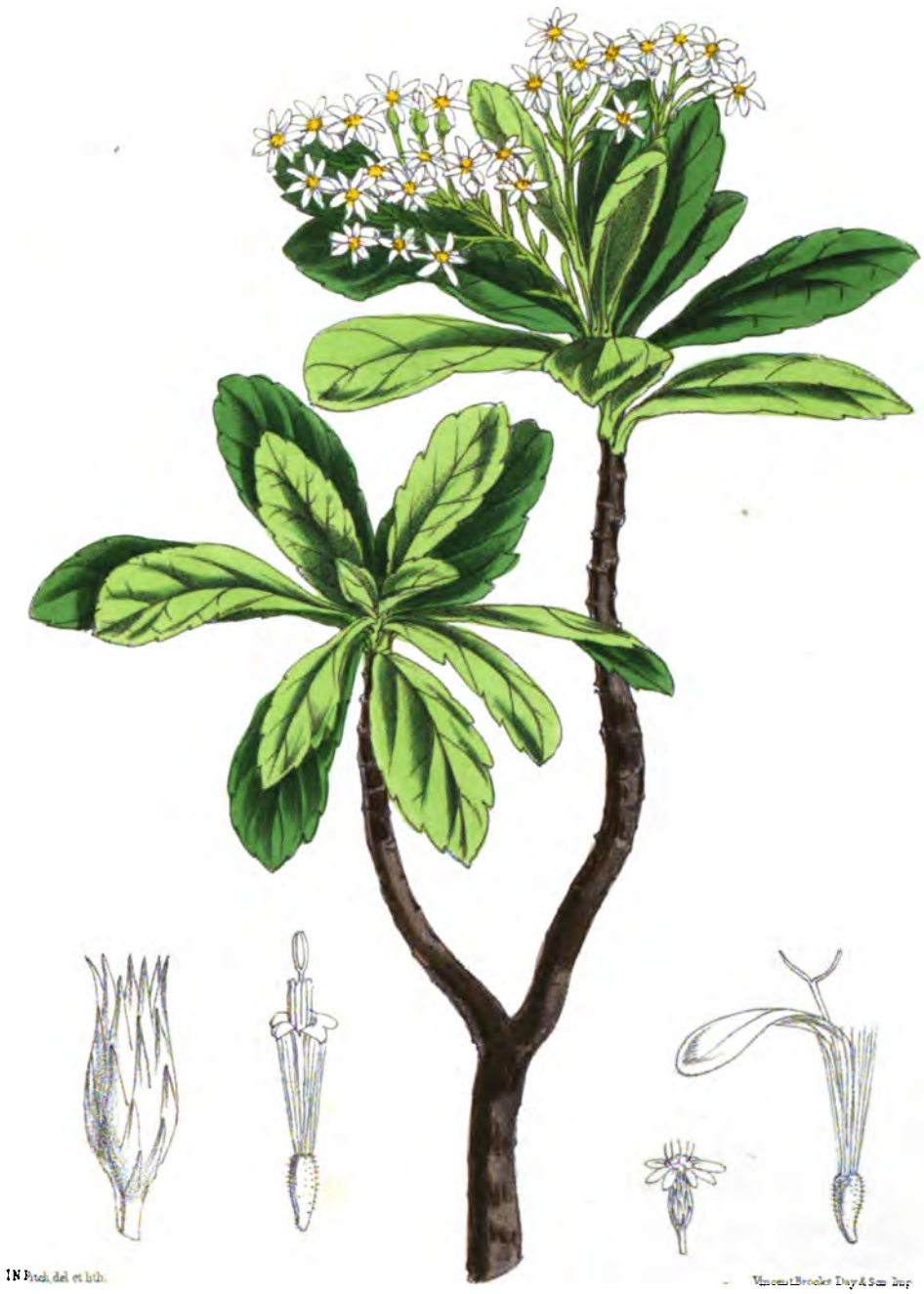
379. **H. sp.** ?—The Red-flowered Everlasting is cultivated in gardens, but is rare.

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Gnaphalium, Linn.

380. **G. purpureum,** Linn. var.—Brown Gnaphalium, or Wild Lavender; an abundant weed in hayfields and along roadsides. Alt. 2 to 4; wild and very common.—Hab. N. America.

381. **G. luteo-album,** Linn.—Wild Lavender, or Silvery-leaved Weed; wild and very common about hayfields, roadsides, &c. Alt. 2·4 to 4.—Hab. Widely distributed in temperate regions.

382. **G. indicum,** Linn.—A very common weed about the gardens and hayfields on the high land.—Hab. E. Indies.

Tribe SENECIONIDEÆ.

Cacalia, Linn.

383. **C. coccinea,** Sims.—Small scarlet Jacobea; cultivated in gardens, and rare. Bot. Mag. 564.—Hab. America.

Cineraria, Linn.

384. **C. Saxifraga,** D.C.—A plant or two only, growing in a wild state at the back of Farm Lodge; may be recognised by its yellow flowers, somewhat resembling the common groundsel. M. Alt. 3·4.—Hab. S. Africa.

Lachanodes, D.C.

385. ***L. prenanthiflora,** Burch.; *Solidago leucadendron,* Willd.; *Mikania arborea,* Roxb.—The native "She-cabbage-tree" is still to be found rather abundantly on the central ridge, alt. 4 to 5·2, where it grows to a tall, slender, upright tree, twelve or fifteen feet high. The young stems and leaves are of a bright purple colour, very like that of a red cabbage. It puts forth its clusters of white flowers in the month of June. It is less abundant than the other cabbage-trees, ranking perhaps fourth in this respect. PLATE 43; also Hk. Icon. Plant. 1054.

Pladaroxylon, Hk. f.

386. ***P. leucadendron,** Hk. f.; *Lachanodes pladaroxylon,* Endl.; *L. leucadendron,* D.C.; *Solidago leucadendron,* Forst.—Native "He-cabbage-tree;" a branching tree about twelve feet high, putting forth clusters of white flowers, in the month of July, in appearance very like the head of a full-grown cauliflower. It forms a conspicuous part of the indigenous vegetation on the central ridge,

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and grows at alt. 3·8 to 5, much lower down than the other cabbage-trees. Next to the Whitewood, and the Black cabbage-tree, this is now the most abundant. PLATE 44; also Hk. Icon. Plant. 1055.

There appears to be a variety differing very slightly, if at all, which Roxburgh called *Solidago cuneifolia*.

Senecio, Linn.

387. **S. elegans**, Linn. — Jacobea; single and double purple varieties grow well cultivated in gardens.—Hab. Cape of Good Hope.

388. **S. Jacobæa**, Linn. — Mentioned by Roxburgh. — Hab. Europe, N. Asia.

389. **S. mikanioides**, Otto.—Called Ground Ivy; an abundant weed, overrunning walls and banks, and growing wild everywhere most readily.—Hab. S. Africa.

390. **S. vulgaris**, Linn.—Groundsel; a most abundant weed on the high land, growing wild everywhere; used for feeding birds.—Hab. Europe.

Othonna, Linn.

391. **O. pectinata**, Linn.—This plant, with yellow composite flowers and leaves resembling wormwood, grows in an uncultivated state, but is rather rare, about shrubberies. Alt. 4. Bot. Mag. 306. —Hab. Cape of Good Hope.

Tribe CALENDULACEÆ.

Calendula, Linn.

392. **C. Tragus**, Linn.—A plant with white and purple flowers, said by Roxburgh to grow in the Island.—Hab. Cape of Good Hope.

393. **C. officinalis**, Linn.—The common Marigold; grows almost wild about the neighbourhood of gardens both on the high and low lands.—Hab. S. of Europe.

Tripteris, Less.

394. ***T. Burchellii**, Hk. f. mss.—A native of the rocky, barren land near the coast, where it grows with *Mesembryanthemum cryptanthum*. It springs up after the winter rains in July or August, blossoms and seeds freely, and dies in the following summer weather about February or March. It is not abundant, and grows chiefly in the neighbourhood of Sandy Bay beach. I have also gathered it near Flagstaff and Turk's Cap Valley, on the eastern side of the

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Island, growing amongst the Scrubwood bushes, and also on the cliffs at Wild Ram's Spring, about 1800 feet perpendicularly above the sea.

Dr. Hooker has only recently placed it under this genus, and says that it has hitherto been considered an *Osteospermum*, to which genus it is very near; and it has also been referred to *Oligocarpus*, another closely allied genus, by Mr. Bentham, in Gen. Plant.—PLATE 45.

Osteospermum, Linn.

395. **O. moniliferum**, Linn.; *O. pisiferum*, Roxb.—A yellow-flowered shrub; grows wild, and is common over the somewhat barren land at Two-gun-saddle, &c. The seeds, when ripe, are eaten by children. M. Alt. 3.—Hab. Cape of Good Hope.

Tribe ARCTOTIDEÆ.

Cryptostemma, R. Br.

396. **C. calendulaceum**, R. Br.—Wild Hawkweed; grows as a weed, and is wild and common about the high land. Bot. Mag. 2252.—Hab. Cape of Good Hope.

Tribe CYNAROIDEÆ.

Xeranthemum, Linn.

397. **X. canescens**, Linn.—White and pink Star Everlasting; grown in gardens; very rare. Bot. Mag. 420.—Hab. S. Africa.

Centaurea, Linn.

398. **C. moschata**, Linn.—Sweet Sultan, mentioned by Roxburgh as growing in the Island.—Hab. Persia.

Cynara, Linn.

399. **C. Scolymus**, Linn.—The Artichoke grows almost wild, and is rather common in some few places where formerly gardens existed, and where doubtless it was cultivated. Alt. 3·8.—Hab. S. of Europe.

Tribe CICHORIACEÆ.

Cichorium, Linn.

400. **C. endivia**, Linn.—Endive is cultivated in gardens.—Hab. E. Indies.

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401. **C. Intybus**, Linn.—Wild Succory; mentioned by Roxburgh as growing in the Island.—Hab. Mediterranean region.

Tragopogon, Linn.

402. **T. porrifolius**, Linn.—Goat's Beard; a purple flower growing wild; rather common amongst the grass at Plantation, and St. Paul's churchyard.—Hab. N. Europe and Asia.

Hypochæris, Linn.

403. **H. radicata**, Linn.—This plant is the Dandelion of St. Helena. In meadows its yellow blossoms are as thick as daisies in England; and the richness of their colour adds greatly to the beauty of the landscape as the harvest-time approaches, about the end of the year. Alt. 2 to 5·2; wild and very common.—Hab. Europe, N. Africa.

Lactuca, Linn.

404. **L. sativa**, Linn.—Several varieties of Lettuce are much grown in gardens. A cultivated plant of which the wild type is unknown.

Sonchus, Linn.

405. **S. oleraceus**, Linn.—Sow Thistle. Like most of the British weeds, this plant was probably introduced with grass seeds. Several varieties of it grow at all M. to H. L. alts. Wild and very common.—Hab. Very widely dispersed in temperate regions.

406. **S. oleraceus**, Linn. var. **lævis**.—A variety of Sow Thistle, which is common as a weed in the Island.—Hab. Britain, &c.

61. Lobeliaceæ (*Lobelia Family*).

Lobelia, Linn.

407. ***L. scævolifolia**, Roxb.—One of the native plants, growing on the central ridge as a slender shrub about three or four feet high. Its flowers are rather large, and pure white. It is still to be found rather abundantly along the high central ridge from Diana's Peak to High Peak. Alt. 5·4. It blossoms nearly all the year round.—Plate 46.

408. **L. bicolor**, Sims.—Small blue Lobelia; grows well; cul-

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tivated and common in gardens. Alt. 3·8. Bot. Mag. 514.—Hab. Cape of Good Hope.

62. Campanulaceæ (*Campanula Family*).

Michauxia, Herit.

409. **M. campanuloides**, Juss.—Recently introduced at the Hermitage as a garden plant. The blossoms are somewhat like a Passion-flower, and light blue in colour. Bot. Mag. 219.—Hab. Levant.

Wahlenbergia, Schrad.

410. ***W. angustifolia**, A. D.C.; *Roella angustifolia*, Roxb.—A delicate little plant, growing on the bare, somewhat rocky banks along the central ridge to about eight inches in height. Its beautiful little white bell-shaped flowers may be seen peeping out from amongst the grass in the months of July and August. It is one of the indigenous plants, and is now rare. H. L. Alt. 4 to 5.—Plate 47.

411. ***W. linifolia**, A. D.C.; *Roella linifolia*, Roxb.—Another of the indigenous plants, bearing beautiful large white bell-shaped blossoms. Found at Diana's Peak, as well as generally and abundantly on the central ridge, amidst ferns and other indigenous plants; grows to a shrubby plant from two to three feet high, and sometimes parasitic on the Tree Fern. Its pure white flowers and light-green foliage contrast beautifully with the deep crimson blossoms and dark-green leaves of the exotic *Fuchsia coccinea*, as they now grow together. This is the most abundant species of the three, and flowers nearly all the year round. H. L. Alt. 4 to 5. Plate 48.

412. ***W. Burchellii**, A. D.C.; *Roella paniculata*, Roxb.—A species less abundant, but found in similar situations to the last mentioned. It grows less shrubby and more upright to a height of three or four feet, and blossoms in July, the flowers being pure white, and intermediate in size between the other two species. H. L. Alt. 4 to 5.—Plate 49.

63. Ericaceæ (*Heath Family*).

Arbutus, Linn.

413. **A. Unedo**, Linn.—Strawberry Tree; one old tree only,

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height about twelve feet, exists at Francis Plain. M. Alt. 2. Flowers freely, but does not seed.—Hab. S.W. Europe.

Azalea, Linn.

414. **A. indica**, Linn.—The Azalea was a few years ago a common garden flower, but has recently almost disappeared from the Island. Bot. Mag. 1480.—Hab. India and China.

415. **A. ledifolia**, Hook.—White flowering Azalea, cultivated in gardens, very rare.—Bot. Mag. 2901.—Hab. China.

64. AQUIFOLIACEÆ (*Holly Family*).

Ilex, Linn.

416. **I. Aquifolium**, Linn.—Holly. Only three or four trees grow in the Island at Oakbank, Rose Cottage, and West Lodge. H. L. Alt. 2 to 4. Attains a height of ten feet, and grows well, but does not seed, although it blossoms.—Hab. Europe, W. Asia.

65. EBENACEÆ (*Ebony Family*).

Diospyros, Linn.

417. **D. Kaki**, Linn. f. var.—Only one tree in the Island, growing in Plantation grounds, just below St. Paul's churchyard. Alt. 3·8. It does not bear fruit, although it blossoms freely in the month of August.—Hab. Japan.

Royena, Linn.

418. **R. lucida**, Linn.—A shrubby tree, with bright glossy dark-green leaves, growing to a height of about thirteen feet in Plantation grounds, near to St. Paul's Church, also at the S.E. corner of the lawn. It bears freely white blossoms, and fruit, a kind of purple plum enveloped in an outer covering resembling the Cape Gooseberry.—Hab. Cape of Good Hope.

419. **R. pallens**, Thbg.—Well known in the Island as the Poison Peach. Grows wild, and is common in hedges along the roadsides on the high land, at alt. 3·8. Attains a height of fifteen to twenty feet.—Hab. South and tropical Africa.

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66. Sapotaceæ (*Sapodilla Family*).

Argania, R. et Sch.

420. **A. Sideroxylon,** R. et Sch.—The Argan Tree has recently been introduced from the Royal Gardens at Kew.—Hab. N. Africa.

Isonandra, Wight.

421. **I. gutta,** Hook. — One Gutta-percha Tree grows in Maldivia Gardens. C. Alt. 7. It has been recently introduced, and has attained a height of six feet.—Hab. Singapore, Borneo, and Malayan Islands.

Mimusops, Linn.

422. **M. Elengi,** Linn.—Bocul of the Hindoos; mentioned by Roxburgh as growing in the Island.—Hab. E. Indies.

67. Primulaceæ (*Primrose Family*).

Anagallis, Linn.

423. **A. arvensis,** Linn.—Red Pimpernel, or Forget-me-Not. A few plants grow wild in fields on the high land. Alt. 3 to 4.—Hab. Europe, N. Africa, W. Asia.

424. **A. cœrulea,** Sm.—Forget-me-Not, or Blue Pimpernel; grows wild, and is very common, quite a weed in fields and gardens. M. & H. L. Alt. ·1 to 4. Much more abundant than the species with red flowers.—Hab. Europe, &c.

Primula, Linn.

425. **P. variabilis,** Goupil.—Polyanthus; cultivated in gardens, rather common. Alt. 3·6.—Probably of garden origin.

426. **P. veris,** Linn.—Cowslip; introduced with the Primrose about twenty-five years ago. Both species grew well in gardens, the latter more particularly, but neither became naturalized, and now both are very rare, if not extinct.—Hab. Europe, Asia.

427. **P. vulgaris,** Huds.—Primrose. This plant grew well in gardens a few years ago, but seems now to have disappeared.—Hab. Europe, N. Africa.

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68. PLANTAGINACEÆ (*Plantain Family*).

Plantago, Linn.

428. **P. major**, Linn.—Ground Plantain; grows as a weed, and is wild and very common generally.—Hab. Europe, N. Africa, N.W. Asia.

429. ***P. robusta**, Roxb.—A small shrubby native plant, now very scarce, but still to be found growing in the crevices of rock in the hottest parts of the Island, at Wild Ram's Spring, Man and Horse, &c., on the south-western sea-coast cliffs, on the eastern side of High Knoll, and at the Waterfall; also at the back of Flagstaff Hill. Blossoms in July and August. C. Alt. 2·4.—PLATE 50.

69. PLUMBAGINACEÆ (*Leadwort Family*).

Plumbago, Linn.

430. **P. capensis**, Linn.—Blue Plumbago; grows uncultivated, and is common in gardens and shrubberies. M. Alt. 2·4 to 3·8.—Hab. Cape of Good Hope.

70. BIGNONIACEÆ (*Bignonia Family*).

Bignonia, L.

431. **B. venusta**, Ker.—Orange-coloured Bignonia; grows in the garden at Oakbank. Recently introduced. Bot. Mag. 2050.—Hab. Brazil.

432. **B. echinata**, Aubl.—Grows somewhat uncultivated at Plantation, &c., over old buildings and trees; flowers freely and seeds.—Hab. W. Indies, &c.

Tecoma, Juss.

433. **T. capensis**, Juss.—Orange-flowered Tecoma; grows wild, and is rather common about shrubberies and hedges. H. L. Alt. 3·8 to 4.—Hab. Cape of Good Hope.

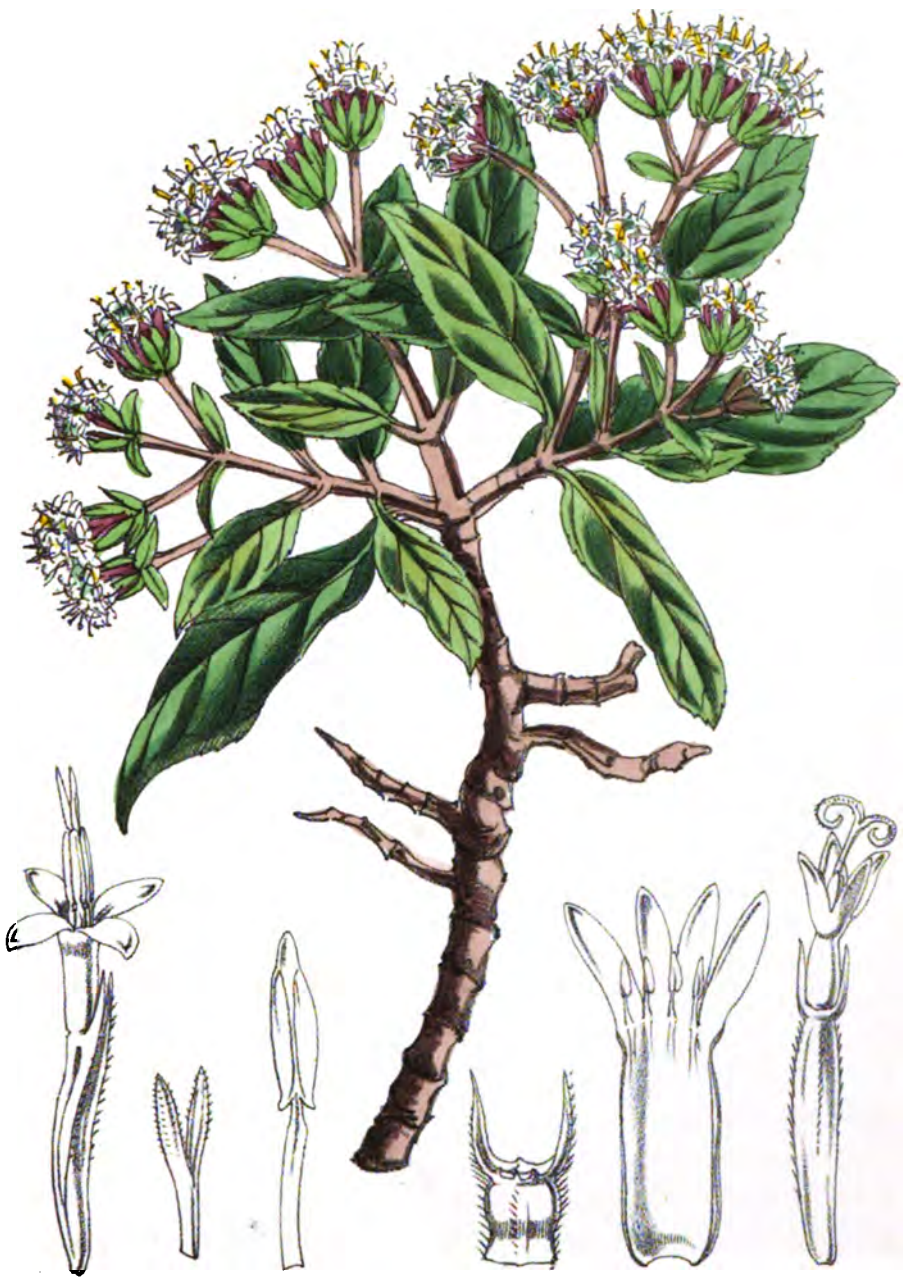
434. **T. stans**, Juss.—Yellow-flowered Bignonia; grows well in gardens, flowers profusely, and seeds to perfection. Introduced from Ceylon a few years ago by Lieut. H. W. Melliss. Bot. Mag. 3191.—Hab. W. Indies.

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435. **T. radicans**, Juss.—Deep orange-coloured Bignonia, growing in the gardens at Plantation House.—Hab. N. America.

436. **T. jasminoides**, Lindl.—White and purple-flowered Bignonia, growing freely and somewhat abundantly in gardens. Bot. Mag. 4004.—Hab. Australia.

71. Acanthaceæ (*Acanthus Family*).

Cyrtanthera, Nees.

437. **C. magnifica**, Nees.—A shrub with pink flowers, somewhat like a Justicia, growing in flower borders, but is not common, at Oaklands, &c., on the high land.—Hab. Brazil.

Justicia, Linn.

438. **J. Adhatoda**, Linn.—Large white Justicia; grows cultivated, and is rare in gardens. Alt. 3·8. Bot. Mag. 861.—Hab. Ceylon.

439. **J. peruviana**, Cav.—Purple Justicia; grows cultivated, and is rather common about gardens. Alt. 3·8.—Hab. Peru.

440. **J. carnea**, Lindl. var. **superba**.—Pink-flowered Justicia; grows uncultivated, but is rare in gardens on the high land.—Hab. S. America.

Meyenia, Nees.

441. **M. erecta**, Benth.—A pretty purple Bignonia-shaped flowered shrub, recently introduced into gardens on the high land. Grows at Prospect. H. L. Alt. 3·8. Bot. Mag. 5013.—Hab. Tropical Africa, Niger.

Thunbergia, Linn.

442. **T. alata**, Hook.—White Thunbergia; cultivated and rather rare in gardens. Bot. Mag. 3512.—Hab. Zanzibar, &c.

443. **T. fragrans** ? Roxb.—Yellow Thunbergia; grows similarly to the other species.—Hab. East Indies.

72. Scrophulariaceæ (*Figwort Family*).

Antirrhinum, Linn.

444. **A. triphyllum**, Linn.—Variegated Snapdragon; growing uncultivated in gardens. Rare. Bot. Mag. 324.—Hab. Spain.

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Browallia, Linn.

445. **B. elata,** Linn.—Speedwell; said by Roxburgh to grow in the Island. Bot. Mag. 34.—Hab. Peru.

446. **B. demissa,** Linn.—Blue Speedwell; uncultivated and common in gardens. Alt. 3·5. Bot. Mag. 1136.—Hab. Panama.

Buddleia, Linn.

447. **B. Lindleyana,** Fortune.—Purple-flowered Buddleia; cultivated in gardens on the high land, where it grows to a small slender plant, about eighteen inches high, and blossoms and seeds.—Hab. China.

448. **B. brasiliensis,** Jacq.—Square stem Buddleia; growing wild in a fence, but rather rare, near Prospect Plain and High Peak. Bot. Mag. 2713.—Hab. Brazil.

449. **B. madagascariensis,** Vahl.—The common Buddleia; one of the most abundant and objectionable weeds in the Island. On account of its rapid growth it is much used for hedging; but it soon overruns acres of land, and climbs over the tallest trees. It grows so thickly as to afford a complete protection to rats and other vermin. Nevertheless it is a handsome plant; its blue-green leaves and rich clusters of orange blossoms (during the month of June, when in full bloom) contrast well with other foliage. H. L. Alt. 4 to 5. Wild and very common. Bot. Mag. 2824.—It is an extremely unwholesome plant to surround the cottages as it does, the fluff from the under side of the leaves being inhaled, produces irritation and cough, and ultimate death.—Hab. Madagascar.

Calceolaria, Linn.

450. **C. pinnata,** Linn.—Yellow Calceolaria. This small species grows wild, and is common in gardens on the high land. Bot. Mag. 41.—Hab. Peru.

Celsia, Linn.

451. **C. linearis,** Jacq.—An orange-flowered garden plant, recently introduced, growing cultivated and is rare. Alt. 3·8. Bot. Mag. 210.—Hab. Peru.

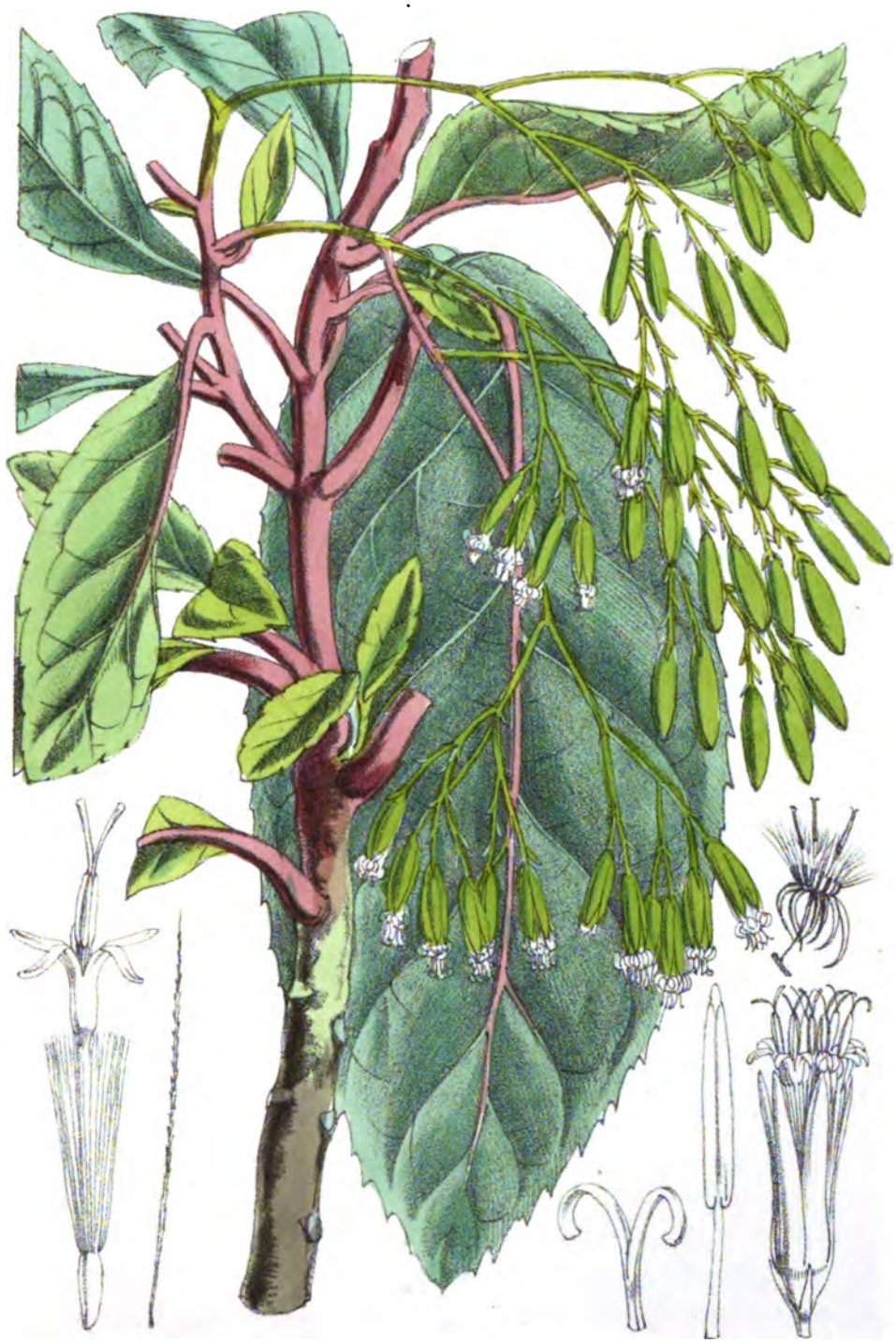
Lophospermum, Don.

452. **L. scandens,** Don.—Mexican Creeper; grows wild, and is common on roadside banks, and amongst the native ferns and

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cabbage-trees on the central ridge at and near to Diana's Peak, &c. This plant was introduced about thirty years ago, and is now thoroughly naturalized. Alt. 3 to 5. Bot. Mag. 3037.—Hab. Mexico.

Mimulus, L.

453. **M. Smithii,** Lindl.—Monkey Plant; uncultivated in some gardens. Rather common.—A garden hybrid.

Maurandia, Jacq.

454. **M. antirrhiniflora,** H. B.—Purple Maurandia; cultivated, and rather common in some gardens, and uncultivated in others. M. and H. L. Alt. 2 to 4. Bot. Mag. 1643.—Hab. Mexico.

Russelia, Jacq.

455. **R. juncea,** Zucc.—Red Russelia; grows cultivated in gardens; alt. 3·8; rather rare. Introduced about twenty years ago. Flowers freely, but does not seed.—Hab. Mexico.

Verbascum, Linn.

456. **V. virgatum,** With.—Aaron's Golden Rod; grows wild, and is common about the fields and roadsides, at alt. 3 to 4.—Hab. England, &c.

Veronica, Linn.

457. **V. serpyllifolia,** Linn.—A very small weed, with pale lilac-coloured flowers, resembling a minute Heartsease; wild and very common in hayfields, &c., on the high lands.—Hab. N. temperate and arctic regions.

458. **V. Anagallis,** Linn.—A rather succulent sort of weed, found wild and common along the edges of streams of water in Sandy Bay, Jamestown, &c. C.—Hab. N. temperate regions.

73. Verbenaceæ (*Vervain Family*).

Aloysia, Orteg.

459. **A. citriodora,** Orteg.; *Verbena triphylla.*—Sweet-scented Verbena; grows cultivated in gardens to a large bush; rather common. H. L. Alt. 3·8. Bot. Mag. 367.—Hab. S. America.

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Clerodendron, Linn.

460. **C. inerme**, R. Br.; *Volkameria inermis*, L.—Grows uncultivated, but is not common about the gardens at Rock Rose Hill, Oakbank, Scotland, &c.; clusters of sweet-scented white blossoms, somewhat resembling small Roses. H. L. Alt. 3.—Hab. E. Indies.

Duranta, Linn.

461. **D. Plumierii**, Linn.—Pale lilac-flowered shrub, recently introduced, and growing at Rock Cottage; blossoms freely.—Hab. S. America.

Gmelina, Linn.

462. **G. asiatica**, Linn.—Mentioned by Roxburgh as growing in the Island.—Hab. E. Indies.

Lantana, Linn.

463. **L. aculeata**, Linn.—Red Heliotrope. This plant was introduced twenty years ago, and now grows uncultivated, and is rather common in shrubberies and gardens. M. and H. L. Alt. 3·8. It attains to a bush about six feet high, and flowers freely. Bot. Mag. 96.—Hab. W. Indies.

Stachytarpheta, Vahl.

464. **S. mutabilis**, Vahl.—Red-flowered Stachytarpheta; grows in gardens, cultivated and is rare. Alt. 3 to 4. Bot. Mag. 976.—Hab. S. America.

465. **S. prismatica**, Vahl.—Blue-flowered species; grown in gardens similarly to the other.—Hab. S. America.

Both species were introduced twenty years ago, but have not become naturalized, though they blossom and seed.

Tectona, Linn.

466. **T. grandis**, Linn.—Several Teak trees have attained a height of eighteen or twenty feet at Bamboo Grove in Sandy Bay on the south side of the Island, alt. 3; they do not seem to flourish, although they have been there many years. It would appear that the climate does not suit them, because in other positions also

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they have not succeeded. A few years ago one tree existed at Shipways, and another at Oakbank; but neither of them appeared to thrive, the former died recently, while the latter never seemed more than half alive.—Hab. E. Indies.

Verbena, Linn.

467. **V. bonariensis,** Linn.—This tall, purple-flowered plant, called Honesty, is very abundant, growing wild about the hedgerows and fields on the high land at alt. 4. The plant itself attains a height of six or seven feet.—Hab. B. Ayres.

