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Itinerary of Hugh Cuming in Polynesia

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The longing to be an explorer is felt by many a man and naturalists are particularly susceptible. They seem to feel a beckoning and calling from the distant wilderness to come and discover the strange animals or the new and beautiful plants. During all ages volunteers have answered the call, but a hundred years ago they met more perils than today. If they escaped the savage natives, they ran the constant risk of deadly fevers.

Hugh Cuming (b. 1791, d. 1865) was a modest, simple Englishman, but he answered the call and became a bold and resolute explorer. His career began as an apprentice to a sailmaker, but he soon learned the lore of the sailor. Later he became a general field naturalist and explorer, most distinguished as a collector specializing on land and marine shells but also collecting in prodigeous numbers most other groups of animals and plants. His explorations included South America, Polynesia, the Philippine Islands, Malaya, Sumatra, the Indian Ocean, St. Helena, and Europe.

Cuming was a born naturalist, with a strong natural attraction to conchology and to botany. He did not have the advantages of higher education and official appointments, but through his own persistence became a self-made professional collector and dealer. He went to Chili on commercial business and resided there. On his travels he saw many shells of rare beauty and plants unique and interesting. His natural interests led him more and more into scientific collecting. On this trip he was stimulated by the encouragement given him by the British consul, Mr. Nugent, and by the officers of the surveying ships under Captains King and Fitzroy.

HUGH CUMING (B. 1791, D. 1865). AFTER E. D. MERRILL.

He was also aided by Alexandre Caldcleugh, attaché to the British ambassador to Brazil. Caldcleugh was an enterprising botanist who, on leave from his position, journeyed on horseback from Buenos Aires to Mendoza, then crossed the Andes, explored Chili and Peru, then returned across the mountains and plains to Buenos Aires.

In order to explore more effectively, Cuming built his own boat,

the *Discoverer,* designed for scientific cruising. With this sailing vessel he explored far and wide along the coasts and islands of Chili. In recognition of his scientific work, the government of Chili exempted him of all port charges and allowed him to buy stores free of duty. He collected from central Chili to the island of Chiloe, Conception and the province of Maule, Valparaiso, to Coquimbo in the north, and to Cumbre in a pass of the Andes.

He then sailed his ship, the *Discoverer* under Captain Grimwood, to Juan Fernandez, Easter Island, and Polynesia. Returning to England in 1831, he delivered his creditable plant collection to Dr. W. J. Hooker at Glasgow. His notable shell collection was in part exhibited at the Zoological Society of London. In recognition of his skill and great success as a collector he was honored in 1832 by election to the Linnean Society of London. He was credited, after his expedition to the Philippines, with being one of the best collectors, having a genius for avoiding the commonplace and for detecting the rare, unique, or unknown. So much could hardly be said of his Polynesian plant collection. He traveled on his own, specially designed boat, determined his own course, and length of stay. At any place he could tarry longer if the collecting was good. On Elizabeth [Henderson] Island, which is still covered with a rich virgin forest, he collected only 10 species in one day. Anaa is one of the most interesting of the Tuamotu Archipelago, having the usual flora of an atoll and also on *makatea* or raised, dissected coral, a rich soil and a dense and varied forest. In eight days he collected only 6 species, none of any particular interest. On Rurutu, Rapa, etc. his collections were meager.

On November 24, 1834 Cuming wrote confidentially to Sir W. J. Hooker that he was considering an expedition to the Philippine Islands, and offered to collect botanical specimens. It is evident that Hooker urged Cuming to neglect all the flora of the coastal regions and the vicinity of towns. This is acknowledged in Cuming's reply to Hooker on December 18, 1835, "You say I must not collect plants near the Sea Coasts. I shall not be able to refrain from it knowing now a little of the plants so that I won't collect the same at every place I meet for I am of an opinion I may get plants on the Sea Coasts that has [have] escaped the Eyes of all others. I did so in Chili and trust to do the same in the East . . . ." (Merrill 5,[1] p. 167.)

