

REINWARDTIA

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*A JOURNAL ON TAXONOMIC BOTANY
PLANT SOCIOLOGY AND ECOLOGY*

Vol. 13(2): 95 — 220, November 2, 2010

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REVISION OF DISSOCHAETA (MELASTOMATACEAE) IN JAVA, INDONESIA

Received April 1, 2010; accepted May 4, 2010

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ABSTRACT

KARTONEGORO, A. & VELDKAMP, J.F. 2010. A revision of *Dissochaeta* (Melastomataceae) in Java. *Reinwardtia* 13(2): 125–145. — There are 12 species of *Dissochaeta* (Melastomataceae) in Java, Indonesia: *D. bakhuizenii*, *D. bracteata*, *D. decipiens*, *D. fallax*, *D. gracilis*, *D. inappendiculata*, *D. intermedia*, *D. leprosa*, *D. monticola*, *D. reticulata*, *D. sagittata* and *D. vacillans*. *Diplectria* and *Macrolenes* are regarded as separate genera and species traditionally classified within the latter have not been included. *Dissochaeta leprosa*, *D. reticulata*, and *D. sagittata* are reinstated as species. *Dissochaeta gracilis* is the most common species of *Dissochaeta* and *D. bracteata* is the rarest one. There are no endemics for the island. Each taxon is provided with literature references, synonymy, morphological descriptions, distribution, ecological habitat, collector's notes, and notes. An identification key and a list of collections seen are included.

Key words: alternipetalous; *Dissochaeta*; Java; *Melastomataceae*; oppositipetalous.

ABSTRAK

KARTONEGORO, A. & VELDKAMP, J.F. 2010. Revisi *Dissochaeta* (Melastomataceae) di Jawa. *Reinwardtia* 13(2): 125–145. — Terdapat 12 jenis *Dissochaeta* (Melastomataceae) di Jawa, Indonesia: *D. bakhuizenii*, *D. bracteata*, *D. decipiens*, *D. fallax*, *D. gracilis*, *D. inappendiculata*, *D. intermedia*, *D. leprosa*, *D. monticola*, *D. reticulata*, *D. sagittata* dan *D. vacillans*. *Diplectria* dan *Macrolenes* ditetapkan sebagai marga yang terpisah dan jenis–jenis yang sebelumnya diklasifikasikan di dalamnya tidak disertakan. *Dissochaeta leprosa*, *D. reticulata*, dan *D. sagittata* ditempatkan kembali dalam status jenis. *Dissochaeta gracilis* adalah jenis yang paling umum dan *D. bracteata* adalah jenis yang jarang. Tidak ada jenis yang endemik untuk pulau ini. Setiap takson ditampilkan dengan referensi literatur, sinonim, deskripsi morfologi, distribusi, habitat ekologi, catatan kolektor dan catatan. Kunci identifikasi dan daftar koleksi yang dilihat juga disertakan.

Kata Kunci: *alternipetalous*; *Dissochaeta*; Jawa; *Melastomataceae*; *oppositipetalous*.

INTRODUCTION

Dissochaeta Blume (1831; *Melastomataceae*) was based on 15 species of which some had originally been described under *Melastoma* L. The name *Dissochaeta* refers to the two filiform appendages at the base of the anthers (Backer, 1936). Thirteen of these species are from Java: *D. cyanocarpa* (Blume) Blume [now a synonym of *Diplectria divaricata* (Willd.) Kuntze; Veldkamp *et al.*, 1978], *D. fallax* (Jack) Blume, *D. fusca* Blume, *D. gracilis* (Jack) Blume, *D. inappendiculata* Blume, *D. intermedia* Blume, *D. leprosa* (Blume) Blume, *D. monticola* Blume, *D. reticulata* Blume, *D. sagittata* Blume, *D. vacillans* (Blume) Blume, and *D. velutina* Blume. In 1849 he added 5 more of which 3 came from Java:

D. cinnamomea Blume, *D. decipiens* Blume, and *D. ligulata* Blume. Blume distinguished unranked groups of species with either 4 stamens (“*Tetrandrae*”) or with 8 stamens (“*Octandrae*”). The latter group was divided again into one for one species where all stamens are fertile [*D. pallida* (Jack) Blume] and one for one with 4 fertile stamens and 4 staminodes (*D. cinnamomea*). The rest group he tentatively referred to sect. *Diplectriae* Blume which is here regarded as a distinct genus, *Diplectria* (Blume) Rchb. Cogniaux (1891) had a similar division with the species with 8 stamens in sect. *Diplostemones* Cogn. and those with 4 in sect. *Isostemones* Cogn. The lectotype of *Dissochaeta* is *D. vacillans*, designated in this paper, yet the sectional name *Diplostemones* to which it belongs does

not become invalid, as lectotypification is not retroactive.