468. **V. sp.** ?—Eight or ten varieties of Verbena are cultivated in gardens.

74. LABIATÆ (*Mint Family*).

Lamium, Linn.

469. **L. purpureum,** Linn.—Red Dead Nettle; mentioned by Roxburgh.—Hab. Europe, W. Asia, and Canary Islands.

Lavandula, Linn.

470. **L. spica,** D.C.—Lavender grew well in the gardens on the high land a few years ago, but recently I have scarcely seen a plant of it in the Island.—Hab. S. Europe.

Leonurus, Linn.

471. **L. sibiricus,** Linn.—A small garden plant with pink flowers, growing uncultivated, but rather rare.—Hab. N.E. Asia.

Mentha, Linn.

472. **M. viridis,** Linn.—Mint grows readily and abundantly, uncultivated, in gardens.—A cultivated variety.

473. **M. sylvestris** ? Linn.—Wild Mint grows along the edges of the mountain streams on the high land. The native people dry it, and use it as a substitute for tea; they also scatter the plant about their cottages to destroy fleas. M. and H. L. Alt. 1 to 4; wild and very common.—Hab. Europe, N.W. Asia, &c.

Melissa, Linn.

474. **M. officinalis,** Linn.—Balm grows readily in gardens on the high land, cultivated.—Hab. South of Europe, &c.

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Origanum, Linn.

475. **O. majoranoides**, Willd.—Marjoram is cultivated in gardens.—Hab. Portugal, &c.

Phlomis, Linn.

476. **P. Leonurus**, Linn.—Monkey-toe; grows wild about shrubberies; rather rare; at Rosemary Hall, &c. Alt. 3·8. Bot. Mag. 478.—Hab. Africa.

477. **P. sp.** ?—Balm of Gilead; grows wild, and is common in some localities. H. L. Alt. 4.

Rosmarinus, Linn.

478. **R. officinalis**, Linn.—Rosemary; grows as a garden shrub on the high land, uncultivated, but is rather rare.—Hab. S. Europe.

Salvia, Linn.

479. **S. aurea**, Linn.—Leather-coloured Sage; uncultivated in gardens on the high land, but rare. Bot. Mag. 182.—Hab. Cape of Good Hope.

480. **S. officinalis**, Linn.—Common Garden Sage; cultivated in gardens.—Hab. S. of Europe.

481. **S. coccinea**, Linn.—Small Scarlet Sage; grows almost wild in some gardens both on the high land and in Jamestown. C. to H. L.—Hab. S. America.

482. **S. splendens**, Ker.—Splendid Sage; grows abundantly, uncultivated, in gardens on the high land.—Hab. Brazil.

483. **S. mexicana**, Linn.—Blue Salvia; recently introduced from Madeira, and now growing well in gardens on the high land. Flowers and seeds freely.—Hab. Mexico.

484. **S. bracteata**, Sims.—Recently introduced into gardens.—Bot. Mag. 2320.

Stachys, Linn.

485. **S. arvensis**, Linn.—A small purple-flowered weed like a Mint, growing wild, and is very common in hayfields, gardens, &c., generally on the upper lands. Blossoms in August.—Hab. Europe, N.W. Asia, N. Africa.

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Thymus, Linn.

486. **T. vulgaris**, Linn.—Common Thyme; grows abundantly, cultivated in kitchen gardens both on the high and low lands, and blossoms and seeds freely.—Hab. S. of Europe.

75. BORRAGINACEÆ (*Borage Family*).

Borrago, Linn.

487. **B. officinalis**, Linn.—Borage is cultivated in gardens; rather rare, but flowers and seeds well.

Trichodesma, R. Br.

488. **T. zeylanicum**, R. Br.—Ceylon Borage is mentioned by Roxburgh as growing on the Island.—Hab. Ceylon.

Ehretia, Linn.

489. **E. pyrifolia**, Don.—A pretty tree, about fifteen feet high, with thick clusters of small white flowers yielding a powerful and pleasant perfume, growing on the high land at Scotland, &c. Somewhat uncultivated, but propagates from the roots.—Hab. India.

Echium, Linn.

490. **E. superbum.**—Recently introduced as a garden plant at the Hermitage.

Heliotropium, Linn.

491. **H. peruvianum**, Linn.—Cherry-pie; grows uncultivated, and is common in gardens and shrubberies. Alt. 3·8 and upwards; two varieties, dark and pale lilac, introduced about thirty years ago. —Hab. Peru.

Lithospermum, Linn.

492. **L. tenuiflorum**, Linn.—A small weed with white flowers, found wild in the cornfields on the high land.—Hab. Egypt.

Myosotis, Linn.

493. **M. palustris**, With.—True Forget-me-Not; grows in gardens, but is very rare. This plant degenerates at St. Helena. I gathered some seed from exceedingly fine specimens growing in an

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Irish bog, and tried to acclimatize it at the Island; but the flowers turned out small, and almost white in colour.—Hab. Britain, &c.

Nolana, Linn.

494. **N. prostrata,** Linn.—Growing only as a cultivated plant in the garden of the officers' quarters at Ladder Hill.—Bot. Mag. 731.—Hab. Peru and Chili.

76. POLEMONIACEÆ.

Cobæa, Cav.

495. **C. scandens,** Cav.—Recently introduced, and grows well in gardens. Alt. 3·8. Cultivated and rather rare, but blossoms and seeds well. Bot. Mag. 851.—Hab. Mexico.

Gilia, Ruiz et Pav.

496. **G. tricolor,** Benth.—Grows in the flower-garden at Scotland.—Hab. N. America.

Phlox, Linn.

497. **P. amœna,** Sims.—Pink Phlox is a common garden plant. Bot. Mag. 1308.—Hab. N. America.

77. CONVOLVULACEÆ (*Convolvulus Family*).

Convolvulus, Linn.

498. **C. Batatas,** Linn.—Two varieties of Sweet Potato are extensively cultivated on the higher parts of the Island; they serve as food for the inhabitants, and are also sold to ships. Does not seed well, and is propagated by cuttings.—Hab. East and West Indies.

499. **C. Batatas,** Linn. var.

500. **C. purpureus,** Linn.—Several garden varieties of the Common Blue Convolvulus grow uncultivated, and are rather common about gardens generally throughout the Island.—Hab. Asia and America.

501. **C. tricolor,** Linn.—Campanula grows in gardens, cultivated; is rather rare, but flowers and seeds well. Bot. Mag. 27.—Hab. Spain.

502. **C. brasiliensis,** Linn.—A species mentioned by Roxburgh as found in the Island.

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Dichondra, Forst.

503. **D. repens,** Forst.—Monkey's Ears; grows wild and is very common; quite a weed about roadsides, banks, &c. H. L. Alt. 3·8 to 5.—Hab. Tropics generally, and probably a native of St. Helena.

Ipomæa, Linn.

504. **I. coccinea,** Linn.—Small red Convolvulus; grows in gardens; rare. Seeds well.—Hab. West Indies.

505. **I. Quamoclit,** Linn.—Small scarlet Ipomæa; grows in gardens; rare. Seeds well. Bot. Mag. 244.—Hab. E. Indies.

506. **I. bona-nox,** Linn.—Night-blooming white-flowered Ipomæa; grown in gardens, cultivated and rare. Seeds well. Bot. Mag. 752.—Hab. West Indies.

507. **I. palmata,** Forsk.—Generally known at St. Helena as the Egyptian Bindweed. Alt. 3·6. It grows wild, and is common in the roadside hedges, where it climbs and festoons the aloe stems and other plants, its purple blossoms making it one of the prettiest of the wild plants. It flowers very abundantly, but seldom seeds, and is propagated by cuttings.

508. **I. sp.** ?—This small Ipomæa grows wild in St. Paul's churchyard. Its flowers are very like those of the Sweet Potato. Rare. Alt. 4.

Pharbitis, Chois.

509. **P. Learii,** Lindl.—This large blue Convolvulus is very common and much cultivated for its beauty, both on the high and the low lands, growing and flowering freely at C. to H. L. Alts. ·5 and 3·4. It was introduced from Ascension about ten years ago, and, when subsequently lost at that Island, was re-established there by seeds from St. Helena. Bot. Mag. 3928.—Hab. Buenos Ayres.

78. Cordiaceæ.

Cordia, Linn.

510. **C. macrophylla,** Linn.—Mentioned by Roxburgh as growing in the Island to a tree sixty feet in height.—Hab. West Indies.

511. **C. Sebestena,** Linn.—Scarlet Cordia; grows in the Castle

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Gardens, Jamestown. C. Alt. ·1. Three or four plants only; attains a height of ten feet, and flowers and seeds well. Bot. Mag. 794.—Hab. W. Indiès.

79. Solanaceæ (*Nightshade Family*).

Nicandra, Gærtn.

512. **N. physaloides**, Gærtn.; *Atropa physaloides*.—A pretty pale-blue-flowered plant, with a seed-pod resembling the Cape gooseberry or bilberry, growing wild; very common generally in the Island, and abundant near Cleugh's Plain and similar localities. M., alt. 3. Bot. Mag. 2458.—Hab. Peru.

Brugmansia, Pers.

513. **B. chlorantha**, Hook.—Double-flowered Brugmansia. This plant has been recently seen growing in gardens on the high land, but is rare. Bot. Mag. 5128.

514. **B. sanguinea**, Hort.—Red Moon plant; grows uncultivated and is rather common, alt. 3·8; introduced about twenty years ago at Oakbank, by seeds from Europe. It flowers freely, but does not seed, being propagated by cuttings.—Hab. Peru.

515. **B. suaveolens**, Willd.—Moon plant, Datura, or Lady's Petticoat; grows wild and is very common, alt. 3 to 4, in swamps, mountain streams, roadsides, shrubberies, &c. Flowers in the evening once every month at the full moon, when its profusion of white flowers and powerful delicious perfume render it one of the most beautiful and remarkable of tropical plants. Does not seed, but grows from the root, and the smallest piece of the stem will grow in water even without earth.—Hab. Peru.

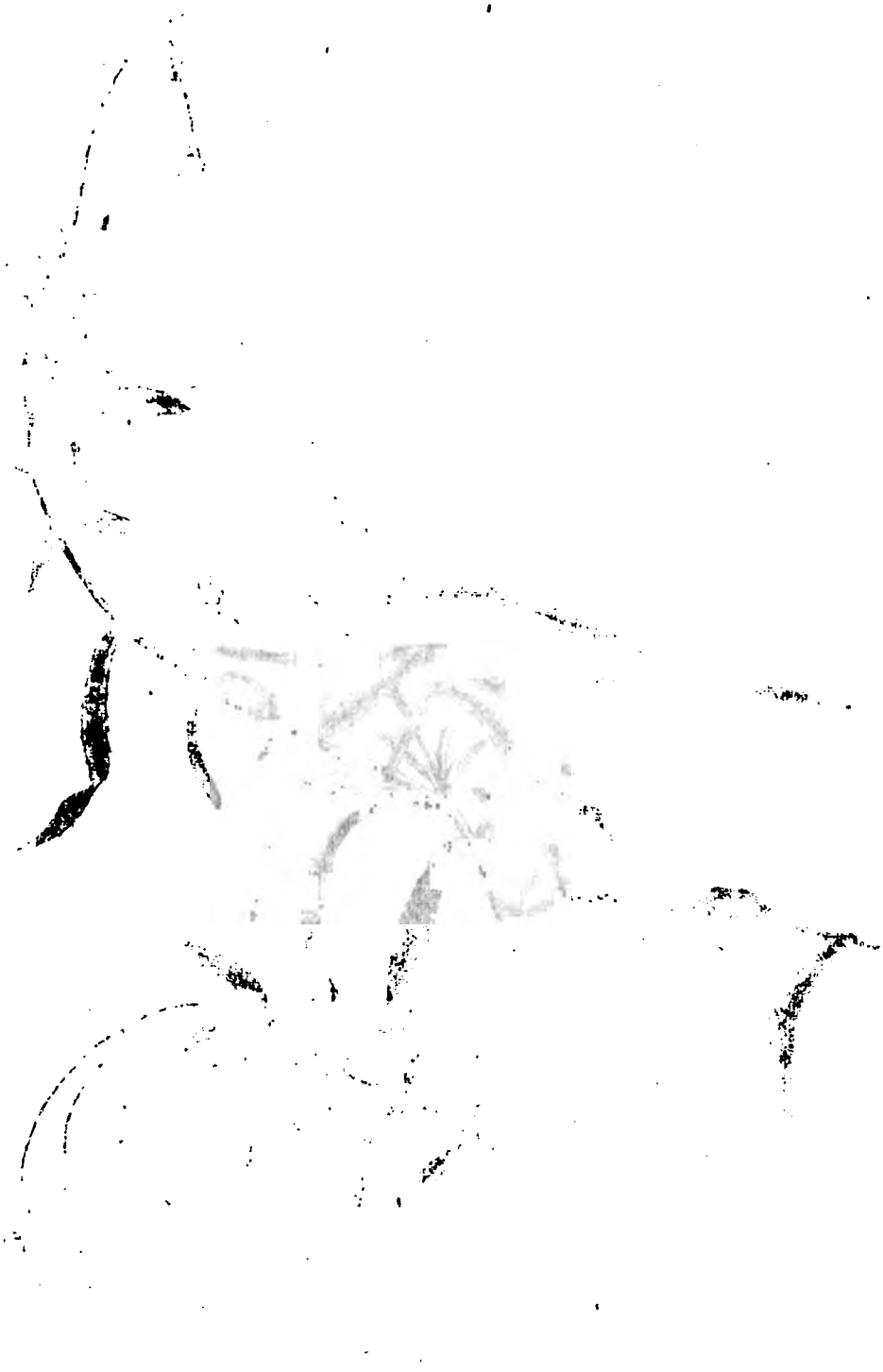
Cestrum, Linn.

516. **C. fasciculatum**, Miers; *Habrothamnus fasciculatus*, Endl.—Called wild Fuchsia; a shrub of ready growth, with clusters of crimson flowers; grows well and abundantly in an uncultivated state in gardens and shrubberies on the upper land. Introduced from the Cape of Good Hope ten years ago.—Hab. Mexico.

Capsicum, Linn.

517. **C. grossum** ?, Linn.—Capsicum; one or two varieties are

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cultivated in gardens, and fruit abundantly; they are made into pickles. C. and M.—Hab. Tropics.

518. **C. frutescens,** Linn.—Long Chili. Several varieties are commonly cultivated in gardens, and the fruit is used for pickles. C. and M.—Hab. Tropics.

519. **C. baccatum,** Linn.—Cayenne Pepper. A few plants cultivated in gardens.—Hab. Tropics.

Datura, Linn.

520. **D. Metel,** Linn.—Downy Datura; mentioned by Roxburgh as growing in the Island. Bot. Mag. 1440.—Hab. Asia, America, &c.

521. **D. Tatula,** Linn. — Light-blue-flowered Datura. This useful plant in asthmatic diseases grows wild and very abundantly about New Ground and the Island generally. M. Alt. ·06 to 2·4.—A common weed in tropical and warm countries.

522. **D. fastuosa,** Linn.—Purple Datura; grows wild and very abundantly as a weed about the Island generally. M. Alt. ·2 to 4.—A common weed in the tropics.

Mellissia, Hk. f.

523. ***M. begonifolia,** Hk. f.; *Physalis begonifolia,* Roxb.—The native Boxwood; now an extremely rare plant, but still to be found growing on the south-eastern side of the Island, at Longrange and Stonetop, where it attains to a shrub about eight feet in height. The stems are very bent, crooked, and branching, seldom exceeding two inches in thickness. The leaves are large when the plant is young, but small as it grows older. Its pretty white blossoms appear in the month of October, under the leaves so as to be scarcely visible without lifting them up. A species of *Succinea* feeds upon the plant. The dry branches are gathered by the natives for firewood. C. Alt. 2 to 3. PLATE 51; also Hk. Icon. Plant. 1021.

Nicotiana, Linn.

524. **N. tabacum,** Linn.—Wild Tobacco; grows on the rocky ground, even on the summit of Lot. C. Alt. ·2 to 1. Wild and common. The leaves of this plant are sometimes gathered by fishermen and labourers, hung up in their chimney-corners to dry, and then smoked; but no systematic curing of it takes place, the

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people preferring generally to smoke and chew the imported manufactured tobacco. In the year 1697, this plant was recorded as growing on the Island.—Hab. America.

525. **N. glauca**, Grah.—Yellow-flowered Tobacco; grows wild to a tall slender shrub about eight feet high, and is very common about the barren hills above Jamestown, The Briars, Halftree Hollow, &c. C. Alt. ·1 to 2. Bot. Mag. 2837.—Hab. Buenos Ayres, S. America.

526. **N. persica**, Lindl.—Shiraz Tobacco; cultivated in Plantation garden.—Hab. Persia.

527. **N. rustica**, Linn.—Syrian or Latakia Tobacco; also grown at Plantation. The cultivation of this species, with *N. persica*, was undertaken a few years ago, but the report upon some of the leaves sent to England, and manufactured by Mr. Benson, of Oxford Street, was unfavourable. It was said to want flavour, which probably arose from having been grown in a poor soil. Higher cultivation might doubtless render the growing of tobacco at St. Helena a profitable undertaking, inasmuch as the plants thrive well there, and one species grows quite wild.—Hab. Syria, &c.

Physalis, Linn.

528. **P. peruviana**, Linn.; *P. edulis*, Sims.—Bilberry, or Cape Gooseberry; one of the most abundant weeds of the high land. Alt. 2 to 4. Wild and very common; whole fields of it exist in some places. Pheasants and poultry feed upon the fruit, which is also gathered in large quantities, and taken to the market for sale. It makes excellent jam and jelly. Bot. Mag. 1068.—Hab. America.

529. **P. flexuosa**, Linn.—Small red-berried Bilberry; grows wild and is common about the roads and hill sides in Jamestown, Rupert's Valley, &c. C. Alt. ·4.—Hab. E. Indies.

Petunia, Juss.

530. **P. sp.** ?—Numerous garden varieties of Petunia are cultivated on the Island. C. to H. L.

Solanum, Linn.

531. **S. acanthocarpum**, Hort.—A very prickly species of Brinjal; introduced in 1870.

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532. **S. giganteum,** Jacq.—Poisonous, scarlet-berried Solanum; grows wild in the roadside hedges, and abundantly on the eastern side of the Island. Bot. Mag. 1921.—Hab. Cape of Good Hope.

533. **S. esculentum,** Dun. var.—Purple-fruited Egg Plant; cultivated on the lowland, James Valley, &c. The fruit is used as a common vegetable.

534. **S. esculentum,** Dun. var.—White-fruited Egg Plant, or Brinjal, is grown in gardens for the sake of the fruit, which is used as a vegetable; rare.

535. **S. Jacquini,** Willd.—Wild Brinjal; grows to a rather large shrub, is wild and very common all over the upper land, which it quickly overruns, much to the landowners' annoyance. Its bright golden, but highly poisonous, fruit hanging from the roadside hedges, is a great temptation to the pedestrian. The only use made of it is for cleaning brass ornaments. M. & H. L.; alt. chiefly 4.—Hab. E. Indies.

536. **S. nigrum,** Linn.—Deadly Nightshade; one of the greatest weeds in the place; grows wild and is very common at most altitudes. Poultry eat its black berries.—Widely dispersed in temperate and tropical regions.

537. **S. tuberosum,** Linn.—Four or five varieties of Potato are cultivated in the Island, though scarcely so extensively as a few years ago, in consequence of the rot and blight diseases. The plant grows also in some places in an uncultivated state. Alt. 2·4 to 3·8.—Hab. Peru.

538. **S. tuberosum Commersoni,** Poir.—The Wild Potato; grows uncultivated, but is rather rare. Alt. 3·8.—Hab. S. America.

539. **S. Lycopersicum,** Jacq.—Tomato, or Scronchy Apple; a small variety grows wild, and is rather common. I have even seen it on the barren, rocky ground near the coast at Lot's Wife. The large garden varieties are cultivated and grow and fruit freely. C. to H. L.—Hab. S. America.

540. **S. pseudo-capsicum,** Linn.—The Sweet Chili; grows wild and is somewhat common on the road sides and in shrubberies on the high land. Alt. 3 to 4.—Hab. Madeira.

541. **S. sodomæum,** Linn.—Mentioned by Roxburgh as growing in the Island.—Hab. Africa.

542. **S. auriculatum,** Ait.—Recently introduced from the Royal Gardens at Kew.—Hab. Madagascar.

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80. Apocynaceæ (*Dogbane Family*).

Carissa, Linn.

543. **C. carandas,** Linn.—Large Amatingula; blossoms resembling white Jasmine, introduced from South Africa about twelve years ago; grows well at Oakbank and Maldivia; flowers freely, but does not fruit. C. & H. L.—Hab. E. Indies.

544. **C. spinarum,** Linn.—Small-flowered Amatingula; also introduced from South Africa about twenty years ago; grows at Oakbank; blossoms, but does not fruit.—Hab. E. Indies.

Cerbera, Linn.

545. **C. Odollam,** Gært.—One tree, growing near the Joss-house at Plantation, twelve feet in height. H. L., alt. 3; pretty white blossoms, somewhat resembling white Jasmine; does not seed.—Hab. E. Indies, &c.

Nerium, Linn.

546. **N. odorum,** Ait.—Pink Oleander; lately introduced from the Cape; grows and flowers well in gardens.—Hab. E. Indies.

Plumieria, Linn.

547. **P. bicolor,** R. et P.—Buddhist tree; introduced lately from Ceylon by Lieutenant H. W. Melliss, and throve well in the Castle Gardens until attacked by white ants.—Hab. S. America.

Vinca, Linn.

548. **V. major,** Linn.—Blue Periwinkle; grows wild and is very common. H. L., alt. 3·8.—Hab. Europe.

549. **V. rosea,** Linn.—Pink Venice Rose; grows wild and is common on the low rocky land near the coast.—Hab. Madagascar.

550. **V. rosea,** Linn. var. **alba.**—The white-flowered variety also grows, but not so commonly as the pink.—Hab. India.

81. Asclepiadaceæ (*Milkweed Family*).

Asclepias, Linn.

551. **A. curassavica,** Linn.—Ipecacuanha or Orange-flowered Asclepias; cultivated and rather rare in gardens.—Hab. S. America.

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552. **A. sp.** ?—Silk-Cotton Plant; grows wild; common over some parts of the semi-barren outskirts. C. Alt. ·2 to 3·8.

Gomphocarpus, R. Br.

553. **G. fruticosus,** H. K.—Tall white Asclepias; grows to a height of five feet, is wild and very common on the low land. Alt. 2·4, at Southens, Rock Cottage, &c. Yields a large quantity of silky fibre from the seed-pods, but no use is made of it. The Butterfly *Danais chrysippus* frequents this plant, and thickly covers it with its beautiful black-and-yellow caterpillars and green-and-gold chrysalides. Bot. Mag. 1628.—Hab. Cape of Good Hope.

Hoya, R. Br.

554. **H. carnosa,** R. Br.—Wax plant; grows well. Alt. 3·8. Cultivated in gardens, and rather rare. Bot. Mag. 788.—Hab. China.

82. Jasminaceæ (*Jessamine Family*).

Jasminum, Linn.

555. **J. odoratissimum,** Linn.—Yellow Jasmine; grows uncultivated in shrubberies. Alt. 3·8. Rather rare. Bot. Mag. 285.—Hab. Madeira.

556. **J. officinale,** Linn.—White Jasmine; grows uncultivated and is rather common in gardens at alt. 3·5 to 4. Seeds, but is chiefly propagated by cuttings. Bot. Mag. 31.—Hab. Malabar.

557. **J. revolutum,** Sims.—Large Yellow Jasmine; uncultivated; very rare in gardens at high alts.—Hab. E. Indies.

83. Oleaceæ (*Olive Family*).

Fraxinus, Linn.

558. **F. chinensis,** Roxb.—Mentioned by Roxburgh as growing in the Island.—Hab. China.

559. **F. floribunda,** Wall.—The Ash; grows to a small shrubby tree, about ten feet high; uncultivated; rather common at Oakbank, Mount Pleasant, &c. Alt. 4 to 5.—Hab. East Indies.

Olea, Linn.

560. **O. laurifolia,** Lamk.—Purple-fruited Olive; one plant, a

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handsome tree, about twenty feet in height, bearing abundant rich clusters of fruit resembling bunches of black grapes, grows in the Ladies' Garden, Plantation. Bot. Mag. 3089.

561. **O. sp. ?**—The Wild Olive; wild and very common; grows to a tree about fifteen feet in height, bearing immense quantities of white fruit, which, in contrast with its dark-green foliage, renders it one of the handsomest trees in the Island. M., alt. 3.

562. **O. europæa**, Linn.—The true Olive, of which there are two varieties in the Island, grows wild and is rather common on some of the most rocky and unproductive soils. In the neighbourhood of the Briars, about nine hundred feet above the sea, many fine trees, reaching a height of twenty feet or more, exist, and at times may be seen loaded with fruit. It grows also at Plantation, Longwood, and other places of much greater altitude. When it is known that the value of olive oil in the English market is about 50*l.* per tun, and that in one year no less than 28,000 tuns of this article are imported into Great Britain, it seems remarkable that no effort is made either to use the fruit of the existing plant, or to extend its growth by cultivation in the Island.—Hab. S. Europe.

563. **O. europæa longifolia**, Linn.—Small purple oblong-fruited Olive; a few trees only, attaining the height of thirty feet, at Plantation and Longwood; fruits abundantly.—Hab. Europe.

564. **O. europæa**, Linn. var.—Growing at East Lodge.

565. **O. fragrans**, Thun.—Sweet Olea; grows to a tree twelve feet in height, at Plantation, Oakbank, Rose Cottage, &c., and blossoms well, perfuming the atmosphere for a considerable distance around with its delicious fragrance. Cultivated, and rather rare. Alt. 3·6 to 4·5. Bot. Mag. 1552.—Hab. China.

Phillyrea, Linn.

566. **P. media**, Link.—Mentioned by Roxburgh as growing in the Island.—Hab. S. of Europe.

84. Nyctaginaceæ (*Four o'Clock Family*).

Boerhaavia, Linn.

567. **B. verticillata**, Poir.; *B. repanda*, Roxb.; *B. Helenæ*, Schult.—This probably indigenous plant, called Hog-Weed (though

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Plate 50



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it is difficult to imagine why, unless when hogs were first turned into the Island, three centuries ago, there was more of it than now exists, and they fed upon it), is a slender trailing little thing bearing pink blossoms; it inhabits the low, rocky, barren land near the sea-coast at alt. ·6, especially in the neighbourhood of Ladder Hill, Munden's, Rupert's, &c., on the northern coast. It dies away during the hot weather in February and March, and shoots again in the spring.—Hab. Tropics generally.

Bougainvillea, Comm.

568. **B. spectabilis,** Willd.—Recently introduced from Madeira; one plant at the Hermitage only.—Hab. Brazil.

Mirabilis, Linn.

569. **M. jalapa,** Linn.—Five varieties of this plant, commonly called Four o'Clock, grow in the Island—viz., the White, the Red, the Yellow, the Red and White, and the Red and Yellow-flowered. It may be said to grow almost wild and is common at all altitudes from a few feet to one or two thousand above the sea. It flourishes in the poorest soils, attains to a shrub four feet in height, and flowers abundantly. The roots grow very large, but are not made use of. Although they possess some medicinal quality they do not, as has been supposed in the Island, yield the medicine called jalap. Bot. Mag. 371.—Hab. West Indies.

85. Basellaceæ.

Basella, Linn.

570. **B. rubra,** Linn.—Called Poisarg; commonly grown in gardens, and used as a substitute for spinach. C. to H. L. Seeds freely. —Hab. Trop. Asia.

Boussingaultia, H. B. K.

571. **B. baselloides,** H. B. K.—The Bridle-wreath Vine has very recently been introduced from Brazil, but already grows abundantly in gardens both on the high and low lands. This plant appears to be one of the few which grow in Georgetown, at the Island of Ascension. It is there much valued as a verandah climber. It blossoms at St. Helena, but is propagated from the root. Bot. Mag. 3620.—Hab. S. America, Quitinian Andes.

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86. CHENOPODIACEÆ (*Beetroot Family*).

Atriplex, Linn.

572. **A. triangularis,** Willd.—Mentioned by Roxburgh as growing in the Island.—Hab. S. Europe.

573. **A. capensis,** Moq.—One of the common weeds in the Island.—Hab. Cape of Good Hope.

Beta, Linn.

574. **B. vulgaris,** Linn.—Red and green Beet, with Mangold-wurtzel, are cultivated.—Hab. South of Europe.

575. **B. Cicla,** Linn.—White Beet is also cultivated to some extent, at Longwood and other farms, for feeding cattle.—Hab. Portugal, &c.

Chenopodium, Linn.

576. **C. murale,** Linn.—Fat Hen; one of the most common and abundant weeds about the forests, and high land generally. Alt. 3. It makes a very good substitute for spinach, and is much used as such.—Hab. Widely distributed in Europe, Asia, &c.

577. **C. album,** Linn.—White Chenopodium.—Hab. Temp. and Arctic Europe and Asia.

578. **C. album,** Linn., var. **viride.**—Green Chenopodium. Both this and the last-named species grow as weeds in the Island.

579. **C. ambrosioides,** Linn.—Well known by the name of Tantocury. A most abundant weed in gardens, along roadsides, &c. Wild, and very common at all alts.—Hab. Cape of Good Hope.

Exomis, Moq.

580. **E. axyrioides,** Fenzl.—A small creeping weed, growing on the rocky ground about Lot's Wife, Castle Rock, &c. C. Alt. 2 to 3. Wild and common. It might be mistaken for a dwarf kind of Samphire.—Hab. Cape of Good Hope.

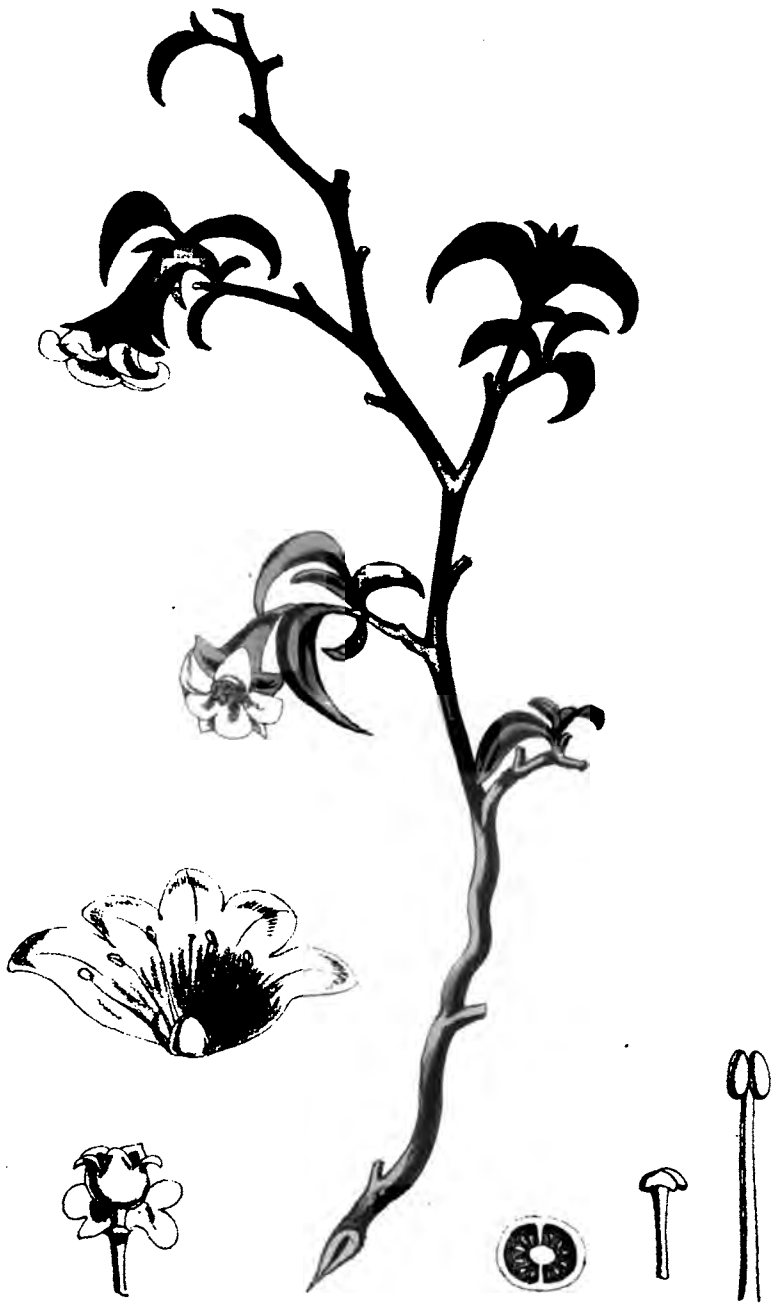
Schoberia, C. A. Mey.

581. **S. salsa,** C. A. Mey.—This tropical plant, called Samphire, grows wild, is very common all over the rocky parts near the sea coast, and is doubtless indigenous to the Island. In some places,

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in the deeply-cut ravines, especially in Fisher's Valley, &c., whole fields of it exist, where, apparently, nothing else will grow, the climate being hot, and the soil parched and impregnated with salt. C. Alt. ·01 to 1·8.—Hab. Tropics.

Spinacia, Linn.

582. **S. oleracea,** Linn.—Spinach; grown in gardens, but not abundantly.

87. AMARANTACEÆ (*Amaranth Family*).

Amarantus, Linn.

583. **A. caudatus,** Linn.—Love-lies-Bleeding; grows rather generally and uncultivated in gardens, both on the high and low lands, but is not very common.—Hab. E. Indies.

