

SYSTEMATIC NOTES ON MICRONESIAN PLANTS. 3

By F. R. Fosberg

Included in this paper are notes on Micronesian Sagittaria, Egeria, Lepturus, Crinum, Spathoglottis, Lepidium, Mimosa, Cassia, Clitoria, Cordia, and corrections to my Check List of the Seed Plants of Guam. The first two papers in this series were published in *Phytologia* 5:289-292, 1955; 13:233-241, 1966.

SAGITTARIA SUBULATA var. KURZIANA (Glück) Bogin, Mem. NYGB 9: 205, 1955.

S. kurziana Glück, Bull. Torrey Club 54: 257, 1927 (originally described from Florida, and native in slow-moving streams there).

Guam: Agana Springs, B.C. Stone 4979 (US). This was reported from Guam by B.C. Stone (*Micronesica* 1:132, 1964) simply as S. subulata (L.) Buch. but seems better to match the variety kurziana, as the leaves (phyllodes) are more than 7 mm wide and reach as much as 10 mm. The plants are not more than 40 cm long, which is about a minimum for this variety.

EGERIA Densa Planch., Ann. Sci. Nat. Bot. III, 11:80, 1849.

Elodea densa (Planch.) Casp., Monatsb. Kgl. Preuss. Akad. Wiss. 1857: 48, 1857.

Guam: in quiet eddy-pools of the Talofofo River near the mouth, July 22, 1962, Stone 4305 (US).

This is a species native to the Paraná Drainage of Southern South America, widely used as an aquarium plant. It was doubtless brought to Guam by aquarium enthusiasts or their suppliers, and planted in the river. (See St. John, *Darwiniana* 12:293-307, 1961).

LEPTURUS GASPARRICENSIS X REPENS var. SEPTENTRIONALIS

Lepturus is the most generally distributed indigenous grass in the Pacific Islands, found in lowland situations, especially on coral sand and limestone throughout the tropical Pacific islands except the Main Hawaiian group and the islands near the American coast. It is notoriously variable, both from population to population and within a population. There is even troublesome variation between

corresponding parts of different branches of the same plant.

In my admittedly conservative view there are only two species of Lepturus in the Pacific islands, one of them L. repens (Forst. f.) R. Br., widespread and with a considerable number of ill-distinguished varieties (see Fosberg, Occ. Pap. Bish. Mus. 21: 285-294, 1955). The other, L. gasparricensis Fosb. confined to Wake and Pokak atolls, at the northern end of the Marshall Archipelago. In these two atolls both species grow together, L. repens being by far the most abundant. It is represented here by its var. septentrionalis, a slender, narrow-leaved form with spikes less than 1.2 mm thick. L. gasparricensis is very robust, with ascending, rather than repent basal branches, spikes 2 mm or more thick, glumes obtuse rather than subulate.

Not too much is known about the L. repens population on Pokak, but it seems probable that var. septentrionalis is the only variety there. It shows great variation in habit and length of fertile culms.

Earlier observations indicated little or no intergradation between L. repens and L. gasparricensis, with the latter very local in its distribution. Observations in the 1960's indicate that it is spreading along roadsides and in other open disturbed places. It generally grows with L. repens, and the two maintain their identities remarkably well. However, several collections recently received or restudied seem to combine the characters of the two species in a manner that suggests a certain amount of hybridization and perhaps back-crossing. These are described here in the hope that further observations and perhaps a careful population analysis may be stimulated. Wake Island, at least, is readily accessible and convenient for such work.

Wake Is.: Toki Point, Peale I., McFarlane 26 (US, UH).

This has the habit of L. gasparricensis but is only about 22 cm tall, more slender, spikes 1.2 mm thick, glume 9 mm long with slender awn. It was growing with L. gasparricensis, and L. repens var. septentrionalis is never very far away on Wake Island.

Wake Island: Peale Islet, Fosberg 43510 (US).

This collection has already been distributed to a number of herbaria, as L. repens var. subulatus, but a reexamination of the U.S. sheet of it suggests that the population represented is probably of hybrid origin. The four pieces on this

sheet are not quite identical, the glumes varying from acute or slightly acuminate on one piece, to strongly acuminate on another, to subulate on the others. The habit is much coarser than that of var. septentrionalis but less coarse than that of L. gasparricensis, about that of var. subulatus. The thickness of the spikes varies from about 1.3 to 1.8 mm.

Wake Island: s.e. tip of Peale Islet, Lopez 3 (US).