[1] Numbers in parentheses refer to Literature Cited, p. 90.

However, when he reached the Philippines and began work, he evidently saw the wisdom of Hooker's suggestion and did most of his plant collecting in the interior or at high elevations. His plant specimens from the Philippines alone totaled 130,000 specimens (Merrill, 5, p. 160). He is credited with being one of the first to number his botanical specimens and to distribute all exact duplicates under the same number.

Although he became a dealer in shells, selling his duplicates, and although unique collections retained their special value or appreciated in value if no other collector could discover their source and find more specimens, Cuming is credited with being a pioneer in attaching the exact locality data to the shells he collected (Merrill, 5, 157). Broderip makes this statement in reference to Cuming's Philippine shells. It does not, however, seem to be characteristic of his Polynesian shell collections which were made at an earlier date. Many of these shells were labeled, then published, as new species from the "Pacific Islands." Subsequent conchologists and malacologists have, by matching more recent collections, been able to reveal the islands where many of these were discovered. Others still remain unsolved problems.

Quite a different estimate of Cuming's collection and the exactness of its data was recorded by J. E. Gray (2, pp. 726-732), Curator of Mollusca at the British Museum of Natural History. He states that there is uncertainty concerning the data, that at first the shells were without names or habitats, that later a small label was stuffed in the mouth of one shell of a lot but that this was destroyed as soon as someone described the species, that the actual specimens were not labeled by the author of the species but by two later conchologists, and that Cuming often replaced the original specimens with more beautiful individuals obtained at some later date. It must be remembered that there was ill feeling between Gray and Cuming, and that for many years Cuming refused to permit Gray to see any part of his collection. Still, Gray was the Curator of the Mollusca at the British Museum and was responsible for the incorporation of Cuming's collection in the British Museum, so his published opinions on the inaccuracy of Cuming's data cannot be dismissed as mere malice.

C. M. Cooke, Jr. has stated orally that there is no doubt but that

some of Cuming's novelties were attributed to Pacific islands on which they do not occur. This confusion may be due to a mixing of his labels. Furthermore, in some of the minute shells, there can be scarcely any doubt but that he combined specimens from two or three different islands. This short paper is presented as an aid in the solution of these mysteries.

The writer, knowing that the files of collector's notes, letters, lists of collector's numbers, and the determinations were abundant and accessible at the Royal Botanic Gardens, Kew, wrote in inquiry to the Director. The writer had seen several specimens of Polynesian plants collected by Cuming, now preserved in the Kew Herbarium. These specimens were labeled with the collector's name and number, the year, and the name of the island. From Kew, the writer received the following letter, "We have, however, a letter from him [Cuming], dated 21st March, 1832, in which he gives his itinerary, and I have had a copy of this made for you, in the hope that it will be of interest. I cannot of course vouch for the name[s] of the Islands, as the writing is not too good, but we have copied them as accurately as we can. No doubt you will be able to trace them." This letter of Cuming's, though written after his return to London, is in the form of a brief journal and hence was probably derived from an actual journal or log kept by Cuming personally. As it gives his itinerary in some detail, as well as observations on the native peoples, the plants, and animals, it is here printed. Sir Arthur W. Hill, Director of the Royal Botanic Gardens, Kew, England, has kindly given permission for the publication of this letter.

EXTRACT OF A LETTER TO DR. HOOKER FROM H. CUMING

London, March 21st, 1832.

". . . My first excursion was to the Islands in the South Pacific. Sailed from Valpo. [Valparaiso] for Juan Fernandez on the 28th of Oct. 1827, arrived there [Masatierra] on the 1st of Nov. following and remained ten days, seven of which I was ill in bed of the fever and ague. My strength would not allow me to ascend the mountains. I saw a number of Myrtles [*Myrceugenia fernandeziana* and *M. Schulzei,* the commonest trees, Skottsberg (6, p. 147)], Canala of Mosina [canelo, *Drimys Winteri* var. *confertifolia,* fide Hemsley (3, pt. 3, p. 4) and Johow (4, p. 113)] and the Tree with blue long flowers and spines [*Rhaphithamnus venustus*], many Ferns, Mosses and Grasses. The season is later here than on the Main in the same latitude. On the 12th arrived at Massafuero [Masafuero], stopped here 2 days only, could not bring the "Discoverer" to an anchor from bad anchorage. This