584. **A. tricolor,** Linn.—Also grown in gardens.—Hab. E. Indies.

585. **A. Blitum,** Linn.—Double Gee; grows wild and is very common. The natives have a great dislike to this weed, in consequence of its prickly seeds which run into their bare feet. M. Alt. 1·2 to 3·6.—Hab. Europe, &c.

Achyranthes, Linn.

586. **A. aspera,** Linn.—A common weed, growing wild and abundantly in the ravines on the high land. It may be easily recognised by its pink flowers of an everlasting nature.—Hab. India.

Euxolus, Raf.

587. **E. viridis,** Moq.—A small weed, with variegated leaves, growing wild on the pavement and amongst the stones in the Castle Yard, Jamestown. Not very abundant. C.—Hab. Trop. America.

Gomphrena, Linn.

588. **G. globosa,** Linn.—Annual Globe Amaranth; cultivated in flower gardens.—Hab. India.

88. POLYGONACEÆ (*Buckwheat Family*).

Coccoloba, Jacq.

589. **C. uvifera,** Jacq.—The Sea-side Grape; grows and fruits

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well on the low land, in the Castle Gardens, Jamestown; but there are a few plants only.—Hab. West Indies.

Rumex, Linn.

590. **R. Acetosella,** Linn.—Red field Sorrel; grows wild and is very common throughout hayfields, &c., on the high land. Alt. 4 to 5.—Hab. Temperate and Arctic Regions of the North.

591. **R. vesicarius,** Linn.—Bladder Sorrel; mentioned by Roxburgh.—Hab. N. Africa.

592. **R. crispus,** Linn.—The common Dock; grows wild and is very common in or near to the mountain streams, &c., at all alts. The labouring people boil and eat the leaves.—Hab. Europe, N. Africa, and temp. Asia.

89. Lauraceæ (*Laurel Family*).

Cryptocarya, R. Br.

593. **C. angustifolia,** E. Mey.—One specimen only; a shrub about eight feet in height, growing in Plantation near St. Paul's Church, and commonly known as the Spice Tree. Blossoms, but does not seed.—Hab. S. Africa.

Laurus, Linn.

594. **L. nobilis,** Linn.—Bay Tree; grows to a height of fourteen feet; uncultivated, and rather rare. Alt. 4. Does not seed, and is propagated by cuttings.—Hab. South of Europe, &c.

Litsaea, Juss.

595. **L. foliosa** ?, Nees.—Several fine trees, at Lowe's Gardens, M., alt. 3·7. Sometimes called Box.—Hab. E. Indies.

Persea, Gærtn.

596. **P. gratissima,** Gærtn.—The Avocado Pear does not succeed in the Island; it has been often tried, but resulted only in establishing a few small plants, of slow growth. There is said to be one tree of it at Wallbro Cottage, H. L., alt. 3, which bears fruit, though not to perfection. Bot. Mag. 4580.—Hab. Tropical America, and W. Indies.

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Tetranthera, N. ab Esnb.

597. **T. japonica,** Spr.—One tree only, growing near the Joss-house at Plantation, H. L., alt. 3·4; attains a height of eighteen feet. Flowers, but does not seed.—Hab. Japan.

598. **T. macrophylla,** Wall.—Said by Roxburgh to grow in the Island.—Hab. E. Indies.

90. THYMELACEÆ (*Mezereon Family*).

Daphne, Linn.

599. **D. odora,** Thunb.—Sweet Daphne; grows cultivated in gardens on the high land. Alt. 4. Rather rare; blossoms freely, but does not seed. Bot. Mag. 1587.—Hab. Japan.

91. PROTEACEÆ (*Protea Family*).

Banksia, Linn. f.

600. **B. sp.** P—Broad-leaved Red Bottle-brush plant; grows uncultivated in gardens, but is rare.

601. **B. sp.** P—Narrow-leaved Red Bottle-brush; grows uncultivated in gardens on the high land, but is rather rare.

602. **B. integrifolia,** Linn. f.—Yellow-flowered Banksia; growing at Plantation, near the Gardener's House, to a tree twenty feet high, and flowering well. One or two trees only, which yield seed. Bot. Mag. 3120.—Hab. New South Wales.

Hakea, Schrad.

603. **H. gibbosa,** Cav.; *Conchium gibbosum,* Sm.—This tree, growing to a height of fifteen feet, and bearing sharp spines instead of leaves, with a seed case resembling the head of a bird, may be seen amongst the fir trees near Green Gate, and other places, at alt. 3 to 4. Though it is not abundant, it seeds well.—Hab. N. S. Wales.

Leucadendron, Herm.

604. **L. argenteum,** R. Br.—The Silver-tree. A few years ago several fine trees, about thirty feet high, grew at West Lodge and Lufkins Cottage, and seeded well, but they died, and now only one small plant exists at Plantation.—Hab. Cape of Good Hope.

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Protea, Linn.

605. **P. mellifera**, Thunb.—Honey plant. One or two only at Fairy Land. M. Alt. 4. Blossoms freely. Bot. Mag. 346.—Hab. Cape of Good Hope.

92. EUPHORBIACEÆ (*Spurge Family*).

Aleurites, Forst.

606. **A. moluccana**, Willd.; *A. triloba*, Forst.—One plant only, a fine large tree, growing in the Botanical Gardens, Jamestown, and bearing fruit commonly called Walnuts. C.—Hab. Molucca Islands.

Acalypha, Linn.

607. ***A. reticulata**, Müll. Arg. var.; *A. rubra*, Roxb. non Willd.—The native String Wood. This beautiful little plant I believe now to be extinct. It formerly grew on the main central ridge amongst the ferns and cabbage-trees about the locality of Casons, &c., alt. 5. The last plant I saw of it in the Island was one that had been transplanted to Oakbank about twenty years ago; it grew to a small miniature tree, about eighteen inches high, and blossomed and seeded freely, but is no longer there.—PLATE 52.

Buxus, Linn.

608. **B. sempervirens**, Linn.—The Box plant; grows well and rather abundantly on the high land, at an alt. of 3, where it is used for flower borders as in England.—Hab. Europe, temp. Asia, &c.

Carumbium, Reinw.

609. **C. populneum**, Reinw.—One large old tree, growing in Friars Valley, near to Oaklands.

Cicca, Linn.

610. **C. disticha**, Linn.—Otaheite Gooseberry; grows well to a tree ten feet high, and fruits abundantly, in Maldivia gardens. C. Alt. 8. Seeds to perfection.—Hab. E. Indies.

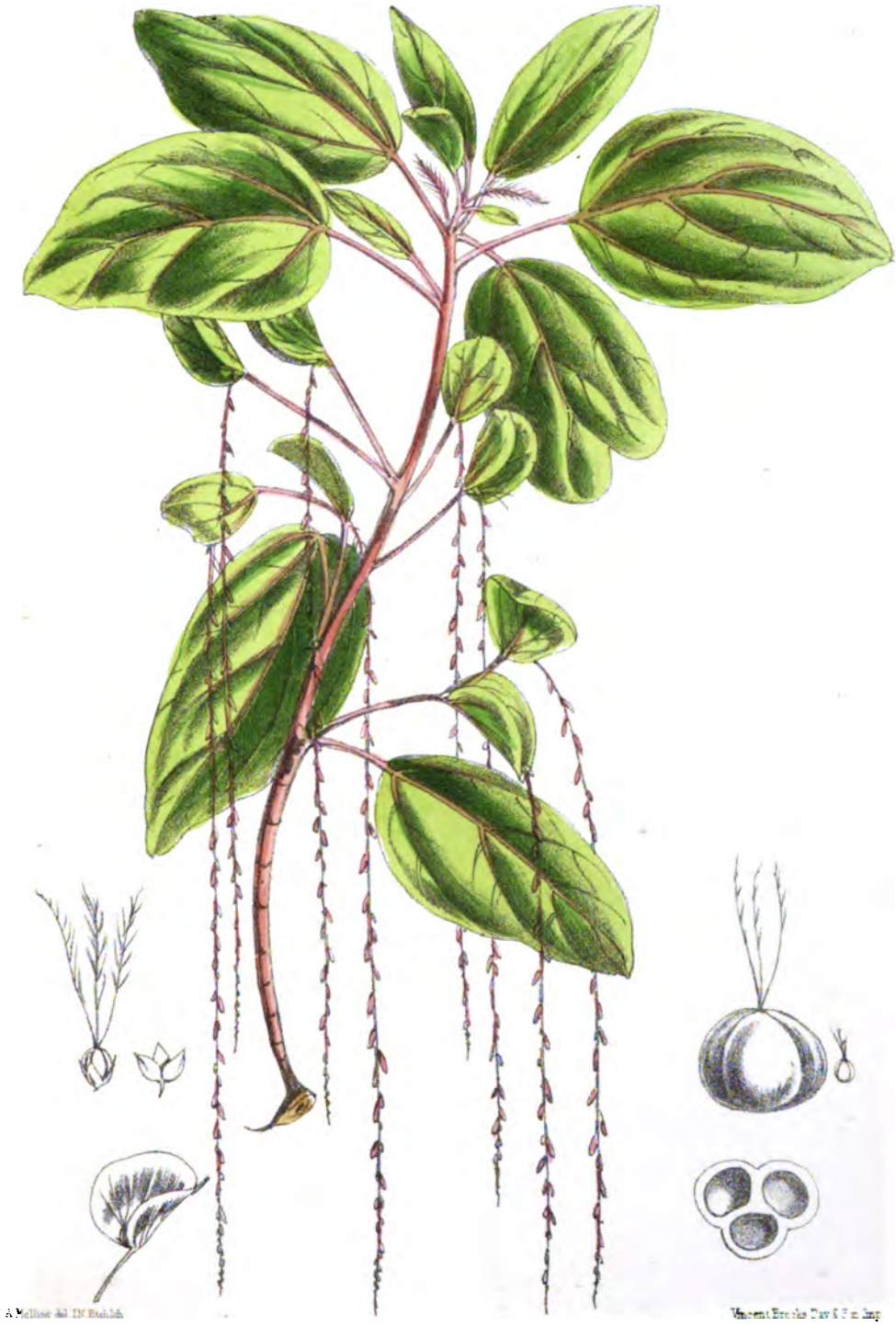
Croton, Linn.

611. **C. sebiferum**, Linn.—The Tallow tree of China; mentioned by Roxburgh. There is only one small plant of it now growing

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at Maldivia gardens, and called the Candle-nut tree. Blossoms and bears seeds. C.—Hab. China.

Cluytia, Ait.

612. **C. pulchella,** Linn.—Wild Pepper, as it is called; grows wild and is very common as a shrub on the high land, alt. 3·6, in the neighbourhood of Scotland, Oaklands, &c., where it is used for roadside hedges, but spreads so rapidly as to be an objectionable weed on the adjacent lands. Bot. Mag. 1945.—Hab. Cape of Good Hope.

Euphorbia, Linn.

613. **E. rosea,** Retz.—French Grass. This pretty little greenish-red plant grows wild and is common on the barren, rocky outskirts. C. Alt. ·1 to 2. It is probably indigenous to the Island.—Hab. E. Indies.

614. **E. Lathyris,** Linn.—Wild Caper; grows wild about gardens, but is rather rare.—Hab. S. Europe.

615. **E. Peplus,** Linn.—Poisonous weed or Chickweed; two varieties of this plant grow wild and are very common. Alt. 2 to 3. One of the most objectionable weeds of the place.—Hab. Europe, Asia, and N. Africa.

616. **E. Peplus,** Linn. var.

617. **E. splendens,** Boj.—Scarlet Euphorbia; grows cultivated and is rather common in gardens. Alt. ·3 to 4; introduced about twenty years ago at Oakbank. Bot. Mag. 2902.—Hab. Madagascar.

Phyllanthus, Linn.

618. **P. sp.** ?—A small slender Weed, in gardens; Scotland, &c.; uncultivated, rather common. Alt. 3·6.

619. **P. andrachnoides,** Willd.—Mentioned by Roxburgh as growing in the Island.

Poinsettia, Grah.

620. **P. pulcherrima,** Grah.—Scarlet-leaved plant; grows to a height of eight feet; cultivated and rather common in gardens. Alt. 3·8; introduced about twenty years ago at Oakbank; does not seed. Bot. Mag. 3493.—Hab. Mexico.

Ricinus, Linn.

621. **R. communis,** Linn.—Castor Oil, or Palma Christi; grows

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wild, and is very common; quite a weed about hedges and ditches; attains to a large shrub ten feet in height. M. Alt. ·1 to 3. This plant grows so readily that it might be cultivated with ease to almost any extent, and the seeds, which are very abundant, collected for making castor-oil. The leaves also might serve to feed silk-worms, but at present no use is made of it.—Hab. E. Indies.

93. Urticaceæ (*Nettle Family*).

Cannabis, Linn.

622. **C. sativa**, Linn.—Hemp; mentioned by Roxburgh as growing in the Island.—Hab. Asia.

Ficus, Linn.

623. **F. sp.** ?—Several Trees in the Castle Gardens, Jamestown, and also near the old Joss-house at Plantation; grows to a height of thirty-five feet. C. & H. L. Alts. ·1 to 3·6.

624. **F. Carica**, Linn.—The Common Fig; grows well and abundantly to a small tree twelve feet in height, and bears most excellent fruit from January to June. It appears to thrive as well at an alt of ·2 as it does on the higher land at 3. A variety, known as the Wild Fig, whose fruit does not ripen, attains a good-sized tree, and grows about the roadsides in several parts of the Island, C. to H. L.; easily propagated by cuttings.—Hab. S. of Europe.

625. **F. indica**, Linn.—The Banyan Tree, or, as it is commonly called in the Island, the Jack Tree, does not attain a large size. There are a few small trees in Jamestown, Sandy Bay, Fisher's Valley, Wood Cot, &c., where they are easily recognised by their bright red fruit. C.—Hab. E. Indies.

626. **F. terebrata**, Willd.—Grows in the Castle Gardens in Jamestown, where there are a good many large trees; also grows in Rupert's Valley. C. Easily propagated by cuttings.—Hab. East Indies.

627. **F. religiosa**, Linn.—The Peepul Tree; grows to a height of thirty or forty feet in Jamestown, where there is a fine row of trees along the front lines, and also in Lemon Valley near to the sea. C. Easily propagated by cuttings.

628. **F. elastica**, Roxb.—There are a few India-rubber Trees in the Island. They seem to thrive well at a low alt. near the sea, as

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well as at the higher one of 3·8. They attain a height of thirty feet, and grow in the Castle Gardens in Jamestown, at Plantation House, Francis Plain, and Longwood.—Hab. E. Indies.

Morus, Linn.

629. **M. nigra,** Linn.—Large Mulberry; grows to a tree ten feet in height, and fruits well. Cultivated and rather rare; alt. ·8 to 3·8. Terrace Knoll, Fairy Land, Maldivia, &c. Easily propagated by cuttings.—Hab. Italy, Persia, &c.

630. **M. atropurpurea,** Roxb.—Wild Mulberry; grows to a tree twenty feet in height, is wild and common. Alt. ·8 to 5. This plant was introduced by the East India Company, and much cultivated about thirty or forty years ago, for the purpose of feeding silkworms, the Company having formed a silk establishment at the Island. The trees now grow wild in several localities, such as Mulberry Gut near Longwood, The Briars, &c., where they were formerly planted. The silkworm has, however, long since disappeared. The plant is easily propagated by cuttings.—Hab. East Indies.

631. **M. alba,** Linn.—White Mulberry; recently introduced from the Royal Gardens at Kew.—Hab. Probably China.

Urtica, Linn.

632. **U. dioica,** Linn.—Nettle; grows wild and is very common in ravines, hayfields, &c. Alt. ·3 to 5.—Hab. Europe and N. Asia.

633. **U. tenacissima,** Roxb.; *Bœhmeria nivea,* Hk. & Arn.—Mentioned by Roxburgh as growing in the Island.—Hab. Asia.

94. Ulmaceæ (*Elm Family*).

Ulmus, L.

634. **U. parvifolia,** Jacq.—Elm Tree. One tree only, which seeds well, growing at the back of Fairyland House, attaining a height of about twenty feet. M. Alt. 4.—Hab. China, &c.

635. **U. virgata,** Roxb.—Elm, said by Roxburgh to grow in the Island.—Hab. East Indies.

95. Juglandaceæ (*Walnut Family*).

Juglans, Linn.

636. **J. regia,** Linn.—The Walnut has been recently introduced from the Royal Gardens at Kew.—Hab. Persia, &c.

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96. Cupuliferæ (*Oak Family*).

Corylus, Linn.

637. **C. Avellana**, Linn.—The Hazel-nut grows at Mount Pleasant at alt. 4, but a few plants only. It bears nuts, but they do not come to perfection.—Hab. Europe, and temp. Asia.

Castanea, Lam.

638. **C. vesca**, Lam.—The Chestnut grows well to a large tree, fifteen or twenty feet in height, and fruits, but the few trees in the Island have been greatly neglected, and several fine ones at West Lodge were recently cut down. One tree remains at Arnos Vale.—Hab. Europe, Asia, and N. America.

Quercus, Linn.

639. **Q. Robur**, Linn.—The Oak was introduced in 1749, more than a century since, and thrives well on the high land, where, in the ravines and hollows, it gets sufficient shelter and depth of soil. It is abundant, and grows side by side with the Banana, the Calla Æthiopica, and the Bamboo; the latter, in some instances, may be seen shooting up through its branches, and drooping over its topmost foliage. An oak tree, now growing in the grounds at Government House, measures twelve feet to the first branch, and thirteen feet in circumference; another measures ten feet to the first branch, and twelve feet in circumference; while each attains a height of about fifty feet. The Oak is amongst the thoroughly naturalized plants, and bears acorns abundantly, which are used for feeding pigs. The trees are bare of leaf from July to September and October, when the spring commences.—Hab. Europe, and temp. Asia.

640. **Q. Ilex**, Linn.—The Evergreen Oak grows well to a tree of fifteen or eighteen feet in height, and is also naturalized, though not so abundant as the common oak.—Hab. S. of Europe.

641. **Q. olivæformis**, Michx.—Several fine Moss-cup Oak trees, about twenty-five feet high, may be seen growing in the interior of the Island. They flower in October, and bear seed freely.—Hab. N. America.

642. **Q. Suber**, Linn.—The Cork Oak grows well, and rather

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abundantly, to a handsome tree, full thirty feet in height, and very branching. The bark does not attain much thickness, but the timber is very handsome. Bears seed abundantly.—Hab. S.W. of Europe.

643. **Q. sp.** ?
644. **Q. sp.** ?
645. **Q. sp.** ?
646. **Q. sp.** ?
647. **Q. sp.** ?

Several species of oak recently introduced from Kew Gardens, but at present all small plants in the gardens at Government House.

97. Betulaceæ (*Birch Family*).

Betula, Linn.

648. **B. alba,** Linn.—The common Birch has recently been introduced from the Royal Gardens at Kew.—Hab. Europe, Asia, N. America.

98. Casuarineæ.

Casuarina, Linn.

649. **C. leptoclada,** Moq., near *C. muricata,* Roxb.—Red-flowered Casuarina, or Beefwood; attains to a tree twenty feet in height; uncultivated and rather common; Plantation, Prospect, &c. Alt. 3·2 to 4. The wood of this tree is used for turning, &c. It is of a beautiful red colour, with a grain somewhat resembling raw beef, hence its name; seeds freely.—Hab. Australia.

650. **C. quadrivalvis,** Labill.—Yellow-flowered Casuarina; one fine large tree at Fairyland, about twenty feet high. M. Alt. 4.—Hab. New South Wales.

651. **C. muricata,** Roxb.—Beefwood Tree, recently introduced from the Royal Gardens at Kew.—Hab. E. Indies.

99. Salicaceæ (*Willow Family*).

Populus, Linn.

652. **P. alba,** Linn.—White Poplar, or Abele Tree; grows well and abundantly about the central part of the Island to a tree twenty feet high. Does not seed, but propagates *very* rapidly from the roots.—Hab. Europe, and temp. Asia.

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Salix, Linn.

653. **S. babylonica**, Linn.—Weeping Willow; wild and common; grows to a tree thirty feet high in the mountain streams, and at Napoleon's Tomb; whence it has attained such notoriety. It is said that the two willow trees at the tomb have been carried away, piece by piece, as Napoleonic relics, two or three times over, and that those now growing there are the great grandchildren of the original trees. The foliage is used as food for cattle, when grass becomes scarce during dry weather. Alt. 2 to 4.—Hab. Levant.

654. **S. viminalis**, Linn.—Osier; recently introduced from the Royal Gardens at Kew.

100. Coniferæ (*Pine Family*).

Abies, Loud.

655. **A. Smithiana**, Loud.—Recently introduced from the Royal Gardens at Kew.—Hab. Mountains of India, and Japan.

Araucaria, Juss.

656. **A. excelsa**, R. Br.—This stately tree, the Norfolk Island Pine, may be seen at Plantation Gardens, Mount Pleasant, and other places, towering above grand old oak trees that would not be despised anywhere. There are eight or ten full-grown trees, and a large number of young ones, recently raised from seed of the former, and planted out in various situations both on the high and low lands. One of these trees at Plantation, said to be sixty-two years old, rises as straight as an arrow from the ground to a height of one hundred and ten feet, tapering from ten feet three inches in circumference near the bottom to a few inches at the top. It sheds its seeds abundantly, but not until ten years ago did they germinate; now they do so without care or cultivation.—Hab. Norfolk Island.

657. **A. brasiliensis**, Rich.—There are three of this beautiful tree in the Island, one growing at Plantation House, one at Rose Cottage, and the other at Rosemary Hall. H. L. Alt. 3·75 to 4. There is no record showing when they were introduced, and Roxburgh gives no notice of them in his list of plants. Dr. Hooker, however, observed them in 1840 as large trees, so that they have probably been there fifty years, or upwards. They have attained a

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height of about forty-five or fifty feet, and produce seed.—Hab. Brazil.

Biota, Don.

658. **B. orientalis,** Don.—This and the following variety have recently been introduced to the Island from the Royal Gardens at Kew.—Hab. China and Japan.

659. **B. orientalis,** Don. var. *intermedia.*

Cupressus, Linn.

660. **C. torulosa,** Don.—One specimen only, a large spreading Cedar-tree, growing to a height of eighteen or twenty feet, in Plantation Grounds, below St. Paul's Church. Alt. 3·7. Does not seed. —Hab. India.

661. **C. torulosa,** var. *Kashmiriana,* Hort.

662. **C. sempervirens,** Linn.—The Cypress grows to a fine handsome tree of thirty feet in height in those situations where it has been planted. In St. Paul's churchyard, alt. 4, there are a large number of Cypresses; they also thrive well at The Briars, and Maldivia, at much lower altitudes. C. to H. L. There are many of them in the Island, and bear abundance of seeds, which do not germinate.—Hab. Candia.

663. **C. lusitanica,** Mill.—One handsome tree of the Cypress of Goa grows in Plantation Grounds, to the westward, below St. Paul's Church. It is a large tree, and has doubtless been there for many years; does not seed.—Hab. Goa.

664. **C. Lawsoniana,** Murr.—This and the following species have recently been introduced from the Royal Gardens at Kew.

665. **C. Macnabiana,** Murr.; *C. glandulosa,* Hk.—Hab. N. California.

666. **C. Lawsoniana,** Murr. var. *glauca.*

Cryptomeria, Don.

667. **C. japonica,** Don.—Red Cedar of Japan; recently introduced from the Royal Gardens at Kew.—Hab. Japan.

Callitris, Vent.

668. **C. attenuata,** Cunn.—A few of this handsome little Tree

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grow on the high land at Rosemary Hall and Prospect, where they seed abundantly, but no young plants appear.—Hab. Australia.

Cunninghamia, R. Br.

669. **C. sinensis**, Rich; *C. lanceolata*, Hk.—Called Chili Pine; grows somewhat abundantly on the high land to a fine tree, thirty or forty feet high. It has lately been ascertained that the white ant insect will not attack the wood of this tree; a specimen buried in the earth in a locality infested with white ants was not touched after six months' exposure. This fact places the existing trees in much peril; indeed, some have already been cut down and used for timber. It should also encourage extensive planting of them. They bear seed freely, which do not germinate. Bot. Mag. 2743.—Hab. China.

Juniperus, Linn.

670. **J. bermudiana**, Linn.—Bermuda Cedar. Several hundred plants of this valuable timber tree have recently been introduced into the Island, raised from seed by Governor Sir Charles Elliot, and seem to thrive very well. They have been planted out chiefly on the high land and in the neighbourhood of Plantation, but they appear to answer equally well on the low land in the warm valleys.—Hab. Bermuda.

671. **J. virginiana**, Linn.—Red Cedar. There is one fine spreading tree, about eighteen feet high, growing in Plantation Grounds. It is apparently an old one, but does not seed.—Hab. N. America.

Pinus, Linn.

672. **P. Pinaster**, Ait.—The common Fir, introduced in 1787, is now one of the most abundant trees in the Island. It grows readily, shedding its seed and springing up without care or cultivation. In some of the rocky soilless parts it thrives well, merely thrusting its roots between the cracks and fissures of the rocks. In various parts there are perhaps altogether about two hundred acres thickly planted with these Firs. They do not appear to answer at a lower altitude than fifteen hundred feet above the sea, and are confined to M. and H. L., at alts. from 3 to 5. Many of the trees

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attain a large size, upwards of sixty feet in height, with straight branchless trunks, thirty or forty feet long, and ten feet in circumference. One such specimen was recently sawn into timber at Plantation, and yielded, exclusive of the outside slabs, seventeen double deals and eleven pieces of squared timber, in all amounting to fifty-one cubic feet. The expense of sawing this tree, with a pair of ordinary sawyers, was 95*s.*; as the market price of the same quantity of imported pine timber amounted to 200*s.*, and considering that the Island Fir is equal in quality to Memel or Riga, while the imported is but an ordinary white pine-wood, it is a matter of surprise that the St. Helena Fir is seldom used excepting as firewood. Flowers in September and October.—Hab. Mediterranean region.

673. **P. Pinea,** Linn.—The Stone Pine; grows to a large tree, and is pretty common on the high lands, at alt. 3·4. In exposed situations, as at Merrymans Hill, it appears dwarfed, but at Oaklands there are handsome trees of it, thirty feet in height, and each spreading over an area of three or four hundred square yards. It bears seeds freely, but they do not germinate so readily as those of *P. Pinaster.*—Hab. S. of Europe.

674. **P. sylvestris,** Linn.—The Scotch Pine is much less abundant than the species *Pinaster.*—Hab. Europe.

675. **P. longifolia,** Roxb.—Two or three fine trees of this very handsome Fir grow in the Island; they may be found in the valley on the west side of Plantation House, attaining a height of sixty feet or more, and are easily distinguished by their fine long leaves and ashy-blue colour. They bear seeds freely, but they do not readily germinate.—Hab. E. Indies.

676. **P. densiflora,** Sieb.—A small Fir, not very common, but found near the upper entrance gate to Terrace Knoll, near Friars Plain. M. Alt. 3.—Hab. Japan.

677. **P. canariensis,** Sm.—A large handsome Fir, somewhat common amongst the other trees on the high land at Plantation, Oakbank, Prospect, &c. Bears seeds freely, which do not appear to germinate.—Hab. Canary Islands.

678. **P. rigida,** Mill.—Hab. N. America.
679. **P. excelsa,** Wall.—Hab. Nepal.

} Two species of Fir recently introduced from the Royal Gardens at Kew.

In addition to the above, several Firs of great value, including

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Mexican Pines and others, have been introduced recently, and are thriving well on the western side of the lawn at Plantation House.

Picea, Link.

680. **P. Webbiana,** Loud.—Recently introduced from the Royal Gardens at Kew.—Hab. Nepal.

Podocarpus, L'Hér.

681. **P. elongata,** L'Hér.—The Cape Yew; grows well and quickly to a fine timber tree. At Plantation it attains a large size, measuring nine feet in circumference, and rising thirty feet to the first branches, the total height being from sixty to seventy feet. Another tree, near the old Fish Pond, measures round the trunk as much as eleven feet eight inches. It yields the timber known at the Cape of Good Hope as yellow-wood; wild and very common. H. L. Alt. 3 to 4.—Hab. Cape of Good Hope.

682. **P. chinensis,** Wall.—China Yew, said by Roxburgh to grow in the Island.—Hab. China.

Sequoia, Endl.

683. **S. gigantea,** Torr.—Wellingtonia; recently introduced from the Royal Gardens at Kew.—Hab. N. America.

Taxodium, Rich.

684. **T. distichum,** Rich.—Two fine trees, about forty feet high, grow in the valley near the old Fish Pond at Plantation. H. L. Alt. 3·2. Bears seeds, but they do not appear to germinate. This plant is said to be nearly allied to a fossil tertiary species which appears to have been spread over Europe during the Miocene epoch. —Hab. Southern United States and Mexico.

Thuja, Linn.

685. **T. occidentalis,** Linn.—Arbor Vitæ; grows to a small tree both on the high and low lands, but not abundantly. Bears seeds freely, but they do not germinate without cultivation.—Hab. N. America.

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Widdringtonia, Endl.

686. **W. cupressoides,** Endl.—Mentioned by Roxburgh as growing in the Island.—Hab. Africa.

101. Cycadaceæ (*Cycas Family*).

Cycas, Linn.

687. **C. revoluta,** Linn.—Sago Palm; two or three plants only. Maldivia, C. Alt. ·65, and Oakbank, H. L. Alt. 3·6. Grows well, and fruits, but I have not seen the seed germinate. Bot. Mag. 2963.—Hab. China.

CLASS II.—MONOCOTYLEDONS.

102. Palmæ (*Palms*).

Cocos, Linn.

688. **C. nucifera,** Linn.—Cocoa Nut; grows to a height of sixty feet, but the fruit seldom comes to perfection; about ten trees only, in James Valley. Alt. ·5 to ·8—Hab. Tropics.

Corypha, Linn.

689. **C. umbraculifera,** Linn.—The Fan Palm, of which there are several plants at Maldivia Gardens and Plantation, which have attained a height of ten or twelve feet. C. & H. L. Seeds well on the low land.—Hab. E. Indies.

Jubæa, H. B. K.

690. **J. spectabilis,** H. B. K.—One specimen only of this beautiful Palm grows at Farm Lodge to a height of about forty feet. M. Alt. 3·6. It fruits well, bearing an abundance of small nuts, resembling miniature cocoa-nuts.—Hab. Chili.

Phœnix, Linn.

691. **P. dactylifera,** Linn.—The Date; grows well in the low hot ravines and valleys, such as Jamestown, C. Alt. 1, where there are about thirty or forty trees. Attains a height of fifty feet, and fruits to perfection in September at Maldivia. Two or three trees grow at a higher altitude, but do not thrive. Some of these trees

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are upwards of sixty years old, as mention is made of their being in flower in the year 1810.—Hab. Levant.

692. **P. reclinata,** Jacq.—A few small trees of the Dwarf Date Palm grow in Sandy Bay and Jamestown, &c.—Hab. Cape of Good Hope.

Rhapis, Linn. f.

693. **R. flabelliformis,** Linn. f.—This little miniature Palm grows, though not abundantly, on the high land at Plantation, Mount Pleasant, &c., where its stems are made into very fair cane-like walking-sticks. Bot. Mag. 1371.—Hab. China and Japan.

103. PANDANACEÆ.

Pandanus, Linn. f.

694. **P. utilis,** Bory.—Screw Pine; five or six plants only at Plantation and Oakbank, attaining a height of eighteen feet. H. L. Alt. 3·6.—Hab. Bourbon.

695. **P. candelabrum,** Beauv.—One plant at Rock Cottage, height twenty feet, bears fruit, but the seeds do not arrive at perfection. H. L. Alt. 3·6.—Hab. Guiana.

104. LEMNACEÆ (*Duckweed Family*).

Lemna, Linn.

696. **L. polyrhiza,** Linn.—Duckweed is very common and abundant in the mountain streams, and covers every pond of water.—Hab. Europe, Siberia, Madeira, N. America, &c.

105. ORCHIDACEÆ (*Orchis Family*).

Cymbidium, Swartz.

697. **C. aloefolium,** Swartz.—Mentioned by Roxburgh as growing in the Island.—Hab. E. Indies.

106. ZINGIBERACEÆ (*Ginger Family*).

Alpinia, Linn.

698. **A. nutans,** Rosc.—Large Ginger Plant; grows wild abundantly in the ravines and valleys, H. L., alt. 2·4, to a height of eight

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or ten feet, flowering profusely. Does not seed, but propagates by suckers. Bot. Mag. 1903.—Hab. E. Indies.

699. **A. recta**, Rosc.—Small Ginger Plant; growing wild in Maldivia Gardens, and also about some of the neglected garden sites on the high land. Common C. to H. L. Alt. ·6 to 4.—Hab. E. Indies.

Curcuma, Linn.

700. **C. longa**, Linn.—Turmeric. I have seen this plant in the Island at Oakbank, but it did not seem to flourish.—Hab. Trop. Asia.

Hedychium, Kön.

701. **H. chrysoleucum**, Hk.—Primrose-flowered Ginger Plant; grows wild abundantly, and is common in some of the mountain ravines, and along the sides of the streams of water at the Hermitage especially. Flowers freely, does not seed, but extends rapidly from the roots. Alt. 2·4. Bot. Mag. 4516.—Hab. E. Indies.

Zingiber, Linn.

702. **Z. officinale**, Rosc.—Ginger. This plant has been introduced several times, but it does not appear to succeed.—Hab. Trop. Asia.

107. Cannaceæ (*Arrowroot Family*).

Canna, Linn.

703. **C. indica**, Linn.—Indian Shot; grows wild and is common, alt. 4, in most ravines and swampy places. The seeds are often used as a substitute for shot, by boys whose means will afford the purchase of a gun only. Bot. Mag. 454.—Hab. W. Indies.