In his revision of the *Melastomataceae*, Bakhuizen van den Brink f. (1943; 1965) recognized 7 woody genera of climbers: *Backeria* Bakh. f., *Creochiton* Blume, *Dalania* Korth., *Diplectria* (Blume) Rechb., *Dissochaeta* Blume, *Macrolenes* Naudin (formerly known as *Marumia* Blume, 1831, non Reinw., 1825), *Neodissochaeta* Bakh. f., and *Omphalopus* Naudin. Veldkamp (1978) put *Backeria* in the synonymy of *Diplectria* and *Neodissochaeta* in that of *Dissochaeta* Maxwell (1981, 1984) regarded *Omphalopus* and *Dalania* as synonyms of *Dissochaeta*.

According to a molecular study, *Dissochaeta* (including the allied genera *Macrolenes* and *Diplectria*) was strongly supported as a monophyletic group (Clausing & Renner, 2001). Those three genera have the character of a scrambling habit as a synapomorphy. Consequently, Renner *et al.* (2001) united them into *Dissochaeta*. The generic boundaries among the three are problematic due to intermediary species and doubtful homology assessments. Their placing in one clade can still be considered as a matter of sister lineages. The development of the calyx and the development of the stamens are there considered to be of infra-generic value. This is of course a taxonomic decision and depends on a personal evaluation. *Creochiton* that also has a scrambling habit was retained as a distinct genus. Together with shrub genus *Pseudodissochaeta* M.P. Nayar all can be placed in the subtribe *Dissochaetinae* Naudin (Clausing & Renner, 2001).

As said, the species of *Dissochaeta* species are climbers or scramblers. They are usually found at the edges of primary or secondary forests. They are pioneers in the Chablis, gaps, and openings after shifting cultivation, fires, or logging, etc. In this, they are similar to the allied genera *Diplectria* and *Macrolenes*. Java has two main types of forest. In the West, it is the wet rain forest that gradually passes into a drier condition in the East. The genus occurs especially in the West from Mount Pulosari in Banten to Mount Slamet in Banyumas, Central Java, *Dissochaeta fallax* and *D. leprosa* have been found in some places in East Java.

In Java, *Dissochaeta* is easily distinguished from *Diplectria* and *Macrolenes* by floral characters. The calyx has hardly any lobes and there are 4 or 8 stamens, where the alternipetalous ones are fertile and larger and the oppositipetalous smaller, sometimes reduced or staminodial. *Macrolenes* has well-developed calyx lobes, the 4 or 8 stamens are fertile, while there are no staminodes. The alternipetalous stamens have 2 or more, and then dense filiform appendages. In *Diplectria* the oppositipetalous

stamens are fertile and the alternipetalous ones are staminodial and very different in shape. These morphological differences caused us to retain *Dissochaeta* as distinct from *Diplectria* and *Macrolenes*.

This revision was based on morphological characters on specimens seen in BO, CHTJ, and some on loan from L. Some type specimens were seen from photo images available from websites provided by L, NY, and U (now in L). Recently, a revision of the genus for Malesia/Indonesia has begun in BO, starting with the species of Java.

GENERAL MORPHOLOGY OF DISSOCHAETA IN JAVA

Habit

Dissochaeta species (just as those of *Diplectria* and *Macrolenes*) are woody root-climbers. As the inflorescences are terminal, the ultimate branching mode is sympodial. The branchlets are usually terete or angular, but rarely flattened. They have a variable indument, hairs may be absent (*D. gracilis*), or, when present, simple, or stellate. Many parts may also be bristly or scaly. Almost all species have swollen nodes and interpetiolar lines, ridges, or crests, which are often annular as in *Dissochaeta reticulata*.

Leaves

The petiole is usually well-developed, always terete, dorsally grooved, and with the same indument as the branchlets. From the leaf base arise 1 to 3 pairs of lateral veins and the venation is acrodromal. The shape of the blades is quite variable, usually they are ovate to lanceolate, with a rounded or sometimes cordate base (as in *D. fallax*, *D. intermedia*, and *D. leprosa*), entire margins, and an acute to acuminate tip. The upper sides are always glabrous at maturity, the lower sides are glabrous (*D. gracilis*) or densely tomentose (*D. leprosa*).

