

REVISION OF PHILIPPINE MEDINILLA (MELASTOMATACEAE)

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SUMMARY

The Philippine species of *Medinilla* (Melastomataceae) are revised and a total of eighty species are recognized for the Philippine archipelago, one of the centres of diversity of *Medinilla*. The species exhibit a wide array of forms and highly localized geographic distributions. A systematic study of herbarium specimens revealed the existence of twelve species groups. A key to the species groups and species within each group, descriptions, illustrations, and habitat information are provided. The segregate genera *Carionia*, *Cephalomedinilla*, and *Hypenantho* are treated here as congeneric with *Medinilla*. One new species, *M. palawanensis*, is described. Three new combinations and several reductions, neotypifications, and lectotypifications are proposed.

INTRODUCTION

Medinilla Gaudich. (Melastomataceae) is a genus of epiphytic and terrestrial shrubs and climbers of the Old World tropics. It includes about 400 species (Airy Shaw, 1973), with a large proportion occurring in Malesia, a floristic region made up of the Malay Peninsula and the islands of the Malay Archipelago extending to New Guinea. The Malesian region is undoubtedly the centre of diversity of *Medinilla* where a vast array of forms had evolved independently in the islands.

This paper is the first attempt to summarize our knowledge of the genus in the Philippines. This body of knowledge is based on the studies of E. D. Merrill, A. D. E. Elmer, and C. B. Robinson, outstanding American botanists who worked on the Philippine flora during the first half of this century. Since the last synopsis by Merrill (1913), who treated merely 28 species at that time, the number of new species described has increased manifold. At the time of publication of the Enumeration of Philippine Flowering Plants (Merrill, 1923), about 125 species were listed as part of the flora. The destruction of the herbarium of the Bureau of Science in Manila during World War II resulted in a tremendous loss of valuable type specimens. Fortunately, thousands of duplicates were distributed to other herbaria before the war. It has therefore been possible to select lectotypes among duplicate type specimens preserved in the herbaria of Europe and North America.

A detailed account of the taxonomic history of the genus can be found in earlier works by Bakhuizen van den Brink Jr. (1943), Maxwell (1978), and Regalado (1990).

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GENERAL MORPHOLOGY

Habit

The species of *Medinilla* are predominantly epiphytic shrubs, others are terrestrial shrubs and climbers. They may be erect, scandent, or creeping. The erect or scandent habit is not readily apparent from herbarium specimens. The creeping habit of root climbers is suggested by flexuous stems with long slender internodes, adventitious roots at the nodes, and, in some species, seemingly alternate leaves with the extreme reduction of one leaf of each pair at a node.

Indumentum

The plant parts in *Medinilla* are generally glabrous. In some species, however, the innovations, leaf undersurfaces, hypanthia and bracts are covered with powder (= pulverulent) or brown scales (= ferruginous) or clothed with various types of hairs (= furfuraceous, setose, pilose, stellate-tomentose).

Stems

The branches are either terete or angular. Terete branches may be smooth or pustulate, glabrous or with varying types and degrees of pubescence, and woody with thin bark. Angular branches tend to be smooth, glabrous, and succulent in the fresh state. These branches also show different patterns of angulation such as ribbed or sulcate, flattened or compressed. The presence of grooves and the depth of grooves distinguish winged from not winged angular stems. In both terete and angular branches, the nodes may be setose with soft or stiff, often yellowish brown bristles 10–15 mm long which may be persistent or deciduous with age.

Leaves

The leaves provide a number of characters that are of great taxonomic value, such as phyllotaxy, venation patterns, presence or absence of petioles, leaf shape and size, leaf apex and base. The leaves of *Medinilla*, in general, are elliptic, coriaceous, glabrous, and entire.

The phyllotaxy in *Medinilla* is commonly opposite, but the leaves may come in whorls of three (ternate) or four (quaternate), a feature that characterizes some species groups. Only in one case (*M. cumingii*) both opposite and whorled leaves are observed in the same plant. The leaves are whorled only at the tips of a flowering branch where they are otherwise opposite along the length of that branch.

Leaf venation pattern is established by a set of subparallel longitudinal nerves that range in an odd-numbered fashion from 3 to 11. A leaf is uninerved when only the midvein is present, whereas a trinerved leaf has a midvein plus a pair of lateral nerves. The lateral pair of nerves usually diverges from the midvein at a point above the base and becomes confluent at or below the apex. Hence a triplinerved leaf has one pair, while a quintuplinerved leaf has two pairs, of lateral nerves departing some distance above the leaf base. Transverse (tertiary) veins run across the blade perpendicular to the midrib. The relative conspicuousness of the veins and the degree of reticulation are useful in distinguishing species.

The presence or absence of a petiole is also a useful taxonomic character. Leaves may be petiolate (petioles > 5 mm), subsessile or shortly petiolate (petioles < 5 mm), or sessile (petioles absent). In two unique cases (*M. peltata* and *M. polillensis*), the petiole is attached at some point within the margin revealing a subpeltate leaf, a feature very unusual in the genus.

Equal sizes of leaves at a node (isophylly) is the most common condition. Anisophylly is demonstrated in varying degrees from subequal to strongly unequal. In a subequal pair of leaves, the smaller leaf is reduced 0.75 to 0.5 times the size of the larger leaf. In a strongly unequal pair of leaves, the smaller leaf is reduced 0.5 to 0.25 times the size of the larger leaf.

Inflorescences

The basic inflorescence is a dichasial cyme which can be disposed in many different ways, providing good taxonomic characters. The type of inflorescence that many botanists associate *Medinilla* with is a thyrses (i.e., ovoid or ellipsoid panicle) terminating a leafy shoot. Thyrses may be either long and laxly branched or short and densely branched, pendulous or strict, bracteate or ebracteate. In some species, the flowers are compactly arranged into racemes, umbels, or heads. In other, extreme cases, the cyme may be reduced to a solitary flower.

Inflorescence position is an important taxonomic character that can be used to distinguish species groups. Terminal inflorescences are those terminating a leafy shoot while axillary inflorescences arise from leaf axils. Cauliflory is a unique feature in several species whose inflorescences are borne on shoots from which the leaves have already fallen (i.e., leafless nodes) or may arise from old wood or on the roots (e.g., *M. radicyflora* and *M. aurantiflora*, Fig. 11).

Flower

The floral structure of *Medinilla* appears to be uniformly similar in all species and is of little taxonomic value. There are a few unique characters that show up in some species and set them apart from the rest. In general, the calyx (hypanthium) is campanulate in shape, often pink to red in colour, and glabrous. The rim of the calyx tube is commonly truncate, but may also be lobed or denticulate, the calyx teeth seldom exceeding 1 mm. An extremely elongate calyx tooth is found in *M. coronata* where the tooth measures 4–5 mm long. There is only one case of an appendaged hypanthium. In *M. surigaoensis*, the hypanthia bear scattered, rigid, spreading appendages up to 3 mm long, a feature reminiscent of the hypanthia in the melastomataceous genus *Pternandra*.

The characters of the corolla, stamens and pistils are homogeneous among species. The petals are generally obovate in shape and pink to red in colour, although white flowers are not uncommon. Stamens are always isomorphic, never dimorphic, contrary to what Bakhuizen van den Brink Jr has observed in *Medinilla teysmannii* (see Fig. 4). In most species, the stamens are equal in size. In some species, they differ in size (i.e., length) of anthers and filaments and show a condition in which half of the set of stamens is short while the other half is long. The pistil consists of a glabrous ovary, a slender terete style, and a punctiform or minutely capitate stigma.

With the exception of a few species, however, the number of floral parts remains fairly constant and is a good taxonomic character. The number of floral parts ranges from 4 to 6, with 4- and 5-merous flowers as the most common condition.

Fruit structure and seed dispersal

The fruit in *Medinilla* is a berry which may have a thin or thick pericarp. The seeds are small (less than 1 mm) and numerous (50 to 100 per fruit), embedded in a pulpy mass within locules. The fruits are initially green, then turning red to purplish black when mature. Birds are most likely to eat the fruits and disperse the seeds. No field observations on seed dispersal and germination are known. The fact that many species are locally endemic indicates that seed dispersal is limited to short distances.

GEOGRAPHIC DISTRIBUTION

The genus is remarkably well-represented in the Philippines in terms of number of species and presents a very interesting group in diversity of form and unusual geographic distribution with a high level of endemism (Merrill, 1913). *Medinilla* is not well-represented in the Malay Peninsula where only 14 species occur (Maxwell, 1978). Java has 10 species (Backer & Bakhuizen van den Brink Jr, 1963) whereas Sumatra has 28 species (Bakhuizen van den Brink Jr, 1943). It appears that the Philippine archipelago is one of the centres of diversity of the genus, which also include Madagascar (70 species, fide Perrier de la Bâthie, 1951), Borneo (48 species, fide Regalado, 1990), and New Guinea (no recent revision has been done but over 70 species names are listed in Index Kewensis).

Only a few species of the genus have a widespread distribution, namely, *M. myrtiformis*, *M. ramiflora*, and *M. astronioides*. Most species have a rather limited, highly localized, range of distribution. A large number of species are known from a single locality, i.e., the type collection. Only eight species out of the total eighty species (10%) listed in this revision have a distribution outside the Philippines, namely, *M. annulata*, *M. astronioides*, *M. crassifolia*, *M. setigera*, *M. myrtiformis*, *M. quadrifolia*, *M. teysmannii*, and *M. venosa*. The remaining species are restricted to the Philippines, hence 90% endemism.

The Philippine species of *Medinilla* are found in a wide range of habitats, from dipterocarp forests at low (0–500 m) altitudes to moist humid forests of medium (500–1000 m) altitudes to the cool cloud forests of high (1000–2000 m) altitudes. The plants are most commonly found in mossy forests. Few species occur at low altitudes and then only in those regions which have a heavy rainfall throughout the year.

THE DISSOCHAETEA REVISITED

The delimitation of *Medinilla* from other genera in the tribe Dissochaeteae (sensu Triana, 1871, = Old World Miconieae sensu Renner, 1993) has been a difficult problem. The Old World group is a big complex comprised of 12 genera and at least 500

species. *Medinilla* is the largest genus with about 400 species and forms a central plexus around which the smaller genera, two of which are monotypic, are placed. Within *Medinilla* there are species showing intermediate forms and thus forming connections to the satellite genera.

Stamen morphology has played a major role in traditional classification schemes of the tribe (Triana, 1871; Cogniaux, 1891; Krasser, 1893). Historically, *Medinilla* is distinguished from other genera in the tribe by its equal and isomorphic stamens with the anthers having a dorsal crest or spur on the connective and a pair of lobed extensions, referred to as ventral appendages, at the base of the anther sac. There was also an emphasis on the connective (the tissue between anther and filament) as being weakly produced in *Medinilla*.

Bakhuizen van den Brink Jr (1943) argued that the traditional classification of the tribe, based on the length of the stamens and the characters of the connective, is of little taxonomic value. He observed several inconsistencies in these characters in *Medinilla* and cited (l.c.: 25) one or two exceptions from the general rule: "the stamens are either equal and isomorphous (this is the common case) or unequal and dimorphous (*M. teysmanni* Miq.); the connective may be produced at the base (*M. crassinervia* Bl.) or sessile (common case); its base may be either slightly two-lobed (common case) or setose (*M. setosa* Bakh. f.) or inappendiculate (*M. alternifolia* Bl.)." He then suggested that the degree of concrescence between calyx tube and ovary and the depth of extra-ovarian chambers might better delimit the various genera in the tribe. This definition was challenged by Veldkamp et al. (1978) when they found inconsistencies in depth of extra-ovarian chambers, which are clearly correlated with the size of the anthers. The two schemes of classification of the tribe that were presented by Maxwell (1980, 1983) and Van Vliet (1981) do not contribute to a satisfactory solution of the problem.

The author finds himself no more able to resolve this taxonomic impasse than did the many others who studied the situation. Until a more exhaustive study of the tribe is conducted, *Medinilla* is still best defined by the nature of its stamens. Using this framework, three segregate genera, namely *Carionia*, *Hypenyanthe*, and *Cephalomedinilla*, are included in *Medinilla*. The transfer was decided on the basis of similarity of stamen characters. In addition, the three genera are closely allied and connected to *Medinilla* by transitional forms. These genera were once segregated from *Medinilla* on the basis of trifling characters that were not all related to stamen characters. *Carionia*, a monotypic genus described from the Philippines, was distinguished by Naudin (1850) from *Medinilla* by its 6-merous flowers and distinctly lobed hypanthium. The Philippine species, *Medinilla whitfordii*, resembles *Carionia elegans* in habit and has 5- or 6-merous flowers, thus forming a connecting link between *Medinilla* and *Carionia*. The genus *Hypenyanthe*, which had been a section in *Medinilla*, was segregated by Blume (1849) on the basis of its large, pilose, deciduous bracts and furfuraceous calyx tube. The genus *Cephalomedinilla* is a monotypic genus created by Merrill (1910) which he later thought (Merrill, 1923) to be congeneric with *Medinilla*. Merrill, however, did not propose any nomenclatural changes.

IDENTIFICATION KEYS

Because of the large number of species, it was necessary to divide the species into groups. A combination of indumentum, leaf, stem and inflorescence characters are the major characters used in distinguishing the groups. Within a species group, additional sets of characters in the stem, leaf, flower, and inflorescence are used for species delimitation. Geographical distribution was used sparingly to separate very closely related species.

The eighty species of Philippine *Medinilla* here recognized can be divided into twelve species groups or alliances that seem reasonably discrete and recognizable by a number of character combinations. However, it is not possible at this time to recognize formal infrageneric groups. A complete understanding of the genus over its entire range is necessary to accomplish this task rather than at the regional level.

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SYSTEMATIC TREATMENT

MEDINILLA

Medinilla Gaudich., Voy. Uranie (1826) 484; DC., Prodr. 3 (1828) 167; Blume, Flora (1831) 464; Mus. Bot. Lugd-Bat. 7 (1849) 17; Naudin, Ann. Sci. Nat. III, 15 (1850) 285; Triana, Trans. Linn. Soc. Lond. 28 (1871) 85; Cogn., Monogr. phan. 7 (1891) 572; Merr., Philipp. J. Sci., Bot. 8 (1913) 207; Bakh. f., Rec. Trav. Bot. Néerl. 40 (1943) 147.

Epiphytic or terrestrial shrubs, rarely small trees or vines; erect or scandent. Branches generally terete, smooth or pustulate. *Leaves* alternate, opposite, or whorled; sessile or petiolate; blades fleshy or coriaceous, generally elliptic, glabrous, entire; leaf axils glabrous or tufted with bristles. *Inflorescences* consisting of paniculately, racemose-ly or umbellately disposed cymes, terminal or axillary or arising from defoliated nodes. *Flowers* 4-, 5-, or 6-merous; hypanthia campanulate or ovoid, glabrous or pubescent, the rim truncate or very shortly dentate; petals thin, white or pink; stamens twice as many as petals, equal or unequal in size; filaments glabrous, flattened; anthers linear-lanceolate or linear-oblong, the connective weakly produced, dorsally spurred, with a pair of short appendages ventrally; extra-ovarian chambers generally extending to the middle of the ovary; styles terete, glabrous; stigmas minute, punctiform or minutely capitate. Fruits baccate, globose to subglobose; pericarp thick or thin; seeds numerous, minute, ovoid, the testa smooth or finely reticulate.

Distribution – About 400 species worldwide, exhibiting a bicentric pattern of distribution. One centre is Madagascar with a few species scattered in tropical Africa. The second centre is Asia, ranging from India, Sri Lanka, Burma, Thailand, South China, and on to the islands of Southeast Asia and New Guinea. It is found in northern Australia, the islands in Micronesia, Solomon Islands, Vanuatu, though not in New Caledonia. Its easternmost range terminates in Fiji.

KEY TO THE SPECIES GROUPS

- 1a. Whole plant glabrous or nearly so; except for mostly setose nodes 2
- b. Not entirely glabrous young branches and leaf undersurfaces more or less pubescent, setose, stellate-tomentose, or at least furfuraceous 10
- 2a. Inflorescences of thyrses (i.e., ovoid or ellipsoid panicles) with cymose branches in whorls of three or four, always arising from terminal or axillary, leafy nodes 3
- b. Inflorescences of cymes, racemes, umbels, or heads (rarely panicles, if so then nodes not setose) or of solitary, fascicled flowers; terminal, axillary or arising from leafless nodes below the leaves or on old wood 5
- 3a. Leaves whorled with long petioles (5–)10–15(–20) mm or opposite, often sessile or with short petioles 3–5(–10) mm **GROUP 1 (species 1–14)**
- b. Leaves opposite either with long petioles > 10 mm long or with stout petioles 5–7 mm wide 4
- 4a. Leaves ample, often exceeding 12 cm long; fruits more than 5 mm in diameter; nodes generally setose **GROUP 2 (species 15–19)**
- b. Leaves small, 7–11(–13) cm long; fruits less than 5 mm in diameter; nodes never setose **GROUP 3 (species 20–22)**

- 5a. Inflorescences terminal **GROUP 4** (*species 23–25*)
 b. Inflorescences axillary or cauline 6
- 6a. Inflorescences of dense, many-flowered, pedunculate heads or branched racemes in clusters; arising from leaf axils or often from old wood
 **GROUP 5** (*species 26–30*)
 b. Inflorescences of lax, few-flowered cymes or umbels (rarely panicles) or of solitary, fascicled flowers; arising from leaf axils or leafless nodes below the leaves 7
- 7a. Leaves in whorls of three or four **GROUP 6** (*species 31–45*)
 b. Leaves opposite 8
- 8a. Leaves generally 5- to 7- (13-)plinerved, rarely 3-plinerved, petioles exceeding 5 mm; inflorescences axillary few-flowered cymes
 **GROUP 7** (*species 46–53*)
 b. Leaves always 3-plinerved, sessile or with short petioles 1–3 mm; inflorescences solitary, fascicled flowers arising from leaf axils or on leafless nodes 9
- 9a. Branches divaricate and diffuse; branchlets terete; leaves smaller, 4–8 cm long, 1.5–3 cm wide **GROUP 8** (*species 54–56*)
 b. Branches not divaricate; branchlets flattened; leaves larger, 9–17 cm long, 3–9 cm wide **GROUP 9** (*species 57–58*)
- 10a. Hypanthia pilose, setose or tomentose; bracts furfuraceous
 **GROUP 10** (*species 59–73*)
 b. Hypanthia and bracts (if present) glabrous 11
- 11a. Leaves 7- to 11- (13-)plinerved, transverse veins numerous, parallel, distinct on both surfaces; inflorescences condensed racemes or umbels, often arising from old stems; flowers often ebracteolate **GROUP 11** (*species 74–76*)
 b. Leaves 3- to 5- (7-)plinerved, transverse veins faintly distinct or absent from both surfaces; inflorescences many-flowered panicles, arising from terminal branches; flowers always subtended by a pair of persistent bracteoles
 **GROUP 12** (*species 77–80*)

KEY TO THE SPECIES

GROUP 1 — *Species 1–14*

- 1a. Leaves in whorls of three or four, sometimes five 2
 b. Leaves opposite 3
- 2a. Leaves narrowly elliptic, 6.5–8.5 cm long, 2.5–3 cm wide; bases attenuate ..
 **1. *M. pendula***
 b. Leaves elliptic-oblong to oblong-lanceolate, 15–22 cm long, 8–10 cm wide; bases shortly attenuate **2. *M. cumingii***
- 3a. Bracts showy (> 10 mm long) and persistent 4
 b. Bracts small (< 10 mm long) and deciduous, or in most cases entirely absent 10
- 4a. Branches terete to subquadrangular, not winged 5
 b. Branches quadrangular, often winged 6

- 5a. Panicles 8–10 cm long, few-flowered, each flower subtended by a 5 mm long pair of obovate bracteoles 5 mm long. — Mindanao . . . **3. M. calelanensis**
 b. Panicles 20–25 cm long, many-flowered, each flower subtended by a minute pair of 1 mm long subulate bracteoles. — Luzon **2. M. cumingii**
- 6a. Panicles dense. 7
 b. Panicles lax. 8
- 7a. Panicles elongate; flowers 4-merous; bracts oblong-ovate, 20 mm long, 8 mm wide **4. M. stenobotrys**
 b. Panicles globose; flowers 5-merous; bracts elliptic-ovate, 40 mm long, 20 mm wide **5. M. miniata**
- 8a. Inflorescences > 25 cm long; bracts 60–80 mm long **6. M. magnifica**
 b. Inflorescences < 25 cm long; bracts 10–25 mm long. 9
- 9a. Nodes glabrous; leaves 11-plinerved; bracts white **7. M. parvibractea**
 b. Nodes setose; leaves 7- to 9-plinerved; bracts pink **8. M. banahaensis**
- 10a. Branches quadrangular, often winged. 11
 b. Branches terete to subquadrangular, not winged 14
- 11a. Leaves 7- to 9- (11-)plinerved; petals white; bracts absent
 **10. M. teysmannii**
 b. Leaves 5- to 7-plinerved; petals pink or orange to red; bracts present 12
- 12a. Branches strongly compressed and deeply grooved along the edges; flowers 5-merous, petals orange to red **12. M. compressicaulis**
 b. Branches not at all compressed; flowers 4-merous, petals pink 13
- 13a. Leaves ovate, 10–13 cm long, 7–7.5 cm wide; panicles up to 15 cm long
 **9. M. binaria**
 b. Leaves broadly elliptic, 22–27 cm long, 11–18 cm wide; panicles 20–26 cm long **11. M. amplifolia**
- 14a. Leaves 5-plinerved, sessile; flowers 4-merous **13. M. multiflora**
 b. Leaves 7- to 9-plinerved, shortly petiolate, petioles stout and thickened, up to 5 mm long; flowers 5-merous **14. M. apoensis**

GROUP 2 — Species 15–19

- 1a. Leaves elliptic to oblong (index 2: 1); inflorescences erect; peduncles stout and fleshy 2
 b. Leaves ovate-lanceolate (index 3: 1) or linear-lanceolate (index 8: 1); inflorescences pendulous; peduncles slender. 4
- 2a. Leaves 7-plinerved, apices and bases rounded; flowers 4-merous
 **15. M. tayabensis**
 b. Leaves 5-plinerved, apices and bases not rounded; flowers 5-merous 3
- 3a. Branches terete; petioles 10–20 mm long. — Luzon . . **16. M. apayaensis**
 b. Branches quadrangular; petioles 20–30 mm long. — Panay
 **17. M. panayensis**
- 4a. Leaves 3-plinerved; blades chartaceous, linear-lanceolate, bases attenuate, decurrent into petiole; flowers 4-merous **18. M. dolichophylla**
 b. Leaves 7- to 9-plinerved; blades coriaceous, ovate-lanceolate, bases rounded, subcordate to cordate; flowers 5-merous **19. M. clementis**

GROUP 3 — Species 20–22

- 1a. Bracts widely ovate, 10 mm long; bracteoles obovate, 8–10 mm long 20. *M. mindorensis*
 b. Bracts lanceolate, 3–5(–10) mm long; bracteoles subulate, up to 1 mm long 2
 2a. Leaves widely ovate to rotund, bases obtuse to rounded, petioles > 10 mm long; panicles 9–11 cm long 21. *M. ovalis*
 b. Leaves elliptic, bases distinctly cordate, petioles < 10 mm long; panicles 15–20 cm long 22. *M. brevipes*

GROUP 4 — Species 23–25

- 1a. Flowers 6-merous; hypanthia deeply divided into spreading calyx teeth 4–5 mm long 23. *M. coronata*
 b. Flowers 5-merous; hypanthia undulate to shallowly toothed 2
 2a. Leaves 3-plinerved, transverse veins faintly distinct to absent from both surfaces 24. *M. whitfordii*
 b. Leaves 5-plinerved, transverse veins distinct, numerous (> 30 pairs), reticulate 25. *M. astronioides*

GROUP 5 — Species 26–30

- 1a. Inflorescences of dense, many-flowered, pedunculate heads 2
 b. Inflorescences of branched racemes in clusters 3
 2a. Leaves strongly unequal; nodes densely long-setose, bristles > 10 mm long; flowers 4-merous 26. *M. purpurea*
 b. Leaves equal; nodes short-setose, bristles < 10 mm long; flowers 5-merous 27. *M. cephalophora*
 3a. Leaves of a pair equal in size, inconspicuously veined below; nodes glabrous 29. *M. polillensis*
 b. Leaves of a pair subequal in size, distinctly and reticulately veined below; nodes setose 4
 4a. Leaves 9- to 11-plinerved, elliptic to elliptic-oblong, bases acute; petioles 15–30 mm long 28. *M. pinnatinervia*
 b. Leaves 7-plinerved, obovate-oblong, panduriform, bases auriculately lobed; petioles 3 mm long 30. *M. aurantiflora*

GROUP 6 — Species 31–45

- 1a. Leaves 1-nerved or 3-plinerved 2
 b. Leaves 5- or 7-plinerved 8
 2a. Branchlets angled, ribbed, or sulcate 3
 b. Branchlets terete 6
 3a. Hypanthia bearing scattered, rigid, spreading appendages up to 3 mm long 31. *M. surigaensis*
 b. Hypanthia smooth and glabrous or pulverulent 4

- 4a. Nodes glabrous; leaves shortly petiolate, petioles 2–3(–5) mm long; inflorescences cymose **34. *M. malindangensis***
- b. Nodes provided with a reddish-brown cushion of hairs; leaves long-petiolate 5–12(–20) mm long; inflorescences umbellate 5
- 5a. Leaves lanceolate, 8–10 cm long, 2–2.5 cm wide; hypanthia campanulate, 8–10 mm long, 7–8 mm wide, glabrous **32. *M. antonii***
- b. Leaves obovate, 3–4 cm long, 1.5–2 cm wide; hypanthia ovoid, 6 mm long, 4 mm wide, pulverulent **33. *M. obovata***
- 6a. Leaves uninerved, narrowly elliptic (index 3 : 1); fruits 5 mm in diameter, stalks very slender, 10–12 mm long. **35. *M. membranacea***
- b. Leaves triplinerved, elliptic-ovate to oblong-lanceolate (index 2 : 1); fruits 7–10 mm in diameter, stalks stout, 5–7 mm long 7
- 7a. Leaves quaternate, petioles (15–)20–30 mm long; hypanthia cylindric, ovoid or campanulate, 5–7 mm long, 3–4 mm wide, limb truncate **36. *M. quadrifolia***
- b. Leaves ternate, petioles 10–15 mm long; hypanthia narrowly campanulate, 10 mm long, 6 mm wide, limb denticulate **37. *M. megacalyx***
- 8a. Leaves 5-plinerved 9
- b. Leaves 7-plinerved 13
- 9a. Branchlets terete 10
- b. Branchlets angled, ribbed or sulcate 11
- 10a. Leaves ternate, ovate-oblong, 12–15 cm long, 6–8 cm wide, rounded, slightly cordate, at the base; petioles 35–45 mm long **38. *M. mearnsii***
- b. Leaves quaternate, elliptic-obovate or oblong-lanceolate, 8–10 cm long, 4–5 cm wide, acute at the base; petioles 20–30 mm long **36. *M. quadrifolia***
- 11a. Leaves 1.8–3.5 cm long, 0.8–1.5 cm wide; petioles 2–3(–5) mm long; flowers 5-merous. — Mindanao **34. *M. malindangensis***
- b. Leaves 6.5–11 cm long, 3–6 cm wide; petioles 15–20 mm long; flowers 4- or 6-merous. — Luzon 12
- 12a. Branches ribbed, not winged; flowers 4-merous, hypanthia cylindric, 10 mm long, 5–6 mm wide; stamens equal **39. *M. curranii***
- b. Branches sulcate or 8-angled, winged; flowers 6-merous, hypanthia campanulate, 5–6 mm long, 4–4.5 mm wide; stamens unequal **40. *M. sulcata***
- 13a. Leaves shortly petiolate, petioles 5–15 mm long 14
- b. Leaves long-petiolate, petioles > 15 mm long 15
- 14a. Branches 8-angled, sulcate; leaf venation faintly visible, inflorescences cymose **41. *M. multialata***
- b. Branches terete; leaf venation distinctly visible on both surfaces, transverse veins parallel, 25–30 pairs; inflorescences umbellate ... **42. *M. umbellata***
- 15a. Branchlets glabrous **36. *M. quadrifolia***
- b. Branchlets pulverulent, ferruginous or furfuraceous 16
- 16a. Leaf blades with numerous transverse veins, > 50 parallel pairs, leaf bases acute; inflorescences cymose **43. *M. umbrina***
- b. Leaf blades with few or without transverse veins; leaf bases subcordate; inflorescences umbellate 17

- 17a. Leaves broadly elliptic to oblong, 9–11(–13) cm long, 6–7(–8) cm wide; flowers on stout pedicels 3 mm long, 6-merous, stamens equal **44. *M. elegans***
 b. Leaves elliptic-ovate, 13–17 cm long, 6–7.5 cm wide; flowers on slender pedicels c. 15 mm long, 5-merous, stamens unequal **45. *M. furfuracea***

GROUP 7 — *Species 46–53*

- 1a. Branches sulcate, angles winged; leaves 13-plinerved, transverse veins numerous, parallel, reticulately veined; flowers 6-merous **46. *M. multinervia***
 b. Branches terete; leaves 3- to 9-plinerved; transverse veins faintly visible or absent on both surfaces; flowers 4- or 5-merous **2**
 2a. Inflorescences axillary pendent panicles up to 15 cm long . . **47. *M. crassata***
 b. Inflorescences few-flowered cymes, axillary or arising from defoliated nodes **3**
 3a. Leaves 3-plinerved **48. *M. crassifolia***
 b. Leaves 5- to 9-plinerved **4**
 4a. Leaf blades subpeltate; flower pedicels slender, 7 mm long . . **49. *M. peltata***
 b. Leaf blades not peltate at the base; flower pedicels stout, 5 mm long or less . **5**
 5a. Leaves elliptic-oblong, 3–8 cm long, 1.5–4 cm wide; shortly petiolate, petioles < 10 mm long **6**
 b. Leaves elliptic-ovate, 9.5–25 cm long, 5.5–10 cm wide; long petiolate, petioles 15–25 mm long **7**
 6a. Flowers borne on terete peduncles 1–3 cm long; subtended by oblong, subpersistent bracts 5–8 mm long **50. *M. robinsonii***
 b. Flowers borne on slender pendulous peduncles 3–5(–8) cm long; devoid of bracts **51. *M. pachygona***
 7a. Leaf apices acuminate, acumen slender or sharp, 8–15 mm long
 **52. *M. merrittii***
 b. Leaf apices rounded with short and blunt point **53. *M. coriacea***

GROUP 8 — *Species 54–56*

- 1a. Leaves chartaceous, sessile; apices acute; transverse veins absent from both surfaces **54. *M. benguetensis***
 b. Leaves subcoriaceous, shortly petiolate, petioles 1–2(–3) mm long; apices long-acuminate, acumen up to 12 mm long; transverse veins faintly distinct adaxially **2**
 2a. Flowers in 2- to 6- flowered cymes; peduncles slender, up to 3 cm long
 **55. *M. myrtiformis***
 b. Flowers solitary or in fascicles of 3 or 6; peduncles absent **56. *M. ramiflora***

GROUP 9 — *Species 57–58*

- 1a. Leaves obovate, sessile; bases cuneate; apices obtuse. — Basilan
 **57. *M. sessilifolia***
 b. Leaves elliptic, petiolate; bases acute; apices acute to acuminate. — Palawan . . .
 **58. *M. palawanensis***

GROUP 10 — *Species 59–73*

- 1a. Leaves (opposite) equal in size 2
 b. Leaves (opposite or ternate) subequal (i. e., smaller leaf 0.75–0.5 the size of the larger leaf) or unequal (i. e., smaller leaf 0.5–0.25 the size of the larger leaf) 4
- 2a. Leaves 11- to 13-plinerved; inflorescences many flowered, globose heads borne on the roots **59. *M. radiflora***
 b. Leaves 7- to 9-plinerved; inflorescences lax, terminal or axillary cymes, not root-borne 3
- 3a. Leaves distinctly petiolate, petioles 15–20 mm, blades chartaceous, elliptic-oblong or -lanceolate, bases attenuate to rounded, subauriculate **60. *M. venosa***
 b. Leaves sessile, petioles 3–5 mm long, blades coriaceous, elliptic to obovate, bases attenuate or spatulate **61. *M. lagunae***
- 4a. Leaves opposite or ternate, subequal in size, the smaller leaf 0.75–0.5 the size of the larger leaf 5
 b. Leaves opposite, strongly unequal in size, the smaller leaf 0.5–0.25 the size of the larger leaf. 12
- 5a. Inflorescences densely crowded, globose or cylindric racemes 6
 b. Inflorescences few-flowered, cymes or lax racemes, or sometimes flowers solitary 8
- 6a. Leaves 5-plinerved; petioles 20–25 mm long. — Luzon **62. *M. pycnantha***
 b. Leaves 7-plinerved; petioles 2–4 mm long or less. — Not in Luzon 7
- 7a. Transverse veins distinct on both surfaces, reticulate; nerves furfuraceous. — Leyte and Samar **63. *M. leytenensis***
 b. Transverse veins faintly visible adaxially, absent abaxially. — Dinagat **64. *M. capitata***
- 8a. Fruits subglobose, crowned with persistent, spreading calyx lobes 9
 b. Fruits globose, truncate at the rim 10
- 9a. Leaves 5–7(–12) cm long, 2–3(–5) cm wide; flowers 4-merous, bracts white **65. *M. halconensis***
 b. Leaves 12–15 cm long, 4–6 cm wide; flowers 5-merous, bracts red **66. *M. calcicola***
- 10a. Leaves opposite; flowers 5-merous **67. *M. cuernosensis***
 b. Leaves ternate; flowers 4-merous 11
- 11a. Leaves 5-plinerved, nerves lined with hairs only on lower surface; transverse veins absent from both surfaces **68. *M. ternifolia***
 b. Leaves 7-plinerved, nerves lined with hairs on both surfaces; transverse veins distinct on both surfaces **69. *M. erythrotricha***
- 12a. Smaller leaf of one pair 3–6 cm long, 1.5–3 cm wide, base obtuse or attenuate, very slightly cordate **70. *M. setigera***
 b. Smaller leaf of one pair 1–1.5(–3) cm long, 0.8–1.2 cm wide, bases distinctly cordate. 13
- 13a. Transverse veins absent from both surfaces; flowers 5-merous **71. *M. inaequifolia***
 b. Transverse veins conspicuous on both surfaces, numerous, > 30 pairs; flowers 4-merous 14

- 14a. Larger leaf of one pair shortly petiolate, petioles 3–5 mm long; 5- to 7-plinerved, blades brown-ferruginous hairy below; inflorescences of short, unbranched racemes 2–3 cm long, arising from old wood **72. *M. ferruginea***
 b. Larger leaf of one pair sessile or very shortly petiolate, petioles up to 3 mm long, 9-plinerved; blades glabrous below; inflorescences of sessile, globose heads 1.5–2 cm long, arising from defoliated nodes **73. *M. microcephala***

GROUP 11 — *Species 74–76*

- 1a. Leaves of one pair strongly unequal in size **74. *M. disparifolia***
 b. Leaves equal in size 2
 2a. Leaves ternate, sessile, narrowly lanceolate to lorate; inflorescences of condensed racemes borne on woody peduncles 5 cm long and arising from old wood, flowers 4-merous **75. *M. oblanceolata***
 b. Leaves opposite, petiolate, elliptic to oblong-elliptic; inflorescences of umbels borne on terete, slender peduncles 14–20 cm long and arising from leaf nodes, flowers 5-merous **76. *M. annulata***

GROUP 12 — *Species 77–80*

- 1a. Nodes densely setose with chaffy bristles up to 10 mm long; peduncles > 5 cm long 2
 b. Nodes sparingly setose with short pale yellow bristles 2 mm long; peduncles 2–3.5 cm long 3
 2a. Bracts ovate-lanceolate, 3–4 mm long; bracteoles subulate, minute, at least 1 mm long **77. *M. tenuipes***
 b. Bracts elliptic-lanceolate, 15 mm long; bracteoles obovate, large, up to 10 mm long **78. *M. congesta***
 3a. Leaves long-petiolate, petioles 12–15 mm long; bases acute **79. *M. fenicis***
 b. Leaves shortly petiolate, petioles 2–3 mm long; bases rounded, subcordate **80. *M. cordata***

1. *Medinilla pendula* Merr.

