

The Genus *Timonius* (Rubiaceae) in the Palau Islands

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Abstract—A critical discussion and taxonomic treatment of the species of *Timonius* DC. occurring in Palau, Western Caroline Islands, recognizing and describing *T. corymbosus* Val. with two varieties, *corymbosus* and *takamatsui* (new), *T. korrensis* Kaneh., *T. mollis* Val. with three varieties, *mollis*, *submollis* (new), and *villosissimus* (new comb.), *T. salsedoi* (new), *T. subauritus* Val. with two varieties, *subauritus* and *strigosus* (new), and *T. timon* (Spreng.) Merrill (introduced) is presented.

Introduction

Timonius DC. is a widespread Indo-Pacific genus of the Rubiaceae-Guettardae, characterized by being dioecious, by having axillary inflorescences, valvate corolla lobes, a several-to many-branched style, and a drupe with many pyrenes superposed in several to many radially arranged vertical rows. *Timonius* differs from the closely related *Bohea* Gaud. of Hawaii in its valvate corolla aestivation and much more complex fruit structure; and from *Antirhea* Commerson, sensu lato, in its valvate aestivation and usually free (not fused), much more numerous, pyrenes.

In arranging the few Micronesian species for the Flora of Micronesia, extraordinary difficulty was encountered with those described from Palau. In Micronesia outside Palau are four species, *T. nitidus* (Bartl. ex DC.) F.-Vill. in Guam, *T. albus* Volken in Yap, *T. ponapensis* Valeton in Ponape, and *T. ledermannii* Valeton in Ponape and Truk. Of these, *T. ledermannii* is very distinct from the others and relatively uniform. The other three are mutually closely related and also related to the indigenous species from Palau, and, like the latter, are conspicuously variable. The variation in each of these three species is apparently continuous and does not fall into clear patterns either morphological or geographical. *T. albus*, from Yap, is closest to the Palau complex. Collections of the four non-Palauan species are reasonably numerous and it is possible to characterize them fairly reliably.

Of the Palau species, Valeton described three, *Timonius corymbosus*, *T. mollis*, and *T. subauritus*. Kanehira described two more, *Timonius korrensis* and *T. villosissimus*. As long as only the material available to Valeton was known, his three species seemed amply distinct. Kanehira's *T. korrensis* seemed intermediate between *T. corymbosus* and *T. subauritus* in most characters, but could scarcely be combined with either. His *T. villosissimus* is so close to *T. mollis* that in 1940 Fosberg placed it in synonymy under that species. Specimens collected by Hosokawa, Hosaka, Canfield and Fosberg subsequently have so clouded the distinctions that the easiest course would be to consider the whole complex to be one variable species, especially since in Palau there seems little geographic separation between most of the variations.

This course would make it difficult to keep separate from the Palau complex *T. albus*, *T. ponapensis*, and even *T. nitidus*, each on a different island and representing an isolated population with some distinctive combinations of characters. Further, it would be hard to convince most botanists that typical representatives of *T. corymbosus*, *T. mollis*, and *T. subauritus* could possibly belong in the same species. Differences between solitary pedunculate pistillate flowers and those disposed in cymes, between ample, many times branched staminate cymes and condensed once or twice ramified ones, between large thin, cordate, hairy leaves and small, subcoriaceous, broadly elliptic, glabrous ones would be hard to reconcile within one species. Yet there seem to be various degrees of intermediacy present in these and other characters between all of the species described from Palau.

Critical study of a fair amount of material, concentrating first on obvious vegetative characters, then on the form and size of inflorescences, finally on calyx and corolla characteristics, enables one to sort the specimens into piles that may represent natural populations. A factor that complicates this is the difficulty of knowing, in some cases, which staminate plants go with which pistillate ones if observations were not made in the field as to which were found growing together. This was not often done, as we were not aware that there were any problems. Some of our guesses may conceivably be wrong.

