

## Noteworthy Micronesian Plants. 6.

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**Abstract**—This paper contains taxonomic and distributional observations on Micronesian species, in various genera. The following new combinations are proposed: *Hernandia sonora* var. *nymphaeaefolia* (Presl.) Fosberg, *Melochia villosissima* var. *compacta* (Hochr.) Fosberg, and *Melodinus insularis* (Mgf.) Fosberg. Several species are new introductions to Guam or the other Marianas, and many are new for Micronesia.

### Introduction

This paper continues the series of short reports of taxonomic notes, new records and observations concerning the Micronesian flora as part of the work toward a Flora of Micronesia. Previous numbers in the series, by Fosberg and colleagues, are in *Micronesica* 11: 77–80; 81–84; 1975; 16: 189–200; 201–210, 1981; 20: 131–156, 1987.

#### *Eragrostis* M.N. von Wolf (Poaceae)

***Eragrostis atrovirens*** (Desf.) Steud. Nom. Bot. ed. 2, 1: 562, 1840

*Poa atrovirens* Desf. Fl. Atlant. 1: 75, t. 17, 1798

A tall grass, to over 1 m, with long narrow involute leaves and an open panicle of strong ascending somewhat grayish ovate to elliptic spikelets. Not previously recorded from Guam. This identification is tentative, as several species in this genus are very similar, and no monographic treatment is available.

Marianas: Guam; “between the antennas and the tank farm,” D. Lok’s property, Raulerson 18549 (US, GUAM).

Caroline Is.: Palau; Babeldaob, Nekken, Fosberg 50609 (US, BISH, POM, L); Salsedo 96 (US, BISH); Gaspan, Stone 4651 (US, GUAM).

***Eragrostis brownii*** (Kunth) Nees ex H. & A. Bot. Beechey Voy. 253, 1838.

*Poa brownii* Kunth, Rev. Gram. 1: 112, 1829 (as brownei)

A loosely tufted slender grass with rather short mostly cauline leaves, panicle racemously branched with branches ascending at about 45°, spikelets somewhat irregularly appressed to these branches.

Apparently rather common on Guam, but previously not recorded, known under sev-

eral other names, probably native of Australia. Formerly confused with *E. elongata*. Previously known in Micronesia from Rota, Palau-Babeldaob, and Kwajalein.

The belief that the treatment of the Gramineae in at least the China section of Hooker and Arnott, Botany of Captain Beechey's Voyage was contributed by Nees seems to have no foundation. Workers may have been misled by the ascription N. ab E. after some of the subdivisions and in references in the text. This has led some, including me (Fosberg) to assume that Nees supplied this part of the manuscript and that the new names ascribed to Nees in this work should be cited as by Nees in, rather than ex. H. & A. Careful reading of the comments accompanying the descriptions now shows that Hooker and Arnott were writing and occasionally referring to Nees. The names should definitely be ascribed to Nees ex H. & A., including *Eragrostis brownii* Nees ex H. & A.

The specimen on which *E. brownii* was based is apparently a "part of Mr. Vachell's n. 54, which was subjected to his [Nees'] inspection; all the other specimens of that number which we have seen, belong to our *E. milletii*, nor have we ourselves yet seen a single plant of *E. brownii* from China." (H. & A., 1838, p233)

I have not seen this specimen, which must be the holotype of *E. brownii*, but am relying completely on Dr. Leroy Harvey's determination of several specimens, including one, *Herbst and Falanruw 6769*, from Rota, submitted by me.

Guam Specimens examined: Marianas: Guam: Naval Comm. Station, [north section of west coast], *Raulerson 1896* (GUAM), north of Antenna Field, Naval Comm. Station, Finagayan, *Raulerson 15360* (GUAM); Naval Comm. Station, Finagayan, *Raulerson 15314* (GUAM); Northwest Field, *Raulerson 16245* (GUAM), *7646* (GUAM), *4644* (GUAM); Tarague Beach, 5 m, *Raulerson 1144* (GUAM); Ypiga Conservation Area, bet. Agafa Gumas and Andersen Air Force Base, *Raulerson 9092* (GUAM); E side Brewer Field, N A S Agaña, *Raulerson 11984* (GUAM); Mangilao, *Raulerson 18108* (US, GUAM); small beach S of Tanguisson Power Plant and N of Two Lovers' Point, *Raulerson 13871* (GUAM); Watershed of Aguada River, flats on N side of river, 150 m inland from Polaris Point light, *Raulerson 11843* (GUAM); Cabras Island, outer Apra Harbor, *Raulerson 11049* (GUAM); top of ridge below Japanese Overlook, NAVMAG, *Raulerson 15430* (GUAM).

#### *Cyperus* L. (Cyperaceae)

***Cyperus sphacelatus*** Rottb., Descr. Pl. rar. ic. ill. Progr. 21, 1772; Kern, *Cyperaceae* in *Flora Malesiana* I, 7: 605, 1975.

Caespitose, culms rather slender, to 4 cm tall, leaves shorter than culms; panicle umbelloid, subtended by three unequal bracts, rays of umbel to 8–10 cm, spreading, spicate terminal portion 5–9 mm long, bearing 8–9 very elongate (1–2.5) cm linear spikelets, with partially overlapping scales, these ovate, folded, apex obtuse, keel rounded, green, with 5–7 ribs, sides with a somewhat elongate dark purple patch, fading with age; nut dull chestnut brown, elliptic to obovate in outline, deeply trigonous sulcate, angles rounded.