Medinilla pendula Merr., Publ. Bur. Sc. Gov. Lab. 29 (1905) 34. — Type: *Elmer 6037* (holo PNH†; lecto US, here designated; iso NY, PNH), Luzon, Benguet, Baguio.

Medinilla elmeri Merr., Publ. Bur. Sc. Gov. Lab. 29 (1905) 36; Merr., Enum. Philipp. Flow. Pl. 3 (1923) 202, pro syn. *Medinilla pendula* Merr. — Type: *Elmer 5848* (holo PNH†; lecto US, here designated; iso NY), Luzon, Benguet, Mt Sto Tomas.

Medinilla gitingensis Elmer, Leafl. Philipp. Bot. 4 (1911) 1218, syn. nov. — Type: *Elmer 12417* (holo PNH†; lecto US, here designated; iso A, BISH, CAS, GH, L, NY, U), Sibuyan, Magalanes, Mt Giting-giting.

Medinilla merrillii Elmer, Leafl. Philipp. Bot. 4 (1911) 1219, syn. nov. — Type: *Elmer 11249* (holo PNH†; lecto US, here designated; iso A, GH, L, MO, NY, U), Mindanao, Davao, Todaya, Mt Apo.

Medinilla subsessilis Merr., Philipp. J. Sc., Bot. 7 (1912) 94, syn. nov. — Type: *Vanoverbergh 792* (holo PNH†; lecto K, here designated; iso G, P), Luzon, Bontoc, Malamey.

Scandent glabrous shrub 2–3 m high. Branches terete, up to 10 mm in diameter, bark light grey; branchlets slender, terete, 3–5 mm in diameter, yellowish; nodes setose, scarred on defoliated branches. *Leaves* in whorls of 4, sometimes 5, petiolate; petioles slender, 10–15(–20) mm long; blades coriaceous, narrowly elliptic, 6.5–8.5 (–13) cm long, 2.5–3(–4.5) cm wide; apices acute or abruptly acuminate; bases attenuate; 5-plinerved; nerves slightly impressed adaxially, raised abaxially; transverse veins indistinct adaxially, absent abaxially. *Inflorescences* terminal, occasionally axillary, many-flowered, pendulous panicles, 12–25 cm long; peduncles slender, 6–9 cm long, reddish, laxly branched; secondary branches in whorls of 4; bracts whorled, obovate-oblong, 5 mm long, 1.5 mm wide, deciduous; bracteoles linear, 0.5–1 mm long, deciduous; pedicels 3 mm long. *Flowers* 4-merous. *Hypanthia* campanulate, 3–4 mm long, 2.5 mm wide, pink to red, glabrous, undulately lobed to minutely dentate. *Petals* ovate to obovate, acute at tip, 8 mm long, 4 mm wide, pink, membranous. *Stamens* equal; filaments flattened, 1.5–2 mm long; anthers rostrate, 5–6 mm long. *Fruits* globose, 5 mm in diameter, bluish-purple turning darker when ripe; stalks terete, 5 mm long.

Distribution – Luzon (43 coll.), Cebu (1), Mindoro (1), Sibuyan (1), Mindanao (1), endemic. Fairly common in the montane forests of Benguet province in northern Luzon.

Habitat – Along creeks and streams in mossy forest at 1400–1900 m altitude.

Vernacular names – Baladu, kayaupang (Bagobo), balangbang, gubangbang, sabang (Igorot).

Note – Distinguished by its whorled leaves and luxuriant, many-flowered, purplish panicles.

2. *Medinilla cumingii* Naudin — Fig. 1

Medinilla cumingii Naudin, Ann. Sc. Nat. Bot. III, 15 (1851) 292; Triana, Trans. Linn. Soc. 28 (1871) 87; Vidal, Sinopsis Atlas (1883) 27, t. 51, f. E; Cogn. in DC., Monogr. Phan. 7 (1891) 592; Merr., Publ. Bur. Sc. Gov. Lab. 29 (1905) 36; Enum. Philipp. Flow. Pl. 3 (1923) 196. — Type: *Cuming 836* (holo P; iso BM, K, L), Luzon, Albay.

Medinilla speciosa auct. non Blume: Hook., Bot. Mag. 73 (1847) tab. 4321.

Medinilla vanoverberghii Merr., Philipp. J. Sc., Bot. 7 (1912) 94, syn. nov. — Type: *Vanoverbergh 448* (holo PNH†; lecto G, here designated; iso F), Luzon, Bontoc, Bauco.

[*Medinilla peninsula* Elmer, Leaflet Philipp. Bot. 10 (1939) 3667, nom. inval. — Vouchers: *Elmer 14963* (A, G, GH, L, MICH, MO, NY, PNH, S, U, UC, US), *16403* (A, G, GH, L, NY, PNH, S, U, UC, US).]

Scandent epiphytic glabrous shrub, 1–2(–3) m high. Branches terete to subquadrangular, not winged, 4–5 cm in diameter at base; nodes setose, the bristles coarse, yellowish-brown, persistent. *Leaves* ternate or quaternate, occasionally opposite near the base, shortly petiolate; petioles stout, 5 mm long or less; blades coriaceous, elliptic-oblong to oblong-lanceolate, 15–22(–26) cm long, 8–10(–14) cm wide; apices acute to shortly acuminate; bases shortly attenuate, 5- to 7-plinerved; nerves faintly distinct adaxially, absent abaxially; transverse veins faintly visible on both surfaces. *Inflorescences* terminal or axillary, many-flowered, pendant panicles, up to 25 cm long; peduncles 8–10 cm long; the branches in whorls of 4; bracts elliptic-ovate, acuminate at tip, 15–20(–30) mm long, 5–10 mm wide, persistent; bracteoles minute,

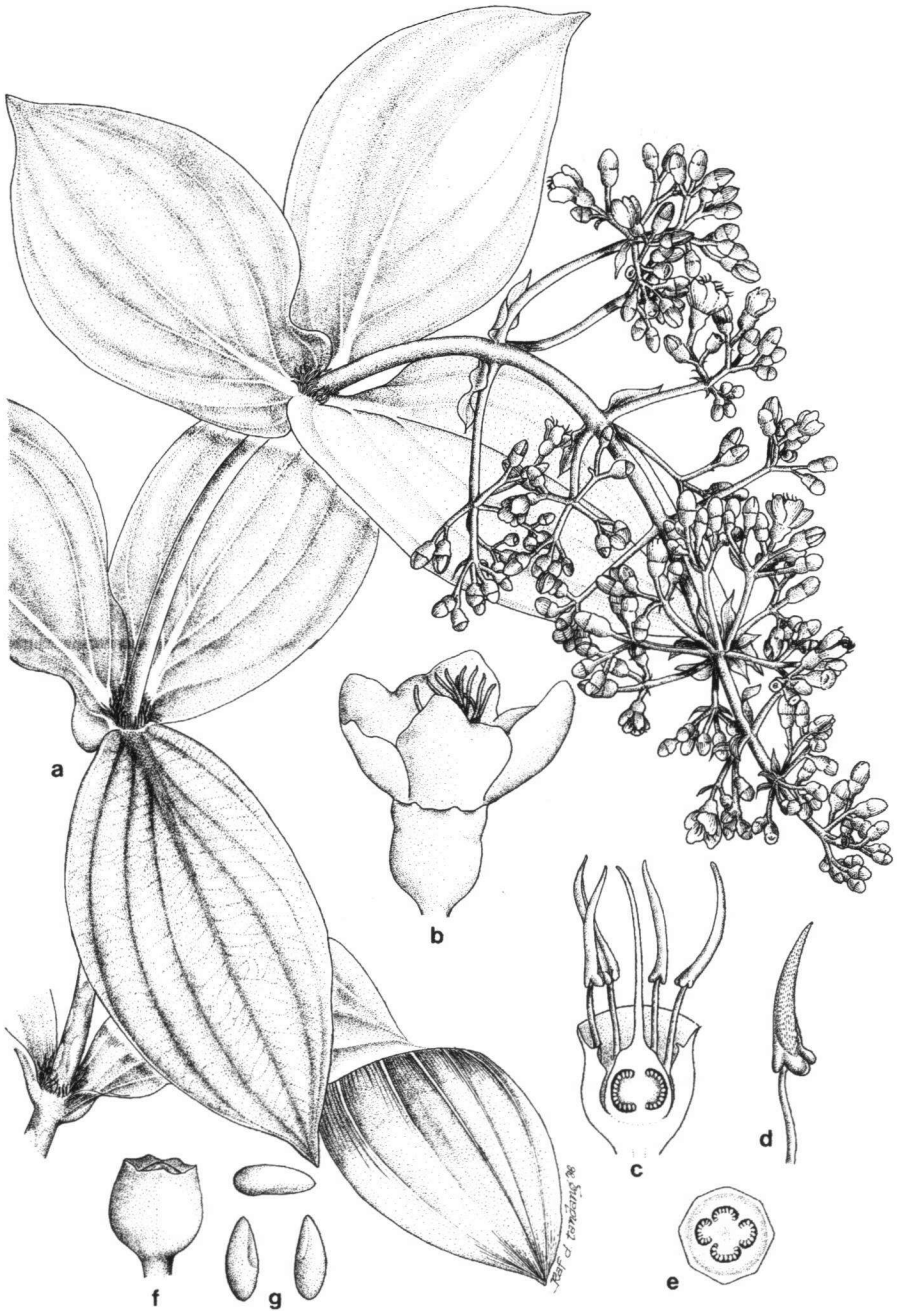


Fig. 1. *Medinilla cumingii* Naudin. a. Branch with inflorescence, $\times 0.25$; b. flower; c. flower in longitudinal section; d. stamen; e. ovary, all $\times 4$; f. fruit, $\times 1.5$; g. seeds, $\times 5$ (all Regalado 442, CAHP).

subulate, 1 mm long, persistent; pedicels slender, 4–5 mm long. *Flowers* 4-merous. *Hypanthia* campanulate, 4 mm long, 3 mm wide, pink or purple, denticulate. *Petals* obliquely ovate, 7 mm long, 5 mm wide, pink. *Stamens* equal; filaments flattened, 4 mm long; anthers dark pink, curved, 5 mm long. *Fruits* subglobose, 5–7 mm in diameter, pink to purplish to bluish-black when ripe; stalks terete, 5–7 mm long.

Distribution – Luzon (21 coll.), endemic.

Habitat – In mossy forest at 700–1000 m altitude.

Notes – The type is said to be a specimen collected by Cuming in the province of Albay in Luzon (Merrill, Philipp. J. Sc., Bot. 10, 1915, 171–194). Cuming made a great collection of botanical materials from the Philippines from 1836–1840 but the labels show incomplete and vague locality information.

Medinilla cumingii was described as having leaves that are whorled and 5-plinerved with axillary panicles bearing 4-merous flowers. W.J. Hooker (1847) had confused this species with *M. speciosa* Blume, native to Java, from which it differs in having slender, terete, less succulent, and not acutely angled branches. In addition, *M. speciosa* has 5- or 6-merous flowers whereas in *M. cumingii* the flowers are 4-merous.

Merrill (1923) noted that *M. cumingii* is a mixture of two species; a form with opposite leaves and another form with quaternate leaves and lateral inflorescences, which Merrill claimed to be the type. However, Naudin (1850) indicated that opposite leaves can occasionally occur in this species.

I refer to this species a variant from Quezon (Mt Banahao) and Sorsogon (Mt Bulusan). The leaves are much larger, 7-plinerved, and the bracts are conspicuously larger, ovate, and persistent. All other floral characters are similar to those of *M. cumingii*. Price 113 from Mt Banahao was the voucher for this species that was introduced into cultivation. Many botanical gardens and nurseries have received cuttings of this plant grown from seed (Wurdack, pers. comm.).

3. *Medinilla calelanensis* Elmer

Medinilla calelanensis Elmer, Leaflet Philipp. Bot. 4 (1911) 1209. — Type: Elmer 11406 (holo PNH†; lecto US, here designated; iso A, BISH, CAS, GH, L, MO, NY, U), Mindanao, Davao, Todaya, Mt Apo.

Epiphytic glabrous shrub, 3–4 m high. Branches terete, bark greyish, striate; branchlets slender, terete, 3–5 mm in diameter, yellowish-brown, 5–7 mm long. *Leaves* opposite, shortly petiolate; petioles thickened, 3–5 mm long; blades coriaceous, elliptic or in most cases elliptic-oblong, 7–10 cm long, 3.5–4.5 cm wide; apices acute; bases acute; 5- to 7-plinerved, marginal pair of nerves obscure, nerves flattened adaxially, slightly raised abaxially, transverse veins absent from both surfaces. *Inflorescences* terminal, few-flowered panicles, 8–10 cm long; peduncles subterete, 3–5 cm long, strict, reddish, sparingly branched, the branches in whorls of 4; bracts obovate, 10 mm long, 6 mm wide, concave, cuspidate at the apex, persistent; bracteoles paired, obovate, 5 mm long, 3 mm wide, reticulately veined, persistent; pedicels 10 mm long. *Flowers* 5-merous. *Hypanthia* urceolate, 6 mm long, 3 mm wide. *Petals* obliquely ovate, 7 mm long, 5 mm wide, membranous, white to pink. *Stamens* sub

equal; filaments flattened, 1 mm long; anthers narrowly ovate, 2.5–3 mm long. *Fruits* cup-shaped, 8–10 mm in diameter; pink to dark brown; stalks stout, thickened, 6 mm long.

Distribution – Mindanao (Bukidnon: Mt Candoon, 1 coll., Mt Lipa, 1 coll.; Davao: Mt Apo, 9 coll.), endemic.

Habitat – In mossy forests along streams at high elevations (1800–2300 m altitude).

Vernacular name – Tiwalos-tatana (Bagobo).

Note – Strikingly similar in habit to *M. pendula* Merr. but the leaves are opposite, not whorled.

4. *Medinilla stenobotrys* Merr.

Medinilla stenobotrys Merr., Philipp. J. Sc., Bot. 12 (1917) 350. — Type: *Fénix BS 28355* (holo PNH†; lecto US, here designated; iso A, NY.), Luzon, Apayao, Mt Sulu.

Epiphytic glabrous shrub, c. 2 m high. Branchlets quadrangular, 4-winged, c. 10 mm in diameter; nodes setose. *Leaves* opposite, sessile; blades coriaceous, oblong to elliptic ovate, 24–30(–35) cm long, 17–22 cm wide; apices acute to acuminate; bases narrowed and clasping stem; 9-plinerved, nerves thickened and flattened adaxially, raised abaxially; transverse veins faintly visible. *Inflorescences* terminal, many-flowered, elongate, rather dense panicles, 25–30 cm long, 4–6 cm wide; peduncles 8–10 cm long, angular, winged; bracts oblong-ovate, 20 mm long, 8 mm wide, persistent; pedicels c. 5 mm long. *Flowers* 4-merous. *Hypanthia* cup-shaped, 4–5 mm long, 3–3.5 mm wide, glabrous, minutely dentate. *Petals* oblong-ovate, somewhat oblique, 7–8 mm long, 4 mm wide, membranous, glabrous. *Stamens* equal; filaments flattened, 4–5 mm long; anthers curved, 5–6 mm long. *Fruits* globose, 10 mm in diameter; stalks 8–10 mm long.

Distribution – Northern and eastern Luzon (Apayao, 1 coll., Isabela, 5 coll., Tayabas, 3 coll.), endemic.

Habitat – On forest slopes or along streams at 600–800 m altitude.

Vernacular names – Lalanug (Apayao), langasa (Kalinga).

Note – Characterized by its terminal, elongate, rather dense inflorescences.

5. *Medinilla miniata* Merr. — Fig. 2

Medinilla miniata Merr., Philipp. J. Sc., Bot. 4 (1914) 382. — Type: *Wenzel 653* (holo PNH†; lecto MO, here designated; iso A, CAS, GH), Leyte.

Epiphytic glabrous shrub with sprawling branches, 1.5 m high. Branches quadrangular, 20 mm in diameter, distinctly 4-winged, wings ash-grey; nodes densely setose. *Leaves* opposite, sessile; blades thickly coriaceous, elliptic-oblong, 25–30 cm long, 10–12 cm wide; apices acute; bases attenuate, clasping the stem; 7- or sometimes 9-plinerved; nerves slightly impressed adaxially, raised abaxially; transverse veins faintly visible or absent. *Inflorescences* axillary, many-flowered, dense, compact, globose panicles, 31 cm long; peduncles 27 cm long; bracts elliptic-ovate, obtuse at tip, 40 mm long, 20 mm wide, crimson to deep red; pedicels terete, 5–7 mm long.

Flowers 5-merous. *Hypanthia* campanulate, 7 mm long, 5 mm wide, scarlet, limb undulate. *Petals* obliquely obovate, 10 mm long, 6 mm wide, thin, membranous, purplish-red. *Stamens* equal; filaments terete, 6 mm long; anthers rostrate, 6–7 mm long. *Fruits* subglobose, 7–10 mm in diameter, dark red; stalks 5–7 mm long.

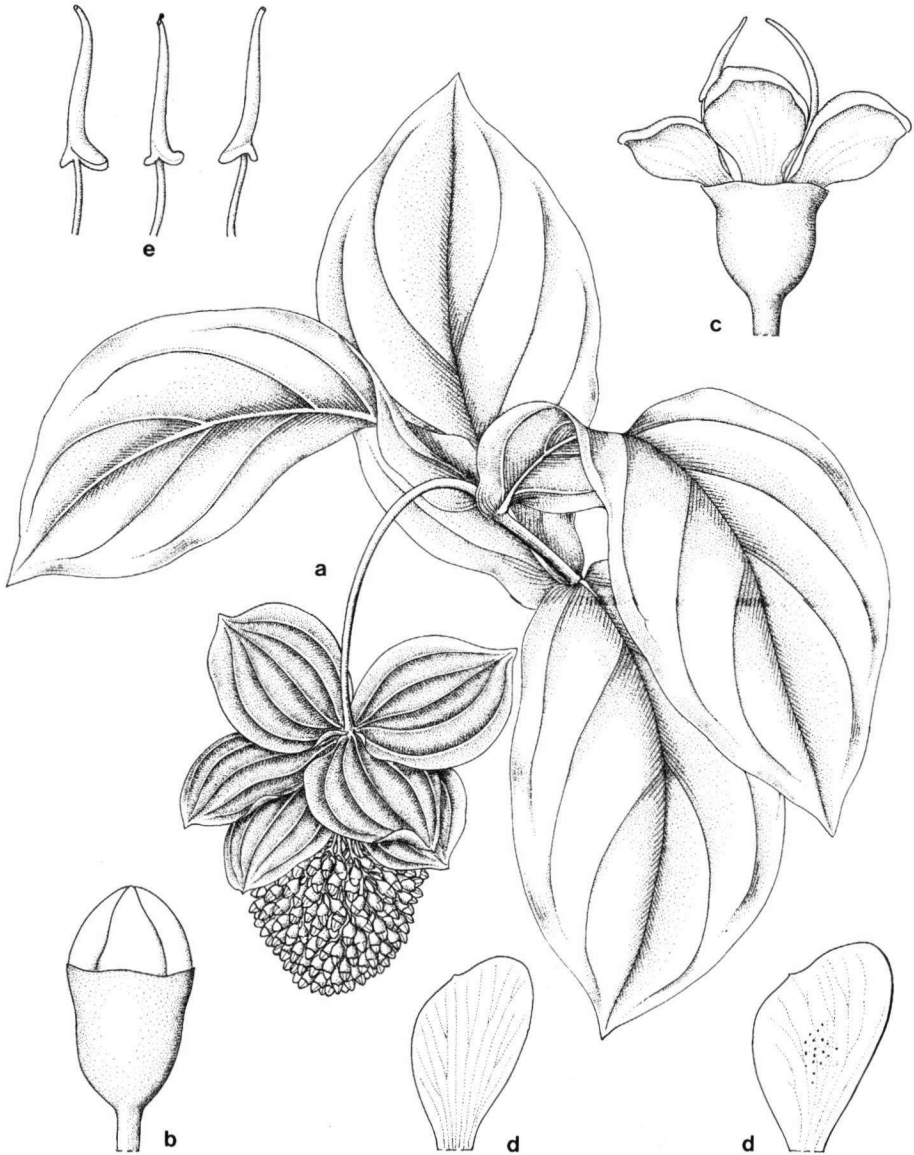


Fig. 2. *Medinilla miniata* Merr. a. Branch with inflorescence, $\times 0.25$; b. flower in bud, $\times 3$; c. flower at anthesis, d. petals, both $\times 2.5$; e. stamens, $\times 3.5$ (all Wurdack 2874, US).

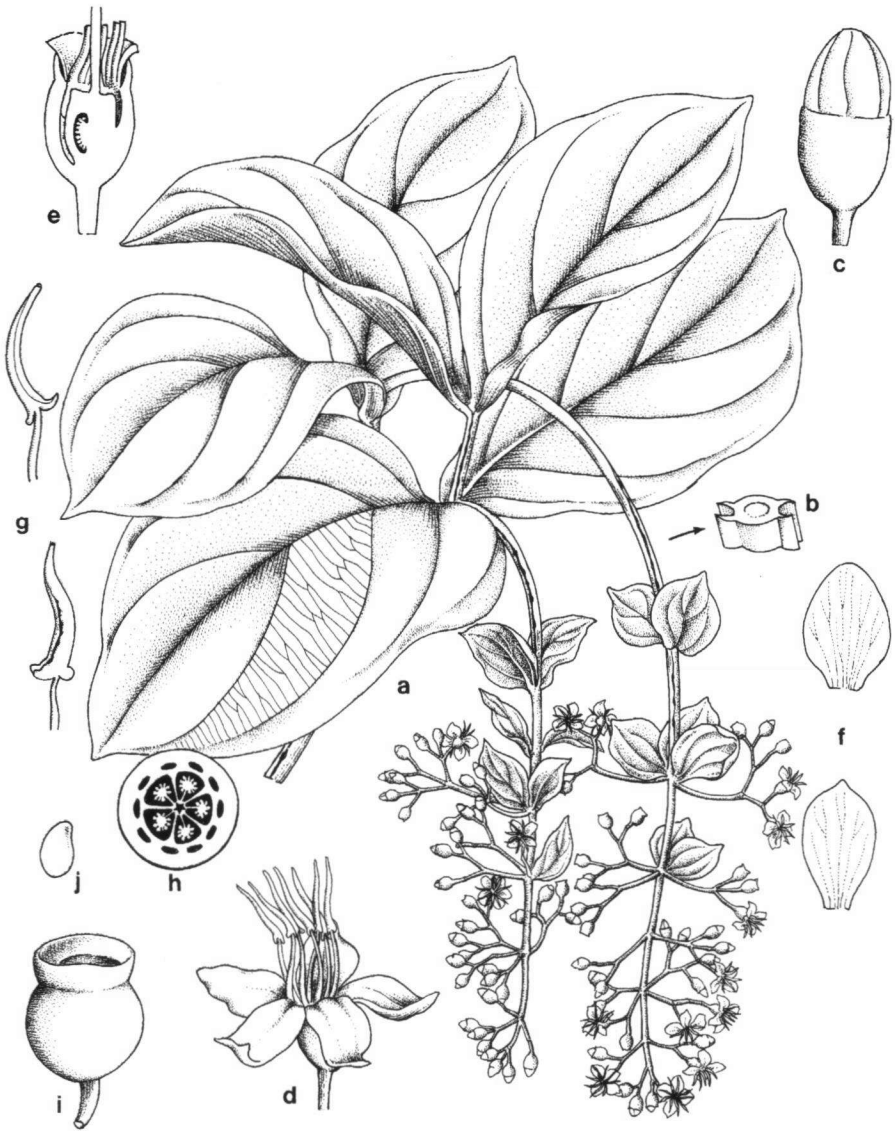


Fig. 3. *Medinilla magnifica* Lindl. a. Branch with inflorescence, $\times 0.17$; b. stem in cross section, $\times 0.25$; c. flower in bud, $\times 3.5$; d. flower at anthesis, $\times 2$; e. flower in longitudinal section, $\times 2.5$; f. petals, $\times 1.5$; g. stamens, $\times 1.5$; h. ovary in cross section, $\times 2.5$; i. fruit, $\times 3$; j. seed, $\times 7.5$ (redrawn from Calara illustrations at CAHP; flowers after Hutchinson 2748, UC).

Distribution – Catanduanes (2 coll.), southern Luzon (Camarines, 3 coll.), Leyte (2), endemic.

Habitat – Along forested streams and rivers at 350–500 m altitude.

Notes – Similar to *M. magnifica* Lindl. but differs in having a compact inflorescence with densely crowded, deep red flowers and smaller yet brilliant crimson to deep red bracts.

John Wurdack (*Wurdack 2874*, US) was able to grow this plant in a greenhouse in Beltsville, Maryland from viable seeds of *Price 470*, a collection made in Camarines Norte, Luzon.

6. *Medinilla magnifica* Lindl. — Fig. 3.

Medinilla magnifica Lindl., Paxt. Fl. Gard. 1 (1850) 55, t. 12; Hook. in Curtis's Bot. Mag. III, 6 (1850) t. 4533; Triana, Trans. Linn. Soc. 28 (1871) 87; Vidal, Rev. Pl. Vasc. Filip. (1886) 135; Cogn. in DC., Monogr. Phan. 7 (1891) 593; Merr., Publ. Bur. Sc. Gov. Lab. 29 (1905) 37; Philipp. J. Sc., Bot. 2 (1907) 287; 3 (1908) 423. — Type not designated (the type locality in Java, reported by the plant collector J.H. Veitch, is erroneous).

Scandent epiphytic glabrous shrub, 1–2(–3) m high. Branches quadrangular, compressed, distinctly winged, 10 mm in diameter; nodes densely setose, tufted with brownish stiff bristles c. 10 mm long, soon deciduous with age. *Leaves* opposite, sessile; blades thickly coriaceous, elliptic to oblong, 30–34(–45) cm long, 14–16(–18) cm wide; apices acute; bases obtuse to shortly attenuate; 9-plinerved; occasionally 11-plinerved and if so, the marginal pair evanescent; nerves flattened adaxially, slightly raised abaxially; transverse veins faintly distinct adaxially, absent abaxially. *Inflorescences* terminal, many-flowered, pendulous, pink panicles 27–35(–40) cm long, more or less fleshy; peduncles stout, fleshy, 10–15(–18) cm long; secondary branches in whorls of 4; bracts spreading, elliptic-ovate, 60–80(–100) mm long, 40–50 mm wide, acute at tip, reticulately veined; paired at the proximal end; whorled at the distal end, pink, persistent; bracteoles minute, subulate, caducous; pedicels slender, terete, 5–10 mm long. *Flowers* 5-merous. *Hypanthium* campanulate, 7–8 mm long, 3–4 mm wide, pinkish red, flared at the rim, denticulate. *Petals* ovate, 15 mm long, 8 mm wide, membranous, dotted, pink. *Stamens* equal; filaments flattened, 10 mm long; anthers rostrate, 10–12 mm long. *Fruits* subglobose, bright pink to dark red when ripe, 6–7 mm in diameter; stalks terete, 10 mm long.

Distribution – Luzon (21 coll.), Mindoro (10), Negros (1), Panay (5), Mindanao (1), endemic.

Habitat – In lowland dipterocarp forests between 300–500 m, in lower montane forests at 400–1000 m, or in cloud belt mossy forests up to 1400 m altitude.

Vernacular name – Baldi (Hanunuo).

Note – Distinguished by its fairly large leaves and long, pendulous, pink panicles subtended by showy bracts. The species is becoming exceedingly rare in its native habitat because of forest destruction. It has been placed on the endangered species list by Tan, Fernando & Rojo in 1986. However, the species is popularly grown and propagated in hot-houses of many botanic gardens.

7. *Medinilla parvibractea* Merr.