Island is small compared with Juan Fernandez, rises abrupt from the sea and from the south view appears a perfect table-land and from the east it is completely divided by a number of ravines as if rent by an earthquake; the vegetation is similar to Juan Fernandez, except the trees are very small and principally myrtle [*Myrceugenia Schulzei*]. A great number of goats are on the Island, very fat and most excellent eating, easily caught by dogs. On the 28th arrived at Easter Island and lay to all the day. Number of the natives came on board; were a lively good-natured race, rather inclined to take anything portable but free to give for the merest trifle. Supplied us with Plantains [*Musa*], Yams [*Dioscorea*], Sweet Potatoes [*Ipomoea Batatas*] and a Root called Cocos [undoubtedly *Colocasia esculenta* var. *antiquorum* or "taro", see Thompson (7, p. 456), though according to O. F. Cook, (Cocos or "Yautia" is *Xanthosoma* in the West Indies, (U. S. Nat. Herb., Contrib. 14: 315, 1910)] in the West Indies. [These crops were still cultivated by the natives in 1886, see Thompson (7, pp. 455-456, 476.] Could not procure any botanical specimens from fear of the numerous inhabitants who lined the shore. Could not discover anything larger than the Plantain [*Musa*] and that was not high. The sides of the hills were extremely well cultivated, laid out in squares and in great number together. On the 29th sailed for Ducies [Ducie] Island, arrived there on the 7th of Dec. This is one of the low coral lagoon islands not 10 ft. above the level of the sea: has a number of trees [*Messerschmidia argentea*] and a small stunted grass [*Lepturus repens*], all of which you have. Not any fresh water could one find. On the 9th made Elizabeth [Henderson] Island, a high coral island without a lagoon, covered with shrubs and palms [*Pandanus*] principally. Jessamines [probably *Jasminum didymum*] and Laurels [probably *Pittosporum* sp. with aromatic foliage] but few in flower. In the clefts of rocks collected some fine ferns. On the 11th made Pitcairn Island, clothed completely with wood except the spots cleared for cultivation by the natives. Here everything appeared new except the Palm [*Pandanus*]; Coconut Palms [*Cocos nucifera*], Bread Fruit [*Artocarpus incisa*], Plantain [*Musa*], Banyan [*Ficus prolixa*], Oute [*Broussonetia papyrifera*] and many other trees in the greatest luxuriance. This island is fertile and according to my opinion well watered and capable of maintaining 1000 souls. Was received by the innocent inhabitants with the utmost kindness and genuine hospitality, such I never shall forget; at that period had not any idea of quitting their perfect paradise. I promised John Adams to call at the island on my return, therefore my stay was two days. On the 13th made sail for Crescent [Temoe or Timoe] Island. On the 15th saw Gambiers [Mangareva] Island at night, made Crescent [Temoe or Timoe] in the morning, landed. From the war-like position of the inhabitants did not collect anything but narrowly escaped with our lives and boat having lost everything else. At night made sail. On the 19th made Lord Hoods [South Marutea] Island, landed and found many pearls, upon which came to a resolution to sail for Chain Islands of Capt. Cook and Annea [Anaa] of the natives to get divers to fish for pearls. On the 25th came to of[f] the above Island, engaged the divers and sailed for Tahiti to land our stores to make room for the people. Arrived there on the 28th and sailed on the 1st of January for Lord Hoods [South Marutea] Island. On the 10th made the Island of Oheteroa of Capt. Cook and Ruruta [Rurutu] of the natives. This island is high and well wooded, producing a number of fine timber for various purposes, several Ferns and many shrubs without flowers or fruit. Natives kind, hospitable and virtuous, here the benefit of the Missionaries' labours is to be seen in perfection.