704. **C. coccinea**, Ait.—Scarlet-flowered Indian Shot; grows in shrubberies, at alt. 4, uncultivated; rather common.—Hab. E. Indies.

705. **C. glauca**, Linn.—Yellow-flowered Indian Shot; grows uncultivated and is common, H. L.—Hab. W. Indies.

706. **C. iridiflora**, R. & P.—Gigantic Indian Shot; grows at Plantation, Rose Cottage, &c., alt. 3·8 to 4·5, uncultivated; rather rare. Bot. Mag. 1968.—Hab. Peru.

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707. **C. Warscewiczii**, Dietr.—Deep Red-flowered Indian Shot; growing commonly in Scotland, and other gardens.—Hab. Costa Rica.

Maranta, Linn.

708. **M. arundinacea**, Linn.—Arrow Root has been grown and manufactured in the Island, but the plant is now rare.—Hab. W. Indies.

108. Musaceæ (*Banana Family*).

Musa, Linn.

709. **M. paradisiaca**, Linn.—The Plantain; grows uncultivated and is rather common, in the ravines. C. to H. L. Alt. ·2 to 3·8; fruits well.—Hab. Tropics.

710. **M. sapientum**, Linn.—Banana. At least five varieties—viz., the Red, Broad Flat Yellow, Finger, Bastein, and Stout Juicy, grow wild and are common in ravines and gardens where water exists, C. to H. L. alt. ·2 to 3·8; they fruit best in the low valleys where there is greatest heat. One of the most abundant fruits in the Island, is propagated by suckers.—Hab. Tropics.

Strelitzia, Banks.

711. **S. reginæ**, Banks.—Peacock Flower; grows in gardens and shrubberies, uncultivated; rather rare. Alt. 3·8. Blossoms freely, and is propagated by suckers. Bot. Mag. 119.—Hab. Cape of Good Hope.

712. **S. augusta**, Thunb.—Large White Strelitzia, or Travellers' Joy; grows to a height of ten feet. Alt. 3. Very rare; one at Plantation, another at Terrace Knoll. Blossoms freely.—Hab. Cape of Good Hope.

713. **S. parvifolia**, Dryand.—Narrow-leaved Strelitzia; cultivated in gardens. Alt. 3·6. Rather rare.—Hab. Cape of Good Hope.

109. Ideæ (*Iris Family*).

Antholyza, Linn.

714. **A. æthiopica**, Linn.—Common Flag; grows wild and is very common, seeding freely. Alt. 3·8 to 4. Bot. Mag. 561 and 1172.—Hab. Cape of Good Hope.

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Babiana, Ker.

715. **B. stricta,** Ker.—Common blue Babiana; grows wild and is common, in garden localities. Alt. 3·8 to 4. Bot. Mag. 637. —Hab. Cape of Good Hope.

716. **B. rubro-cyanea,** Ker.—Blue-and-scarlet Babiana; cultivated in gardens; rather rare.—Hab. Cape of Good Hope.

717. **B. villosa,** Ker.—Crimson Babiana; cultivated in gardens; rare. Bot. Mag. 583.—Hab. Cape of Good Hope.

Ferraria, Linn.

718. **F. undulata,** Linn.—Poisonous or Spider Bulb; grows uncultivated in gardens, alt. 3·8, and is rather common. Bot. Mag. 144. —Hab. Cape of Good Hope.

Tigridia, Juss.

719. **T. Pavonia,** Pers.—Tiger Lily. This most beautiful showy flower grows wild in gardens, and is rather common at Oakbank, Rose Cottage, &c. Alt. 3·8 to 4·4. Seeds abundantly. Bot. Mag. 532.—Hab. Mexico.

Gladiolus, Linn.

720. **G. cuspidatus,** Jacq.—A whitish-flowered Gladiolus, about fifteen inches high, growing wild in gardens, at alt. 3·8, the Hermitage, &c.—Hab. S. Africa.

721. **G. hirsutus,** Jacq.; *Antholyza Merianella,* Murr.—Cultivated in gardens. Alt. 3·8. Bot. Mag. 441.—Hab. Cape of Good Hope.

722. **G. natalensis,** Reinw.—Natal Bulb; grows wild and is common in and about gardens, &c. Alt. 3·8.—Hab. Natal.

Ixia, Linn.

723. **I. monadelpha,** Delarb.—Orange-coloured Ixia; grows well in gardens. Bot. Mag. 607 and 1378.—Hab. S. Africa.

724. **I. maculata,** Linn., var. *viridiflora.*—Green Ixia; cultivated and very rare in gardens, Oakbank, &c. Bot. Mag. 549.—Hab. Cape of Good Hope.

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725. **I. erecta,** Berg.—White Ixia. Uncultivated in gardens; rather common. Alt. 3·8 to 4. Bot. Mag. 623 and 1173.—Hab. Cape of Good Hope.

726. **I. patens,** Ait.—This beautiful crimson Ixia grows cultivated in the garden at Oakbank, and is rather rare. Alt. 3·8. Bot. Mag. 522.—Hab. Cape of Good Hope.

727. **I. conica,** Salisb.—Yellow-and-black Ixia; grows wild and is rather common in gardens. Alt. 3·2 to 4. Bot. Mag. 539.—Hab. Cape of Good Hope.

728. **I. maculata,** Linn.—White-and-brown-flowered Ixia, growing in gardens on the high land. Bot. Mag. 1285.—Hab. Cape of Good Hope.

Iris, Linn.

729. **I. ochroleuca,** Linn.—White Iris; grows wild and is common in clumps about Plantation, Rosemary Hall, &c. H. L. Alt. 3·8. Bot. Mag. 1515.—Hab. Levant.

730. **I. sp.** ?—Blue Iris; cultivated in gardens on the high land.

Pardanthus, Ker.

731. **P. chinensis,** Ker.—Mentioned by Roxburgh as growing in the Island.—Hab. East Indies, China, &c.

Moræa, Linn.

732. **M. collina,** Thunb.—A bulb which springs up annually and bears bright orange-coloured flowers. It is quite wild, and covers whole pastures on the western side of the Island, at Halfmoon, &c. Cattle avoid it, consequently it is said to be poisonous to them. Though quite a pest, when in full blossom the fields of it are very showy and remarkable through its brilliant colour.—Hab. Cape of Good Hope.

733. **M. iridioides,** Gawl.—A white and purple-flowered Iris-like plant, common in the garden at Plantation. Alt. 3·6. Bot. Mag. 693.—Hab. Cape of Good Hope.

Sparaxis, Ker.

734. **S. grandiflora,** Ker.—Purple velvet Bulb; cultivated in the garden at Oakbank. Alt. 3·8. Rare. Bot. Mag. 541.—Hab. Cape of Good Hope.

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735. **S. tricolor,** Ker.—This pink, orange, and black-flowered Bulb grows in the garden at Oakbank. Bot. Mag. 1482.—Hab. Cape of Good Hope.

Tritonia, Ker.

736. **T. longiflora,** Ker.—Long, flesh-coloured Tritonia; grows wild and is rather common amongst the grass near gardens. Alt. 3·8.—Hab. Cape of Good Hope.

Trichonema, Ker.

737. **T. ochroleucum,** Ker.—A pretty bright pink star-flowered bulbous plant, a few inches in height, that grows wild and is common in the grassfields at Plantation, Rock Cottage, Myrtle Grove, &c. H. L.—Alt. 4. Seeds abundantly.—Hab. Cape of Good Hope.

Watsonia, Mill.

738. **W. iridifolia,** Ker.—Sour Bulb, so called from the acidity of its leaves; grows wild and is common in St. Paul's Churchyard, shrubberies, &c. H. L. Alt. 3·8. Bot. Mag. 600.—Hab. Cape of Good Hope.

739. **W. Meriana,** Ker.; *Antholyza Meriana,* Linn.—Grows wild and is common about shrubberies. Alt. 3·8. Bot. Mag. 418.—Hab. Cape of Good Hope.

740. **W. marginata,** Ker.—Peach-blossom Bulb; grows wild and is common, generally associated with the other species. Bot. Mag. 608.—Hab. Cape of Good Hope.

741. **W. rosea,** Ker.—Wild Bulb, or Pink Watsonia. Wild and common in and near to gardens, St. Paul's Churchyard, &c. Alt. 3·8.—Hab. Cape of Good Hope.

110. Amaryllidaceæ (*Amaryllis Family*).

Amaryllis, Linn.

742. **A. reginæ,** Linn.—Large red single-flowered Amaryllis; cultivated in gardens, rather rare. Alt. 3·8. Bot. Mag. 453.—Hab. Mexico.

743. **A. belladonna,** Sweet.—Belladonna, or Common Pink Lily; grows wild and is very common. H. L. Alt. 3·8 to 4. These pretty flowers shoot up from amongst the grass in considerable

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numbers after the winter rains. Seeds well. Bot. Mag. 733.—Hab. W. Indies.

744. **A. formosissima,** Linn.—Dark-red Jacobea Lily; grown in gardens. Bot. Mag. 47.—Hab. N. America.

Agave, Linn.

745. **A. americana,** Linn. var. *variegata.*—Large variegated green and yellow-leaved Aloe; grows very well to a large size at Terrace Knoll, Southens, and other places. It is the fermented juice of this plant that furnishes the intoxicating *Pulque* of the Mexicans. The expressed juice of the leaves evaporated is also useful as a substitute for soap. The fibre of the leaf is extremely tough, and makes excellent cordage. With little trouble or expense this useful plant might be extensively grown in the Island. Although it has not yet blossomed, it is easily propagated.

746. **A. lurida,** Jacq.—The common Fence Aloe; abundant and growing wild everywhere, though it thrives best on the higher land, at M., alt. 4. Planted in rows, it forms the most common method of fencing lands, &c., in many parts of the Island. Flowers and seeds freely. Bot. Mag. 1522.—Hab. Vera Cruz.

Crinum, Linn.

747. **C. amabile,** Don.—A reddish-purple-flowered Bulb or Lily, growing not very abundantly in gardens on the high land.—Hab. Sumatra.

748. **C. asiaticum,** Linn.—This handsome Lily grows in an uncultivated state in many of the gardens as at Maldivia on the low, and Terrace Knoll on the high land. C. to H. L.—Hab. Trop. Asia, &c.

Doryanthes, Correa.

749. **D. excelsa,** Correa.—Gigantic Lily; grows somewhat in an uncultivated state, but not abundantly, on the high land at Mount Pleasant, &c., where it occasionally flowers well, the stem attaining a height of twenty feet or more. Bot. Mag. 1685.—Hab. N. S. Wales.

Fourcroya, Vent.

750. **F. gigantea,** Vent.—English Aloe; grows wild abundantly throughout the Island. Its flowering stem rises to a height of

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thirty feet, or more, and a mass of three or four together in full bloom renders it one of the most beautiful plants in the Island. It grows well and readily on the somewhat barren land, and might be largely cultivated for the sake of the fibre it yields. About two tons of this fibre was prepared by hand, and exported from the Island during the year 1870, and realized in England 35*l.* to 40*l.* per ton. The plant itself is used for live fencing, and the dry flower-stems for various purposes, from rafters for a cottage roof to razor-strops. Bot. Mag. 2250.—Hab. Tropical America.

Hæmanthus, Linn.

751. **H. toxicarius**, Thunb.—Book Lily; a plant or two in gardens on the high land. Bot. Mag. 1217.—Hab. Cape of Good Hope.

Narcissus, Linn.

752. **N. Jonquilla**, Linn.—Yellow Narcissus; grows wild and is common about gardens, &c. Alt. 3·8. Bot. Mag. 15.—Hab. Spain.

753. **N. biflorus**, Linn.—White Narcissus; more abundant than the other species, grows wild and is common about the spots where gardens have once existed. Alt. 2 to 4.—Hab. S. Europe, &c.

Pancratium, Linn.

754. **P. littorale**, Jacq.—White streamer-flowered Lily; grows cultivated and is rather common in gardens, Maldivia, Plantation, &c. Alt. ·6 to 3·8. Bot. Mag. 1879.—Hab. S. America.

111. Bromeliaceæ (*Pine-Apple Family*).

Ananassa, Lindl.

755. **A. sativa**, Lindl.—The Pine Apple is cultivated in some of the high land gardens, but, although it fruits, it does not come to perfection.—Hab. S. America.

Bromelia, Linn.

756. **B. Pinguin**, Linn.—Recently introduced from the Royal Gardens at Kew.—Hab. W. Indies.

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Billbergia, Thunb.

757. **B. sp.** ?—A Pine-Apple like plant growing in an uncultivated state at Sydenham; rare.

112. Dioscoreaceæ (*Yam Family*).

Dioscorea, Linn.

758. **D. alata**, Linn.—The Coast Yam is cultivated to a small extent.—Hab. E. Indies.

759. **D. aculeata**, Linn.—This species is mentioned by Roxburgh as growing in the Island; it may be distinguished by its prickly stem, the stalks of the other being winged.—Hab. E. Indies.

Testudinaria, Burch.

760. **T. elephantipes**, Burch.—Elephant's Foot, so called from its resemblance thereto. Several plants are to be found in Plantation and other gardens, at alt. 3·7, where they grow and flower well, the base of the plant measuring from twelve to thirty inches in diameter. Bot. Mag. 1347.—Hab. Cape of Good Hope.

113. Liliaceæ (*Lily Family*).

Asparagus, Linn.

761. **A. lævissimus**, Stend.—Madagascar Creeper; grows uncultivated in gardens both on the low and high lands, Maldivia, Oakbank, &c. C. to H. L. Seeds well.—Hab. E. Indies.

Allium, Linn.

762. **A. ascalonicum**, Linn.—The Shallot; grows well, cultivated, in gardens, as do also the following three species, all of which seed.—Hab. Palestine.

763. **A. cepa**, Linn.—Onion.

764. **A. porrum**, Linn.—Leek.—Hab. S. Europe.

765. **A. sativum**, Linn.—Garlic.—Hab. S. Europe.

766. **A. fragrans**, Vent.—Wild or Sweet-scented Allium; grows wild and is very common generally, more especially in and about gardens, where it is quite a weed.—Hab. Trop. America, &c.

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Agapanthus, L'Hérit.

767. **A. umbellatus,** L'Hérit.—Blue Christmas Lily, so named from its coming into blossom in the month of December; grows wild and is very common about shrubberies and gardens. Alt. 3 to 4; seeds abundantly. Bot. Mag. 500.—Hab. Cape of Good Hope.

Aloe, Linn.

768. **A. perfoliata,** Linn.—One or two plants at Plantation, which flower well.

769. **A. vulgaris,** Lam.—The Medicinal Aloe; might be grown to any extent; clumps of it exist in the neighbourhood of Half-tree Hollow, and hedges of it in the Castle gardens, Jamestown. C. Alt. ·1 to 1·8. Very little use is made of this plant by the Islanders beyond an outward application of the leaves to sprains or bruises. Flowers and seeds well.—Hab. W. Indies.

770. **A. grandidentata,** S. Dyck.—Sempervivum. This pretty little Aloe, with its variegated leaves, grows wild and is common about Merrymans Hill, &c. M. Alt. 4. The native people use the leaves for outward applications, and also as a medicine for poultry.—Hab. Cape of Good Hope.

Dracæna, Linn.

771. **D. ferrea,** Linn.—Dragon-tree; cultivated in gardens, and rather rare. Alt. 3·8. Bot. Mag. 2053.—Hab. China.

772. **D. australis,** Forst.—Grows in the Botanical Gardens, Jamestown, C. Alt. ·5, and at Sunnyside, M. Alt. 3. Two plants only in the Island; seeds abundantly.—Hab. New Zealand.

Dianella, Lam.

773. **D. cærulea,** Sims.—Blue Dianella; a small trailing plant; in some parts grows wild and is a common weed. H. L. Alt. 3·8. Bot. Mag. 505.—Hab. N. S. Wales.

Hemerocallis, Linn.

774. **H. fulva,** Linn.—A large Bulb, with a brick-orange-coloured flower; grows in gardens cultivated, and is rare. Bot. Mag. 64.—Hab. China.

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Lilium, Linn.

775. **L. candidum**, Linn.—Hab. Palestine.
776. **L. longiflorum**, Thunb.—Hab. Japan.

St. John's or White Lily; both species grow in gardens, uncultivated, and are rather common, alt. 3·2; blossom freely in December, when they are much used for church floral decorations at Christmas. Bot. Register 560, and Bot. Mag. 278.

Massonia, Linn.

777. **M. latifolia**, Linn.—White Book-lily; cultivated in gardens; rare. Bot. Mag. 848.—Hab. Cape of Good Hope.

Ornithogalum, Link.

778. **O. pyramidale**, Linn.—Diana's Night-cap; grows wild and is common in and about gardens, Oakbank, &c. Alt. 3·8.—Hab. Spain.

Polianthes, Linn.

779. **P. tuberosa**, Linn.—Tuberose; cultivated and flowers well in gardens. Alt. 3·6. Rather rare.—Hab. Mexico.

Phormium, Forst.

780. **P. tenax**, Forst.—New Zealand Flax; grows wild and is common about the high land. Hitherto the only use made of the plant has been by the market gardener for tying up his bunches of vegetables, &c.; and although the value of the plant for the fibre it yields has long attracted attention, it is only very recently that its cultivation has been undertaken with this object in view. During the last year or so a very considerable extent of land has been planted with it. Bot. Mag. 3199. The fibre of this plant is worth about 50*l.* a ton.—Hab. New Zealand.

Sanseviera, Thunb.

781. **S. guineensis**, Willd.—Introduced from Ascension Island about three years ago, with a view to cultivation for the fibre it yields. About five hundred plants exist in the Nursery Garden at Plantation. Bot. Mag. 1179.—Hab. Guinea.

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782. **S. zeylanica,** Willd.—Mentioned by Roxburgh.—Hab. Ceylon.

Kniphofia, Mœnch.

783. **K. uvaria,** Hk.—Sky-rocket; grows wild about gardens and shrubberies on the high land; rather common. Bot. Mag. 758. —Hab. Cape of Good Hope.

Yucca, Linn.

784. **Y. aloifolia** ? Linn.—Several growing at The Briars. M. Very rare. Bot. Mag. 1700.—Hab. S. America.

114. Hæmodoraceæ.

Wachendorfia, Linn.

785. **W. hirsuta,** Thunb.—Yellow Wachendorfia; grows wild and is rather common about gardens, &c. Alt. 3·8. Bot. Mag. 614. —Hab. Cape of Good Hope.

115. Aroideæ (*Arum Family*).

Caladium, Vent.

786. **C. esculentum,** Vent.—The Yam of St. Helena. The root of this plant is steamed for twelve hours, and then eaten as a substitute for potatoes. It was formerly much cultivated for the purpose, but since the importation of rice has somewhat fallen into disuse. Grows wild and is very common along the mountain streams at alt. 3. Seldom flowers, and is propagated by suckers.—Hab. America.

787. **C. sp.** ?—Bencoolen Yam; a smaller plant than the former species, flowers occasionally only, is not eaten, but used for feeding pigs.

Richardia, Kth.

788. **R. æthiopica,** Kth.—Guinea Yam, or Arum; this plant grows wild and is very common along the mountain streams, which, in the month of October, when it is in flower, forms one of the most picturesque and striking features of the landscape. The roots and stems are used for feeding pigs. H. L. Alt. 2 to 4. Bot. Mag. 832.— Hab. Cape of Good Hope.

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116. Juncaceæ (*Rush Family*).

Juncus, Linn.

789. **J. capensis**, Thunb.—Spreading Water Grass, or Rush; wild and common in some localities in the swampy parts of the mountain streams, at The Briars, Oakbank, &c.—Hab. Cape of Good Hope.

790. **J. capensis**, Thunb. var. *latifolius*.—Large-headed Water Grass; wild and very common along the banks of streams throughout the Island.—Hab. Cape of Good Hope.

791. **J. effusus**, Linn.—A Rush; grows wild and is common in clumps at Taylor's Flat, Ladder Hill, and other places at different altitudes. C. to H. L. Alt. 1 to 5.—Hab. N. temp. regions.

792. **J. bufonius**, Linn.—Star Grass; a very common little grass; grows wild and is very common on the high land.—Hab. N. temp. regions.

117. Commelynaceæ.

Commelyna, Dill.

793. **C. bengalensis**, Linn.—A Blue-flowering plant, growing sowewhat uncultivated, but rare, in the shrubberies at Oakbank. H. L. Alt. 3.—Hab. Bengal.

Tradescantia, Linn.

794. **T. discolor**, L'Hérit.—Purple-leaved Boat Plant; growing in gardens on the high land. Flowers and seeds. Bot. Mag. 1192. —Hab. S. America.

795. **T. sp.** ?—A small Blue-flowered trailing Plant, growing as a weed in the neighbourhood of The Hermitage, on the high land.

118. Cyperaceæ (*Sedge Family*).

Carex, Linn.

796. ***C. præalta**, Boott.; *C. pedunculata*, Willd.—This now somewhat scarce, but undoubtedly native plant, known as The Diana's Peak Grass, attains a height of two to three feet, and grows in small tufts amongst the Cabbage-trees, Ferns, and indigenous vegetation along the high central ridge from Diana's Peak to High Peak. Alt. 5 to 5·4. Flowers in June.—Plate 53.

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Cyperus, Linn.

797. **C. polystachyus,** Rottb.—A small Yellow-headed Grass; grows wild in damp localities, and is common.—Hab. Very widely distributed.

798. **C. sp.?**—A Grass found growing in the stream at the lower part of Lemon Valley; very rare.

799. **C. rotundus,** Linn.—A rush-like Grass, growing wherever there is water in the neighbourhood of Ladder Hill, &c., on the hot low land. It attains a height of fifteen inches, and has a large brown tufty head. C.—Hab. Widely dispersed.

800. **C. sp.?**—A large-headed reddish-brown Grass, wild and common where there is water or moisture.

801. **C. sp.?**—A smaller species, with a green head, wild and very common generally.

802. **C. sp.?**—A very large, thick, red-headed Water-grass, growing wild in the stream at the Hermitage, &c. Alt. 3·2.

803. **C. mucronatus,** Rottb.—A sort of Rush, growing wild on the face of Horse Point, but is rare. C. alt. 1·5.—Hab. Widely dispersed.

804. **C. herbicavus,** Kth.—Nut-grass; grows wild and is common about gardens in Jamestown, and so abundant as to be quite a pest to the gardener. C.—Hab. S. Africa.

Fimbristylis, Vahl.

805. ***F. textilis,** Roxb.—The Thatching Rush of the Islanders; perhaps the most useful of the native plants, as it makes an excellent covering for roofs of cottages, and is so used. The Africans make a rough kind of basket from it. It grows abundantly on the semi-barren outskirts of the Island, C. and M., at alts. from ·2 to 3, and at Peak Hill, Man and Horse, and Horse-pasture. It is without doubt indigenous to St. Helena.

Isolepis, R. Br.

806. **I. Holoschœnus,** R. & S.—Hab. Europe, N. Africa, &c.
807. **I. sp.?**
808. **I. sp.?**
809, **I. sp.?**

} Species of sedge-grass from damp situations.

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810. **I. prolifera**, R. Br.—Common Water-rush, which in great abundance covers all the streams and moist parts of the Island.—Hab. Australia, &c.

811. **I. sp.** ?—A small rush-like Grass, growing in the Island, and previously gathered by Drs. Burchell, Hooker, and others, but not identified.

Kyllingia, Linn.

812. **K. monocephala**, Linn.—A one-headed Grass, growing wild and abundantly in damp fields, in ravines, streams of water, &c., being more especially confined to the high land. It grows to a height of eight or nine inches, and is easily recognised by its peculiar perfume and taste, not unlike those of castor-oil.—Hab. E. Indies.

Mariscus, Vahl.

813. **M. umbellatus**, Vahl.—Small star-flowered Grass; very common and wild about the roadsides and edges of streams all over the high land.—Hab. E. Indies.

Trichelostylis, Less.

814. **T. sp.** ?—A small grass, growing commonly about the neighbourhood of Thompson's Hill. M.

119. GRAMINACEÆ (*Grass Family*).

Ehrharta, Linn.

815. **E. panicea**, Sm.—A Grass, which grows wild and is common along roadside banks, on the high land near Terrace Knoll, &c.—Hab. Cape of Good Hope.

Coix, Linn.

816. **C. Lachryma**, Linn.—Job's Tears; wild and common in the ravines on the low land in James's Valley, Lemon Valley, &c. M. Alt. ·4 to 1·2. The seeds are gathered, strung together, and otherwise worked into necklaces, mats, baskets, &c. Bot. Mag. 2479.—Hab. E. Indies.

Zea, Linn.

817. **Z. mays**, Linn.—Indian Corn; cultivated commonly on farms and in gardens. M. Alt. 3·8 to 2. The corn is ground into

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meal, but not extensively used, the imported rice being preferred as food.—Hab. America.

Alopecurus, Linn.

818. **A. paniculatus,** Roxb. — Fox-tail Grass; mentioned by Roxburgh as growing in the Island. M.

Phalaris, Linn.

819. **P. minor,** Retz. — A corn-like Grass, very similar to Canary Grass; grows wild and is common about hayfields, &c., on the high land.

820. **P. canariensis,** Linn.—Canary-seed grass; grows in and about gardens, and those places where most probably the seed has fallen from bird-cages. Rather rare.—Hab. Mediterranean region.

Paspalum, Linn.

821. **P. scrobiculatum,** Linn.—Cow Grass; one of the most abundant grasses on the high land, where it is very troublesome in overrunning the hay lands. Being coarse and unfit for pasture or hay, it is used for thatching ricks, &c.—Hab. E. Indies.

Eriochloa, Kunth.

822. **E. annulata,** Kth.—A Grass [illegible] Cow Grass in the wet, but growing in [illegible] the low land, Ladies Hill Road, &c. C.—Hab. E. Indies.

[illegible], Linn.

823. **S. americanus** [illegible] grows [illegible] and the [illegible] as high and [illegible]

825. **P. brizoides**, Linn.—A Grass growing in Lemon Valley. C.—Hab. E. Indies.

826. **P. maximum**, Jacq.—Commonly called Guinea Grass; grows wild and abundantly on both high and low lands. It is much cultivated, as it affords excellent food for horses and cattle. It thrives best in the dry hot summer weather, and attains a height of four feet or more. C. and M.—Hab. E. Indies.

827. **P. fluitans**, Retz.—A common Grass, found in and about the ditches near Half-tree Hollow.—Hab. E. Indies.

828. **P. ciliare**, Retz.—A Grass mentioned by Roxburgh as growing in the Island.—Hab. E. Indies.

829. **P. ægyptiacum**, Willd.—Ditto.—Hab. Egypt.

830. **P. molle**, Willd.—Scotch Grass; according to Roxburgh growing in the Island.

831. **P. sp.?**—Cape Grass; wild and very common, and in some localities on the high land covering whole fields.

Pennisetum, Rich.

832. **P. sp.?**—Fox-tail Grass; common in Fisher's Valley, &c.

Setaria, Beauv.

833. **S. setosa**, Beauv.—Grass growing on Barnes' Road amongst the prickly-pear bushes. M.—Hab. W. Indies.

834. **S. verticillata**, Beauv.—Love Grass; wild and common about the low rocky land in Jamestown, Ladder Hill, &c. C.—Hab. Widely distributed in warm countries.

835. **S. italica**, Beauv.—Bermuda Grass; recently introduced and planted at Oaklands.—Hab. S. Europe, &c.

836. **S. viridis**, Beauv., var.—Purple Grass; growing at Crack Plain, &c. M. Rather rare.—Hab. Widely distributed.

Gymnothrix, Beauv.

837. **G. caudata**, Schrad.—Cat's-tail Grass; wild and very common generally on both the high and low lands. It grows to a height of five or six feet, and is used for thatching cottage roofs and hay ricks.—Hab. Cape of Good Hope.

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Agrostis, Linn.

838. **A. lenta,** Ait.—Forked Bent Grass; mentioned by Roxburgh as growing in the Island.

839. **A. purpurescens,** Roxb.—Purple Bent Grass; mentioned by Roxburgh as growing in the Island.

Polypogon, Desf.

840. **P. littoralis,** Sm.—A Grass with a flower-stalk like a small fox-tail; grows in the neighbourhood of brackish springs on the rocky land. C. Alt. 2. Wild and common.

Cynodon, Rich.

841. ***C. Dactylon,** Pers.; *Panicum Dactylon.*—Wire Grass; covers much of the outskirts and is perhaps the most abundant grass in the Island. C., M., and H. L. Alt. 1 to 4. Doubtless indigenous to St. Helena, as well as other places, and widely distributed.

Chloris, Swartz.

842. **C. compressa,** Nees.—Grass growing at the head of James' Valley. M.—Hab. S. America.

Leptochloa, Beauv.

843. **L. arabica,** Kth.—A small low Grass with purple flower-heads; very common about Maldivia Gardens, &c. on the low land. C. Alt. ·8.—Hab. W. Asia.

Eleusine, Gærtn.

844. **E. indica,** Gærtn.—A short Grass; grows wild and is very common in gardens, &c., chiefly in Jamestown, and on the low land. It somewhat resembles a large Wire Grass. C.—Hab. E. Indies.

845. **E. coracana,** Gærtn.—A Grass common about Jamestown, &c. C.—Hab. E. Indies.

846. **E. calycina,** Roxb.—A Grass mentioned by Roxburgh as growing in the Island.

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Avena, Linn.

847. **A. sativa,** Linn.—Oaten forage is produced on the high land, alt. 2·4 to 4, in considerable quantities, and is much used for feeding horses.—Native country unknown.

848. **A. fatua,** Linn.—Wild Oats; grows wild and is common amongst the roadside hedges, hayfields, &c., on the high land.—Hab. Europe, N. Africa, and W. Asia.

Anthoxanthum, Linn.

849. **A. odoratum,** Linn.—The common Hay Grass is wild and very common, forming much of the pasture and haylands in the high interior central portion of the Island. Alt. 2·4 to 5·4. The haymaking season is generally from November to January.—Hab. Europe, Asia, &c.

Triodia, R. Br.

850. **T. decumbens,** Beauv.—A Grass wild and common in the hayfields on the high land.—Hab. England.

Poa, Linn.

851. **P. annua,** Linn.—This well-known small species of Grass grows wild most abundantly over the high land, in hayfields, gardens, roadsides, &c.—Hab. Europe, temp. Asia, &c.

852. **P. annua,** Linn. var.—One of the most abundant Hay Grasses on the high land, where, in the fields, it is easily distinguished by its trailing stems and purplish flower-heads.

853. **P. japonica,** Willd.—Meadow Grass; mentioned by Roxburgh as growing in the Island.

854. **P. laxa,** Willd.—Another kind of Meadow Grass; mentioned by Roxburgh as growing in the Island.—Hab. Germany.

855. **P. pratensis,** Linn.—Erect purple Grass; mentioned by Roxburgh as growing in hayfields.—Hab. Temp. regions.

Aeluropus, Trin.

856. **A. lævis,** Trin.—A small straggling grass; wild and very common about the semi-barren parts at mid-altitude, Rock Cottage, &c.—Hab. S. of Europe, &c.

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Eragrostis, Beauv.

857. **E. poæoides,** Beauv.—A small creeping Grass; wild and very common on the low rocky land about Jamestown, Ladder Hill, &c. Grows to a height of five to ten inches, having a somewhat slate-coloured flower-head. C.—Hab. Tropics.

858. **E. sp.** ?—A Grass growing wild, in tufts, on the rocky barren outskirts of the Island, at Lot's Wife Wood, High Hill, the summit of Lot, and generally on the high precipitous south coast. The leaves are gathered, chopped up, and used as a substitute for hair in lime-mortar. C.

859. **E. megastachya,** Link.—A short, shrubby, blue-coloured Grass, growing wild on the rocky barren outskirts of the Island, Ladder Hill, Lot's Wife, &c. C. Alt. 1·2 to 2.—Hab. Tropics.

Briza, Linn.

860. **B. maxima,** Linn.—Large quaking Grass; grows wild in some few localities on the high land,—Hab. S. of Europe.

861. **B. media,** Linn.—Small quaking Grass; wild in some of the meadows and orchards on the high land, and more abundant than the other species.—Hab. Europe, W. Asia, &c.

Festuca, Linn.

862. **F. bromoides,** Sm. — One of the most abundant small Grasses in and about gardens, roadsides, &c., on the high land, sometimes called Love-grass.—Hab. Britain, &c.

Bromus, Linn.

863. **B. vestitus,** Schrad.—One of the most abundant Grasses; growing wild on the upper land, where at Longwood and other places there are whole fields of it. It affords a most excellent substitute for oaten forage.—Hab. S. Africa.

864. **B. asper,** Murr.—A smaller and more delicate species, common and growing wild only on the low rocky land about Half-tree Hollow, and similar altitudes. C. and M.—Hab. Europe, Siberia, &c.

Arundinaria, Rich.

865. **A. nana,** Roxb.—A small species or Dwarf Bamboo;

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grows wild in clumps in some gardens, especially at Maldivia, but is rather rare. Alt. ·8. C. to H. L.

Bambusa, Schreb.

866. **B. arundinacea**, Retz. — The Bamboo; thrives well and attains a height of a hundred feet. It grows in the ravines, where there is water, side by side with the oak and other European plants. Alt. 1 to 4.—Although abundant, it is little used except for fencing, troughs for conveying water, fishing-rods, and walking-sticks. Altogether there are four varieties of Bamboo growing in the Island—viz., the large thick or *He Bamboo*, which is most abundant, the slender or *She*, the tall straight upright, and the *Dwarf Bamboo*.—Hab. India and China.

Lolium, Linn.

867. **L. temulentum**, Linn.—A tall stiff upright Grass, common and growing wild in the neighbourhood of cornfields on the high land.—Hab. Europe, N. Africa, &c.

Triticum, Linn.