Medinilla parvibractea Merr., Philipp. J. Sc., Bot. 12 (1917) 348. — Type: *Fénix BS 4151* (holo PNH†; lecto NY, here designated), Babuyan Island, Mt Camiguin.

Glabrous shrub 1–2 m high. Branches quadrangular, stout; branchlets narrowly winged; nodes not setose. *Leaves* opposite, sessile; blades coriaceous, elliptic-ovate, 20–30 cm long, 10–16 cm wide; apices shortly and abruptly acuminate; bases narrowed; 11-plinerved, nerves impressed adaxially, raised abaxially; transverse veins faintly visible or absent. *Inflorescences* terminal or axillary, many-flowered panicles, 14–25 cm long; peduncles 7–9 cm long, the branches in whorls of 4; bracts broadly ovate to oblong-ovate, obtuse to subacute, 15–25 mm long, membranous, white, persistent; pedicels terete, 7 mm long. *Flowers* 5-merous. *Hypanthia* campanulate, 4 mm long, 3 mm wide, limb 5-lobed. *Petals* obliquely obovate, mucronulate at tip, 8–10 mm long, 6 mm wide, pink. *Stamens* subequal; filaments terete, 5 mm long; anthers acuminate, lanceolate, 4–5 mm long. *Fruits* not seen.

Distribution – Babuyan Islands (2 coll.), Batanes Islands (5), Luzon (Ilocos Norte, 2 coll.), endemic.

Habitat – On forest ridges and mountain peaks, c. 1000 m altitude.

Note – Similar to *M. magnifica* Lindl. but bracts are white.

8. *Medinilla banahaensis* Elmer

Medinilla banahaensis Elmer, Leaflet Philipp. Bot. 4 (1911) 1225. — Type: *Elmer 11466a* (holo PNH†; lecto US, here designated; iso A, BISH, CAL, CAS, F, G, GH, L, MO, NY, U), Mindanao, Davao, Todaya, Mt Apo.

Epiphytic glabrous shrub 1–2 m high. Branchlets strongly quadrangular, 4-winged, 8–10 mm in diameter, bark greyish, flaky; nodes densely setose, the bristles pale brown, 10–13 mm long. *Leaves* opposite, shortly petiolate; petioles very thick, flattened, c. 10 mm long; blades coriaceous, drying dull green above, yellowish green below, elliptic, 30–32 cm long, 13–15 cm wide; apices acuminate to abruptly acute; bases attenuate to obtuse; 7- to 9-plinerved, nerved flattened on both surfaces; transverse veins distinct above, faint to absent below. *Inflorescences* terminal or axillary, many-flowered panicles, 10–12(–20) cm long; peduncles 7.5–15 cm long, pink, glabrous; secondary branches in whorls of 4; bracts broadly oblong, 10–15 mm long, 6 mm wide, pink, persistent; bracteoles boat-shaped, 8 mm long, persistent; pedicels terete, 5–8 mm long. *Flowers* 5-merous. *Hypanthia* campanulate, 4–5 mm long, 3 mm wide, pink, glabrous, truncate. *Petals* obovate-oblong, 7.5 mm long, 5 mm wide, pink, thin, delicate, membranous. *Stamens* equal; filaments flattened, 5 mm long; anthers linear-lanceolate, 3 mm long. *Fruits* globose, deep blue to purple when ripe, 5–6 mm in diameter; stalks 8–10 mm long.

Distribution – Luzon (Tayabas, 5 coll.), Mindanao (Bukidnon, 3 coll., Davao, 4), endemic.

Habitat – In mossy forests at 1200–2000 m altitude.

Vernacular name – Kalambuglambug (Bagobo).

9. *Medinilla binaria* Elmer

Medinilla binaria Elmer, Leafl. Philipp. Bot. 4 (1911) 1211. — Type: *Elmer 9736* (holo PNH†; lecto US, here designated; iso A, BISH, GH, L, MO, NY, U), Negros, Negros Oriental, Dumaguete, Cuernos Mts.

Glabrous shrub c. 2 m high. Branches quadrangular, 5–8 mm in diameter, bark yellowish-brown; branchlets flattened, grooved along edges, greyish; nodes densely setose, bristles soft, yellowish-grey, up to 10 mm long. *Leaves* opposite, sessile; petioles stout, thickened, 3 mm long; blades coriaceous, ovate, 10–13 cm long, 7–7.5 cm wide; apices obtuse or blunt with a sharp point; bases rounded, 5-plinerved, nerves arising a short distance above base, innermost pair confluent with midrib at apex; transverse veins faintly visible above, absent below. *Inflorescences* terminal or axillary, many-flowered panicles, up to 15 cm long; peduncles 5 cm long, pendent, the branches in whorls of 4; bracts broadly ovate, acute at tip, 6 mm long, 4 mm wide; pedicels terete, 2 mm long. *Flowers* 4-merous. *Hypanthia* campanulate, 4 mm long, 3 mm wide, glabrous, denticulate. *Petals* widely ovate, 4–5 mm long, 4–5 mm wide, pink, rather thick, glabrous. *Stamens* equal; filaments flattened, 1 mm long; anthers stout, 2.5–3 mm long. *Fruits* globose, 5 mm in diameter; stalks terete, 4 mm long.

Distribution – Cebu (1 coll.), Negros (1), endemic.

Habitat – In mossy forests at c. 1800 m altitude.

10. *Medinilla teysmannii* Miq. — Fig. 4

Medinilla teysmannii Miq., Ann. Mus. Bot. Lugd.-Bat. 1 (1864) 217; Cogn. in DC., Monogr. Phan. 7 (1891) 593; Merr., Philipp. J. Sc., Suppl. 1 (1906) 215. — Type: *Teijsmann s.n.* (holo L), Sulawesi, locality unknown.

Medinilla albiflora Merr., Philipp. J. Sc., Bot. 8 (1913) 385, syn. nov. — Type: *Wenzel 262* (holo PNH†; lecto MO, here designated; iso BM, F, L), Leyte, Dagami.

Scandent epiphytic glabrous shrub. Branches quadrangular, 15 mm in diameter; the branchlets quadrangular, compressed, 4-winged, 10 mm in diameter; nodes densely setose, tufted with brownish coarse bristles 10–15 mm long. *Leaves* opposite, sessile; blades thickly coriaceous, elliptic-oblong, 21–37(–40) cm long, 11–18(–20) cm wide; apices acute; bases shortly attenuate, subauriculate; 7(–9)-plinerved, sometimes 11-plinerved and if so the marginal pair of nerves evanescent; nerves flattened on both surfaces, midrib thickened at the base; transverse veins distinct adaxially, absent abaxially. *Inflorescences* terminal, many-flowered panicles 15–20(–25) cm long, pyramidal in shape, succulent; peduncles stout, fleshy, 6–7 cm long; secondary branches in whorls of 4; bracts and bracteoles absent; pedicels terete, 5–6 mm long. *Flowers* 5-merous. *Hypanthium* campanulate, 9–10 mm long, 6–7 mm wide, minutely lobed. *Petals* obovate-elliptic, 24 mm long, 10 mm wide, white, membranous, flimsy when dry. *Stamens*: the filaments flattened, 10–11 mm long; anthers curved, slender, 10 mm long. *Fruits* globose, 8–10 mm in diameter; stalks stout, 8 mm long.

Distribution – Sulawesi, Moluccas, Philippines (Luzon, 8 coll.; Negros, 4; Samar, 11; Leyte, 3; Panay, 3; Mindanao, 19).

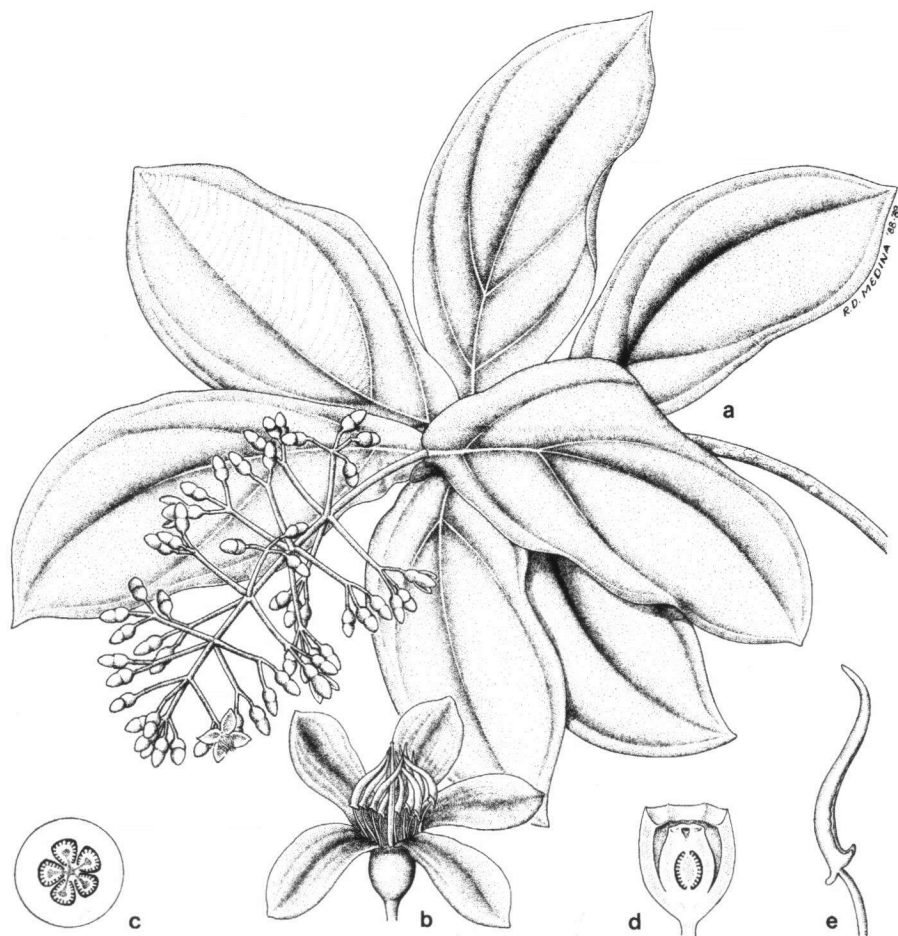


Fig. 4. *Medinilla teysmannii* Miq. a. Branch with inflorescence, $\times 0.12$; b. flower at anthesis, $\times 1$; c. ovary in cross section, $\times 2$; d. ovary in longitudinal section, $\times 1.5$; e. stamen, $\times 2$ (all *Regalado s. n.*, CAHP).

Habitat — In riverine forests and along slopes and ridges in mossy forests at 700–1200(–1800) m altitude.

Vernacular names — Hinamulataligtig (Tasaday), malapaba (S-L Bisaya).

Note — Resembling *M. magnifica* Lindl. in habit and vegetative characters but differing in the lack of bracteate inflorescences.

11. *Medinilla amplifolia* Merr.

Medinilla amplifolia Merr., Publ. Bur. Sc. Gov. Lab. 29 (1905) 37. — Type: *Elmer 6112* (holo PNH†; lecto US, here designated; iso NY), Luzon, Benguet, Sablan.

Scandent glabrous shrub c. 3 m high. Branches quadrangular, bark light grey; nodes setose. *Leaves* opposite, sessile; blades coriaceous, elliptic-ovate or in most cases broadly elliptic, 22–27 cm long, 11–18 cm wide; apices shortly or abruptly acuminate; bases somewhat cordate; 5- to 7-plinerved, nerves impressed adaxially, raised abaxially; transverse veins distinct on both surfaces, reticulate. Inflorescences terminal, few-flowered panicles, 20–26 cm long; peduncles 11.5 cm long, red; secondary branches in whorls of 4; bracts small, ovate-elliptic, 8–10 mm long, 4 mm wide, deciduous; bracteoles subulate, 1 mm long; pedicels slender, 5 mm long. *Flowers* 4-merous. *Hypanthia* campanulate, 5–6 mm long, 3–4 mm wide, pink, glabrous, limb truncate. *Petals* obovate-oblong, obtuse, 14 mm long, 6–8 mm wide, membranous, pink. *Stamens* subequal; filaments flattened, 8–9 mm long; anthers rostrate, 9–10 mm long. *Fruits* globose, 5–7 mm in diameter; stalks slender, 5–7 mm long.

Distribution – Northern Luzon (15 coll.), endemic.

Habitat – In damp ravines or wet slopes of mossy forests at 800–1500 m altitude.

Vernacular names – Balangbanasol, magalonga (Igorot), balanban (Kalinga), galandong (Tagalog), lanug (Ibanag).

Note – Distinguished from *M. teysmannii* by its 4-merous flowers.

12. *Medinilla compressicaulis* Merr. — Fig. 5

Medinilla compressicaulis Merr., Philipp. J. Sc., Bot. 8 (1913) 238. — Type: Merrill 7687 (holo PNH†; lecto US, here designated), Luzon, Benguet, Baguio.

Epiphytic glabrous shrub 2–3 m high. Branches stout, quadrangular, winged, strongly compressed and deeply grooved along edges, 12–15 mm in diameter, bark greyish brown; nodes densely setose. *Leaves* opposite, sessile; blades coriaceous, ovate to oblong-ovate, (18–)21–24 cm long, (9–)13–14 cm wide; apices acute; bases rounded, subcordate, clasping stem; 5-plinerved, marginal pair of nerves arising immediately above the stout leaf base, the inner pair arising 1–2 cm above the preceding; nerves thickened and flattened on both surfaces; transverse veins faintly visible adaxially, absent abaxially. *Inflorescences* terminal, many-flowered panicles, up to 25 cm long; peduncles 12–15 cm long, red, the branches in whorls of 3 or 4; bracts ovate, 10 mm long or less, deciduous; bracteoles absent; pedicels stout, 2 mm long. *Flowers* 5-merous. *Hypanthia* cup-shaped, 4 mm long, 5 mm wide, orange to red, limb denticulate. *Petals* widely ovate, apically mucronulate, 5 mm long, 4 mm wide, orange to red, somewhat fleshy, glabrous. *Stamens* equal; filaments flattened, 1.5 mm long; anthers ellipsoid, stout, 2 mm long. *Fruits* globose, 7–8 mm in diameter, red; stalks terete, 5–7 mm long.

Distribution – Northern Luzon (Benguet, 5 coll.; Bontoc, 2; Ifugao, 5), endemic.

Habitat – In mossy forests at 1000–2200 m altitude.

Vernacular names – Balangbang, salanakad (Igorot).

Note – Distinguished from other species by its prominently compressed and the 4-winged branches and its brilliant orange to brick red flowers.

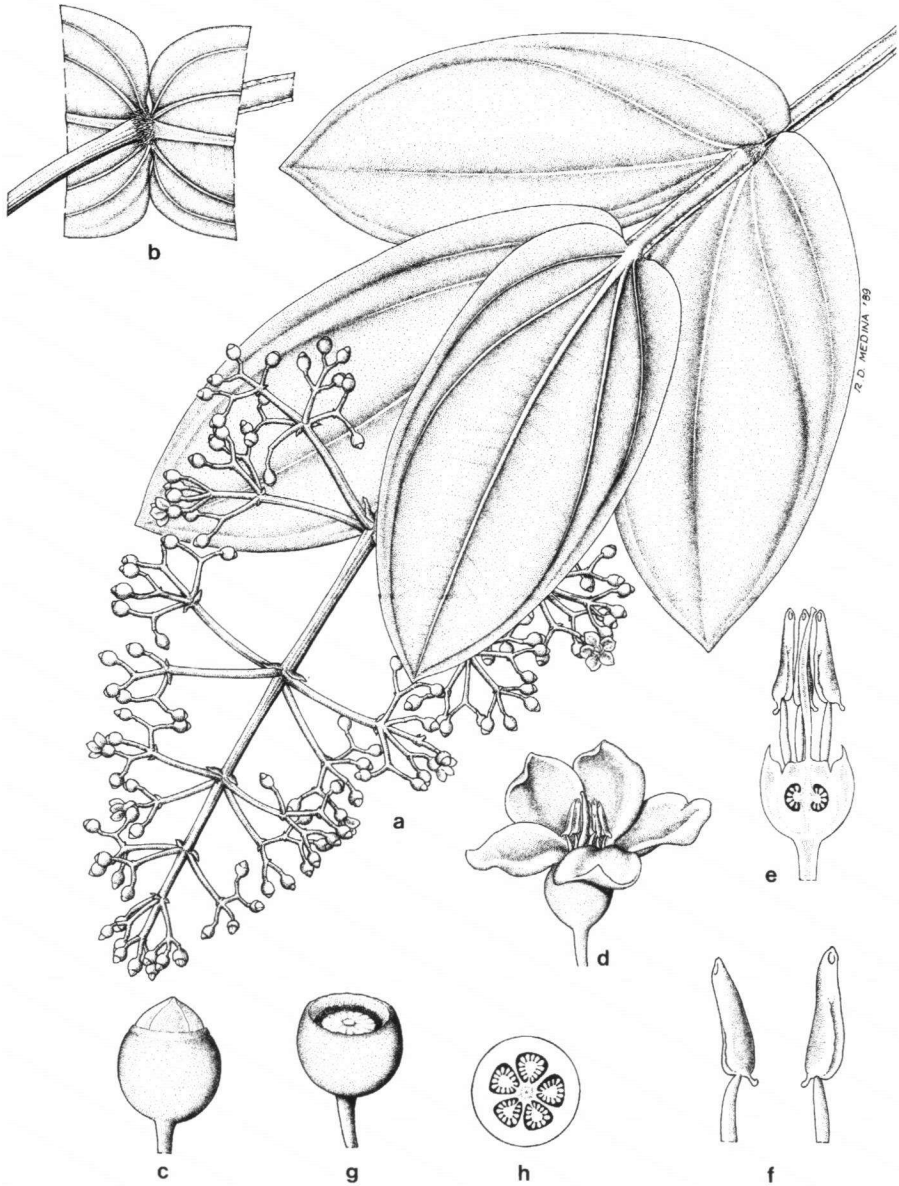


Fig. 5. *Medinilla compressicaulis* Merr. a. Branch with inflorescence; b. detail of nodal region, both $\times 0.25$; c. flower in bud, $\times 3$; d. flower at anthesis; e. flower in longitudinal section, both $\times 2.5$; f. stamens, $\times 10$; g. fruit; h. fruit in cross section, both $\times 3$ (all Regalado 352, CAHP).

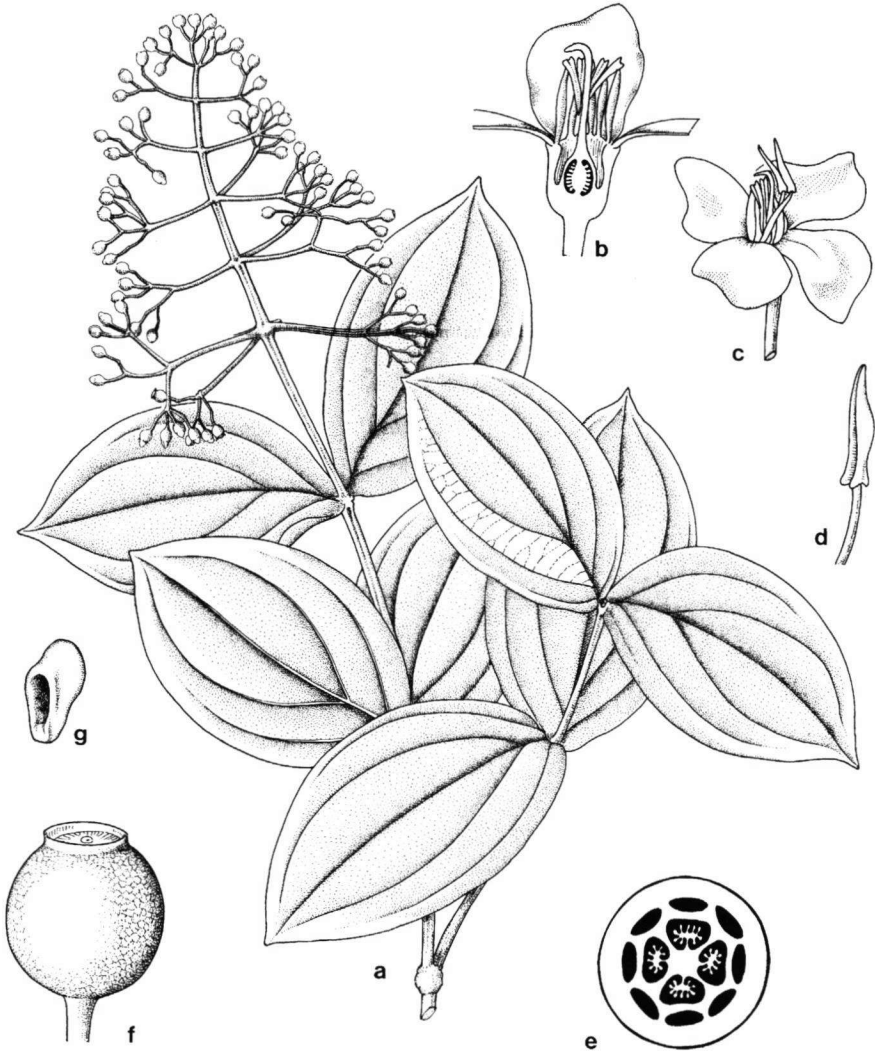


Fig. 6. *Medinilla multiflora* Merr. a. Branch with inflorescence, $\times 0.33$; b. flower; c. flower in longitudinal section, both $\times 2.5$; d. stamen, $\times 3.5$; e. ovary in cross section; f. fruit, both $\times 4$; g. seed, $\times 13$ (all Regalado 297, CAHP).

13. *Medinilla multiflora* Merr. — Fig. 6

Medinilla multiflora Merr., Publ. Bur. Sc. Gov. Lab. 29 (1905) 35. — Type: *Merrill 3915* (holo PNH†; lecto US, here designated; iso NY), Luzon, Pampanga, Mt Arayat.

Medinilla intermedia auct. non Blume: Merr., Publ. Bur. Sc. Gov. Lab. 29 (1905) 37; Philipp. J. Sc., Suppl. 1 (1906) 107.

- Medinilla myriantha* Merr., Philipp. J. Sc., Suppl. 1 (1906) 215, syn. nov. — Type: *Merrill 5129* (holo PNH†; lecto US, here designated; iso NY), Luzon, Laguna, Mt Makiling.
- Medinilla camiguinensis* Merr., Philipp. J. Sc., Bot. 8 (1913) 233, syn. nov. — Type: *Ramos BS 14639* (holo PNH†; lecto US, here designated), Camiguin de Mindanao.
- Medinilla canlaonensis* Merr., Philipp. J. Sc., Bot. 8 (1913) 239, syn. nov. — Type: *Merrill 6882* (holo PNH†), Negros, Negros Oriental, Mt Canlaon. Neotype, here designated: *Edaño PNH 21998* (A), same locality, April 1954..
- Medinilla negrosensis* Merr., Philipp. J. Sc., Bot. 8 (1913) 240, syn. nov. — Type: *Elmer 10049* (holo PNH†; lecto US, here designated; iso A, CAS, GH, L, MO, NY, U), Negros, Negros Oriental, Dumaguete, Cuernos Mts.
- Medinilla confusa* Merr., Philipp. J. Sc., Bot. 8 (1913) 242; Enum. Philipp. Flow. Pl. 3 (1923) 200, pro syn. *Medinilla myriantha* Merr. — Type: *Lyon s.n.* (holo PNH†, n.v.), Luzon, Bataan, Mt Mariveles. Paratype, here designated as neotype: *Merrill 3965* (US; iso L, NY), same locality, March 1905.
- Medinilla vulcanica* Merr., Philipp. J. Sc., Bot. 12 (1917) 352, syn. nov. — Type: *Ramos Phil. Pl. 1164* (holo PNH†; lecto US, here designated), Camiguin de Mindanao.

Epiphytic glabrous shrub 1–2 m high. Branches terete to quadrangular, 10 mm in diameter, bark yellowish; branchlets terete to subquadrangular, not winged, 5 mm in diameter; nodes setose, tufted with coarse bristles 10 mm long, soon deciduous with age. *Leaves* opposite, sessile; blades coriaceous, elliptic-oblong to oblong-ovate, 11–14 cm long, 7–8 cm wide; apices abruptly acuminate to cuspidate; bases attenuate, 5-plinerved, occasionally 7-plinerved and if so the marginal pair of nerves evanescent; nerves flattened on both surfaces; transverse veins distinct adaxially, absent abaxially. *Inflorescences* terminal, many-flowered, pyramidal panicles, (10–)18–20 cm long; peduncles stout, fleshy, (4–)6–8 cm long; bracts absent; bracteoles minute, caducous, 1 mm long; pedicels terete, 5–6 mm long. *Flowers* 4-merous. *Hypanthium* campanulate, 4 mm long, 3 mm wide, undulate to truncate. *Petals* obliquely obovate to orbicular, 7 mm long, 5–6 mm wide, membranous. *Stamens* equal; filaments flattened, 3 mm long; anthers ovate-lanceolate, 4 mm long. *Fruits* globose, 5–6 mm in diameter; stalks terete, 5–7 mm long.

Distribution – Luzon (38 coll.), Mindoro (3), Palawan (9), Panay (1), Negros (10), Camiguin de Mindanao (2).

Habitat – On damp slopes, in mossy forests, or on summits of volcanic mountains at 800–1000 m altitude.

Vernacular name – Malasaming (Tagalog).

Note – Chromosome count ($n = 21$) reported by Solt & Wurdack (1980).

14. *Medinilla apoensis* C.B. Rob.

Medinilla apoensis C.B. Rob., Philipp. J. Sc., Bot. 3 (1908) 207. — Type: *Williams 2569* (holo PNH†; lecto US, here designated; iso NY).

Medinilla confluentinervia Elmer, Leaflet Philipp. Bot. 4 (1911) 1224; Merr., Enum. Philipp. Flow. Pl. 3 (1923) 193, pro syn. *Medinilla apoensis* C.B. Rob. — Type: *Elmer 11469* (holo PNH†; lecto US, here designated; iso BISH, G, GH, L, MO, NY, U), Mindanao, Davao, Todaya, Mt Apo.

Epiphytic glabrous shrub 3–4 m high. Branches terete, bark yellowish brown, branchlets subterete to angled but not winged, 5 mm in diameter; nodes setose, the bristles greyish, 7 mm long, deciduous with age. *Leaves* opposite, very shortly petiolate;

petioles stout, thickened, up to 5 mm long; blades coriaceous, elliptic or in most cases elliptic-oblong, 17–23 cm long, (7–)9–12 cm wide; apices long acuminate, acumen up to 15 mm long; bases attenuate to obtuse, 7- to 9-plinerved; innermost pair of nerves confluent with midvein below apex, nerves impressed adaxially, raised abaxially; transverse veins faintly visible adaxially, absent abaxially. *Inflorescences* terminal, few-flowered panicles 10–20(–30) cm long; peduncles stout, 8–10 cm long, branches in whorls of 4; bracts absent; bracteoles oblanceolate, 12 mm long, caducous; pedicels terete, 2 mm long. *Flowers* 5-merous. *Hypanthia* campanulate, 4 mm long, 3 mm wide, glabrous, pink, denticulate. *Petals* ovate, 7 mm long, 5 mm wide, membranous, glabrous, pink to red. *Stamens* equal; filaments flattened, 2 mm long; anthers stout, 2.5–3 mm long. *Fruits* subglobose, 7 mm in diameter; stalks 9 mm long.

Distribution – Mindanao (Davao, Misamis; 11 coll.), endemic.

Habitat – In mossy forests at 1500–1800(–2300) m altitude.

Vernacular name – Kalambuglambug (Bagobo).

15. *Medinilla tayabensis* Merr.

Medinilla tayabensis Merr., Philipp. J. Sc., Bot. 12 (1917) 351. — Type: *Ramos & Edaño BS 28605* (holo PNH†; lecto US, here designated; iso BM, K, P), Luzon, Tayabas, Mt Binuang.

Epiphytic glabrous shrub. Branches terete, 7 mm in diameter, bark light brown; the branchlets slightly quadrangular; nodes densely setose, bristles pale yellow, 2 mm long, deciduous. *Leaves* opposite, petiolate; petioles stout, 10–12 mm long; blades coriaceous, drying reddish-brown above, ochraceous below, widely elliptic to oblong, 12–15 cm long, 6–9 cm wide; apices rounded; bases rounded; 7-plinerved, nerves flattened on both surfaces; transverse veins faintly visible adaxially, absent abaxially. *Inflorescences* erect, terminal, many-flowered panicles, 21–27 cm long; peduncles (5–)7–12 cm long, stout, fleshy, the branches in whorls of four; bracts ovate, acuminate at tip, 10 mm long, 4–5 mm wide, glabrous; bracteoles minute, subulate; pedicels slender, 3–4 mm long. *Flowers* 4-merous. *Hypanthia* campanulate, 4 mm long, 3 mm wide, truncate. *Petals* obovate, mucronulate at tip, 5 mm long, 5 mm wide, membranous. *Stamens* equal; filaments slender, 3 mm long; anthers 3.5 mm long. *Fruits* subglobose, 5 mm in diameter; stalks 5 mm long.

Distribution – Luzon (Ilocos, 1 coll.; Tayabas, 1), endemic.

Habitat – In mossy forests at c. 700 m altitude.

Note – This species resembles *M. multiflora* Merr. but the leaves are distinctly petiolate, widely elliptic to oblong with rounded apices and bases.

16. *Medinilla apayaensis* Merr.

Medinilla apayaensis Merr., Philipp. J. Sc., Bot. 12 (1917) 343. — Type: *Fénix BS 28142* (holo PNH†; lecto US, here designated; iso A, BM, CAL, K, L, NY, P), Luzon, Apayao, Ngagan.

Erect glabrous shrub c. 2 m high. Branches terete, 5 mm in diameter, bark smooth, pale brown; nodes densely setose, bristles straw brown, up to 10 mm long. *Leaves* opposite, petiolate; petioles stout, 10–20 mm long; blades coriaceous, glabrous, ob-

long-elliptic, 13–18(–22) cm long, 6–8(–10) cm wide; apices acute; bases acute, 5-plinerved, nerves flattened on both surfaces; transverse veins absent from both surfaces. *Inflorescences* erect, terminal, few-flowered panicles, c. 20 cm long; peduncles c. 10 cm long, stout, fleshy; branches in whorls of 4; bracts narrowly elliptic to linear-lanceolate, 5 mm long; bracteoles minute, subulate; pedicels terete, 7 mm

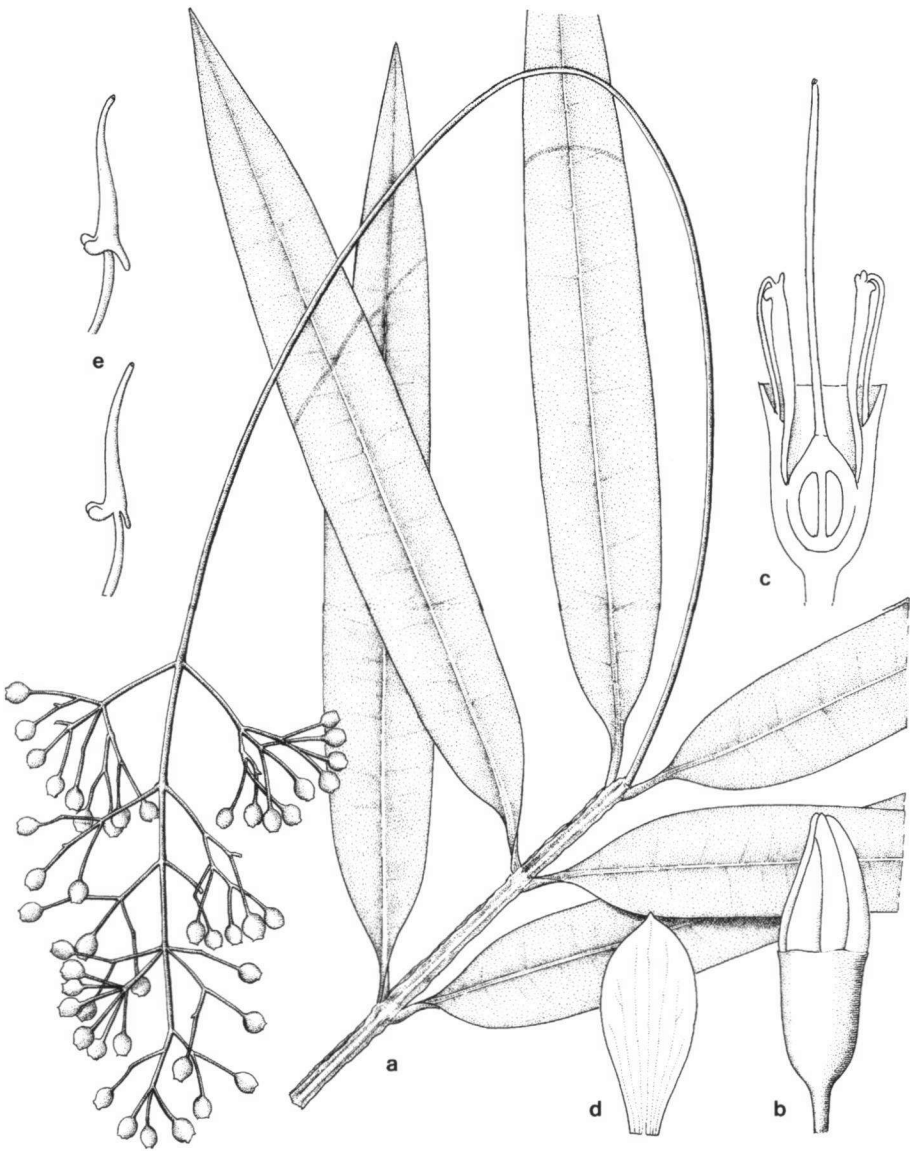


Fig. 7. *Medinilla dolichophylla* Merr. a. Branch with inflorescence, $\times 0.5$; b. flower in bud, $\times 3.5$; c. flower in longitudinal section, $\times 5$; d. petal; e. stamens, both $\times 3.5$ (all Curran FB 4888, US).

long. *Flowers* 5-merous. *Hyanthia* campanulate, 3 mm long, 3 mm wide, limb denticulate. *Petals* ovate, 4 mm long, 3 mm wide. *Stamens* equal; filaments 2 mm long; anthers 4 mm long. *Fruits* not seen.

