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Narrative report of botanical field work on Kure Island,
3 October 1959 to 9 October 1959

by

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Convolvulaceae:

Ipomoea indica (Burm.) Merr.

Boraginaceae:

*Messerschmidia argentea (L.) Johnston (photo only)

Solanaceae:

Solanum nelsoni Dunal

*Solanum nigrum L.

Cucurbitaceae:

Sicyos hispidus Hbd.

Goodeniaceae:

Scaevola sericea Vahl

Compositae:

Lipochaeta integrifolia (Nutt.) Gray

*Pluchea odorata (L.) Cass.

*Verbesina encelioides Gray

On the beach were found:

Cocos nucifera L., 7 dead nuts

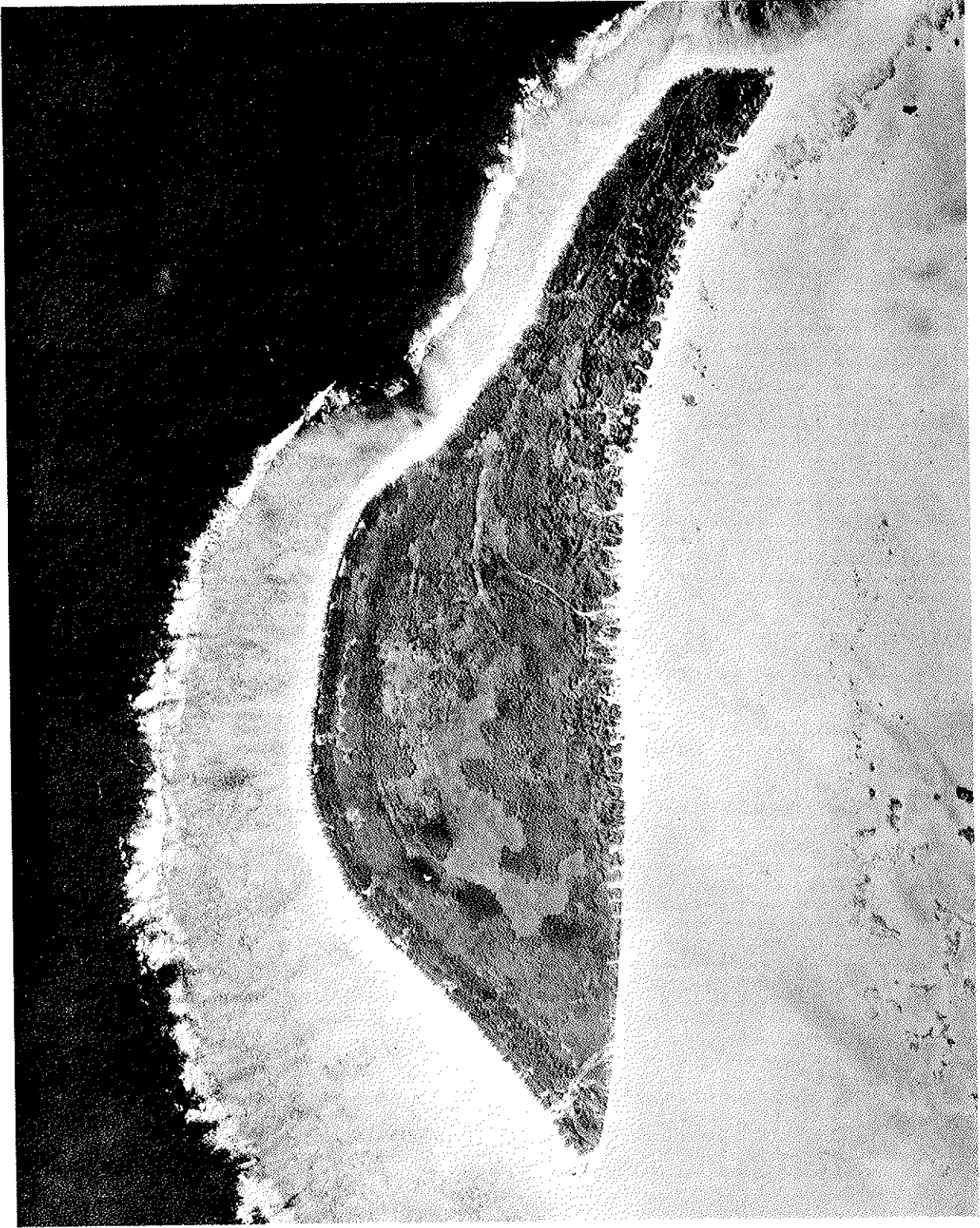
Aleurites moluccana Willd., 9 nuts

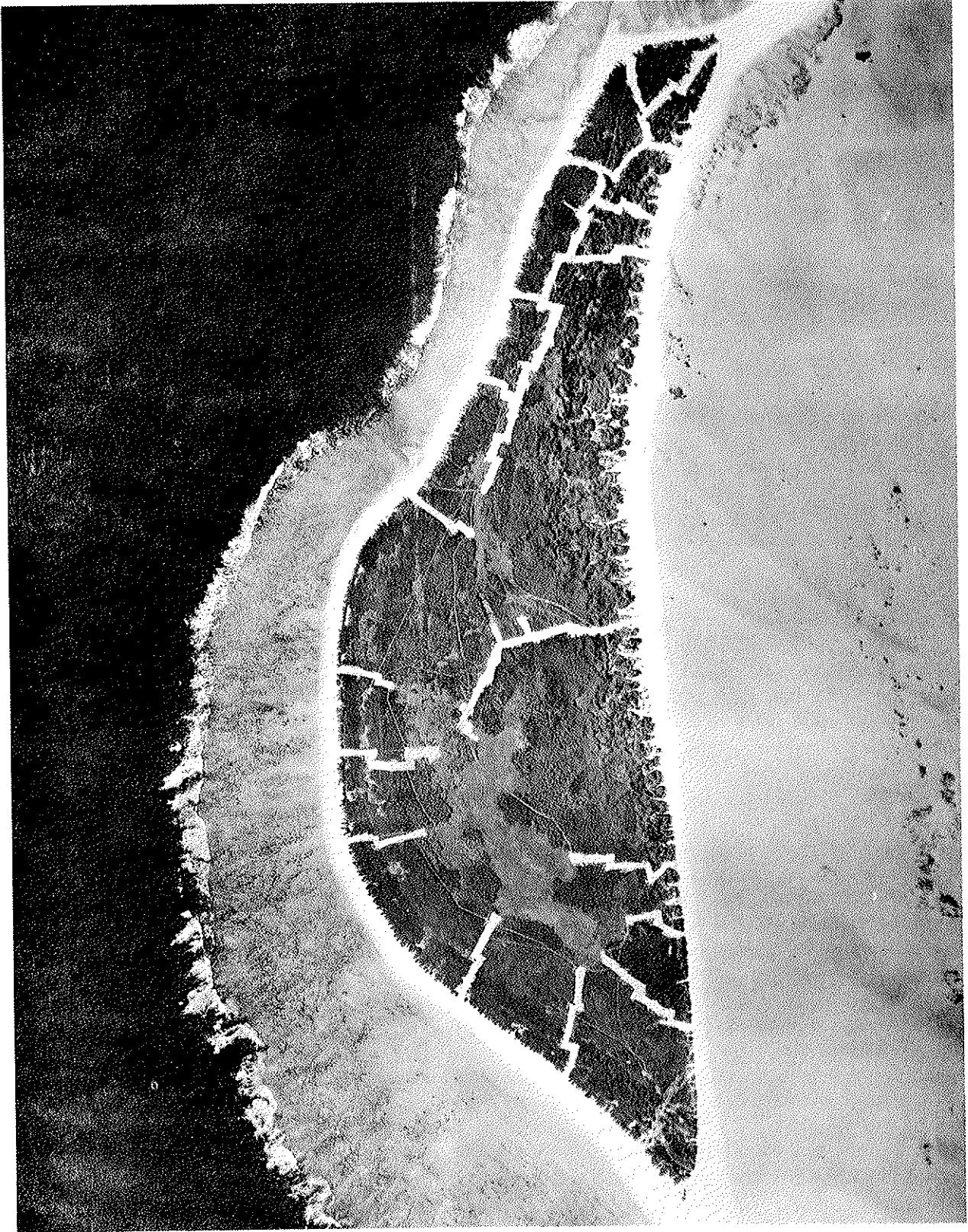
*Mucuna gigantea (Willd.) DC., 1 seed

Herbarium specimens and photographs in the field of the plants collected on this trip are located in the Herbarium of the Bishop Museum, Honolulu, Hawaii, and in the U.S. National Herbarium, Washington, D. C.

Photos: Green Island, Kure Atoll, from air, October 3 and November 3, 1959, before and after "habitat improvement".

