

## The Genus *Loheria* Merrill (Myrsinaceae)

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**Abstract**—*Loheria* Merrill (Myrsinaceae) is revised; six species are included, of which one is new (*L. jubilaria*) and one is a new combination (*L. crassifolia*, transferred from *Amblyanthopsis*). The genus occurs only in the Philippine Islands (four species) and New Guinea (two species). Within the family Myrsinaceae, *Loheria* has close relationships to *Fittingia* Mez, *Tapeinosperma* Hook.f, and *Discocalyx* Mez, in particular to the first of these. The genus is characterized by its dioecious often tetramerous or pentamerous but sometimes trimerous flowers, the few (usually 5–3) uniseriate ovules, the distinctly elongated filaments, the short ovate eglandular anthers, the discoid-capitate stigma on a well-developed style, the specialized lateral short shoots bearing few strongly reduced or no leaves and an involucre of crowded bracts below the panicles, and the erect, un- or few-branched “schöpfbäum” habit with large, mostly obovate, distally crowded leaves.

### Introduction

*Loheria* Merr. was described in 1910 as a new, monotypic genus of the Philippines, the type and only species being *L. bracteata* Merr. (Merrill & Merritt 1910). It was one of four genera and a number of species described from collections made during the earliest botanical expeditions to Mt. Pulog, the highest peak in Luzon and the second highest in the Philippines.

In 1920, Mez, monographer of the Myrsinaceae, proposed two new Philippine species of a new genus *Jubilaria*, which he named *J. magnoliifolia* and *J. radlkoferi*. He provided a good Latin diagnosis for each of these new species, but did not include a separate diagnosis and typification of the genus *Jubilaria*, which as a consequence is an illegitimate, invalidly published name; and this same lack also disqualifies both of the species epithets. Merrill later (1923) accepted the second species as a member of his genus *Loheria*, and regarded the first as a synonym of his own *Loheria bracteata*. These decisions may be confirmed taxonomically, but from a nomenclatural point of view, the name *Loheria radlkoferi* (Mez) Merrill, though published in Merrill’s “Enumeration” (1923) is still illegitimate, despite its transfer to the validly published genus *Loheria*. In the same work, Merrill transferred to *Loheria* the species formerly known as *Embelia porteana* Mez. This had already been discussed by Merrill in the commentary fol-

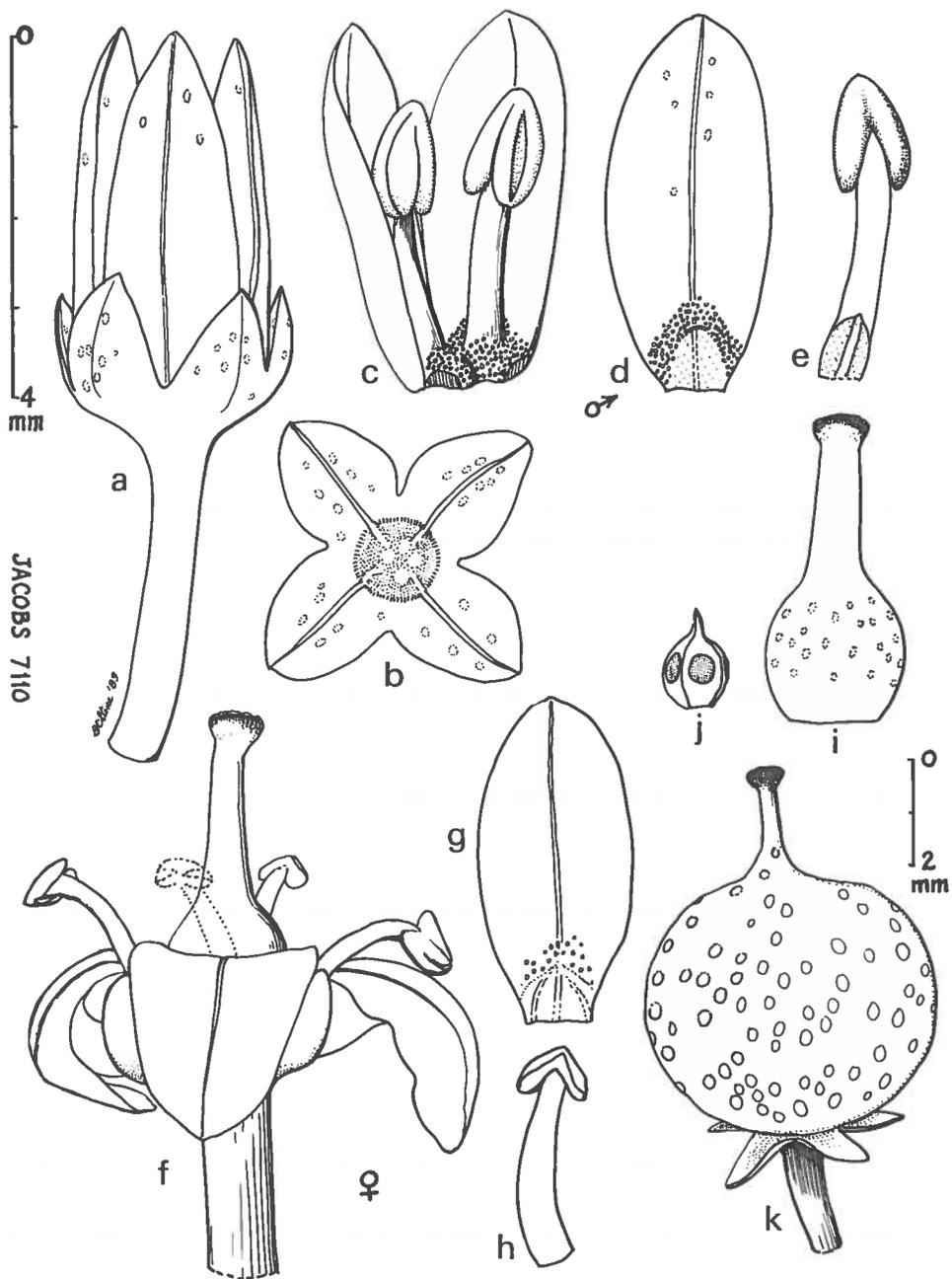


Figure 1. *Loheria bracteata* Merr. Details of staminate and pistillate flowers. a-e, staminate; f-k, pistillate. a. Flower in profile. b. Calyx. c. Two of the corolla-lobes and their two stamens seen from within; the papillae cover the basal interior. d. Corolla-lobe, interior view. e. Functional stamen, dorsal view. f. Pistillate flower with four staminodes. g. Corolla-lobe. h. Staminode, dorsal view. i. Ovary and style; note capitate stigma. j. Placenta (ovules 4 or fewer). k. Immature fruit. (All from Jacobs 7110).