Distribution – Luzon (Apayao), known only from the type collection, endemic.

Habitat – No data.

17. *Medinilla panayensis* Merr.

Medinilla panayensis Merr., Philipp. J. Sc., Bot. 12 (1917) 347. — Type: *Robinson BS 18253* (holo PNH†; lecto US, here designated), Panay, Iloilo, Ulian River.

Erect glabrous shrub c. 2 m high. Branches quadrangular, 5 mm in diameter, bark yellowish-brown; nodes densely setose, bristles pale brown, up to 5 mm long. *Leaves* opposite, petiolate; petioles stout, thickened, 20–30 mm long; blades coriaceous, elliptic, 15–20 cm long, 8–10 cm wide; apices obtuse, acute or abruptly acuminate; bases attenuate, 5-plinerved, nerves flattened on both surfaces; transverse veins faintly visible adaxially, nearly absent abaxially. *Inflorescences* erect, terminal panicles, 15–20 cm long; peduncles stout, fleshy; bracts and bracteoles small, caducous; pedicels 2–3 mm long. *Flowers* 5-merous. *Hyanthia* campanulate, 4 mm long, 3 mm wide, the limb 5-lobed. *Petals* obovate, 8 mm long, 5 mm wide, membranous. *Stamens* equal; filaments 5–6 mm long; anthers 5–6 mm long. *Fruits* not seen.

Distribution – Panay (Capiz, 2 coll.), endemic.

Habitat – In primary forests at c. 250 m altitude.

Note – The flowers are said to be pink and the inflorescence axes and branches waxy-white when fresh.

18. *Medinilla dolichophylla* Merr. — Fig. 7

Medinilla dolichophylla Merr., Philipp. J. Sc., Suppl. 1 (1906) 214. — Type: *Merrill 4332* (holo PNH†; lecto US, here designated; iso NY), Luzon, Benguet, Baguio.

Medinilla subdolichophylla Elmer, Leaflet Philipp. Bot. 4 (1911) 1220, syn. nov. — Type: *Elmer 8635* (holo PNH†; lecto US, here designated; iso BISH, G, L, MO), Luzon, Benguet, Baguio.

Epiphytic glabrous shrub 2–3 m high. Branches quadrangular, 4-winged, 40 mm in diameter, bark light brown, cracked; branchlets quadrangular, winged, compressed, 3–5 mm in diameter; nodes not setose. *Leaves* opposite, petiolate; petioles thickened, 10–15 mm long; blades chartaceous, linear-lanceolate, strap-shaped, 24–28(–30) cm long, 3–4 cm wide; apices long-acuminate; bases attenuate, decurrent with petiole; 3-plinerved, nerves thin, flattened on both surfaces; transverse veins faintly visible. *Inflorescences* axillary, few-flowered, lax, pendulous panicles, 25–30 cm long; peduncles very slender, 15–22 cm long; secondary branches in whorls of 4; bracts absent; bracteoles subulate, 1 mm long; pedicels slender, 10 mm long. *Flowers* 4-merous. *Hyanthia* narrowly cylindrical, 5–7 mm long, 3–4 mm wide, lead-coloured, limb denticulate. *Petals* elliptic to ovate, apically acuminate, 7–12 mm long, 4–5 mm wide, pale pink or nearly white, membranous. *Stamens* equal; filaments flattened, 4 mm long; anthers straight, 6 mm long. *Fruits* globose, pink to red turning bluish-black when ripe, 7–8 mm in diameter; stalks slender, terete, 10–12 mm long.

Distribution — Northern Luzon (Cordillera and Sierra Madre Mountain Ranges; 18 coll.), endemic.

Habitat — Over limestone outcrops in pine forests or in mossy forests between 1000–1800 m altitude.

Vernacular names — Gunang (Igorot), huyub yun gan gigitang (Ifugao).



Fig. 8. *Medinilla clementis* Merr. a. Branch with inflorescence, $\times 0.25$; b. flower, $\times 1$; c. flower in longitudinal section, $\times 2.5$; d. stamen; e. fruit, both $\times 2$; f. seeds, $\times 10$ (all Regalado 373, CAHP).

19. *Medinilla clementis* Merr. — Fig. 8

Medinilla clementis Merr., Philipp. J. Sc. 5 (1910) 208. — Type: *Clemens s.n.* (holo PNH†, n.v.), Mindanao, Lanao, Camp Keithley. Neotype, here designated: *Sulit PNH 9892* (PNH; iso A, L), Mindanao, Bukidnon, Mt Kitanglad, Feb. 1949.

Medinilla cordatifolia Elmer, Leaflet. Philipp. Bot. 4 (1911) 1226; Merr., Enum. Philipp. Flow. Pl. 3 (1923) 195, pro syn. *Medinilla clementis* Merr. — Type: *Elmer 10890a* (holo PNH†; lecto US, here designated; iso A, BISH, G, GH, L, MO, NY, U), Mindanao, Davao, Todaya, Mt Apo.

Medinilla polisensis Merr., Philipp. J. Sc., Bot. 12 (1917) 349, syn. nov. — Type: *McGregor BS 19870* (holo PNH†; lecto US, here designated), Luzon, Ifugao, Mt Polis.

Scandent epiphytic glabrous shrub 1–2 m high. Branches terete to quadrangular, 25 mm in diameter; branchlets quadrangular, 5 mm in diameter, 4-winged, compressed, slender, descending; nodes setose, tufted with coarse bristles 10–15 mm long. *Leaves* opposite, petiolate; petioles 20–30 mm long; blades coriaceous, ovate-lanceolate, 18–20(–28) cm long, 6–8(–10) cm wide; apices acuminate; bases rounded, subcordate to cordate; 5- to 7-plinerved, occasionally 9-plinerved; nerves impressed adaxially, slightly raised abaxially; transverse veins distinct adaxially, absent abaxially. *Inflorescences* terminal or axillary, many-flowered, pendulous panicles, 25–40 cm long; peduncle slender, pendent, 10–20 cm long; bracts ovate, 6 mm long, 5 mm wide; bracteoles minute, 1 mm long, caducous; pedicels terete, 7 mm long. *Flowers* 5-merous. *Hypanthia* cup-shaped, 6 mm long, 5 mm wide. *Petals* obliquely obovate, 11 mm long, 8 mm wide, membranous. *Stamens* equal; filaments 9 mm long; anthers 10 mm long. *Fruits* subglobose, 10 mm in diameter; stalks terete, 10–12 mm long.

Distribution – Luzon (11 coll.), Mindoro (1), Negros (3), Panay (3), Leyte (1), Mindanao (11), endemic.

Habitat – On exposed ridges or slopes, along streams in mossy forests or on summits at 1000–2000(–2300) m altitude.

Vernacular names – Yagumyon-balagon (C. Bis.), gubangbang (Igorot), manago (Bagobo), palangpang (Kalinga), sindayuhan (Mang.), kalowang-limod (Tasaday).

20. *Medinilla mindorensis* Merr. — Fig. 9

Medinilla mindorensis Merr., Philipp. J. Sc., Bot. 4 (1909) 302. — Type: *Merritt FB 11489* (holo PNH†; lecto US, here designated), Mindoro, Ibalog River.

Epiphytic glabrous shrub. Branches terete, 5–7 mm in diameter, bark yellowish-brown to reddish-brown; branchlets slender, slightly angular, yellowish to greyish-brown; nodes not setose. *Leaves* opposite, petiolate; petioles differing in length for each pair of leaves; shorter petioles 5–7 mm long, longer petioles 12–18 mm long; blades subcoriaceous, drying reddish-brown above, dull green to brownish-green below, obliquely ovate to elliptic, rarely obovate, 7–11 cm long, 3.5–6 cm wide; apices strongly acuminate; bases acute or acuminate; 3- or sometimes 5-plinerved, nerves flattened on both surfaces; transverse veins absent. *Inflorescences* terminal or axillary, many-flowered, rather diffuse panicles, 15–20 cm long; peduncles (4–)8–10 cm long; secondary branches in whorls of 3; bracts widely ovate, c. 10 mm long, reticulately veined, persistent; paired bracteoles obovate, 8–10 mm long, white or pink, reticulately veined, persistent; pedicels slender, 3–10 mm long. *Flowers* 4-merous. *Hypanthia* campanulate, 3–4 mm long, 4 mm wide. *Petals* broadly obovate,

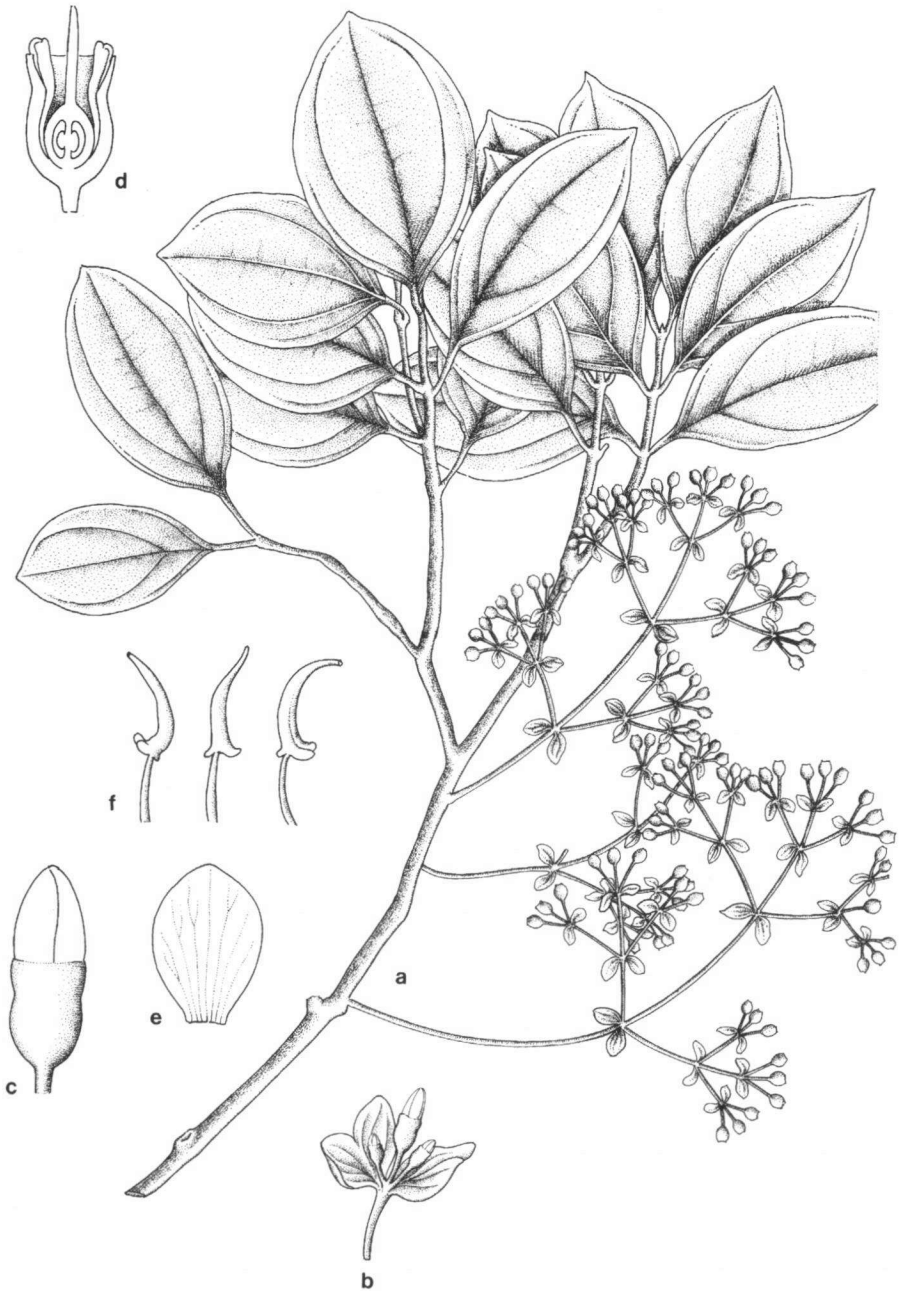


Fig. 9. *Medinilla mindorensis* Merr. a. Branch with inflorescence, $\times 0.5$; b. flowers in cyme, $\times 1$; c. flower in bud, $\times 2.5$; d. flower in longitudinal section; e. petal, both $\times 3$; f. stamens, $\times 3.5$ (all Merritt FB 11489, US).

8 mm long, 5 mm wide, membranous. *Stamens* unequal; shorter stamens with 3 mm long filaments and 4 mm long anthers, longer stamens with 4 mm long filaments and 4 mm long anthers. *Fruits* campanulate, 2–3 mm in diameter, constricted below the limb and crowned with undulating calyx lobes; stalks 2–3 mm long.

Distribution – Luzon (12 coll.), Mindoro (6), endemic.

Habitat – Along forested ridges and slopes of mossy forests or on summits at 600–1500 m altitude.

Vernacular names – Pangalau (Mang.), saring (Tagalog).

Note – Well-characterized by its diffuse panicles, small flowers, and prominent bracts and bracteoles.

21. *Medinilla ovalis* Merr.

Medinilla ovalis Merr., Philipp. J. Sc., Bot. 4 (1909) 303. — Type: *Curran FB 12387* (holo PNH†, n.v.), Luzon, Albay/Sorsogon, Adlumoy Hills. Neotype, here designated: *Sulit PNH 3652* (PNH; iso A, L), Luzon, Sorsogon, Mt Bulusan, July 1947.

Medinilla epiphytica Merr., Philipp. J. Sc., Bot. 8 (1913) 242, syn. nov. — Type: *Ramos BS 15002* (holo PNH†; lecto K, here designated; iso G), Luzon, Laguna, Dahican River.

Scandent epiphytic glabrous shrub 2–3 m high. Branches terete, 5–6 mm in diameter, bark greyish-brown, striate; branchlets slightly angular, smooth to striate; nodes not setose. *Leaves* opposite, petiolate; shorter petioles 7–12 mm long, longer petioles 15–18 mm long; blades coriaceous, drying dull green above, reddish brown below, widely ovate to rotund; subequal, larger leaves 9–11 cm long, 5–7 cm wide; smaller leaves 5–8 cm long, 3–6 cm wide; apices acute; bases obtuse to rounded; 5-plinerved, nerves faintly visible adaxially, obsolete to absent abaxially; transverse veins reticulate, very faintly visible. *Inflorescences* terminal, few-flowered panicles, 9–11 cm long; peduncles more or less fleshy, purplish to red; secondary branches in whorls of 4; bracts linear-lanceolate, 3–4 mm long, 1–1.5 mm wide, persistent; bracteoles subulate, up to 1 mm long, persistent; pedicels slender, terete, 3–4 mm long. *Flowers* 4-merous. *Hypanthia* campanulate, 3 mm long, 2 mm wide, denticulate. *Petals* obliquely obovate, 6 mm long, 3 mm wide. *Stamens* equal; filaments flattened, 3–4 mm long; anthers 3–3.5 mm long. *Fruits* globose, 4–5 mm in diameter, constricted below limb and crowned with calyx lobes; stalks 5–7 mm long.

Distribution – Southern Luzon (7 coll.), Samar (2), Leyte (1), Panay (3), endemic.

Habitat – In primary forests at 400–600(–1000) m altitude.

22. *Medinilla brevipes* Merr.

Medinilla brevipes Merr., Philipp. J. Sc., Bot. 8 (1913) 241. — Type: *Foxworthy & Ramos BS 13179* (holo PNH†, n.v.), Luzon, Tayabas, Quinatacutan R. Neotype, here designated: *Ramos & Edaño BS 28833* (US), Luzon, Tayabas, Mt Binuang, May 1917.

Epiphytic glabrous shrub. Branches terete, 10–15 mm in diameter, bark striate, light brown; branchlets subquadrangular; nodes not setose. *Leaves* opposite, shortly petiolate; petioles stout, thickened, 2–3(–5) mm long, 5–7 mm across, reddish when dry; blades subcoriaceous, elliptic to oblong-elliptic, 11–13 cm long, 6–7 cm wide; apices acute to shortly acuminate; bases broadly rounded, distinctly cordate; 5- or



Fig. 10. *Medinilla whitfordii* Merr. a. Branch with inflorescence, $\times 0.5$; b. flower in bud; c. flower in longitudinal section, both $\times 2$; d. stamen, $\times 5$; e. fruit; f. fruit in cross section, both $\times 1$; g. seeds, $\times 5$ (all *Regalado 401*, CAHP).

occasionally 7-plinerved, nerves faintly distinct, flattened on both surfaces; transverse veins faintly visible adaxially, absent abaxially. *Inflorescences* terminal, many-flowered panicles 15–20 cm long; peduncles 10–12 cm long, reddish; secondary branches in whorls of 4, the whorls spaced 3–5 cm apart; bracts lanceolate, 5–10 mm long, 2–3 mm wide, persistent; bracteoles minute, subulate, caducous; pedicels 5 mm long. *Flowers* 4-merous. *Hypanthia* campanulate, 3–4 mm long, 2–3 mm wide, shallowly denticulate. *Petals* obliquely ovate, mucronulate at tip, 4–5 mm long, 3 mm wide. *Stamens* equal; filaments terete, 1.5–2 mm long; anthers curved, 3 mm long. *Fruits* campanulate to globose, 4–5 mm in diameter; stalks 5–6 mm long.

Distribution – Luzon (6 coll.), Mindoro (1), Panay (2), endemic.

Habitat – In primary forests at low elevations (0–500 m).

Note – Very closely related to *M. ovalis* Merr. but distinguished by its larger, elliptic, broadly rounded leaves with cordate bases and very stout petioles.

23. *Medinilla coronata* Regalado, *nom. nov.*

Carionia elegans Naudin, Ann. Nat. Sc. III, 15 (1850) 312, non *Medinilla elegans* Elmer (1911). — Type: *Callery s.n.* (holo P, n.v.), Luzon.

Terrestrial tree, glabrous. Branches terete; terminal branchlets quadrangular; nodes not setose. *Leaves* opposite, long petiolate; petioles flattened, 10–12 mm long; blades coriaceous, elliptic, 7–7.5 cm long, 3–3.5 cm wide; apices acuminate; bases acute; 5-plinerved; nerves impressed adaxially, raised abaxially; transverse veins absent from both surfaces. *Inflorescences* terminal cymes 5–8 cm long; peduncles erect, 3–4 cm long, slightly quadrangular; bracts absent; bracteoles linear, 3 mm long; pedicels quadrangular, thickened, 8 mm long. *Flowers* 6-merous. *Hypanthia* narrowly campanulate, ribbed, 12 mm long, 7 mm wide, crowned with spreading lobes 4–5 mm long, 1 mm wide. *Petals* (in bud) obliquely ovate, apiculate at tip, 18 mm long, 10 mm wide, rather coriaceous, pink to rose-purple. *Stamens* subequal; filaments terete, 5 mm long; anthers straight, 8–9 mm long. *Fruits* subglobose, 10 mm in diameter; stalks 11 mm long.

Distribution – Luzon (Benguet, 7 coll.; Pampanga, 2), endemic.

Note – The transfer of *Carionia elegans* to *Medinilla* necessitates a new name because the epithet is already preempted in *Medinilla*. It is distinguished among other species by its 6-merous flowers with spreading 4–5 mm long calyx teeth.

24. *Medinilla whitfordii* Merr. — Fig. 10

Medinilla whitfordii Merr., Publ. Bur. Sc. Gov. Lab. 29 (1905) 37; Philipp. J. Sc., Bot. 5 (1910) 209. — Type: Whitford 961 (holo PNH†, n.v.; lecto US, here designated; iso NY), Luzon, Tayabas, Mt Banahao.

Carionia triplinervia Rolfe, J. Linn. Soc. 21 (1884) 310; Rev. Pl. Vasc. Filip. (1886) 136; Cogn. in DC., Monogr. Phan. 7 (1891) 571 (non *Medinilla triplinervia* Cogn.). — Type: Vidal 779 (holo K; iso L), Luzon, Albay, Mt Mayon.

Medinilla pulogensis Merr., Philipp. J. Sc., Bot. 5 (1910) 368, syn. nov. — Type: Curran, Merritt & Zchokke BS 18105 (holo PNH†; lecto US, here designated), Luzon, Benguet, Mt Pulog.

Erect glabrous shrub 3–5 m high. Branchlets terete, striate, 5–10 mm in diameter; nodes not setose. *Leaves* opposite, petiolate; petioles 5–10 mm long; blades coriaceous, elliptic-lanceolate to elliptic-oblong, 4–5(–6) cm long, 1.5–2 cm wide; apices acute to apiculate; bases acute; 3-plinerved; nerves slightly impressed adaxially, raised abaxially; transverse veins faintly distinct to absent from both surfaces. *Inflorescences* terminal cymes 5–7 cm long; peduncles terete, thickened, 4–6 cm long; bracts subtending cymes subulate, 10–12 mm long, deciduous; pedicels stout, 5–6 mm long. *Flowers* 5- to 6-merous. *Hypanthia* campanulate, 6 mm long, 5 mm wide and flared to a 7 mm wide rim, undulate to denticulate. *Petals* obovate-oblong, 10 mm long, 7 mm wide, coriaceous, concave. *Stamens* equal; filaments 3 mm long; anthers ovate-lanceolate, 4 mm long. *Fruits* subglobose, 10–12 mm in diameter, red, turning purple to black when ripe; stalks 10 mm long.

Distribution – Luzon (33 coll.), Negros (3), endemic.

Habitat – Mossy forests in high mountains of Luzon (Mts Pulog, Polis, Mayon, Banahao) and Negros (Mt Canlaon).

25. *Medinilla astronioides* Triana

Medinilla astronioides Triana, Trans. Linn. Soc. 28 (1871) 88; Fern.-Vill., Nov. App. (1880) 89; Vidal, Phan. Cuming. Philipp. (1885) 144, Rev. Pl. Vasc. Filip. (1886) 135; Cogn. in DC., Monogr. Phan. 7 (1891) 594; Merr., Publ. Bur. Sc. Gov. Lab. 29 (1905) 37, Philipp. J. Sc., Suppl. 1 (1906) 107; *Ibid.*, Bot. 2 (1907) 286. — Type: *Cuming 758* (holo P; iso BM, K, L, M, MO, NY), Luzon, Tayabas.

Medinilla bolsteri Merr., Philipp. J. Sc., Suppl. 1 (1906) 214, syn. nov. — Type: *Ahern's collector FB 3262* (holo PNH†; lecto US, here designated; iso NY), Luzon, Rizal, Bosoboso.

Medinilla versicolor Elmer, Leaflet Philipp. Bot. 4 (1911) 1214; Merr., Enum. Philipp. Flow. Pl. 3 (1923) 193, pro syn. *Medinilla astronioides* Triana. — Type: *Elmer 11824* (holo PNH†; lecto US, here designated; iso A, BISH, CAS, GH, L, MO, NY), Mindanao, Davao, Todaya, Mt Apo.

Medinilla acuminata Merr., Philipp. J. Sc., Bot. 8 (1913) 238, syn. nov. — Type: *Merrill 5667* (holo PNH†; lecto US, here designated; iso G), Mindoro, Mt Halcon.

Medinilla negrito Elmer, Leaflet Philipp. Bot. 9 (1934) 3203, syn. nov. — Type: *Elmer 22374* (holo PNH†; lecto GH, here designated; iso L, MICH, MO, NY, UC), Luzon, Pampanga, Mt Pinatubo.

Glabrous terrestrial shrub to small tree 2–4 m high. Branches terete, 3–5(–8) cm in diameter, smooth to slightly pustulate; terminal branchlets quadrangular but not winged, 5 mm in diameter; nodes not setose. *Leaves* opposite, long-petiolate; petioles terete, 20–25 mm long; blades chartaceous, oblong-elliptic to elliptic-ovate, 14–16(–18) cm long, 6.5–8.5(–11) cm wide; apices acuminate; bases obtuse; 5- to 7-plinerved, nerves impressed adaxially, raised abaxially; transverse veins numerous (> 30 pairs), reticulate. *Inflorescences* terminal cymes 5–10 cm long; peduncles terete, 3–5 cm long; bracts and bracteoles absent; pedicels terete, 4 mm long. *Flowers* 5-merous. *Hypanthia* campanulate, 5 mm long, 5 mm wide, denticulate. *Petals* obliquely obovate, mucronulate at tip, 10 mm long, 5 mm wide, thin, membranous. *Stamens* equal; filaments terete, 5 mm long; anthers rostrate, 4 mm long. *Fruits* globose, 5–6 mm in diameter, bright red to purple, turning black when ripe; stalks terete, 5–7 mm long.

Distribution – Luzon (4 coll.), Mindanao (4), Mindoro (2), endemic.

Habitat – In open areas or exposed forest slopes at 500–1500 m altitude.

Vernacular names – Tungaw tungaw a dakel (Ayta), tualos (Bagobo), talanak (Ifugao), bayangbong (Kalinga), kulowin-mambag (Tasaday).

Note – Chromosome count ($n = 21$) reported by Solt & Wurdack (1980).

26. *Medinilla purpurea* Elmer ex Merr.

Medinilla purpurea Elmer ex Merr., Philipp. J. Sc. 17 (1920) 298. — Type: *Ramos BS 23701* (holo PNH†; lecto US, here designated; iso A, L, NY), Luzon, Sorsogon, Mt Kilibong.

Scandent epiphytic glabrous shrub. Branches terete, deeply scarred at defoliated nodes; branchlets smooth, reddish turning yellowish-brown, 5–7 mm in diameter; nodes densely setose, bristles soft, 10–30 mm long. *Leaves* opposite, those of each pair very unequal, shorter leaf sessile, larger leaf petiolate; petioles thickened, 10–15 mm long; blades thickly coriaceous, oblong-elliptic, 22–23(–26) cm long, 8–10(–12) cm wide; apices obtuse, prolonged to a point 10 mm long; bases cordate; 7-plinerved, nerves flattened on both surfaces; transverse veins faintly distinct adaxially, absent abaxially. *Inflorescences* axillary, globose to ovoid heads c. 4 cm long; peduncles 23 cm long; bracts numerous, obovate, up to 15 mm long, 10 mm wide, red or purple; pedicels 2–4 mm long. *Flowers* 4-merous. *Hypanthia* campanulate, 7 mm long, 5 mm wide, glabrous, minutely denticulate. *Petals* obovate, 10 mm long, 5 mm wide. *Anthers* lanceolate, 6 mm long. *Fruits* ovoid, c. 10 mm in diameter, pink turning dark red.

Distribution – S Luzon (3 coll.), Catanduanes (2), endemic.

Habitat – Along damp forest streams at 400–700 m altitude.

Note – Distinguished from other species by its densely setose nodes, very unequal leaves, long-peduncled, capitate, and densely bracteate inflorescences.

27. *Medinilla cephalophora* Merr.

Medinilla cephalophora Merr., Philipp. J. Sc., Bot. 3 (1908) 250; C.B. Rob., Philipp. J. Sc., Bot. 8 (1911) 216. — Types: *Everett FB 4223* (syntype PNH†, n.v.), Negros, Cadiz Nuevo; *Bolster 290* (syntype PNH†, n.v.; lecto UC, here designated), Mindanao, Surigao, Biga Creek.

Scandent epiphytic glabrous shrub 1–2 m high. Branches terete, 15–20 mm in diameter, bark striate, pale brown; branchlets angled, narrowly winged, yellowish; nodes setose. *Leaves* opposite, equal, petiolate; petioles thickened, stout, 20–30 mm long; blades thickly coriaceous, drying dull green above, pale green below, narrowly elliptic-ovate, 18–24 cm long, 6–8 cm wide; apices long-acuminate to cuspidate; bases rounded, slightly cordate; 5-plinerved, nerves flattened on both surfaces; transverse veins absent. *Inflorescences* axillary, rarely terminal, many-flowered, cylindrical or globose heads, 2–3 cm long, arising from old stems or branches; peduncles stout, up to 10 mm long, unbranched, scarred by fallen pedicels of earlier flowers; bracts spatulate, distally ovate, narrowed at base, 14–16 mm long, 7 mm wide; pedicels slender, 4–5 mm long. *Flowers* 5-merous. *Hypanthia* narrowly campanulate, 5 mm long, 2 mm wide, red, glabrous, denticulate. *Petals* obliquely obovate, 9 mm long, 4 mm wide, pink, membranous. *Stamens* equal; filaments flattened, 5 mm long; anthers 5 mm long. *Fruits* urceolate, 5 mm in diameter, bright red turning blue when ripe; stalks 5–6 mm long.

Distribution — Catanduanes (1 coll.), Luzon (9), Polillo (2), Samar (6), Negros (1), Panay (3), Mindanao (7), endemic.

Habitat — In dense primary forest at (200–)600–800 m altitude.

Vernacular names — Darungol, katungao (Subano), mampol haguba (S-L Bisaya).

28. *Medinilla pinnatinervia* Merr.

Medinilla pinnatinervia Merr., Philipp. J. Sc., Bot. 8 (1913) 235. — Type: *Ramos BS 7483* (holo PNH†; lecto US, here designated), Luzon, Cagayan, Pamplona.

Epiphytic scandent shrub. Branches terete, 10–15 mm in diameter, bark knobby, dark brown; branchlets terete, slightly to densely setose, flexuous; nodes setose. *Leaves* opposite, those of each pair subequal; larger leaf petiolate, petioles thickened, flattened or angled, 15–30(–40) mm long, sparsely setose; smaller leaf subsessile; blades subcoriaceous, glabrous except for sparse bristles on lower leaf surface and along midvein, elliptic to elliptic-oblong, larger leaves 20–25 cm long, 8–10 cm wide, smaller leaves 10 cm long, 4 cm wide; apices acute to apiculate; bases acute; 9-plinerved or occasionally 11-plinerved; nerves flattened adaxially, raised abaxially; transverse veins reticulate, distinctly visible on both surfaces. *Inflorescences* axillary, branched racemes, fascicled on old wood. *Flowers* not seen. *Fruits* subglobose, 4-celled, purple or red, glabrous, crowned by persistent calyx lobes; stalks slender, terete, glabrous, 15–20 mm long.

