

# OCCASIONAL PAPERS

OF THE

## BERNICE PAUAHI BISHOP MUSEUM OF POLYNESIAN ETHNOLOGY AND NATURAL HISTORY

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### Director's Report for 1919

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# Director's Report for 1919

## ORGANIZATION OF THE STAFF

At the end of the year 1919, the staff of the Museum was as follows:

Herbert E. Gregory, Acting Director.  
William T. Brigham, Director Emeritus.  
William H. Dall, Honorary Curator of Mollusca.  
Otto H. Swezey, Honorary Curator of Entomology.  
John F. G. Stokes, Curator of Polynesian Ethnology.  
C. Montague Cooke, Curator of Pulmonata.  
Charles N. Forbes, Curator of Botany.  
John W. Thompson, Artist and Modeler.  
Elizabeth B. Higgins, Librarian.  
Edwin H. Bryan, Assistant in Entomology.  
George C. Munro, Assistant in Ornithology.  
Helen M. Helvie, Superintendent of Exhibition Halls.  
Lahilahi Webb, Guide to Exhibits.

Early in the year arrangements were made with Yale University for the temporary release of Herbert E. Gregory, Silliman Professor of Geology, to assist the Trustees in formulating plans for the further development of the Museum. With the title of Acting Director, Professor Gregory assumed administrative charge in May. Before his arrival the duties of the Director's office were performed by the Curator of Polynesian Ethnology, John F. G. Stokes. From September to the end of the year, the Acting Director was represented by the Curator of Pulmonata, C. Montague Cooke.

On July 1, Edwin H. Bryan, of the College of Hawaii, was appointed Assistant in Entomology.

On August 11, Mrs. Lahilahi Webb, who holds a prominent position among the Hawaiians, was appointed as guide to the collections in the Exhibition Halls.

Leave of absence for one year beginning September 1 has been granted to Elizabeth B. Higgins to study library manage-

ment and editorial work at institutions on the mainland. It is expected that on her return Miss Higgins will assume the duties of Librarian and Editor.

J. J. Greene, whose services of Museum printer for twenty-one years have been of exceptional merit, severed his connection with the staff on October 1, 1919.

M. L. Horace Reynolds, cabinet maker, severed his connections with the Museum on November 1. His work has been entirely satisfactory.

On December 19, George C. Munro, who for some years has given the Museum the benefit of his extensive knowledge of Hawaiian birds, was appointed Assistant in Ornithology. His connection with the staff should result in increasing and enriching the collection of native birds.

With the completion of the manuscript of the Fornander papers in December, the obligations to the Museum of Thomas G. Thrum have been fulfilled. The task of editing has demanded not only painstaking effort but also a knowledge of ancient Hawaiian possessed by few men.

#### WORK OF THE STAFF

In addition to routine administrative duties the time of the Acting Director has been given largely to consultation with the Trustees and with members of the staff with a view to recommending changes in the present organization, defining the scope and purpose of the Museum's activities, and formulating a policy for future development. As a guide to the study of these topics, a memorandum submitted to the Trustees by Professor Gregory in January 1918 was found helpful. Visits to other museums, and correspondence and interviews with scientists interested in Pacific Ocean problems have been found profitable.

Since resigning the Directorship December 31, 1917, William T. Brigham, Director Emeritus, has had the long-desired opportunity to continue his studies without interruption. Considerable progress has been made during the year in the preparation of a memoir on Hawaiian worship.

The Curator of Polynesian Ethnology, John F. G. Stokes, was busy with administrative affairs during the first four months

of the present year, but found time to study the field relations of an interesting skeleton discovered at Kilauea. During the period April to July a systematic study of the ruined asylum ("City of Refuge") at Honaunau was made with a view to procuring the necessary data for writing the history of this ancient asylum and for determining the form of the original structure. The preparation for publication of a report on Honaunau was postponed in order to prepare plans and descriptions of various Hawaiian temple sites for incorporation in Dr. Brigham's forthcoming work on Hawaiian worship.

The time of the Curator of Pulmonata, C. Montague Cooke, Jr., has been chiefly given to cataloguing the unusually large collections recently received. (See page 120.)

During the year a conchological survey was made of parts of the island of Molokai and three weeks were spent on a profitable collecting trip above the valley of Waimea on the island of Kauai.

