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Cover images: *Catanthera keris* Veldk. (1. Inflorescences; 2. Close up flower; 3. Flower bud), *Medinilla squillula* Veldk. (4. Habit; 5. Branches; 6. Fascicle of uniflorous infructescences), *Medinilla uninervis* Veldk. (7. Habit. Note 1-nerved leaves; 8. infructescence; 9. Immature and mature fruits), *Medinilla zoster* Veldk. (10. Habit; 11. Inflorescences; 12. Flower). Photo credits: Bangun 223, Lowry & Phillipson 7287, Mahroji, Fabanyo & Soleman 69, Callmander, *et al.* 1067.

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NEW SPECIES OF *CATANATHERA* AND *MEDINILLA* (MELASTOMATACEAE) FROM HALMAHERA, INDONESIA AND A NEW NAME FOR A *MEDINILLA* FROM MADAGASCAR

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ABSTRACT

VELDKAMP, J. F. & KARTONEGORO, A. 2017. New species of *Catanthera* and *Medinilla* (Melastomataceae) from Halmahera, Indonesia and a new name for a *Medinilla* from Madagascar. *Reinwardtia* 16(1): 25 – 30. — One new species of *Catanthera* and four of *Medinilla* (Melastomataceae) from Halmahera, Moluccas, Indonesia, are described. One also occurs in Morotai. A new name was needed for *M. intermedia* H. Perrier (1932), non Blume (1831), from Madagascar.

Key words: Anisomorphous anthers, Moluccas, Morotai.

ABSTRAK

VELDKAMP, J. F. & KARTONEGORO, A. 2017. Jenis-jenis baru *Catanthera* dan *Medinilla* (Melastomataceae) dari Halmahera, Indonesia dan satu nama baru *Medinilla* dari Madagascar. *Reinwardtia* 16(1): 25 – 30. — Dipertelakan satu jenis baru *Catanthera* dan empat jenis *Medinilla* (Melastomataceae) dari Halmahera, Maluku, Indonesia serta satu jenis tersebar sampai ke Morotai. Satu nama baru diperlukan untuk menampung *M. intermedia* H. Perrier (1932), non Blume (1831), dari Madagascar.

Kata kunci: Anter anisomorfus, Maluku, Morotai.

INTRODUCTION

During a survey of the PT Weda Bay Nickel for their Flora Inventory Programme on Halmahera, Moluccas, Indonesia, many interesting species were collected. Here a summary of some Halmahera Melastomataceae is presented. *Catanthera* F. Muell. and *Medinilla* Gaudich. are new generic records for the island.

CATANATHERA F. Muell.

In his revision of *Catanthera* F. Muell. (Melastomataceae) Nayar (1982) gave a map that showed a disjunction in the distribution of the genus between western (Sumatra, Borneo) and eastern (New Guinea) Malesia, the genus apparently being absent in Celebes, the Moluccas and the Philippines. In the meanwhile collections have come in from Celebes, Morotai and Halmahera (Moluccas) and Palawan (Philippines).

In the Dissochaetae there are two whorls of stamens, an outer, alternipetalous one, where except for *Diplectria* (Blume) Rchb., the anthers are always fertile and in case of heteromorphy are the longest ones, and an inner, epipetalous one, which may have smaller anthers, be staminodial, or even

absent. In *Diplectria* the situation is reversed: the alternipetalous stamens are staminodial and the epipetalous are fertile. All species of *Catanthera* seen follow the usual mode, but the reverse one is present in the Halmahera collection (Bangun *et al.* 223). There the alternipetalous anthers are still the longest, but they are strap-shaped and staminodial, while the epipetalous although much more compact are fertile.

Catanthera keris Veldk., *spec. nov.* ☒ Fig. 1

Petioles 8 – 10 mm long, furfuraceous. *Leaf* blades elliptic, 5-plinerved, second pair of basal nerves branching off 2 – 3 mm above the basal ones, underneath between the nerves sparsely puberulous. *Inflorescence* cymose, furfuraceous. *Hypanthium* in flower 6 – 7 mm wide, shortly furfuraceous. Mature floral buds *ca.* 12 mm long. Petals ovate. Anthers very heteromorph. Alternipetalous anthers sterile, strap-shaped, *ca.* 11 mm long, plectrum *ca.* 0.7 mm long, appendages *ca.* 0.7 mm long. Epipetalous anthers fertile, straight, swollen, hemi-circular in side view, 6 – 6.5 mm long. — Type: *Bangun, Andriamahefarivo, Razakamalala & Mahroji* 223. (Holotype: L!, Isotype: BO!, MO).