Distribution — Luzon (Cagayan, 4 coll.), endemic.

29. *Medinilla polillensis* C.B. Rob.

Medinilla polillensis C.B. Rob., Philipp. J. Sc., Bot. 6 (1911) 217. — Type: *McGregor BS 10260* (holo PNH†; lecto US, here designated), Polillo.

Medinilla nodiflora C.B. Rob., Philipp. J. Sc., Bot. 6 (1911) 217, syn. nov. — Type: *Ramos BS 12005* (holo PNH†; lecto G, here designated), Luzon, Laguna, San Antonio, Papatahan.

Medinilla sorsogonensis Merr., Philipp. J. Sc., Bot. 11 (1916) 25, syn. nov. — Type: *Ramos BS 23556* (holo PNH†; lecto US, here designated; iso A), Luzon, Sorsogon, Mt Pocdal.

[*Medinilla bakeri* Elmer, Leaflet Philipp. Bot. 10 (1939) 3660, nom. inval. — Vouchers: *Elmer 14600* (A, GH, MO, NY, US), *14913* (A, G, GH, L, MO, NY, US).]

Scandent glabrous terrestrial shrub. Branches terete, 10 mm in diameter, rooting at the nodes, bark striate; branchlets quadrangular, winged, 4–5 mm in diameter; nodes not setose. *Leaves* opposite, equal, petiolate; petioles 30–50 mm long; blades chartaceous when dry; elliptic, subpeltate, 15–18 cm long, 7–8.5 cm wide; apices acute to acuminate; bases obtuse to rounded, emarginate to subcordate, 5- or occasionally 7-plinerved; nerves flattened on both surfaces; transverse veins faintly distinct adaxially, absent abaxially. *Inflorescences* short, few-flowered, twice-branched racemes, arising from old stem, up to 6 cm long; peduncles 2–3 cm long; bracteoles linear, up to 3 mm long, deciduous. *Flowers* 4-merous. *Hypanthia* obconical, 7–8 mm long, 2–3 mm wide, glabrous, truncate. *Petals* oblong to obovate, 12 mm long, 6 mm wide, pale white to pink. *Stamens* equal; filaments flattened, 6 mm long; anthers lanceolate, 6 mm long. *Fruits* subglobose, 8 mm in diameter; stalks stout, 10 mm long.

Distribution – Southern Luzon (12 coll.), Catanduanes (5), Polillo (1), Bohol (1), Leyte (1), endemic.

Habitat – In damp and shaded places in forests at 300–500 m altitude.

30. *Medinilla aurantiflora* Elmer — Fig. 11

Medinilla aurantiflora Elmer, Leafl. Philipp. Bot. 4 (1911) 1208. — Type: *Elmer 9934* (holo PNH†; lecto US, here designated; iso A, BISH, GH, L, MO, NY, U), Negros, Negros Oriental, Dumaguete, Cuernos Mts.

Medinilla cauliflora Merr., Philipp. J. Sc., Bot. 5 (1910) 207, non Hemsley (1895) = *Medinilla trunciflora* Merr., Philipp. J. Sc., Bot. 8 (1913) 247, nom. nov. — Type: *Curran FB 17397* (holo PNH†; lecto US, here designated), Negros, Canlaon Volcano.

Medinilla confertiflora Merr., Philipp. J. Sc. 17 (1920) 296, syn. nov. — Type: *Martelino & Edaño BS 35413* (holo PNH†; lecto US, here designated; iso A), Panay, Capiz, Libacao.

Erect shrub, up to 3 m high. Branches terete, glabrous, bark grey to yellowish; branchlets terete, covered with soft, yellow, stellate or plumose, deciduous hairs; nodes shortly setose, the bristles soft, yellowish, 5 mm long, deciduous. *Leaves* opposite, those of a pair subequal in size, shortly petiolate; petioles thickened, 3 mm long; blades subcoriaceous, glabrous in mature leaves, obovate-oblong, panduriform, 15–20 cm long, 8–9 cm wide; apices acuminate; bases auriculate lobed; 7-plinerved, lateral pair of nerves departing sequentially from midrib in wide spaces 1–2 cm apart, curving upward and joining midrib again at apex; transverse veins faintly visible above, distinctly reticulate below. *Inflorescences* axillary, many-flowered, dense, congested racemes, arising from base of stem, clustered on woody tubercles 15 cm long; peduncles highly branched; branches stout, multibracteate; bracts oblong-ovate, 9–10 mm long, persistent, pink to red; bracteoles subulate, 5 mm long; pedicels stout, 4–5 mm long. *Flowers* 4-merous. *Hypanthia* campanulate, 6–7 mm long, 3 mm wide, glabrous, acutely lobed. *Petals* obovate, apically acute, 10–14 mm long, 3.5–7 mm wide, orange red, glabrous, thin, membranous. *Stamens* subequal; filaments flattened, 6 mm long; anthers curved, 4 mm long. *Fruits* ovoid, 6 mm in diameter, crowned with persistent calyx lobes; stalks terete, 10 mm long.

Distribution – Sibuyan (1 coll.), Negros (5), Panay (2), endemic.

Habitat – In primary forests along rivers and streams at 900–1000 m altitude.

Vernacular name – Hognopilipogon (C. Bisaya).

31. *Medinilla surigaensis* Regalado, *nom. nov.*

Medinilla wenzelii Quisumb. & Merr., Philipp. J. Sc. 37 (1928) 182, non *Medinilla wenzelii* Merr. (1915). — Type: *Wenzel 3021* (holo UC; iso A, CAS, MO, NY), Mindanao, Surigao, Placer.

Scandent epiphytic glabrous shrub. Branches terete, 4 mm in diameter, bark grey to light brown; branchlets slender, angled or sulcate; nodes glabrous. *Leaves* quaternate, rarely ternate, petiolate; petioles flattened, 5–12 mm long; blades coriaceous, drying reddish-brown above, olive-brown below, ovate to elliptic-obovate, (3.5–) 4.5–6 cm long, (1.5–) 2.5–3 cm wide; apices obtuse; bases acute; 3-plinerved; nerves slightly impressed adaxially, raised abaxially; transverse veins absent from both surfaces. *Inflorescences* axillary, few-flowered cymes 2 cm long; peduncles 4–5



Fig. 11. *Medinilla aurantiflora* Elmer. a. Upper leafy branch; b. lower branch segment with inflorescence, both $\times 0.5$; c. flower; d. flower in longitudinal section, both $\times 3.5$; e. stamens, $\times 6$; f. fruit; g. fruit in cross section, both $\times 2$; h. seeds, $\times 10$ (all *Regalado 343*, CAHP).

mm long; bracts oblong-elliptic, 5–8 mm long, 6–10 mm wide; bracteoles absent; pedicel stout, 5 mm long. *Flowers* 4-merous. *Hypanthia* cup-shaped, 10 mm long, 5–6 mm wide, provided with scattered, spreading, rigid, lanceolate outgrowths up to 3 mm long, truncate. *Petals* broadly rounded-ovate, apiculate at tip, c. 6 mm long, 7 mm wide, fleshy. *Stamens* subequal; filaments flattened, 2–3 mm long; anthers rostrate, 4–6 mm long. *Fruits* cylindrical, provided with lanceolate outgrowths up to 3 mm long, 8–15 mm in diameter; stalks thickened, 5–6 mm long.

Distribution – Luzon (1 coll.), Polillo (1), Mindanao (1), endemic.

Habitat – In forest at low altitudes (0–150 m).

Vernacular name – Hagod (Tagalog).

Notes – Distinguished by its sulcate branchlets and appendaged hypanthium.

The name given to this distinctive species is a later homonym of *M. wenzelii* Merr. (1915), hence a new name is given to rectify this error. The holotype (*Wenzel 3021*) was specifically stated in the original description as having been deposited at UC.

32. *Medinilla antonii* Elmer

Medinilla antonii Elmer, Leaflet Philipp. Bot. 8 (1915) 2756. — Type: *Elmer 13633* (holo PNH†; lecto US, here designated; isol. BISH, CAS, GH, L, NY, U), Mindanao, Cabadbaran, Mt Urdaneta.

Scandent epiphytic shrub. Branches shallowly ribbed, knobby, 15–25 mm in diameter; branchlets sulcate, brown-pulverulent at tips; nodes not setose but provided with a reddish-brown cushion of hairs at leaf axils. *Leaves* quaternate, petiolate; petioles thickened, 7–10(–20) mm long; blades coriaceous, brown-pulverulent on abaxial side, indumentum more pronounced along nerves in young leaves, soon glabrescent in older leaves, 8–10 cm long, 2–2.5 cm wide; apices acute; bases attenuate; 3-plinerved, lateral pair of nerves arising 1.5–2 cm above the base, nerves slightly impressed adaxially, raised abaxially; transverse veins absent from both surfaces. *In-florescences* axillary, few-flowered umbels, arising in whorls of 4 or 5 from defoliated axils below the leaves; peduncles 1–1.5 cm long, terete or slightly angled; bracts and bracteoles absent; pedicels slender, 4–7 mm long. *Flowers* 5-merous. *Hypanthia* campanulate, 8–10 mm long, 7–8 mm wide, glabrous, truncate. *Petals* obovate or obovate-oblong, 22 mm long, 10 mm wide, white, glabrous, membranous. *Stamens* unequal; shorter stamens with 8 mm long filaments, 4 mm long anthers; longer stamens with 11 mm long filaments, 7 mm long anthers. *Fruits* not seen.

Distribution – Mindanao (Agusan, 2 coll.), Samar (1), endemic.

Habitat – In primary forests at c. 1000 m altitude.

Vernacular name – Itag, lagikan (Manobo).

Note – Large and white-flowered *Medinilla* named after Elmer's son, Anton.

33. *Medinilla obovata* Merr.

Medinilla obovata Merr., Philipp. J. Sc., Bot. 5 (1910) 208. — Type: *Curran FB 17353* (holo PNH†; lecto US, here designated), Negros, Mt Marapara.

Scandent epiphytic glabrous shrub. Branches terete, 8 mm in diameter, scarred, appearing jointed by defoliation; branchlets ribbed, brown-furfuraceous; nodes not

setose but provided with a cushion of rusty-brown hairs. *Leaves* quaternate, petiolate; petioles flattened, 5–12 mm long; blades coriaceous, glabrous, obovate, 3–4 cm long, 1.5–2 cm wide; apices obtuse to rounded; bases acute; 3-plinerved, nerves shallowly impressed adaxially, slightly raised abaxially; transverse veins absent. *Inflorescences* axillary, few-flowered umbels, arising from defoliated nodes below leaves; peduncles slender, terete, 1.5–2 cm long, slightly brown-pulverulent; bracts and bracteoles absent; pedicels slender, terete, 5–7 mm long. *Flowers* 5-merous. *Hypanthia* ovoid, 6 mm long, 4 mm wide, pulverulent, limb truncate. *Petals* obliquely obovate, 6 mm long, 4 mm wide, glabrous, coriaceous. *Stamens* equal; filaments flattened, 3 mm long; anthers rostrate, 5 mm long. *Fruits* cylindrical, glabrous, 5–8 mm in diameter; stalks 10 mm long.

Distribution – Luzon (Laguna, 1 coll.), Negros (2), endemic.

Habitat – In primary forests between 100–500(–750) m altitude.

34. *Medinilla malindangensis* Merr.

Medinilla malindangensis Merr., Philipp. J. Sc., Bot. 3 (1908) 250. – Type: *Mearns & Hutchinson* FB 4557 (holo PNH†; lecto US, here designated; iso NY), Mindanao, Misamis, Mt Malindang. *Medinilla burebidensis* Elmer, Leafl. Philipp. Bot. 4 (1911) 1229; Merr., Enum. Philipp. Flow. Pl. 3 (1923) 199, pro syn. *Medinilla malindangensis* Merr. — Type: *Elmer 11839* (holo PNH†; lecto US, here designated; iso A, BISH, CAS, GH, L, MO, NY, U), Mindanao, Davao, Mt Apo.

Medinilla permicrophylla Elmer, Leafl. Philipp. Bot. 4 (1911) 1230, syn. nov. — Type: *Elmer 11226* (holo PNH†; lecto US, here designated; iso A, BISH, DS, GH, L, MO, NY, U), Mindanao, Davao, Mt Apo.

Scandent epiphytic glabrous shrub 2 m high. Branches terete, bark greyish or yellowish-brown, glabrous; branchlets slender, 3–4 mm in diameter, slightly ribbed or sulcate, not winged; nodes not setose. *Leaves* ternate or quaternate, shortly petiolate; petioles slender, 2–3(–5) mm long; blades coriaceous, drying reddish-brown to deep green above, yellowish-brown below, elliptic-obovate, 1.8–3.5(–4) cm long, 0.8–1.5(–1.7) cm wide; apices acute or acuminate to obtuse; bases acute; 3- to 5-plinerved, nerves flattened adaxially, slightly raised abaxially; transverse veins faintly to distinctly visible above, absent below. *Inflorescences* axillary, few-flowered cymes, up to 2 cm long; peduncles terete or angled, slender, 0.5–0.8 cm long; bracts absent; bracteoles subulate, 2 mm long. *Flowers* not seen. *Fruits* campanulate to cup-shaped, 5–8 mm in diameter, 5-celled; stalks terete, 5–6 mm long.

Distribution – Mindanao (Agusan, 1 coll.; Davao, 8; Misamis, 1), endemic.

Habitat – In primary forests between 1300–2000 m altitude.

Vernacular names – Kapelala, kayaupang (Bagobo).

Note – Variable in leaf size and nervation. *Elmer 11254a* (sub *M. robinsonii*) from Mt Apo and also *Mearns & Hutchinson* FB 4557 from Mt Malindang have larger 5-plinerved leaves.

35. *Medinilla membranacea* Merr.

Medinilla membranacea Merr., Philipp. J. Sc., Bot. 12 (1917) 346. — Type: *Fénix* BS 28361 (holo PNH†; iso A, BM, K, NY, US), Luzon, Apayao, Mt Sulu.

Erect glabrous shrub c. 1 m high. Branches terete, 4 mm in diameter, bark ochraceous; branchlets slender, terete, yellowish; nodes not setose. *Leaves* ternate, shortly petio- late; petioles terete, 2–3 mm long; blades subcoriaceous, narrowly elliptic, 3.5–4.5 cm long, 1–1.5 cm wide; apices long-acuminate; bases acute to attenuate; uninerved, nerves impressed adaxially, slightly raised abaxially; transverse veins absent from both surfaces. *Inflorescences* axillary, few-flowered cymes; peduncles c. 8 mm long; bracts and bracteoles absent; pedicels c. 8 mm long. *Flowers* not seen. *Fruits* globose, 5 mm in diameter, 5-celled; stalks terete, very slender, 10–12 mm long.

Distribution – Luzon (Apayao), known only from the type collection, endemic.

Habitat – In damp forests on rocky slopes at c. 800 m altitude.

Note – Distinguished by its ternate, uninerved, and narrowly elliptic leaves.

36. *Medinilla quadrifolia* (Blume) Blume — Fig. 12

Medinilla quadrifolia (Blume) Blume, *Flora* 14 (1831) 509; Bakh. f., *Rec. Trav. Bot. Néerl.* 40 (1943) 161; Furtado, *Gard. Bull. Sing.* 20 (1963) 118; J.F. Maxwell, *Gard. Bull. Sing.* 31 (1978) 169. — *Melastoma quadrifolium* Blume, *Bijdr. Fl. Ned. Ind.* (1826) 1069. — Type: *Blume s.n.* (holo L; iso K), Java, Mt Salak.

Medinilla mindanaensis Merr., *Publ. Bur. Sc. Gov. Lab* 29 (1905) 34, syn. nov. — Type: *Copeland 439* (holo PNH†; lecto US, here designated; iso NY), Mindanao, Davao.

Medinilla verticillata Merr., *Publ. Bur. Sc. Gov. Lab.* 29 (1905) 34, syn. nov. - Type: *Elmer 6080* (holo PNH†; lecto US, here designated; iso NY, PNH), Luzon, Benguet, Sablan.

Medinilla bagobo Elmer, *Leafl. Philipp. Bot.* 4 (1911) 1212, syn. nov. — Type: *Elmer 11617* (holo PNH†; lecto US, here designated; iso A, BISH, L, MO, NY), Mindanao, Davao, Mt Apo.

Medinilla duodecandra Merr., *Philipp. J. Sc., Bot.* 8 (1913) 229, syn. nov. — Type: *Weber 1010* (holo PNH†; lecto US, here designated; iso A, CAS, GH, UC), Mindanao, Butuan, Mt Hilong-hilong.

Medinilla mirandae Merr., *Philipp. J. Sc., Bot.* 8 (1913) 231, syn. nov. — Type: *Miranda FB 18922* (holo PNH†; lecto BM, here designated), Mindanao, Basilan, Mt Calvario.

Medinilla subumbellata Merr., *Philipp. J. Sc., Bot.* 8 (1913) 232, syn. nov. — Type: *Merrill 5660* (holo PNH†; lecto US, here designated; iso G, NY), Mindoro, Mt Halcon.

Medinilla affinis Merr., *Philipp. J. Sc., Bot.* 10 (1915) 281, syn. nov. — Type: *Wenzel 1003* (holo PNH†; lecto A, here designated), Leyte, Jaro.

Medinilla trianae Merr., *Philipp. J. Sc., Bot.* 12 (1917) 352. — Type: *Ramos Phil. Pl. 1131* (holo PNH†; lecto US, here designated), Luzon, Laguna, Dahican River.

[*Medinilla pachyphylla* Elmer, *Leafl. Philipp. Bot.* 10 (1939) 3665, nom. inval. — Voucher: *Elmer 17094* (A, GH, L, NY, S, U, UC, US).]

Scandent epiphytic glabrous shrub. Branches terete, 5–10 mm in diameter; bark light brown, striate; branchlets terete, slender; nodes not setose. *Leaves* quaternate, petio- late; petioles (15–)20–30 mm long; blades coriaceous, elliptic-obovate or oblong- lanceolate, 8–10 cm long, 4–5 cm wide; apices acuminate or mucronate; bases acute; 3- or 5-, rarely 7-plinerved, nerves flattened adaxially, raised abaxially, transverse veins faintly visible to absent. *Inflorescences* axillary, few-flowered cymes, cluster- ed or fascicled in 2s or 3s around a node on older branches below leaves, up to 5 cm long; bracts absent; bracteoles lanceolate, 5–6 mm long; peduncles terete, stout, 1.5– 2.5 cm long; pedicels 3–5(–7) mm long, 1 mm thick. *Flowers* 4-, 5- or 6-merous. *Hypanthia* cylindric, broadly ovoid or campanulate, 5–7 mm long, 3–4 mm wide, glabrous, truncate, pink to red. Petals narrowly obovate, 5–7(–10) mm long, 2–3 (–5) mm wide, white or pink. *Stamens* unequal; short stamens with 6 mm long an- thers, 5 mm long filaments; long stamens with 9 mm long anthers, 6 mm long fila-

ments. *Fruits* subglobose, 8–10 mm in diameter, green, turning red when ripe; stalks stout, 5–7 mm long.

Distribution – Malay Peninsula, Sumatra, Borneo, Java, Philippines (Luzon, 12 coll.; Mindoro, 1; Palawan, 1; Panay, 2; Samar, 2; Leyte, 3; Camiguin de Mindanao, 1; Mindanao, 17).

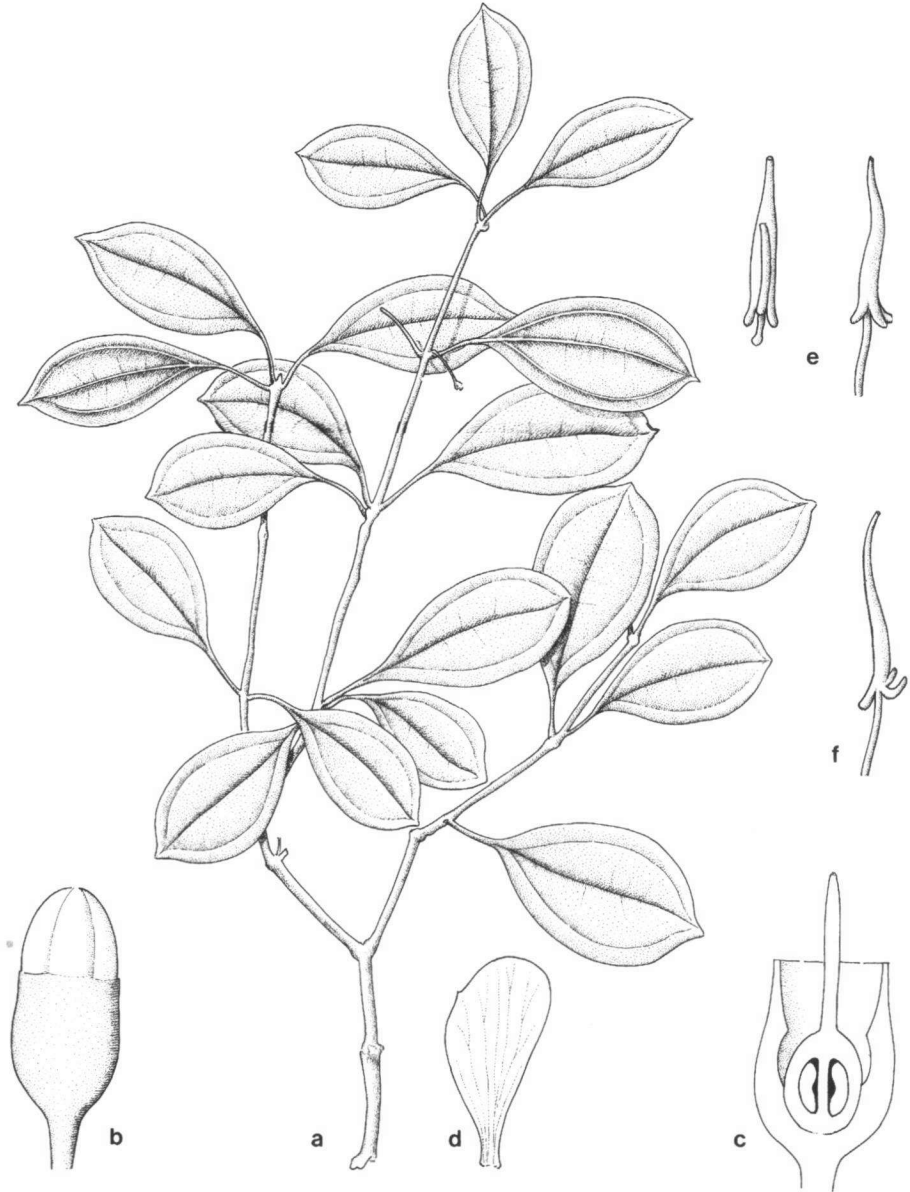


Fig. 12. *Medinilla quadrifolia* (Blume) Blume. a. Leafy branch segment, $\times 0.33$; b. flower in bud; c. flower in longitudinal section; d. petal, all $\times 5$; e. stamens with short anthers, $\times 3.5$; f. stamen with long anthers, $\times 2.5$ (all Elmer 16440, US).

Habitat – In primary forests from 300–500 m altitude.

Vernacular name – Liuyosan (Manobo).

Note – A large series of specimens reveal a range of floral organs from 4-, to 5-, and 6-merous. On *Elmer 6080* (type of *M. verticillata* Merr.), Elmer indicated that half of the flowers have 4 petals and 4-celled ovaries while the other half have 5 petals and 5-celled ovaries. *Medinilla duodecandra* Merr. was originally described as having 6-merous flowers but a close examination of the type specimen reveals 5-merous flowers. Many specimens examined intergrade in habit, vegetative and inflorescence characters, suggesting a highly variable or polymorphic species.

37. *Medinilla megacalyx* Merr.

Medinilla megacalyx Merr., Publ. Bur. Sc. Gov. Lab. 29 (1905) 36. — Type: *Ahern's collector FB 1514* (holo PNH†; lecto US, here designated; iso NY), Luzon, Bataan, Mt Mariveles.

Scandent epiphytic glabrous shrub. Branches terete, slender, 5 mm in diameter; the branchlets terete; nodes not setose. *Leaves* ternate, occasionally quaternate, petiolate; petioles 10–15 mm long; blades coriaceous, obovate or elliptic-ovate, 6–7 cm long, 2.5–3 cm wide; apices abruptly acuminate; bases attenuate, slightly decurrent with upper part of petiole; 3-plinerved, lateral pair of nerves departing from midrib 0.5–1 cm from base, nerves flattened on both surfaces; transverse veins faintly distinct on both surfaces. *Inflorescences* axillary, few-flowered cymes; peduncles 2.5–3 cm long; bracts and bracteoles absent; pedicels stout, 3 mm long. *Flowers* 5-merous. *Hypanthia* narrowly campanulate, 10 mm long, 6 mm wide, widened to 7 mm at the limb, denticulate. *Petals* obliquely obovate, 20 mm long, 10 mm wide. *Stamens* unequal; shorter stamens with 3 mm long filaments, 8 mm long anthers; longer stamens with 3 mm long filaments, 10 mm long anthers. *Fruits* campanulate, 7–10 mm in diameter; stalks stout, 5 mm long.

Distribution – Luzon (Bataan, 1 coll.; Rizal, 1), endemic.

Habitat – In mossy forest at mid-elevations.

Vernacular name – Lingai (Tagalog).

38. *Medinilla mearnsii* Merr.

Medinilla mearnsii Merr., Philipp. J. Sc., Bot. 8 (1913) 230. — Type: *Mearns & Hutchinson FB 4685* (holo PNH†; lecto US, here designated), Mindanao, Misamis, Mt Malindang.

Scandent glabrous shrub. Branches terete, 8 mm in diameter, bark pale brown; branchlets terete; nodes not setose. *Leaves* usually ternate or sometimes quaternate, petiolate; petioles stout, thickened, 35–45 mm long; blades coriaceous, ovate-oblong, 12–15 cm long, 6–8 cm wide; apices acute; bases rounded, slightly cordate; 5-plinerved, nerves slightly impressed adaxially, flattened abaxially; transverse veins absent. *Inflorescences* axillary, few-flowered cymes; peduncles 5 mm long; flowers in bud ellipsoid, 5-merous, 12 mm long, limb truncate. *Mature flowers* and *fruits* not seen.

Distribution – Mindanao (Misamis), known only from the type collection, endemic.

Habitat – In primary forests at 900–1000 m altitude.

39. *Medinilla curranii* Merr.

Medinilla curranii Merr., Philipp. J. Sc., Bot. 4 (1909) 302. — Type: *Curran FB 12289* (holo PNH†; lecto US, here designated), Luzon, Camarines, Caramoan.

Scandent epiphytic glabrous shrub. Branches ribbed, 5–6 mm in diameter, bark striate, greyish-white, branchlets sulcate; nodes not setose. *Leaves* quaternate, petiolate; petioles thickened, 15–20 mm long; blades subcoriaceous, elliptic-ovate, 8–11 cm long, 4–5.5 cm wide; apices acute to obtuse; bases acute; 5-plinerved, nerves slightly impressed adaxially, raised abaxially; transverse veins absent from both surfaces. *Inflorescences* axillary, few-flowered cymes, arising from axils of defoliated nodes; peduncles c. 1 cm long; bracts and bracteoles absent; pedicels 3–5 mm long. *Flowers* 4-merous. *Hypanthia* cylindric, 10 mm long, 5–6 mm wide, denticulate. *Petals* narrowly obovate, 20 mm long, 9 mm wide. *Stamens* equal; filaments 10 mm long; anthers 8 mm long. *Fruits* not seen.

Distribution – Southern Luzon (Tayabas, 1 coll.; Camarines, 2), endemic.

Habitat – In forests at low elevations.

Note – Distinguished from *M. quadrifolia* (Blume) Blume by its large 4-merous flowers and sulcate branchlets.

40. *Medinilla sulcata* Quisumb. & Merr.

Medinilla sulcata Quisumb. & Merr., Philipp. J. Sc. 37 (1928) 181. — Type: *Ramos & Edaño BS 46549* (holo PNH†; lecto US, here designated; iso A, K, NY, UC), Luzon, Cagayan, Penablanca.

Scandent epiphytic glabrous shrub. Branches sulcate or 8-angled, winged, rooting at internodes, c. 5 mm in diameter; branchlets sulcate; nodes not setose. *Leaves* quaternate, petiolate; petioles terete, (10–)15–20 mm long; blades subcoriaceous, oblong-elliptic, 6.5–11 cm long, 3–6 cm wide; apices acuminate; bases acute; 3- to 5-plinerved, nerves flattened above and below; transverse veins absent. *Inflorescences* axillary, few-flowered cymes, fascicled in 2s to 5s in axils of fallen leaves; peduncles up to 2 mm long; bracts and bracteoles absent; pedicels slender, 10–17 mm long. *Flowers* 6-merous. *Hypanthia* campanulate, 5–6 mm long, 4–4.5 mm wide, glabrous, denticulate. *Petals* oblong-obovate, 11 mm long, 7.5 mm wide, glabrous, membranous. *Stamens* unequal; shorter stamens with 5 mm long filaments, 6 mm long anthers; longer stamens with 6 mm long filaments, 7 mm long anthers. *Fruits* not seen.

Distribution – Northern Luzon (Cagayan), known only from the type collection, endemic.

Habitat – Along forested streams at low elevations.

Note – Similar to *M. pterocaula* (Blume) Blume from Java and Borneo in climbing habit, winged branches, and whorled leaves.

41. *Medinilla multialata* Quisumb. & Merr.

Medinilla multialata Quisumb. & Merr., Philipp. J. Sc. 37 (1928) 178. — Type: *Ramos & Edaño BS 49447* (holo PNH†; lecto US, here designated; iso NY, UC), Mindanao, Davao, Mt Mayo.

Scandent epiphytic glabrous shrub. Branches 8-angled, sulcate, 5 mm in diameter, bark yellowish-brown; nodes not setose. *Leaves* quaternate, those leaves in a whorl subequal in size, petiolate; petioles thickened, 10–15 mm long; blades subcoriaceous, obovate-elliptic to broadly elliptic, 14–18 cm long, 8–10 cm wide; apices abruptly acuminate to mucronate; bases attenuate, spatulate; 7-plinerved, nerves flattened above and below; transverse veins faintly visible. *Inflorescences* axillary, few-flowered cymes up to 7.5 cm long; peduncles 1.5–5 cm long. *Flowers* not seen. *Fruits* obovoid, 10–12 mm in diameter, 5-celled, reddish-black when ripe; stalks 10–12 mm long.

Distribution – Mindanao (Davao), endemic.

Habitat – On damp forested slopes at c. 1000 m altitude.

Note – Resembles *M. pterocaula* (Blume) Blume of Java and Borneo and *M. crispata* (L.) Blume of the Moluccas in having winged branches and quaternate leaves but differing in its much larger, broadly elliptic to obovate-elliptic and 7-plinerved leaves.

42. *Medinilla umbellata* Merr.

Medinilla umbellata Merr., Philipp. J. Sc. 17 (1920) 299. — Type: *Ramos & Pascasio BS 34744* (holo PNH†; lecto US, here designated; iso K), Mindanao, Surigao.

Scandent glabrous shrub. Branches terete, 5 mm in diameter, pustulate; nodes not setose. *Leaves* ternate, shortly petiolate; petioles stout, at least 5 mm long; blades coriaceous, drying brownish green above, chocolate brown below, obovate-elliptic, 19–23 cm long, 9–11 cm wide; apices acute to obtuse; bases attenuate; 7- to 9-plinerved, nerves impressed adaxially, raised abaxially; transverse veins parallel, 25–30 pairs, distinctly visible on both surfaces. *Inflorescences* axillary, few-flowered umbels 4.5 cm long, arising from leafless nodes; peduncles 3.5–5 cm long; bracts linear to narrowly elliptic; pedicels 3 mm long. *Flowers* in bud ovoid, 7 mm long, 5 mm wide, densely brown-ferruginous, 5-lobed. *Mature flowers* and *fruits* not seen.

Distribution – Mindanao (Surigao; 2 coll.), endemic.

Habitat – In forests along streams at low elevations.

