

Further Additions to the Flora of Guam

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Since the publication of "Additions to the Flora of Guam" in the first volume of this journal (*Micronesica* 1: 131-135, 1964) further explorations have revealed the presence in Guam of several interesting species of phanerograms, which are here recorded. The general conclusion may be drawn that in due course almost all species previously known only from Rota or from Saipan, or both, will be found in Guam, although there may be a few exceptions. To date several supposed Rota or Saipan "endemic" species have now been confirmed in Guam also, notably *Psychotria rotensis* Kaneh., and the species reported below. On the other hand, there will probably be a number of species known from Guam which will not be found in the northern limestone Marianas islands. One exception may be the small native *Leucaena* in Guam, which has not yet been recorded in the other Marianas, but because of its preference for limestone beach areas may occur north of Guam. The islands north of Saipan, predominantly younger volcanic peaks, will probably continue to figure as the habitat of a few endemics or at least of species not found to the south whether in Guam or in the Saipan-Rota-Tinian-Agiguan region. Also to date the root parasite *Balanophora mariannae* Hosokawa, described from Sarigan (Type), and recorded from Alamagan and Saipan (and recently collected in Saipan by Fosberg and by Stone), has not been found in Guam, although it has been found in Truk (Stone no. 5353, GUAM). In Guam there is found *Balanophora pentamera* van Tieghem, a very different species in appearance, red instead of yellow in color.

NEW RECORDS FOR GUAM

HERNANDIACEAE

Hernandia labyrinthica Tuyama, Bull. Shigen, Kagaku Kenkyū-sho. 1:42. 1943.

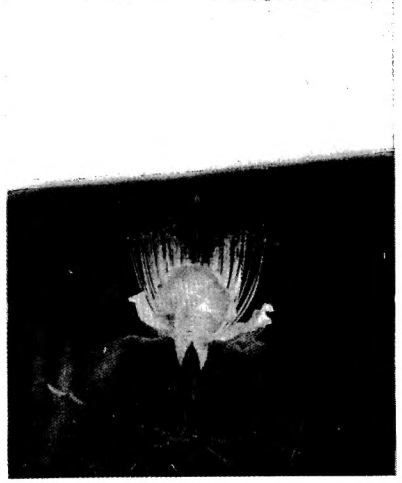
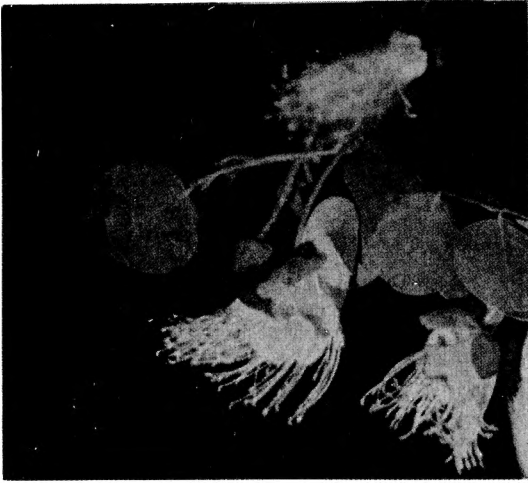
Above Talofoto Falls on the Ugum River, 21 Feb. 1965, Stone 5508, (Guam).

STERCULIACEAE

Heritiera longipetiolata Kanehira, Trop. Woods 29: 4. 1932, in obs.; Bot. Mag. Tokyo 46: 487. 1932.

Recorded already from Guam by Fosberg. A small grove of trees was found on a ridge just above Asanite Bay, but a search for fruiting or flowering material at several different times over a period of more than a year was unsuccessful. Originally described from specimens from Tinian; whether it still exists there is not known. It is clearly distinct in its physiological abilities from the common strand sub-riverine *H. litoralis* Dry., also found on Guam, and from which this species is probably derived, as it occurs only at some elevation on dissected limestone boulders in primary forest.

Plate I. Flowers of *Capparis* species



[from cropped color slides all $\times 3$]

APOCYNACEAE

Tabernaemontana rotensis (Kanehira) Fosberg in sched.

Ervatamia rotensis Kanehira, Bot. Mag. Tokyo 50: 600, f. 57. 1936.