Inflorescences

The inflorescences are terminal and axillary, thus forming sometimes large thyrses, very commonly with up to 5 ramifications. The ultimate branching is cymose and thus the central flowers always have longer pedicels and are larger than the lateral ones. Bracts are present at each node of the inflorescences and there is a pair of bracteoles at the base of each pedicel. Both are usually inconspicuous and (early) caducous. The axes of the inflorescences and infructescences are usually quadrangular with an in-

dument similar to those of the branchlets. *Dissochaeta gracilis* has glabrous branchlets and axes.

Flowers

The calyx tube, or rather the hypanthium, is campanulate, urceolate, or tubular. Often there are 4 or 8 vertical ridges, at least when dry. The indument is variable, ranging from absent, with scattered hairs, or nearly densely tomentose. In a few species it is bristly. Its rim is either truncate, as in *D. reticulata*, or has distinct rounded and triangular lobes as in *D. leprosa*. *Dissochaeta intermedia* and *D. leprosa* appear to be distinct by the shape and size of the hypanthium while in the other characters they are very similar. The slender hypanthium has a truncate rim in *D. intermedia* while it is robust with a triangular rim in *D. leprosa*.

The petals usually form a conical bud, or it is rounded with tubular or angular sides. Petals with acuminate tips in bud are uncommon, e.g. in *D. reticulata*. The base of the petals is thin, conspicuous, symmetric, glabrous, and colourful. However, the colour of the petals appears to be variable and is of no use as a diagnostic character. Some petals have appressed hairs at the base or minute ones at the margin.

The characters of the stamens are generally considered to be of great taxonomic importance for the *Melastomataceae*. Here there are normally two, dimorphic staminal whorls, an outer, alternipetalous whorl and an inner, oppositipetalous one (Maxwell, 1981). Alternipetalous are stamens that alternate with the attachment of the petals and oppositipetalous are those that are opposite to the attachment of the petals. The alternipetalous stamens are usually larger and always fertile, while the oppositipetalous ones are smaller, reduced, staminodial or absent. The anthers in both types are ovate to linear, glabrous, rarely tessellate, beaked or not, with a single opening pore, rarely with 2. Staminodes are less than 1/3 as long as the alternipetalous stamens and (of course) lack pollen. The filament is attached at the base, dorsal or at the middle of the anther. The connective usually has one dorsal appendage (known as a crest or basal crest) and two lateral ones. The crests are membranous, triangular, oblong, or ligular. The lateral appendages are solitary or paired, filiform to ribbon-like, sometimes they are divided at the apex. The staminodes have a curved filament and an erect spuriform crest. The differences in staminal characters are useful at the specific level. On the basis of vegetative characters, *D. bakhuiizenii* Veldk. and *D. vacillans* are not easily distinguished, but in their staminal characters they are quite distinct: *Dissochaeta bakhuiizenii* dif-

fers from *D. vacillans* by the unappendaged crest of all stamens. In *Dissochaeta reticulata* the stamens have crests without appendages, while the oppositipetalous ones have ligular and erect crests. *Dissochaeta fallax* has anthers very different from the other species. The surface is tessellate while in the others it is smooth. The filament is attached in the middle, not at the base. Therefore, it has been regarded as a distinct genus, *Omphalopus*, or as a monotypic section, *Omphalopus* (Naudin) Baill.

The ovary is from half to nearly 2/3 times as long as the hypanthium. The apex is usually glabrous, but sometimes densely pubescent. It is crescent with the hypanthium with or without septa. These septa form a chamber or pocket in which the anther is inserted in bud. Bakhuiizen van den Brink f. called this an extra-ovarial chamber. The number and depth of these extra-ovarial chambers depends on the number and size of the fertile stamens. Usually there are 4 or 8, which vary from shallow to reaching to the base of the ovary.

Fruits

The fruits are berry-like, globose or ovoid, colourful when mature, sometimes with four prominent calyx remnants. They are usually glabrous, but sometimes they are furfuraceous. In some species there are distinct vertical ridges. *Dissochaeta inapendiculata* and *D. vacillans* are hard to distinguish when sterile and have similar fruits, so one must have flowers to distinguish them.