A weedy sedge hitherto unreported from Micronesia. It resembles *C. tenuiculmis* Boeckl. and *C. distans* L. both previously known from Micronesia, but differs in size and shape of achenes, and may be easily recognized by the purple patches on the sides of the scales.

Caroline Islands: Palau: Babeldaob: roadside between Modekngai School and Ibo-bang village, 15 m elev., Dec. 23, 1983, *Raulerson 5580* (US, GUAM).

*Fimbristylis* Vahl (Cyperaceae)

***Fimbristylis ovata*** (Burm. f.) Kern, *Blumea* 15:126, 1967.

*Carex ovata* Burm. f., *Fl. Ind.* 194, 1768

*Abildgaardia ovata* (Burm. f.) Kral, *Sida* 4:72, 1971

*Cyperus monostachyus* L. *Mant.* 180, 1771

*Fimbristylis monostachya* (L.) Hassk., *Pl. Java. Rar.* 61, 1868

An Asiatic species, known in the Pacific previously from Fiji. Leaves basal, filiform, shorter than fertile culms; spikes solitary, scales more or less distichous; style branches 3, achenes trigonous, tuberculate.

Marianas: Guam: Polaris Point traffic light, Marine Drive, S. of Aguada River, Apra Harbor side, 12 Aug. 1989, *Raulerson 19287* (US, GUAM).

*Alpinia* Roxb. (Zingiberaceae)

***Alpinia purpurata*** (Viell.) K. Schum. in Engler, *Pflanzenr.* IV, 46, h. 20:323, 1904; *Manner & Mallon, Micronesica* 22:27, 41, 1989.

R. M. Smith (1975) gives an excellent account and illustrations of what, in Hawaii, is called Red Ginger, a very common ornamental there, and clarifies its wild origin to be in Melanesia—New Hebrides, New Caledonia, British Solomon Islands, Bougainville and New Britain. She also notes that it is cultivated in Fiji and has become completely naturalized there. This may show that it sets seed there. We have not seen any indication of seed-set in any of the cultivated plants of this species. To Smith's records of cultivated occurrences of this species we may add the Society Islands, Tonga, Samoa, Niue, Marianas (Guam and Rota), Caroline Islands (Palau, Yap, Lamotrek, Puluwat, Truk, Ponape), and the Hawaiian Islands, where it is a very commonly planted ornamental. In Hawaii and Guam the viviparous condition, where the flowers are replaced by leafy plantlets in the axils of the bracts, described by Smith (1975, p. 156), is very common. It may be that the naturalized plants in Fiji are of this origin, rather than from seed. I (Fosberg) have always assumed that the cultivated plants of this species are members of a self-sterile clone.

This species has been introduced to Puluwat Atoll (Carolines), 28 July 1988, coll. *Manner and Mallon HM200* (GUAM).

*Ficus* L. (Moraceae)

***Ficus montana*** Burm. f., *Flora Indica* 226, 1768.

*Ficus quercifolia* Roxb., *Fl. Ind.* 3: 334, 1832; *Hort. Beng.* 65, 1814, nom nud.

Leaves ovate-oblong, acuminate, 6-10 cm long, margins shortly lobed, surfaces hispid, small globose pedicellate pink figs, borne on trunk or branches. This species, occasionally cultivated in the tropics or in green-houses, native of S E Asia and Malesia, has not hitherto been reported from Micronesia.

Caroline Islands: Palau: Babeldaob: Ngeremlengui, 3 m, planted small tree, *Raulerson* 5812 (US, GUAM).

*Maoutia* Wedd (Urticaceae)

***Maoutia australis*** Wedd., Arch. Mus. Hist. Nat. 9: 480, 1857.

Shrub or small tree, young branchlets villous, leaves ovate, acuminate, alternate, trinerved, white tomentose beneath, network conspicuous, larger areolation ladder-like, margins dentate but somewhat revolute and appearing shallowly crenate; stipules lanceolate sometimes bifid; flowers very small, in axillary strigulose hirtellous panicles of very small glomerules, staminate buds depressed-globose, perianth 5 parted, segments very convex, pistillate flowers very reduced and lacking or almost lacking perianth, style columnar, truncate, stigma flat, hairy, flower subtended by ciliate bracteole.

This species is common in western Polynesia and Fiji but has not previously been reported from Micronesia. It may have been overlooked previously because of its superficial resemblance to *Boehmeria nivea*. The two sterile specimens cited below are placed here tentatively on the basis of resemblance of stipules. Collection of more material of these genera, including *Pipturus*, with attention to stipules may make possible more reliable identification of sterile specimens. The three Moore<sup>1</sup> collections were growing in natural, rather than cultivated situations where *Boehmeria nivea* might be expected.

Marianas: Guam: Mt. Lamlam, 13 Oct. 1973, *P. H. Moore* 517 (GUAM), Umatac River valley, 24 Feb. 1973, *P. H. Moore* 447 (GUAM); above Tarzan Falls, edge of ravine forest, 22 Oct. 1980, *P. H. Moore* 1256 (GUAM).