Fig. 1. *Catanthera keris* Veldk. A. Inflorescences; B. Close up flower; C. Flower bud (Bangun 223, <http://www.tropicos.org/Specimen/100550447?projectid=55>)

Innovations furfuraceous. Leaf blades 4.5 – 4.7 by 2.3 – 3 cm wide, 1.5 – 2 times as long as wide, base rounded to truncate, apex acute or acuminate, second pair of basal nerves branching off 2–3 mm above the basal ones. Inflorescences fascicled, 2 – 10-flowered, 3.5 – 5 cm long, furfuraceous. Pedicel 10 – 20 mm long. Hypanthium campanulate to urceolate, in flower 5.5 – 6.5 by 6 – 7 mm wide, margin truncate, shortly furfuraceous. Ovary apex glabrous. Extra-ovarian chambers to the base of the ovary. Mature floral buds *ca.* 12 mm long. Petals ovate, *ca.* 12 mm long, pink. Anthers eight. Alternipetalous anthers stipitate, *ca.* 11 mm long. Epipetalous anthers filament glabrous, anthers cinnamon (*i.s.*); plectrum lanceolate, 1.5 – 2 mm long; lateral appendages auriculiform, *ca.* 0.6 mm long. Style glabrous.

Distribution. Indonesia, Moluccas, Halmahera, Weda Bay, Bukit Limber 00° 32' 41" N, 127° 58' 32" E. Only known from the type.

Habitat. Degraded primary forest, open place, 860 m alt.

Etymology. The epithet has been derived from the sterile anthers, which to a fertile imagination resemble this Malesian weapon.

Notes. Remarkable for the very anisomorphous stamens, the longer ones strap-shaped with patent plectrum and appendages. There is a collection from Morotai, G. Pare-Pare (Kostermans 1243, BO, L) which is very similar, but the L specimen lacks petals and stamens.

Phenology. Flowering in December.

Collector's notes. Liana, 10 m tall. Stem grey. Leaves glaucous golden beneath. Peduncle pink. Hypanthium pale green and glaucous golden.

Petals, stigma pink. Stamens [prob. staminodes] white, striped yellow. Style white.

MEDINILLA Gaudich.

Medinilla in Malesia has an estimated number of *ca.* 215 species, many of which, especially in Celebes, the Lesser Sunda Isles, the Moluccas and New Guinea, are still undescribed (Bodegom & Veldkamp, 2001). Most species have a limited distribution. For the Moluccas 12 species have been recorded, but none yet for Halmahera (Bakhuizen f., 1943).

The author of the generic name is Gaudichaud (1826), not De Candolle (1828) as is usually cited (Bodegom & Veldkamp, 2001: 534–537).

Remarkably, strongly anisomorphous anthers have not been described for the genus, perhaps because the authors have neglected their presence. A survey is thus much needed, which was beyond the scope of this paper.

1. *Medinilla pellita* Veldk. & Karton., *spec. nov.* – Fig. 2.

MEDINILLA VERRUCIFERA Ohwi, ined.

Shrub (terrestrial ?). Innovations glabrous (n.v.). Branchlets terete, brown, with verrucose lenticels, and many black, branched adventitious roots, forming a kind of pelt. Leaves opposite, equal (?). Leaf axils glabrous. Petioles flattened, 0.5 – 1 cm by *ca.* 10 mm, glabrous. Leaf blades elliptic, 13 (and longer) by 6 – 12 cm wide, *ca.* 1.6 times as long as wide, *ca.* 13 (or more) times as long as the petiole, base attenuate, margin entire, glabrous, apex acute (?), underneath glabrous, submarginal vein conspicuous. Primary venation 3- or 5-plinerved, all arising from the very base; secondary nerves inconspicuous, oblique; tertiary nerves absent. Hypanthium at anthesis urceolate, *ca.* 3.5



Fig. 2. Isotype of *Medinilla pellita* Veldk. & Karton. (Pleyte 255, BO)

by 4 mm, glabrous, truncate, rim erect to flaring. — Type: Pleyte 255 (Holotype: L!, Isotype: BO!).

Distribution. Indonesia, Moluccas, Halmahera, Tasoas – Mt. Sembilan, near Mumar River; ? West New Guinea (Mamberamo, Merauke).

Habitat. Thinned out forest, 300 m alt.

Phenology. Flowering, fruiting in September.

Collector's notes. Shrub, 2 m. Flowers white. Fruits red. Common.

Notes. This is a most peculiar species because of the pelt of adventitious rootlets. It may not be ruled out that these are caused by ecological factors, e.g. the terrestrial (?) shrub living on waterlogged and anaerobic soil and has to take up water in this way.