lowing his diagnosis for *Loheria*, when he emphasized the discordant features of this species and concluded that it could not be accommodated in *Embelia*. At that time (1910), Merrill suggested that a separate genus might be required for it; it had already been elevated to the unique position of a monotypic subgenus of *Embelia* by Mez, who coined the name *Porembelia* Mez for it. By 1923, Merrill had realized that this species conformed perfectly to his genus *Loheria*.

In 1922, Mez implicitly accepted the genus *Loheria* by referring to it a species from New Guinea, taking up for this a manuscript name of Lauterbach. Mez did not publish a description, so his use of the name *Embelia papuana* Lauterb. did not constitute a validation. This species is now correctly called *Loheria papuana* Sleumer, who in effect published it as a new species (1988). In any case, there was a prior, valid *Embelia papuana* S. Moore of 1916. Mez further added to the New Guinea flora two species which he regarded as members of *Loheria*, naming them *L. latepetiolata* and *L. sessilifolia*; but Sleumer (1988) showed that these were actually species of *Discocalyx*, and made the required combinations.

Nothing further was published concerning *Loheria* until the revision of the New Guinea Myrsinaceae undertaken by Sleumer and published in several papers in *Blumea* in 1987 and 1988; the genus *Loheria* in New Guinea was considered to possess just two species. One of these, however, had been published as a *Tapeinosperma* by Jacobs (1976). It is the most unusual of the species now included in *Loheria*, and a distinct subgenus is required for it, which is described herein.

Sleumer (1988) treated *Discocalyx*, *Fittingia*, *Loheria* and *Tapeinosperma* in the same paper because he considered them to be closely related. As he stated "their vegetative characters are similar or practically the same" and for this reason, sterile specimens can hardly be assigned to a genus. One of the genera (*Fittingia*) has a distinguishing fruit character (ridged endocarp), but in general, flowers (and usually, flowers of both sexes) are required for certain identification.

In this revision it is confirmed that *Loheria* is a well-defined genus with species in both New Guinea and the Philippines. The number of species is increased by the inclusion in *Loheria* of a Philippine plant formerly known as *Amblyanthopsis crassifolia*. *Loheria* now includes six species, two in New Guinea and four in the Philippines; no species occurs in both areas. The genus *Amblyanthopsis* had been included in the Philippine flora on the basis of two species, *A. philippinensis* Mez and *A. crassifolia* Merr. The latter now is shown to be a *Loheria*, and the former is now considered to be a *Discocalyx*, so the genus *Amblyanthopsis* Mez should be returned to its original configuration of 1902, i.e. an endemic Himalayan genus of two species. Some further discussion of this situation is provided below following the description of *Loheria crassifolia*.

A new key to the genera of Myrsinaceae in New Guinea was provided by Sleumer; in this he instituted certain new emphases for discriminating the genera, in particular the difference between dioecious and monoecious groups. An extract of that key shows these new emphases:



Figure 2. *Loheria bracteata* Merr. Flowering branch. From Ramos & Edano BS. 37837.

## Flowers bisexual,

Climbers ..... *Grenacheria*

## Erect trees or shrubs,

Inflorescence a sessile fascicle (rarely a solitary, axillary flower); style short; stigma (sub)capitate or sausage-like ..... *Rapanea*

Inflorescences peduncled, racemose or paniced, or umbellate; style slender, elongate, stigma small, often point-like.

Stamen with distinct filament ..... *Ardisia*Stamen (sub)sessile ..... *Tapeinosperma*

## Flowers unisexual,

Exocarp of drupe spongy or fleshy, soft, thick; endocarp lengthwise ridged or tubercled ..... *Fittingia*

Exocarp of drupe thin coriaceous; endocarp usually smooth

Style thick and (very) short; stigma thickly peltate, discoid, or capitate ..... *Discocalyx*Style slender, elongate; stigma relatively small ..... *Loheria*

As may be noted above, the first division in the key is on the basis of hermaphrodite versus unisexual flowers. The non-functional sexual organs are not necessarily absent, but may be represented by reduced simulacra, staminodes or pistillodes. This approach is different from that of Mez, who for example included within *Discocalyx* species with hermaphrodite and others with unisexual flowers. Whether this new approach to defining genera will succeed may depend on future studies in *Discocalyx* and *Tapeinosperma*; still, for the present, it appears to work well.

Since *Fittingia* is endemic to New Guinea, and moreover appears to have a fairly strong endocarp character to distinguish it, the chief concern remaining is the distinction between *Loheria* and *Discocalyx*. A thorough review of all species of the latter genus remains to be done; those few so far examined (e.g. *D. cybianthoides* Mez, *D. effusa* Mez, and *D. montana* Elmer) conform in style and stigma characters to the specifications made by Sleumer.

Five of the six species of *Loheria* are comparatively homogeneous; however, *L. reiniana* possesses several unique and striking features, notably the distinctive globular capitate form of the inflorescences, the very elongated calyx-lobes, the extensively tubular corolla with lobing extending down less than halfway, the high position of the epipetalous stamens, and (perhaps) the substipitate placenta. These characters indicate a degree of differentiation which deserves formal recognition and accordingly, a new subgenus is established for this species. The subgenus *Loheria* is automatically established in the genus to accommodate the other five species.

### Systematic Treatment

#### *Loheria* MERRILL

Philippine Journal of Science, Botany 5: 373. 1910; Enumeration of Philippine Flowering Plants 3: 270. 1923. Mez, Botanisches Archiv 2: 210. 1922. Sleumer, Blumea 33: 100. 1988.—Type species: *L. bracteata* Merr.