Discovered (one tree only) in a grove of *Heritiera longipetiolata* on a limestone ridge above Asanite Bay, 6 Jan. 1965, *Stone* 5256. The Guam specimens match Kanehira's figure and description very well. The slender trunk was about 25 ft. tall, growing on dissected limestone rocks in a primary forest at about 100 ft. alt. The leaves are thin and rather lax; the sap milky; inflorescences loose, open, several-flowered; the flowers white, the tube about 10 mm long and 2 mm diam., the lobes about 14 mm long and 4 mm broad at the widest point, slightly twisted and ruffled, rotate at maturity, overlapping clockwise in the bud; the characteristic yellowish glands are found at the base of each narrow calyx lobe; the stigmas are united, but the ovaries free. The mature fruits are dehiscent, the seeds within surrounded by a bright reddish pulp. Specimen at Guam.

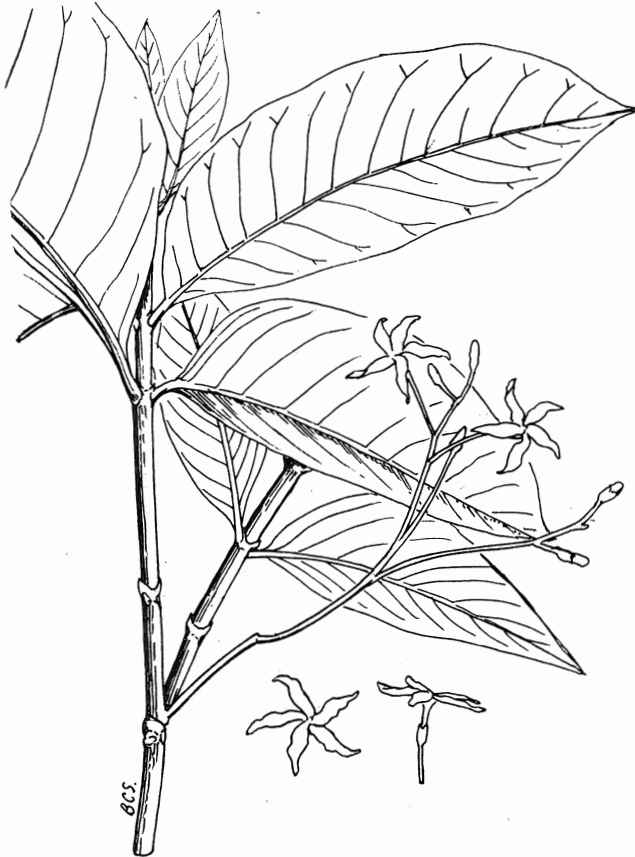


Fig. 1. *Tabernaemontana rotensis* (Kanehira) Fosberg. Habit $\times 1$, with flowers. (From a photograph of *Stone* 5246, Guam)