We choose, here, to present descriptions, brief comments, and critical specimen citations of what we take to be separable taxa, grouping the more similar ones into entities corresponding mostly to Valeton's and Kanehira's species. These are published here so they can be discussed and their names used in the flora treatment of all the Micronesian species, which will have a key and all information available. With this tentative framework at hand, collections can be made to test the entities proposed. Some of them, of course, may not stand when more abundant and more carefully collected specimens are available. Specimens that we have seen are indicated by collectors' names and numbers in italics.

Timonius corymbosus Valeton, Bot. Jahrb., 63: 307, 1930.

Shrub or small tree to 5 m tall, young growth thinly and very minutely sericeous-puberulent, internodes variably quite long (0.5–12 cm), on flowering branchlets rarely as short as 1 cm; leaves up to 14 × 8 cm, usually smaller, broadly ovate to elliptic or oval or slightly obovate, apex obtuse to acutish, or acuminate, usually very slightly and shortly so, base obtuse to acute, sometimes slightly decurrent, appressed pubescent, or glabrous except when very young, main veins 5–7(–8), petiole 1–1.5 cm long; stipules triangular acuminate, up to 7 mm long, sericeous, especially on midrib, ciliate, densely appressed villous within; cymes tending to be sericeous, slender, tending to be flat-topped, branches tending to be scorpioid, staminate usually 4–7 times dichotomous, ultimate branchlets either somewhat scorpioid or with one or more scale-like bractlets part way up and a pair at the summit subtending the flower; pistillate inflorescence, flowers and fruit only known for var. *takamatsui* described under that variety.

Apparently endemic to Palau, occurring in two varieties, one from Koror, substratum not recorded, the other mainly from the limestone islands.

Timonius corymbosus Val. var. ***corymbosus***

Leaves thin-chartaceous or membranous, elliptic to slightly obovate, acuminate, appressed pubescent beneath, midrib slightly so above, densely beneath; petiole densely

appressed-hirsute; cymes 9–11 cm long, 5–7 times branched; calyx of staminate flowers cup-shaped, 1 mm long, shortly 4-toothed, sparsely appressed-hirtellous and ciliolate; corolla of staminate flowers strongly sericeous without, tube 8 mm, lobes 5, ovate, 2 mm long.

Palau (Belau): Koror Island, 20–30 m, Feb. 1914, ♂, *Ledermann 14051* (B, lectotype).

Timonius corymbosus var. **takamatsui** Fosberg & Sachet, n. var.

Ab var. *corymbosus* foliis latior minus pubescentibus, petiolis glabris. Cymis pistillatis longipendunculatis 1–2(–3) ramificatis, floribus centralibus sessilibus.

Differing from var. *corymbosus* especially in its broader much less hairy leaves, glabrous petiole, shorter staminate cymes as in var. *corymbosus*, but 5–8 cm long. Pistillate inflorescence slender, cymose, long pedunculate, 1–2(–3) times branched; pistillate flowers with ovary somewhat swollen about 2 mm long, crowned by a somewhat spreading short 4-toothed calyx, corolla tube densely sericeous, 5 mm long, dilated upward or not, glabrous within, lobes 4–5, ovate, 2–2.5 mm long, spreading or reflexed, papillose within, style 2 (–3?) branched, branches flattened, irregularly tridentate, tips exerted, fruit globose, about 6 mm diam. when dry, surface irregularly mamillate when dry.

In leaf-characters this variety resembles *T. korrense*, but the staminate inflorescences of var. *takamatsui* are much more slender, more times ramified, and the flowers much smaller; also the pistillate cymes are more slender, more branched (thus placing it in *T. corymbosus*), pistillate cymes slender, to 4 cm long, long-pedunculate, 1–2 (–3) times branched, very small bracts subtending branches, connected by a stipular line; central flowers sessile at each ramification, lateral flower closely subtended by 2–4 minute bractlets; pistillate flowers with hypanthium and calyx urceolate, the 4 triangular teeth spreading somewhat, persisting on fruit; corolla tube 5–6 mm long, somewhat dilated upward or not, like the lobes glabrous within, densely sericeous without, lobes 4 (–5), ovate 2–2.5 mm long, spreading or reflexed, with 2 bands of papillae within, antherodes linear, sessile in throat, style with 2 or more flattened branches, these irregularly tridentate or slightly trifid, then again dentate, apical parts of branches somewhat exerted; fruit globose, 5–7 mm diameter when dry, irregularly mamillate, pyrenes 16 or more, radiating-ascending in vertical rows, fusiform and slightly curved, free.