Unfortunately in the L specimen the larger blades have been cut in half transversally to fit the drying press, so it cannot be ascertained whether the pairs are anisophyllous, how long they were and what the apices look like.

Ohwi had labelled the BO duplicate as *M. verrucifera* Ohwi, ined., and also identified *Docters van Leeuwen 9055* (Albatros Bivak, along the Mamberamo River) and *Versteeg 1016* (Van Weel's Kamp, Merauke) from New Guinea as such. The legendary pre-identifier Nedi added *Anang 268*, also from Halmahera, to it. These collections were not seen by Bakhuizen F. (1943).

We have taken the liberty to change Ohwi's manuscript name, as there are several species with warty bark, but none, as far as we know, with such a pelt of rootlets.

2. *Medinilla squillula* Veldk., *spec. nov.* ☒ Fig. 3.

Innovations glabrous. Branches terete. Leaves in whorls of 3 or 4; petioles 2 – 3 cm long; blades oblong, 8.5 – 11 by 3 – 4 cm, 1-nerved. Inflorescences axillary and cauliflorous, 1-flowered; peduncle 0.3 – 0.5 cm long. Flowers 5-merous. Pedicels at anthesis 2 – 3 mm long. Hypanthium rim truncate. Stamens anisomorphous. — Type: *Lowry & Phillipson 7287* (Holotype: L!, Isotype: BO!, MO).

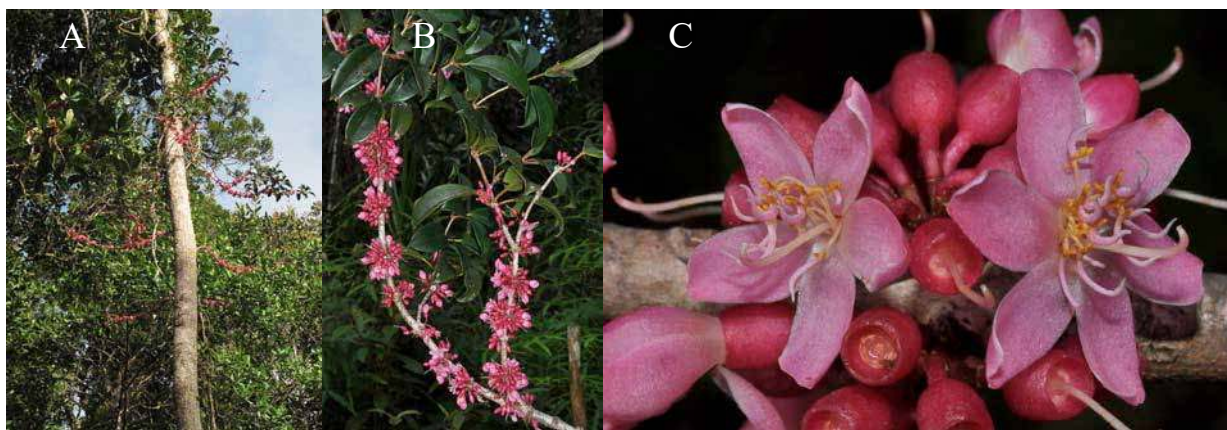


Fig. 3. *Medinilla squillula* Veldk. A. Habit; B. Branches; C. Fascicle of uniflorous inflorescences (Lowry & Phillipson 7287, <http://www.tropicos.org/Specimen/100560752>)



Fig. 4. *Medinilla uninervis* Veldk. A. Habit. Note 1-nerved leaves; B. Infructescences; C. Immature and mature fruits. (Mahroji, Fabanyo & Soleman 69, <http://www.tropicos.org/ImageSearch.aspx>)

Branchlets cinereous, with verrucose lenticels. Leaves equal. Leaf axils glabrous. Petioles flattened and broadened at base, 5 – 6 mm wide, glabrous. Leaf blades *ca.* 2.75 times as long as wide, 3.7 – 4.25 times as long as the petiole, base cuneate, margin entire, glabrous, apex acuminate, underneath glabrous, submarginal veins inconspicuous; secondary nerves inconspicuous, oblique; tertiary nerves absent. Inflorescences fascicled, simple cymes. Bracts absent. Bracteoles present. Pedicels glabrous. Hypanthium at anthesis short cylindrical, 6 – 9 by 4.5 – 5 mm, glabrous. Extra-ovarian chambers reaching to *ca.* half the length of the hypanthium. Epipetalous anthers fertile, shrimp-shaped, 4 – 5 mm long, ventrally bullate, superior in flower at anthesis; alternipetalous anthers staminodial, strap-shaped, 7 – 10 mm long, inferior at anthesis. Dorsal spur lanceolate, 0.6 – 1 mm long; lateral appendages connate into a Y-shaped body, not recurved, 1 – 1.2 mm long. Style glabrous. Fruits not seen.