*Aristolochia* L. (Aristolochiaceae)

***Aristolochia littoralis*** D. Parodi, Anal. Soc. Cient. Argent., t. 5, 1878.

*Aristolochia elegans* Masters, Gard. Chron. N.S., 24: 301, f. 64, 1885

This South American species of Dutchman's Pipe, with small reniform leaves and small fruit, has become naturalized in a patch of *Leucaena* near University of Guam. It may have been introduced as a cultivated curiosity.

Marianas: Guam: Mangilao, 70 m, 27 Dec. 1988, *Raulerson* 18129 (US, GUAM).

*Hernandia* L. (Hernandiaceae)

***Hernandia sonora* var. *nymphaeaefolia*** (Presl) Fosberg, comb. nov., stat. nov.

*Biasolettia nymphaeaefolia* Presl, Rel. Haenk. 2: 142, 1830 [1835].

*Hernandia nymphaeaefolia* (Presl) Kubitzki, Bot. Jahrb. 90: 272, 1970.

*Hernandia sonora* sensu Fosberg et auct. Pacif., non L. Sp. Pl. 981, 1753, s. str.

*Hernandia peltata* Meissn. in DC., Prodr. 15(1): 263, 1864; Kubitzki, Bot. Jahrb. 89: 153, 1969.

*Hernandia ovigera* sensu auct. non L., Sp. Pl. ed. 2, 1392, 1763.

<sup>1</sup> Philip H. Moore is an amateur botanist who taught school in Guam for 14 years and got to know the Guam flora and made valuable collections. He is now retired, living in Corvallis, Oregon.

Having seen *H. sonora* L. in the Caribbean and what has long been called *H. peltata* in the Pacific, I have not taken very seriously the minor difference in leaf texture and surface, not readily visible in dried specimens. I have for many years used the name *Hernandia sonora* L. for the Indo-Pacific tree.

Presl's *Biasolettia nymphaeaefolia* is clearly the Indo-Pacific coastal and strand tree, and in 1970 Kubitzki took up Presl's epithet and transferred it to *Hernandia* replacing *Hernandia peltata* Meissn. In his earlier monograph (1969) he had separated *H. peltata* from *H. sonora* on a slight difference in the depth of sulcation of the fruit.

This difference seems to be real, but, to me, of rather minor importance. The name *Hernandia nymphaeaefolia* is being taken up rather widely on Kubitzki's authority. Taken with the minor leaf character, the fruit difference probably merits varietal recognition, and the varietal combination is proposed above. The type was collected by Haenke "in insula Luzon". Further complications involving the related Henderson Island (*Hernandia stokesii* F. Brown) and Marquesan upland plants (*Hernandia marquisensis* F. Brown) should be mentioned, though they have not been worked out yet to my satisfaction. Perhaps new material, collected on the recent Smithsonian Expedition to Henderson Island and the Bishop Museum Fatuhiva Expedition to the Marquesas may clarify the status of these populations.

#### *Desmodium* Desv. (Fabaceae)

***Desmodium tortosum*** (Sw.) DC., Prodr. 2: 332, 1825.

*Hedysarum tortuosum* Sw., Prodr. 107, 1788.

A rather tall plant with trifoliolate leaves, rather stout, straight, stiff petioles, elliptic or ovate obtuse leaflets, subulate stipels, large ovate acuminate striate stipules, striae tending to be curved, flowers diffuse-paniculate, fruit of a number of almost orbicular loments.

Native of warmer America. Known previously in Micronesia only from Tarawa, Gilbert Islands.

Marianas: Guam: across road from Cetti Bay overlook, bet. Agat and Umatac, common, Feb. 2, 1986, Woods & Duenas (*Raulerson's 1733*) (US, GUAM); Orote Peninsula, 8 Oct. 1986 *Herbst and Ford (Raulerson's 8791)* (GUAM); *Flis (Raulerson's 16094)* (GUAM)

Nauru: s.l. *Hassal & Thaman 87* (SUVA); Buada, *Thaman 22308* (SUVA); N of Menen Hotel, Anibare Distr. 3 Nov. 1980, *Scully 110N* (GUAM).

#### *Macroptilium* (Benth.) Urb. (Fabaceae)

***Macroptilium*** (Benth.) Urb., Symb. Ant. 9: 457, 1928.

*Phaseolus* sect. *Macroptilium* Benth. Leg. Gener. Comm. 140, 1837.

A small group of species with a distinctive appearance, whitish appressed pubescence, maroon flowers with 5-lobed calyx, large vexillum (standard) and linear subterete to flatish pods. The current tendency to recognize it as a genus, separate from *Phaseolus* L. seems to be justified. It is native in the West Indies and nearby tropical America, with about 8 species, of which 2, *M. lathyroides* (L.) Urb. and *M. atropurpureum* (DC.) Urb. are widespread tropical weeds, and both have recently been found in the Marianas.

**Macroptilium atropurpureum** (DC.) Urb., Symb. Ant. 4:457, 1928.*Phaseolus atropurpureum* DC., Prodr. 2: 395, 1825.

Twining branched, densely appressed villous stems 1-2 m long, trifoliolate leaves whitish appressed villous especially beneath, small racemes of flowers, vexillum dark red, pods narrowly linear, flattish.

Widespread in the tropics, not previously reported from Micronesia.

Marianas Is.: Tinian, San Jose village, 24 May 1985, *J. Flis (Raulerson's) 10112* (GUAM). Guam: harbor edge just outside Commercial Port, *Raulerson 12116* (US).