Found on Olopshacal (=Aulupse'el) Island, northernmost of the large limestone islands of Palau, and on Kaiguru, Peliliu and Angaur.

Palau: Aulupse'el (Olopshacal) Islands, *Takamatsu 1478* (BISH, holotype, P, isotype), ♂, *1458* (BISH, US), *1452* (BISH); Kaiguru, *Takamatsu 1580* (BISH); S side, Risong, Matuker Bay, 2 m, ♀, *Fosberg 47569* (US, BISH, POM, CHR, TI, BM, QLD, MO, A); Angaur Island, 10 m, ♂, *Canfield 254* (US). Peliliu: ♀, *Blackburn 283* (US, BISH); 15 ft., ♂, *Hosaka 3423* (US, BISH, POM).

Timonius korrensis Kanehira, Bot. Mag. Tokyo, 45: 351, 1931.

Shrub or small tree, young parts very slightly to somewhat appressed-puberulent; leaves chartaceous to subcoriaceous, broadly elliptic to slightly ovate or obovate, somewhat acuminate at apex, base acute to obtuse or subtruncate, glabrous to sparsely appressed hirtellous beneath, the 5–7 veins on a side with small domatia with tufts of hair in axils, petiole 5–8 mm long; stipules triangular acuminate, 10–14 mm long, thinly se-

riceous on outside densely so within; cymes less slender than in *T. corymbosus*, rather open, branches scorpioid, flowers sessile, secund, one sessile in dichotomy; staminate cymes once or twice dichotomous, or rarely sub-thyrsoid, peduncle 1–3.5 cm long, branches elongate to as much as 10 cm, with 6–10 sessile flowers; pistillate cymes shorter, once dichotomous, peduncle 2–2.5 cm long, branches to 3.5 cm, with 5–6 flowers on a branch; staminate flowers with hypanthium turbinate 1.5 mm high, subglabrous, calyx campanulate 1.5 mm long, sharply 5-toothed, corolla tube 12 mm long, densely sericeous outside, slightly dilated near top, lobes (4–)5, oblong 5 mm long, sericeous outside, slightly papillose within, spreading, anthers partly exerted; pistillate flowers with hypanthium and calyx urceolate, about 5 mm long, 5 toothed, sericeous inside and out, corolla tube 11 mm long, densely sericeous without, slightly ampliate upward, lobes 5, oblong, recurved, glabrous within; fruit globose, 5–6 mm in diam., 1–3 maturing on a cyme.

Only one mature flower present on each sheet studied, inner parts and fruit not seen. Syntypes, *Kanehira* 105, 460, from Koror. Neither type nor other *Kanehira* material seen by us, except no. 2462.

Koror and southern Babeldaob, and an uninhabited coral island near Koror.

Palau: Koror; Arumizu [Ngarmid], *Hosokawa* 9090 (A); 1/4 mi. from Rendrok dock, at base of limestone cliff, *Salsedo* 437 (US); s.l., ♂, *Kanehira* 2462 (P, US).

Timonius mollis Valetton, Bot. Jahrb. 63: 305, 1930.

Timonius tomentosus Valetton, Bot. Jahrb. 63: 305, 1930.