868. **T. æstivum**, Linn.
869. **T. hybernum**, Linn.
} Wheat; grown in the Island, though now little cultivated; its cultivation has been extensively tried at Longwood, and it has been found not to succeed because of the moisture contained in the atmosphere which causes the ear to mildew.—Native country not known with certainty.

870. **T. caninum**, Huds.

Hordeum, Linn.

871. **H. vulgare**, Linn.
872. **H. distichon**, Linn.
873. **H. hexastichon**, Linn.
} Barley; a good deal produced on the high land, and thrashed out for feeding horses, but, as it can be imported from the Cape of Good Hope at less cost, its cultivation is much less than it might be.—Native country uncertain.

874. **H. jubatum**, Linn.—A Grass growing on the high land.—Hab. N. America.

875. **H. murinum**, Linn.—A Grass common on the somewhat barren parts in the neighbourhood of Half-tree Hollow.—Hab. Europe, &c.

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Saccharum, Linn.

876. **S. officinarum,** Linn.—Sugar Cane; two varieties, *White stem* and *Red stem,* grow very well in the valleys low down and might be cultivated, but scarcely any attempt appears to have been made to turn this plant to account since its introduction in 1678, further than selling the stems in the streets for the native children to chew. —Hab. India.

Sorghum, Pers.

877. **S. vulgare,** Pers.—Millet; cultivated in gardens, and grows well; used as food for horses, and the ripe seeds for birds.—Hab. E. Indies.

878. **S. halepense,** Pers.—A tall Grass, somewhat resembling Guinea grass, found in Maldivia gardens, but rare. C.—Hab. Syria.

Anatherum, Beauv.

879. **A. muricatum,** Beauv.—Khus-khus Grass; grows well both on the low and high lands, at C. and M., alt. 3, in the neighbourhood of streams of water. To a small extent the roots are dug, and, when dried, used to perfume clothes by being placed amongst them; but its use for the perfume yielded by its roots is not so extensive as it is in the East Indies.

Andropogon, Linn.

880. **A. schœnanthus,** Linn.—Lemon Grass, so named from its perfume resembling that of lemons; grown in gardens, and used by the native people as a substitute for tea.—Hab. E. Indies.

CLASS III.—CRYPTOGAMS.

120. Filices (*Fern Family*).

Adiantum, Linn.

881. **A. æthiopicum,** Linn. var.—Maiden-hair Fern; introduced from the Cape in 1867. Much cultivated in gardens on the high land, and, in some places, self-sown plants already appear. Hk. and B. Syn. Fil. 1868, p. 123.—Hab. Cape of Good Hope, and very wide range.

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Acrostichum, Linn.

882. *A. **dimorphum**, Hk. & Gr.—A small Fern growing amongst the grass along both sides of the central ridge, at alt. 4 to 5·4, above Swampy Gut, &c.; somewhat rare. Hk. and B. Syn. Fil. 1868, p. 406.

883. *A. **bifurcatum**, Hk.; *Microstaphyla bifurcata*, J. Smith.—A very beautiful little Fern, thickly covering the wet banks along the sides of the roads over Sandy Bay ridge, &c.; very abundant. Alt. about 4. Hk. and B. Syn. Fil. 1868, p. 413.

884. *A. **subdiaphanum**, Hk. & Gr.; *A. lanceolatum*, Roxb.; *Aconiopteris nervosa*, Smith.—A pretty little Fern, with fronds about six to ten inches long, found somewhat rarely growing parasitically on the stems of *Dicksonia arborescens* on the high central ridge, Diana's Peak, &c. Alt. 5·4. Seeds in June. Hk. & B. Syn. Fil. 1868, p. 416.—Hab. Also Bourbon.

885. *A. **conforme**, Sw.—A Fern of somewhat rare occurrence, with habit and locality similar to *A. subdiaphanum*. Hk. & B. Syn. Fil. 1868, p. 401.—Hab. Also Mexico to Chili, Sandwich Islands, Cape of Good Hope, Tristan D'Acunha, &c.

Asplenium, Linn.

886. *A. **erectum**, Bory.; *A. tenellum*, Smith and Roxb.; *A. reclinatum*, Moore and Houlst.; *A. radicans*, Prit. Cat. S. H. F.—A delicate little Fern, easily recognised by its habit of rooting from the ends of the fronds; very common on the central ridge and in shady ravines lower down in the neighbourhood of Joho's Hole, Powell's Spring, &c. Grows at alts. 2·8 to 5. Hk. & B. Syn. Fil. 1868, p. 202.—Hab. Also Cape of Good Hope, Tristan D'Acunha, Ascension, and universally distributed throughout the Tropics.

887. *A. **furcatum**, Thunb.; *A. præmorsum*, Sw.—Grows in rocky crevices, and on old walls at alts. 3 to 3·8, near St. Paul's Church, Terrace Knoll, &c. Hk. & B. Syn. Fil. 1868, p. 215.—Hab. Also Tropical America, West Indies, Cape of Good Hope, Australia, &c.

888. *A. **compressum**, Sw.; *A. fœcundum*, Kunz.—A very handsome Fern, found abundantly amongst the native vegetation on the high central ridge, growing in the wettest parts. The fronds are three to five feet in length, and are easily recognised by the young

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plants growing from the surface of the leaflets. Alt. 4 to 5·4. Hk. and B. Syn. Fil. 1868, p. 207.—Hab. Also Cape of Good Hope, Bourbon, Mauritius, Madagascar, &c.

889. ***A platybasis,** Kunze.—A Fern with fronds about twelve to eighteen inches in length, though rare, found growing on the grassy banks on the north side of the central ridge near Taylor's Flat. Alt. 4. Hk. & B. Syn. Fil. 1868, p. 206.

Cheilanthes, Swartz.

890. ***C. multifida,** Swartz.—The most beautiful and delicate little Fern, perhaps, of all found in the Island. Its habits of growth and locality resemble closely those of *Gymnogramme Haughtoni,* being usually found amongst rocks and stones on the somewhat barren and exposed portions of the Island, at High Knoll, High Hill, Red Hill, Thompson's Hill, the Friar Rock, Sandy Bay, &c. The fronds are from three to twelve inches in length. The plant generally dies away after the rainy season is over. Hk. & B. Syn. Fil. 1868, p. 138.—Hab. Also Cape of Good Hope and Java.

Dicksonia, L'Hérit.

891. ***D. arborescens,** L'Hérit.; *D. auricoma,* Spreng.; *D. integra,* Sw.; *Balantium auricomum,* Kaulf.; *B. arborescens,* Hk.—The Tree Fern of the Island; growing on the central ridge at Diana's and High Peaks, at alt. from 4·8 to 5·4; its upright stem varies from six to eight inches in diameter, and from four to ten feet in height, more or less covered with long bright golden-brown hair, intermixed with parasitical plants, and topped with a splendid crown of bright green fronds, much resembling a miniature palm-tree; it is exceedingly picturesque amongst the other Ferns and native vegetation.

Dr. Roxburgh describes the size of this fern as twenty feet or more in height, and of various thicknesses up to that of a man's body, with fronds (including the stipes) from four to ten feet long. As it does not now attain that size, it may be considered that, like other indigenous plants, it is degenerating, and gradually dying out. Hk. & B. Syn. Fil. 1868, p. 50.—Plate 54.

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Diplazium, Sw.

892. *D. **nigro-paleaceum**, Kunze; *D. arborescens*, J. Sm.; *Asplenium arborescens*, Metten.—A beautiful Fern, growing somewhat plentifully on both sides of the central ridge, and scarcely found below alt. 2·8. Its graceful fronds, six or seven feet long, having the lower part of the stalk thickly coated with black hair, are easily recognised amongst the Blackberry-bushes, along the roadsides on the high land. It is exceedingly difficult to preserve in a dry state, as it fades almost immediately it is gathered, and turns black. Hk. & B. Syn. Fil. 1868, p. 240.

Gymnogramme, Desv.

893. *G. **Haughtoni**, Hk.—A beautiful little Fern, commonly called the Barn Fern, from the circumstance of its having been first discovered on the Barn rock. It dies away in the hot weather, and soon after the winter rains in June or July makes its appearance again, growing on the cliffs of the basaltic rocks on the barren outskirts of the Island, where it has little if any soil; but exposed to the wind and rain, and sheltered from the scorching sun, its roots retain sufficient moisture, while heat is conducted to them by the rock. It is somewhat rare, mostly confined to the North and North-Eastern parts of the Island, such as the Barn, Rupert's Hill, Ladder Hill, High Knoll, and High Point, its alt. varying from 1·2 to 3·2. Hk. & B. Syn. Fil. 1868, p. 381.

Hymenophyllum, Smith.

894. *H. **capillaceum**, Roxb.—A beautiful little slender Fern, found on the stems and branches of the trees and larger ferns at Diana's Peak, where it appears to thrive well in the moist atmosphere of that region. Hk. and B. Syn. Fil. 1868, p. 58.—Parasitic on Tree-ferns and indigenous Cabbage-trees. Alt. 5·4.

Monogramme, Schk.

895. *M. **graminoides**, Baker; *M. furcata*, Desv.—This Fern has been included with those found at St. Helena.

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Nephrodium, Rich.

896. ***N. cognatum,** Hk.—One of the Ferns of the highest land, where, amidst clumps of native vegetation, on the Central Ridge and Diana's Peak, it is found growing. The fronds are about two feet in length. Alt. 4·8. Hk. and B. Syn. Fil. 1868, p. 279.

897. ***N. Napoleonis,** Bory; *Lastrea Napoleonis,* J. Smith; *Aspidium Napoleonis,* Bory.—A smaller plant than *N. cognatum,* and more abundant on the central ridge near Diana's Peak. Fronds about twelve inches in length. It abounds on the banks of Napoleon's Cabbage-tree Road and on the road to Newfoundland, at alt. 5. Hk. and B. Syn. Fil. 1868, p. 279.

898. ***N. patens,** Desv.—Fronds about two feet in length, but with leaflets much more finely divided than either of the other species. It grows also at a lower alt., ranging from 2 up to 5, and is found on the sides of mountain streams in the neighbourhood of Oakbank, Powel's Spring, Willow Cottage, &c. Hk. and B. Syn. Fil. 1868, p. 262.—Hab. Also Florida and Texas, to Rio and Chili, Demerara, Polynesia, Japan, &c.

Ophioglossum, Linn.

899. ***O. vulgatum,** var., Linn.—This little Adder's-tongue comes up thickly over the barren, rocky outskirts of the Island, principally on the northern side, after the summer or winter rains; but it soon dies away when the hot weather succeeds. Alt. 1·2 to 2. Hk. and B. Syn. Fil. 1868, p. 446.—Hab. Also Lapland to Japan, the Himalayas, Ascension, &c.

Polypodium, Linn.

900. ***P. marginellum,** Sw.; *Grammitis marginella,* Smith and Roxb.—A delicate little Fern, growing parasitically on the Tree-fern, and other indigenous plants, on the central ridge. Alt. 5·4. In its locality it is closely associated with *Hymenophyllum capillaceum.* Hk. and B. Syn. Fil. 1868, p. 321.—Hab. Also Cape Verdes, West Indies, and Guatemala to Guiana and Peru.

901. ***P. Dianæ,** Hk.; *P. molle,* Roxb.—A very common roadside Fern along Sandy Bay ridge, and the high land, at alt. 4 to 5; found equally on the north and south sides of the central ridge.

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The young undeveloped fronds of this plant yield a remarkable perfume, much resembling that of a ripe peach. Hk. and B. Syn. Fil. 1868, p. 308.—Plate 55.

902. ***P. lanceolatum**, Linn.; *P. lepidotum*, Willd.; *P. macrocarpum*, Kaulf.; *Pleopeltis lepidota*, and *P. helenæ*, Presl.—A small Fern, with fronds about six inches long, common as a parasite on the stems of Tree-ferns, *Dicksonia arborea*, and native trees, on the central ridge, and at Diana's Peak. Alt. 5·4. Hk. and B. Syn. Fil. 1868, p. 356.—Hab. Also West Indies, Panama to Brazil, Cape of Good Hope, Bourbon, Sandwich Islands, Neilgherries, &c.

903. ***P. rugulosum**, Labill.; *Phegopteris rugulosa*, J. Smith.—One of the most abundant, and at the same time most beautiful of the Island Ferns; grows abundantly along the roadsides, at alt. 3 to 4, in the neighbourhood of Bevan's, Joho's Hole, Well's, Sandy Bay ridge, &c. The fronds reach a height of about two feet.

Pteris, Linn.

904. ***P. flabellata**, Thunb.—The most common roadside Fern in the Island; found also abundantly in the ravines on the upper lands, where it selects a rocky soil. Scarcely occurs above an alt. of 4, or below 3. Very plentiful about such places as Joho's Hole, Well's, Oakbank, Bevan's, &c. Even occurring on the summit of Lot, and the eastern side of High Knoll. Hk. and B. Syn. Fil. 1868, p. 161.—Hab. Also Cape of Good Hope, Bourbon, Abyssinia, Fernando-Po, Ascension Island, &c.

905. ***P. paleacea**, Roxb.—A less abundant species, found at a higher alt., of about 5, where its remarkable fan-like fronds mingle with the *Dicksonia* and *Diplazium* on the mountain spurs, and in the ravines north and south of the central ridge, near Diana's and High Peaks. Hk. and B. Syn. Fil. 1868, p. 159.

121. Lycopodiaceæ (*Club-moss Family*).

Lycopodium, Linn.

906. ***L. cernuum**, Sw.—Commonly known as Buck's Horn; growing plentifully on the grassy banks on the high central ridge near Diana's Peak, &c. Alt. 4 to 5·4. The plant attains a height of twelve to eighteen inches.

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907. ***L. taxifolium,** Sw.; *L. axillare,* Roxb. — A plant much resembling a sprig of Norfolk Island Pine, found, very rarely, growing amongst the grass on the highest land at Diana's Peak, alt. 5·4, where it attains a height of four to six inches.

122. Musci (*Mosses*).

The following account has been kindly prepared by Mr. Mitten, who has also illustrated four species, Plate 56.

Those species marked † have not been found at St. Helena, but only at Tristan d'Acunha. Those species marked $ have been found at Ascension, and not at St. Helena.

Dicranella, C. Mueller, Syn. i. p. 430.

Sect. 1. Campylopodium, Angstrœmia.—Sect. 2. Campylopodium, C. Mueller, Syn. i. p. 429.

908. ***D. proscripta,** Hornschuch, in Hor. Phys. Berol. p. 60; (*Didymodon*), *Leptotrichum Hornschuchii,* C. Mueller, l.c. p. 450.—Gathered by all collectors, and, abundantly in fruit, by Dr. Seemann.

This species has been well compared by C. Mueller with the European *Leptotrichum flexicaule,* which, in the aspect of its foliage, it much resembles; but the quadrate base of the leaves, from which the subulate portion is suddenly contracted, is very different.

A considerable number of species, nearly all of a smaller size than the present one, is found in various parts of the world. One species is known from the Cape of Good Hope, several from India and the Islands of the Indian Archipelago, and a few from New Zealand; but none have yet been observed in Europe or N. America, unless the minute *Siligeria recurvata* inhabiting these countries should be referred to the same group. One species has been described by Dr. Hampe, from the Andes of Bogota; but none has been as yet discovered in the remainder of that immense continent. All the species as yet ascribed to this group, are closely similar in the form of the capsule, which is that common to the *Dicranellæ,* of an oval form, and when passing maturity more or less evidently ribbed; so that it would appear that, although the species are immediately distinguishable by the curvature of the seta, there is no other essential point of difference.

909. **$D. Ascensionica,** sp. nov.—Caulis gracilis elongatus cæs-

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pitosus. Folia a basi late lanceolata, subulata patentia, apicem versus canaliculata, nervo crassiusculo a lamina vix distincto, subintegerrima, cellulis inferioribus oblongis ad marginum laminis quadratis, perichætialia majora, a basi late obovata vaginantia laxius areolata nervo longe excurrente anguste subulata. Theca in pedunculo brevi crassiusculo rubro curvato ovalis, æqualis, operculo subulato. Peristomium e dentibus brevissimis rudimentariis, annulo lato. — Hab. Ascension, Dr. Seemann.

Very similar to *D. proscripta*, but with its leaves shorter, and without the erect clasping base.

Campylopus, Bridel. i. p. 468.

910. ***C. introflexus**, Hedwig, Sp. Musc., t. 20 (*Dicranum*).—Burchell, Melliss.

Specimens all without fruit. A dark-green Moss, from damp roadside banks on the high land.

911. ***C. Helenicus**, C. Mueller, Syn. ii. p. 599.—Burchell, Lesson, Melliss. Gathered also by Dr. Hooker, and by Capt. Haughton.

This species appears to be commonly fertile; in general appearance it has some resemblance to the European *C. flexuosus*, but all the specimens are uniform in being of pale ochraceous brown, the leaves quite without gloss, having at their bases the alar cells very distinct and brown. Compared by C. Mueller with *C. Zollingerianus*, from Java; it is also allied to some Brazilian species.

912. ***C. scabricuspis**, sp. nov.—Cæspitosus, caulis erectus parum divisus. Folia sicca appressa, apicalia in gemmam acutam imbricata, humida omnia erecto-patentia, inferne nervo lato folii latitudinis ⅓ occupante, lamina utrinque tenera cellulis angustis elongatis basalibus parum latioribus, alaribus inconspicuis, areolata, supra folii medium a nervo vix distincta, margine supra folii medium involuto apice tantum parce denticulato, nervo pallido dorso apicem versus denticulis pluribus scabro; folia perichætialia basi lata ovalia lamina laxiora, apicibus magis denticulatis—Melliss. A dark-green Moss, from damp roadside banks on high land.

Stems from one to one and a half inches high, in general appearance and colour similar to *C. Helenicus*, but with the apices of the stems in the dry state thicker. This species appears to belong to

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that group of the *Campylopodes* in which the nerve is very wide, but soft and somewhat spongy in substance, and rarely accompanied by distinct alar cells, the fruit being equal-sided, and the calyptra sometimes without the fringe at its base. Species similar to the present are found wherever the genus is represented.

913. †**C. vesticaulis**, sp. nov. — Compacte cæspitosus, caulis elatus parum divisus fere ad apicem usque radicellis rubiginosis obtectus. Folia erecto-patentia, sicca appressa apicalia in gemmam acutam imbricata, lanceolata canaliculata sensim subulato-angustata, marginibus conniventibus apice serrulatis, nervo tenui inferne folii latitudinis $\frac{1}{7}$ occupante, fere ad apicem a pagina distincto, lamina cellulis oblongis, inferioribus pellucidis, alaribus propriis nullis, sensim in minutis transeuntibus areolata, perichætialia a basi latiora oblonga convoluta, nervo angusto piliformi attenuato. Theca in pedunculo brevi curvato ovalis leptoderma æqualis, sicca valde contracta subcylindracea plicata, interdum subarcuata, calyptra basi paucifimbriata. —Hab. Tristan d'Acunha, Milne and M'Gillivray. Stems from one to four inches high, below thickly covered with ferruginous rootlets, above at the growing points, the foliage is pale yellowish-brown.

Ceratodon, Bridel.

914. ***C. purpureus**, Linn. (Mnium).—From damp roadside banks on high land, Burchell, Melliss. All the specimens barren.—Tristan d'Acunha, M'Gillivray, with perfect fruit.

Glyphomitrium, Bridel. i. p. 367.

915. ***G. Helenicum**, sp. nov.—Pulvinatum humile. Folia erecto patentia stricta sublanceolata apice acuta cucullata integerrima, nervo crassiusculo percurrente carinata, cellulis superioribus obscuris basalibus pallidis teneris angustis areolata, perichætialia parum longiora basi pellucidiora. Theca in pedunculo pallido ovalis, operculo subulato.—Capt. Haughton.

Very poor and incomplete specimens have only been seen of this species, without calyptra or peristome. It is smaller than *G. cucullatifolium*, found in S. Africa, and with narrower, less cucullate leaves. One or two stems of some Grimmia occurred amongst the specimens of this moss, but quite insufficient to give any idea of what species they may represent.

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Tortula, Hedwig Fund. ii. p. 92.

916. **T. crispula,** Bruch. (*Trichostomum*). Bryol. Europ. ii. t. 173. Melliss.—A pretty little Moss from old walls and stones on the high land. Specimens complete, with fruit, presenting nothing different from the states common on the coasts of Britain.—Probably indigenous to St. Helena.

917. **T. cæspitosa,** Schwægrichen, t. 31.—Melliss; from old stone walls on the high land. Probably indigenous to St. Helena,

This Moss, so plentiful in Brazil and at the Cape of Good Hope, might well have been expected to be present in St. Helena.

Macromitrium, Bridel. i. p. 306.

Sect. 1. Macrocoma, Hornschuch, C. Mueller, Synopsis, i. p. 720.

918. ***M. microphyllum,** Hooker et Greville (Orthotrichum) in Brewster's *Edinburgh Journal,* i. p. 121, t. 6.—Melliss.

Originally described from Burchell's specimens gathered at the Cape of Good Hope.

Sect. 2. Goniostoma, Mitt. Journ. Linn. Soc. v. xii.

919. ***M. urceolatum,** Hooker, Musci Exotici, t. 124 (Orthotrichum).—Menzies, Melliss.

920. ***M. Seemanni,** Mitten Musci Indiæ Orient. Journ. Linn. Soc. 1.—Dr. Seemann, Burchell, Melliss. Covering thickly the stems and branches of the native Cabbage-trees on Diana's Peak, alt. 5·4.

It is most probable that the specimen of this species from Dickson, marked as from the East Indies, and now preserved in the Kew Herbarium, was really gathered in St. Helena. Dickson obtained specimens of Mosses from the voyages of trading vessels, and localities were then not so precisely mentioned, so that any gathered during the voyage were liable to be reported as if gathered in the country the vessel had returned from; and there are some of the species which Dickson in this manner procured, of which the native country has yet to be discovered.

921. †**M. fimbriatum,** Beauvais (Orthotrichum) Schwægr. t. 140. —Hab. Tristan d'Acunha, Aubert du Petit-Thouars.

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An original specimen in Dr. Arnott's Herbarium, excepting that the leaves have not the apiculus as depicted, in other respects, particularly as to the perichætial leaves being as long as the cauline, corresponds fairly with the figure above quoted, and in this last character differs from several Mauritian species which closely resemble it.

Physcomitrium, Bridel. i. p. 97.

922. ***P. flexifolium**, sp. nov.—Laxe cæspitosum. Caulis elongatus. Folia patula squarrosaque obovato-oblonga acuta apice curvato, nervo in apiculo brevi percurrente, margine apicem versus subserrulato, limbo e serie unico cellularum elongatarum composito circumdata, cellulis oblongis pellucidis areolata; theca in pedunculo gracili operculo convexo.—Burchell, No. 209, marked Gymnostomum flexifolium.

Stems from half an inch to one inch in height. Leaves on the specimens, which are old, of a brown colour, not much altered when dry. Seta three lines long. Capsule small for the robust appearance of the plants.

This species is curious in the elongated stems, equally clothed with leaves from base to summit.

It is remarkable that no Funaria should have been gathered in St. Helena.

Bartramia, Hedwig.

Sect. Philonotis, Bridel. ii. p. 15.

923. ***B. Heleniana**, sp. nov.?—Cæspitosa radiculis intertexta. Folia imbricata ovato-lanceolata, nervo percursa, margine serrulata, cellulis oblongis areolata.—Burchell, specimen marked Bartramia Heleniana, Burchell.

If this specimen had not been marked by Burchell, it would have been perhaps better to have passed it over as a state of *B. fontana* until more could have been learnt respecting it. In size it appears to be a little smaller than the common states of *B. fontana*.

Specimens of another species were gathered by Mr. Melliss, indicating a small species with plumose foliage, on stems less than half an inch high, but they are insufficient to afford any character.

Sect. Breutelia, Schimp.

924. **†B. tenuifolia**, sp. nov.—Cæspitosa. Caulis parum radicu-

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losus varie modo ramosus. Folia a basi brevi erecta, ad insertionem angustata, subito recurva patentia stricta subsecundave, sensim longe angustata, planiuscula, anguste striata, nervo angusto excurrente, margine minute serrulata, cellulis angustis elongatis papillis minutis, ad margines partis folii erectis oblongis latis pellucidis in seriebus 4–6 dispositis areolata.—Hab. Tristan d'Acunha; plentiful on banks, but sterile, Milne.

Stems three inches high, branched dichotomously, subfastigiate or subpinnate, without or with only very few rootlets here and there. Foliage straw-coloured, not much altered in drying. Leaves less than two and a half lines long.

A smaller species than *B. gigantea*, from Bourbon, with narrower leaves, having a different areolation.

Bryum, Linn.

925. ***B. argenteum**, Linn. Sp. Plant. 1586. Melliss.—Earthy banks on the high land, forming a soft silvery carpet. The specimens belong to the form usually designated as var. *β lanatum*.

Two other species of Bryum exist in St. Helena; one is near to *B. rigidum*, a Brazilian moss, but as only a few leaves have yet been seen, nothing further can be said respecting it; the other may be one of the forms of *B. dichotomum*, so common in most parts of the world. Of this a few imperfect barren stems are all that assure the presence of this or some allied species.

Hookeria, Smith.

Sect. Omaliadelphus, C. Mueller.

926. ***H. pallidifolia**, sp. nov.—Monoica, laxe cæspitosa depressa. Caulis subpinnatim divisus. Folia compressa, lateralia patentia oblongo-lanceolata acuta integerrima apice subcrenulatave, parum concava, plerumque assymetrica, latere uno inflexo complicato, nervis binis brevibus inconspicuis, cellulis angustis elongatis areolata, perichætialia erecto patentia, externa ovata in acumen latiusculum subcrenulatum educta, interna usque ad apicem vaginulæ inserta, late ovata acuta. Theca in pedunculo rubro lævi ovalis inclinata, operculo rostrato. Calyptra apice lævis basi striata?—Hab. Amongst the grass on the high land; a bright-green moss. Dr. Hooker, Melliss;

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also in Herb. Turner the specimen marked East Indies, J. D. (Dickson).

Stems about one inch long, having irregular branches, with the leaves, a line wide. Foliage straw-coloured, here and there tinged with fulvous brown, shining, very little altered when dry. Seta half an inch long. Peristome with teeth in which the external bands are separated below; the internal peristome is as usual in the genus.

This moss, in the absence of mature calyptras, can only be placed doubtfully in the genus Hookeria, to which its affinities seem to approximate it more closely than to any other. The division of the external lamina towards the base of the teeth of the peristome and the insertion of the perichætial leaves upon the vaginula are characters commonly observable in the Hookeriæ. The areolation of the leaves is far more narrow than in any of the species which have been placed in the genus Leucomium.

There is a certain resemblance between this moss and the *Hookeria fissidentioides*, Hk. et Wils. Hk. Icon. Plant. t. 746 A, in which the nerves of the leaves are however far more distinct and elongated.

Meiothecium, Mitt. in Journ. Linn. Soc. 1868.

927. †**M. urceolatum**, Schwægr. t. 110 (Pterogonium).—Hab. Tristan d'Acunha, Aubert du Petit-Thouars.

The figure represents a moss nearly allied to the Indian *M. microcarpum*, but there is no mention or representation of a fold in the middle of the leaf, which in several of the species of this genus may be easily mistaken for a nerve.

Sematophyllum, Mitt. Journ. Linn. Soc. 1868.

Sect. Rhaphidorrhynchum, Schimper. Bryol. Europ.

928. ***S. Helenicum**, sp. nov.—Monoicum. Caulis procumbens laxe cæspitosus rufus. Folia subcompressa vel sursum secunda, laxe imbricata patentia, ovato-lanceolata integerrima caviuscula, cellulis angustis alaribus conspicuis fulvis areolata, perichætialia erecta longiora acuminata integerrima. Theca in pedunculo rubro breviter ovalis inclinata, inæqualis, operculo magno conico acuminato.—On bark, Melliss. A bright-green moss.

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This small species resembles in general appearance the South African *S. brachycarpum*, Hampe Icon. Musc. 11, but in the present the leaves are a little narrower.

929. ***S. plumularium**, sp. nov.—Monoicum. Caulis gracilis rufus procumbens. Folia undique æqualia patentia plumosa, lanceolata attenuato-acuminata caviuscula integerrima, cellulis angustis alaribus distinctis fulvis, areolata perichætialia erecta interna parum latiora. Theca in pedunculo rubro ovalis inclinata. — On bark, Melliss.

The long slender stems with the narrower and plumose foliage give this moss a different appearance from the preceding, but it may be only a form, distinguishable because no intermediate states have been collected. Very closely allied species, or forms of one widely spread species, are found in Mauritius.

Pleurozium, Sullivant. Musci of the United States, p. 68.

930. **P. splendens**, Hedwig (*Hypnum*).—Dr. Hooker. Probably indigenous to St. Helena.

Small fragments only have been seen of this Moss; they were gathered, intermixed with the *Plagiochila anisodonta* of Dr. Taylor. The species has not been reported from S. America, but it is found in the Canaries.

Ptychomnion, Hook. f. et Wils.

931. **†P. densifolium**, Bridel. ii. 514.—Hab. Tristan d'Acunha, Aubert du Petit-Thouars. Milne.

Hypnum, Dill.

Sect. Argyrodinum, Mitten in Godman's Nat. Hist. of the Azores.

932. **H. purum**, Linn.—Probably indigenous to St. Helena, Melliss.

A bright straw-coloured Moss, growing amongst the grass on the high land at Rock Cottage, &c. Without fruit, but in all respects similar to the common European state of this species, which in some particulars differs from any of the numerous sections into which the *Hypna* have been divided, and, at present, has no known very close ally.

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Sect. Eurynchium, Schimp.

933. **H. prælongum**, Dillenius. — Melliss, Capt. Haughton. Probably indigenous to St. Helena.

All the specimens of this Moss are a small depressed form of the state which has been sometimes called *H. Stokesii*, and do not present any differences from what may be observed on hedge-banks in England. The more robust form which is found on stones in rivulets, in mountainous parts of Britain, is also met with in Madeira, and in the Andes of S. America.

Sect. Brachythecium, Schimp. Bryol. Europ.

934. ***H. athrocladum**, sp. nov.—Monoicum. Caulis repens ramulis quamplurimis brevibus assurgentibus dense pinnatim ramosus. Folia erecto-patentia imbricata, caulina a basi angulis anguste decurrentibus subdeltoideo-cordata, subulato-acuminata, subintegerrima, nervo tenuo vix ad medium folii attingente, cellulis interioribus oblongis ad angulos basalibus rotundo-quadratis areolata; folia ramea densius inserta, magis appressa, ovato-lanceolata integerrima, subbiplicata, nervo usque ad $\frac{3}{4}$ folii longitudinis producta, perichætialia duplo longiora lanceolato-subulata, apicibus subdenticulatis. Theca in pedunculo scaberrimo breviter ovalis inclinata inæqualis, ore obliquo.—Burchell.

A very small Moss, with the habit of the European *H. sericeum*, but more rigid, and with a capsule exactly corresponding to that of the section *Brachythecium*. Very little of this was gathered, and only one capsule seen by Burchell, who marked it *Hypnum athrocladmi*, B.

Thuidium, Schimp. Bryol. Europ.

935. **†T. curvatum**, sp. nov.—Caulis ascendens erectusve ramis brevibus curvatis subsimplicibus pinnatim ramosus, paraphyllis brevibus paucis obtectus. Folia patentia incurva, a basi cordata subito in acumen latiusculum æquilongum producta, nervo crassiusculo in apice evanido carinata, haud plicata, margine inferiore hic illic recurvo, ob papillarum prominentia aspero superne minute serrulato, cellulis rotundatis obscuris utrinque papilliferis areolata; folia ramea ovato-lanceolata.—Hab. Tristan d'Acunha, Milne.

Very closely resembling the New Zealand *T. fulvastrum*, and

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differing chiefly in the shorter cauline leaves, which are more papillose, and not plicate.

Fissidens, Hedwig Fund. ii. p. 91.

936. ***F. Helenicus**, sp. nov.—Monoicus. Caulis gracilis elongatus ramosus. Folia erecto-patentia lineari-lanceolata opaca, nervo luteo pellucido excurrente, lamina vera usque ad medium producta limbo crassiusculo luteo pellucido marginata, lamina dorsalis infra medium laminæ veræ evanescens lamina apicalisque integerrima, immarginata. Pedunculus brevis. Theca oblongo-pyriformis inclinata, operculo magno subulato. Calyptra angusta subulam operculi tegens, latere fissa.—Burchell, barren; with fruit, Capt. Haughton.

Stems scarcely an inch high, with the leaves, measuring a line in width. Leaves two-thirds of a line long, of an æruginose green or yellowish colour, unaltered in appearance when dry. The seta is about a line and a half long. The peristome as usual in the genus. PLATE 56, f.a. 1. Plant of the natural size; 2, a leaf with portion of the stem; 3, the capsula with operculum and calyptra; all magnified.

937. **†F. asplenioides**, Swartz.—Hab. Tristan d'Acunha, Milne. Barren specimens only of this very widely distributed species.

Eustichia, Bridel. ii. 674.

938. **†E. longirostris**, Brid. l.c.—Hab. Tristan d'Acunha, Milne. Specimens small and barren, but to all appearance identical with the Andine Moss. The species was originally described from Bourbon specimens.

Polytrichum, Dill. Linn.

939. **†P. juniperinum**, Hedwig.—Hab. Tristan d'Acunha, Milne. Specimens rather slender, with short setæ, but not otherwise different from European states of the species.