DISTRIBUTION

Dissochaeta (excluding *Diplectria* and *Macrolestes*) have about 31 species throughout Malesia. Some species are also found in Peninsular Thailand and Indochina (Maxwell, 1984). From all regions Borneo is the richest in species number and Java shares about 30%. According to our revision, Java has 12 species in common. Sumatra is the most similar region because all Javanese species are found there as well. Three species, *D. bakhuiizenii*, *D. decipiens* and *D. leprosa* have only been found in these islands. The similar climatic conditions in Java (especially in the western part) and Sumatra most likely are the cause. Wet rain forest and several volcanic mountains are very common in both. No species are endemic to Java. Some species occur at high elevation at the lower mountain slopes. The main distribution is from Mount Pulosari in Banten, West Java, to Mount Slamet in Banyumas, Central Java. *Dissochaeta intermedia* and *D. leprosa* have been found between 1100 and 2000 m.

TAXONOMIC DESCRIPTION

DISSOCHAETA Blume

Dissochaeta Blume, Flora 14 (1831) 492 ≡ Bijdr. Nat. Wet. 6 (1831) 234; Mus. Bot. Lugd.-Bat 1, 3 (1849) 35; Miq., Fl. Ned. Ind. 1 (1855) 521; Cogn., in A. DC., Monogr. Phan. 7 (1891) 554; Bakh. f., Meded. Mus. Bot. Utrecht 91 (1943) 218 ≡ Rec. Trav. Bot. Neerl. 40 (1943) 218; in Backer & Bakh. f., Fl. Java 1 (1965) 364; Veldk., Blumea 24 (1978) 438; J.F. Maxwell, Gard. Bull. Sing. 33 (1981 "1980") 313. — *Dissochaeta* sect. *Dissochaetae* Blume, Flora 14 (1831) 493 ≡ Bijdr. Nat. Wet. 6 (1831) 235, nom. inval. — *Dissochaeta* sect. *Eudissochaeta* Blume ex Endl., Gen. Pl. (1840) 1219, nom. inval. — *Dissochaeta* sect. *Diplostemones* Cogn. in A. DC., Monogr. Phan. 7 (1891) 555. — Lectotype: *D. vacillans* (Blume) Blume (designated here).

Omphalopus Naudin, Ann. Sci. Nat. Bot. III, 15 (1851) 277; Miq., Fl. Ned. Ind. 1 (1855) 531; Cogn., in A. DC., Monogr. Phan. 7 (1891) 570; Bakh. f., Meded. Mus. Bot. Utrecht 91 (1943) 117 ≡ Rec. Trav. Bot. Neerl. 40 (1943) 117; in Backer & Bakh. f., Fl. Java 1 (1965) 363. — *Dissochaeta* sect. *Omphalopus* (Naudin) Baill., Hist. Pl. 7 (1880) 51. — Lectotype: *Omphalopus fallax* (Jack) Naudin [= *Dissochaeta fallax* (Jack) Blume] (designated by Bakhuizen f. (1943: 118)).

Dissochaeta sect. *Anoplodissochaeta* Baill., Hist. Pl. 7 (1880) 51. — Type: *D. inappendiculata* Blume.

Dissochaeta sect. *Dissochaetopsis* Cogn. in A. DC., Monogr. Phan. 7 (1891) 563. — Type: *D. schumannii* Cogn.

Dissochaeta sect. *Isostemones* Cogn. in A. DC., Monogr. Phan. 7 (1891) 561. — Lectotype: *D. monticola* Blume (designated here).

Neodissochaeta Bakh. f., Meded. Mus. Bot. Utrecht 91 (1943) 134 ≡ Rec. Trav. Bot. Néerl. 40 (1943) 134; in Backer & Bakh. f., Fl. Java 1 (1965) 365. — Lectotype: *Neodissochaeta gracilis* (Jack) Bakh. f. [= *Dissochaeta gracilis* (Jack) Blume] (designated here).

Melastoma auct. non Burm. ex L.: Jack, Trans. Linn. Soc. 14 (1823) 9; Blume, Bijdr. Fl. Ned.-Ind. 17 (1826) 1067 (p.p.).