At night sailed, as the vessel could not come to an anchor and at the same time a gale arising; on the 19th made a small Lagoon Island and landed. [Apparently not Lagoon or Tematangi Island, which was known. It will be noted he says "a small Lagoon Island" a descriptive phrase rather than a name.] Same vegetation as at Ducies Island. Here we saw wrecks of several canoes but not any inhabitants. As this Island was not laid down in any chart I named it Grimwoods Island after the Master of the Discoverer. [It was probably a southwestern atoll of the Tuamotu Archipelago.] On the 25th of January landed on Lord Hoods [South Marutea] the second time and erected a small house under the Palms [*Pandanus*] in a few hours with the assistance of the divers. This Island is without inhabitants but at some distant period it appears to have been inhabited, from the remains of large walls built of coral like forts. This Island has many trees of one species and the Palm [*Pandanus*], a few grasses etc. which grow betwixt the broken coral. Here we found abundance of fresh water at high-water mark by digging two feet in the coral sand and when the tide has been high the pits have been filled with salt-water. On the 13th of March bid adieu to this Island, having collected 28,000 pearls, but of little value. On the 14th, in the afternoon, saw three islands lying east and west [Actaeon Group], well inhabited, but from their warlike movements did not land although invited by the Chief. On the 15th landed on Carysfoot [Carysfort, Papakena, or Tureia] Island, nothing new. On the 16th landed on Prince William Henry's [Nengonengo] Island, same as before; 16th, made several islands but did not land, having a high wind; 17th landed on Furneaux [North Marutea] Island, nothing new; on the 18th made Adventure Island [Motu Tunga], went on shore, saw nothing new in the vegetable world. Inhabitants courteous and generous. On the 19th came to under the lee of Annaa [Anaa], landed our divers and went on shore to reside for a few days. Here the Coconut trees grow in the highest perfection, their roots being watered with the sea. This is a low Coral Lagoon Island, but has at least a foot of soil, but little vegetation except the Palms [*Pandanus*] and Grass. The inhabitants have been not a little civilized by the native missionaries from Tahiti; they made a show of Christianity, observed the Sabbath rigidly and have built 7 churches. On the 26th sailed for several islands to the north and west, touched at 14 of them but saw not any difference in the vegetation, the natives living on fish and the small nuts of the Palm [*Pandanus*] that is found on these low islands. On the 5th of April arrived at Tahiti at daylight in the morning, saw the sun rising majestically over the high evergreen mountains of this Island, it was a most glorious sight; at noon came to anchor. I did not collect many things here as the rains had set in except Ferns. I did not see that diversity in the vegetable kingdom I expected. There [were] a number of fine timber trees but not one in flower. On the 19th sailed for Huhanie [Huahine], here the Mission has proved its worth, having made the inhabitants a worthy race, very different from the neighbours at Tahiti. This Island is very fertile, well cloaked with wood, same as Tahiti. On the 23rd sailed for Ulietea [Raiatea] vegetation and productions similar to the Society Islands. On the 1st of May sailed for Ruruta [Rurutu], stopped a day and sailed for Toobouia [Tubuai]. Here the Iron Wood [*Casuarina equisetifolia*] abounds and several trees I had not seen before. The Island is not high but fertile, having but a few inhabitants. On the 5th sailed for High [Raivavae] Island, but owing to the weather could not land, sailed from thence for Opana of Captain Cook [probably intended for Oparo of Capt. Vancouver, the actual discoverer] or

Rapa of the natives, arrived on the 13th. This Island, its productions and inhabitants, differs considerably from those of the Society Islands, not having to clothed [clothe] themselves but rushes and Cocos [undoubtedly *Colocasia esculenta* var. *antiquorum*] to eat, a warlike race in times past. The winter having commenced I could not collect much. Grasses were very abundant. On the 17th sailed for Pitcairn Island, arrived there on the 25th; on the 30th sailed for Valparaiso, arrived the 28th of June 1828."