To aid in cataloguing collections, Mr. A. Gouveia was employed by the Curator for the last three months of the year. To continue this work it is proposed to add to the staff a trained assistant in Malacology.

The Curator of Botany, Charles N. Forbes, spent the first half of the year on routine herbarium work and the preparation of three papers on New Hawaiian plants. Twelve short field trips were made to places on the island of Oahu. In July a botanical survey of the island of Maui was begun, and carried on with few interruptions to the end of the year.

The Honorary Curator of Entomology, Otto H. Swezey, has given generously of his time in collecting and labeling insect material and formulating plans for the guidance of the Acting Director. He has been ably assisted by Edwin H. Bryan.

The museum's Artist and Modeler, John W. Thompson, prepared during the year 64 casts for the exhibition halls; 34 fish, 17 fruit, 13 archaeological and 7 miscellaneous. Fish for modeling were obtained and presented to the Museum by John W. Thompson and C. M. Cooke III., and thirteen varieties of Hawaiian taro were presented by Gerrit P. Wilder. Among the specimens presented by Mr. Thompson and of which painted

models have been made, are two deep water sharks, 12 inches and 15 inches long respectively, of unknown species.

In a paper on Habits and Coloration of Hawaiian Brachyura and Fishes, published by the Carnegie Institution, Dr. W. H. Longley, in acknowledging his indebtedness to the Bishop Museum, states that "what is probably the best existing record of the form and coloration of a group of tropical fishes of comparable numbers is embodied in the series of painted casts of more than 340 species prepared by Mr. John W. Thompson for the Bishop Museum, Honolulu."

Helen M. Helvie continues in charge of the exhibition halls. Since September first she has been assisted in caring for visitors by Lahilahi Webb.

The Librarian, Elizabeth B. Higgins, has devoted her time chiefly to cataloguing and to a general consideration of the library's place in the plans for enlargement of the Museum's activities. During the absence of Miss Higgins, September to January, the routine work of the library was efficiently performed by Miss Carolyn Dickerman.

Although not officially a member of the Staff, Gerrit P. Wilder has given generously of his time and thought in building up for the Museum a unique collection of Hawaiian food plants. Among other things he has collected, grown, and cross-bred many varieties of native taro, and has obtained from Hawaiians the names, peculiarities, and uses of the different forms of this interesting plant. It is hoped that the studies of Mr. Wilder will result in publications of value to botanists and to ethnologists.

#### PUBLICATIONS

During the year the following publications were issued: Memoirs Volume V, Number 2. Fornander Collection of Hawaiian Antiquities and Folk-lore, edited by Thomas G. Thrum. 1919. 277 pages.

Memoirs Volume V, Number 3. Fornander Collection of Hawaiian Antiquities and Folk-lore, edited by Thomas G. Thrum. 1919. 216 pages.

Memoirs Volume V, Index. 17 pages.

Volume V, which constitutes the Second Series of the For-

ander papers, contains legends, stories and biographical sketches of ancient Hawaii. The text is in the original Hawaiian with English translation and explanatory notes.

Memoirs Volume VI, Number 1. Fornander Collection of Hawaiian Antiquities and Folk-lore, edited by Thomas G. Thrum. 1919, 217 pages.

Memoirs Volume VI, Number 2. Fornander Collection of Hawaiian Antiquities and Folk-lore, edited by Thomas G. Thrum. 1919, 137 pages.

Like the preceding series of Fornander papers, the text of Volume VI is in Hawaiian and in English. Number 1 deals chiefly with religious ceremonies; number 2 is a collection of miscellaneous studies in history, philology and geneology. The remaining manuscript of the Fornander papers, consisting of native Hawaiian songs and chants, has been submitted by the editor. It will be issued as Memoirs Volume VI, Number 3.

Memoirs Volume VII, Number 2. A monographic study of the Hawaiian species of the Tribe Lobelioideae, Family Campanulaceae, by Joseph F. Rock, 1919, 305 pages, 217 plates.

This volume is the result of a study of Lobelioideae in Hawaii and in the museums of Europe and America. Of the seven genera discussed, six of them: Trematolobelia, Brighamia, Cyanea, Clermantia, Delissea and Rollandia are peculiar to Hawaii; the seventh Lobelia, has world-wide distribution. These genera include 104 species which occur only in the Hawaiian Islands. The publication of this volume is timely, for some of the old and most interesting species of Lobelioideae have become extinct and others are disappearing.