Gilbert Is.: Tarawa Atoll, Betio, 30 Dec. 1982, *Raulerson 3803* (GUAM).

**Macroptilium lathyroides** (L.) Urb., Symb. Ant. 9: 457, 1928.*Phaseolus lathyroides* L., Sp. Pl. 2, 1016, 1762.

This widespread, weedy species, more or less erect, branched, with flowers with a large dark maroon vexillum and narrowly linear subterete pods, commonly placed in the inclusive *Phaseolus* L. seems better accommodated in *Macroptilium* (Benth.) Urban. It is most easily distinguished from the related twining *M. atropurpureum* (DC.) Urb., by its erect habit, only tending to twine at the tips, very thinly appressed pubescent stems, green leaves, and by its maroon rather than dark red corolla.

Marianas: Rota: SSE side of island [As Malote], 60 m, *Raulerson 1606* (US, GUAM).

Not previously known from Micronesia.

*Stylosanthes* Sw. (Fabaceae)**Stylosanthes guianensis** (Aublet) Sw., Svenska Vet. Acad. Handl. 10: 301, 1789. (often incorrectly spelled "guyanensis")*Trifolium guianense* Aublet, Hist. Pl. Guiane Fr. 776, T. 309, 1775.

A perennial herb, branched from the base, with trifoliolate leaves and small yellow pea-like flowers, fruit a small compressed, one-seeded, beaked pod.

Known previously in Micronesia only from Nauru but probably introduced elsewhere.

Marianas: Guam, inland from Pulantat antennas, Yona, "everywhere in the savanna and along roadsides", 5 March 1989, *Raulerson 18306* (US, GUAM).

***Oxalis* L. (Oxalidaceae) in Micronesia**

The cosmopolitan genus *Oxalis* L. is represented in Micronesia by three species, one recorded here for the first time. The names of the other two have been confused by earlier writers on plants of the region. It seems worthwhile to present our present ideas on their identities and correct names. Some of the Micronesian specimens have been examined by Dr. Alicia Lourteig, a long-time student of the genus. We have taken a narrower view of the varieties in *O. corniculata* than that adopted by her.

*Oxalis* L. Gen. Pl., ed. 5, 198, 1794 [1753].

Herbs rarely shrubs; leaves alternate trifoliolate or rarely unifoliolate, sensitive, stipulate or rarely stipules obsolete; inflorescence cymose, dichasial, or pseudo-umbellate, bracteate; flowers on plan of 5, sepals 5, separate or coherent at base, petals 5, stamens 10, in 2 series, those opposite petals shorter, the 10 coherent in 1 whorl in lower part;

ovary 5-celled, placentation axile, styles 5, separate; fruit a thin-walled loculicidal capsule; seeds many.

A cosmopolitan genus of about 800 species, 3 found in Micronesia, 2 certainly introduced, the other, *O. corniculata*, probably so, but collected in Guam early in the 19th Century. The pre-human range of this species is problematical.

The nomenclature of two of the species in Micronesia has been confused and we have to thank Dr. Alicia Lourteig for help with it, though our conclusions are our responsibility. The following key will separate even sterile specimens.

Key to Micronesian species:

- |  |                        |
|--|------------------------|
| Center leaflet conspicuously stalked, leaflets ovate to elliptic                 | <i>O. barrelieri</i>   |
| Center leaflet subsessile or sessile, leaflets obovate emarginate or triangular. |                        |
| Plants caulescent, not tuberous  | <i>O. corniculata</i>  |
| Plants acaulescent with orange tubers, leaflets notably triangular               | <i>O. triangularis</i> |

***Oxalis barrelieri*** L., Sp. Pl. ed. 2, 624, 1762.

*Oxalis bahiensis* Prog. ex Mart., Fl. Bras. 12: 501, pl. 105, 1877. at least for Micronesian records.

This plant has been reported under two names in Micronesia. The correct name, according to Dr. A. Lourteig, monographer of the genus *Oxalis*, is the Linnean *O. barrelieri*. The flowers are a dull rose pink (not yellow as appears on the label of #3303). The stem is erect, to about 40 cm, leaflets ovate to broadly elliptic, the middle one long-stalked. The inflorescence is a bracteate dichotomous cyme. The capsules are shortly ovoid.

Specimens examined:

Palau: Kayangal Atoll, interior, 3 m, 23 April 1983, *Pollitt FLP052* (GUAM). Babeldaob: Nekken, *Cheatham 98* (US); *Richardson 93* (US); *114* (US). Ngatpang: Ibobang, 5 m, *Raulerson 5664* (US, GUAM); Aimeliik, Nekken Forestry Station, *Timberlake 3062* (US). Koror: Entomology Lab garden, *Salsedo 271* (US); *Raulerson 17219* (GUAM); Ngerbeched, 10 m, *Fosberg & Evans 47433* (US, BISH, POM); *Blackburn 23* (US); *E-9* (US), *E42* (US); Koror Museum, *Raulerson 17249* (GUAM); Malakal I., near water treatment plant, *Rinehart (Raulerson's) 16505* (GUAM).

Yap: west of Ngariy, 10 m, *Fosberg 46309* (US, BISH, NY, L); Dinay S, gently sloping savanna off main N-S. rd., *Cushing 315* (US, GUAM); south of Dinay in rolling savanna, 25 m, *Cushing, Fosberg & Evans 502* (US, GUAM); Hill 0.5-0.7 miles southwest of Gitam, south of Yap High School, 50 m, *Fosberg 46579* (US, BISH, POM, NY, L, P); Tomil I., 100 ft., *Hosaka 3303* (US, P, POM, BISH, A); SW of Colonia, near airport, *Stemmermann 3481* (BISH).