123. HEPATICÆ (*Liverworts*).

The following account has been kindly prepared by Mr. Mitten:—

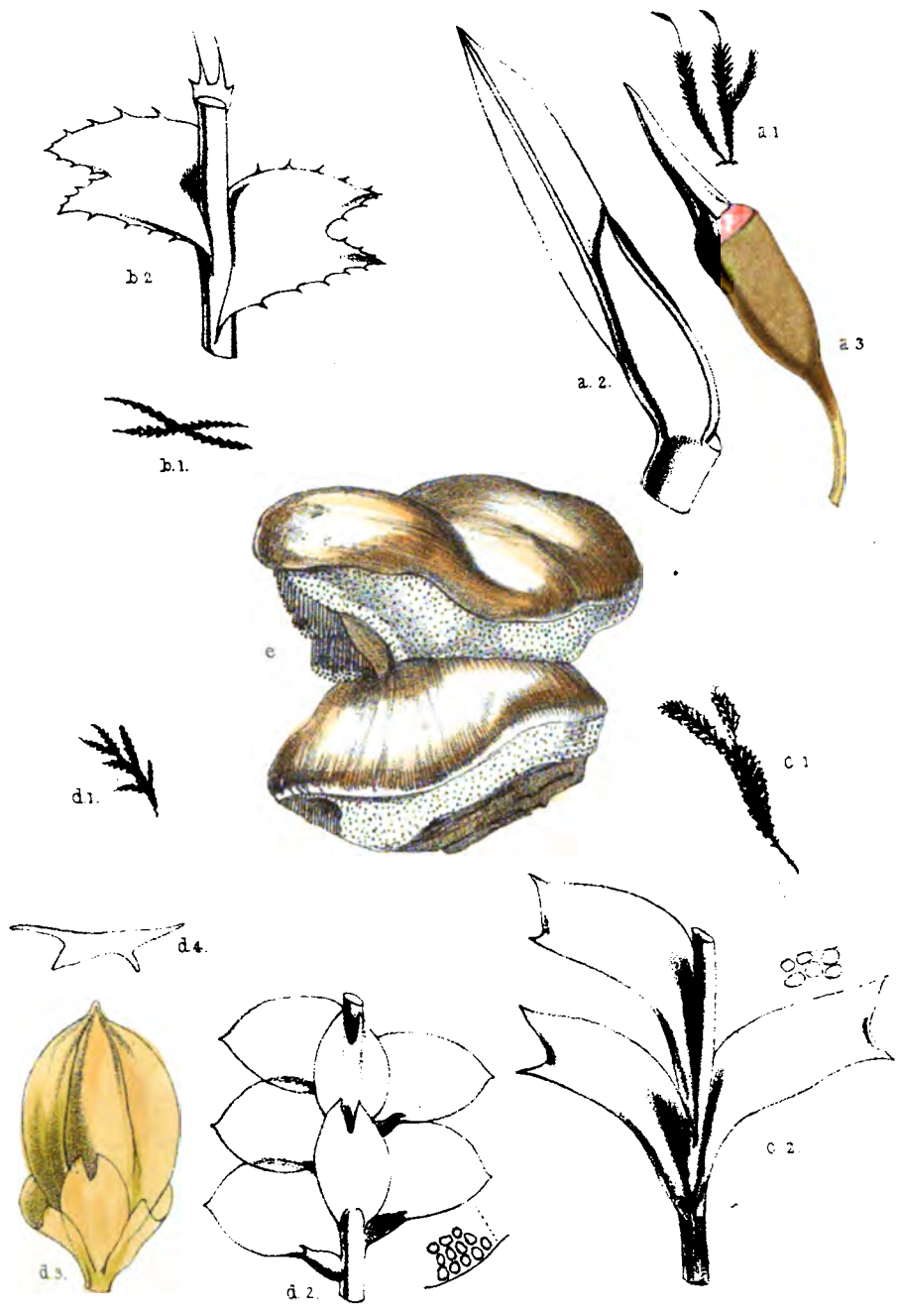
Plagiochila, Nees ab Esenbeck et Montagne.

940. ***P. insularia**, sp. nov.—Caulis ascendens subsimplex.

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W. Mitten
M. Berkeley } del. J. N. Fitch lith.

Vincent Brooks Day & Son Lith.

a. FISSIDENS HELENICUS. b. LOPHOCOLEA SERRATA.
c. TYLIMANTHUS ANISODON. d. LEJEUNIA PTEROTA.
e. POLYPORUS (ANODERMEI) INDURATUS.

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Folia laxe imbricata patentia subovalia ovatave rotundata, margine dorsali recurvo integerrimo, ventrali apiceque denticulis paucis armato, cellulis rotundo-hexagonis interstitiis angustis areolata.

Melliss, Capt. Haughton. Stems two or three inches long, devoid of rootlets. Foliage very pale-brown, not altered when dry. In appearance closely resembling the European *P. asplenioides* in its larger forms, but on comparison its areolation is found to be composed of cells more than twice as large, and the outline of the leaf is a little more ovate.

Fragments of another species like very small states of *P. spinulosa* have been seen from St. Helena; also of two different species from Tristan d'Acunha.

Jungermannia, Linn.

941. †**J. incumbens**, Lehmann et Lindenberg in Lehm. Pugill, pl. vi. p. 60; Gottsche Lindenb. et Nees ab Esenbeck, Synop. Hepat. p. 80.—Hab. Tristan d'Acunha, Campbell, Seemann.

Very nearly allied to *J. piligera*, as stated in the Synopsis; it is also similar to a Brazilian species gathered by Von Martius.

This species differs from *J. obtusata*, Taylor, in the deeper sinus and sharper straighter segments of the leaf; it is also of a dull brownish colour.

942. ***J. obtusata**, Taylor Lond. Journ. of Bot. 1845, p. 80.—Dr. Hooker, Capt. Haughton.

The lobes of the leaves of this species are frequently broken off; when perfect they are acute, and with the whole plant of a reddish-brown. It can scarcely be possible that this species can be identical with the *J. subcomplicata*, Lehm. et Lindenb., from the Marian Islands, to which it has been referred in the Synopsis.

Lophocolea, Nees ab Esenbeck.

943. ***L. humistrata**, Tayl. Lond. Journ. of Bot. 1845, p. 82.—Dr. Hooker, Capt. Haughton.

A small species, of a pale green colour, becoming paler by age; its leaves alternate, or just touching each other; the apex obtuse, rounded, entire or with an obtuse notch; the small rounded bidentate stipules narrowly connected with the leaves on each side; the involucral leaves oval, bidentate with an obtuse sinus, connate be-

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low with the stipule, which is of the same form but of half their size; the perianth is narrowly winged at its angles, the alæ being entire. Allied to *L. connata*, Swartz, but differing considerably in the outline of its leaves.

944. †**L. serrata**, sp. nov. — Caulis repens. Folia explanata oblongo-quadrata, subinæqualiter bidentata, sinu rectangulari, marginibus ubique denticulis brevibus serrata, cellulis parvis parietibus angustis pellucidis areolata, amphigastria parva profunde bifida, laciniis extus unidentatis.—Hab. Tristan d'Acunha, amongst *Fissidens asplenioides*, Milne.

A small species, looking to the unassisted eye like a minute state of *L. bidentata*.

Plate 56, f. b. 1, stems of the natural size; 2, a portion with leaves and stipule, magnified.

Adelanthus, Mitt. Journ. Linn. Soc. vol. vii.

945. **A. decipiens**, Hook. Brit. Jung. t. 50; *Jungermannia campylodonta*, Taylor Lond. Journ. of Bot. 1845, p. 80; *Plagiochila campylodonta*, Gottsche, Lindenberg et Nees Syn. Hep. 639. — On moist ground, Diana's Peak, Dr. Hooker; creeping amongst *Macromitrum Seemanni*, Dr. Seemann. Probably indigenous to St. Helena.

Originally discovered in Ireland, and found for many years only in a barren state, the place of this curious species was long uncertain; but by the fortunate discovery of perianth-bearing specimens in the Andes, by Mr. Spruce, its real affinity is found to be with the *Jungermannia falcata*, Hooker Musci Exot. t. 89. A species also like *A. decipiens*, so nearly resembling many *Plagiochilæ*, that their mode of fruiting would be so different, could not have been suspected.

Tylimanthus, Mitt. in Hooker's Handbook of the Flora of New Zealand, ii. p. 753.

946. **T. anisodon**, Tayl. Lond. Journ. of Bot. 1845, p. 79. (*Plagiochila anisodonta*).—Dr. Hooker. Probably indigenous to St. Helena.

This species, of which the fructification has not yet been seen, resembles very nearly *T. tenella*=*Gymnanthe tenella*, Hook. fil. et Tayl. Fl. Tasman. ii. t. 170, f. 3, and agrees with it, and some other nearly allied species, in the areolation, the cell walls being wide.

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PLATE 56, f. c. 1, stem of the natural size; 2, portion of same with leaves magnified.

Bazzanius, Gray Nat. Hist. Brit. Plants, i. p. 704. Mastigobryum. Nees ab Esenbeck, Lindenb. et Gottsche.

947. †**B. brevidens**, sp. nov.—Caulis procumbens ramis alternis divisus. Folia dense imbricata superne convexa apicibus ad lateram inferiorem incurvis, ambitu inæqualiter subovata, margine superiore convexo, inferiore rectiusculo sæpe incurvo, apice oblique truncata, denticulis brevibus sæpe indistinctis obsoletisve. Amphigastria reniformia caulis fere duplo latiora subintegerrima cum foliis utrinque coalita.—Hab. Tristan d'Acunha; frequent on banks in marshes. Milne.

This is very near to *B. decrescens*, and also to *B. Novæ Hollandiæ;* but it seems to differ from both in its shorter leaves, with the apices incurved and indistinctly dentate.

Lepidozia, Nees, Lindenb. et Gottsche.

948. ***L. capillaris**, Swartz; *L. nemoides*, Tayl. Lond. Journ. of Bot. 1854, p. 84.—Dr. Hooker, Capt. Haughton.

The specimens differ slightly from West Indian and tropical American in having the points of the segments of the leaf a little more acute. It is a very small species of a dull brownish colour, having its leaves inserted directly across the stem, and with their finger-like segments directed towards its apex.

949. †**L. procumbens**, sp. nov. — Caulis pinnatim ramosus ramis flagelliformi attenuatis. Folia patentia oblique inserta imbricata ambitu subquadrata, angulo dorsali semicordato, quadrifida dentibus duobus inferioribus brevioribus inferiore recurvo, cellulis rotundis oblongisque limitibus pellucidis areolata. Amphigastria patentia brevia cauli latitudinis quadridentata. Perianthium elongatum apicem versus plicatum, ore obtusiusculo fisso. — Hab. Tristan d'Acunha, Milne, M'Gillivray.

Very much like *L. lævifolia*, from New Zealand, but more pellucid. It also resembles *L. reptans*, but the areolation of the leaves is much more minute.

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Mastigophora, Nees ab Esenbeck, Gottsche, Lindenb. et Nees Synops. Hepat. p. 241.

950. *M. **fornicata**, Lehm. et Lindenb. in Lehm. Pugil. pl. vi. p. 25.—Hab. Tristan d'Acunha, in Herb. Hooker.

951. $M. **leioclada**, Tayl. Lond. Journ. of Bot. 1845, p. 85.—Hab. Ascension, Dr. Hooker.

Both this and the preceding may be but small or young states of *M. diclados*, which is found in Africa and many other southern regions.

Physiotium, Nees ab Esenbeck, Gottsche, Lindenb. et Nees Synops. Hepat. 234.

952. **P. sphagnoides**, Hooker Musc. Exot. t. 47. (*Jungermannia*).—Burchell, Menzies, Dr. Hooker, Melliss. Probably indigenous to St. Helena.

This fine species is found also in Western Africa, but has not yet been reported from the American continent. In St. Helena it is easily distinguished on the branches of the very highest vegetation at Diana's Peak, by its bright-red and green tints. Alt. 5·4. It grows abundantly parasitically on the native Cabbage-trees and the Tree-ferns.

Radula, Dumort.

953. *R. **fulvifolia**, Tayl. Lond. Journ. of Bot. 1845, p. 85.—Dr. Hooker, Capt. Haughton, Melliss.

A little less than the common European *R. complanata*, and with a more tufted habit, having, as observed by Dr. Taylor, one layer of stems growing over another. All the specimens are barren, and agree in having the greater portion of the stems denuded of leaves. It is not a species, in a barren state, presenting any strongly marked character, although it differs in small particulars from any other.

Phragmicoma, Dumort.

954. *P. **acutiloba**, Tayl. Lond. Journ. of Bot. 1845, p. 90.—From branches of *Melanodendron*, Diana's Peak, Dr. Hooker, Melliss.

A dark-brown species, with a little shade of green, and, as stated

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by Dr. Taylor, very similar to *P. Mackaii*, but with the leaves towards the perianth tipped with a minute apiculus.

955. ***P. microscypha**, Tayl. l.c.—Found with *Parmelia leucomela*.

This probably exists only in Dr. Taylor's Herbarium. It would appear to be very near to the preceding.

956. ***P. rotalis**, Tayl. l.c.—Dr. Hooker, Capt. Haughton, Melliss, Seemann.

A small, pale-brown species, with its perianth tumid, obtuse, without apiculus, and with or without a trace of a fold on the upper side.

Lejeunia, Gottsche et Lindenb.

957. ***L. pterota**, Tayl. Lond. Journ. of Bot. 1845, p. 91; *L. adscensionis*, ejusd. l.c.—Hab. also Ascension, Dr. Hooker.

After a comparison of the specimens, there seems to be no distinction between them, except that the specimen marked *L. adscensionis* is entirely barren.

Minute scraps of several other species of this great genus have been observed amongst the St. Helena specimens.

PLATE 56, f. d. 1, plant of the natural size; 2, portion of stem, with leaves and stipules; 3, perianth, as seen from the under side; 4, transverse section of same about its middle: all magnified.

Pallavicinius, Gray Nat. Hist. Brit. Plants, i. p. 684; Steetzia, Lehm. Gottsche, Lindenb. et Nees Syn. Hepat. p. 785; Diplolæna, Dumort. Syll. p. 82.

958. ***P. procumbens**, Tayl. Lond. Journ. of Bot. 1845, p. 93.—Dr. Hooker, Capt. Haughton, Melliss.

All the specimens of this species are alike in their brown colour, and although similar to the European *P. Lyellii*, appear to differ in the indistinct nerve.

Plagiochasma, Lehm. et Lindenb. in Lehm. Pugil. pl. iv. p. 13.

959. ***P. limbatum**, Tayl. Lond. Journ. Bot. 1845, p. 95.—Capt. Haughton; Ascension, Dr. Hooker.

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Symphogyna, Montagne et Nees in Ann. des Sc. Nat. 1836.

960. *S. serrata, sp. nov.—Frondes e rhizomate repente ascendentes erective stipite anguste alato superne bis terve bifidi, nervo angusto percursi, laciniæ lineares margine flexuosæ serratæ.—Capt. Haughton.

Fronds, including the stipes, about one inch high; laciniæ two-thirds of a line broad, not much altered by drying; margins flexuose, both in the wet and dry states.

Smaller than *S. Lehmanniana*, from S. Africa, and of firmer substance, as well as a more graceful species.

961. §S. convoluta, Tayl. Lond. Journ. of Bot. 1845, p. 94.—Hab. Ascension, Dr. Hooker.

The habit of this species is similar to that of *Pallavicinius procumbens*, with which it agrees in its brown colour. No trace of inflorescence is observable on the specimens.

Exormotheca, Mitt. in Godman Nat. Hist. of the Azores, p. 325.

962. *E. pustulosa, Mitt. l.c.—Found amongst *Bryum argenteum*, Linn., Melliss.

The specimen is far too scant to determine if this is absolutely the same species as the Madeiran plant, as it appears to be; although it is a little smaller, the structure seems identical.

Marchantia, Linn.

963. M. polymorpha, Linn. — Found on the high central ridge, alt. 5 to 5·4, covering the banks beneath the native Cabbage-trees and ferns, Melliss. Probably indigenous to St. Helena.

The small specimen is of firm substance, without any discoloration in the middle of the fronds, in this particular corresponding with most southern specimens.

Dendroceros, Nees ab Esenbeck, Gottsche, Lindenb. et Nees Synop. Hepat. 579.

964. *D. adglutinatus, Tayl. Lond. Journ. of Bot. 1845, p. 96 (Monoclea).—On trees, Diana's Peak, Dr. Hooker.

A small species like *D. brasiliensis;* but in the specimens, which are very poor and scanty, less crisped at the margins.

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Anthoceros, Micheli.

965. ***A. lævis**, Linn.—Melliss.

CLASS IV.—THALLOPHYTES.

124. Lichenes (*Lichens*).

Collemacei.

Collemei.

Leptogium, Ach.

966. **L. tremelloides**, (Fr.)—A slate-coloured Lichen, in fructification, found clinging to the branches of Cabbage-trees and other native vegetation on the high land in a damp atmosphere. Alt. 5·4. It is found also in Great Britain.

Lichenacei.

Cladodei.

Cladonia, Hoffm.

967. **C. pyxidata**, Fr.; *forma fimbriata* (*denticulata*).

968. **C. pyxidata**, Fr.; *forma pityrea* (*decorticata*).—A small needle-shaped whitish Lichen about ¾ of an inch long, found growing in damp situations on banks and stems of decaying trees.—H. L.

969. **C. pyxidata**, Fr.; *forma chlorophæa*.—A species very like the last, but with the addition of a funnel or cup-shaped top, found growing in similar situations.

970. **C. aggregata**, (Sw.) Eschw.—Fragments only.

Ramalodei.

Roccella, D.C.

971. **R. tinctoria**, Ach.—A shrubby whitish-brown Lichen of a brittle nature, found on rocks on the low land and outskirts of the Island. It is found also in Great Britain.

972. **R. phycopsis**, Ach.—A shrubby whitish Lichen of a somewhat more supple nature than the last species, but found in similar situations. It grows in a sort of knotted form. Also found in Great Britain.

973. **R. fuciformis**, Ach.—Growing on the hard basaltic rocks

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generally in the Island, but principally on the outskirts. Also found in Great Britain.

Usnea, Hffm.

974. **U. barbata,** Fr.; *forma florida,* Fr.—A greenish-white Lichen, covering the stems and branches of trees on the windward side of the Island on the high land, especially the Gumwood-trees at Longwood, from the branches of which it hangs down like beards, two or three feet in length; and also from the Fir-trees in exposed and windy places, as at West Lodge, Thompson's Wood, Rockrose Hill, Mount Pleasant, &c. It sometimes forms quite a thick coat on the exposed or windward side of the tree, while the other side of the stem is almost devoid of lichen. It is generally more or less damp and moist even in dry weather. Alt. 4. It is also found in Great Britain. Sterile.

975. **U. barbata,** Fr.; *forma hirta,* Fr.—A species similar to the other, but much coarser in texture; found in the same situations—viz., on the high land, where the atmosphere is moist; found also in Great Britain. Sterile.

976. **U. barbata,** Fr.; *forma ceratina,* Schær.—A more twiggy and wire-like species; found also in Great Britain. Fertile.

977. **U. barbata,** Fr.; *forma articulata,* Ach.—A species found also in Great Britain.

978. **U. lævis,** (Eschw.)—Sterile.

Ramalina, Ach.

979. **R. scopulorum,** Ach.—One of the shrubby, brittle, brownish-white Lichens, found on rocks on the barren outskirts of the Island; a very twiggy, branching species, about two or three inches in height. Found also in Great Britain.

980. **R. angulosa,** Laur.—This species, and the three following, were gathered by Dr. Burchell at Longwood in the years 1809 and 1815.

981. **R. angulosa,** Laur.; *forma gracilenta.*—Fertile.

982. **R. angulosa,** Laur.; *forma humilis dilatata.*—From rocks close to Round Tower, Ladder Hill. Fertile.

983. **R. pollinaria,** Ach.—Found on the Gumwood-trees at Longwood. H. L. Alt. 4. Sterile.

984. **R. polymorpha,** Ach.—One of the shrubby, pale greenish-

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white Lichens found on the rocks on the barren outskirts of the Island, of a very brittle nature; the branches flat and broad, with a horny appearance. Found also in Great Britain.

985. **R. ceruchis,** D.N.—A species gathered by Dr. Burchell. Fertile.

Stictina, Nyl.

986. **S. tomentosa,** (Sw.)—A jelly-like, butterfly-shaped Lichen, of a chocolate-brown colour, with dull red spots, found growing on the branches of the native Cabbage-trees on the high ridge at Diana's Peak, about 2700 feet above the sea, in a moist atmosphere. Fertile.

987. **S. crocata,** (Ach.)—Another species, from similar localities to the last.—Found also in Great Britain. Sterile.

Sticta, Ach.

988. **S. aurata,** Ach.—Perhaps of all, this is the most beautiful Lichen found in the Island. In its mat-like form it is abundantly met with, covering the branches of fruit and forest trees, on the central ridge, at Diana's Peak, &c. Alt. 5·4. It is most rich in colour, sometimes entirely of a brilliant golden hue. It is seen partially covering the dead brown leaves of the Tree-fern (*Dicksonia arborescens*) and the Cabbage-trees; in other places it is of a bright copper-colour, touched with gold; then of a deep red, with golden spots; and again, of a bright rich green, with golden underside and margins. It is also found in Great Britain. Sterile.

Ricasolia, De. Not.

989. **R. herbacea,** D.N.—A Lichen, gathered by Dr. Burchell. Fertile.

Parmelia, Ach. Nyl.

990. **P. perlata,** Ach.
991. **P. perlata,** var. *ciliata,* D.C.— } The most abundant of all the Lichens; found growing generally upon the stems and branches of trees inland, and upon rocks, &c., on the outskirts of the Island. It is of a flat, mat-like form, and plays an important part in the general landscape. The soft grey colour of the basaltic rocks and distant barren hills, which contrast so prettily when viewed in close proximity with bright green fields and foliage, is occasioned by this plant.—Found also in Great Britain.

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992. **P. saxatilis**, Ach.—A species collected from the bark of Oak trees, growing in the interior of the Island. Alt. 4.—Found also in Great Britain. Sterile.

993. **P. lævigata**, Ach.—A species very like the last mentioned. —Found also in Great Britain. Sterile.

994. **P. conspersa**, Ach.; *forma Mougeotii*, Schær.—Found on the rocks at St. Helena, and also in Great Britain. Sterile.

995. **P. incurva**? Fr.—Found on the rocks at St. Helena, and also in Great Britain. Sterile.

996. **P. caperata**, Linn.—Found at St. Helena; as also in Great Britain.

997. **P. hyperopta**, Ach.?—A very white Lichen, from the clay rock above The Hermitage; also from trunks of Fir trees on the high land. Alt. 4.

998. **P. lepidiota**, Smrf.

Physcia, Nyl.

999. **P. flavicans**, D.C.—A bright orange-yellow shrubby Lichen, found on the rocky outskirts, and on the stems of Fir trees in exposed places.—Found also in Great Britain. Sterile.

1000. **P. leucomela**, Mich.; *forma angustifolia*, (Mey. & Flt.)—A delicate thread-like Lichen, white, with black lateral hairs, found, with *Cora pavonia*, running amongst the grass on the central ridge of the high land at Diana's Peak. Fertile.

1001. **P. speciosa**, Fr.; and var. *hypoleuca*, Ach.—A flat, spreading, pale-greenish Lichen, growing on the stems and branches of trees; may be recognised by its beautifully divided branches. H. L. Alt. 4. Fertile.

1002. **P. picta**, (Sw.)—A very minute fine grey Lichen, found on the bark of decaying stumps of Cabbage-trees in the neighbourhood of Diana's Peak. H. L. Alt. 5·4. Sterile.

1003. **P. astroidea**, Clem.—A greyish-white Lichen, from the rocks generally in the Island.—Found also in Great Britain.

Placodei.

Pannaria, Del.

1004. **P. rubiginosa**, Del.—Found at St. Helena, and also in Great Britain.

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Erioderma, Fr.

1005. **E. unguigerum,** (Bor.)—A pale-blue Lichen, found growing on twigs of Cabbage-trees at Diana's Peak. H. L. Alt. 5·4.

Cora, Fr.

1006. **C. pavonia,** (Web.)—A pale-blue, ear-shaped Lichen, found amongst the grass and dead fern leaves, on and near to Diana's Peak. H. L. Alt. 5·4. It grows in patches, of a foot or more in diameter, and the grass and dead leaves are so embedded in it as to lead to the conclusion that at one stage the plant exists in a gelatinous state. Sterile.

Squamaria, D.C.

1007. **S. saxicola,** Poll.—A rock Lichen, from Rupert's Hill, on the outskirts of the Island. Alt. 1·6.—Found also in Great Britain.

Placodium, D.C., Nyl.

1008. **P. murorum,** Hffm. ?—A rock Lichen, from Rupert's Hill, and Munden's, on the leeward coast.—Found also in Great Britain.

Lecanora, Ach., Nyl.

1009. ***L. personata,** Leight.—Described and figured by Mr. Leighton as a new species, Trans. Linn. Soc. Lond. vol. xxvii. p. 157, t. xxxv. f. 6, 7.

1010. **L. aurantiaca,** (Lightf.); *Erythrella,* (Ach.)—A reddish-brown-coloured Lichen, growing on the rocks near Harding's Spring. H. L. Alt. 4.—Found also in Great Britain.

1011. **L. atra,** Huds.—A whitish-coloured Lichen, from rocks generally in the Island.—Found also in Great Britain.

1012. **L. ferruginea,** Huds. ?—A white Lichen from clay banks in the interior of the Island.—Found also in Great Britain.

1013. **L. argopholis,** Whlnb.—A rock Lichen growing on Rupert's Hill. Alt. 1·6.—Found also in Great Britain.

1014. **L. orosthea,** Ach.—Another rock species from the same locality.—Also found in Great Britain.

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1015. **L. hæmatomma**, Ach.—A knotted, whitish rock Lichen from the Black Square. H. L. Alt. 3.

1016. **L. fusco-lutea**, (Dicks.)—A whitish Lichen with bright-red seed-spots, from the stems of Cabbage-trees at Harding's Spring. H. L. Alt. 4.

The whitish lichens, which cover the rocks generally and give them their peculiar grey aspect, are species of *Lecanora*, amongst which are doubtless others than those which have been already identified by Mr. Leighton.

Urceolaria, Ach. pr. p. Nyl.

1017. **U. scruposa**, Linn.—A whitish Lichen from the clay roadside banks, on the high land in the interior of the Island.—Found also in Great Britain.

Pertusaria, D.C.

1018. **P. fallax**, Pers.—A broad, knotted, white Lichen, from the stems of Gumwood trees at Plantation House. H. L. Alt. 3·6.—Found also in Great Britain.

Lecidea, Ach.

1019.* **L. approximans**, Leight.—Described and figured by Mr. Leighton as a new species. Trans. Linn. Soc. Lond. vol. xxvii. p. 157, t. xxxv. f. 1, 2, 3.

1020. ***L. lactescens**, Leight.—Also described and figured by Mr. Leighton as a new species. Trans. Linn. Soc. Lond. vol. xxvii. t. xxxv. f. 4, 5.

1021. **L. saxatilis**, Schær. ?—Growing on rocks on Rupert's Hill. C. Alt. 1·6.—Found also in Great Britain.

1022. **L. enteroleuca**, Ach.—A very fine grey Lichen from rocks near Red Hill. H. L. Alt. 2·6.—Found also in Great Britain.

1023. **L. stellulata**, Tayl. — In appearance very much resembling a dark blue mark on the very hard rocks.—Found also in Great Britain.

Opegrapha, Ach., Nyl.

1024. **O. Leightonii**, Cromb.—A chalky-white Lichen, from the rocks at Rupert's Hill. C. Alt. 1·6.—Found also in Great Britain.

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Lepraria, Ach.

1025. **L. ochracea**, T. & B.—A pale green, fine dust-like Sorediate thallus, found on the bark of Fir and other trees in the interior of the Island. H. L. Alt. 4.

1026. **L. flava**, Ach.—A bright yellow Sorediate thallus, not unlike a deposit of sulphur, found on the barks of trees and roadside banks in the interior of the Island. Fir cones are sometimes so completely covered with it as to resemble gilding with gold-leaf. H. L. Alt. 4.

125. Fungi (*Mushrooms, &c.*).

Agaricus, Linn.

1027. **A. (Amanita) pantherinus**, DC.

1028. **A. (Psalliota) campestris**, Linn.—The Eatable Mushroom grows abundantly on the grassy plains at Deadwood, Man-and-Horse, New Ground, &c. It springs up after the summer rains. There is a larger species, inhabiting the rotting beds of old haystacks; and a still larger one, about eight or ten inches in diameter, occasionally met with on the barren plains between Longwood and Turk's Cap.

1029. **A. (Hypholoma) fascicalaris**, Huds.—Or some closely allied species, the specimen examined being only in the infant state.

Hypoxylon, Bull.

1030. ***H. Mellissii**, Berkeley.—This funny little black Fungus, of which Mr. Berkeley has given the following description as a new species, was taken from some of the decaying trunks of an old Cork-tree, which had been cut down, and remained for several years in a very damp place at The Hermitage. Alt. 3·2.—Ramoso-connatum; clavulis brevibus anguste ovatis opacis rugosis rimosis acuminatis; sporidiis minoribus. Looks at first like *H. micropus*, Fr.; but the sporidia $\frac{1}{17\frac{1}{50}}$ are a third shorter.

Phallus, Linn.

1031. **P. impudicus**? Linn.—This "stinking fungus" is often met with after heavy rains forcing its way out of the earth amongst the wooded parts on the high land.

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Polyphorus, Mich.

1032. **P. versicolor**, Fr.

1033. **P. lucidus**, Fr.

1034. ***P. (Anodermei) induratus**, Berkeley. — This new Fungus, of which Mr. Berkeley has given the following description and admirable drawing, is very abundant on the old stems of Oak and other trees which lie rotting in damp places on the high land at alt. 3·2 to 4. The specimen which Mr. Berkeley examined was taken from The Hermitage.—Pileo ungulato e tomentoso pallide sublaccato, poris elongatis albis minutis, angulatis, dissepimentis tenuibus; contextu fibroso-sericeo. At first evidently soft, then hardened; pores about one-seventieth of an inch in diameter. PLATE 56, f. e.

1035. **P. sanguineus**, Fr.—The specimen is quite colourless from exposure to weather. Mr. Berkeley says, "I believe it to be *Polyporus sanguineus*, Fr."

Schizophyllum, Fr.

1036. **S. commune**, Fr.

Scleroderma, Pers.

1037. **S. vulgare**, Fr.—This Puff Ball, commonly called "Devil's Snuff-box," is very common on the high land, along the roadside banks, and amongst the wooded parts.

126. MARINE ALGÆ (*Seaweeds*).

Professor Dickie has very kindly examined my collection, and identified the following species. Journ. Linn. Soc. 1873, vol. xiii. p. 178.

Ulva, Ag.

1038. **U. latissima**, Linn.—The bright grassy-green Seaweed which is very common around the shores of the Island; also generally found distributed in temperate and colder oceans.

1039. **U. parvula**, Ktz. ?—Rare at St. Helena; found adhering to *Laurencia cruciata*.

Enteromorpha, Ag.

1040. **E. sp.** ?—Found adhering to *Laurencia cruciata*. Probably *E. percursa*, Hook.

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Valonia, Gm.

1041. **V. verticillata**, Ktz.?—Taken from the shallow pools on the windward coast.—Rare at St. Helena, and found also at Vera Cruz.

Codium, Stackh.

1042. **C. tomentosum**, Stackh.—A very rare, coarse green Seaweed, growing in the pools on the windward coast.—It is nearly cosmopolitan throughout tropical and temperate oceans in both hemispheres and antarctic seas.

Griffithsia, Ag.

1043. **G. setacea**, Ellis?—Found adhering to *Laurencia cruciata*.—It is also found on the Atlantic and Mediterranean coasts of Europe, the Canaries, New Zealand, and Australia.

Centroceras, Kutzing.

1044. **C. clavulatum**, Ag. — Found adhering to *Corallina carinata*.—Found also in Florida, the Mediterranean, Canaries, Indian Ocean, Rio Janeiro, Callao, Vera Cruz, Cape of Good Hope, Mauritius, Sandwich Islands, Tahiti, Australia, Tasmania, and New Zealand.

Grateloupia, Ag.

1045. **G. filicina**, Wulf. — A dark purple Seaweed, rather common on the coast at St. Helena, and found also on the Atlantic shores, Canaries, Mediterranean, East Indies, Ceylon, Java, and Cape of Good Hope.

1046. **G. filicina**, var. *ramentacea*.—Found adhering to *Amphiroa fragilissima*, at St. Helena.

Galaxaura, Lamx.

1047. **G. lapidescens**, Lamx.—A Seaweed from the shallow low pools.—Rare at St. Helena, and found also at the Canaries, Red Sea, Indian Ocean, Mauritius, Madagascar, and Australia.

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Liagora, Lamx.

1048. **L. viscida**, Forsk.—A small bushy, pale Seaweed, occurring in the shallow pools on the windward coast, but rare.—Found also at the West Indies, Azores, Indian Ocean, Red Sea, and Eastern Australia.

Pterocladia, Lamx.

1049. **P. lucida**, Br.—A red Seaweed, growing parasitically and thickly on the backs of limpet-shells which are cast ashore somewhat plentifully along the coast; also found on pieces of wood that have been cast up by the sea.—Occurs also on the W. and S.W. coasts of Australia, at New Zealand and Ceylon.

Melobesia, Lamx.

1050. **M. farinosa**, Lamx.—Found adhering to *Laurencia cruciata*, at St. Helena, and is very general in both hemispheres.

Lithothamnion, Phil.

1051. **L. brassica-florida**, Harv. var.—A mass of thick, white, hard, coral-like formation, growing to some extent in the shallow pools, and also cast up with the shingle on the beach along the southern or windward coast. It is a good deal perforated by a small *Lithodomus*, the shells of which are found perfect in some of the holes.—Found also in Algoa Bay.

1052. **L. crassum**, Phil.—A very similar species, but much finer in its branching, and found under similar circumstances. Neither species is abundant.—Found also in the Mediterranean.