Occasional Papers Volume III and Volume VI have been completed by the addition of indexes and tables of contents. A revised list of the Museum publications also has been issued.

From 1898 to October of the present year, the Museum has maintained a printing establishment. Volumes I to IV of the Memoirs, Volumes I to VI of the Occasional Papers, and numbers 1, 3, 4, and 5 of the Miscellaneous Publications, were printed from type set by hand in the Museum building. For the publication of Memoirs Volume V (1918), arrangements were made with a printing house in the city for linotype composition and

for press work, and the Museum printer was enabled to devote his time to miscellaneous work.

A comparative study of costs, quality and conditions of work in various establishments resulted in a decision to dispose of the printing equipment owned by the Museum and to contract with some reliable concern for all printing required.

## SPECIAL TOPICS

### LIBRARY

During the year, the present condition, the scope, purpose, and needs of the Museum Library have been given consideration by the Trustees, the Librarian, and the Acting Director. It was found that the Library is unusually rich in ethnological works of Pacific races and in accounts of early voyagers. Most of the books are essential to students within the Polynesian field and some of them could be replaced with difficulty. Compared with similar institutions, the Library of the Museum is relatively deficient in maps and other geographic material, in general reference works and compendia and in results of researches in Natural History published during the last decade. The report of the Committee on Publication is summarized as follows:

"Your Committee believes that the library should be built on the lines already marked out and should eventually occupy first rank as a center for students interested in Polynesian problems; that it should be enriched by large additions of scattered pamphlets of recent date bearing on Polynesian Ethnology and Natural History and that outside this field purchases should aim primarily at procuring reliable works for comparative study and treatises needed by students. The library should be primarily for use of scientific investigators, and works of merely popular interest should find no place on the shelf. The guiding principle should be not to make a complete or well-rounded library but to get together publications likely to aid students of Pacific Ocean and especially of Polynesian problems. With this principle in mind it is probably unnecessary to list the subdivisions of natural history which should be represented."

The funds allotted to carry out the policy adopted by the

Trustees and changes in organization and management will greatly increase the value of the library to scientific investigators. Cooperative arrangements are being perfected by the Museum, the College of Hawaii, the Sugar Planters' Experiment Station, the Historical Society and the Public Library, for the interchange of books and the elimination of expense incident to unnecessary duplication. By combining the rapidly increasing resources of the various Hawaiian libraries and thereby enabling each institution to devote attention to its particular field of interest, the opportunity is afforded to make the facilities for students working in Honolulu equivalent to those afforded by large educational centers on the mainland.

#### FIELD WORK

The collections in Ethnology and Natural History belonging to the Museum, have been acquired chiefly through gift and purchase; much of the valuable material contributed by members of the staff has been gathered incidentally and not infrequently in vacation periods and at the expense of the collector. It seems desirable that systematic field surveys in archaeology, botany, and other branches of the Museum's activities should be made first of the Hawaiian Islands, second of other Polynesian island groups and later of the regions bordering Polynesia. During the present year Mr. Stokes and Mr. Forbes have spent several months in the field and the plans for 1920 involve considerable extension of investigations in areas from which information is desired.

#### THE ENTOMOLOGICAL SOCIETY

The Hawaiian Entomological Society has given generously of its time and thought to the work of the Museum. At the request of the Acting Director, the Society has prepared comprehensive statements on the "Biological Problems of the Hawaiian Insect Fauna" and on "Entomological Exploration of the Pacific".

Through its Committee on Entomological Organization, the Society has submitted the following suggestions which in the opinion of the Acting Director should define the attitude of the Museum.



It is only natural that a subject of such consuming interest to the active workers in entomology here, as the entomological policy of the Bishop Museum, should receive further thought and deliberation, and we find ourselves at present, after the lapse of six months, burdened with many suggestions of a specific nature on the means of accomplishing the work outlined. Regarding a "Reference Collection of Hawaiian Insects," we desire to state our absolute conviction that nothing of importance can be accomplished in the way of building up such a collection of Hawaiian insects until a competent, trustworthy and permanent curator of insects is appointed. Only a competent man can do the work well, and the labor involved would require his entire time for many years. It has been stated before that there are types and series of specimens of endemic as well as introduced insects ready for the Museum when a competent and trustworthy custodian is provided and liberal regulation of their use admitted.