Ponape: Kolonia, Agriculture Station, *Sachet 1834* (US, BISH, POM, NY); *Fosberg 58439* (US, BISH, POM, NY), *60440* (US, BISH); *Glassman 2429* (US, BISH), *2837* (US, BISH); Kolonia, 100 ft. *K. Nagata & Spencer 1847* (US, BISH).

***Oxalis corniculata*** L., Sp. Pl. 435, 1753; Lourteig, *Phytologia* 42: 98-144, 1979.

Slender herb, or slightly woody at base, branched, ascending to prostrate, fibrous rooted, subglabrous to variously puberulent or pubescent; leaflets sessile or subsessile, obcordate or obovate; stipules small, triangular, enclosing base of petiole, cymes pedun-

culate, axillary or appearing terminal on small branches, 1-several-flowered, pedicels spreading, usually becoming reflexed, flowers 6-10 mm long, yellow, 5-parted; capsule cylindrical to prismatic, membranous, 5-celled, with several seeds in a cell, loculicidal.

This species, taken in a broad sense, is an apparently inextricable complex of intergrading forms and recombining characters—in habit, leaf-color, pubescence, inflorescence character, and flower size.

Type: Uppsala, *Thunberg Herbarium 11084*, lectotype, chosen by Lourteig, *Phytologia* 42: 60, 1979.

***Oxalis corniculata* L. ssp. *corniculata***, Lourteig, *Phytologia* 42: 98–116, 1979.

Lourteig' ssp. *corniculata* includes two varieties, but var. *corniculata* is not mentioned. It apparently must be the prostrate thinly appressed pilose plant that is prostrate or recumbent but does not, or only scarcely root at nodes, and has inflorescence of 1-2 flowers, cited from the Marianas and Carolines. It seems to be the plant illustrated in her Fig. 5, p. 101. We are calling plants of this sort, not notably rooting at nodes, var. *corniculata*. We have a number of collections of this sort from the Marianas and Carolines, cited below.

Although Lourteig places *O. repens* Thunb. in synonymy of *O. corniculata* ssp. *corniculata* without comment, it has, in the past been given taxonomic status as either a species or a variety. We regard it as at least of varietal rank, coordinate with var. *corniculata* and the several other varieties that she recognizes in ssp. *corniculata*, and are so treating it below.

***Oxalis corniculata* var. *atropurpurea*** Planch. in v. Houtt, *Fl. Serres* 17: 47–48, 705, 1857.

Creeping, rooting at nodes, stems and petioles scarcely puberulent, leaflets scarcely emarginate, dark reddish green, cymes small, triflorous, flowers small.

Marianas: Guam: Pati Point, *Necker 328* (US); det. by A. Lourteig as var. *atropurpurea*, but leaves scarcely showing any red.

***Oxalis corniculata* L. var. *corniculata***

Prostrate or decumbent to ascending, not rooting at nodes, or rarely so, frequent short erect floriferous branches, stems strigose; cymes of 1-2 flowers, pedicels becoming reflexed; fruits minutely puberulent or sub-glabrous, when mature swollen irregularly by seeds within.

Possibly intergrading with and sometimes hard to distinguish from var. *repens*.

Marianas Is.: Maug: Main ridge of North Island, 150 m, *Lamoureux 4881* (US); Northern end of East Island, below 400 ft *Falanruw 2224* (US, GUAM).

Sarigan: Above village, 25-300 ft [75-90 m], *Evans 2387* (US).

Saipan: Kagman Point, east coast of island, 150 m, *Fosberg 31927* (US), Laulau Katan Point, 30-50 m, *Fosberg 31804* (US); Laderan i Agag, 200 m, *Stone 5237* (GUAM).

Tinian: terrace on southeast coast of island northeast of Carolinas Point, 60–80 m, *Fosberg 24845* (US, BISH, P).

Guam: Dandan, 110 m, *Fosberg 35554* (US), approaches var. *villosa* in hairiness.

Caroline Is.: Palau: Koror, Ikelau, "Omis," *Blackburn 192* (US). Yap: "Ryozo et. al." [*Kanehira*] 4368 (F). Ponape: Kolonia: *Glassman 2840* (US).



Insel Nawodo (*Finsch*) - Schum. & Laut., Fl. D.Suds. 373, 1901. (= Nauru). This may belong here.

***Oxalis corniculata* var. *repens*** (Thunb.) Zucc. Nachtr. Mon. Amer., Oxalis-Arten 54, 1831.

*Oxalis repens* Thunb., Diss. Oxal. 16, 1781.

*Oxalis reptans* Sol. ex Volkens, Bot. Jahrb. 31: 465, 1901, nom. nud.

Stems herbaceous or decumbent or prostrate, rooting at nodes, leaves long-petiolate, leaflets obcordate, all 3 subsessile, petiole articulate at base above stipules; stipules small, triangular, cymes axillary, exceeding leaves, 5-7-flowered.