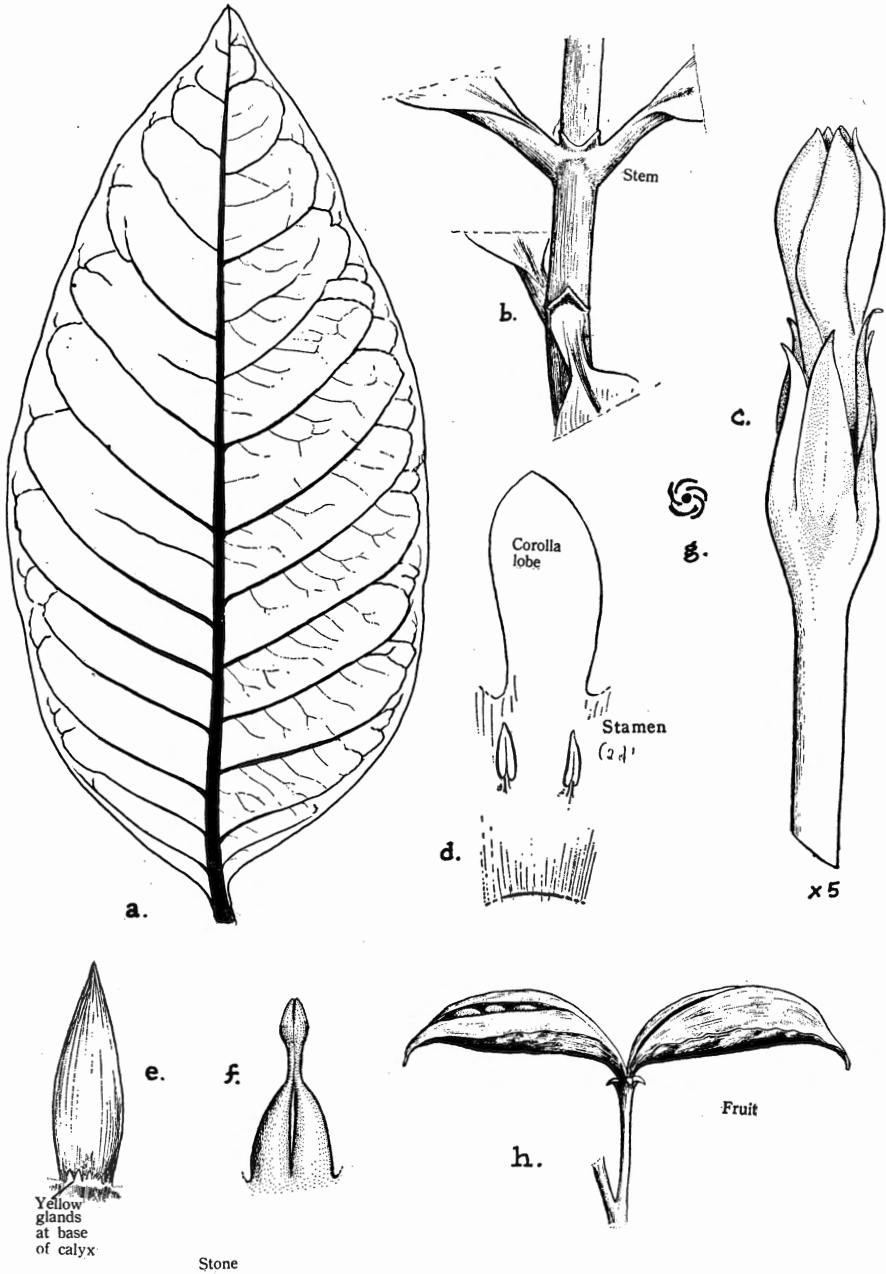


Fig. 2. *Tabernaemontana rotensis*. a. Leaf $\times 1/2$. b. Detail of nodes $\times 1$. c. Bud $\times 5$. d. Stamens $\times 5$. e. Calyx lobe, inner side, showing basal glands, $\times 5$. f. Gynoecium $\times 5$. g. Direction of petal overlap in bud. h. Fruits $\times 1$. (All from Stone 5256).

MARIANAS SPECIES AS YET NOT KNOWN IN GUAM

The following species have been collected in Rota, Tinian, or Saipan, or in the northern Marianas, and may perhaps be expected to occur in Guam as well in the limestone portions of the island. They are noted here as *desiderata*:

Boerlagiodendron mariannense Kanehira, Bot. Mag. Tokyo 47: 676. 1933. (Araliaceae). Type from Rota; not found elsewhere. The genus is also known in Micronesia from Palau. It is so characteristic, with its palmate large leaves, that it should be easily recognized if found in Guam.

Croton saipanensis (Hosokawa) Hosokawa, Journ. Jap. Bot. 13: 279. 1937. (*Saipania glandulosa* Hosokawa, Trans. Nat. Hist. Soc. Formosa 25: 28. 1935). (Euphorbiaceae). Known only from the type collected in Saipan.

Drypetes dolichocarpa Kanehira, Bot. Mag. Tokyo 48: 400. 1934. Known only from the type collected in Saipan.

Drypetes rotensis Kanehira, Bot. Mag. Tokyo 48: 733. 1934. (*D. sp.*, Fl. Micronesica, 174. 1933). Type from Rota. This and the foregoing species are both in Euphorbiaceae, in a genus found elsewhere in Micronesia, but seldom collected. A thorough review of these taxa is needed.

Myoporum tenuifolium Forst. f. has been recorded by Kanehira from both Tinian and Rota.

Psychotria gaudichaudii Kanehira, Bot. Mag. Tokyo 48: 926. 1934, (Rubiaceae). Type from Rota; also from Sarigan. This species may not be distinct from *P. mariana* Bartl. ex DC. which is common in Guam.

Cyathodes mariannensis Kanehira, Bot. Mag. Tokyo 48: 734. 1934. This is a *Styphelia*; recorded from Alamagan in the northern Marianas. It is unlikely that this will be found in Guam since it is rather a northern or high-altitude plant.

Besides the above mentioned species, there are others which may yet turn up in Guam, especially in the grasses and sedges. Probably purely nomenclatural and taxonomic difficulties now account for a considerable part of the remaining inter-island differences in plant distribution, which seem to occur.