It has also been pointed out that the Museum now has representatives of sixty-four per cent of the species of Hawaiian insects known and listed at the time the *Fauna Hawaiiensis* was published. These are virtually types, being actual specimens in hand when the descriptions were made. With so large a proportion already possessed a complete representation seems eminently desirable, and its importance to workers here, who are desirous of carrying on the labors of Blackburn, Perkins, Kirkaldy and others, cannot be over-stated. It is impossible for most of us to go as far as London to examine the types unrepresented here, yet thorough descriptive work cannot be done without seeing them. Apparently undescribed species are constantly being discovered as the result of intensive collecting, which should be published. Also many groups of Hawaiian insects need revision badly and the material is at hand for the work. The Museum could foster work of this kind by offering to finance the study of the types by specialists undertaking descriptive or revisory work, receiving in return for the outlay, the manuscripts for publication and insect material, including types, specimens compared with types, and series of specimens for reference to build up the collections. Some of this work could undoubtedly be undertaken by the Curator.

When the further entomological exploration of the Pacific, now in contemplation, begins to secure results, if, as this Society has strongly urged, the material obtained is turned over to the Museum for administration, the need for this advanced organization of its entomological work will become still more imperative and, indeed, this work should not otherwise be undertaken.

#### MARINE LABORATORY

The deed of trust by which the Museum was established empowers the Trustees of the Museum to establish at their discretion a laboratory for the study of marine life. Because the funds required for the construction, equipment and manning of such an institution would restrict the activities of the Museum in other directions, work in marine zoology has consisted largely of collecting and making available for study, the marine fauna of the islands. The hoped-for opportunity of enlarging this work in

Hawaii has come through a gift of a building to the College of Hawaii from the C. M. Cooke estate, and an arrangement with the College whereby the Museum becomes the depository of working and reference collections and a publication medium for students. Close cooperation is effected by combining the duties of the Director of the Marine Laboratory and the Curator of Marine Zoology in the Museum.

#### EXHIBITION HALLS

A museum is an educational institution which furnishes instruction by means of suitably labeled exhibits. The quality of the instruction offered is measured by the skill displayed in the arrangement of exhibits and in the wording of explanatory labels, rather than by the kind of material displayed. With this idea in mind the exhibition halls of the Museum should be given thoughtful consideration. Material not suitable for exhibition should be stored, and a systematic arrangement devised for that which remains in the exhibition halls. A complete re-labeling is also desirable.

The Museum is visited by many tourists but residents of Hawaii constitute a much larger group. The use of the Museum by citizens of Honolulu is large in proportion to the population and the visits during the year by Hawaiians (3090), Chinese (2238), Japanese (3756), and Portuguese (1205), indicate the estimation in which the institution is held by those who wish to take advantage of the instruction it has to offer. To accommodate those who are unable to visit the Museum during the working hours of the week, the halls have been open to the public on Sundays from 2:00 to 5:00 P. M. beginning September first. Mrs. Helvie reports that "the attendance on Sunday afternoons has been gratifyingly large". It is a pleasure to note that forty-six school classes in charge of their teachers made special studies of the collections.

#### PHOTOGRAPHIC LABORATORY

During the year, the large collection of photographic negatives belonging to the Museum has been catalogued and made easy of access by preparing a file of prints. These valuable photographs are now available for use by members of the staff and by visiting

scientists. By the purchase of additional instruments and furniture, the photographic laboratory is adequately equipped for scientific purposes.

### EXTRACTS FROM REPORTS OF CURATORS AND LIBRARIAN.

From the annual reports of members of the staff, transmitted to the Trustees, the following material has been taken:

#### ETHNOLOGY

A skeleton was found by Mr. J. Hedemann near Kilauea on a site which he had thought might have marked the place where part of Keoua's army was destroyed by showers of volcanic ash during the eruptions of 1789-90. To quote from Mr. Stokes:

The skeleton was found in a reclining position under a shelter of detached boulders, protected from the direct rain and partly imbedded in the surface soil wash. In that position it overlooked Kilauea crater towards the fire-pit, Halemaumau. The bones were not in a good state of preservation, yet not too far gone to identify them as formerly belonging to a middle-aged female native. The method of preparation had also been according to native custom. Fragments of gourd had been found by Mr. Hedemann in the shelter, scattered by the surface wash, and probably belonged with the skeleton. No other implements were found.