Small tree, generally sparsely to densely villous-hirsute, only sparsely so on upper leaf surfaces (more densely on principal veins), internodes mostly short (1–5, rarely to 15 cm); leaves broadly elliptic to usually broadly obovate, up to at least 27 × 15 cm, thin, apex acuminate, base cordate-auriculate, usually unequally so, nerves 9–11 on a side, prominent, anastomosing distally in a weak submarginal vein, network between nerves inconspicuous, petiole thick, 1(–1.5) cm or usually less long, densely hirsute; stipules straight, ovate, strongly acuminate, up to 15 mm long, soon caducous; staminate cymes dense, subcapitate, at most 2 cm long, shortly pedunculate, at least twice ramified, about 11-flowered, densely short-hirsute, flowers in bud only, buds ellipsoidal, hirsute, calyx lobes lanceolate unequal; pistillate flowers on short peduncles (to 10 mm) or subsessile, hypanthium subglobose, calyx deeply parted into 6 linear lobes 3–12 mm long, corolla up to 15(–17) mm long, cut about 1/3 into 6 lance-ovate lobes, fruit subsessile globose to depressed globose, up to 15–18 mm wide, 12 mm high, pubescent.

Apparently endemic to Palau, except that a sterile specimen collected by Otto Swezey on Guam in 1935 (BISH) may be a seedling of *T. mollis*. It resembles this species in pubescence and leaf shape but its stipules are recurved, rather than straight. It does not resemble any known Guam Rubiaceae.

Timonius tomentosus was published by Valetton in his key to the Micronesian species, but in the text *T. mollis* was used. *T. tomentosus* was probably a lapsus on Valetton's part, but was published with descriptive material in the key. Since he did not accept it, apparently, it is invalidly published (Art. 34, ICBN).

Possibly three varieties should be recognized, a small-leafed, small-flowered one corresponding to Valetton's species, and a larger leafed, larger flowered one corresponding to *Kanehira*'s *T. villosissimus* represented, at least by *Takamatsu* 1623.

Variety not determined:

Caroline Is.: Palau: Malakal I. *Tuyama 9331* (GUAM).

Timonius mollis Valetton var. **mollis**

Pubescence of stems rather prominent, spreading, leaves thin, elliptic, acuminate, cordate at base, blade, especially the veins, somewhat hirsute, more so beneath, petioles densely hirsute, calyx lobes lanceolate; fruit densely strigose.

Palau: Babeldaob: Garmiscan, ♀, *Hosokawa 9138* (BISH, A); Arekalong, *Takamatsu 1660* (BISH); Kaiguru, *Takamatsu 1623* (BISH), Mt. Elsum, ♂, *Hosokawa 9255* (A). Aulupse'el I., Matuker Bay, 30–50 m, *Fosberg 47540* (US), a seedling with reflexed stipules similar to the Swezey Guam collection mentioned above, but with obtuse rather than subcordate leaf bases.

The type, *Ledermann 14342*, from Babeldaob, Ngarsul, may have been lost in the bombing of Berlin. We have seen no duplicate of this collection, so there remains some doubt of our interpretation based on the original description, and the fact that Dr. Markgraf found it different from *Kanehira 2305*, the type of *T. villosissimus* Kaneh. (see Kanehira 1934, p. 923).

Timonius mollis Val. var. **submollis** Fosberg & Sachet n. var.

Planta aliquantum pubescens, folia firme-chartacea, basim obtusa vel subcordata, pedunculus fructus 1.5–4 cm longus, fructus minute strigulosus.

Leaves tending to be firm, pubescence thin, subspreading to appressed, leaf bases obtuse to subcordate, calyx lobes, especially of staminate flowers, lanceolate, fruit minutely strigulose, fruiting peduncle 1.5–4 cm.

This variety seems almost intermediate with *T. subauritus* but its lanceolate calyx lobes suggest that it belongs with *T. mollis*.

Palau: Ngarakabesang Island: West side near old Japanese seaplane base, ♀, *Fosberg 25630* (US, holotype, BISH, POM, CHR, L, A, isotypes); western peninsula, 10–20 m, ♂, *Fosberg 32474* (US, BISH, POM). Babeldaob Island: damsite, Airai, ♀, *Fisher 118* (US).