*Jubilaria* Mez, Fedde's Repertorium Species Novarum 16: 421. 1920. Nom. illegit. sine descriptione, sine typo.

Dioecious. Flowers unisexual, the non-functional organs reduced to staminodes or pistillodes, or lacking; 4- or 5-merous, sometimes 3-merous. Calyx cupular, the lobes free, slightly imbricate to the right. Corolla united at base (the united part usually shorter than the lobes, except in subg. *Longicorona*); corolla-lobes inside and near the base more or less densely papillose. Stamens epipetalous, adnate to the corolla at about the level of lobation, the filaments free, distinct, as long as or longer than the anthers. Anthers basifixed, ovate acute, rimosely dehiscent, generally non-glandular. Staminodes similar to functional stamens, but reduced in size, and the anthers notably shorter. Ovary upwardly produced into a distinct but stout style of equal or somewhat greater length, with a distinctly enlarged, capitate-discoid to hemiglobose minutely papillose stigma. Placenta with one cycle of 3–5 ovules. Fruit 1-seeded, subglobose, exocarp glandular. Endocarp firm, smooth. Endosperm ruminant or not. — Erect un- or few-branched treelets with comparatively large mostly oblong or obovate leaves with entire to distally somewhat crenate margins, spirally disposed toward the end of the shoot; stem sometimes with cataphylls; blades minutely glandular-punctate, beneath almost invisibly lepidote. Inflorescences borne on specialized short 1-2-foliolate lateral shoots (the leaves strongly reduced), distally with numerous crowded small bracts (or their scars) subtending the flowering panicles. Panicles lax, short or somewhat elongated, often pendent, or (in subg. *Longicorona*) globular, dense, and multiflorous.

Distribution: An endemic Malesian genus; species 6, of which 4 endemic in the Philippines, and 2 endemic in New Guinea.

Etymology: Named for A. Loher, a collector who assembled a large and important herbarium in the Philippines just before and after the beginning of the 20th century.

#### KEY TO SPECIES OF *Loheria*

1a. Inflorescences paniculate spiciform or racemiform, not globular or headlike; calyx and corolla less than 5 mm long; style less than 3 mm long; leaves entire or somewhat sinuate-dentate, usually less than 50 cm long.

2a. Leaves marginally shallowly sinuate-dentate to crenate; apex acuminate to caudate.

3a. Flowers 4–5 mm long (calyx 1.5 mm; corolla 3.5–4 mm).

Corolla papillose within. Inflorescence of spiciform

racemes. New Guinea.....(4) *L. papuana*

- 3b. Flowers 2.5–3.5 mm long (calyx 1.5 mm, corolla 1.5–3 mm). Corolla papillose or not within. Inflorescence paniculate, branches racemiform. Philippines.
- 4a. Innovations, inflorescence axes, pedicels, calyx, and corolla outside slightly puberulent with scattered minute glandular hairs less than 0.1 mm long ..... (5) *L. porteana*
- 4b. Innovations etc. perfectly glabrous ..... (3) *L. jubilaria*
- 2b. Leaves with entire margins; apex obtuse to rounded.
- 5a. Flowers 5 mm long; corolla within papillose all over; calyx and corolla gland-dotted; leaves rather thick-coriaceous. Philippines..... (2) *L. crassifolia*
- 5b. Flowers smaller; corolla within papillose mostly near the base or glabrous overall; leaves obovate, rounded to obtuse, thin coriaceous. Philippines..... (1) *L. bracteata*
- 1b. Inflorescences head-like, the flowers densely aggregated in globular clusters 3–5 cm diam., peduncle pendulous, 10–18 cm long, 3–4 mm diam. proximally, widened distally and near the end bearing one or two much reduced leaves; flowers numerous (c. 100–200 per head), 5-merous; calyx funnelform, deeply lobed, the lobes c. 15 mm long; corolla 8–15 mm long, lobed halfway or less; style 3–8 mm long; placenta 5-ovulate. Leaves entire, 30–100 cm long, 10–23 cm wide. New Guinea..... (6) *L. reiniana*

SUBGENUS *Loheria*

(1) *Loheria bracteata* Merr., Philipp. J. Sci. Bot. 5: 374. 1910. Enum. Philipp. Fl. Pl. 3: 270. 1923.—Type: *Merritt F. B. 18083* (US, iso!).—*Jubilaria magnoliifolia* Mez, Fedde's Rep. Sp. Nov. 16: 421. 1920, nom. illegit.

Erect glabrous shrub to c. 3 m tall, stems stout, unbranched, upper part c. 1 cm diam. Leaves crowded toward apex of main stem, 18–32 cm long, 5–10 cm wide, entire, smooth, glossy, bluntly acute to shortly, broadly acuminate, gradually narrowed toward the base and finally abruptly rounded, the very stout petiole at most 10 mm long, often less or subobsolete, 5–7 mm wide; undersurface with scattered brown round glands; midrib grooved above, thickly prominent beneath; lateral veins about 11–15 pairs, straight, ascending, inwardly looping a few mm from the margin; reticulations lax, subscalariform, rather evident beneath, not or less so above. Inflorescences on special shoots from the axils, simple, stout, terete, to about 4 cm long, thickened and cicatricose distally, leafless or rarely with a very reduced leaf but bearing rather numerous caducous bracts, these oblong, scarious, chartaceous, drying brown, 10–18 mm long, forming a sort of involucre below the short panicles. Panicles few, glabrous, to 8 cm long, sparsely branched, the branches spreading, to 1 cm long; flowers racemously disposed, pedicels 1–2 mm long, pink, 4- or 5-merous, overall about 4 mm long. Calyx broadly cupular, lobes triangular-ovate, acute, c. 1 mm long, somewhat spreading, very sparsely glandular or eglandular, entire, glabrous, only the midvein somewhat evident. Corolla deeply lobed, lobes oblong-elliptic, reflexed from about the middle at anthesis, c. 4 mm long, entire, glabrous, very sparsely glan-

dular, only the midvein evident, internally toward the base around the filament densely papillose. Stamens (in staminate flowers) adnate at base 0.5 mm, the free part 3 mm long, filament distinct, glabrous; anther triangular-ovate, c 1.3 mm long, non-glandular. Pistillode none. Pistillate flower slightly smaller but similar, but the anthers reduced, lacking pollen, v-shaped, 0.5 mm long, the filaments slightly shorter. Ovary ovoid, 1.6 mm high, smooth, obscurely glandular, produced into the rather stout 2 mm long style, capped by the distinctly discoid-capitate stigma. Placenta ovoid, apiculate, 4- (3-) ovulate, the ovules uniseriate, round, superficial. Fruit globose, 7 mm diameter, red, 1-seeded, apex with stylar remnant. Endosperm prominently ruminant.