Distribution. Indonesia, Moluccas, Halmahera, Weda Bay road to Bukit Limber, 00° 33' 00" N, 127° 59' 34" E. Only known from the type.

Habitat. Epiphytic on margin of humid forest, 935 m alt.

Phenology. Flowering in January.

Etymology. The epithet refers to fertile anthers that resemble small shrimps.

Collector's notes. Small [epiphytic] shrub, *ca.* 6 m above the ground. Leaves dark green above, paler below. Petiole tinged yellow-orange. Pedicel, ovary pink-red. Filaments, style cream. Anthers yellow.

3. *Medinilla uninervis* Veldk., *spec. nov.* – Fig. 4.

Shrub glabrous. Branches terete. *Leaf* axils glabrous. Petioles 1.5 – 3 cm by 2 – 2.7 mm. Blades elliptic, 12 – 17 by 6 – 8 cm, 1.9 – 2.1 as long as wide, 1-nerved, base attenuate, apex obtuse and abruptly acuminate to nearly aristate. *Inflorescences* in axillary to cauliflorous fascicles. Flowers solitary, *peduncles* 1.5 – 3 mm long, pedicels 5–6 mm long. Flowers 5-merous. — Type:



Fig. 5. *Medinilla zoster* Veldk., A. Habit; B. Inflorescences; C. Flower (Callmander, *et al.* 1067. <http://www.tropicos.org/Image/100231129> and <http://www.tropicos.org/Specimen/100550913>)

Mahroji, Fabanyo & Soleman 69 (Holotype: L!, Isotype: BO!, MO).

Liana. Innovations probably glabrous (not seen). Branchlets cinereous, with verrucose lenticels. Leaves in whorls of 3 or 4, equal. Petioles flattened, glabrous. Leaf blades 5 – 8 times as long as the petiole, margin entire, glabrous, underneath glabrous, submarginal veins conspicuous, 1-nerved; secondary nerves conspicuous, oblique; tertiary nerves absent. Bracts present (scars only); bracteoles not seen (early caducous?). Pedicels glabrous. Hypanthium urceolate, 8 – 10 by 6 – 8 mm, glabrous, truncate. Petals *ca.* 11 by 6 mm. Anthers anisomorph, fertile, the shorter ones *ca.* 5 mm long, dorsal spur *ca.* 1 mm long, lateral appendages free, *ca.* 1 mm long; the longer ones *ca.* 9 mm long, dorsal spur 0.5 – 1 mm long, lateral appendages fused, T- or Y-shaped, 1 – 1.3 mm long. Extra-ovarian chambers reaching to the base of the hypanthium. Fruits *ca.* 10 by 8 mm, glabrous.

Distribution. Indonesia, Moluccas, Halmahera, km 6 to Bukit Limber, 00° 30' 38" N, 128° 00' 25" E (Type); Weda Bay, Bukit Limber 00° 29' 42" N, 128° 1' 20" E (*Bangun, Haris & Mahroji 860* (BO, L, MO); without locality (*Pleyte 348*, BO, L, flower!)).

Habitat. Disturbed forest, 260 – 450 m alt.

Phenology. Flowering in September, fruiting in October.

Collector's notes. Woody liana, climbing up to 12 m. Outer bark grey, inner bark brown. Bole cream coloured, brown. Fruit cream, pale red, pink turning maroon [*i.e.* chestnut-coloured, probably the hypanthium in flower is meant; in fact the ripe fruits are dark purplish blue, "blueberry" blue].

Notes. Most peculiar is the apparent pinnate venation with a single midrib, hence the epithet. Uninerved leaves have been seen in *M. membranacea* Merr. (Luzon, the Philippines), *M. radicans*

(Blume) Blume var. *radicans* (Java and the Lesser Sunda Isles) (see below) and *M. squillula* Veldk., described here from Halmahera.

4. *Medinilla zoster* Veldk., *spec. nov.* – Fig. 5.

Innovations glabrous, branches terete. Leaves paired or in whorls of four, petiolate, obovate, widely 3-plinerved. Inflorescences axillary, later cauliflorous, peduncle well-developed, 1- or 2-(or few?)-flowered. Flowers 5- or 6-merous. Anthers anisomorphous. — Type: *Callmander, Mahroji & Soleman 1067* (Holotype: L!, Isotype: BO!, MO).