While women and children accompanied the army of Keoua, I do not believe that the interment dated back to his time. The condition of the bones did not suggest a period of more than 60 years and a search in the neighborhood of the spot revealed no trace of other skeletons.

A survey of the vicinity suggested to me a possible solution of the problem of a native interment so distant from former habitations. In the talus nearby, there were (and probably always have been) many more suitable places for the hiding of a body, than that containing the skeleton, but I found a landmark which seemed to have a direct bearing on Halemaumau and the shelter, whereby the shelter could continue to be found with Halemaumau in its present position. The site of the cache would seem therefore to have been chosen with care and not by haphazard. The date of the concentration of Kilauea's activity in Halemaumau does not appear to be more than 70 or 80 years ago.

In former days, bodies of dead devotees of Pele, and perhaps others, were disposed of by being thrown into the molten lava of the volcano, but the custom fell into disuse after the advent of the missionaries.

So putting the few clues together,—mature native female, native preparation of the body, deposition many miles distant from habitations, site landmarked with reference to Halemaumau, situation overlooking the fire-pit with skeleton similarly placed, and the fact that the body was not thrown into Halemaumau—would suggest that the skeleton was that of another devotee of Pele, more recent than the days of the tabu, who wished her last

resting place to be as similar as possible to those of her predecessors as the altered customs would allow.

With the assistance of Dr. T. A. Jaggar and Mr. J. Hedemann, a search was made in the vicinity of Kilauea for the heiau of Oalalauo recorded only by Ellis (1823). No trace of ancient structures was found. Mr. Stokes writes:

The conclusion was forced that the site must formerly have been on a portion of Waldron's ledge which has since fallen down.

Near the city of Hilo, certain markings, sun, moon, stars, etc., previously reported as petroglyphs, were located and found to be natural markings in the lava. In their vicinity, however, true petroglyphs of human figures were found."

Accessions to the ethnological collection resulting from field work by members of the staff remain to be catalogued; those received through gift, loan and purchase are reported by the Curator as follows:

Gifts during the year have been received from: Mr. and Mrs. James Campsie, Mesdames Hans Isenberg, M. T. Harvey, and H. B. Sinclair, Miss M. L. Purdon, Messrs. G. P. Cooke, A. Gouveia, J. Mann, James Munro, H. Schultz, and G. P. Wilder and the estate of the late James W. Robertson.

Two of the gifts were particularly valuable. One of them was a carved wooden figure from these islands, carried to America by Rev. Reuben Tinker about 1840, and given to the Museum with other specimens by two of his descendants, Miss Purdon and Mrs. Harvey. The other, from Necker Island, a stone shaped as if for an image, was given by Mr. G. P. Wilder.

Two collections of note were among the loans. The executors of the John D. Paris estate deposited a collection found some years ago by the late Mr. Paris in a cave on the famous burial cliff at Kaawaloa. It included two specimens which were previously unknown to us: a so-called dancing skirt, a number of detached cords of twisted human hair—and a ceremonial wand of peculiar pattern.

The Catholic Mission of Hawaii deposited three wooden idols which have been in its possession for about forty years. Two of them are over six feet in height and were found in Waipio valley on Hawaii, the source locality of so many of the native traditions.

There were comparatively few purchases of specimens during the year. The wooden idols found in the neighborhood of the famous temple of Pi-hana, on Maui, were bought, following information received from another friend of the Museum, Mr. Charles Wilcox of Maui.

#### PULMONATA

The Curator of Pulmonata reports that the number of specimens added to the collection during 1919 is larger than that of any previous year.

The Bryan collection of marine mollusca has been acquired by the

Museum. It has been carefully catalogued and contains 4572 catalogue numbers. Approximately 550 lots of shells loaned to Dr. Pilsbry by Mr. Bryan also have been added to the collections.

The catalogue of the Thwing collection, containing 38,688 specimens distributed over 7062 catalogue numbers, has been completed.