Photos courtesy of U. S. Navy





Narrative Report of Botanical Field Work on Kure Island

3 October 1959 to 9 October 1959

by Horace F. Clay
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Kure (often referred to as Ocean Island) is the most western island in the Hawaiian Archipelago. It is located about 1250 miles west of Honolulu. The atoll is described, with map and bibliography, in E. H. Bryan, Jr., *American Polynesia and the Hawaiian Chain*, Honolulu, 1942.

In order to make Kure Island more habitable to the blackfooted and Laysan Albatrosses, the Naval Construction Forces of the Pacific in October 1959 planned to bulldoze a series of runways 100 yards long and 50 feet wide on Kure Island. This is a report of the botanical field work carried on in conjunction with that Navy project.

The State of Hawaii, through its Land Commissioner, Mr. Eric Reppun, gave the Navy permission (Revocable Permit No. 2580) to make the alterations to Kure Island. The State of Hawaii, however, stipulated that two types of plants be preserved on Kure Island, Lepturus repens and Solanum nelsoni var. intermedium (now Solanum nelsoni). The writer, familiar with atoll floras, was invited to join the group going to Kure, so that identification could be made of the plants growing on that island.

A previous collection of plants had been made by the Tanager Expedition in April 1923. In that year, thirteen species of vascular plants were collected on Kure. Eleven of these thirteen species are still growing there; Cenchrus agrimonioides var. laysanensis and Achyranthes splendens var. reflexa, represented by a very few specimens in 1923, have disappeared*. However, six new species have found their way to Kure, so the flora there now comprises seventeen kinds of plants.

Green Island, the largest of the three islets at Kure Atoll, is the only one on which there is any higher plant life. The other two islets are tiny sand-spits. Green Island is approximately three-fourths of a mile long, about one-half mile wide, and has an elevation of some 20 feet. There is a dense growth of Scaevola sericea which encircles and covers most of Green Island. Scattered here and there among these Scaevola plants are patches of Boerhavia diffusa which sometimes appear as a loose ground cover under the Scaevola and frequently can be seen as scrambling vine-like plants. Sand dunes rise sharply from the beach on the lagoon side, and the Scaevola sericea is less dense here. In the open areas along the dunes, one can observe scattered clumps of the bunch grasses, Eragrostis variabilis and Eragrostis whitneyi var. caumii. On the inner slopes of the dunes near the radar reflector tower, several dozen clumps of Lepturus repens can be found. With the exception of three clumps of this grass on the dunes at the eastern tip of Green Island, Lepturus repens was only observed near the radar reflector tower.

* These two species, while not in evidence in 1959, were found again in 1961 by Ch. Lamoureux, cf. Bulletin 79.

Since Cynodon dactylon, Casuarina equisetifolia (4 of the 6 existing specimens on Green Island), Pluchea odorata and Verbesina encelioides seem to be localized on the dunes near the radar reflector tower which was constructed in 1955, it is surmised that seeds of these plants were brought on equipment from the Island of Midway.

One very young specimen of Messerschmidia argentea, the only one on Green Island, was found growing on the windward shore.

An open plain of about 25 acres comprises the central-eastern portion of the islet. On this plain were found Lepidium owaihiense, Tribulus cistoides, Ipomoea indica, Solanum nelsoni, Solanum nigrum, Sicyos hispidus, and Lipochaeta integrifolia. These plants were only found on the plain and not in any other areas of Green Island.

Two different saprophytic fungi were found, both associated with decaying stems of Scaevola sericea. These fungi have not been identified.

As a matter of interest, during the seven days that the author spent on Kure, seeds were collected in the beach drift. The following were found during this period: Cocos nucifera - 7 dead nuts, Aleurites moluccana - 9 dead nuts, and Mucuna gigantea - 1 seed.

The following is a total list of the plants collected on this expedition. Those marked with an asterisk are new since the Tanager Expedition, April 1923.

*2 Fungi

Gramineae:

*Cynodon dactylon (L.) Pers.

Eragrostis variabilis (Gaud.) Steud.

Eragrostis whitneyi Fosb. var. caunii Fosb. /E. falcata/

Lepturus repens (Forst.) R. Br.

Casuarinaceae:

*Casuarina equisetifolia L.

Nyctaginaceae:

Boerhavia diffusa L.

Cruciferae:

Lepidium owaihiense Cham. & Schlecht.

Zygophyllaceae:

Tribulus cistoides L.