Habit woody sympodial climbers, creepers or scramblers, rarely epiphytic. *Branchlets* terete or angular, rarely flattened; glabrous to pubescent with stellate or simple hairs; bristly or scaly; sometimes with adventitious roots; nodes swollen with an interpetiolar line, sometimes ridged or crested, often annular. *Petioles* terete with a dorsal groove, indument as of the branchlet. *Leaf blades* with acrodromal venation, ovate to lanceolate, base rounded or sometimes cordate, margins entire, apex acute to acuminate, upper side glabrous, under side glabrous to densely tomentose; venation arising from base with 1 to 3 pairs of lateral veins. *Thyraxes* terminal and axillary many-flowered, with 2 to 5 ramifications. Axis quadrangular, indument similar to that of the branchlets. Bracts and bracteoles distinct or minute, linear to ovate, glabrous to densely tomen-

tose, mostly inconspicuous and early caducous. *Flowers* 4–merous. *Hypanthium* campanulate, urceolate or tubular, glabrous to densely tomentose, with 4 or 8 vertical ridges; calyx rim truncate or with distinct rounded or triangular lobes, glabrous or with scattered hairs to nearly densely tomentose; corolla in bud conical or rounded, tubular or angular, tip acute or acuminate; petals at base thin, asymmetric, glabrous, sometimes with appressed hairs at base or margins puberulous. *Stamens* 4 or 8, alternipetalous and oppositipetalous; filaments curved; anthers usually basifixed, sometimes dorsifixed or medifixed, dimorphic, the alternipetalous ones larger and fertile, the oppositipetalous ones smaller, staminodial or reduced to absent, ovate to linear, glabrous, rarely tessellate, beaked or not, distally with a single pore, rarely with 2; crests triangular, sagittate, membranous, oblong or ligular; lateral appendages single or paired, filiform to ribbon-like, apex sometimes divided; staminodes less than 1/3 as long as the alternipetalous anthers, with an erect crest, spuriform. *Ovary* half to 2/3 or nearly as long as the hypanthium, apex glabrous to densely pubescent, 4–locular; conrescent with the hypanthium, without or with 4 or 8 longitudinal septa forming extra-ovarial chambers for the anthers, shallow to reaching to the base of the ovary. *Fruits* berry-like, globose or ovoid, colourful when mature, sometimes with four prominent calyx remnants, glabrous to furfuraceous; some with distinct vertical ridges; stalk glabrous to tomentose; seeds cuneate.

Distribution. Indo-China, Peninsular Thailand and Malesia: Malay Peninsula, Sumatra, Java, Lesser Sunda Isl. (Bali), Borneo, Celebes, the Philippines, and New Guinea.

KEY TO THE SPECIES IN JAVA

1. a. Stamens 4.....2
- b. Stamens 8.....6
2. a. Anthers with smooth locules; filament basifixed.....3
- b. Anthers with tessellate locules; filament medifixed.....4. *D. fallax*
3. a. Hypanthium slender, 1–4 mm long; calyx rim truncate, less than 1.5 mm long; anthers less than 5 mm long.....4
- b. Hypanthium robust, 4–10 mm long; calyx rim distinctly triangular, 2–3 mm long; anthers more than 5 mm long.....8. *D. leprosa*
4. a. Branchlet, underside leaf blade, and hypanthium densely stellate–furfuraceous or nearly tomentose. Anthers linear–lanceolate, extra-ovarial chambers deep, reaching the base of the ovary.....5
- b. Branchlets, underside leaf blade, and hypanthium glabrous to sparsely stellate–puberulous. Anthers

- oblong or lanceolate, extra-ovarial chamber reaching a little beyond the middle of the ovary.....3. *D. decipiens*
5. a. Branchlets, underside leaf blade, and hypanthium densely brown stellate-tomentose. Hypanthium campanulate, angular. Anthers "S"-shaped when mature.....7. *D. intermedia*
- b. Branchlets, underside leaf blade, and hypanthium densely brown stellate-furfuraceous. Hypanthium campanulate or urceolate, terete or rounded. Anthers sickle-shaped when mature.....9. *D. monticola*
6. a. Oppositipetalous stamens fertile.....7
- b. Oppositipetalous stamens staminodial, distinctly different in size from the alternipetalous ones11
7. a. Bracteoles not covering the hypanthium, linear or minute, glabrous to densely stellate-furfuraceous. Stamens unequal or subequal.....8
- b. Bracteoles covering the hypanthium, ovate, densely stellate-furfuraceous. All stamens equal in shape and size.....2. *D. bracteata*
8. a. Underside leaf blade and hypanthium densely furfuraceous or stellate-furfuraceous. Oppositipetalous stamens with an erect ligular crest.....9
- b. Underside leaf blade and hypanthium glabrous or sparsely furfuraceous. Oppositipetalous stamens with a triangular crest.....10
9. a. Veins of the leaf blades reticulate. Oppositipetalous stamens with an erect ligular, bifid or trifid crest, lateral appendages absent.....10. *D. reticulata*
- b. Veins of the leaf blades not reticulate. Oppositipetalous stamens with a sagittate crest.....11. *D. sagittata*
- 10.a. Under side leaf blade shortly stellate-furfuraceous. Hypanthium tubular. Stamens subequal, without lateral appendages.....1. *D. bakhuizenii*
- b. Underside leaf blade glabrous or with sparsely stellate hairs. Hypanthium campanulate or urceolate. Stamens unequal, all with 1 or 2 filiform lateral appendages.....12. *D. vacillans*
- 11.a. Leaf blade distinctly thin (when dry). Indument absent. Alternipetalous stamens with two opening pores.....5. *D. gracilis*
- b. Leaf blade not distinctly thin (when dry). Indument absent or consisting of stellate hairs. Alternipetalous stamens with a single opening pores.....6. *D. inappendiculata*