Timonius mollis var. **villosissimus** (Kanehira) Fosberg & Sachet, n. comb.

Timonius villosissimus Kanehira, Bot. Mag. (Tokyo) 48: 923, 1934.

Whole plant much more conspicuously hirsute than in var. *mollis*, hairs generally spreading, tending to be somewhat matted on stems, petioles and main veins, and to be appressed on flowers and fruits, peduncles 10 mm long; calyx lobes linear, acute, 3 mm long; fruit densely silky-strigose.

The characters used by Kanehira to distinguish his species from *T. mollis*, larger leaves and fruits and longer pedicels, do not hold up with more specimens than were available to Kanehira. We do not find these characters at all reliable, but the much denser and more conspicuous pubescence seems to justify at least varietal separation, contrary to the opinion expressed earlier (Fosberg, 1940, p. 217).

Palau: Babeldaob: Aimeliik, ♀, *Kanehira 2305* (US, lectotype, NY, isolectotype); Lake Ngardok, 50 m, *Fosberg 32586* (US, BISH, POM); SW of Mt. Yekigaroto, 130 m, ♀, *Fosberg 47690* (US, BISH, POM, NY, L); Kaiguru, *Takamatsu 1623* (BISH).

Professor Kanehira cited only his no. 2305 with the original publication of this spe-

cies, but did not designate a holotype. Since there were a number of duplicates of this collection, and since we have especially studied the US sheet, it is here designated lectotype.

Timonius salsedoi Fosberg & Sachet n. sp.

Frutex gracilis omnino hirsuto-pilosus, folia tenues elliptici acuminati basi cuneati, stipulae ovatae acuminatae extus sericeae intus valde sericeae, cymi staminati desunt, pedunculi pistillati uniflori bibracteati, lobi calycis 5–6 inaequalis, corolla sericea 5-lobata, staminodia lineares mediano tubi inserti, stylus ramulis coherens tridentatis, drupa dense sericea.

Notably hirsute-pilose small shrub, branchlets slender; leaves thin, elliptic to slightly obovate, up to 17 × 8–9 cm, apex acuminate, base cuneate, upper surface very sparsely appressed hirsute, more on midrib and veins, much more so beneath, veins 9 on a side, network rather obscure; petioles hirsute, 1–2 cm long; stipules tardily caducous, ovate strongly acuminate, to 10 mm long, sericeous without, more on midrib, strongly so within; staminate cymes not seen; pistillate reduced to a single flower on a slender straight peduncle 2 cm long, with 2 connate, densely sericeous ovate-acuminate bracts at summit subtending fruit, drupe (immature) subglobose, densely sericeous, crowned with calyx with 5–6 unequal ovate lobes, pistillate corolla densely sericeous without, glabrous within, tube 7 mm long, lobes 5, broadly oblong-ovate, spreading, glabrous internally, fleshy, 5 linear antherodes 1.8 mm long half-way up corolla tube, style 9 mm long, branches flattened, coherent, tridentate; mature fruit lacking.

Perhaps closest to *T. corymbosus*, but resembling *T. mollis* in solitary pistillate flowers, but plant more slender with different shaped leaves, longer pistillate peduncle, ovate calyx lobes, and 5-lobed corolla. Named for Carl Salsedo, collector on Palau in 1968 to 1970.

Known only from the type locality in Palau (Belau).

Palau: Malakal Island, 100 m, rare in undergrowth in forest on slopes of hill on volcanic soil, Aug. 25, 1965, ♀, Fosberg 47508 (US, holotype)

Timonius subauritus Valetton, Bot. Jahrb., 63: 308, 1930.