PLANT COLLECTIONS IN POLYNESIA BY H. CUMING

1357-1366 Elizabeth Island [Henderson Island, Dec. 9, 1827]
1367-1394 Pitcairn's Island [Pitcairn Island, Dec. 11-13, 1827]
1395-1400 Chain, Anai, or Annea Island [Anaa, Tuamotu Archipelago, Dec. 25, 1827; March 19-26, 1828]
1401 Ducie's Island [Ducie Island, Dec. 7, 1827]
1402-1414 Otaheite [Tahiti, Dec. 28, 1827-Jan. 1, 1828]
1415-1417 Otaroha, Oheteroa, or Ruruta Island [Rurutu Island, Austral Islands, Jan. 10, 1828; one day of first week of May 1828]
1418-1422 Opara or Opana Island [Rapa Island, May 13-17, 1828]
1423-1433 Toubouia or Toobouia Island [Tubuai Island, Austral Islands, May 5, 1828]

There are some inconsistencies in the data. According to this letter the collections on these southeastern Polynesian islands were made in 1827-28, yet the dozen or so Cuming specimens which the writer studied in the Kew herbarium in 1936 were all dated 1831. Cuming's letter to W. J. Hooker describing his Polynesian voyage was written from London, March 21, 1832. It is apparent that the plant specimens were delivered about this time. Even professional botanists of this period failed to record adequate data for their specimens. It was not considered important. Probably the specimens were delivered without fully recorded data, and Hooker or whoever determined them inserted the date 1831, knowing that Cuming had recently returned from his trip.

A published reference to Cuming's return to England is given in the account of the meeting on February 28, 1832 of the Zoological Society of London (8, p. 25). It reads, "Specimens were exhibited of numerous *Mollusca* and *Conchifera* hitherto undescribed, which form part of the collection made by Mr. H. Cuming during a voyage undertaken in 1827, 1828, 1829, and 1830, for the purpose of obtaining subjects in natural history on the western coast of South America, and its adjacent islands, and many of those which form the principal

Archipelago of the South Pacific Ocean." C. M. Cooke, Jr., of Bishop Museum has stated orally that the Cuming shell collection reached England before June 1831.

The determinations of the plants were not detailed. For instance, the first six numbers were determined as: *Polypodium, Borragin., Rubiacea., Rubiacea., Rubiacea., Euphorbia.* For many of them modern critical determinations are needed. Until these are available, it seems unwise to list the plant names. These specimens and the recent collections from the same regions in southeastern Polynesia made by the writer, assisted by F. R. Fosberg, are now receiving critical study. The noteworthy finds are being published currently.

Cuming's no. 1400 *Verbenacea.* [*Nesogenes euphrasioides*] is listed as from Chain Island [Anaa], yet the sheet is labeled Ducie Island. The species occurs on Anaa but has not been recorded by others on Ducie. The flora of Ducie totals three species: *Lepturus repens, Pemphis acidula,* and *Messerschmidia argentea.* J. P. Chapin, the latest collector to visit the island, was there on January 3, 1935. He commented that the *Tournefortia* [= *Messerschmidia*] was, "The only flowering plant I saw on the island—and no ferns or mosses!" His no. 1363 *Guettarda* is listed as from Elizabeth [Henderson] Island, but marked Pitcairn's Isld. The tree grows on both of these islands.

This brief account is intended to give for the first time accurate data concerning Cuming's voyage to and collections in Polynesia. The narrative is quoted from his own words. His sentences are not polished and his grammar is not perfect, but they give us a living picture of the man himself. We see the stout-hearted explorer searching island after island for specimens, sailing with remarkable skill and speed among the many islets and reefs, tarrying to do business, to start a pearl fishery, then when approaching Tahiti at daybreak marveling over the glorious sight of the "sun rising majestically over the high evergreen mountains"; or we see him landing on Crescent Island, being attacked and plundered by the natives and narrowly escaping with his life. Whatever we dwell on, at least we gain a clearer picture of that brave British voyager and naturalist, Hugh Cuming.

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The author is responsible for all statements in this paper.