This material was found mixed with Lopez 1, which is L. gasparricensis and was collected in the same location as Lopez 2, which is a very slender form of L. lepens var. septentrionalis. It is, in habit, more slender than L. gasparricensis, has running stolons, spikes almost as slender as those of var. septentrionalis, and glumes only moderately subulate. If found elsewhere it would doubtless be placed in L. repens var. subulatus. However, occurring as one plant with the two other species that it is exactly intermediate between, it seems best regarded as a hybrid.

Marshall Is.: Pokak (Taongi) Atoll, Kamome Islet, Fosberg 34509 (US).

This plant, also growing in the same vicinity as L. repens var. septentrionalis and L. gasparricensis is intermediate in stature between the two, but has spikes much more like those of var. septentrionalis. It resembles L. repens var. subulatus but has the basal branches strongly ascending, as in L. gasparricensis, rather than creeping as in L. repens.

CRINUM BAKERI Schum., Bot. Jahrb. 9:194, 1888.

Little or nothing has been known of this species, subsequent to its original description, based on a specimen from Mille, Marshall Islands, collected by Finsch. It was characterized by having the perianth lobes longer than the tube, a character which I at first assumed might have resulted from an accident in preparation of the specimen. That this was not true was shown by the discovery in 1956 of a row of plants with exactly this characteristic, planted in the village on Utirik Islet, Utirik Atoll, Marshall Islands, Fosberg 36713 (US, Fo). Seeds from these plants were planted in Honolulu, giving rise to plants which flowered and were collected in 1960, Fosberg 41421 (Fo). The flowers on these plants preserved the character originally noted in the description, the perianth lobes exceeding the tube. The anthers are 25-27 mm long. This species is of the relationship of C.

asiaticum L. The several species commonly recognized of this relationship, including C. asiaticum, C. bakeri, C. amabile, C. rumphii, and C. procerum, at least, seem too close together, and are badly in need of revision. Some of them are only known as cultivated plants, or possible escapes from cultivation, and may really be the results of either modern or prehistoric horticultural selection.

SPATHOGLOTTIS PLICATA Bl., Bijdr. 401, t. 76, 1825.

This species differs from the two indigenous Micronesian species most conspicuously in its broader leaves and its deep magenta rather than white or pink flowers. It seems to have been introduced into Guam in recent years and has become generally abundant in various parts of the island.

Marianas: Guam: west side of Northwest field, 160 m, Fosberg 43439 (US, BISH, Fo); sandspit near OSIR road, Apra Harbor, Stone 4458 (CG).

LEPIDIDIUM BIDENTATUM Mont. Nov. Act. Nat. Cur. 6:324, t.5, 1778.

L. piscidium Forst.f., Pl. Esc. 70, 1786.

This is a widespread and variable species growing on coral atolls and in lowland localities near the sea from as far west as New Caledonia (the type locality) eastward to Southeastern Polynesia, northward in the Line Islands and on Wake Island. Wake is the only known Micronesian station for it. Earlier records from Wake are reported under the name Lepidium o-waihiense C. & S., but the Wake Island specimens (Fosberg 43526 (US, BISH, Fo), 34930 (US, BISH)) have the silicles substantially longer than wide, while the Hawaiian plant described as L. o-waihiense has them almost or quite as wide as long.

MIMOSA INVISA Mart., Herb. Fl. Bras. 121, 1837.

This unpleasant, viciously spiny Brazilian creeper, resembling but larger than the common sensitive plant, Mimosa pudica L., has been in the Pacific area at least since 1918, when it was collected in Sumatra. It has been reported from Fiji more recently (Mune, T. L. and Parham, J. W., Declared Noxious Weeds of Fiji...28, 1956) as introduced from Malaya in 1936. In 1950 it was found established in Micronesia in Rota, Saipan and Palau, and collected as follows:

Marianas Is.: Saipan, base of Kagman Peninsula near Chacha, local in thickets and broken ground at 60 m elevation, Fosberg 31289. Rota, slopes west of As Malote, on the south side of the island in agricultural land, at 150 m, Fosberg 31916.

Caroline Is.: Palau, Koror, Ngliaklolubed, in weedy ground beside cassava patch, 50 m Fosberg 32503. Sterile plants seen on Yap in 1965 were probably this species, as were ones planted in experimental plots as a green manure in Saipan. It should be ruthlessly eradicated wherever found.

CASSIA SURATTENSIS Burm. f., Fl. Ind. 97, 1768.