Amphiroa, Lamx.

1053. **A. exilis**, Harv.?—A small, fine, delicate and fragile, pinkish-white, branching, coral-like Seaweed, found very rarely in shallow pools on the windward coast. Also at the Cape of Good Hope, Brazil, and in the Mediterranean.

1054. **A. fragilissima**, Lamx.—A very fine, delicate, white Seaweed, growing in close tufts somewhat resembling a sponge; very rare in the pools at Lot's Wife Ponds.—Found also at Cuba, Eastern India, and in the Mediterranean.

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Corallina, Tourn.

1055. **C. carinata,** Ktz.—A small, delicate, coral-like, pink Seaweed, from the shallow pools on the coast. Very rare.—Has been also found at the Cape of Good Hope.

Laurencia, Lamx.

1056. **L. cruciata,** Harv.—A reddish-brown Seaweed, not very common, but found growing in the shallow pools on the windward coast.—Also found at Western Australia. It is said to be very near to *L. obtusa,* Lamx., which is widely diffused in both hemispheres.

Padina, Adams.

1057. **P. pavonia,** Linn.—A Seaweed from the Basaltic Rocks and small shallow pools of sea-water on Lot's Wife Beach, on the windward side of the Island.—Found also in South Britain, France, the Mediterranean, United States, West Indies, Red Sea, Indian Ocean, Cape of Good Hope, Mauritius, Australia, and New Zealand.

Ecklonia, Horn.

1058. **E. buccinalis,** Linn.—A Seaweed cast on shore at Sandy Bay, on the south side of the Island. As it does not grow at St. Helena, and is a well-known Cape species, it is most likely brought thence, over 1700 miles of sea, by the current that sets from the Cape to St. Helena.

NOTE.—Thirteen species from Tristan d'Acunha, and three from Ascension are included in the foregoing, but as several undetermined species and varieties are in some instances comprised under the same number, those found at St. Helena amount to about 1048.

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PART V.—CLIMATE—METEOROLOGY—TIDES—ROLLERS.

In excellence of climate, St. Helena is perhaps without an equal; no heat of torrid zones, or cold blasts from frigid regions, approach its genial shores. There no thunder-storms terrify the timid, no cholera, no yellow-fever, no small-pox, scarlatina, or deadly lurking fever-germs pollute the air. Nor is its balmy atmosphere ever marred by scorching winds, hot vapours, typhoons, hurricanes, cyclones, or any other characteristic of tropical regions. Throughout the year bright sunshine, clear skies, gentle breezes and deep blue seas, all combine to make it one of the most charming spots that can be found. The Island might reasonably and is generally supposed to be tropical in climate, lying as it does about one-third of the way within the tropic of Capricorn, and only 955 miles from the Equator; but fortunately its isolated position, far removed from the influence of any large tract of land, immediately in the heart of the ever-prevailing fresh, healthy, south-east trade winds, completely frees it from any of the disagreeables which such a latitude might be expected to possess. The climate is also rendered more temperate than it would otherwise be, by the cool current of water which generally flows from the Antarctic regions towards the Island; and when, on the other hand, the current sets in strongest from the Equatorial region—as it does when the rollers occur—it accounts for the close, oppressive, and warm state of the atmosphere on such occasions. Although not so much difference exists as in Europe, the year is really marked by four seasons—viz., Spring, extending from October to December; Summer, from January to March; Autumn, from April to June; and the remaining three months constituting Winter.

Although there is no perceptible difference for a week or so, Spring really commences on the 23rd September; Summer on the 22nd December, when the sun has its greatest south declination; Autumn on the 21st March, when the sun is on the equator; and

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Winter on the 21st June, when the sun is furthest north. Twice during the year the sun is vertical—on the 5th February and the 6th November.

The length of day is very uniform throughout the year, the longest, occurring on December 21st, being thirteen hours two minutes' duration; and the shortest, the 21st June, being eleven hours eight minutes, exactly the opposite of what occurs in England. Spring is characterized by a minimum temperature of 55·5°, and a maximum of 68°, with bright, sunny, cheerful weather, occasionally varied by fresh and gentle showers; while the oaks, bursting out into full leaf, with gorse, mimosas, buddlea, and other plants, in full blossom, mingling their delicious perfumes with the fragrance of the newly-mown hay, give to the season much of the charming character of an English spring. Summer is marked by hotter weather, the thermometer reaching as high as 72·8° on the high land, and 82·6° in Jamestown. The vegetation of the lower land becomes scorched up, and heavy tropical rains occur about the month of March. The chief sign of autumn is the fall of the leaf, which occurs with the oak and some other exotic plants with as much regularity as it does in England, the temperature becoming less, with small drizzling rains, usually called Scotch mists, during the month of June. In the winter, the temperature falls to 53·2°, the weather becomes squally, wind and rain both increasing, until on the high land fires become not only bearable, but necessary, both for personal comfort and for the preservation of property from ruin by damp and mould. The climate of James' valley during the summer months is not agreeable; it is then and there that the only approach to really hot weather is experienced.

It is easy to imagine the indignation of some wayfaring visitor to Jamestown, after having passed—not slept, for sleep is often out of the question—a night there, restless from heat, and worried by mosquitoes; but the climate of the town must not be considered in any way a type of that of the Island generally. The atmosphere of the town is so completely influenced by local circumstances, that it is altogether different from the rest of the Island. Built in one of those deep, narrow, water-cut ravines which transversely intersect the leeward coast, and enclosed between two huge basaltic hills, sloping up at angles of about 35° to a height of eight or ten hundred feet, it becomes, when the sun has heated them by day,

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and they radiate that heat at night, a very oven on a large scale. The oppressiveness of the air is moreover increased when occasionally the trade wind falls, and a stagnant calm prevails perhaps for five or six days at a time, disturbed only by a gentle north-westerly air-current, not strong enough to be called a wind, and at such periods the heat appears a great deal more intense than the maximum of 82·6° indicated by the thermometer, but this state of things never lasts long enough to produce unhealthiness. Whatever bad and injurious atmosphere accumulates is, before it has had time to promote evil, swept away by a fresh outburst of that pure and healthy South-east Trade so well deserving the title of "Doctor," which St. Helenians have given to it. The town is, moreover, naturally well drained and supplied with water, and it is not surprising to find that, with all its inconveniences during the summer months, Jamestown is not unhealthy. Permanent residents there suffer from relaxation, and its accompanying evils, and at times a low fever prevails to a small extent; but this latter is chiefly confined to the very poor, and may be attributed to their poverty and mode of living, with insufficient food and comforts, rather than to any effect produced by climate.

As might be expected, the atmosphere contains much moisture. Small islands, entirely surrounded by sea, must always be more or less damp, and this fact is as much against St. Helena as a residence for those who suffer from pulmonary complaints as Madeira. It has been observed that the pure African is more susceptible of such diseases than the native, but as very few instances of it occur at St. Helena at all, the large number of deaths which are registered must be attributed to seeds sown elsewhere.

Although the European garrison has until very recently been chiefly quartered in the town, statistics show that soldiers suffer less from mortality at St. Helena than at any other colonial station, and but a fractional degree more than in England.

The larger portion, or about four thousand, of the population, reside on the high land, or what is called the country, at altitudes varying from 1200 to 2000 feet. At this elevation, on the windward side, Longwood is situated; and at this spot, known to historians in connexion with the name of Napoleon Buonaparte, the only systematic meteorological observations which have been recorded were observed during the years 1840–45 by a detachment of Royal Artillery, under the direction of General Sir Edward

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Sabine, R.A., F.R.S., and subsequently published. Longwood is itself a bleak, cold, exposed situation; and the complaints of Napoleon's staff against it as such were not without some reason. On this account it is perhaps not the most favourable spot for recording observations characteristic of the meteorology of the Island; still they may be taken as affording a tolerably correct record.

The building erected for these observations stands in. Lat. 15° 56′ 41·2″ S., Long. 5° 40′ 31·5″ W., at an altitude of 1764 feet above the sea, and about two and a half miles from it. The mean temperature of five years was 61·4°; the lowest being 52°, on the 5th September, 1845, and the highest 77·6°, on the 3rd March, 1842; the mean taking place at nearly equal intervals between—viz., early in June and about the middle of December. The mean height of the thermometer in the different months ranged from 57·07° in September to 66·24° in March, making an average difference of only 9·17° between the hottest and coldest months. The extreme range of thermometer being 25·6°, and the mean diurnal range 5·6°.*

Over many miles of ocean blows the South-east Trade, as pure a wind as is found on the face of the earth, sometimes accompanied by rain and sea-fog, and sometimes sweeping across the plains of Longwood and down the ravines with force enough to uproot trees and unroof houses, while many a sheltered glade in other parts of the Island experiences little of its fury. These strong Trades, with a force of 1·72 lbs.,† are the nearest approach to a storm that ever occurs at St. Helena. They are generally strongest in the months of September and October; and it is remarkable that at times while they blow with fury round the coast, even driving ships to sea from the snug anchorage on the leeward side, a perfect calm exists on the mountain ridge at Diana's Peak, only 2697 feet higher up.

Clouds often hang over the whole Island, high above the land, for several days together, giving rise to the local expression, "a covered day." They seem spread out over the land like a huge umbrella, as a protection to young verdure from the fierce rays of the sun.

Rainy seasons happen twice in the year—in summer and winter; the summer rains are heavy, the latter light and misty, but continuous. At each period heavy floods are likely to occur, doing considerable damage to gardens and roads, which latter are necessarily very steep.

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* Appendix, pp. 396, 397.

† Appendix, p. 398.

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On these occasions much of the surface soil, which, excepting in the hollows and ravines, scarcely extends to ten feet in depth, is also washed away; and trees, pigs, poultry, with other things, are occasionally carried down by the swollen mountain torrents to the sea. Such floods have long been noted, as the following extract from the records shows:—

"5 *May*, 1719.—On Saturday last there was such vast floods of water descended from about the middle of this Island as did abundance of damage, and wee think it was a water spout that broke about the main ridge because the water did not fall in shores after the usuall manner, but descended from the top of that hill with mighty floods and torrents. It carryed away the soile in an incredible manner with both grass, trees, yams, and stone walls before it. It brought down rocks of a mighty bulk, and covered abundance of fruitfull land wth stones, the fine earth being washt away in such great quantity's that the Sea for a great way round about the Island lookt like Black Mudd."

Although periodical seasons of great drought visit the Island,* sometimes extending over four or five years at a time, the natural seasons, with abundance of rain, always return. The amount of rain which falls at the present time cannot account for the cutting-out of the ravines and valleys which exist, and it must, many thousand years ago, have been much greater. Most probably at that time the mountain tops were covered with snow, and the continual run of snow-water down to the lower land may have aided very considerably in cutting out those ravines.

The present amount of rainfall varies very much in different localities, and, as might be expected, very much less falls in Jamestown on the low coast than at Diana's Peak on the high mountain ridge. General Lefroy, R.A., recorded the following result of nine months' experiment:—

Near Diana's Peak,	2644 ft.	above the sea,	22·63	in. of rain.
A spot below ditto	1991	do.	27·11	do.
Longwood . .	1782	do.	43·42	do.
Jamestown . .	414	do.	7·63	do.

Governor Beatson also recorded the average fall during four years,

* Great droughts occurred in 1713, 1724, 1738-39, 1747-48, 1752, 1759, 1772, 1779-80, and 1792. MSS. Records.

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1810–13, at Plantation House, 1500 ft. above the sea, as 31·63 in. of rain.

And other records show that in the year 1862 the fall was

at Ladder Hill, on the sea coast . . .	600 ft.	above the sea,	18·85 in. of rain.
in James' Valley . .	250	do.	9·00 do.

An average of thirty inches may be taken as a mean annual fall, but with so great a variation in different localities, it affords a figure of little value. The mean annual average at Longwood during five years was 47·19 inches, the greatest occurring in 1842, and the lowest in 1845, the former measuring 90·46, and the latter 19·41 inches.*

It has been considered that 140 days out of the year are rainy days; but the high central ridge is scarcely ever four-and-twenty hours without clouds resting on it, and distilling moisture.

Very little, indeed scarcely any, barometric pressure is exercised, but it is very systematic and regular. The mean pressure during five years at Longwood was observed to be 28·285 in. The greatest observed depression was 28·094 in., on the 14th March, 1843; and the greatest elevation 28·497 in., on the 9th July, 1842: giving 0·403 in. as the extreme range. March, being the lowest month, showed a mean of 28·232 in.; and July, the highest, 28·367 in.; so that the range in the different months was 0·135 in. The mean diurnal variation being recorded at ·074 in. It has been noticed that during those months when the barometer is highest, the temperature is lowest, and when the barometer is lowest, the temperature is highest. The mean height of the barometer at the sea level, at Prosperous Bay, was 30·08 in.†

During five years the mean elastic force of aqueous vapour at Longwood was ·470 in.; the mean in the different months varied from a maximum of ·559 in. in March, to a minimum of ·411 in. in August. The range in the different months was ·148 in., and the diurnal range ·032 in.‡

The mean gaseous pressure, on dry air, obtained by deducting the elastic force of the vapour from the total barometric pressure, was found to be 27·816 in., with a minimum in March of 27·666 in., and a maximum in July of 27·948 in. The range in the different months was ·282 in., and the diurnal range ·074 in.§

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* Appendix, p. 400. † Appendix, p. 401. ‡ Appendix, p. 402.
§ Appendix, p. 403.

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The mean degree of humidity of the air was 87.* There is a considerable difference between rainfall and evaporation; and at Ladder Hill, 700 ft. above the sea, in the year commencing 12th February, 1860, the excess was observed to be 81·42 in. It must be borne in mind, however, that the station where this was noticed is situated on the low land, near the sea coast, on the leeward side—a spot where comparatively little rain falls.

The rise and fall of tide is almost imperceptible, the maximum being, at times of new and full moon, only 2 ft. 10 in., and the establishment 2h. 9m. Perhaps the most remarkable of any phenomena connected with the Island is that known as The Rollers, or huge rolling waves, which have from time to time caused much loss of life and property, and which are as well known at Ascension as at St. Helena. The Rollers usually set in during the early part of the year; and the greatest and most destructive on record occurred in the month of February, 1846. At St. Helena, on the 16th of that month, there was nothing unusual to attract the attention of the quiet inhabitants of the peaceful settlement of Jamestown, unless it was the marked stillness of the calm that prevailed, the S.E. Trade wind having entirely lulled for about ten days, leaving an oppressive sultry atmosphere. The barometer had risen rapidly, and stood high, and the atmosphere was dense and heavy, with thick clouds obscuring the sky. In the evening, towards sunset, a few waves commenced to break upon the beach in front of the town, but there was nothing very striking in this common occurrence. Through the night, however, the waves increased, and at daybreak on the following morning the surface of the sea opposite the town had assumed the appearance of a sheet of foam, broken only by tremendous waves, which came like so many rolling mountains chasing one another, carrying everything before them, and breaking near the shore. All this disturbance was within half a mile from the coast; the ships lying at anchor beyond that distance not being affected, while those within, some thirteen in number, including eleven captured slave ships, were, in the short space of seven hours, dashed into atoms. One of them, the *Descobrador*, a Brazilian brig of 127 tons burden, was with her anchors and cables literally lifted up, carried broadside on to the English schooner *Cornelia*, and both together driven on to the shore. So little notice

* Appendix, p. 399.

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had been given that there was not even time to remove the ship-keepers who were on board of the slave ships. Some of them escaped to other ships in the roadstead; but as the *Descobrador* struck the beach broadside on, and sea after sea broke over her, the keeper, with his wife and a Lascar servant, were seen holding on by the rails of the vessel, appealing for help. While they remained in this perilous position, Mr. Chatfield, of H.M.S. *Flying Fish*, attempted to gain the vessel with a rope, but was unable through the violence of the waves; but, after an unsuccessful attempt to fire a rocket and line across the wreck, an American sailor, named Roach, had the satisfaction of reaching it. With a rope he lashed himself and the woman together, and jumping into the waves both were drawn to the shore. The keeper and the Lascar jumped overboard, and in a momentary lull were both also saved. Not ten minutes did the whole of this occupy, and scarcely was the work of destruction over, when another slaver was driven from her anchors on to the shore; and then another, a splendid yacht-built schooner, the *Aquilla*, followed immediately, both being in the space of one moment shivered into a mass of splinters against the rocks. Ere mid-day arrived the rollers increased in size all along the leeward coast, the water on the southern side of the Island remaining quite undisturbed, and ship after ship shared a similar fate. Two Brazilian schooners, the *Enfranzia* and the *Esperanza*, were engulfed by huge waves sweeping over them; one of them sunk where she was in an instant, while the other drifted out to sea a total wreck. But at one o'clock the biggest wave of all, a tremendous rolling mountain of water, came in towards the shore, with every appearance of sweeping everything, even the Island itself, away. So huge was it that all behind it, almost even the very light of the sun, was shut out from the terrified spectators. The roaring of these waves could be heard for several miles inland; and one gentleman, long resident there, told me that never before in his life had he been so frightened as he was when he saw them. In one of these enormous waves the English brig *Rocket*, of 230 tons, was lifted with her hull in a vertical position, her bows up, and her stern down, and as the wave broke not a single trace of her was seen. The scene of devastation was not at sea alone, for the same wave came rolling along the wharf, tearing down large iron water-tanks and strongly-built iron cranes, one of which it carried fifty

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yards or more into the coal-yard, and dashing with the utmost fury against the cliff carried away a balcony, which but half-an-hour before had been vacated by thirty or forty spectators. The whole scene is described as one of wild and awful grandeur; the sea and the shore being everywhere covered with broken boats, spars, casks, timber, all floating in one huge boiling surge. The glacis and the lines of Jamestown were impassable through wreck of every description scattered about: coal-yards, wharf, and sea walls, batteries and cannon, were swept down. At six o'clock in the evening no abatement occurred, and two other ships, the *Quatro de Marco*, which hitherto, held by four anchors, had withstood the fury of the sea, and the *Julia*, a Brazilian, were dashed to pieces on the west rocks. The destruction of these ships was as instantaneous as a child would crush a fragile toy. The former vessel was seen with masts standing, only a moment before she floated a thousand pieces in the surge. The latter was rolled over just as if the waves were playing at football or cricket with her, and eventually lodged high up on the west rocks against the cliffs of Ladder Hill. At Rupert's Valley the sea rolled inland a distance of 216 feet. Eleven of the destroyed ships were condemned slavers, and of no great value; therefore the estimated damage done did not exceed 10,000*l*. This oceanic phenomenon occurs with greater force and more frequency at the Island of Ascension, in lat. 7° 58½′ S., and long. 14° 23½′ W., where communication between ships and the shore is completely stopped for a week or more at a time. Through the kindness of Captain Wilmshurst, R.N., I was able during the year commencing September, 1867, to make a comparison of the time and force of the rollers at each Island.* It appears that they set in at Ascension, upon the average, one to seven days sooner than they do at St. Helena, and that their course is south or south-easterly from the Equator, breaking against the northern shores only of both Islands. Although they happen at any period of the year, they appear chiefly in the months of December to March, usually occurring with greatest force in February.†

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* Appendix, p. 404.

† *Extracts from MSS. Island Records:—*

"16 *Jany.* 17$\frac{1}{11}^{0}$.—The Governor reports that the high seas which began the 13th of this Instant and continued the 14th and 15th, has done a great deale of damage, it has intirely washed away the lower fort of two guns at 'Bankses,' and had like to wash the

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Popular opinion has ascribed the cause of the Rollers to distant submarine volcanic action, but they occur with too much regularity to admit this reason, and I believe them to be due to oceanic currents, influenced by atmospheric pressure; in fact, a return wave, caused by the meeting of the Antarctic waters with the great Equatorial current of the Gulf Stream, and influenced by the North-east Trade winds. It is during the Roller months that the sun has greatest power in the Tropical Southern Hemisphere, and therefore the greatest amount of evaporation takes place; consequently the flow of cold water from the Antarctic regions towards the Equator is then most abundant and most rapid; as this current gets well warmed by the time it approaches the Line, it is hotter than the water of the great Equatorial current flowing south round Cape Verde, which it meets in latitude 4° South. These waters coming into violent collision, and not readily mixing because of difference in temperature, must result in a return current either northward or southward. This return takes place in the latter direction, after the Equatorial current has been forced to flow out on either side against the Brazilian and the African continental coasts.* The Equatorial current being at its maximum of strength at this period of the year is to a great extent due to the influence of the North-east Trade winds upon it, for it is their period of greatest force and most southern latitude. During the months of December to May the Equatorial limit of the North-east Trades is 5° to 7° N. lat., ex-

guns away, for we had enough to do to save them. The same high seas has also broke the middle angle of the Trench in James Valley for a matter of one hundred and ten foot, and has damaged the angle where the round tower is of one gun insomuch as it was like to tumble down.—These high seas sunk the punt and broke her loose, also the yaul, and nearly washed down the crane."

"5 *April*, 1715.—We think that a ship that arrives here about Christmas cannot possibly be dispatched in less than a month, because of the very great surfes that usually happens about that time of the year. We are informed that the latter end of March and beginning of April is also a time when abundance of high seas do usually happen, and we are the more confirm'd in such an opinion because the Honble: Companies long boat wch brought cutt stone from Sandy Bay, wch is at the Windermost part of the Island, has been laden these nine days, and is still loaden at a grapling in this road, but the surf is so high and violent that we dare not attempt to unload her, neither with these seas is it possible that any boat with safety can come to the crane to be unlivered."

"12th *April*, 1715.—This being the first day the Surfe abated the long boat was dispatched again for Sandy Bay, and the Governor mencond it that it might appear what great seas we have sometimes, but especially at this time of year, for now the great seas have held nineteen days, and the long boat was unloaden with much difficulty by smaller boats."

Rollers are also referred to as having occurred in March, 1717; December, 1733; February, 1720; and April, 1743.

* Maury, Phys. Geo. of the Sea, p. 383, § 892.

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tending as far as 2° N. in February and March; while for the rest of the year they only reach as far as 10° 62′ N.* Their proportionate force is also during the same periods, between the parallels of 10° to 15° N. lat., as 7·41 to 4·83.†

Some idea of the enormous force with which these waters meet and send back the Anctarctic current against the shores of Ascension and St. Helena, may be obtained from the following extract from Admiral Semmes' Voyages:‡—

"For the next few days, we encountered a remarkable easterly current, the current in this part of the ocean being almost constantly to the westward. This current, which we were now stemming—for we were sailing towards the north-west—retarded us as much as fifty miles in a single day! So remarkable did the phenomenon appear, that if I had noticed it but for a single day I should have been inclined to think that I had made some mistake in my observations, or that there was some error in my instrument; but we noticed it day after day for four or five days.

"Contemporaneously with this phenomenon, another and even more wonderful one appeared. This was a succession of tide-rips, so remarkable that they deserve special description.

"The *Sumter* lay nearly stationary during the whole of these phenomena, the easterly current setting her back nearly as much as she gained under sail. She was in the average latitude of 5° N., and average longitude of 42° W. For the first three days, the rips appeared with wonderful regularity, there being an interval of just twelve hours between them. They approached us from the south, and travelled towards the north. At first only a line of foam would be seen on the distant horizon, approaching the ship very rapidly. As it came nearer, an almost perpendicular wall of water, extending east and west as far as the eye could reach, would be seen, the top of the wall boiling and foaming like a breaker rolling over a rocky bottom. As the ridge approached nearer and nearer, it assumed the form of a series of rough billows, jostling against and struggling with each other, producing a scene of the utmost confusion, the noise resembling that of a distant cataract. Reaching the ship, these billows would strike her with such force as to send their

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* Horsburgh. † Maury.

‡ My Adventures Afloat. By Admiral Semmes.

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spray to the deck, and cause her to roll and pitch as though she were amid breakers. The phenomenon was, indeed, that of breakers, only the cause was not apparent, there being no shoal water to account for it. The *Sumter* sometimes rolled so violently in these breakers when broadside to, that we were obliged to keep her off her course several points to bring the sea on her quarter, and thus mitigate the effect. The belt of rips would not be broad, and as it travelled very rapidly—fifteen or twenty miles the hour—the ship would not be long within its influence. In the course of three-quarters of an hour it would disappear entirely on the distant northern horizon. So curious was the whole phenomenon, that the sailors as well as the officers assembled, as if by common consent, to witness it. 'There come the tide-rips!' some would exclaim, and in a moment there would be a demand for the telescopes, and a rush to the ship's side to witness the curious spectacle. These rips have frequently been noticed by navigators, and discussed by philosophers, but hitherto no satisfactory explanation has been given of them. They are like the bores at the mouths of great rivers—as at the mouth of the Amazon, in the Western Hemisphere, and of the Ganges in the Eastern—great breathings or convulsions of the sea, the causes of which elude our research. These bores sometimes come in, in great perpendicular walls, sweeping everything before them, and causing immense destruction of life and property. I was at first inclined to attribute these tide-rips to the lunar influence, as they appeared twice in the twenty-four hours, like the tides, and each time near the passing of the meridian by the moon; but, in a few days, they varied the times of their appearance, and came on quite irregularly, sometimes with an interval of five or six hours only. And then the tidal wave, for it is evidently this, and not a current, should be from east to west, if it were due to lunar influence; and we have seen that it travelled from south to north. Nor could I connect it with the easterly current that was prevailing, for it travelled at right angles to the current, and not with or against it. It was evidently due to some pretty uniform law, as it always travelled in the same direction."

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APPENDIX.

Mean Temperature of the Air observed at Longwood, 1764 feet above the Sea, for the period from 1841 to 1845 inclusive.

Mean Time St. Helena.	h. 0	h. 1	h. 2	h. 3	h. 4	h. 5	h. 6	h. 7	h. 8	h. 9	h. 10	h. 11	h. 12	h. 13	h. 14	h. 15	h. 16	h. 17	h. 18	h. 19	h. 20	h. 21	h. 22	h. 23	Monthly Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
January	67·68	68·05	67·93	67·79	67·50	66·04	64·58	63·39	62·93	62·62	62·42	62·27	62·06	61·88	61·66	61·60	61·49	61·39	61·37	61·8	62·79	64·09	65·38	66·55	63·98
February ...	69·14	69·61	69·85	69·59	68·95	67·89	66·59	65·43	64·91	64·66	64·46	64·32	64·13	63·96	63·78	63·59	63·51	63·44	63·42	63·62	64·43	65·72	67·08	68·24	65·87
March	69·13	69·57	69·89	69·71	69·10	68·10	66·86	65·84	65·47	65·15	65·00	64·83	64·65	64·50	64·31	64·17	64·15	64·05	64·05	64·29	65·08	66·39	67·35	68·38	66·24
April	68·54	68·89	68·98	68·64	67·99	66·98	65·84	65·15	64·84	64·61	64·45	64·29	64·11	64·02	63·88	63·77	63·66	63·51	63·49	63·69	64·50	65·70	66·74	67·86	65·60
May	65·76	66·01	66·09	65·84	65·17	64·11	63·56	63·32	62·73	62·13	62·03	61·88	61·67	61·57	61·40	61·24	61·19	61·19	61·04	61·06	62·01	63·22	64·11	65·22	63·05
June	62·40	62·76	62·73	62·39	61·83	60·98	60·14	59·68	59·49	59·34	59·20	59·11	59·00	58·86	58·74	58·61	58·56	58·53	58·47	58·52	59·13	60·16	60·98	61·80	60·07
July...	60·37	60·83	60·77	60·51	59·87	58·98	58·14	57·70	57·48	57·25	57·13	56·91	56·81	56·72	56·60	56·51	56·43	56·36	56·31	56·38	57·07	58·09	58·90	59·69	57·99
August	59·68	59·99	60·12	59·72	59·11	58·11	57·23	56·83	56·60	56·45	56·32	56·20	56·10	55·98	55·76	55·68	55·53	55·50	55·39	55·56	56·20	57·22	58·07	58·96	57·17
September ...	59·89	60.26	60·18	59·77	59·11	58·03	57·05	56·56	56·35	56·21	56·04	55·91	55·82	55·67	55·51	55·37	55·29	55·21	55·24	55·44	56·12	57·18	58·31	59·14	57·07
October	61·50	61·98	61·91	61·31	60·46	59·31	58·18	57·57	57·64	57·12	56·99	56·84	56·64	56·48	56·30	56·18	56·11	56·01	56·06	56·50	57·38	58·61	59·71	60·73	58·23
November ...	63·44	63·88	63·97	63·52	62·63	61·32	59·94	59·11	58·76	58·87	58·41	58·24	58·08	57·90	57·71	57·62	57·55	57·43	57·53	58·03	58·94	60·20	61·35	62·35	59.84
December ...	65·19	65·81	65·87	65·72	64·88	63·62	62·17	61·10	60·70	60·46	60·27	60·12	59·95	59·75	59·57	59·47	59·34	59·31	59·39	59·77	60·69	61·97	63.03	64·19	61·77
Hourly Means	64·39	64·80	64·86	64·54	63·87	62·79	61·19	60·97	60·66	60·38	60·23	60·08	59·92	59·77	59·60	59·48	59·40	59·33	59·31	59·56	60·36	61·55	62·58	63·59	61·40

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Table showing the Extreme Range, in each Month during a Period of Five Years, of the Thermometer, observed at Longwood.

Months.	1841.		1842.		1843.		1844.		1845.		Extreme Range in each Month.					
	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.	1841.	1842.	1843.	1844.	1845.	Mean.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
January	70·6	59·2	72·5	59·1	73·1	60·3	No observations.		70·2	58·8	11·4	13·4	12·8	—	11·4	12·2
February	73·2	60·0	72·8	61·6	73·2	61·4	74·3	62·5	71·8	60·2	13·2	11·2	11·8	11·8	11·6	11·9
March	71·8	61·9	77·6	62·6	71·3	61·9	74·8	63·4	71·3	60·5	9·9	15·0	9·4	11·4	10·8	11·3
April	71·6	61·0	71·6	61·1	69·9	61·5	74·8	63·1	71·7	61·6	10·6	10·5	8·4	11·7	10·1	10·3
May	69·5	57·5	71·1	57·8	68·2	56·7	70·2	59·3	71·0	59·0	12·0	13·3	11·5	10·9	12·0	11·9
June	69·2	55·2	68·6	55·4	65·1	54·3	66·4	57·2	65·9	55·2	14·0	13·2	10·8	9·2	10·7	11·6
July	65·0	54·9	62·7	52·1	62·2	52·7	64·0	53·6	63·9	53·5	10·1	10·6	9·5	10·4	10·4	10·2
August	63·8	53·9	62·0	52·4	63·5	52·3	63·7	53·3	61·1	53·4	9·9	9·6	11·2	10·4	7·7	9·8
September...	64·7	54·2	66·9	54·0	63·7	53·0	66·6	53·0	61·7	52·0	10·5	12·9	10·7	13·6	9·7	11·5
October	66·3	54·0	66·2	53·8	63·7	53·5	65·3	53·8	67·8	54·9	12·3	12·4	10·2	11·5	12·9	11·9
November...	71·4	55·3	69·0	56·2	67·8	54·7	65·5	56·0	66·4	55·6	16·1	12·8	13·1	9·0	10·8	12·4
December...	70·6	59·2	72·5	55·6	72·4	58·0	69·0	56·5	67·7	55·7	11·4	16·9	14·4	12·5	12·0	13·4

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Mean Pressure of the Wind, observed at Longwood, 1764 feet above the Sea, for the period from 1841 to 1845 inclusive.

St. Helena Mean time.	h. 0	h. 1	h. 2	h. 3	h. 4	h. 5	h. 6	h. 7	h. 8	h. 9	h. 10	h. 11	h. 12	h. 13	h. 14	h. 15	h. 16	h. 17	h. 18	h. 19	h. 20	h. 21	h 22	h. 23	Monthly Means
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
January	1·25	1·16	1·12	1·10	1·07	1·12	1·08	1·12	1·12	1·09	1·16	1·30	1·30	1·26	1·28	1·31	1·42	1·48	1·51	1·50	1·50	1·51	1·51	1·51	1·28
February ...	1·14	1·07	1·03	0·97	0·93	0·94	0·92	0·92	0·90	0·90	0·90	0·90	0·90	0·87	0·90	0·89	0·95	0·98	1·01	1·09	1·08	1·13	1·17	1·20	0·99
March	0·83	0·81	0·82	0·77	0·74	0·75	0·77	0·79	0·79	0·81	0·85	0·85	0·81	0·82	0·86	0·90	0·94	0·96	0·98	0·99	0·98	0·96	0·97	1·00	0·86
April	0·66	0·65	0·63	0·62	0·61	0·63	0·63	0·68	0·72	0·72	0·69	0·69	0·67	0·67	0·71	0·73	0·77	0·78	0·80	0·85	0·83	0·84	0·85	0·87	0·72
May...	0·65	0·64	0·68	0·67	0·69	0·70	0·73	0·74	0·76	0·74	0·72	0·70	0·71	0·67	0·68	0·66	0·69	0·74	0·76	0·75	0·77	0·81	0·81	0·86	0·72
June	0·77	0·75	0·73	0·74	0·72	0·73	0·75	0·75	0·78	0·76	0·76	0·79	0·78	0·7,	0·79	0·82	0·86	0·90	0·92	0·95	0·96	0·99	1·01	0·95	0·82
July	0·99	0·93	0·86	0·86	0·83	0·85	0·81	0·85	0·85	0·88	0·89	0·87	0·85	0·83	0·83	0·81	0·82	0·91	0·93	0·96	1·03	1·09	1·11	1·20	0·91
August	1·31	1·24	1·17	1·14	1·17	1·17	1·18	1·17	1·25	1·28	1·30	1·29	1·30	1·29	1·28	1·21	1·23	1·26	1·32	1·38	1·40	1·39	1·50	1·50	1·28
September ...	1·10	1·10	1·09	1·09	1·10	1·15	1·14	1·12	1·11	1·08	1·07	1·06	1·03	1·03	0·98	0·96	0·98	1·09	1·13	1·16	1·21	1·26	1·33	1·32	1·11
October	1·37	1·31	1·22	1·19	1·22	1·25	1·27	1·28	1·25	1·22	1·25	1·26	1·28	1·28	1·28	1·29	1·41	1·46	1·51	1·57	1·60	1·63	1·70	1·71	1·37
November ...	1·57	1·56	1·57	1·59	1·60	1·63	1·59	1·58	1·48	1·45	1·45	1·46	1·41	1·37	1·40	1·40	1·43	1·49	1·57	1·66	1·20	1·68	1·72	1·72	1·52
December ...	1·28	1·31	1·31	1·25	1·22	1·23	1·25	1·22	1·22	1·16	1·18	1·16	1·17	1·22	1·23	1 2	1·43	1·48	1·51	1·56	1·60	1·61	1·62	1·5	1·34
Hourly Means	1·08	1·04	1·02	1·00	0·99	1·01	1·01	1·02	1·02	1·01	1·01	1·03	1·02	1·01	1·02	1·03	1·08	1·13	1·16	1·20	1·18	1·24	1·28	1·28	1·08

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Mean Degree of Humidity of the Air, observed at Longwood, 1764 feet above the Sea, for the period 1841 to 1845 inclusive.