Shrub or small tree, branchlets tending to be somewhat fistulose, lower internodes of a flowering branchlet up to 15 cm long, distal ones much shorter, to as little as 5 or even 3 mm, glabrous, not or only obscurely quadrangular, becoming nodose due to leaf scars, leaves broadly elliptic to somewhat obovate, up to 15 × 8 cm, apex acute or obtusely subacuminate, base from obtuse to somewhat cuneate, principal nerves 7–10 (–11) on a side, blade thick-chartaceous to subcoriaceous, glabrous, petiole strong, 8–15 mm long; stipules triangular-acuminate, firm, apex strongly involute, 10–12 mm long, externally slightly strigose when young, becoming glabrous, internally densely appressed pilose, persistent on 1–2 nodes, then caducous; staminate cymes 1–3 cm long, in uppermost leaf axils, strigose, glabrate, peduncle 0.5–1.5 cm, once dichotomous with a sessile terminal flower, branches short, subscorpioid, each with 3–5 subsessile secund flowers, usually rather crowded, hypanthium and calyx strigose, glabrate, lobes 4–5, triangular to obscure; corolla densely white strigose, in bud 8–10 mm long, clavate, tube 11 mm long, 4–5 lobed, lobes ovate, recurved, 4 mm long, anthers subexserted, pistillate flowers on

axillary peduncles 0.5–3(–4) cm long, strigose, glabrate, with a pair of ovate-acuminate ciliate bracts at summit closely subtending flower; hypanthium plus calyx urceolate, strigose, glabrate, calyx lobes 4–5, triangular acute; corolla externally densely white strigose, tube cylindrical, 6–7 mm long, about 4 mm thick, lobes 6–7, oblong ovate, acutish, 3–3.5 mm long, spreading, papillose within, stigmas 4–5 or more, exerted, lanceolate, fleshy; fruit globose or depressed-globose, about 1–1.5 cm long, fleshy, probably black when ripe.

This species is probably closest to *T. mollis* Valet. It approaches *T. mollis* through its var. *strigosus* and through *T. mollis* var. *submollis*.

Endemic in volcanic parts of Palau, in savannas and scrubby forests, especially around edges, known from Babeldaob, Koror, and Malakal Islands.

Two varieties may be distinguished, the typical, vegetatively glabrous var. *subauritus*, and a vegetatively strigose var. *strigosus*. They seem to occur sympatrically, but no information is available as to whether or not they occur in different ecological situations.

Timonius subauritus Val. var. **subauritus**

Palau: Babeldaob: central Ngeremlengui Munic., savanna above upper Ngarmiskan R., 50 m, ♀, *Canfield 601* (US); Ngetpang, ♂, *Otobed P-10152* (US); Ngatpang, ♀, *Hosokawa 9671* (BISH, A, US); SW of Mt. Yekigaroto, 130 m, *Fosberg 47681* (US); Melekeok Munic., S of Lake Ngardok, 65 m, ♀, *Canfield 355* (US); Garudokku (=Ngardok), *Takamatsu 1418* (BISH); Lake Ngardok, 75–100 m, *Fosberg 32573* (US, BISH, POM, L); Mt. Unkesyu, Garasumao, ♀, *Hosokawa 7125* (A); Gakip, 100 ft. *Hosaka 3362* (US); Ngergiil Arraii, *Salsedo 319* (US); Nekken, *Fosberg 50593* (US); dam site, Airai, *Fisher 127a* (US), *123* (US), *115* (US); Airai Munic. E. of reservoir, 15 m, ♀, *Canfield 594 B* (US), ♂, *594 A* (US), *772* (US, BISH); Airai Munic., E of reservoir, 15 m, ♂, *Canfield 588* (US); Airai, *Hosaka 3416* (US); “Garikiai”, Apr. 18, 1936, *Takamatsu 1733* (BISH, 2 sheets); Koror, 10–20 m, *Ledermann 14046* (B, lectotype, B isolectotype), ♂, *14196* (cymes very congested), ♀ (1–2 cm long at most, buds only, calyx and hypanthium sparsely sericeous-canescens, pedicels less than 1 cm); Malakal I.: *Tuyama 9329* (GUAM); Makarakol, ♂, *Hosokawa 9282* (A); “Peleu” s.l., ♂, *Kanehira 2344* (P), *2284* (US), *1962* (US).