PHILIPPINES: Luzon; Mountain Province, Mt. Pulog, above 2250 m alt., in mossy forest, January 1909, *Curran, Zschokke, and Merritt F. B. 18083* (US! isotype). Mt. Pulog, over 2400 m alt., 23 Jan 1968, *Jacobs 7110* (L!). Mt. Nangaoto, Feb 1948, *Sulit PNH. 7688* (L!). Benguet, Suyoc to Pauai, Oct-Nov 1905, *Merrill 4783* (US! cited as type of *Jubilaria magnoliifolia* Mez, nom. illegit.). Bontoc subprovince, Mt. Pukis, March 1920, *Ramos & Edano BS. 37837* (US!). Benguet, Mt. Data, *A. Loher 3817* (US!).

Merrill (1923) also cites *BS. 37690*, *BS. 40187*, *BS. 40441*, and *Vidal 1771*.

Ecology: A montane species known only in the northern ranges of Luzon, between about 1900 and 2450 m alt., in mossy forest.

Distribution: Philippines, endemic.

There is a collection from NE Luzon, Cagayan, above Bagio Cave (*M.S. Allen 295-81*) (BISH) with fruit only; it has a leaf about 80 x 23 cm, petiole 5 cm; it may pertain here but possibly represents another as yet undescribed species.

(2) *Loheria crassifolia* (Merr.) B. C. Stone, comb. nov.

*Amblyanthopsis crassifolia* Merr., Philipp. J. Sci. 14: 445. 1919.—Type: *Ramos B.S. 33288* (US! isotype).

An erect glabrous shrub about 2 m high, the cylindrical ultimate branches about 1 cm diam., marked with large petiolar scars; leaves very thickly coriaceous, entire, oblong to narrowly oblong-obovate, 10–13 cm long, 3.5–4 cm wide, apex obtuse, base narrowed, acuminate; midrib very stout; lateral veins about 10 pairs, but not prominent, sometimes nearly obsolete; surface obscurely and minutely glandular-punctate. Petioles stout, 6–15 mm long. Inflorescences in upper axils, up to 7 cm long, flowers usually racemosely arranged or sometimes in very depauperate panicles. Flowers red, 3–5-merous, 6–7 mm diam., on pedicels c. 2 mm long. Calyx c. 4 mm diam., lobes oblong-ovate, obtuse, glabrous, somewhat glandular-punctate. Corolla deeply lobed, the lobes elliptic to elliptic-oblong, obtuse, c. 3 mm long; tubular base scarcely 1 mm long. Filaments as long as corolla-lobes; anthers shorter, rimose. Ovary and style 2.5 mm long; ovary ovoid; style as long as ovary. Placenta with c. 3 ovules. Staminodes half as long as corolla-lobes; antherodes scarcely 0.5 mm long. Stigma conspicuously discoid-capitate. Fruit not known.

PHILIPPINES: Luzon; Ilocos Norte Province, Mt. Palimlim, 21 Aug 1918, *Ramos BS.33288* (US! isotype); staminate. Same location, same date, on forested slopes, alt. c. 1000 m, *Ramos BS. 33381* (US!), pistillate flowers.