Branchlets terete, greyish, with verrucose lenticels. Leaves equal, petiolate, axils glabrous. Petioles terete, 1.7 – 2.5 cm by 1.5 – 2 mm, glabrous. Leaf blades obovate, 5.5 – 10 by 3.5 – 8.5 cm, 1.55 – 2.4 times as long as wide, 3.4 – 5.6 times as long as petiole, base attenuate, margin entire, glabrous, apex obtuse, abruptly apiculate, underneath glabrous, submarginal veins inconspicuous, 3-plinerved, the lateral nerves arising 9 – 10 mm from base. Secondary nerves inconspicuous, oblique; tertiary nerves absent. Inflorescences axillary to cauliflorous, solitary, simple cymes, 1 – 3-flowered. Peduncle 1 – 3 cm long. Bracts and bracteoles *n.v.* Pedicels at anthesis and in fruit 9 – 15 mm long, glabrous. Hypanthium at anthesis wine-glass-shaped, 10 – 11 by 6.5 – 7 mm, glabrous, truncate. Extra-ovarian chambers reaching to the base of the hypanthium. Stamens anisomorphous, the epipetalous ones fertile, the alternipetalous ones staminodial; epipetalous anthers more or less tubular, *ca.* 8 mm long, alternipetalous anthers more or less S-shaped, apex attenuate, 10 – 11 mm long. Dorsal spur oblong, *ca.* 1 mm long (inserted 1 – 1.2 mm above the filament in the staminodes); lateral appendages free, not recurved, 1.3 – 1.5 mm long. Style with microscopic glassy hairlets. Fruits urceolate, *ca.* 12 by 10 mm, rim truncate.

Distribution. Indonesia, Moluccas, Halmahera, Weda Bay, Doromesmesan, 00° 29' 23" N, 127°

54° 30" (Type); *Gushilman et al.* 213 (BO, L, MO; frt), 00° 29'56"N, 127° 54'22"E; Morotai, Sambiki River (*Kostermans* 898; BO, L; frt).

Habitat. Open logged area in tropical lowland forest on limestone, 60–110 m alt.

Phenology. Flowering in January; fruits in May, December.

Etymology. The epithet refers to the lianoid habit, "zoster" = belt, girdle.

Collector's notes. Woody liana. Bole red. *Peduncle* green. Pedicel and calyx pink. Petals white [with a tinge of pink]. Fruit white.

Notes. *Callmander et al.*, 1067 has pinkish pedicels and fruits (fig. 10, 11), while in *Gushilman et al.*, 213 they are purple (fig. 13).

Additional notes.

During searches to identify the current collections, it was noted that *M. intermedia* Blume (1831), an endemic from Java, has a later homonym: *H. intermedia* H. Perrier (1932; 1951) from Madagascar. The two have been much confused on the internet. We here rename the latter in honour of its discoverer and describer, Joseph Marie Henri Alfred ("Henri") Perrier de la Bâthie (1873–1958), outstanding explorer of Madagascar (Dorr, 1997: 338).

Medinilla perrieri Veldk. & Karton., *nom. nov.*

Medinilla intermedia H. Perrier, *Mém. Acad. Malgache* 12: 180. 1932; in Humbert, *Fl. Madagascar* 153: 250, t. XL, f. 1–6, non Blume (1831). — Lectotype: *Perrier de la Bâthie 14181* (Holotype: P00061493; Isotype: P00061494), designated here.

MEDINILLA RADICANS (Blume) Blume

Flora 14 (1831) 509; *Rumphia* 1 (1835) 15, t. 3. — *Melastoma radicans* Blume, *Bijdr.* 17 (1826) 1069. — Type: *Anon. s.n.* (L, holo), Java, Mt. Salak, first step designation by Bakhuizen v.d. Brink f. (1943: 161), L. 908.129–113, designated here. Note that Blume's drawing of the transverse sec-

tion of the hypanthium shows five cells while elsewhere (1826, 1831, 1835) he described the flowers as "octandris (rarissime decandris)".

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Scope. *Reinwardtia* is a scientific irregular journal on plant taxonomy, plant ecology and ethnobotany published in June and December. Manuscript intended for a publication should be written in English.

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Identification key. Taxonomic identification key should be prepared using the aligned couplet type.

Nomenclature. Strict adherence to the International Code of Nomenclature is observed, so that taxonomic and nomenclatural novelties should be clearly shown. English description for new taxon proposed should be provided and the herbaria where the type specimens area deposited should be presented. Name of taxon in taxonomic treatment should be presented in the long form that is name of taxon, author's name, year of publication, abbreviated journal or book title, volume, number and page.

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