Mean time St. Helena.	h. 0	h. 1	h. 2	h. 3	h. 4	h. 5	h. 6	h. 7	h. 8	h. 9	h. 10	h. 11	h. 12	h. 13	h. 14	h. 15	h. 16	h. 17	h. 18	h. 19	h. 20	h. 21	h. 22	h. 23	Monthly Means.
January	76	75	75	76	78	81	84	87	88	89	90	90	90	90	90	90	90	89	89	88	87	84	81	78	85
February ...	78	78	77	78	80	82	85	88	89	90	91	91	91	91	91	91	91	91	91	91	90	88	84	81	86
March	83	81	80	81	82	84	87	89	89	91	92	92	93	93	93	93	93	93	93	93	92	89	86	85	89
April	83	82	81	82	84	85	87	89	90	91	90	91	91	91	91	91	91	91	91	91	91	88	86	84	88
May	85	82	82	81	82	84	86	88	87	88	89	89	89	89	89	89	90	90	90	89	88	87	86	84	87
June	82	82	82	82	85	85	87	87	87	87	88	88	88	88	89	87	88	88	89	89	88	86	86	84	86
July...	82	81	81	81	82	85	87	87	88	88	89	89	88	89	89	89	89	88	88	88	89	86	85	84	86
August	85	84	83	84	86	87	89	90	90	90	90	90	92	91	91	90	89	90	91	91	91	89	89	86	89
September ...	86	83	84	85	86	88	90	91	91	91	91	91	91	91	91	91	93	92	92	92	91	90	87	86	89
October	82	82	83	83	85	87	89	90	90	91	92	92	92	92	92	92	92	92	92	92	92	89	90	90	89
November ...	82	79	79	79	82	84	86	88	89	90	90	90	90	90	90	90	90	90	90	89	88	86	83	82	87
December ...	78	77	77	77	79	83	86	88	89	89	89	90	90	90	90	90	90	90	90	90	89	85	83	80	86
Hourly Means.	82	81	80	81	82	85	87	88	90	90	90	90	90	90	91	90	91	90	91	90	90	87	86	84	87

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Record of the Anemometer Rain Gauge, observed at Longwood, 1782 feet above the Sea.

Months.	Years.					
	1840.	1841.	1842.	1843.	1844.	1845.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
January	—	3·50	9·64	1·79	0·99	0·42
February	—	8·50	13·50	4·32	1·36	0·78
March	—	13·25	9·22	8·37	1·95	0·86
April	—	6·75	4·93	1·46	0·90	1·36
May	—	9·50	6·17	7·32	2·57	3·50
June	—	5·75	7·65	3·59	1·48	3·12
July	—	4·25	10·05	1·76	1·87	2·53
August	—	6·00	7·49	1·55	3·33	2·63
September	5·78	3·50	7·19	0·92	2·82	2·65
October	2·59	4·25	6·78	1·56	1·35	1·00
November	0·95	1·50	3·92	1·74	0·71	0·46
December	4·11	2·17	3·92	2·80	0·69	0·10
Total.	——	68·92	90·46	37·18	20·02	19·41

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Mean Height of the Barometer for the Period from 1841 *to* 1845 *inclusive, observed at Longwood, the Height of the Cistern above Low-water Mark being* 1746 *Feet in May, June, and July,* 1840, *and* 1765 *Feet subsequently.—Barometer at* 32°=28 *English Inches* + *the Decimals in the Table.*

St. Helena Mean Time.	h. 0	h. 1	h. 2	h. 3	h. 4	h. 5	h. 6	h. 7	h. 8	h. 9	h. 10	h. 11	h. 12	h. 13	h. 14	h. 15	h. 16	h. 17	h. 18	h. 19	h. 20	h. 21	h. 22	h. 23	Monthly Means.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
January	·256	·244	·228	·213	·204	·207	·216	·228	·243	·256	·264	·260	·245	·228	·216	·209	·212	·220	·239	·256	·267	·273	·273	·266	28·238
February ...	·247	·230	·215	·201	·193	·193	·201	·212	·228	·240	·249	·249	·237	·222	·208	·199	·202	·206	·220	·238	·252	·262	·263	·257	28·226
March	·244	·223	·207	·194	·189	·192	·200	·213	·228	·243	·252	·248	·238	·225	·211	·201	·199	·206	·217	·234	·251	·262	·264	·257	28·225
April	·256	·238	·222	·209	·208	·212	·218	·230	·246	·258	·263	·262	·258	·247	·232	·220	·218	·222	·237	·253	·269	·280	·286	·275	28·242
May	·292	·273	·256	·247	·246	·252	·259	·269	·283	·293	·296	·294	·286	·276	·267	·257	·256	·260	·270	·286	·302	·315	·318	·309	28·277
June	·344	·326	·323	·305	·305	·309	·318	·327	·337	·345	·349	·345	·336	·330	·319	·308	·307	·309	·318	·332	·349	·364	·367	·359	28·331
July	·372	·356	·340	·334	·336	·344	·351	·359	·369	·376	·380	·377	·372	·362	·350	·339	·335	·337	·345	·358	·375	·391	·395	·388	28·360
August	·363	·346	·332	·323	·324	·330	·336	·348	·360	·368	·373	·371	·363	·350	·337	·328	·324	·325	·338	·350	·366	·381	·387	·378	28·350
September ...	·324	·309	·294	·284	·284	·291	·299	·313	·327	·338	·340	·338	·328	·311	·297	·287	·283	·289	·301	·316	·330	·341	·345	·340	28·315
October	·290	·273	·259	·249	·246	·251	·262	·274	·288	·299	·305	·298	·284	·267	·253	·242	·244	·251	·265	·283	·298	·307	·306	·303	28·275
November ...	·268	·254	·239	·227	·221	·222	·231	·244	·260	·271	·279	·278	·268	·239	·226	·221	·224	·231	·249	·266	·280	·288	·288	·281	28·252
December ...	·268	·254	·240	·225	·216	·218	·228	·241	·256	·267	·276	·272	·257	·238	·226	·219	·220	·231	·251	·268	·278	·284	·283	·278	28·250
Hourly Means.	·294	·277	·263	·251	·248	·252	·260	·272	·285	·296	·302	·299	·288	·275	·262	·253	·252	·257	·271	·287	·301	·312	·315	·308	28·278

+ ·007 correction to the Royal Society's Flint-glass Standard Barometer.

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Mean Elastic Force of the Vapour, observed at Longwood, 1764 Feet above the Sea, for the Period 1841 to 1845 inclusive.

St. Helena Mean Time.	h. 0	h. 1	h. 2	h. 3	h. 4	h. 5	h. 6	h. 7	h. 8	h. 9	h. 10	h. 11	h. 12	h. 13	h. 14	h. 15	h. 16	h. 17	h. 18	h. 19	h. 20	h. 21	h. 22	h. 23	Monthly Means.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
January... ...	·501	·503	·503	·503	·501	·502	·499	·499	·502	·502	·502	·499	·497	·493	·489	·489	·488	·484	·484	·486	·496	·497	·498	·502	·497
February ...	·541	·548	·544	·544	·545	·538	·535	·538	·536	·538	·537	·538	·536	·534	·532	·527	·528	·527	·527	·528	·540	·543	·543	·542	·537
March	·573	·573	·572	·570	·564	·561	·557	·556	·555	·556	·557	·555	·554	·552	·550	·547	·548	·543	·545	·551	·559	·567	·570	·576	·559
April	·565	·564	·562	·561	·557	·550	·544	·543	·542	·544	·541	·539	·535	·535	·533	·533	·531	·527	·531	·532	·542	·550	·553	·558	·545
May...	·516	·513	·512	·506	·497	·492	·486	·488	·489	·485	·485	·485	·481	·483	·480	·477	·477	·479	·476	·477	·491	·500	·506	·511	·491
June	·460	·461	·463	·456	·452	·448	·445	·442	·442	·439	·438	·438	·438	·433	·433	·426	·429	·431	·428	·434	·440	·443	·457	·459	·443
July	·426	·427	·425	·422	·421	·418	·413	·411	·411	·411	·409	·406	·404	·403	·404	·403	·401	·398	·399	·400	·411	·414	·418	·422	·412
August	·426	·429	·425	·421	·420	·414	·411	·412	·412	·409	·409	·404	·407	·405	·401	·398	·396	·397	·398	·402	·406	·412	·421	·425	·411
September ...	·431	·429	·430	·426	·420	·415	·412	·410	·410	·409	·408	·406	·403	·403	·401	·398	·398	·398	·393	·402	·408	·417	·423	·427	·413
October	·447	·448	·444	·442	·437	·431	·426	·423	·421	·423	·423	·421	·418	·416	·416	·413	·414	·412	·414	·418	·425	·434	·439	·445	·427
November ...	·455	·455	·457	·451	·449	·445	·440	·438	·436	·437	·435	·434	·432	·432	·425	·424	·426	·421	·424	·429	·433	·445	·449	·452	·438
December ...	·476	·478	·474	·472	·473	·471	·465	·465	·464	·465	·462	·463	·461	·458	·456	·456	·451	·449	·453	·456	·464	·468	·472	·474	·464
Hourly Means	·485	·486	·484	·481	·478	·474	·469	·469	·468	·468	·467	·466	·464	·462	·460	·458	·457	·456	·456	·460	·468	·474	·479	·483	·470

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Mean Gaseous Pressure for the Period from 1841 to 1845 inclusive, observed at Longwood, 1764 Feet above the Sea; 27 English Inches + the Decimals in the Table.

St. Helena Mean Time	h. 0	h. 1	h. 2	h. 3	h. 4	h. 5	h. 6	h. 7	h. 8	h. 9	h. 10	h. 11	h. 12	h. 13	h. 14	h. 15	h. 16	h. 17	h. 18	h. 19	h. 20	h. 21	h. 22	h. 23	Monthly Means.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
January	·755	·741	·725	·710	·703	·705	·717	·729	·741	·754	·762	·761	·748	·735	·727	·720	·724	·736	·755	·770	·771	·776	·775	·764	27·741
February ...	·706	·682	·671	·657	·648	·655	·666	·674	·692	·702	·712	·711	·701	·688	·676	·672	·674	·679	·693	·710	·712	·719	·720	·715	27·689
March	·671	·650	·635	·624	·625	·631	·643	·657	·673	·687	·695	·693	·684	·673	·661	·654	·650	·663	·672	·683	·692	·695	·694	·681	27·666
April	·691	·674	·660	·648	·651	·662	·674	·687	·704	·714	·722	·723	·723	·712	·699	·687	·687	·695	·706	·721	·727	·730	·733	·717	27·697
May	·776	·760	·744	·741	·749	·760	·773	·781	·794	·808	·811	·809	·805	·793	·787	·780	·779	·781	·794	·809	·811	·815	·812	·798	27·786
June	·880	·865	·860	·849	·853	·861	·873	·885	·895	·906	·911	·907	·898	·897	·886	·882	·878	·878	·890	·898	·909	·921	·910	·900	27·888
July	·946	·929	·915	·912	·915	·926	·938	·948	·958	·965	·972	·971	·968	·959	·946	·936	·934	·939	·946	·958	·964	·977	·977	·966	27·948
August	·937	·917	·907	·902	·904	·916	·925	·936	·948	·959	·964	·967	·956	·945	·936	·930	·928	·928	·940	·948	·960	·969	·966	·953	27·939
September ...	·893	·880	·864	·858	·864	·876	·887	·903	·917	·929	·932	·932	·925	·908	·896	·889	·885	·891	·903	·914	·922	·924	·922	·913	27·901
October	·843	·825	·815	·807	·809	·820	·836	·851	·867	·876	·882	·877	·866	·851	·837	·829	·830	·839	·851	·865	·873	·873	·867	·858	27·848
November ...	·813	·799	·782	·776	·772	·777	·791	·806	·824	·834	·844	·838	·826	·807	·801	·797	·798	·810	·825	·837	·847	·843	·839	·829	27·814
December ...	·792	·776	·766	·753	·743	·747	·763	·776	·792	·802	·814	·808	·797	·780	·770	·763	·769	·782	·798	·812	·814	·816	·811	·804	27·786
Hourly Means.	·809	·791	·779	·770	·770	·778	·791	·803	·817	·828	·835	·833	·824	·813	·802	·797	·795	·801	·814	·827	·833	·838	·836	·825	27·809

+ ·007 correction to the Royal Society's Flint-glass Standard Barometer.

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Observations at Noon Daily at Ascension and St. Helena during Twelve Months, from September, 1867, to August, 1868.

	September, 1867.	
Day.	Ascension.	St. Helena.
1	Slight rollers	Slight surf, N.W.
2	Slight surf	Calm.
3	Calm...	Calm.
4	Slight surf	Calm.
5	Calm...	Calm.
6	Calm...	Calm.
7	Calm...	Calm.
8	Calm...	Calm.
9	Calm...	Calm.
10	Calm...	Calm.
11	Calm...	Calm.
12	Calm.	Calm.
13	Calm...	Calm.
14	Calm...	Calm.
15	Slight surf	Calm.
16	Slight surf	Calm.
17	Calm	Calm.
18	Calm...	Calm.
19	Calm...	Calm.
20	Calm...	Calm.
21	Calm...	Calm.
22	Slight surf	Calm.
23	Medium rollers, N.W.	Calm.
24	Medium rollers, N.W.	Slight surf, N.W.
25	Slight surf	Calm.
26	Calm...	Calm.
27	Calm...	Calm.
28	Calm...	Calm.
29	Calm...	Calm.
30	Calm...	Calm.

	November, 1867.	
Day.	Ascension.	St. Helena.
1	Calm..	Calm.
2	Calm...	Calm.
3	Calm...	Calm.
4	Calm...	Calm.
5	Calm...	Calm.
6	Calm...	Calm.
7	Slight rollers	Calm.
8	Medium rollers, N.W.	Slight surf, N.
9	Very high rollers, N.W.	Heavy surf, N.W.
10	Slight surf	Slight surf, N.W.
11	Calm...	Slight surf, N.W.
12	Calm...	Calm.
13	Calm...	Calm.
14	Calm...	Calm.
15	Slight surf	Calm.
16	High rollers, N.W....	Calm.
17	Medium rollers, N.W.	Calm.
18	Slight surf	Calm.
19	Calm...	Calm.
20	Calm...	Calm.
21	Calm...	Calm.
22	Calm...	Slight surf, N.W.
23	Calm...	Slight surf, N.W.
24	Calm...	Slight surf, N.W.
25	Calm...	Slight surf, N.W.
26	Calm...	Slight surf, N.W.
27	Calm...	Calm.
28	Calm...	Calm.
29	Calm...	Calm.
30	Calm...	Calm.

	October, 1867.	
Day.	Ascension.	St. Helena.
1	Calm...	Calm.
2	Calm...	Very slight surf.
3	Calm...	Calm.
4	Slight surf	Very slight surf, N.W.
5	Calm...	Calm.
6	Calm...	Calm.
7	Calm...	Calm.
8	Calm...	Calm.
9	Calm...	Calm.
10	Calm..	Calm.
11	Calm...	Calm.
12	Calm...	Calm.
13	Calm...	Calm.
14	Calm...	Calm.
15	Calm...	Calm.
16	Calm...	Calm.
17	Calm...	Calm.
18	Calm...	Slight surf, N.
19	Calm...	Slight surf, N.W.
20	Slight surf	Slight surf, N.W.
21	Slight surf	Slight surf, N.W.
22	Slight surf	Slight surf, N.W.
23	Slight surf	Calm.
24	Slight rollers, N.W.	Calm.
25	Slight rollers, N.W.	Calm.
26	Slight surf	Calm.
27	Calm...	Calm.
28	Calm...	Calm.
29	Slight surf	Very slight surf, N.W.
30	Slight surf	Very slight surf, N.W.
31	Calm...	Calm.

	December, 1867.	
Day.	Ascension.	St. Helena.
1	Calm...	Calm.
2	Calm...	Calm.
3	Calm...	Calm.
4	Calm...	Calm.
5	Calm...	Calm.
6	Calm...	Slight surf.
7	Calm...	Calm.
8	Calm...	Calm.
9	Calm...	Calm.
10	Calm...	Calm.
11	Slight surf	Calm.
12	Slight surf	Calm.
13	Slight rollers, N. ...	Slight surf, N.W.
14	Slight rollers, N. ...	Slight rollers, N.
15	Slight surf	Slight rollers, N.
16	Slight surf	Slight surf, N.
17	Calm...	Slight surf, N.
18	Slight surf	Slight surf, N.
19	Calm...	Slight surf, N.
20	Calm...	Slight surf, N.
21	Calm...	Calm.
22	Calm...	Calm.
23	Calm...	Calm.
24	Calm...	Calm.
25	Calm...	Calm.
26	Calm...	Calm.
27	Slight surf	Slight surf, N.W.
28	Slight rollers, N. ...	Calm.
29	Slight rollers, N. ...	Heavy surf, N.W.
30	Calm...	Heavy surf, N.W.
31	Slight surf	Heavy surf, N.W.

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Observations at Noon Daily at Ascension and St. Helena during Twelve Months, from September, 1867, to August, 1868.

	JANUARY, 1868.	
Day.	Ascension.	St. Helena.
1	Medium rollers, N....	Slight surf, N.W.
2	Medium rollers, N....	Heavy surf, N.W.
3	Slight surf	Slight rollers, N.W.
4	Calm...	Slight rollers, N.W.
5	Calm...	Slight surf, N.W.
6	Slight surf	Slight surf, N.W.
7	Medium rollers, N....	Slight surf, N.W.
8	Medium rollers, N....	Heavy surf, N.W.
9	Slight surf	Heavy surf, N.W.
10	Calm...	Heavy surf, N.W.
11	Calm	Slight surf.
12	Slight rollers, N. ...	Heavy surf.
13	Medium rollers, N....	Heavy surf, N.
14	Medium rollers, N....	Medium rollers, N.
15	Slight surf	Medium rollers, N.
16	Calm...	Heavy surf, N.W.
17	Calm...	Slight surf, N.W.
18	Calm...	Slight surf, N.W.
19	Calm...	Calm.
20	Slight rollers, N. ...	Slight surf, N.W.
21	Slight rollers, N. ...	Slight surf, N.W.
22	Slight surf	Slight surf, N.W.
23	Slight surf	Slight surf, N.W.
24	Calm...	Slight surf, N.W.
25	Calm...	Slight surf, N.W.
26	Calm...	Calm.
27	Calm...	Calm.
28	Calm...	Calm.
29	Slight rollers, N. ...	Calm.
30	Slight rollers, N. ...	Slight surf, N.W.
31	Slight rollers, N. ...	Slight surf, N.W.

	FEBRUARY, 1868.	
Day.	Ascension.	St. Helena.
1	Calm...	Slight surf, N.W.
2	Calm...	Slight surf, N.W.
3	Calm...	Slight surf, N.W.
4	Calm...	Calm.
5	Calm...	Calm.
6	Calm...	Calm.
7	Calm...	Calm.
8	Medium rollers, N W.	Slight surf, N.W.
9	Slight surf	Slight surf, N.W.
10	Calm...	Calm.
11	Calm...	Calm.
12	Calm...	Calm.
13	Calm...	Calm.
14	Calm...	Calm.
15	Calm...	Calm.
16	Calm...	Calm.
17	Calm...	Slight surf, N.W.
18	Calm...	Slight surf, N.W.
19	Calm...	Calm.
20	Calm...	Calm.
21	Calm...	Calm.
22	Calm...	Calm.
23	Slight rollers, N.W.	Calm.
24	Calm...	Calm.
25	Calm...	Slight surf, N.
26	Calm...	Slight surf, N.
27	Calm...	Calm.
28	Slight surf, W. ...	Calm.
29	Slight rollers, W. ...	Calm.

	MARCH, 1868.	
Day.	Ascension.	St. Helena.
1	Slight rollers, N.W...	Calm.
2	Slight surf	Calm.
3	Calm...	Calm.
4	Calm...	Calm.
5	Calm...	Calm.
6	Slight surf	Slight surf.
7	Slight rollers, W. ...	Calm.
8	Slight rollers, W. ...	Slight surf, N.W.
9	Slight surf	Slight surf, N.W.
10	Calm...	Slight surf, N.W.
11	Calm...	Slight surf, N.W.
12	Calm...	Slight surf, N.W.
13	Calm...	Slight surf, N.W.
14	Calm...	Slight surf, N.W.
15	Calm...	Calm.
16	Calm...	Calm.
17	Slight rollers, N.E....	Very slight surf.
18	Slight rollers, N.E. ...	Calm.
19	Medium rollers, N....	Slight surf, N.W.
20	Slight rollers, N. ...	Heavy surf, N.
21	Slight surf	Heavy surf, N.
22	Calm...	Slight surf.
23	Calm...	Calm.
24	Slight surf	Calm.
25	Calm...	Calm.
26	Calm...	Calm.
27	Slight surf	Slight surf, N.W.
28	Calm...	Slight surf, N.W.
29	Calm...	Calm.
30	Calm...	Calm.
31	Calm...	Calm.

	APRIL, 1868.	
Day.	Ascension.	St. Helena.
1	Calm...	Slight surf, N.W.
2	Medium rollers, N.W.	Slight surf, N.W.
3	Slight rollers, N.W...	Calm.
4	Slight surf	Calm.
5	Calm...	Calm.
6	Calm...	Calm.
7	Calm...	Calm.
8	Calm...	Calm.
9	Calm...	Very slight surf.
10	Calm...	Slight surf, N.W.
11	Calm...	Slight surf, N.W.
12	Calm...	Slight surf, N.W.
13	Slight surf, N. ...	Calm.
14	Slight rollers, N. ...	Calm.
15	Slight rollers, N. ...	Very slight surf.
16	Calm..	Very slight surf.
17	Calm...	Very slight surf.
18	Calm...	Very slight surf.
19	Calm...	Very slight surf.
20	Calm...	Very slight surf.
21	Slight surf	Very slight surf.
22	Calm...	Calm.
23	Medium rollers, W...	Calm.
24	Slight surf	Calm.
25	Calm...	Calm.
26	Calm...	Calm.
27	Calm...	Calm.
28	Slight rollers, N. ...	Slight surf, N.
29	Calm...	Slight surf, N.
30	Calm...	Slight surf, N.

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Observations at Noon Daily at Ascension and St. Helena during Twelve Months, from September, 1867, to August, 1868.

	May, 1868.	
Day.	Ascension.	St. Helena.
1	Calm	Slight surf, N.W.
2	Calm...	Slight surf, N.W.
3	Calm...	Slight surf, N.W.
4	Calm...	Slight surf, N.W.
5	Slight surf	Calm.
6	Slight surf	Slight surf.
7	Calm...	Slight surf.
8	Calm...	Slight surf.
9	Calm...	Calm.
10	Calm...	Calm.
11	Calm...	Calm.
12	Calm...	Calm.
13	Calm...	Calm.
14	Calm...	Calm.
15	Calm...	Calm.
16	Calm...	Calm.
17	Calm	Calm.
18	Calm...	Calm.
19	Slight surf	Calm.
20	Slight rollers, N. ...	Calm.
21	Medium rollers, N....	Slight surf.
22	Calm...	Slight surf.
23	Calm...	Slight surf.
24	Slight surf	Slight surf.
25	Slight surf	Calm.
26	Calm...	Calm.
27	Calm...	Calm.
28	Calm...	Calm.
29	Slight surf	Calm.
30	Slight rollers, N. ...	Calm.
31	Slight rollers, N.W...	Calm.

	June, 1868.	
Day.	Ascension.	St. Helena.
1	Calm...	Slight surf, N.W.
2	Calm...	Slight surf, N.W.
3	Calm...	Slight surf, N.W.
4	Slight surf	Calm.
5	Calm...	Slight surf, N.
6	Slight surf	Slight surf, N.
7	Medium rollers, N.W.	Slight surf, N.
8	Medium rollers, N....	Medium surf, N.
9	Slight rollers, N. ...	Slight surf, N.W.
10	Calm...	Slight surf, N.W.
11	Calm...	Slight surf, N.W.
12	Calm...	Slight surf, N.W.
13	Calm...	Calm.
14	Calm...	Calm.
15	Calm...	Calm.
16	Calm...	Calm.
17	Slight surf	Calm.
18	Slight rollers, N.W.	Calm.
19	Slight surf, N.W. ...	Calm.
20	High rollers, W. ...	Slight surf, N.W.
21	High rollers, W. ...	Slight surf, N.W.
22	Medium rollers, N.W.	Slight surf, N.W.
23	Calm...	Slight surf, N.W.
24	Calm...	Slight surf, N.W.
25	Calm...	Slight surf, N.W.
26	Calm...	Slight surf, N.W.
27	Calm...	Calm.
28	Calm...	Calm.
29	Calm...	Calm.
30	Calm...	Calm.

	July, 1868.	
Day.	Ascension.	St. Helena.
1	Calm...	Calm.
2	Calm...	Calm.
3	Calm...	Calm.
4	Calm...	Calm.
5	Calm...	Calm.
6	Slight surf	Slight surf.
7	Calm...	Slight surf.
8	Calm...	Slight surf.
9	Calm...	Slight surf.
10	Calm...	Slight surf.
11	Calm...	Slight surf.
12	Calm...	Slight surf.
13	Calm...	Calm.
14	Calm...	Calm.
15	Calm...	Calm.
16	Calm...	Very slight surf.
17	Slight rollers, N.W.	Calm.
18	Medium rollers, N...	Calm.
19	Slight rollers, N. ...	Calm.
20	Calm...	Calm.
21	High rollers, W. ...	Heavy surf, N.W.
22	High rollers, N.W...	Heavy surf, N.W.
23	Slight rollers, W. ...	Heavy surf, N.W.
24	Calm...	Heavy surf, N.W.
25	Calm...	Calm.
26	Slight rollers, N.W...	Calm.
27	Calm...	Calm.
28	Calm...	Calm.
29	Slight rollers, W. ...	Slight surf, N.W.
30	Medium rollers, N.W.	Slight surf, N.W.
31	Slight surf	Slight surf, N.W.

	August, 1868.	
Day.	Ascension.	St. Helena.
1	Calm...	Slight surf, N.W.
2	Calm...	Calm.
3	Calm...	Calm.
4	Calm...	Calm.
5	Calm...	Heavy surf, N.W.
6	Slight rollers, N. ...	Slight surf.
7	Slight surf	Slight surf.
8	Calm...	Calm.
9	Slight rollers, W. ...	Slight surf.
10	Slight rollers, N.W.	Slight surf.
11	Slight surf	Slight surf.
12	Calm...	Slight surf.
13	Slight surf	Slight surf.
14	Slight surf	Slight surf.
15	Calm...	Calm.
16	Slight rollers, N.W...	Calm.
17	High rollers, W. ...	Slight surf.
18	Medium rollers, N.W.	Slight surf.
19	Calm...	Calm.
20	Calm...	Calm.
21	Calm...	Calm.
22	Calm...	Calm.
23	Calm.....	Calm.
24	Calm...	Calm.
25	Calm...	Calm.
26	Slight rollers, N.W...	Calm.
27	Medium rollers, N.W.	Calm.
28	High rollers, N.W....	Slight surf, N.W.
29	Medium rollers, N.W.	Calm.
30	Medium rollers, N.W.	Calm.
31	Slight rollers, W. ...	Slight surf, N.W.

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Telegraph Stations, showing the Distance and Bearings by Compass that Ships can be seen from each.

Stations.	Sea View.		Distance.
	Windward.	Leeward.	
			Leagues.
Alarm House	E.N.E. to S.E.	N.W. by N. to N.E. by N.	22
Bankses	. ...	W. by S. to E.N.E. ...	6
Casons	S.E. to S.W. by S. ...	W. to E.N.E.	24
High Knoll*	E. to E.S.E.	W. by S. to N.E. by E. .	20
Longwood*	N.E. by E. to S. by W. ...	N.W. by W. to N. ...	22
Longrange	E.N.E. to W. by S. ...	. ...	23
Ladder Hill*	. ...	W. to N.E.	12
Man and Horse ...	. ...	S. by E. to N.E. by E....	20
Prosperous Bay ...	N.N.E. to S.S.W. ...	. ...	18
Plantation Gate* ...	N.E. to E.	N.W. by W....	20
Sugar-loaf Hill ...	. ...	W.S.W. to E.S.E.... ...	15
Sandy Bay	E.S.E. to W.S.W. ...	. ...	9
Jamestown*	. ...	W.N.W. to N. by E. ...	4

Those marked * only are now retained, and communicate with each other by electric telegraph.

Distances by Road to Various Places on the Island.

From Mess House Jamestown, by Side Path, to

	Miles.
Two Gun Saddle	1½
Gordon's Post	2⅜
Alarm House	2⅞
Hutts Gate	3⅝
Longwood	4¾

Ditto, Past Hutts Gate, to

Arno's Vale	4¾
Level Wood	6⅜
Rock Rose Hill	8¼

Ditto, Past Gordon's Post, to

Hunts Gut	2⅞
Rural Retreat	3¼
Lemon Tree Gut	4
Stitches Ridge	4¾
Howard's Gate	5
Peak Hill	4
Francis Plain	4⅜
Red Hill House	5⅛

From Mess House Jamestown, by Ladder Hill, to

Ladder Hill	1
Red Hill House	2⅝
Plantation House Gate	3⅛
Bates' Branch	4⅛
Casons Gate	4½

From Mess House Jamestown, by Ladder Hill, to

	Miles.
Sandy Bay Ridge Gate	4⅞
Howard's Gate	5⅛
Bamboo Hedge	6½
Sandy Bay Guard	9⅛

Ditto, Past Elder Cottage, to

Green Hill	7⅛
Powels Valley	7¾
Rock Rose Hill	8⅝
West Lodge	6½
Bottleys	7¾

From Mess House, passing above Plantation House, to

Rosemary Hall	4½
Boyce's Gate	5¾

Ditto, Lower Road, to

Cleughs Plain	3
Terrace Knoll	3⅞
Farm Lodge	4
Myrtle Grove	5

Ditto, Past Red Hill, to

Francis Plain	3⅜

Ditto, by Barnes' Road, to

Francis Plain	2¼

From Longwood to

Plantation Gate	3⅝

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Return of Deaths during Ten Years, classified according to Diseases.
(Seamen and Passengers not included.)

Diseases.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	Total.
Abscess	0	1	1	1	2	0	1	0	2	1	9
Accidental	9	3	5	5	1	0	2	3	5	5	38
Apoplexy	3	3	0	3	3	2	0	1	0	0	15
Asthma	1	0	1	1	0	1	1	0	0	0	5
Brain	1	3	2	4	3	4	4	1	4	7	33
Bronchitis	2	5	1	5	6	3	9	2	6	1	50
Cancer	1	2	1	2	1	5	0	1	0	1	14
Consumption	18	14	12	13	23	15	21	14	13	14	157
Croup	5	0	2	0	17	9	1	0	0	0	34
Debility (Infants)	9	9	5	8	4	12	9	9	7	4	76
Diarrhœa	2	2	1	0	2	3	2	9	19	4	44
Delirium Tremens ...	1	0	0	0	0	1	0	1	0	0	3
Dropsy	5	2	1	3	2	1	2	2	0	0	18
Diphtheria	3	0	0	0	1	3	0	0	0	0	7
Dysentery	6	9	9	2	7	10	9	7	6	4	69
Epilepsy	3	1	1	0	0	2	2	0	1	1	11
Fever	12	15	8	7	17	4	0	3	5	4	75
Heart	1	4	2	7	4	3	8	3	7	2	41
Hooping-Cough	0	0	0	10	17	0	0	0	0	0	27
Inflammation—Bowels ...	4	7	2	2	4	4	9	3	5	6	46
Inflammation—Lungs ...	13	6	8	1	9	5	16	2	1	3	64
Influenza	0	0	21	1	0	0	0	1	0	0	23
Leprosy	1	1	1	0	0	0	0	0	0	0	3
Liver	0	1	4	2	0	1	1	0	1	0	10
Natural Decay	18	12	15	10	9	4	23	13	6	6	116
Premature Birth	2	1	3	0	0	1	1	1	0	0	9
Paralysis	1	2	0	0	4	3	2	6	5	3	26
Sore Throat	2	1	0	0	1	0	0	0	0	0	4
Syphilis	2	0	0	0	0	0	4	3	3	2	14
Tetanus	0	2	0	0	1	0	0	1	2	1	7
Teething and Convulsions	10	15	9	6	15	4	4	3	2	2	70
Various	17	14	10	13	10	15	10	4	7	4	104
Total	152	135	125	106	163	115	141	103	107	75	1222

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