43. *Medinilla umbrina* Elmer

Medinilla umbrina Elmer, Leaf. Philipp. Bot. 4 (1911) 1215. — Type: *Elmer 11496* (holo PNH†; lecto US, here designated; iso A, BISH, CAS, GH, L, MO, NY), Mindanao, Davao, Todaya, Mt Apo.

Erect shrub, 2–3 m high, young parts densely covered with scurfy, rusty brown scales. Branches terete, 5–6 mm in diameter, bark striate, glabrous, sparsely pustulate; branchlets sulcate or ribbed, ferruginous; nodes not setose. *Leaves* quaternate, petiolate; petioles flattened, thickened, glabrous, 15–25 mm long; blades coriaceous, glabrous above, rusty brown below, elliptic to elliptic-oblong, 13–15(–24) cm long, 6–7(–12) cm wide; apices apiculate; bases acute; 7-plinerved, nerves impressed adaxially, raised abaxially; transverse veins parallel, numerous (more than 50 pairs), reticulations distinct on both surfaces. *Inflorescences* axillary, few- to many-flowered cymes, 5–7(–12) cm long; peduncles slender, 3–6 cm long, ferruginous; bracts and

bracteoles absent; pedicels stout, 3 mm long. *Flowers* 5-merous. *Hypanthia* cup-shaped, almost globose, 5 mm long, 5 mm wide, ferruginous; limb undulate. *Petals* concave, 3 mm long, 2 mm wide, coriaceous. *Stamens* equal; filaments 1 mm long; anthers stout, 1.5 mm long. *Fruits* globose, 10 mm in diameter; stalks 3–4 mm long, fruits and stalks covered with fine, rusty brown, scurfy scales.

Distribution – Mindanao (Bukidnon, 1 coll.; Davao, 1), endemic.

Habitat – In forested ravines at 1800–2000 m altitude.

Vernacular names – Kalayan (Bagobo), langanasi (Bukidnon).

Note – Distinguished by the numerous parallel veined leaves. The name alludes to the densely brown-ferruginous indument of young branchlets and leaves.

44. *Medinilla elegans* Elmer

Medinilla elegans Elmer, Leafl. Philipp. Bot. 4 (1911) 1213. — Type: *Elmer 11311* (holo PNH†; lecto US, here designated; iso A, BISH, GH, L, MO, NY, U), Mindanao, Davao, Todaya, Mt Apo.

Scandent epiphytic shrub, 2–3 m high. Branches terete, 10 mm in diameter, glabrous, bark yellowish-brown; branchlets minutely brown-furfuraceous, terete, slender, 6 mm in diameter; nodes not setose. *Leaves* quaternate, petiolate; petioles minutely brown-furfuraceous, 20–30(–40) mm long; blades coriaceous, glabrous above, sparsely furfuraceous to glabrescent below, broadly elliptic to oblong, 9–11(–13) cm long, 6–7(–8) cm wide; apices acuminate; bases rounded, subcordate near position of petiole; 7-plinerved, nerves slightly impressed adaxially, raised abaxially; transverse veins absent from both surfaces. *Inflorescences* axillary, few-flowered, umbellate cymes, arising from defoliated nodes below leaves, 4–5 cm long; peduncles stout, terete, 2.5–3 cm long, sparsely brown-furfuraceous; bracts and bracteoles subulate, 2 mm long; pedicels stout, 3 mm long, brown puberulent. *Flowers* 6-merous. *Hypanthia* campanulate, 7 mm long, 8–10 mm wide, sparsely brown-furfuraceous, truncate. *Petals* obliquely obovate, 23 mm long, 17 mm wide, delicate, membranous, glabrous. *Stamens* equal, filaments flattened, 3 mm long; anthers curved, 6 mm long. *Fruits* globose, 10–15 mm in diameter; stalks stout, 7 mm long.

Distribution – Mindanao (Bukidnon, 1 coll.; Davao (Mt Apo), 3), endemic.

Habitat – In primary forests at 1200–1300 m altitude.

Vernacular name – Tualos (Bagobo).

45. *Medinilla furfuracea* Merr.

Medinilla furfuracea Merr., Philipp. J. Sc., Bot. 8 (1913) 245. — Type: *Ramos BS 15224* (holo PNH†; lecto US, here designated), Leyte, Dagami.

Scandent shrub c. 1 m high. Branches terete, 10–12 mm in diameter, glabrous, bark yellowish, cracked; branchlets terete, slender, brown-furfuraceous; nodes not setose. *Leaves* quaternate, long-petiolate; the petioles thickened, canaliculate, furfuraceous, (20–)30–50 mm long; blades coriaceous, in young leaves densely but minutely furfuraceous on abaxial surface and soon glabrate with age, drying bluish-green above, reddish-brown below, elliptic-ovate, 13–17 cm long, 6–7.5 cm wide; apices acute;

bases subcordate; 5-plinerved, nerves impressed adaxially, raised abaxially; transverse veins distinct on both surfaces. *Inflorescences* axillary, few-flowered umbels 9–12 cm long; peduncles stout, 6–8 cm long, brown-furfuraceous; bracts and bracteoles absent; pedicels slender, c. 15 mm long. *Flowers* 5-merous. *Hypanthia* campanulate, 7 mm long, 5 mm wide, minutely brown-furfuraceous, limb denticulate. *Petals* oblong-obovate, 23 mm long, 12 mm wide, glabrous, white. *Stamens* unequal; shorter stamens with 7 mm long filaments, 11 mm long anthers; longer stamens with 8 mm long filaments, 13 mm long anthers. *Fruits* not seen.

Distribution – Samar (2 coll.), Leyte (2), endemic.

Habitat – In primary forests at low altitudes (0–200 m).

Note – Distinguished by its umbellate inflorescences, brownish-black tomentum, and large flowers with white petals.

46. *Medinilla multinervia* Merr.

Medinilla multinervia Merr., Philipp. J. Sc., Bot. 8 (1913) 247. — Type: *Ramos BS 15386* (holo PNH†; lecto US, here designated; iso BM, G, K), Leyte, Dagami, Mt Ibuni.

Scandent epiphytic glabrous shrub. Branches sulcate, angles winged, crisp, 8–10 mm in diameter; nodes not setose. *Leaves* opposite, petiolate; petioles widely flattened, 25–30 mm long; blades chartaceous, widely obovate to rotund, 12–19 cm long, 9.5–14 cm wide; apices obtuse; bases rounded, subcordate; 13-plinerved, nerves impressed adaxially, raised abaxially; transverse veins numerous (more than 50 pairs), parallel, reticulately veined. *Flowers* not seen. *Fruits* globose, 15 mm in diameter, 6-celled; stalks 8–10 mm long.

Distribution – Leyte, known only from the type collection, endemic.

Habitat – In damp forests along streams at mid-elevations.

Note – Distinguished from other species in this group by its large fruits, crisped branches, 13-plinerved and reticulately veined leaves.

47. *Medinilla crassata* Elmer

Medinilla crassata Elmer, Leaf. Philipp. Bot. 4 (1911) 1208. — Type: *Elmer 9311* (holo PNH†; lecto L, here designated; iso NY), Luzon, Tayabas, Lucban, Mt Banahao.

Medinilla gracilipes Merr., Philipp. J. Sc., Bot. 8 (1913) 236, syn. nov., non *Medinilla gracilipes* Merr. (1913). — Type: *Loher 6275* (holo PNH†; lecto M, here designated), Luzon, Rizal, Angilog.

Erect or scandent, glabrous shrub 0.5–1 m high. Branches terete, slender; branchlets angular, compressed, winged; nodes not setose. *Leaves* opposite, petiolate; petioles 10–15(–20) mm long, reddish; blades chartaceous, lanceolate to oblong-lanceolate, 6–10 cm long; 2–3 cm wide; apices long-acuminate; bases acute to obtuse; 3-plinerved, nerves leaving 2–3 mm above the base, traversing submarginally and confluent at the top; transverse veins faintly distinct on both surfaces. *Inflorescences* axillary, pendent panicles up to 15 cm long; peduncles up to 10 cm long, the branches whorled, purplish-tinged; bracts linear-lanceolate, c. 2 mm long; pedicels slender, 8 mm long. *Flowers* 4-merous. *Hypanthia* campanulate, 4 mm long, 2 mm wide, purplish-tinged, denticulate. *Petals* elliptic-ovate, acute at tip, 6–8 mm long, 4–5 mm wide,

membranous, lilac or very pale pink. *Stamens* equal; filaments flattened, 5 mm long; anthers curved, 5 mm long. *Fruits* globose, 5–6 mm in diameter; stalks 10–15 mm long.

Distribution – Luzon (Rizal, 9 coll.; Tayabas, 5), endemic.

Habitat – In mossy forests at 800–1200 m altitude.

Note – This species can be distinguished from *M. crassifolia* by its leaves with abaxially red midrib and its axillary inflorescences with long peduncles.

48. *Medinilla crassifolia* (Reinw. ex Blume) Blume

Medinilla crassifolia (Reinw. ex Blume) Blume, Flora 14 (1831) 511; Bakh. f., Rec. Trav. Bot. Néerl. 40 (1943) 188. — *Melastoma crassifolium* Blume, Bijdr. Fl. Ned. Ind. (1826) 1075. — Type: Reinwardt s.n. (holo L), Java.

Epiphytic shrub, up to 1 m high, climbing or scrambling. Branches terete, smooth to sparsely pustulate, glabrous, 4–5 mm in diameter; nodes not setose. *Leaves* opposite, glabrous on both surfaces, compact to erectopate, petiolate to sessile; petioles up to 20 mm long; blades coriaceous, shape variable from elliptic-lanceolate to ovate, (8–)10–19 cm long, 3–8 cm wide; apices acuminate, prolonged to an acumen 1–1.5 cm long; bases variable, ranging from rounded to emarginate or subcordate; 3-plinerved, nerved impressed adaxially, raised abaxially; transverse veins obscure to invisible on both surfaces. *Inflorescences* axillary, few- to many-flowered cymes, one or three together on defoliated node; peduncles 1–3 cm long, red, pendent or erect; pedicels 3–5 mm long. *Flowers* 4- or 5-merous. *Hypanthia* campanulate, truncate, smooth, glabrous, pink to red, (2.5–)4–5 mm long, 3 mm wide. *Petals* elliptic-oblong to obovate, 4–6 mm long, 3 mm wide, membranous, delicately veined, creamy-white to translucent white. *Stamens* equal; filaments flattened, 1–3 mm long; anthers linear to ovate-lanceolate, slightly rostrate, 2–4 mm long. *Fruits* globose, 4–6 mm across, orange to red when ripe; stalks 3–5 mm long; seeds minute, 1 mm long.

Distribution – Malay Peninsula, Sumatra, Java, Borneo, Sulawesi, Philippines (Panay).

Note – Only one specimen of the species from the Philippines seen at US (*Ramos & Edaño BS 31215*).

49. *Medinilla peltata* Merr.

Medinilla peltata Merr., Philipp. J. Sc., Bot. 12 (1917) 348. — Type: *McGregor BS 18953* (holo PNH†; lecto US, here designated), Biliran, Mt Suiro.

Epiphytic scandent glabrous shrub, 3–4 m high. Branches terete, 5 mm in diameter, bark greyish-green, rooting at nodes; branchlets angular but not winged; nodes not setose. *Leaves* opposite, subpeltate, petiolate; petioles terete, flexuous, 20–30 mm long; blades coriaceous, ovate, 11–13.5 cm long, 5.5–6 cm wide; apices long-acuminate; bases rounded; 5-plinerved, nerves flattened on both surfaces; transverse veins absent from both surfaces. *Inflorescences* axillary cymes, clustered along the stem from the ground up to the branches; peduncles terete, 1–2 cm long; bracts and bracteoles absent; pedicels terete, 7 mm long. *Flowers* 5-merous. *Hypanthia* cam-

panulate, 6 mm long, 4 mm wide, minutely brown-pulverulent, denticulate. *Petals* obliquely obovate, apically obtuse, 10 mm long, 5 mm wide, glabrous, membranous. *Stamens* equal; filaments terete, 8 mm long; anthers curved, 8 mm long. *Fruits* ellipsoid, slightly constricted below the rim, 5–6 mm in diameter, light purple; stalks terete, 8–10 mm long.

Distribution – Southern Luzon (Sorsogon, 1 coll.), Samar (3), Biliran (2), endemic.

Habitat – In humid forests along streams at 200–750 m altitude.

Note – A striking species with subpeltate leaves, a feature unusual in the genus.

50. *Medinilla robinsonii* Elmer

Medinilla robinsonii Elmer, Leaf. Philipp. Bot. 4 (1911) 1228. — Type: *Elmer 9826* (holo PNH†; lecto L, here designated; iso MO, NY), Negros Oriental, Dumaguete, Cuernos Mts.

Medinilla rolfei Merr., Philipp. J. Sc., Bot. 8 (1913) 230, syn. nov. — Type: *Whitford 1500* (holo PNH†; lecto K, here designated), Negros, Mt Silay.

Scandent glabrous shrub. Branches terete, 15 mm in diameter, bark light brown, striate, moderately pustulate; branchlets slender, slightly angled, brown pulverulent; nodes not setose. *Leaves* opposite, petiolate; petioles 6–8 mm long; blades subcoriaceous, drying reddish-brown above, yellowish-green below, elliptic-oblong, 3–4 cm long, 1.5–2 cm wide; apices acute; bases attenuate; 5-plinerved; nerves faintly visible adaxially, flattened abaxially; transverse veins absent from both surfaces. *Inflorescences* axillary, few-flowered cymes, up to 3 cm long; peduncles terete, 1–3 cm long, scurfy brown; bracts oblong, 5–8 mm long, subsistent; bracteoles very finely brown-pulverulent; pedicels terete, 4 mm long. *Flowers* 5-merous. *Hypanthia* cup-shaped, 5–8 mm long, 6 mm wide, glabrous, truncate. *Petals* widely ovate, acute at tip, 6 mm long, 5 mm wide. *Stamens* subequal; filaments flattened, 2–2.5 mm long; anthers 3–3.5 mm long. *Fruits* not seen.

Distribution – Luzon, Negros, endemic.

Habitat – In mossy forests at 1300–2000 m altitude.

Vernacular name – Kayaupang (Bagobo).

51. *Medinilla pachygonia* C.B. Rob.

Medinilla pachygonia C.B. Rob., Philipp. J. Sc., Bot. 3 (1908) 208. — Type: *Williams 952* (holo PNH†; lecto US, here designated; iso GH, NY), Luzon, Benguet, Baguio.

Scandent glabrous shrub, 3.5 m high. Branches terete, bark greyish, striate; branchlets slender, whitish-yellow; nodes not setose. *Leaves* opposite, petiolate; petioles 5–8 (–15) mm long; blades subcoriaceous, drying bluish-green above, yellowish-brown below, elliptic-oblong to ovate-oblong, 5–8 (–9.5) cm long, 2.5–4 (–4.5) cm wide; apices shortly acuminate; bases acute, mostly 5-, occasionally 7-plinerved, nerves flattened adaxially, slightly raised abaxially; transverse veins absent from both surfaces. *Inflorescences* axillary, few-flowered cymes, arising singly or in pairs from defoliated nodes along branches; peduncles slender, 3–5 (–8) cm long; pendulous; bracts and bracteoles absent; pedicels stout, 5 mm long. *Flowers* 5-merous. *Hypanthia* ovoid to cup-shaped, 7–8 mm long, 5–7 mm wide, glabrous, denticulate. *Petals*

obliquely obovate, apically mucronulate, 11–13 mm long, 6 mm wide, pale pink, delicate, membranous. *Stamens* subequal; filaments flattened, 6–7 mm long; anthers long-spurred, 8–10 mm long. *Fruits* globose, dark red, 10 mm in diameter; stalks terete, 5 mm long.

Distribution – Northern Luzon (6 coll.), endemic.

Habitat – Reportedly on limestone in forests at 1000–1700 m altitude.

Vernacular name – Pagirang (Igorot).

52. *Medinilla merrittii* Merr.

Medinilla merrittii Merr., Philipp. J. Sc., Bot. 2 (1907) 286. — Type: *Merritt 4336* (holo PNH†; lecto US, here designated), Mindoro, Mt Halcon.

Medinilla megacarpa Merr., Philipp. J. Sc., Bot. 8 (1913) 237, syn. nov. — Type: *Ramos BS 10977* (holo PNH†; lecto G, here designated), Luzon, Laguna, San Antonio.

[*Medinilla piperoides* Elmer, Leafl. Philipp. Bot. 10 (1939) 3668, nom. inval. — Voucher: *Elmer 16951* (A, GH, L, MO, NY, S, U, UC, US).]

Scandent epiphytic shrub. Branches terete, bark greyish, glabrous; branchlets slender, brownish, up to 10 mm in diameter; nodes not setose. *Leaves* opposite, petiolate; petioles flexuous, 20–25 mm long, minutely brown-furfuraceous, drying olive-green above, reddish-brown below, glabrous, ovate to elliptic-ovate, 12–25 cm long, 6–10 cm wide; apices acuminate, acumen slender or sharp, 8–15 mm long; bases rounded or subcordate; 7-plinerved, nerves impressed adaxially, raised abaxially; transverse veins faintly visible. *Inflorescences* axillary, few-flowered cymes, fasciated on old branches below leaves, 3–8 cm long; peduncles 10 mm long; bracts obovate, 20 mm long, 8 mm wide; bracteoles linear, 5–10 mm long, caducous; pedicels stout, 3–5 mm long, minutely brown-furfuraceous. *Flowers* 5-merous. *Hypanthia* campanulate, 10–12 mm long, 8–10 mm wide, denticulate. *Petals* widely ovate, 10–12 mm long, 6–8 mm wide, white to pale pink. *Stamens* equal; filaments flattened, 5 mm long; anthers straight, 10 mm long. *Fruits* ovoid or cup-shaped, pink to red when ripe, 10–15 mm in diameter; stalks stout, 15–20 mm long.

Distribution – Catanduanes (2 coll.), southern Luzon (11), Leyte (3), Mindoro (1), Mindanao (1), endemic.

Habitat – Summit forests at 900–1600 m altitude.

53. *Medinilla coriacea* Merr.

Medinilla coriacea Merr., Publ. Bur. Sc. Gov. Lab. 29 (1905) 35; Philipp. J. Sc., Suppl. 1 (1906) 107. — Type: *Whitford 228* (holo PNH†; lecto US, here designated; iso NY), Luzon, Bataan, Mt Mariveles.

Medinilla rotundifolia Elmer, Leafl. Philipp. Bot. 8 (March 27, 1915) 2757, syn. nov. — Type: *Elmer 13738* (holo PNH†; lecto US, here designated; iso A, BISH, CAS, GH, L, MICH, MO, NY), Mindanao, Cabadbaran, Mt Urdaneta.

Medinilla wenzelii Merr., Philipp. J. Sc., Bot. 10 (Aug. 9, 1915) 281; Enum. Philipp. Flow. Pl. 3 (1923) 203, pro syn. *Medinilla rotundifolia* Elmer. — Type: *Wenzel 941* (holo PNH†; lecto MO, here designated; iso A, BM, F, GH), Leyte, Buenavista, Jaro.

Scandent epiphytic glabrous shrub, 3 m high. Branches terete, bark greyish-white, striate, moderately lenticellate, 5–8 mm in diameter; branchlets slender, smooth or

striate; nodes not setose. *Leaves* opposite, petiolate; petioles thickened, 15–20(–25) mm long; blades thickly coriaceous, drying bluish-green above, yellowish to reddish-brown below, widely elliptic-ovate, 9.5–10 cm long, 5.5–6.5(–7) cm wide; apices rounded with a short and blunt point; bases acute, oblique or sometimes auriculate; 5- to 7-plinerved, nerves faintly visible adaxially, flattened abaxially; transverse veins absent. *Inflorescences* axillary, few-flowered cymes, arising from defoliated nodes along branches; peduncles terete, slender, 7–10 mm long; bracts and bracteoles absent; pedicels stout, 5 mm long. *Flowers* 5-merous. *Hypanthia* campanulate or cylindrical, 6–7(–12) mm long, 4–5(–10) mm wide, denticulate, reddish. *Petals* obliquely obovate, 12 mm long, 6 mm wide, membranous. *Stamens* unequal; short stamens with 5 mm long filaments and 6 mm long anthers; long stamens with 9 mm long filaments and 10 mm long anthers. *Fruits* globose, red or purple, 8–10(–15) mm in diameter; stalks stout, 6–10 mm long.

Distribution – Luzon (Bataan, 3 coll.; Rizal, 5), Leyte (2), Mindanao (Agusan, 1), endemic.

Habitat – In dense humid primary forests at 500–750(–1000) m altitude.

Vernacular names – Pagirang (Igorot), bodung (Manobo).

Note – Distinguished by its almost rounded leaves with a pointed apex and its very large fruits.

54. *Medinilla benguetensis* Elmer

Medinilla benguetensis Elmer, Leaflet Philipp. Bot. 4 (1911) 1207. — Type: *Elmer 8435* (holo PNH†; lecto US, here designated; iso A, BM, CAL, CAS, F, FI, G, GH, BISH, L, MO, NY, U), Luzon, Benguet, Baguio.

Divaricately branched glabrous shrub. Branchlets terete, 4 mm in diameter, bark brownish-black; nodes not setose. *Leaves* opposite, sessile; blades chartaceous, ovate, 4–4.5 cm long, 1.5–1.8 cm wide; apices acuminate; bases subcordate; 3-plinerved; lateral pair of nerves faintly distinct above, absent below; transverse veins absent from both surfaces. *Inflorescences* axillary, few-flowered cymes. *Flowers* not seen. *Fruits* globose, 4–5 mm in diameter; pericarp thin; stalks slender, 3–4 mm long.

Distribution – Northern Luzon (Benguet, 3 coll.), southern Luzon (Mt Isarog, 1), endemic.

Habitat – On limestone.

55. *Medinilla myrtiformis* (Naudin) Triana — Fig. 13

Medinilla myrtiformis (Naudin) Triana, Trans. Linn. Soc. 28 (1871) 86, t. 7, f. 94-c; Vidal, Phan. Cuming. Philipp. (1885) 114, Rev. Pl. Filip. (1886) 135; Cogn. in DC., Monogr. Phan. 7 (1891) 583; Merr., Publ. Bur. Sc. Gov. Lab. 29 (1905) 36, Philipp. J. Sc., Bot. 2 (1907) 286. — *Anplectrum myrtiforme* Naudin, Ann. Sc. Nat. III, 15 (1850) 305, t. 15, f. 2. — Type: *Cuming 753* (holo P; iso L), Luzon, Tayabas.

Medinilla monantha Merr., Philipp. J. Sc., Bot. 3 (1908) 152; Veldkamp, Blumea 24 (1978) 451, pro syn. *Medinilla myrtiformis* (Naudin) Triana. — Type: *Clemens 1136* (holo PNH†; lecto US, here designated), Mindanao, Lanao, Lake Lanao, Camp Keithley.

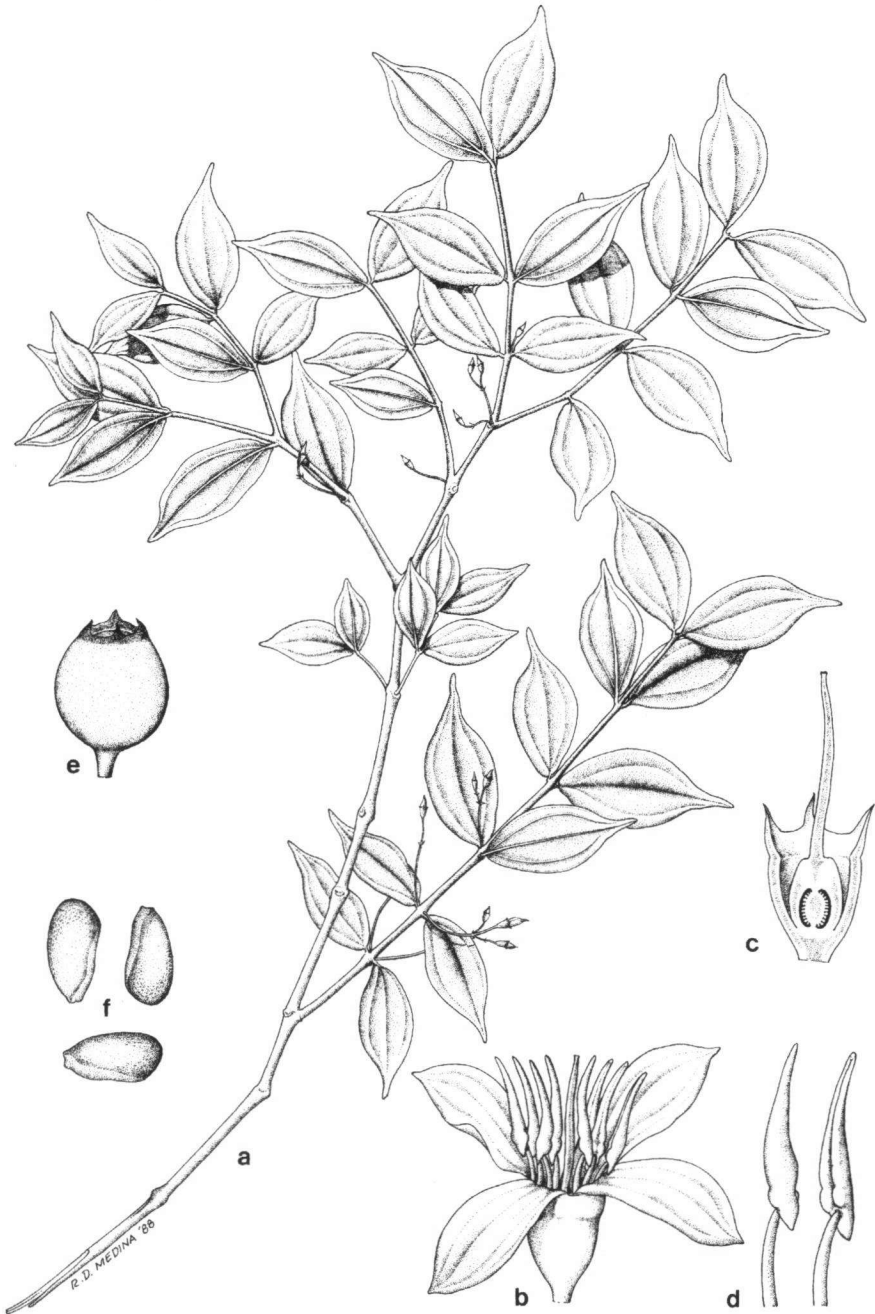


Fig. 13. *Medinilla myrtiformis* (Naudin) Triana. a. Branch with inflorescences, $\times 0.5$; b. flower at anthesis, c. flower in longitudinal section, both $\times 3.5$; d. stamens, $\times 6$; e. fruit, $\times 0$; f. seeds, $\times 0$ (all Regalado s.n., CAHP).

Meinilla cardiophylla Merr., Philipp. J. Sc., Bot. 5 (1910) 206. — Type: *Clemens s.n.* (holo PNH†; lecto US, here designated), Mindanao, Lanao, Lake Lanao, Camp Keithley.
 [*Medinilla bulusanensis* Elmer, Leaflet Philipp. Bot. 10 (1939) 3661, nom. inval. — Voucher: *Elmer 17386* (A, GH, MICH, MO, NY, US).]

Epiphytic glabrous divaricating shrub, 0.5–1 m high; innovations purplish-tinged. Branches terete, 5 mm in diameter; bark fissured, reddish grey-brown; branchlets terete, 2–3 mm in diameter, distal ends quadrangular, compressed; nodes not setose. *Leaves* opposite, very shortly petiolate; petioles terete, 1–2 mm long; blades subcoriaceous, drying dark green above, yellowish below; ovate-lanceolate to oblong-lanceolate, 4–7(–8) cm long, 1.2–3(–3.5) cm wide; apices long-acuminate, acumen up to 12 mm long; bases obtuse to rounded, emarginate to subcordate; 3-plinerved, nerves impressed above, raised below; transverse veins faintly distinct adaxially, absent abaxially. *Inflorescences* axillary, 2- to 6-flowered cymes, 1–5 cm long, erectopatent; peduncle slender, up to 3 cm long; pedicel reddish-tinged. *Hypanthia* cup-shaped, 3.5 mm long, 3 mm wide, denticulate. *Petals* cuspidately conical, 6 mm long, 4 mm wide. *Stamens* equal; filaments 1.5 mm long; anthers ovate-lanceolate, 3–4 mm long. *Fruits* globose, 5 mm in diameter, pink, turning red and dark purple when ripe; stalks 6 mm long.

Distribution – Sulawesi, Moluccas, Philippines (Catanduanes, 2 coll.; Luzon, 37; Mindanao, 2; Palawan, 4; Leyte, 7; Samar, 1; Panay, 3; Negros, 9; Sibuyan, 1; Mindanao, 27; Sulu, 1).

Habitat – Common in mossy forests at mid-elevations and on summits of most or all higher mountains between 600–1800 m altitude.

Vernacular names – Tialos (Bagobo), yodanon (Manobo).

56. *Medinilla ramiflora* Merr.

Medinilla ramiflora Merr., Publ. Bur. Sc. Gov. Lab. 29 (1905) 35. — Type: *Whitford 148* (holo PNH†; lecto US, here designated; iso NY), Luzon, Bataan, Lamao River, Mt Mariveles.

Medinilla weberi Merr., Philipp. J. Sc., Bot. 8 (1913) 235, syn. nov. — Type: *Weber 1009* (holo PNH†; lecto US, here designated; iso A, CAS, GH), Mindanao, Butuan, Mt Hilong-hilong.

Epiphytic glabrous diffusely branched shrub, 1–2(–3) m high; innovations reddish-tinged. Branches terete, 7–10 mm in diameter, bark fissured, reddish-brown; branchlets terete, slender, 2–3 mm in diameter; nodes not setose. *Leaves* opposite, very shortly petiolate; petioles 2.5–3 mm long; blades subcoriaceous, ovate-lanceolate to oblong-lanceolate, 5–7.5 cm long, 2–3 cm wide; margins entire to erose; apices caudate, long-acuminate, acumen up to 12 mm long; bases obtuse to rounded, emarginate, 3-plinerved, nerves impressed adaxially, raised abaxially; transverse veins faintly distinct adaxially, absent abaxially. *Flowers* 4-merous, solitary or in fascicles of 3 or 6, arising from leaf axils or defoliated nodes; peduncles absent; bracteoles minute, subulate, 1 mm long or less; pedicels slender, up to 10 mm long. *Hypanthia* campanulate, 2.5 mm long, 1.5 mm wide, flared into a 2 mm wide rim, denticulate. *Petals* ovate-lanceolate, 5 mm long, 2 mm wide, membranous. *Stamens* equal; filaments flattened, 3 mm long; anthers ovate-lanceolate, 4 mm long. *Fruits* subglobose, 5–7 mm in diameter, scarlet to red, turning dark purple when ripe; stalks terete, 3–10 mm long.

Distribution – Luzon (39 coll.), Mindanao (7), Mindoro (2), Negros (3), Panay (1), endemic.

Habitat – On exposed ridges of mossy forests at high elevations between 1000–2500 m altitude.

Vernacular names – Kayaupang (Bagobo), balangbang, tukulan (Igorot).

57. *Medinilla sessilifolia* Merr.

Medinilla sessilifolia Merr., Philipp. J. Sc., Bot. 8 (1913) 234. — Type: *Reillo BS 16145* (holo PNH; lecto BM, here designated), Mindanao, Basilan, Cumalarang.

Medinilla myrmecorhiza Regalado, Blumea 35 (1990) 44, syn. nov. — Type: *Jacobs 5577* (holo L), Brunei, along Temburong and Belalang Rivers.