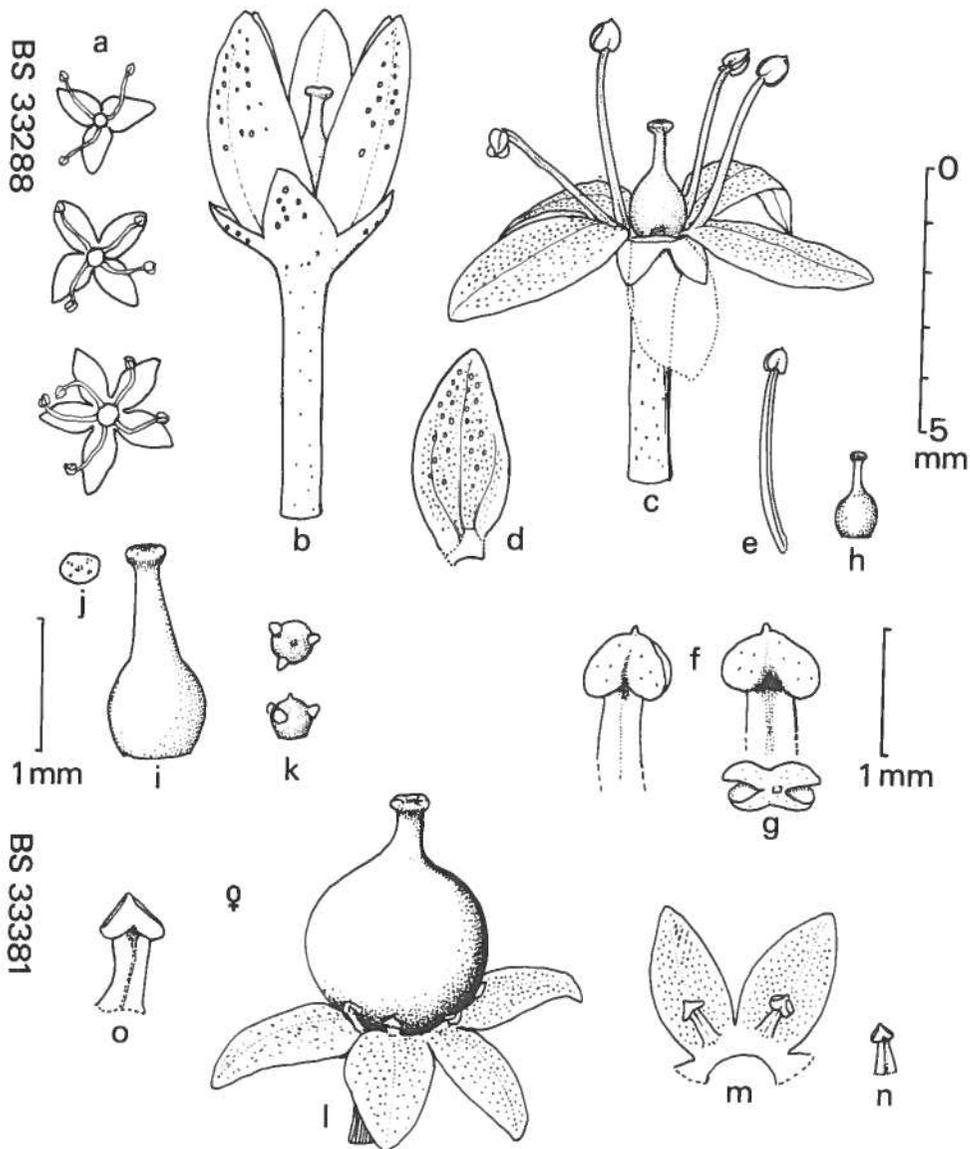


Figure 3. *Loheria crassifolia* (Merr.) Stone. Staminate or (sub)bisexual flower. a. Corollas with stamens, showing trimerous, tetramerous, and pentamerous states. b. Flower before anthesis. c. Flower at anthesis. d. Corolla-lobe, interior face, showing veins, basal area of stamen attachment, glands (larger circles) and scales (smaller circles). e. Stamen. f. Detail of anther, adaxial face at right. g. Anther in top view. h. Ovary. i. Enlarged view of ovary. j. Stigma in top view. k. Side and (above) top views of placenta, with 3 ovules. l. Pistillate flower, somewhat beyond anthesis. m. Part of corolla showing two reduced and non-functional stamens. n. A non-functional stamen. o. The same, enlarged. (All from BS. 33288, type collection; except l., from BS. 33381).

Merrill cites one more collection, *BS. 28069*.

A collection from Cagayan, north of Bagio Cove, at 2720 ft. alt. (*M.S. Allen 395-81*) probably pertains here. (BISH, in fruit).

Ecology: On forested slopes at about 1000 m alt.

Distribution: Philippines, endemic.

The type collection has staminate flowers with the stamens about as long as the corolla-lobes, and fertile, pollen-containing anthers; however, the ovary seems little if at all reduced. The other collection has pistillate flowers with strongly reduced staminodes, and young developing ovaries and immature fruits. Presumably, the ovaries in the staminate flowers are non-functional, but this should be verified. Merrill was a little uncertain of the generic placement, stating in his protolog that "by definition" the species must be placed in *Amblyanthopsis*, "unless a new one be proposed for it." He seems to have overlooked his own genus *Loheria* as the correct position.

The genus *Amblyanthopsis* Mez is very different in its overall appearance and various technical characters. Its flowers are hermaphrodite. It is better defined as a small genus restricted to the southeastern Himalayan mountains. With the transfer of the above species to *Loheria*, one of the two species from the Philippines ascribed to *Amblyanthopsis* is removed, leaving *A. philippinensis* Mez. This species was described by Mez in 1906, i.e. after the publication of his monograph. Mez characterized it as "maxime notabilis" and "habitu valde peculiare" but Merrill (1923) stated "perhaps better referable to *Discocalyx*." Most probably, Merrill's suggested disposition is correct, and accordingly, *Amblyanthopsis* should be excised from the list of indigenous Philippine plants. Further verification of this suggestion is in process.

(3) *Loheria jubilaria* B. C. Stone, sp. nov.

*Jubilaria radlkoferi* Mez, Fedde's Rep. Sp. Nov. 16: 421. 1920, nom. illegit.—

*Loheria radlkoferi* (Mez) Merr., Enum. Philipp. Fl. Pl. 3: 271. 1923, nom. illegit.

Type: *Merrill 5743*.

Frutex ut videtur simplex 2-pedalis; caule crasso, tortuoso, glabro, castaneo. Folia petiolis latissimis brevissimisque (vix 15 mm longis) stipitata subsessilia dicenda, obovata, basin versus sensim cuneatimque acuta demum subito rotundatim in petiolum contracta, apice eleganter acuminata, in parte superiore grosse undulatimque crenata, subchartacea, glabra, costis supra immersis subtus prominentibus et subtus reti perlaxo prominulo nervillorum praedita, dissite prominulo-punctulata, ad 30 cm longa, 9.5 cm lata. Inflorescentiae e squamarum magnarum, ellipticarum, obtusarum, glabrarum, in ramuli apice gemmatim collatarum axillis prodeuntes, pauciflorae, foliis permulto breviores, glabrae, pauperrime bipinnatim paniculatae secus axin primarium ramulos paucos gerentes. Flores 4-meri sepalis basi breviter coalitis, triangularibus, acutis, margine vix fimbriatis, minute paucipunctatis. Petala cum genitalibus ignota. Bacca rubra, globosa, stylo crasso brevique persistente insigniter mucronata, longitudinaliter obscure costata, ad 6 mm metiens.

PHILIPPINES: Mindoro, forests along the Alag River at about 140 m alt., Nov. 1906, *E.D. Merrill 5743*.

Ecology and distribution: Known only from the type, endemic to the Philippines; occurring in lowland forests of Mindoro.

Mez published the generic name *Jubilaria* without a diagnosis, by merely creating the binomials of two proposed new species, *J. magnoliifolia* and *J. radlkoferi*. Although he provided Latin diagnoses for both species, neither is a validly published name owing to the application of the Articles 34, 41.2, and 42, in the International Code of Botanical Nomenclature. Since *Jubilaria* was not monotypic, neither the generic name nor the binomials are valid. Merrill reduced *J. magnoliifolia* to *Loheria bracteata*, but accepted the other name, transferring it to *Loheria* as *L. radlkoferi* (Mez) Merr.; but this is equally invalid. It seems less confusing to rename the species and to take up as a species epithet for it the mellifluous name "jubilaria" and treat it as a new species, as above. The description is that of Mez.

Merrill's collection 5743 was first mentioned by Merrill (1910) as a "form" of *Loheria bracteata*.