C. glauca Lam. Encycl. Meth. 1:647, 1783.

This cultivated ornamental was recorded from Guam as C. glauca by Stone, Micronesica 1:133, 1964. The two names are generally regarded as synonymous. There are several earlier Micronesian collections:

Marianas Is.: Guam, Agana Heights, Whiting 304 (Fo); behind Tumon Bay, Conover 593 (US);

Caroline Is.: Kusaie, Tomasakku, Takamatsu 569 (BISH).

It is said to be called "sibukao" in Guam.

CLITORIA GUIANENSIS (Aubl.) Benth., Journ. Linn. Soc. 2:40, 1858.

This species, previously known in the Pacific area only from Malesia, may be reported from Micronesia on the basis of the following collection:

Palau Is.: Babeldaob: west coast, Nekken Experimental Station, 150 feet, Richardson 62 (US). The collector says it was found around Ichiro Dingilius' house, "a small-growing perennial legume with a blue flower, very low growing, apparently common, as Ichiro was familiar with it." Mr. Bob Richardson spent 5 weeks in Palau in the summer of 1967, studying the savanna vegetation, and making a collection of herbarium material. Several of the specimens, including the above, are of considerable interest.

This is the broad leafed rather canescent form, often called C. laurifolia Poir. or C. cajanifolia (Presl) Benth., but not differing in any very constant fashion from C. guianensis. It is readily distinguished from the common C. ternatea by its non-climbing habit.

CORDIA SEBESTENA L., Sp. Pl. 1:190, 1753.

This species has become fairly common in cultivation in Guam. It strongly resembles C. subcordata Lam., of which it seems to be the Caribbean vicariant. It differs in the firmer, more ovate, more nearly cordate, rougher leaves, narrower, strongly striate calyx, and deeper scarlet flowers. It flowers more abundantly and more continuously.

Marianas: Guam: Manguuao, abandoned nursery site, Fosberg 35592 (US); Agana, Fosberg 46281 (US, BISH, Fo), Stone 3916 (CG).

A number of additions and name changes are required in my 1960 Check List of the Seed Plants of Guam. Some of these have been listed by B.C. Stone in his papers entitled Additions to the Flora of Guam, *Micronesica* 1:131-135, 1964; 2:47-50, 1965; 2:133-141, 1966. Several more are given below, with the page on which they are or should be listed in the 1960 Check List, and with references to where changes have appeared in literature possibly unfamiliar to those concerned with Micronesian plants.

ERAGROSTIS TENELLA (L.) Beauv. should replace Eragrostis amabilis (L.) W.&A. (Bor. N.L., Grasses of Burma, Ceylon, India and Pakistan 513-514, 1960), p. 4 of Check List.

PANICUM REPTANS L. should be added (Fosberg & Sachet, *Micronesica* 2:154, 1966), p. 5.

RHAPHIDOPHORA AUREA (Lind. & André) Birdsey should replace Scindapsus aureus (Lind. & Andr.) Engl. (Birdsey, *Baileya* 10:159, 1962), p. 10.

SANSEVIERIA GUINEENSIS (L.) Willd. should replace Sansevieria roxburghiana Schultes (Stearn, *Hunt Bot. Cat.* 2:LII, 1961), p. 11.

MACADAMIA INTEGRIFOLIA Maiden & Betche should replace Macadamia ternifolia F. Muell. (Storey, *Pac. Sci.* 19:507-514, 1965), p. 17.

CANAVALIA CATHARTICA Thouars should replace Canavalia microcarpa DC. (Sauer, *Brittonia*, 6:158-162, 1964), p. 23.

EUPHORBIA REINWARDTIANA Steud. should replace Euphorbia serrulata Reinw. ex. Bl. (non E. serrulata Thuill. 1790) (Steudel. *Nom. ed.* 2, 614-615, 1840), p. 29.

ZIZYPHUS MAURITIANA Lam. should replace Zizyphus jujuba L., p. 32.

MELOCHIA COMPACTA Hochr. should replace Melochia umbellata (Houtt.) Stapf (Goldberg, Contr. U.S. Nat. Herb. 34:220-224, 236-238, 1967), p. 34

ABERIA CAFFRA How. & Sand. is a correction in spelling, p. 34.

IXORA TRIANTHA Volk. is a correction in spelling, p. 48.

BIKKIA MARIANNENSIS Brongn. was inadvertently omitted from Check List, p. 47.

X PLUCHEA FOSBERGII Coop. & Gal. should be added (Cooperrider and Galang, Amer. Jour. Bot. 52:1020-1026, 1965), p. 51.



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