Marianas: Tinian, *Hosokawa 7733* (BISH, US); Unai Masalok, S. coast, *Mesa (Raulerson's) 8419* (GUAM). Guam: s. 1. *G.E.S. 164* (BISH); Mangilao, (*Raulerson 15022* (GUAM); Andersen Air Force Base, *Moran 4473* (BISH).

Caroline Is.: Yap: Takiol, *Takamatsu 1822* (BISH); s. 1. *Wong 320* (BISH, US, POM). Fais: inland from south end of island, 15 m, *Fosberg 46669* (US). Ponape: Kolonia, *Sachet 1835* (US, BISH); *Fosberg 58580* (US).

***Oxalis corniculata* var. *villosa*** (Marsch. Bieb.) Hohenaker, Enum. Talysch. 395, 1837; Lourteig, Phytologia 42: 122-134, 1979.

*Oxalis villosa* Mareschale v. Bieberstein, Fl. Taur. Cauc. 1: 355, 1808.

Differs from var. *corniculata* most conspicuously in its spreading, soft pubescence on stems, peduncles, and, sparsely, pedicels. It does not notably root at nodes.

Marianas: *Gaudichaud* in 1830 (G). Maug: main ridge, 150 m, *Lamoureux 4881* (US). Pagan: Salafai, N of Puntan Diablo, W coast, 10-50 m, *Raulerson 709* (US); Saipan; Laulau Katan Point, 30-50 m, *Fosberg 31804* (US); Mt. Tapochau, *Raulerson 18206* (GUAM). Tinian: Unai Masalok, *Raulerson 9027* (GUAM). Rota: track from near Poniya Point to water caves, 350-500 m, *Evans 2204* (US, BISH, P). Guam: s.l. *G.E.S. (Thompson) 168* (US); *Moore 1090* (GUAM); track Cetti Bay to Mt. Lamlam, 200-405 m, *Evans 1719* (US).

Caroline Is.: Palau; Babeldaob, Ngeremlengui, *Bowden-Kerby (Raulerson's) 5809* (GUAM).

***Oxalis triangularis*** St. Hil. Fl. Bras. Merid. 1: 128, 1825.

An apparently sterile species with an orange tuberous corm, conspicuously triangular leaflets, and white flowers, cultivated in the Hormillosa yard, not previously reported from Guam. It has apparently come into cultivation rather recently, as it is not listed in Hortus Third (1976). We have it as a pot plant in Washington, D.C.

Marianas: Guam: Tumon Bay, cultivated, 5 February 1982. *Raulerson & Hormillosa 1648* (US); Ypaopao Estate, Dededo, 3 Aug. 1985, *Rinehart (Raulerson's) 11115* (GUAM).

#### *Caperonia* A St.-Hil. (Euphorbiaceae)

***Caperonia palustris*** (L.) St. Hil, Pl. Rem. Bras. 245, 1824.

*Croton palustre* L., Sp. Pl. 1004, 1753.

Erect herb with sparsely hirsute stems; alternate subglabrous ovate to elliptic leaves,

with serrate margins, pinnate venation, acute to obtuse apices, rounded bases, slender slightly hirsute petioles to 1 cm long; stipules triangular; axillary slender bracteate few-flowered, hirsute spikes, a few of the hairs spreading and gland-tipped, others appressed, flowers several, near apex of spike, pistillate 1-2, subtended by deeply 5-dentate reniform bracts, staminate several, distal, subtended by small ovate scale-like bracts, buds globose; ovary thickly beset by thick-based stiff trichomes, stigma prominently spreading-fimbriate; capsule 3-lobed, upper  $\frac{2}{3}$  strongly hispid, lower part thin, glabrous; seed 1 in a locule, globose, dark gray, surface beset with broad-based thin scales.

The identification of this weedy herb gave some trouble, but was cleared up by Dr. Grady L. Webster (pers. comm). It is listed here as it was not described by Stone in his Flora of Guam, and has not been reported from elsewhere in the Pacific. It was originally described from Vera Cruz, Mexico, and is known also from the West Indies.

Marianas: Guam: Mangilao, *Neubauer (Raulerson's) LR 12676* (US, GUAM, BISH); Agricultural Station, 60 m, *Evans 1721* (US, BISH, PM, NY, L).

*Bombax* L. (Bombacaceae)

***Bombax ceiba* L.**, Sp. Pl. 511, 1753

The Asiatic "selmal" tree may now be reported from Guam, though it has been there, planted, since well before 1972, as it was collected flowering in that year, but the report was not published. Previous records of this species in Micronesia have been misidentifications of *Ceiba pentandra* (L.) Gaertn., which it resembles in habit.

This is a handsome tree with horizontal branches from an erect trunk with large hard prickles. The leaves are palmately compound with 5 or more large elliptic strongly acuminate leaflets. The flowers are to 9 cm or more long calyx cup-like, petals elliptic, tomentose externally, glabrous and bright to dark red within. The fruit is a long narrow capsule, cottony within, with many small seeds.

It seems strange that, once introduced, it has not become widely planted.

Marianas: Guam, Tamuning, 4 May 1972, *P. H. Moore 272* (GUAM).

*Melochia* L. (Sterculiaceae)

***Melochia villosissima*** (Presl) Merrill, Phil. J. Sci. Bot. 15: 543, 1919; Goldberg, Contr.

U.S.N.H. 340: 220, 236, 1967; Fosberg et al, Micronesica 15: 168, 1979.

*Riedliea villosissima* Presl, Rel. Haenk. 2: 146, 1835.