This species is clearly the most poorly known in the genus and needs to be recollected and better characterized.

(4) *Loheria papuana* Sleumer, *Blumea* 33: 101. 1988.

*Loheria papuana* "(Lauterbach) Mez" *Bot. Arch.* 2: 210. 1922, nom. illegit., sine descr.

Type: *Versteeg 1691* (WRS�-Lauterbach! fragm. holotype).

Treelet about 1 m high; leaves oblanceolate, acuminate, or obtuse to subacute, at base cuneately narrowed and decurrent, subsessile; firmly chartaceous; drying brown, but paler beneath; distal two-thirds with the margins sinuately toothed and glandular, glabrous, beneath rather densely glandular-punctate. Blades (16-) 22–26 cm long, 4.5–5.5 cm wide. Petioles scarcely distinct, about 7–10 mm long, 5 mm wide. Midrib impressed above, raised beneath, about 2 mm thick; lateral veins numerous, moderately curved, ascending, subparallel with the intersecondaries, joined near the margin, slightly impressed above, slightly elevated beneath; reticulation rather obscure. Inflorescence racemose, in the staminate infl. spiciform, in the pistillate with the racemes subumbellate. Flowers white, 4-merous. Staminate flowers on pedicels c. 1–1.5 mm long; racemes c. 4 cm long. Calyx (not seen); corolla about 3.5 mm long, lobed almost to base, lobes internally papillose. Filaments filiform, 3 mm long; anthers narrowly elliptic, dorsifixed near base, 1 mm long. Pistillode none. Pistillate flowers in 6-flowered subglobose subumbellate racemes, on peduncle c. 3 mm long, at base with lanceolate bracts 6 x 2 mm; pedicels 1 mm long, bibracteolate at base, robust. Calyxlobes deltate-ovate, glandular-punctate, 1.5 mm long. Corolla 4 mm long, lobed almost to base, internally papillose, lobes reflexed. Ovary narrowly ovoid, 1.5 mm long; style slender, 1.5 mm long; stigma capitate. Fruit (immature) ovoid, densely glandular-papillate, seated on persistent calyx, bearing elongate persistent style; pedicel about 1 mm long.

NEW GUINEA: West Irian: Orange Mountains, Mt. Resi, at 800 m alt., 4 Sept 1907, *G. M. Versteeg 1691* (WRSL! fragm. holotype). Same locality and date, *Versteeg 1692* (WRSL! fragm.). Papua New Guinea: East Sepik District, Upper Sepik/April River area, *Ledermann 9203* (K).

Ecology and distribution: Known only from New Guinea; from moderate altitudes.

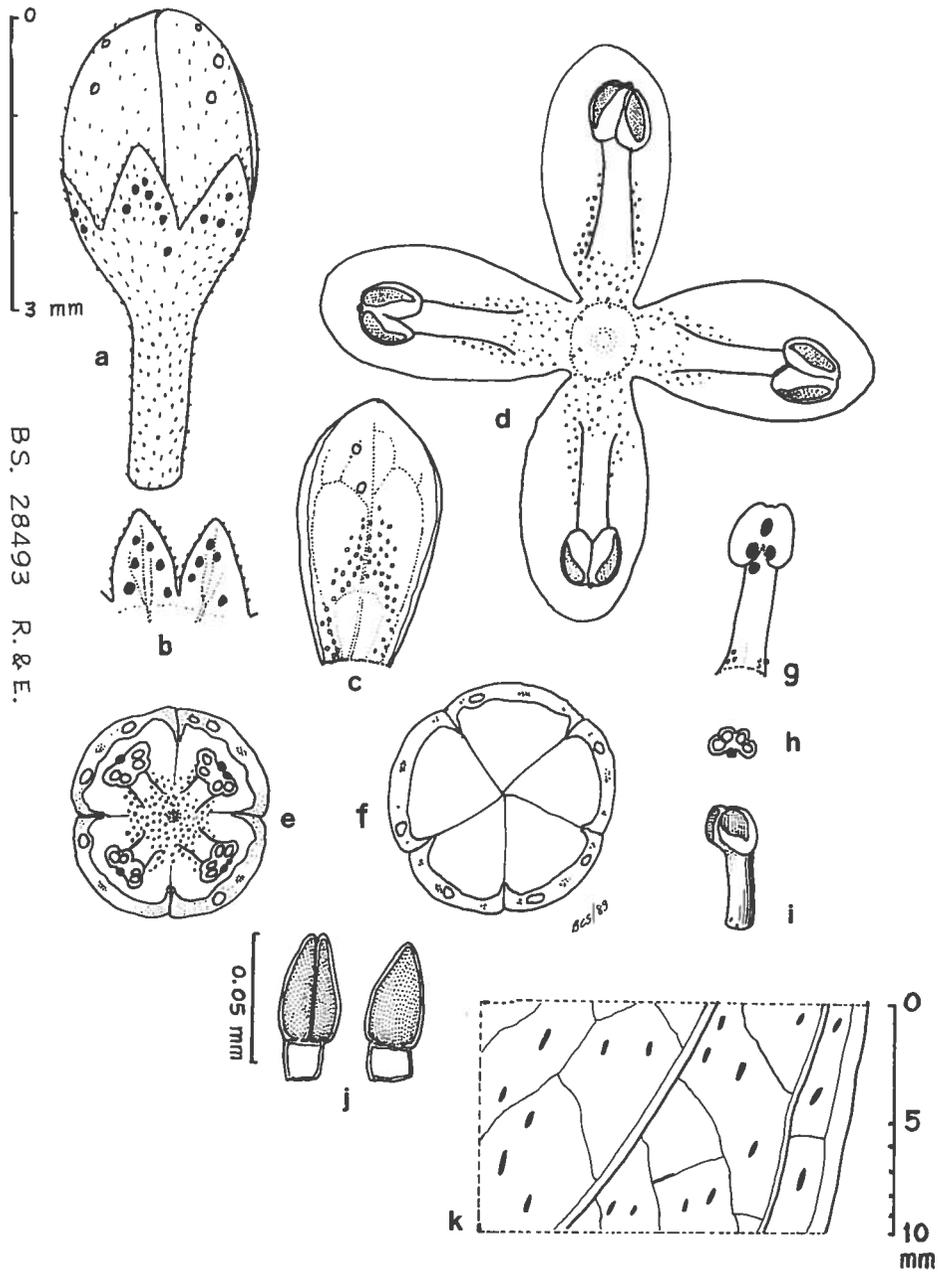
(5) *Loheria porteana* (Mez) Merr., Enum. Philipp. Fl. Pl. 3: 271. 1923.—*Embelia porteana* Mez, Pflanzenr. IV.9(236): 302. 1902, p.p. Robinson, Philipp. J. Sci. Bot. 6: 219. 1911.—Type: *Porte* in 1864 (P, holotype).