Timonius subauritus var. **strigosus** Fosberg & Sachet n. var.

Ab var. *subauritus* ramulis venisque strigosis differt.

This differs in its notably strigose young growth, leaf veins and petioles. In its hairiness and thinner leaf texture it approaches *T. mollis*, especially *T. mollis* var. *submollis*.

It is known only from Palau, Babeldaob Island, especially in Airai Municipality.

Palau: Babeldaob Island; “Aimiliiki-son and Ailai Island”, ♂, *Hosokawa 7279* (A, holotype, US, isotype); Airai Municipality, 0.2 mi E of reservoir, 15 ft, ♂, *Canfield 593* (US); Gakip, 100 ft, ♀, *Hosaka 3362A* (US, BISH) (leaves rather broader, thicker and less strigose than other specimens, toward var. *subauritus*).

Timonius timon (Sprengel) Merrill, Journ. Arn. Arb. 18: 131, 1937.

Erithalis timon Sprengel, Pl. Min. Cog. Pug. 1: 18, 1813.

Polyphragmon sericeus Desfontaines, Mem. Mus. Hist. Nat. Paris 6: 6, t.2, 1820.
Timonius sericeus (Desfontaines) K. Schumann in Schumann & Hollrung, Fl. Kaiser
 Wilhelmsland, 131, 1889.

Timonius rumphii de Candolle, Prodr. 4: 461, 1830 (nom. illegit.)

Shrub or small tree, to 8 m, stems spreading to subappressed or appressed villous, or even silky, internodes 0.5–10 cm long, terete or, when short, somewhat squarish, when young with 4 slight longitudinal ridges; leaves to 15 × 5 cm, somewhat obovate to elliptic, apex somewhat acuminate to prominently so, tip blunt, leaf base contracted, acute or very slightly decurrent, blade thin, slightly appressed villous on upper side of midrib, slightly or more so beneath, sometimes with tufts of hair (domatia) in vein axils, main veins 5–8 on a side, petioles 1–1.5 cm long, slightly sericeous to villous; stipules linear-lanceolate attenuate, 1–4 cm long, sheathing terminal bud, caducous from about second node, silky-villous without, glabrous within; staminate cymes 1.5–3 cm long, sericeous, pedunculate, few-flowered, compact, only buds seen, calyx lobes 5, unequal, apices rounded, sericeous, narrowly clavate, corolla in bud, limb somewhat tapering, blunt; pistillate flowers solitary or very rarely 2–3 on axillary peduncles, bracts at summit minute, caducous or absent, hypanthium and calyx not much swollen at anthesis, thinly sericeous, lobes slightly unequal, erect, ovate to oblong on an erect collar, corolla sericeous without, tube about 5 mm long, lobes 7, 2.5 mm long, erect to spreading, glabrous within; fruit globose, 15 mm diameter, crowned by remains of calyx, pyrenes in vertical rows, about 2 mm long, dorsiventrally somewhat compressed.

Native from Timor and the Moluccas, Northern Australia, New Guinea and the Solomon Islands. Introduced in Palau during or since World War II and thoroughly naturalized in Peliliu and Angaur (Fosberg & Canfield 1980).

Palau: Peleliu Island; south part, near NE end of airstrip, 2–4 m, *Fosberg 47638* (US, BISH, POM, MO, K, NY), ♀, 47640 (US, BISH, POM), ♂, 47639 (US, BISH, POM, L, MO); ♂, ♀, *Otobed P-101119* (US). Angaur Island; NE of former phosphate drying plant, 3 m, ♂, *Canfield 408* (US); N. of power plant, 3 m, ♀, *Canfield 701* (US); NE of power plant, 4 m, ♂, *Canfield 695* (US); just N of phosphate drying plant, 8 m, ♂, ♀, *Canfield 177* (US); NW interior, 10 m, *Canfield 752* (US), 753 (US).

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