*Melochia hirsutissima* Merr., Phil J. Sci. Bot. 9: 113-114, 1914.

*Melochia compacta* Hochreutiner, An. Cons. Jard. Bot. Geneve 21: 429, 1920.

Range: Marianas and Caroline Islands.

Stone (1970) is correct in pointing out that the distinctions between *M. villosissima* and *M. compacta* break down. This may be the result of hybridization between two plants that differ conspicuously in pubescence, but now they can scarcely be maintained as distinct species, and should be considered varieties, only. However, since *M. villosissima* is based on Presl's much older name, *M. compacta* is here reduced to varietal rank, rather than vice versa.

A specimen, collected on Guam, steps to Haputo Beach, by *Herbst 8727* (BISH), is

almost glabrous and represents the extreme of var. *compacta*. Its ovary is strongly sericeous, the fruit dehisces septicidally.

**Melochia villosissima** (Presl) Merrill var. **villosissima**

*Melochia compacta* var. *villosissima* (Presl) Stone, *Micronesica* 6:423, 1970.

**Melochia villosissima** var. **compacta** (Hochr.) Fosberg, comb. nov.

*Melochia compacta* Hochr. loc. cit.

The two varieties have almost identical ranges.

*Dissotis* Benth. (Melastomataceae)

*Dissotis* Benth. in Hook., *Niger Fl.* 346, 1849.

Herbs or shrubs, leaves simple, opposite, entire, 3-7 nerved; flowers solitary or in cymes, calyx lobes 4-5, alternating with hairy appendages, petals 4-5, stamens 8-10, strongly unequal, ovary inferior, 4-5-loculed; fruit capsular.

Medium sized African genus; one species widely cultivated, escaping.

**Dissotis rotundifolia** (Smith) Triana, *Trans. Linn. Soc. [London]* 28: 1871.

*Osbeckia rotundifolia* J. E. Smith in Rees, *Cyclop.* 25, 1813.

This is a creeping, mat-forming plant with roundish, slightly acuminate leaves and attractive pink flowers, the hypanthium and fruit densely long-villous.

It is a native of tropical Africa, widely cultivated, found naturalized in Fiji in 1989; observed to be sparingly established around a cemetery at Colonia, Yap, in 1980, *Fosberg* 60024.

Marianas Is.: Guam; Finegayan, *P. H. Moore* 562 (GUAM); Ipan, 4 Jan. 1987, *Raulerson* 14080 (GUAM).

*Coccinia* W. & A. (Cucurbitaceae)

*Coccinia* W. & A., *Prodr.* 347, 1834.

Type *Coccinia indica* W. & A. nom. superfl., illegit. cites *Bryonia grandis* L. (*Mant.* 126, 1767) in synonymy.

**Coccinia grandis** (L.) Voigt, *Fl. Suburb. Calcutta* 59, 1845.

*Bryonia grandis* L., *Mant.* 126, 1767.

*Coccinia cordifolia* sensu auct., non (L.) Cogn.

Extensive herbaceous tendriferous vine, leaves broadly angular-cordate to lobed, flowers white, funnellform-campanulate, star-shaped; fruit ellipsoid, red, fleshy.

This is proving to be an aggressive weed in some areas where introduced, such as Hawaii and St. Croix, U.S. Virgin Is.

Guam: Yigo, 8 Sept., 1984, *Raulerson* 7446 (US, GUAM); Fafai, Gun Beach, 24 Oct. 1980, *P. H. Moore* 1266 (GUAM); Marine Dr., bet. Yigo and Andersen AFB, 27 July 1984, *Raulerson and Eastlick* 6845 (GUAM); Mangilao, cult., *Rinehart & Kerr* (*Raulerson's*) 17799 (GUAM). New record for Micronesia.

*Nymphoides* Seguiet (Gentianaceae)

***Nymphoides cordata*** (Elli.) Fernald. *Rhodora* 40: 338, 1938.

*Villarsia cordata* Elliott, *Sketch Bot. So. Carol. Georgia*, 1: 230, 1817.

This aquatic gentian, with floating leaves resembling diminutive water-lilies, sometimes grown in large aquaria, has become established in fresh-water fish-ponds on Guam. It may have been deliberately put there by an aquarist, or been thrown out and persisted accidentally. Its short fleshy rhizome grows buried in the mud bottom of shallow water, sending up slender stems which, at the surface each produces a single orbicular-cordate floating leaf, a cluster of slender tuberous roots, and an umbel of small cream-white flowers, fruit an irregular membranous capsule of relatively large seeds.

Marianas: Guam: "In the fishponds by the windmill above the Bubulao River on Roberto land," 18 June 1989, *M. Ritter (Raulerson's) 18650* (US, GUAM).

*Melodinus* Forst. (Apocynaceae)

The genus *Melodinus* Forst. (1775) is now generally considered to encompass *Clitandropsis* S. Moore (Pichon 1943). The Micronesian species, *Clitandropsis insularis* Markgraf, has not, to my knowledge, been transferred, which is done herewith.

***Melodinus insularis*** (Mgf.) Fosberg, comb. nov.

*Clitandropsis insularis* Mgf., *Bot. Jahrb.*, 61: 174, 1927; 63: 281, 1930. Kaneh., *Enum. Pl. Micr.* 394, 1935; Hosokawa, [*Mat. St. Micr. Pl.*] 37, 1936., Kaneh. & Hatusima, *Bot. Mag. (Tokyo)* 53: 190, 1939.