An erect shrub to about 1 m tall, the stem to c. 1 cm diam., with leaves crowded toward the end; below them, a series of small cataphylls. Leaves oblong-obovate, acuminate to caudate, narrowed and then abruptly rounded at base, chartaceous, to about 41 cm long and 15 cm wide, glabrous, but underneath with minute pale scattered scales, and glandular-punctate with numerous usually oblong dark to translucent glands. Midrib stout, prominent beneath; lateral veins 15–18 pairs, strongly ascending; reticulation evident only beneath. Margins in distal third distinctly crenate. Petioles stout, 10–20 mm long. Cataphylls up to 6 x 1 cm, acuminate oblong-lanceolate. Inflorescence axillary, paniculate, elongate, slender, rather lax, bipinnate, up to 15 cm long, peduncle 1–1.5 mm diameter, glabrous. Flowers rather numerous, mostly 4–5-merous but sometimes 3-merous, gathered towards the ends of the inflorescence branches, corymbose-subracemose, on pedicels less than 2 mm long and sparsely and very minutely puberulent. Flowers 2.5 mm long; calyx very minutely puberulent, trichomes c. 0.05 mm long; lobes deltate-ovate, scarcely 1 mm long, sparsely glandular, the margins minutely and sparsely ciliate. Corolla-lobes elliptic-obovate, very briefly basally coalescent, 2.5 mm long, 1.5 mm wide, entire, externally sometimes very sparsely puberulent, internally toward the base papillose in the zone back of the filament. Stamens (in staminate flowers) 1.75 mm long, attached about 0.5 mm above the corolla base; anthers 0.75 mm long, blunt or emarginate, dorsally rarely with a few glands. Pistillode absent or (fide Mez) reduced, small, broadly conic, glabrous. Pistillate flowers . . . (not seen). Fruit . . . (not seen).

PHILIPPINES: Luzon, Tayabas, Mt. Binuang, May 1917, *Ramos & Edano BS. 28493* (US! staminate). Mt. Tulaog, May 1917, *Ramos & Edano BS. 29107* (US!). Mindoro; Mt. Halcon, March 1922, *Ramos & Edano BS. 40563* (US!). Location uncertain, either Luzon “near Manila” or Mindoro nearby, *Porte* in 1864 (P, holotype).

Merrill cites these further collections: *Merritt FB. 6886* (Mindoro, S. of Lake Naujan, 8 m alt., Apr 1907, staminate); *Robinson BS. 10411* (Polillo Island, Oct 1909; staminate); *Ramos & Edano BS. 28553, 28674; Ramos BS. 13233; Loher 6134; Escritor BS. 20836*, all from Luzon (Rizal Prov.).

Ecology and distribution: Philippines, endemic; known from central-western Luzon, Mindoro, and Polillo, in damp primary forest at low altitudes. Merrill pointed out that although the label on the meagre type collection states “near Manila” this does not prove that the collection was made in Luzon, although



BS. 28493 R. & E.

Figure 4. *Loheria porteana* (Mez) Merr. a. Staminate flower in profile. b. Calyx-lobes and stamens spread out. c. Corolla-lobe, interior view. d. Flower from above, the corolla-lobes and stamens spread out. e. Transverse section of flower through the anthers. f. View of the severed distal part of the flower, seen from below. g. Stamen, dorsal view. h. Transverse section of anther. i. Dehiscent anther. j. Capitulate glandular trichomes from the calyx; apical cells translucent brown, stalk cell clear. (Floral details from BS. 28493). k. Portion of leaf blade showing scattered oblong immersed glands. (From BS 29107).