The collection of the late E. B. Giffard, presented to the Museum by Mr. W. M. Giffard in 1914, contains 4209 specimens distributed over 695 catalogue numbers, and includes two specimens of special interest. The first is a specimen of *Ach. stewartii* var. *producta* 31.6 mm. in length, which, as far as I know, is the longest specimen of the genus *Achatinella* that has been noted. The second specimen is a *sinistral* individual of *Achatinella lorata* (Fr.). As far as I know this is the only *sinistral* specimen of this species that has ever been collected.

The Gulick collection, purchased by the late C. M. Cooke in 1905, and later given to the Museum by your curator, contains 11,456 specimens distributed over 761 catalogue numbers. This is an important addition to our collection as it contains paratypes of a majority of Gulick's species.

The Cheatham collection, purchased by your curator in 1913 and later given to the Museum, contains 7062 specimens distributed over 174 catalogue numbers. It is rich in shells found in and about Wahiawa, Oahu.

It is expected that four other collections will be catalogued during the coming year, namely, the George Munro collection from Lanai; the W. H. Hoogs collection; the Richard A. Cooke collection; and the C. Montague Cooke collection. The first-named collection was purchased by the Museum, the others were given by their respective owners.

These collections added to the material on hand gives the Museum not only the largest but probably the most representative collection of Hawaiian Pulmonata in existence.

During the year, 89,194 specimens have been entered in the catalogue distributed over 8856 catalogue numbers. More than four-fifths of the specimens catalogued during the year were fresh material. About sixteen thousand specimens might properly be classed as fossils.

Valuable material has been received from the following individuals, to whom your curator wishes to express his thanks: Mrs. L. M. Dunbar, Miss M. Clough; Messrs. A. F. Judd, D. Thanum, C. F. Mant, A. Gouveia, J. C. Bridwell, J. S. Emerson, A. Knudsen, E. H. Bryan, F. Grinnell, J. Gilbert, W. S. Rycroft, C. N. Forbes, D. Fleming, G. H. Timberlake, K. Kahoana, and Rev. L. L. Loofbourow; Masters Murray and C. M. Cooke III.

Interesting fossil material has been given by Messrs. G. Munro (from Lanai), D. Fleming (from West Maui), and A. Gouveia (from Puuwaawaa, Hawaii). Most of this material has been sorted but the larger portion requires cleaning before it is ready for cataloguing.

On an expedition to the island of Molokai (February 4 to 21), in company with Mr. A. F. Judd, a conchological survey of the region west and north of Puuolelo Hill was carried out nearly to completion. As a result of this trip more than five thousand recent specimens and about fifteen thousand fossil specimens were added to our collection. There were obtained also a number of rare color forms of *Partula mighelsiana* which had not been previously recorded.

A second expedition in company with Mr. A. Lindsay and Master C. M

Cooke III was made to Kauai. Through the courtesy of the owner headquarters for nearly three weeks were made at the country house of Mr. H. P. Faye in the valley of Halemanu at an elevation of about 3500 feet. Over twelve thousand specimens, some of them among the rarest species collected in Hawaii, were the result of this trip.

#### BOTANY

An unusual amount of field work was accomplished by Mr. Forbes during 1919. Twelve trips on the island of Oahu resulted in adding about 125 sheets of specimens to the collections. From July to the end of the year, the field of operation was the island of Maui. To quote from Mr. Forbes:

Through the kindness of Mr. S. A. Baldwin I was enabled to make headquarters at Ukulele, on the northern slopes of Haleakala at an elevation of about 5000 feet. From a camp several miles east of Ukulele I was enabled to visit a most interesting transition forest where there is an intermingling of species of plants characteristic of the upper rain forest and of the high upland zone. There was also a most interesting narrow zone with a bog flora. In ravines above this camp two species of *Argyroxiphium* were seen. Two camps were established within the crater of Haleakala. The first stop was in the Keanae Gap, a very wet locality but very interesting botanically on account of the close proximity of plant communities of recent lava, bogs, and rain forest. The second camp was near the large water hole opposite Oilipuu toward the Kaupo Gap. From this place trips were made out of the crater and down the north and northeast slopes. The rain forest is very dense in this section. The most interesting plant habitats are a series of cones and flats which extend down the mountain toward Hana. The first cone contains a lake surrounded with a zone of *Carex*; lower cones and flats have an open bog flora. In one of the bogs there occurs a very peculiar species of *Wilkesia* with a branching habit which may be a form of *W. Grayana* Hbd., but is probably another species of this rare genus. In the rain forests there is a beautiful species of *Clermontia* with reddish flowers which has not been described. On several trips down the Kaupo Gap, the most interesting plant observed is a fragrant flowered form of *Viola Chamissoniana* Ging. I returned to Honolulu with 2208 sheets of specimens. For aid in many ways while on this trip I am indebted to Messrs. S. A. Baldwin, W. A. Field, H. A. Baldwin and Rosencranz.