This species was adequately published, first in 1927, in a key, a five-line entry forming a very adequate diagnosis, contrasting it with *C. novo-quineensis* (Wernh.) S. Moore ex Mgf., no specimen cited, simply "Mikronesien." Then, in 1930, it was fully described by Markgraf as a new species, citing a specimen, *Ledermann 14419*, from Palau; Babeldaob, Ngersuul. This collection was the only one cited. The original specimen was in Berlin and was doubtless destroyed. Several duplicates survive (B, K, FU), the one in B is in another paper being published elsewhere, designated as lectotype.

Specimens examined:

Caroline Islands: Palau: Babeldaob: Ngersuul, 200-300 m, *Ledermann 14419* (B, K, FU); Mt. Ruis [Luis] Almonogui, *Kanehira & Hatusima 4953* (FU, 4 sheets). Marakal [Malakal], *Hatusima 4721* (FU, 2 sheets).

*Cerbera* L. (Apocynaceae)

***Cerbera dilatata*** Markgraf, *Bot. Jahrb.* 63: 285-286, 1930.

This species, closer to *Cerbera odollam*, of Malesia to Ceylon, than to *C. manghas*, seems to be endemic in the Marianas, in spite of dubious sterile specimen, *Ledermann 14355* (B), said to be from Ponape, referred here by Markgraf, loc. cit. This species was based on four specimens, s. l. *Gaudichaud*; Saipan: *Fritz s.n.*; Höfer 41; Tinian, *Kersting (Gibbon's) 1162*; plus the *Ledermann* specimen cited above. All were presumably in Berlin, and all were probably destroyed, though a duplicate of the *Ledermann* specimen survived. Markgraf did not in any way suggest a type, though Glassman, Bish. Mus. Bull.

209: 90, 1952, said "Saipan (type) and Tinian". Since both Saipan collections were destroyed, it would be inadvisable to regard Glassman's statement as a lectotypification.

Markgraf cites "Marianen, blühend Gaudichaud"; this specimen was probably destroyed in Berlin. "Iles Mariannes, *Gaudichaud* (G), and Iles Mariannes, *Gaudichaud 90* (P)" are still available and may be regarded as duplicates of the Berlin specimens.

Since these are the only known surviving duplicates of specimens cited by Markgraf, one should be designated as lectotype. The Geneva specimen, det. by R. E. Woodson as *C. manghas*, may have, according to my notes made many years ago, only one half a fruit with seeds, it would not make a good lectotype. The Paris specimen, bearing the vernacular name "Tschioute", *Gaudichaud 90* (P) is therefore, here, selected as lectotype of *Cerbera dilatata*.

The species is known from Pagan, Saipan, Tinian, Agiguan, and Guam, and doubtless occurs on Rota, though we have seen no specimens from there. It is an upland rather than a shore species.

#### *Paederia* L. (Rubiaceae)

##### ***Paederia tomentosa*** Bl. Bijdr. 968, 1827

This species is usually united with *P. scandens* (Lour.) Merr. (*P. foetida* sensu auct., non L.) which varies somewhat in presence or absence and density of hairiness. However, the abundant white pubescence of the collections cited below is so much more extreme than in any of the numerous *P. scandens* specimens in US, that, for the time being we choose to recognize as distinct this apparently recent introduction into Guam. The broad open dichasial cymose panicles and sessile flowers with glabrous hypanthia and ciliate, minutely puberulent deltoid calyx lobes and densely tomentulose campanulate corollas also seem distinctive. *P. pertomentosa* Merr. ex H. L. Li is close to this and even more conspicuously pubescent, but differs in the subglomerate arrangement of the flowers. More collections from the Guam population may clarify the relationships of these three closely related species, but for now *P. tomentosa* seems the best disposition of this population.

Marianas: Guam: Former Harmon housing area, inland from Two Lovers Pt., 90 m, 30 April 1989, *Raulerson and Rinehart 18568* (US, GUAM), same, 21 July 1989, *Raulerson 18691* (US, GUAM).

#### *Psychotria* L. (Rubiaceae)

##### ***Psychotria kanehirae*** Merrill in Kanehira, Trans. Nat. Hist. Soc. Formosa 6(23): 43, 1916; Fosberg et al., *Micronesica* 15: 276, 1979.

This species is not described in the Kanehira reference given above, (nor in the Fosberg et al. Checklist (1979), hence invalid as of that reference. However, the same name was published in Japanese, the same year, Merrill ex Kanehira, "[Dai Nihon Sanrin Kaiho], no. 401, April 15, 1916." A translation of this by Luhrs Stroud, in 1949, gives the following: on page 56, "*Psychotria kanehirae* Merrill n. sp." and on page 68, "37. *Psychotria kanehirae* Merrill. Found on Peliliu in Palau. A small scrub tree." Technically this constitutes a description, and hence, valid publication, but the species will only be

identifiable if the Kanehira specimen no. 37 can be found. We have not seen it. In any case, it would seem to invalidate *Psychotria kanehirae* Merrill and Perry, Jour. Arn. Arb., 27: 199, 1946, from New Guinea. However, the latter species has recently, by Sohmer (1988, p. 343), been combined with *Psychotria ramulosa* Merrill and Perry, op. cit. p. 201.

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