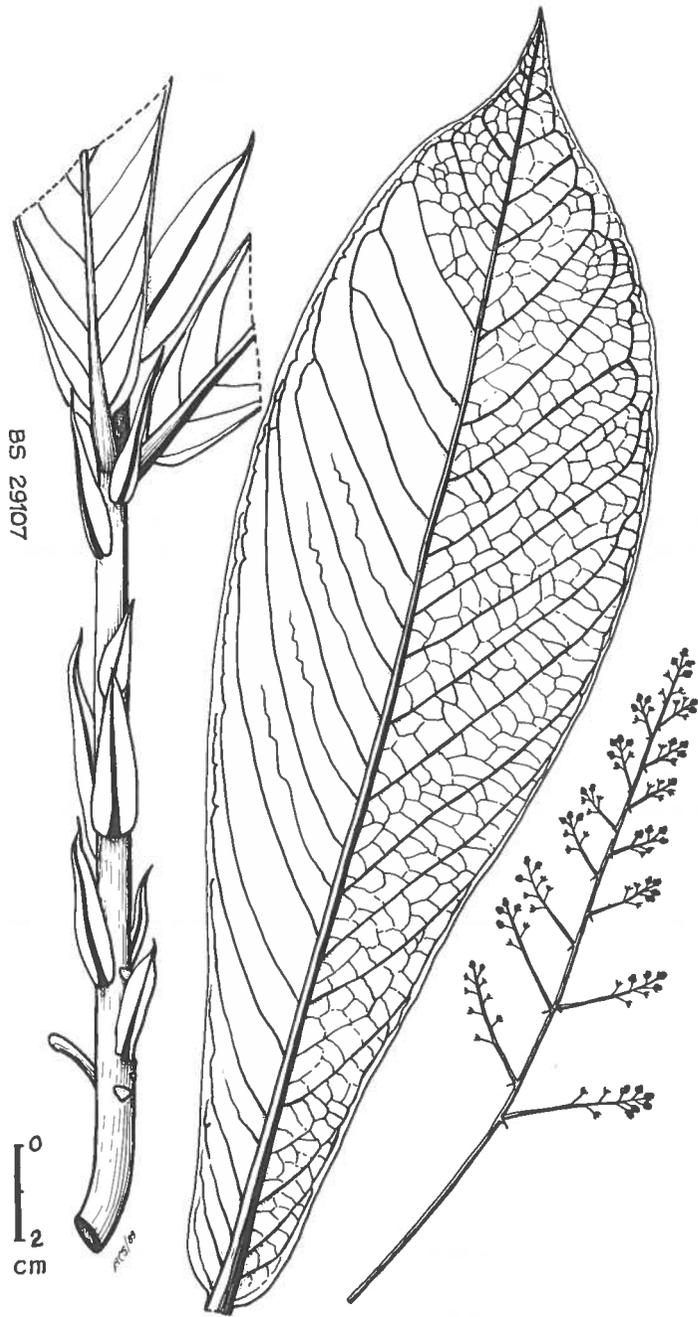


Figure 5. *Loheria porteana* (Mez) Merr. Stem with cataphylls, leaf (from beneath), and panicle, all from BS. 29107.

this is likely, but could have been from nearby Mindoro. The localities where Porte collected are not well documented.

Mez, when assigning this species to *Embelia*, recognized its inconsistency with that genus, and established the subgenus *Porembelia* Mez for it. Later, Merrill realized that the species (and thus the subgenus also) were the same as *Loheria* Merr., and transferred the species in 1923.

SUBGENUS *Longicorona* B. C. STONE

Subgenus *Longicorona* B.C. Stone, subg. nov.

Corolla basi longe tubulosa, lobis brevibus usque ad dimidiam partem corollae liberis; staminibus epitubularis in medio positus. Calyx profunde lobatus, lobis valde elongatis. Gynoecium (in fl. fem.) c. 10 mm longum, stylo gracile, stigmatibus grosse capitiforme hemigloboso ad 1 mm diam. papilloso. Inflorescentiae axillares pendentes globosae multiflorae.

Type species: *Loheria reiniana* (Jacobs) Sleumer.

Subgenus monotypic (species no. 6).

(6) *Loheria reiniana* (Jacobs) Sleumer, *Blumea* 33: 101. 1988.

*Tapinosperma reinianum* Jacobs, *Blumea* 23: 3, f. 1. 1976; *Fl. Males. Bull.* 29: frontispiece. 1976.

Type: *Jacobs 8841* (L! holotype).

Treelet to 6 m tall, trunk to 7 cm diam. Bark brown. Leaves narrowly obovate to oblanceolate, shortly acuminate, blunt to subacute, at base gradually narrowed and decurrent, almost sessile, glabrous, densely glandular beneath, subcoriaceous, 33–100 cm long, 10–23 cm wide; midrib slightly impressed above, very prominent beneath (to 8 mm thick); lateral veins 25 pairs or more, rather straight, ascending, almost reaching the margin, prominent beneath; reticulations rather scalariform, conspicuous beneath but not above. Petiole subtriangular, scarcely distinct, at base to 15 mm wide. Inflorescences head-like, one or several together, 3–5 cm diam., within the leafy crown. Peduncle at base with a reduced leaf (15–22 cm long, 2–3.5 cm wide), drooping, 10–18 cm long, angular, 3–4 mm diam., but widened at the apex and there with one or two reduced leaves (c. 3 cm long, 0.5 cm wide); branches about 10, each about 5 mm long, with about 20 flowers. Flowers 5-merous, up to 200 per inflorescence, whitish or greenish, toward apex with grayish-purplish lines or dots; unscented. Pedicels 3–6 mm long, with basal bract about 12 mm long, 2 mm wide. Calyx funnelform, 15 mm diam., lobed almost to the base; lobes oblong, obtuse, glandular-dotted and -lineate, 1.5–3 mm wide. Corolla tubular, externally 5-ribbed, 8–15 mm long, at apex about 5.5 mm wide, lobed halfway down or less; lobes oblong, glandular-lineate. Staminate flowers . . . (not seen). Pistillate flowers with staminodes inserted around the middle of the corolla, the filaments very short, the anthers ellipsoid, 1 mm long, subbasifixed, devoid of pollen. Ovary ellipsoid, papillose, 2 mm long; style slender, 3–8 mm long; stigma large, hemiglobose capitate. Placenta with 5 ovules in one row. Fruit ellipsoid-subglobose, with numerous irregular ribs (when dry), about

12 mm long, 10 mm wide (probably not yet mature); exocarp thin fleshy, densely glandular; endocarp thin, hard smooth. Endosperm . . . (insufficiently developed).

NEW GUINEA: Papua New Guinea: Western District, Mt. Bosavi, at 1600–1800 m alt., 27 Sept 1973, *M. Jacobs 8841* (L! holotype). Palmer River, 2 miles below junction with Black River, at 100 m alt., June 1936, *Brass 7110* (BM). Gulf District, Kikori, Mina River, 20 m alt., *NGF. 46746* (L!). Vailala River, 70 km from Baimuru, 30 m alt. *LAE 61291* (L!). Morobe District, Gumi Divide W. of Bulolo, *Kairo 759* (L!).

Ecology and distribution: Endemic to New Guinea, known so far only from the eastern (Papua New Guinea) portion; occurring from low to moderate altitudes in forests.

Referred originally by Jacobs to *Tapeinosperma*, but apparently correctly placed in *Loheria* by Sleumer, this species is still in its floral and inflorescence structure the most divergent in *Loheria*, and this distinctiveness is recognized herein formally by establishing the monotypic subgenus *Longicorona* for it. Staminate flowers remain to be collected, and further observation, preferably from fresh material, of the endosperm needs to be made.

#### EXCLUDED SPECIES

*Loheria sessilifolia* Mez, Bot. Arch. 2: 210. 1922 = *Discocalyx latepetiolata* (Mez) Sleumer, Blumea 33: 85. 1988.

*Loheria latepetiolata* Mez, Bot. Arch. 2: 210. 1922 = *Discocalyx latepetiolata* (Mez) Sleumer, Blumea 33: 85. 1988.

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