Epiphytic, glabrous shrub, rooting at the nodes. Branches terete, succulent; branchlets flattened, yellowish; bark sparsely to moderately pustulate, smooth, becoming rough with age, glabrous, flaking and peeling off easily. *Leaves* opposite, sessile; blades thinly papyraceous, obovate, rarely broadly elliptic, slightly panduriform in larger leaves, 12–17(–24) cm long, 6–9(–12) cm wide; apices obtuse, abruptly terminating in a mucronate point c. 1 cm long; bases cuneate; 3-plinerved; transverse veins thin, faintly visible on adaxial and abaxial surfaces. *Inflorescences* axillary, many-flowered fascicles on leafless nodes. Flowers 4-merous. *Hyanthia* narrowly campanulate, truncate, reddish to pale orange, 3 mm long, 1.5 mm wide. *Petals* white, translucent, obovate, 4 mm long, 2 mm wide. *Stamens* equal in size; filaments flattened, 2 mm long; anthers purplish, linear-oblong. *Fruits* subglobose, 4–5 mm across, glabrous, smooth, truncate, ripening to bright orange to red; pericarp thin; stalks slender, terete, 10–12 mm long.

Distribution – Borneo, Philippines (Basilan, 1 coll.).

Habitat – Lowland dipterocarp forests at 150–400 m altitude.

58. *Medinilla palawanensis* Regalado, *spec. nov.*

Frutex epiphyticus glaber; ramis teretibus, succulentis; foliis oppositis, ellipticis, 9–10 cm longis, 3–4 cm latis, triplinerviis; apice acuto ad acuminato; basi acuta; petiolo 10–15 mm; inflorescentiis axillaribus; floribus solitariis, fasciculatis, 4-meris; staminibus aequantibus; fructibus subglobosis, ad 3 mm latis. — Typus: *Ridsdale SMHI 233* (holo L; iso A), Palawan, Puerto Princesa, Mt Beaufort.

Epiphytic glabrous shrub, up to 2 m high. Branches terete, 5 mm in diameter, bark yellowish to greyish brown, striate; branchlets more or less succulent, flattened; nodes not setose. *Leaves* opposite, petiolate; petioles thickened, 10–15(–20) mm long; blades succulent, chartaceous when dry, elliptic, 9–10(–13) cm long, 3–4(–5) cm wide; apices acute to acuminate; bases acute; 3-plinerved, lateral pair of nerves marginal, nerves flattened on both surfaces; transverse veins faintly visible to absent. *Inflorescences* axillary, solitary flowers fascicled on leaf axils on old stem below leaves, raised on knobby tubercles; pedicels terete, slender, 10–18 mm long. *Flowers* 4-merous. *Hyanthia* campanulate, 4 mm long, 3 mm wide, minutely lobed. *Petals* obliquely obovate, 8–9 mm long and 5–6 mm wide, white, membranous. *Stamens* equal; filaments flattened, 4 mm long; anthers curved, 3 mm long. *Fruits* yellow to pink, subglobose, 3 mm in diameter; stalks slender, 8–10 mm long.

Distribution – Palawan (9 coll.) (edaphic endemic).

Habitat – On ultrabasic rock slopes at 150–1000 m altitude.

Note – Very similar in habit to *M. cauliflora* Hemsl. from the Solomon Islands.

59. *Medinilla radicyflora* Quisumb. & Merr.

Medinilla radicyflora Quisumb. & Merr., Philipp. J. Sc. 37 (1928) 180. — Type: *Ramos & Edaño BS 49544* (holo PNH†; lecto US, here designated; iso NY, UC), Mindanao, Davao, Mt Mayo.

Erect shrub, c. 2 m high. Branches and branchlets terete, densely covered throughout with stellate-tomentose hairs, the hairs rusty-brown, up to 1 mm long; nodes setose, bristles soft, straw yellow, up to 3 mm long. *Leaves* opposite, petiolate; petioles terete, densely stellate-tomentose, 15–20(–25) mm long; blades chartaceous, upper surfaces glabrous, shiny, olive-green, lower surfaces densely stellate-tomentose, obovate to broadly elliptic, 14–23 cm long, 7–11 cm wide; apices acute to abruptly acuminate; bases obtuse, slightly cordate; 11- or occasionally 13-plinerved, nerves flattened adaxially, slightly raised abaxially; transverse veins faintly visible above, distinct below. *Inflorescences* cauline, many-flowered, globose heads, 7–13 cm long; peduncles woody, 2–7 cm long; bracts lanceolate to oblanceolate, 12–15 mm long, 5 mm wide, membranous; bracteoles subulate, 1.5 mm long; pedicels slender, 8–10 mm long. *Flowers* 4-merous. *Hypanthia* narrowly campanulate, 8 mm long, 4 mm wide, stellate-tomentose, deeply lobed. *Petals* ovate, 8 mm long, 5 mm wide, glabrous, thin, membranous. *Stamens* equal; filaments flattened, 6 mm long; anthers curved, 7 mm long. *Fruits* subglobose, 4 mm in diameter, crowned with persistent calyx lobes; stalks slender, 5 mm long.

Distribution – Mindanao (Bukidnon, 3 coll.; Davao, 2), endemic.

Habitat – Along damp forested streams at c. 750 m altitude.

60. *Medinilla venosa* (Blume) Blume — Fig. 14

Medinilla venosa (Blume) Blume, Flora 14 (1831) 518. — *Melastoma venosum* Blume, Bijdr. Fl. Ned. Ind. (1826) 1075. — *Hypenanthe venosum* (Blume) Blume, Mus. Bot. Lugd.-Bat. 1 (1849) 21. — Type: *Forsten s.n.* (holo L), Ternate.

Medinilla philippensis (Cham. & Schldt.) Merr., Philipp. J. Sc., Bot. 3 (1908) 248. — *Axanthes philippensis* Cham. & Schldt., Linnaea 4 (1829) 193, syn. nov. — Type: *Chamisso s.n.* (holo B†), Luzon, Cavite. Paratype, here designated as neotype: *Mangubat BS 1341* (US), Luzon, Cavite, Aug. 1906.

Medinilla luzonensis Hook. f. ex Triana, Trans. Linn. Soc. 28 (1871) 88; Fern.-Vill., Novis. App. (1880) 89; Vidal, Rev. Pl. Vasc. Filip. (1886) 135; Cogn., Monogr. Phan. 7 (1890) 602; Merr., Publ. Bur. Sc. Gov. Lab. 29 (1905) 38, syn. nov. — Type: *Lobb s.n.* (holo K), Luzon.

Medinilla williamsii C.B. Rob., Philipp. J. Sc., Bot. 3 (1908) 208, syn. nov. — Type: *Williams 2412* (holo PNH†; lecto NY, here designated; iso GH, US), Mindanao, Zamboanga, Sax River.

Terrestrial shrub, 1–2 m high or small tree, 2–3 m high. Branches terete; branchlets terete, densely stellate tomentose, 10 mm in diameter; nodes not setose. *Leaves* opposite, petiolate; petioles terete, densely stellate-tomentose, 15–20(–40) mm long; blades chartaceous, glabrous above, densely tomentose below, elliptic-oblong or elliptic-lanceolate, 7–18 cm long, 2.5–9 cm wide; apices acute to acuminate; bases attenuate to rounded, subauriculate; 7- to 9-plinerved, occasionally 11-plinerved,

nerves glabrous adaxially, densely tomentose abaxially; transverse veins absent adaxially, faintly distinct abaxially. *Inflorescences* terminal or axillary, few-flowered cymes, 8–11 cm long, sometimes arising from leafless nodes on old wood; peduncles up to 2 cm long, densely tomentose; bracts ovate to elliptic-ovate, up to 25 mm long, 10 mm wide; bracteoles lanceolate, 5 mm long; pedicels 2 mm long. *Flowers* 4-merous. *Hypanthia* campanulate, 4–5 mm long, 3 mm wide, sparsely to densely stellate-pubescent, acutely lobed. *Petals* obliquely obovate, 9–11 mm long, 5–6 mm wide, white to pink. *Stamens* subequal; filaments flattened, 3.5–4 mm long; anthers curved, 2.5–3 mm long. *Fruits* globose, 9–10 mm in diameter, crowned with persistent calyx lobes; stalks terete, 7 mm long.

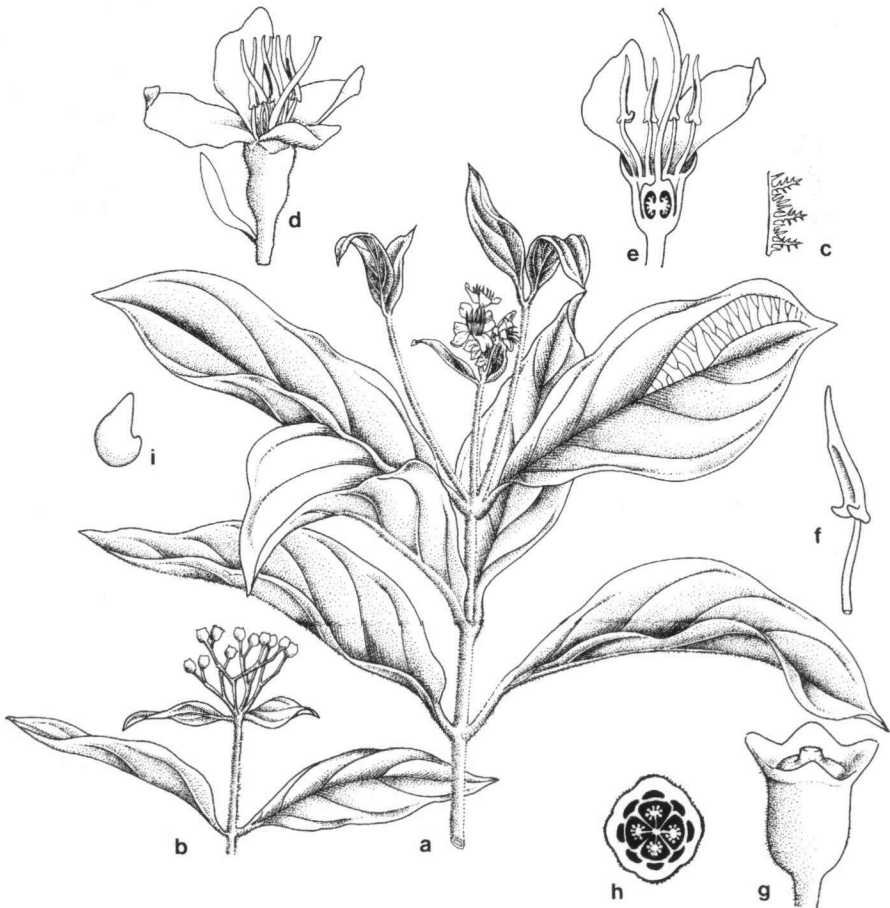


Fig. 14. *Medinilla venosa* (Blume) Blume. a. Branch with inflorescence, $\times 0.33$; b. ditto with fruits, $\times 0.17$; c. detail of hairs, $\times 5$; d. flower at anthesis, $\times 2$; e. flower in longitudinal section, $\times 2.5$; f. stamen, $\times 5$; g. fruit; h. fruit in cross section, both $\times 1.3$. i. seed, $\times 10$ (redrawn after Calara illustrations at CAHP).

Distribution – Sulawesi, Moluccas, Philippines (Alabat, 2 coll.; Catanduanes, 1; Luzon, 16; Mindanao, 1; Negros, 1).

Habitat – In forest slopes and ridges between 350–1000 m altitude.

Note – Naturalized to a limited extent in Maui, Hawaii (F. Almeda in W.L. Wagner, D.R. Herbst & S.H. Sohmer (eds.), *Manual of flowering plants of Hawaii*, Univ. Hawaii Press, Bishop Mus., Honolulu, Vol. 1: 909–910).

61. *Medinilla lagunae* Vidal

Medinilla lagunae Vidal, *Sinopsis Atlas* 27 (1883) 27, t. 51, f. F. — Type: *Cuming 1333* (holo K; iso L).

Erect shrub, 1 m high or small tree, 2–3 m high. Branches terete, 5 mm in diameter, glabrescent; branchlets terete, slender, densely brown-tomentose; nodes densely setose. *Leaves* opposite, subsessile; petioles terete, densely tomentose, 3–5 mm long; blades coriaceous, glabrous above, densely stellate-tomentose below, elliptic to obovate, 12–15(–18) cm long, 5–6(–8) cm wide; apices acute; bases attenuate or spatulate; 9- or sometimes 11-plinerved, nerves flattened adaxially, slightly raised abaxially; the transverse veins distinctly visible on both surfaces. *Inflorescences* axillary, few-flowered cymes, 2–3 cm long, densely tomentose, arising from old stems; peduncles terete, slender, 1–2 cm long, densely tomentose; bracteoles paired, linear, 7–8 mm long, sparingly stellate-tomentose; pedicels terete, 3 mm long, stellate-tomentose. *Flowers* 4-merous. *Hypanthia* campanulate, 5 mm long, 3 mm wide, stellate-tomentose, 4-lobed. *Petals* ovate, apically acute, 8–9 mm long, 4 mm wide, glabrous, membranous, reticulate. *Stamens*: filaments flattened, 5 mm long; anthers straight, 4–5 mm long. *Fruits* globose, 5 mm in diameter; stalks 4 mm long.

Distribution – Catanduanes (1 coll.), Luzon (14), endemic.

Habitat – In forests along streams at medium altitudes, 700–1500 m altitude.

Vernacular name – Palikpik-hito (Tagalog).

Note – Allied to *M. venosa* (Blume) Blume but differing in its subsessile and panduriform leaves.

62. *Medinilla pycnantha* Quisumb. & Merr.

Medinilla pycnantha Quisumb. & Merr., *Philipp. J. Sc.* 37 (1928) 179. — Type: *Ramos & Edaño BS 45580* (holo PNH†; lecto US, here designated; iso A, BM, K, NY, P, UC), Luzon, Nueva Vizcaya, Mt Alzapan.

Epiphytic shrub. Branches terete, bark yellowish-grey to greyish-white; nodes densely setose, bristles straw yellow, 5–7(–10) mm long, deciduous. *Leaves* opposite, those of each pair subequal, long-petiolate; petioles terete, thickened, 20–25(–45) mm long; blades subcoriaceous, glabrous, except for young leaves with dense, reddish-brown tomentum on abaxial side, elliptic to oblong-elliptic, 10–13(–19) cm long, 4.5–5(–7) cm wide; apices acute to very shortly acuminate; bases acute; 5-plinerved, nerves faintly visible adaxially, flattened abaxially; transverse veins absent from both surfaces. *Inflorescences* axillary, many-flowered, spike-like racemes, cylindrical, 4–7.5 cm long, flowers densely crowded; peduncles 1.5–2.5 cm long,

densely brown-tomentose; bracts elliptic-oblong to lanceolate, 15–22 mm long, 4–8.5 mm wide, red, glabrous adaxially, ciliate abaxially; pedicels 2–3 mm long, densely setose. *Flowers* not seen. *Fruits* subglobose, 4–6 mm in diameter, 5-celled, densely setose; stalks 3 mm long.

Distribution – Luzon (Nueva Vizcaya), known only from the type collection, endemic.

Habitat – In mossy forests at c. 1600 m altitude.

Note – A species characterized by its dense cylindrical inflorescences and its conspicuously bracteate flowers.

63. *Medinilla leytensis* Merr.

Medinilla leytensis Merr., Philipp. J. Sc., Bot. 10 (1915) 279. — Type: *Wenzel 1140* (holo PNH†; lecto A, here designated; iso NY), Leyte, Masaganap, Jaro.

Scandent, epiphytic shrub, 3–4 m high. Branches terete, bark greyish or yellowish, 5–7 mm in diameter; branchlets terete, greyish-white, 3 mm in diameter, brown-furfuraceous, soon glabrescent; nodes setose, soon glabrescent. *Leaves* opposite, those of each pair subequal, shortly petiolate; petioles densely brown-furfuraceous, 3 mm long; blades coriaceous, drying yellowish-brown above, pale brown below, glabrous above, unevenly brown-furfuraceous below, elliptic to oblong-ovate, 8–12 cm long, 4–6 cm wide; apices long-acuminate; bases obtuse, subcordate or emarginate; 7-plinerved, nerves flattened adaxially, slightly raised abaxially; transverse veins distinct on both surfaces, reticulate. *Inflorescences* axillary, many-flowered racemes, globose or cylindrical, 2–4 cm long; sessile or shortly pedunculate, peduncles 10 mm long or less; bracts paired, enveloping each subsessile flower, obovate to orbicular, 12 mm long, 8 mm wide. *Flowers* 5-merous. *Hypanthia* urceolate, 5 mm long, 4 mm wide, densely tomentose, truncate. *Petals* obliquely obovate, 11 mm long, 5 mm wide, thin, membranous. *Stamens* subequal; filaments flattened, 1 mm long; anthers 2.5–4 mm long. *Fruits* globose, 5–6 mm in diameter, crowned with spreading calyx lobes; stalks 2 mm long.

Distribution – Leyte (2 coll.), Samar (4), endemic.

Habitat – In primary forests at 100–500(–650) m altitude.

64. *Medinilla capitata* Merr.

Medinilla capitata Merr., Philipp. J. Sc. 17 (1920) 295. — Type: *Ramos & Pascasio BS 35179* (holo PNH†; lecto US, here designated; iso A, L, UC), Dinagat Island.

Scandent epiphytic shrub, 3–4 m high. Branches terete, flexuous, emitting roots at nodes, bark yellowish-grey; branchlets terete, sparsely to densely tomentose; nodes setose, bristles reddish-brown, 1 mm long. *Leaves* opposite, those of each pair subequal, very shortly petiolate; petioles thickened, 2–4 mm long; blades coriaceous, drying reddish-brown above, yellowish-green below, glabrous except for the sparsely tomentose leaf base, ovate-elliptic or oblong-elliptic, 12–14 cm long, 7–8 cm wide; apices cuspidate; bases obtuse to rounded, 7-plinerved, nerves flattened on both surfaces; transverse veins faintly visible above, absent below. *Inflorescences* axillary,

many-flowered, globose to ovoid racemes, 2–2.5 cm long; peduncles 1 cm at most; bracts obovate to spatulate, 8–10 mm long, 3–6 mm wide, pink, persistent; pedicels 1 mm long or less. *Hypanthia* urceolate, 7 mm long, 4 mm wide, minutely and densely stellate-tomentose, shallowly dentate. *Mature flowers* not seen. *Fruits* subglobose, crowned by persistent calyx lobes, 4 mm in diameter; stalks 1–2 mm long.

Distribution – Dinagat Island, known only from the type collection, endemic.

Habitat – Lowland dipterocarp forests under shade between 0–100 m altitude.

65. *Medinilla halconensis* Merr.

Medinilla halconensis Merr., Philipp. J. Sc., Bot. 2 (1907) 287. — Type: *Merrill 5642* (holo PNH†; lecto US, here designated; iso G, K), Mindoro, Mt Halcon.

Medinilla microphylla Merr., Philipp. J. Sc., Bot. 2 (1907) 288, syn. nov. — Type: *Merrill 5599* (holo PNH†; lecto US, here designated; iso G, K, NY, P), Mindoro, Mt Halcon.

Medinilla longidens Merr., Philipp. J. Sc., Bot. 12 (1917) 345, syn. nov. — Type: *Fénix BS 28422* (holo PNH†; lecto US, here designated; iso K, NY, P), Luzon, Apayao. Mt Sulu.

Epiphytic shrub. Branches terete, glabrous, 5 mm in diameter; branchlets densely brown-furfuraceous; nodes densely setose. *Leaves* opposite, those of each pair subequal, petiolate; petioles terete, densely furfuraceous, 10–15 mm long; blades subcoriaceous, glabrous above, densely brown stellate-tomentose below, elliptic to elliptic-oblong or elliptic-ovate, 5–7(–12) cm long, 2–3(–5) cm wide; apices acute to acuminate; bases acute to obtuse; 5-plinerved, nerves flattened, almost obscure adaxially, raised abaxially; transverse veins absent. *Inflorescences* axillary, few-flowered cymes, 2–4 cm long; peduncles densely furfuraceous; bracts widely ovate to rotund, 13 mm long, 10 mm wide, densely stellate-tomentose; pedicels 2 mm long. *Flowers* 4-merous. *Hypanthia* campanulate, 6 mm long, 5 mm wide, densely stellate-tomentose, deeply lobed. *Petals* obovate, 10 mm long, 4 mm wide, glabrous, thin, membranous. *Stamens* equal; filaments flattened, 2 mm long; anthers curved, 4 mm long. *Fruits* subglobose, 4–5 mm in diameter, crowned with persistent, spreading calyx lobes; stalks 2 mm long.

Distribution – Catanduanes (1 coll.), Luzon (9), Mindoro (2), Panay (4), endemic.

Habitat – At 800–1100 m altitude.

66. *Medinilla calcicola* Merr.

Medinilla calcicola Merr., Philipp. J. Sc., Bot. 8 (1913) 244. — Type: *Weber 1574* (holo PNH†; lecto US, here designated; iso CAS, GH), Luzon, Cagayan, Abulug River.

Shrub, c. 1 m high. Branches terete, bark whitish-grey; branchlets densely stellate-tomentose; nodes setose, bristles soft, straw-yellow, c. 1 mm long. *Leaves* opposite, those of each pair subequal, petiolate; petioles stout, densely stellate-tomentose, 10–15(–20) mm long; blades coriaceous, upper surfaces glabrous, pale green, lower surfaces densely stellate-tomentose, brownish, elliptic-oblong, 12–15 cm long, 4–6 cm wide; apices abruptly acuminate; bases acute or acuminate; 5-plinerved, nerves faintly visible adaxially, raised abaxially, densely stellate-tomentose; transverse veins absent adaxially, faintly distinct abaxially. *Inflorescences* axillary, sessile, solitary cymes 2–2.5 cm long; bracts ovate, 12–15 mm long, 10–12 mm wide, densely tomentose,

reddish-tinged; pedicels terete, 1 mm long, densely stellate-tomentose, reddish-tinged; pedicels terete, 1 mm long, densely stellate-tomentose. *Flowers* 5-merous. *Hypanthia* ovoid, 4 mm long, 3 mm wide, densely tomentose, hairs plumose, dendritic, up to 1 mm long. *Petals* obliquely obovate, 10 mm long, 5 mm wide. *Stamens* equal; filaments 5 mm long; anthers stout, 5 mm long. *Fruits* subglobose, 6–7 mm in diameter, densely stellate tomentose, crowned with persistent calyx lobes; stalks stout, 1–2 mm long, densely stellate-tomentose.

Distribution – Luzon (Cagayan), known only from the type collection, endemic.

Habitat – On limestone formations at low elevations.

Note – Distinguished from *M. halconensis* Merr. by its reddish bracts. Both species occur in Luzon but at different altitudes and in different habitats.

67. *Medinilla cuernosensis* Elmer

Medinilla cuernosensis Elmer, Leafl. Philipp. Bot. 4 (1911) 1221. — Type: *Elmer 10227* (holo PNH†; lecto US, here designated; iso A, BISH, CAS, GH, L, MO, NY, U), Negros, Negros Oriental, Dumaguete, Cuernos Mts.

Medinilla oligantha Merr., Philipp. J. Sc., Bot. 10 (1915) 280, syn. nov. — Type: *Wenzel 1145* (holo PNH†; lecto A, here designated), Leyte, Masaganap, Jaro.

Scandent epiphytic shrub, c. 2 m high. Branches terete, glabrous, bark greyish, 5 mm in diameter; branchlets slender, terete, yellowish, densely setose; nodes densely setose. *Leaves* opposite, those of a pair subequal, larger leaves petiolate, smaller leaves sessile; petioles slender, setose, 5–7 mm long; blades chartaceous, covered with bristles on both surfaces, more pronounced along nerves, drying pale green above, yellowish below, elliptic to elliptic-ovate, 8–12 cm long, 3–4.5 cm wide; apices acuminate; bases obtuse to rounded; 7- or sometimes 9-plinerved, nerves flattened adaxially, slightly raised abaxially; transverse veins absent from both surfaces. *Inflorescences* axillary, few-flowered cymes, 2–2.5 cm long; peduncles slender, terete, 1 cm long, densely setose; bracts broadly ovate, pink, densely setose; bracteoles paired, subtending each flower, ovate, 10 mm long, 8 mm wide, densely setose; pedicels slender, 8–10 mm long, densely setose. *Flowers* 5-merous. *Hypanthia* urceolate, 5 mm long, 5 mm wide, densely setose, minutely lobed. *Stamens* subequal; filaments flattened, 2–3 mm long; anthers ovate-lanceolate, 3–4 mm long. *Fruits* globose, 5–8 mm in diameter, clothed with whitish bristles, subtended by a pair of persistent reddish bracts; stalks 3 mm long.

Distribution – Catanduanes (3 coll.), Luzon (2), Leyte (1), Samar (3), Negros (5), endemic.

Habitat – In lowland dipterocarp forest under shade at 200 m and in dense forests along streams at 1000–1500 m altitude.

68. *Medinilla ternifolia* Triana — Fig. 15

Medinilla ternifolia Triana, Trans. Linn. Soc. 28 (1871) 88; Fern.-Vill., Novis. App. (1880) 89; Cogn. in DC., Monogr. Phan. 7 (1891) 602; Merr., Publ. Bur. Sc. Gov. Lab. 29 (1905) 38. — Type: *Jager s.n.*, 1861 (holo B+), Luzon. Neotype: *Merrill Phil. Pl. 418* (US), Luzon, Laguna, Mt Makiling, Sept. 1910.



Fig. 15. *Medinilla ternifolia* Triana. a. Branch with infructescence, $\times 0.5$; b. bracts, $\times 1.3$; c. detail of hairs, $\times 2.5$; d. flower in longitudinal section, $\times 3.5$; e. stamen, $\times 5$; f. fruits with persistent bracteoles, $\times 1$; g. fruit in cross section, $\times 1.5$; h. seeds, $\times 13$ (all Regalado 296, CAHP).

Epiphytic shrub 2–3 mm high, young parts densely setose, the hairs patent, subflexuous, 2–3 mm long, reddish brown. Branches terete, 5 mm in diameter, glabrescent; branchlets and nodes densely setose. *Leaves* ternate, the leaves at the nodes subequal in size, petiolate; petioles terete, 5–10 mm long, densely setose; blades chartaceous, elliptic-ovate to elliptic-oblong, 7–9 cm long, 2.5–3.5 cm wide; apices acuminate; bases subcordate, oblique; 5-plinerved; nerves lined with hairs on abaxial surface; transverse veins absent from both surfaces. *Inflorescences* axillary, pendulous racemes of cymes arranged in whorls on the main axis 10–15 cm long, all parts densely setose; peduncles slender, flexuous, 2–3 cm long; bracts green, subulate, up to 10 mm long; bracteoles red, widely ovate to orbicular, 10 mm long, 10 mm wide, paired, overlapping, and enveloping each flower in bud; pedicels terete, 1–2 mm long. *Flowers* 4-merous. *Hypanthia* ovoid, 4 mm long, 3 mm wide, densely setose-tomentose. *Petals* white. *Stamens* equal; filaments 0.5 mm long; anthers ovoid, 1 mm long. *Fruits* globose, 8–10 mm in diameter, densely setose, subtended by a pair of persistent bracteoles; stalks 3–5 mm long.

Distribution – Luzon (31 coll.), Mindoro (7), Mindanao (6), Negros (2), Panay (1), endemic.

Vernacular names – Tiwalos (Bagobo), tungao-tungao (P. Bisaya).

Note – Chromosome count ($2n = c. 36$) reported by Solt & Wurdack (Phytologia 47, 1980, 199–220).

69. *Medinilla erythrotricha* Elmer

Medinilla erythrotricha Elmer, Leaf. Philipp. Bot. 4 (1911) 1222. — Type: *Elmer 10537* (holo PNH†; lecto US, here designated; iso A, BISH, DS, GH, L, MO, NY, U), Mindanao, Davao, Todaya, Mt Apo.

Medinilla attenuata Elmer, Leaf. Philipp. Bot. 4 (1911) 1223, syn. nov. — Type: *Elmer 11740* (holo PNH†; lecto US, here designated; iso BISH, GH, L, MO, NY), Mindanao, Davao, Todaya, Mt Apo.

Medinilla hirsuta Merr., Philipp. J. Sc., Bot. 8 (1913) 246; Enum. Philip. Flow. Pl. 3 (1923) 193, pro syn. *Medinilla attenuata* Elmer. — Type: *Merrill 8296* (holo PNH†; lecto US, here designated), Mindanao, Zamboanga, Sax River Mts.

Scandent, epiphytic shrub, 1–2 m high. Branches terete, bark greyish to yellowish-brown, 5–7 mm in diameter; branchlets terete, slender, setose; nodes densely setose. *Leaves* ternate, at the nodes subequal in size, shortly petiolate; petioles 3–5(–7) mm long, densely setose; blades chartaceous, covered with yellowish to reddish bristles on both surfaces, more pronounced at leaf base and along nerves and veins, elliptic to elliptic-obovate, 10–14(–16) cm long, 4–6(–7.5) cm wide; margins entire, setulose; apices acuminate; bases attenuate to spatulate, slightly cordate, 7-plinerved, nerves impressed adaxially, slightly raised abaxially; transverse veins parallel, distinct. *Inflorescences* axillary, few-flowered racemes, 3–4 cm long; peduncles slender, terete, densely setose; bracts widely ovate to orbicular, concave, 10 mm long, 8 mm wide, densely setose abaxially, glabrous adaxially; bracteoles absent; pedicels slender, 4 mm long, densely setose. *Flowers* 4-merous. *Hypanthia* globose, 4 mm long, 4 mm wide, densely hirsute. *Petals* obovate, 9 mm long, 5 mm wide, glabrous, thin, membranous. *Stamens* equal; filaments flattened, 3 mm long; an-

thers rostrate, 3 mm long. *Fruits* globose, red, turning black when ripe, 5 mm in diameter, covered with bristles, subtended by persistent bracts; stalks terete, 5 mm long, densely setose.

Distribution – Mindanao (9 coll.), endemic.

Habitat – In damp forests at 1400–1800 m altitude.

Vernacular names – Dugang (Manobo), tualos (Bagobo).

70. *Medinilla setigera* (Blume) Miq.

Medinilla setigera (Blume) Miq., Fl. Ned. Ind. 1 (1855) 550. — *Dactyliota setigera* Blume, Mus. Bot. Lugd.-Bat. 1 (1849) 22. — *Hypenanthe setigera* (Blume) Bakh. f., Rec. Trav. Bot. Néerl. 40 (1946) 238. — Type: *Korthals s.n.* (holo L), Sumatra, locality unknown.

Medinilla involuocrata Merr., Publ. Bur. Sc. Gov. Lab. 35 (1906) 51; Bakh. f., Rec. Trav. Bot. Néerl. 40 (1946) 238, pro syn. *Hypenanthe setigera* (Blume) Bakh. f. — Type: *McGregor 328* (holo PNH†; lecto US, here designated; iso NY), Mindoro, Baco River.

Medinilla cogniauxii Merr., Philipp. J. Sc., Bot. 3 (1908) 249; Bakh. f., Rec. Trav. Bot. Néerl. 40 (1946) 238, pro syn. *Hypenanthe setigera* (Blume) Bakh. f. — Type: *Cuming 1487* (holo K; iso L), Luzon, Batangas.

Medinilla cogniauxii Merr. var. *angustifolia* Merr., Philipp. J. Sc., Bot. 3 (1908) 250, syn. nov. — Type: *Mearns & Hutchinson FB 4567* (holo PNH†; lecto US, here designated; iso NY), Mindanao, Misamis.

[*Medinilla curtiflora* Elmer, Leaf. Philipp. Bot. 10 (1939) 3662, nom. inval. — Vouchers: *Elmer 14368, 15179, 15643* (all A, GH, L, MO, NY, S, U, UC, US).]