After examining the collections and attending to accumulated routine, on my return to Maui in November, a base was established at Hana and a camp in Kipahulu Valley at an elevation of 1600 feet. In olden times this valley was probably in a high state of cultivation as taro patches are numerous, and acres of land are covered with wild banana; but now the undergrowth is very dense, and old standing Koa trees indicate that the present growth is a secondary or even tertiary covering. Among the most interesting plants found here is a species of *Cyrtandra* distinguished from other described Hawaiian species by the peculiar shape of its calyx; and a species of *Cyanea* with orange colored blossoms. The *Cyanea* is identical with *C. Copelandii* Rock which was known only from a small area on the island of Hawaii. A short trip was taken toward Kaupo, going up the Pualaia

ridge and above Mokulau. At the latter locality there is a very fine forest of small yellow fruited guava, the trees varying from 30 to 60 feet in height. This land has been logged for fire wood and koa timber. I returned to Honolulu with 500 specimens. I am indebted to Mr. J. Fassoth and his sons for permission to camp at Kipahulu, and for help in many ways.

The source and number of specimens added to the Herbarium during the year are given below. Unless otherwise stated the specimens have been donated.

Dr. C. M. Cooke: from Oahu, 4; from Molokai, 1. Charles N. Forbes: from Oahu, 125; from Maui, 2769. Messrs. Fullaway and Giffard: from Hawaii, 10. Mr. A. F. Judd: from Hawaii, 1. Mr. George C. Munro: from Lanai, 14. Mr. Joseph F. Rock: Hawaiian Lobeliaceae (purchased), 112; from Kauai, 1. Mr. John F. G. Stokes: from Hawaii, 1. Mr. O. H. Swezey: from Oahu, 2. Mr. G. P. Wilder: from Kauai, 1. Total 3041 sheets.

#### ENTOMOLOGY

The Honorary Curator of Entomology, Otto H. Swezey, calls attention to the material collected during 1919 which, with the accumulated collection (4500 specimens) of the two previous years, makes a large amount of pinned material waiting to be sorted and classified.

The material collected during 1919 by various members of the staff is as follows:

E. H. Bryan: ridges and valleys near Honolulu, Oahu, 860 specimens; Ewa and Barber's Point, Oahu, 70 specimens; Waianae Mountains, Oahu, 50 specimens; Waihee and Iao Valleys, Maui, 170 specimens. C. M. Cooke, Jr.: Kokee, Kauai, 6 specimens. Charles N. Forbes: Haleakala, Maui, 22 specimens. John F. G. Stokes: Honaunau, Kona, Hawaii, 180 specimens. Otto H. Swezey: Glenwood, Hawaii, 142 specimens; Kilauea, Hawaii, 625 specimens; Hualalai and Kona, Hawaii, 1250 specimens; ridges and valleys near Honolulu, Oahu, 500 specimens; Ewa and Barber's Point, Oahu, 140 specimens; Waianae Mountains, Oahu, 240 specimens. John W. Thompson: Honolulu, Oahu, 20 specimens. Total 4275 specimens.

Besides this lot of material, quite a quantity was purchased from Mr. John A. Kusche of San Francisco, who had spent a few months collecting insects in the region of the head waters of the Waimea river, Kauai. Of this material 2000 specimens (chiefly moths) have been pinned up, and partially sorted and determined. Seventy-eight specimens of rare and interesting butterflies and moths of the western United States, were also received from Mr. Kusche.

#### LIBRARY

During the absence of the Librarian, Elizabeth B. Higgins, only routine work associated with cataloguing, binding, caring for exchanges, and distribution of publications, has been carried on. Several manuscripts, including the journal of Lucia Ruggles, have been copied for preservation. Accession to the library by gift, purchase, and exchange during 1919 will be incorporated in the report for 1920.