Scandent epiphytic shrub 1–2(–4) m high. Branches terete, glabrous, bark greyish-white, striate; branchlets slender, terete, densely brown stellate-pubescent; nodes not setose. *Leaves* opposite, those of a pair strongly unequal, shortly petiolate; petioles thickened, stellate-pubescent, 2–3(–5) mm long; blades chartaceous, glabrous adaxially, densely or sparsely stellate-pubescent abaxially; narrowly elliptic to oblong-elliptic or ovate-oblong; larger leaves 10–16 cm long, 5–8 cm wide, smaller leaves 3–6 cm long, 1.5–3 cm wide; apices acuminate; bases obtuse or attenuate, very slightly cordate; 5- to 7-plinerved, nerves flattened adaxially, slightly raised abaxially; transverse veins visible to absent. *Inflorescences* terminal or in most cases axillary, few-flowered, pendulous racemes or simple cymes 2–3(–4) cm long; peduncles densely brown stellate-pubescent; bracts obovate, 15–20 mm long, 8–12 mm wide, red, membranous, sparsely stellate-pubescent without, glabrous within, persistent; bracteoles spatulate; pedicels 1–2 mm long. *Flowers* 4-merous. *Hypanthia* campanulate to subglobose, 5–6 mm long, 4–5 mm wide, densely setose, bristles rigid, stiff, 1–2 mm long, yellowish white, limb acutely lobed. *Petals* obovate-oblong, 9 mm long, 4 mm wide, glabrous, thin, membranous. *Stamens* unequal; small stamens with 2 mm long filaments, 2 mm long anthers; larger stamens with 4 mm long filaments, 3 mm long anthers. *Fruits* globose, 5–8 mm in diameter, green turning black when ripe, densely clothed with silvery-white bristles, subtended by persistent reddish bracts; stalks 3–4 mm long, densely brown stellate-pubescent.

Distribution – Sumatra, Borneo, and widespread throughout the Philippines (79 coll.).

Habitat – In forests at 150–1000 m altitude.

71. *Medinilla inaequifolia* C.B. Rob.

Medinilla inaequifolia C.B. Rob., Philipp. J. Sc., Bot. 6 (1911) 219. — Type: *McGregor BS 10264* (holo PNH†; lecto US, here designated; iso NY), Polillo Island.

Scandent shrub. Branches terete, glabrous, 5 mm in diameter; branchlets slender, terete, densely setose; nodes densely setose with rather stiff bristles 3 mm long. *Leaves* opposite, those of one pair very strongly unequal, the smaller leaf sessile, the larger leaf petiolate; petioles 5–10 mm long, densely setose; blades chartaceous, drying reddish-brown above, yellowish-green below; moderately to densely setose on both surfaces, ciliate at the margins, the larger leaf oblong-elliptic, 8–11(–17) cm long, 3.5–4.5(–7) cm wide, the smaller leaf widely ovate, 1–1.5 cm long, 0.8–1.2 cm wide; apices acuminate; bases obtuse to rounded, cordate in smaller leaves; 9-plinerved; nerves flattened and hardly distinct adaxially, flattened and distinctly setose abaxially; transverse veins absent from both surfaces. *Inflorescences* axillary, arising from old wood below the leaves; bracts ovate, acuminate at tip, 12 mm long, 8 mm wide, hirsute on both side; pedicels very short, c. 1 mm long. *Flowers* 5-merous. *Hypanthia* campanulate, 4 mm long, 3 mm wide, minutely dentate, densely setose, the bristles 4–5 mm long, soft, straw-yellow. *Petals* obovate, 8 mm long, 4 mm wide, white, membranous. *Stamens* equal; filaments flattened, 5 mm long; anthers 4 mm long. *Fruits* not seen.

Distribution – Southern Luzon (5 coll.), Polillo (3), endemic.

Habitat – In damp, primary forests at 150–800 m altitude.

72. *Medinilla ferruginea* Merr.

Medinilla ferruginea Merr., Philipp. J. Sc. 17 (1920) 297. — Type: *Ramos & Pascasio BS 35217* (holo PNH†; lecto US, here designated; iso A), Dinagat Island.

Scandent shrub; branches terete, bark yellowish, 4–5 mm in diameter; branchlets terete, densely brown-tomentose; nodes setose, rusty-brown. *Leaves* opposite, those of a pair very strongly unequal, larger leaf shortly petiolate, petioles 3–5 mm long, thickened, densely brown-tomentose; smaller leaf sessile; blades chartaceous, glabrous above, brown-ferruginous below; larger leaf narrowly elliptic, 13–15(–17) cm long, 3.5–5.5 cm wide, apices long-acuminate, bases acute to obtuse, 5- or sometimes 7-plinerved; smaller leaf broadly ovate to orbicular, 1.5 cm long, 1 cm wide, apices acuminate, bases deeply cordate; nerves of larger leaf flattened adaxially, slightly raised abaxially; transverse veins numerous (more than 30 pairs), parallel, faintly conspicuous above, distinct below. *Inflorescences* axillary, solitary or fascicled, short unbranched racemes, 2–3 cm long, arising from old wood; peduncles up to 1 cm long; bracts ovate, 10 mm long, 6 mm wide, adaxially glabrous except for hirsute margins, abaxially hirsute, hairs dendritic; pedicels densely brown-tomentose, 4 mm long. *Flowers* 4-merous. *Hypanthia* ovoid, 4 mm long, 2 mm wide, densely hirsute, pale yellow, denticulate. *Mature flowers* and *fruits* not seen.

Distribution – Luzon (Camarines Sur, 2 coll.), Samar (1), Bucas Grande (1), Dinagat (3), endemic.

Habitat – From sea level to 300 m altitude.

Note – Distinguished by its ferruginous indumentum and very unequal leaves.

73. *Medinilla microcephala* Regalado, *nom. nov.*

Cephalomedinilla anisophylla Merr., Philipp. J. Sc., Bot. 5 (1910) 205. — Type: *Foxworthy 8986* (holo PNH†; lecto US, here designated), Luzon, Laguna, Paete, non *Medinilla anisophylla* Merr. (1943).

Epiphytic shrub; branches terete, glabrous, bark yellowish-brown, rooting at nodes; branchlets terete, 5 mm in diameter, yellow-pilose; nodes not setose. *Leaves* opposite, those of a pair greatly unequal, larger leaf subsessile or very shortly petiolate, petioles up to 3 mm long, smaller leaf sessile; blades chartaceous, drying reddish-brown above, olive-green below, upper surfaces of young leaves soft pilose, glabrescent with age, lower surfaces glabrous; larger leaf elliptic-oblong, 13–16(–21) cm long, 4.5–7(–8) cm wide, apices acute to acuminate, bases obtuse to cuneate, often emarginate, 9-plinerved; smaller leaf narrowly ovate, 2.5–3 cm long, 1–1.5 cm wide, apices acuminate, bases cordate; nerves of larger leaf flattened adaxially, raised abaxially; transverse veins numerous (30–40 pairs), parallel, indistinct above, prominent below. *Inflorescences* axillary, many-flowered, sessile, globose heads, arising from defoliated nodes, 1.5–2 cm long; bracts elliptic-ovate, 9–12 mm long, 6–7 mm wide, glabrous adaxially except along margins and nerves, densely setose abaxially; bracteoles oblong-ovate, 10 mm long, 6 mm wide. *Flowers* 4-merous. *Hypanthia* campanulate, 5–6 mm long, 3 mm wide, densely setose, deeply lobed, lobes acute, c. 2 mm long. *Petals* obovate, mucronulate at tip, 7–8 mm long, 3–4 mm wide, glabrous, thin, membranous. *Stamens* equal; filaments flattened, 5 mm long; anthers rostrate, 5 mm long. *Fruits* globose, 8 mm in diameter, bluish-black when ripe, pericarp densely setose, sessile.

Distribution – Catanduanes (2 coll.), southern Luzon (9), Samar (2), endemic.
Habitat – In primary forests at 500–1000 m.

74. *Medinilla disparifolia* C.B. Rob. — Fig. 16

Medinilla disparifolia C.B. Rob., Philipp. J. Sc., Bot. 6 (1911) 351. — Type: *Robinson 9764* (holo PNH†), Luzon, Laguna, Mt Banahao. Neotype: *Ramos Phil. Pl. 1334* (A; iso L, MO, NY), Luzon, Laguna, Feb. 1913.

Medinilla loheri Merr., Philipp. J. Sc., Bot. 8 (1913) 248; Soler., Naturw. Wochenschr. 35 (1920) 689, syn. nov. — Type: *Loher 6280* (holo PNH†), Luzon, Rizal, Oriud. Neotype: *Loher 13824* (A), Luzon, Rizal, Oriud, March 1914.

Terrestrial, laxly branched shrub, up to 2 m high. Branches terete, bark grey, glabrescent; branchlets terete, 5 mm in diameter, densely hirsute, the hairs soft, yellowish, 2–3 mm long, deciduous; nodes setose. *Leaves* opposite, those of a pair strongly unequal, larger leaf petiolate, petioles densely hirsute in young leaves, glabrescent in older leaves, 15–20 mm long, smaller leaf sessile, amplexicaul; blades chartaceous, dull green above, drying to reddish-brown, glabrous, yellowish-brown below, hirsute along nerves; larger leaves elliptic to elliptic-obovate, 20–25 cm long, 7–9.5 cm wide, smaller leaves ovate, 3 cm long, 2 cm wide; apices acuminate; bases obtuse, slightly rounded; 11- or occasionally 13-plinerved, nerves ascending, each lateral pair departing from midrib with increasing distances from base, only innermost pair confluent with margin at apex; transverse veins numerous, parallel, indistinct above,



Fig. 16. *Medinilla disparifolia* C. B. Rob. a. Branch with inflorescence, $\times 0.5$; b. flower, $\times 2.5$; c. flower in longitudinal section, $\times 3.5$; d. stamen, $\times 4.5$; e. fruit; f. fruit in cross section, both $\times 1.5$; g. seeds, $\times 10$ (all Regalado 454, CAHP).

more pronounced below. *Inflorescences* axillary, few-flowered, condensed racemes, 5–7 cm long, quite rigid, deflexed; bracts and bracteoles absent; pedicels terete, 3 mm long. *Flowers* 4-merous. *Hypanthia* campanulate, 5 mm long, 3 mm wide, red-tinged, glabrous, shallowly denticulate. *Petals* obliquely ovate, 12 mm long, 7 mm wide, white, reddish near base, glabrous, membranous, reticulate. *Stamens* equal; filaments flattened, 7 mm long; anthers curved, 7 mm long. *Fruits* globose, 8–10 mm in diameter, light red, turning bluish when ripe; stalks terete, 4–5 mm long.

Distribution – Luzon (Rizal, Quezon, Camarines Sur, Sorsogon; 20 coll.).

Habitat – Along streams and riverbanks in forests at 300–800 m altitude.

75. *Medinilla oblanceolata* Merr.

Medinilla oblanceolata Merr., Philipp. J. Sc. 14 (1919) 431. — Type: Ramos & Edaño BS 30703 (holo PNH†; lecto US, here designated; iso A, K), Panay, Capiz, Mt Madias.

Shrub; branches terete, 12 mm in diameter, covered with rough strigose hairs; nodes setose, bristles 2 mm long. *Leaves* ternate, sessile; blades coriaceous, drying reddish-brown above, yellowish-green below, glabrous above, setose along midvein and lateral nerves, bristles yellowish, 3 mm long, narrowly lanceolate to lorate, 38 cm long, 10 cm wide; apices acuminate; bases attenuate; 11- to 13-plinerved, nerves flattened adaxially, raised abaxially; transverse veins numerous, more distinct abaxially. *Inflorescences* axillary, many-flowered, condensed racemes, 9 cm long, arising from old stems; peduncles woody, 5 cm long, setose; bracts lanceolate, 6 mm long, 1.5–2 mm wide; bracteoles subulate, 1 mm long; pedicels 4–6 mm long. *Flowers* 4-merous. *Hypanthia* campanulate, 7 mm long, 4–5 mm wide, glabrous, denticulate. *Petals* obovate, 8 mm long, 5 mm wide, membranous. *Stamens* equal; filaments flattened, 5 mm long; anthers straight, 7 mm long. *Fruits* globose, red when ripe, 5 mm in diameter; stalks slender, 5–6 mm long.

Distribution – Panay, known only from the type collection, endemic.

Habitat – In primary forests at low to medium elevations.

76. *Medinilla annulata* C.B. Rob. — Fig. 17

Medinilla annulata C.B. Rob., Philipp. J. Sc., Bot. 6 (July 1911) 215. — Type: Robinson BS 9002 (holo PNH†; lecto US, here designated), Polillo, San Francisco.

Medinilla brevipedunculata Elmer, Leaf. Philipp. Bot. 4 (Nov. 29, 1911) 1216, syn. nov. — Type: Elmer 7584 (holo PNH†; lecto G, here designated), Luzon, Tayabas, Lucban, Mt Banahao.

Medinilla longipes Merr., Philipp. J. Sc., Bot. 10 (1915) 278, syn. nov. — Type: Wenzel 1131 (holo PNH†; lecto MO, here designated; iso A), Leyte, Buenavista, Jaro.

Soft scandent suffrutescent shrub. Branches terete, glabrous, rooting at nodes and along internodes, bark scaly brown, 5–10 mm in diameter; branchlets terete, densely setose, the hairs soft, fine, light brown, 3–5 mm long; nodes densely setose, hairs coarse, rigid, brownish, 5–7 mm long. *Leaves* opposite, petiolate; petioles 20–30 (–80) mm long, densely setose in young leaves; blades chartaceous, upper surface glabrous and drying olive-green, lower surface moderately hirsute along veins and drying reddish-brown, elliptic to oblong-elliptic, (15–)18–25 cm long, 8–11 cm wide; apices acute or obtuse, abruptly tapering to a point 3–5 mm long; bases rounded,

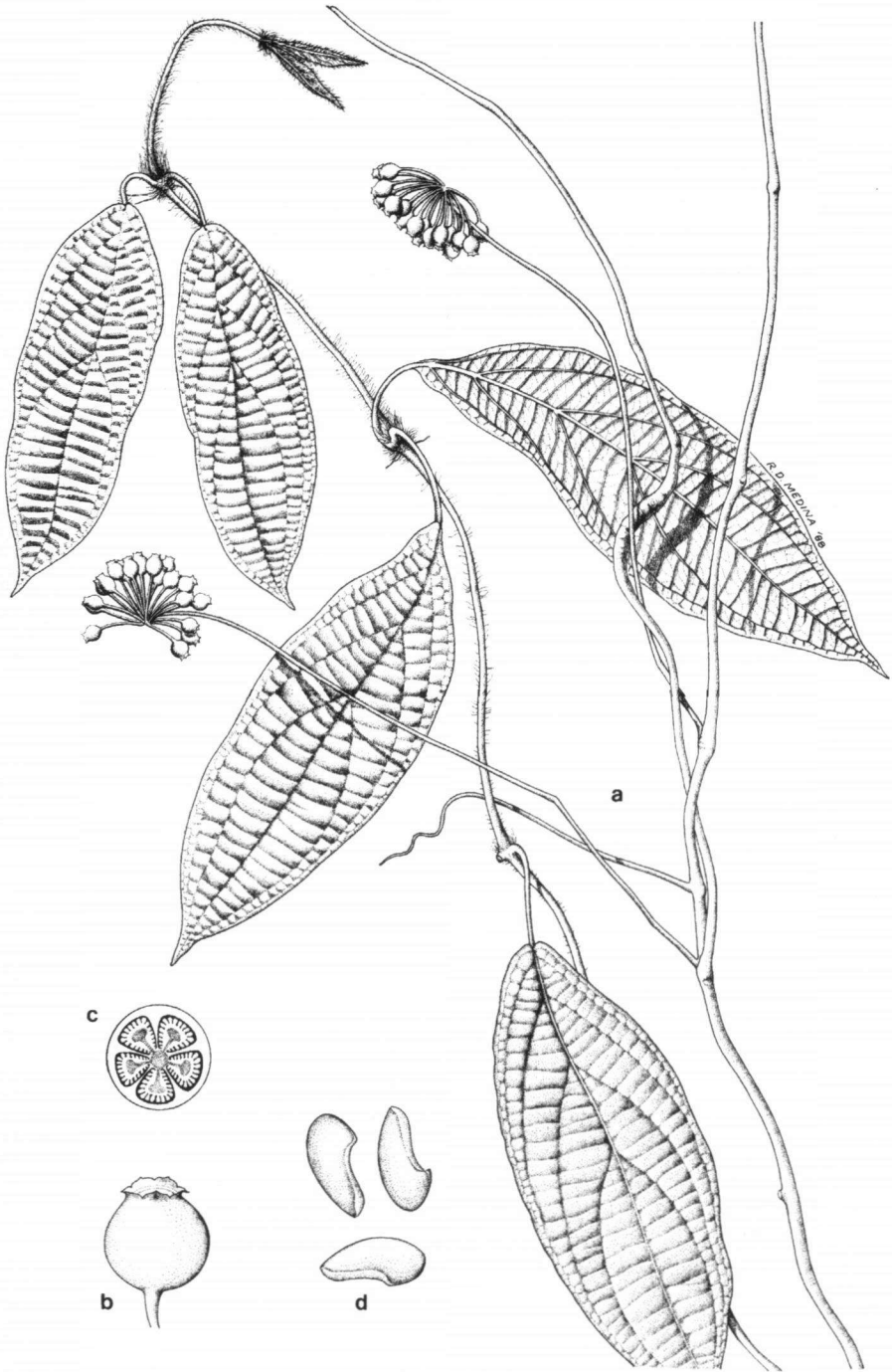


Fig. 17. *Medinilla annulata* C.B. Rob. a. Branch with infructescence, $\times 0.25$; b. fruit; c. fruit in cross section, both $\times 1.5$; d. seeds, $\times 7.5$ (all Regalado 457, CAHP).

shallowly cordate; 7- to 9-plinerved, nerves impressed adaxially, raised abaxially, bullate; transverse veins numerous (> 30 pairs). *Inflorescences* axillary, many-flowered umbel (5–)9–15 cm long, arising from nodes of climbing stems; peduncles terete, 14–20 cm long, sparsely setose; bracts and bracteoles absent; pedicels slender, 10–12 mm long. *Flowers* 5-merous. *Hypanthia* campanulate, 4 mm long, 3 mm wide, glabrous, truncate. *Petals* obliquely obovate, 7 mm long, 3–4 mm wide, glabrous, thin, membranous. *Stamens*: filaments flattened, 3–4 mm long; anthers straight, 3.5–4 mm long. *Fruits* campanulate, 4–5 mm in diameter, red at maturity; stalks reddish, 10–12 mm long.

Distribution – Sulawesi, Philippines (S. Luzon, 9 coll.; Catanduanes, 3; Leyte, 3; Mindoro, 2; Polillo, 2).

Habitat – In primary forests at 0–500(–900) m altitude.

77. *Medinilla tenuipes* Merr.

Medinilla tenuipes Merr., Philipp. J. Sc., Bot. 12 (1917) 353. — Type: *Ramos BS 15228* (holo PNH†; lecto K, here designated; iso G), Leyte, Dagami, Mt Ibuni.

Medinilla gracilipes Merr., Philipp. J. Sc., Bot. 8 (1913) 249, non *Medinilla gracilipes* Merr. (= *Medinilla tenuipes* Merr., nom. nov.).

Shrub; innovations densely brown stellate-tomentose; branchlets terete, bark reddish-brown, smooth, 10 mm in diameter; nodes densely setose, tufted with coarse bristles up to 10 mm long. *Leaves* opposite, sparingly setose to glabrescent adaxially, moderately to densely tomentose abaxially, petiolate; petioles brown stellate-tomentose, stout, 10–15 mm long; blades subcoriaceous, elliptic-lanceolate, 20–25 cm long, 7–8 cm wide; apex acuminate; bases rounded; 5-plinerved, the nerves flattened adaxially, slightly raised abaxially; transverse veins faintly distinct adaxially, absent abaxially. *Inflorescences* terminal (?), long-peduncled panicles, 12–16 cm long; peduncles slender, 5–10 cm long, densely brown stellate-tomentose; secondary branches in whorls of 4; bracts ovate-lanceolate, 3–4 mm long; bracteoles paired, minute, subulate, up to 1 mm long; pedicels 3–4 mm long. *Flowers* 4-merous. *Hypanthia* campanulate, glabrous, 4 mm long, 3 mm wide. *Petals* obovate, acute at tip, 6–8 mm long, 4 mm wide, thin, membranous. *Stamens* equal; filaments flattened, 3 mm long; anthers rostrate, 3 mm long. *Fruits* not seen.

Distribution – Leyte (1 coll.), Mindanao (Zamboanga, 1), endemic.

Habitat – In mossy forest at c. 800 m altitude.

78. *Medinilla congesta* Merr.

Medinilla congesta Merr., Philipp. J. Sc., Bot. 3 (1908) 251. - Type: *Merritt FB 9760* (holo PNH†; lecto US, here designated), Mindoro, Mt Sablayan.

Epiphytic shrub, 2–3 m high. Branches terete, glabrous, bark yellowish-grey, 5 mm in diameter; branchlets slightly setose; nodes densely setose, bristles straw-yellow, chaffy, up to 10 mm long. *Leaves* opposite, shortly petiolate; petioles thickened, 5–7 (–10) mm long; blades coriaceous, glabrous above, moderately setose below, elliptic-oblong, (9–)12–15 cm long, 6–7 cm wide; apices acuminate; bases acute to rounded; 5-plinerved, the marginal pair faintly distinct, evanescent; nerves flattened adaxially,

slightly raised abaxially; transverse veins faintly visible above, absent below. *Inflorescences* terminal or axillary, many-flowered panicles, pendulous, 20–24 cm long; peduncles slender, 12–19 cm long, reddish, densely setose, branches in whorls of 4; bracts elliptic-lanceolate, 15 mm long, 3 mm wide, glabrous, red; bracteoles obovate, up to 10 mm long, 5 mm wide, pink, persistent; pedicels c. 3 mm long, densely setose. *Flowers* 4-merous. *Hypanthia* campanulate, 3 mm long, 3 mm wide, glabrous, denticulate. *Petals* obovate, 9–10 mm long, 4–5 wide, red, glabrous, thin, membranous. *Stamens*: filaments terete, 4 mm long; anthers straight, 4 mm long. *Fruits* deep red, turning purple when ripe, 4–5 mm in diameter; stalks 2–3 mm long.

Distribution – Luzon (5 coll.), Mindoro (1), Negros (3), endemic.

Habitat – In mossy forests at 800–1700 m altitude.

Vernacular name – Yagamyon-balagon (C. Bisaya).

79. *Medinilla fenicis* Merr.

Medinilla fenicis Merr., Philipp. J. Sc., Bot. 12 (1917) 344. — Type: *Fénix BS 28426* (holo PNH†; lecto US, here designated; iso A, L, NY), Luzon, Apayao, Mt Sulu.

Small tree (?). Branches terete, bark dull brown, c. 5 mm in diameter; branchlets terete, densely tomentose; nodes sparsely setose, bristles pale yellow, 2 mm long, deciduous. *Leaves* opposite, petiolate; petioles 12–15 mm long; blades coriaceous, glabrous, elliptic, 9–10 cm long, 4–5 cm wide; apices acuminate to cuspidate; bases acute; 3-plinerved, nerves faintly visible adaxially, flattened abaxially; transverse veins absent. *Inflorescences* terminal, many-flowered panicles, up to 10 cm long; peduncles 3.5 cm long, densely brown-tomentose; bracts obovate, 8–10 mm long, 5–6 mm wide, thin, membranous, glabrous; bracteoles paired, obovate, 5 mm long, 4 mm wide; pedicels slender, 3–4 mm long, densely brown-tomentose. *Flowers* 4-merous. *Hypanthia* campanulate, 5 mm long, 4 mm wide, glabrous, minutely dentate. *Petals* obliquely obovate, obtuse at tip, 7 mm long, 4 mm wide; anthers 3–4 mm long. *Fruits* globose, 5 mm in diameter; stalks 5 mm long.

Distribution – Northern Luzon (Benguet, Kalinga, Apayao; 3 coll.), endemic.

Habitat – On damp rocky slopes above 1000 m altitude.

80. *Medinilla cordata* Merr.

Medinilla cordata Merr., Publ. Bur. Sc. Gov. Lab. 29 (1905) 37; Philipp. J. Sc., Bot. 2 (1907) 287; *Ibid.* 5 (1910) 368. — Type: *Merrill 5805* (holo PNH†; lecto US, here designated; iso NY), Luzon, Benguet, Mt Santo Tomas.

Medinilla macgregorii Merr., Philipp. J. Sc., Bot. 12 (1917) 346, syn. nov. — Type: *McGregor BS 19863* (holo PNH†; lecto US, here designated; iso L), Luzon, Ifugao, Mt Polis.

Epiphytic shrub 2–3 m high, the young parts densely stellate-tomentose. Branches terete, glabrous, sparsely pustulate; branchlets slender, glabrescent; nodes sparingly setose, bristles pale yellow, 2 mm long, deciduous. *Leaves* opposite, shortly petiolate; petioles flattened, 2–3 mm long; blades coriaceous, oval to ovate, 6–8(–9) cm long; 3–3.5(–5) cm wide; apices acute to shortly acuminate; bases rounded, subcordate, 5- to 7-plinerved; nerves flattened adaxially, slightly raised abaxially; transverse veins faintly visible to absent from both surfaces. *Inflorescences* terminal, many-

flowered panicles 5–10 cm long, the cymes arranged in whorls of 4; peduncles terete, erect, 2–3 cm long, slightly hirsute; bracts ovate, 10 mm long, 5 mm wide, glabrous, persistent; bracteoles paired, elliptic-ovate, 6 mm long, 3 mm wide, reticulately veined, persistent; pedicels terete, 3 mm long. *Flowers* 4-merous. *Hypanthia* campanulate, 3 mm long, 3 mm wide, glabrous, calyx lobes undulate. *Petals* obliquely obovate, 7–8 mm long, 4–5 mm wide, membranous, pink. *Stamens* equal; filaments 3 mm long; anthers triangular, 3 mm long. *Fruits* subglobose, 5 mm in diameter; subtended by a pair of persistent bracts; stalks terete, 5 mm long.

Distribution – Luzon (4 coll.), Mindoro (Mt Halcon, 1), Panay (Mt Madias, 1), endemic.

Habitat – In mossy forests, often common on summits of higher mountains in northern Luzon at 2000–2500 m altitude.

EXCLUDED TAXA

The short descriptions and the lack of type or topotype material do not allow me to associate species 81, 82, 83, and 85 with any other described species. The type of species 84 is an imperfect and poorly preserved specimen.

81. *Medinilla bicolor* Merr., Philipp. J. Sc., Bot. 3 (1908) 152. — Types: *Clemens 514, 885* (n.v.), Mindanao, Lanao, Camp Keithley.
82. *Medinilla copelandii* Merr., Publ. Bur. Sci. Gov. Lab. 35 (1906) 52. — Type: *Copeland s.n.* (n.v.), Mindanao, Zamboanga, San Ramon.
83. *Medinilla lateralis* Merr., Philipp. J. Sc., Bot. 8 (1913) 232. — Type: *Merrill 8292* (n.v.), Mindanao, Zamboanga, Sax River Mountains.
84. *Medinilla parva* Merr., Philipp. J. Sc., Bot. 8 (1913) 243. — Type: *Robinson 9398* (holo PNH†, n.v.), Luzon, Tayabas, Infanta, Mt Binuang.
85. *Medinilla pumilis* Elmer, Leaflet Philipp. Bot. 4 (1911) 1217. — Type: *Elmer 10533* (iso BISH, BM, F, L, MO, NY, US), Mindanao, Davao, Todaya, Mt Apo.

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INDEX TO SPECIMENS EXAMINED

The numbers between brackets refer to the corresponding numbers of accepted species names in this revision. A collection number followed by (T) indicates a type specimen.

- Agra PNH 35335 (25) — Ahern's collector FB series 1514 (T) (37); 2684 (11); 3262 (T) (25) — Alcasid PNH 1819 (80); PNH 1832 (80) — Alcasid & Edaño PNH series 4493 (20); 4529 (65); 4637 (68); 4705 (36); 4767 (73); 4769 (74); 4783 (68); 4971 (56); 4994 (65); 4997 (74); 5003 (47); 5011 (55); 5017 (6); 5023 (56); 5037 (6); 5055 (20); 5395 (55); 5405 (6) — Allen 150001 (25) — Amarillas FB 25816 (70) — Amos 7922 (24) — Anonuevo PNH series 13493 (68); 13509 (82); 13746 (36) — Australian National University (CSIRO) 1510 (8).
- Baker CAHP 2029 (68) — Balcita BF s.n. (22) — Barnes FB 937 (80) — Bartlett 13822 (13); 15750 (25); 15755 (68); 15760 (55); 17240 (6) — Bolster s.n. (UC 239721) (27); 173 (25); 250 (10); 290 (T) (27); 322 (70) — Borden FB 1338 (11); FB 1590 (56) — Britton 184 (70); 486 (70); PNH series 19565 (78); 19623 (52); 19727 (80) — Brown BS 22224 (36) — Burley 13 (1); 29 (24); 100 (5); 210 (47).
- Canicosa FO 30027 (70) — Castro PNH series 5749 (73); 5776 (20); 5840 (70) — Celestino PNH series 4313 (24); 4364 (18); 4366 (1); 4370 (25); 7801 (56); 7850 (61); 7851 (25); 7887 (80); 7895 (12); 7899 (20); 7952 (50); 7971 (50); 7976 (24); 8591 (1) — Celestino & Castro PNH 1977 (68); PNH 1991 (68) — Cenabre FO 29587 (70) — Clemens s.n. (US 850141) (1); 514 (81); 885 (81); 1136 (T) (55); 7382 (1); 9224 (80); 9382 (55); 9385 (70); 15733 (10); 16262 (24); 16262a (80); 16262b (12); 16775 (4); 16776 (10); 16947 (55); 16948 (56); 16955 (20); 16957 (20); 16958 (47); 17461 (24); 17462 (23); 17816 (80); 17817 (12); 18406 (19); 18772 (12); 18773 (1); 18774 (18); 18775 (25) — Co 3267 (36); 3406 (58); 3813 (14) — Conklin PNH 17399 (2); PNH 17400 (6) — Conklin & Buwaya PNH series 79578 (18); 79613 (20); 79641 (56); 80642 (20); 80650 (60) — Conklin & del Rosario PNH 72670 (25) — Convocar PNH 2816 (6) — Coode 5368 (6); 5417 (68); 5466 (65); 5610 (20) — Copeland s.n. (82); 267 (56); 439 (36); 1027 (56); 1028 (55) — Croat 53070 (68) — Cuming 753 (T) (55); 758 (T) (25); 836 (T) (2); 1333 (T) (61); 1487 (T) (70); 1687 (39) — Curran FB series 4888 (18); 10929 (1); 10956 (24); 12289 (T) (39); 12387 (T) (21); 17353 (T) (33); 17397 (T) (30); 19263 (27) — Curran & Merritt FB 7866 (68); FB 15829 (68) — Curran, Merritt & Zchokke FB 18095 (80); FB 18105 (T) (24).
- Darling BS 14451 (80); FB 14470 (25) — Denoga FB 30596 (68).
- Ebaló 707 (70); 708 (27); 809 (70); 959 (70) — Edaño BS series 41770 (55); 41781 (76); 41820 (82); 41829 (52); 42349 (70); 42374 (65); 42375 (6); 42430 (27); 42467 (6); 45970 (27); 46010 (22); 46037 (70); 46095 (17); 75860 (26); 75872 (70); 75891 (76); 75915 (73); 75921 (27); 75977 (55); 75983 (72); 75992 (29); 76030 (52); 76039 (55); 76044 (55); 76058 (26); 76100 (68); 76160 (72); 76263 (2); 76277 (55); 76302 (74); 76317 (74); 76383 (29); 76449 (29); 77474 (55); 77509 (13); 77535 (58); 77737 (55); 78434 (25); 78436 (28); 78501 (56); 78510 (28); 79239 (7); 79396 (65); PNH series 52 (13); 92 (58); 116 (55); 121 (70); 182 (13); 308 (55); 362 (58); 377 (13); 380 (13); 387 (13); 960 (14); 972 (68); 1004 (1); 1010 (83); 1021 (55); 1028 (55); 1033 (55); 1035 (68); 1065 (1); 1082 (34); 1087 (10); 1107 (1); 1125 (1); 1138 (36); 1142 (13); 1290 (70); 1327 (19); 1336 (44); 1340 (19); 1351 (3); 1358 (14); 1359 (56); 1362 (3); 1364 (8); 1373 (3); 1410 (14); 1423 (55); 1424 (14); 1432 (55); 1436 (14); 1450 (3); 1467 (3);

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