1. DISSOCHAETA BAKHUIZENII Veldk. — Fig. 1, 2a.

Dissochaeta bakhuizenii Veldk., Blumea 24 (1978) 443. — Type: Sumatra, West Coast, Tanang Taloe, *Binnemeijer 1053* (L; iso BO).

Branchlets terete, ca. 3 mm diameter, greyish or brown stellate-puberulous. *Petioles* stellate-furfuraceous 1.2–1.5 cm long. *Leaves* blades oblong-lanceolate, 7.5–10 by 3–4.5 cm; base rounded; apex acuminate, tip ca. 5 mm long; underside

densely short stellate-furfuraceous; midrib with 1 or 2 lateral veins. *Inflorescences* terminal, up to 25 cm long; main axis stellate-furfuraceous; peduncle ca. 8.5 cm long; bracts minute; pedicels stellate-furfuraceous, 6–12 mm long. *Hypanthium* campanulate or tubular, sparsely stellate-puberulous or nearly glabrous, 2–5 by 1–3 mm diameter; calyx truncate with 4 undulate lobes, widened, glabrous, 1 mm long; petal bud conical, ca. 5 mm long; petals ovate, glabrous, pale pink to violet ca. 4 by 7 mm. *Stamens* 8, equal or subequal, alternipetalous and oppositipetalous, all fertile; filaments flat, 3–3.5 mm long; anthers lanceolate, 3–4 mm long; crests triangular, 1 mm long, acute; lateral appendages absent. *Ovary* half the length of the hypanthium, apex puberulous; extra-ovarial chambers 8, reaching to the middle of the ovary. Style glabrous, 10–12 mm long. *Berry* ovoid or subglobose, glabrous, violet, 4–5 by 3–4 mm; stalks 4–9 mm long.

Distribution. Sumatra (North Sumatra, West Sumatra, Simeleu), Java (Banten, West Java).

Habitat and ecology. Secondary forest or near crater in open forest, 800–1300 m alt.

Collector's notes. Climber. Flower pink. Stamens 8 (*De Voogd and Bloembergen s.n. BO.1747916; L.908.129–228*).

Notes. *Dissochaeta bakhuizenii* is very similar to *D. vacillans* but is different by the absence of lateral appendages in both the alternipetalous and oppositipetalous stamens, the unappendaged crests, and the short stellate-furfuraceous underside of the leaf blades. The species is common in Sumatra, in Java it is known only from a few collections, which are a good match for the type specimen (*Binnemeijer 1053*).

Specimens examined. BANTEN. Citorek & Muncang: *Backer 1839* (BO). WEST JAVA. Mt. Salak: *Hoover & Girmansyah 31909* (BO), *Wiriadinata & Hoover 31204* (BO), *De Voogd & Bloembergen s.n. (BO.1747916; L.908.129–228)* (BO, L); Leuwiliang: *Backer 25705* (BO); Mt. Sembung: *Backer 12256 (BO.1428173)* (BO). No specific location: *Anon. s.n. (L.908.129–1720)* (L).

2. DISSOCHAETA BRACTEATA (Jack) Blume — Fig.1, 2b.

Dissochaeta bracteata (Jack) Blume, Flora 14 (1831) 495 ≡ *Bijdr. Nat. Wet.* 6 (1831) 238; *Miq., Fl. Ned. Ind.* 1 (1855) 529; *Cogn., in A. DC., Monogr. Phan.* 7 (1891) 558; *Bakh. f., Meded. Mus. Bot. Utrecht* 91 (1943) 225 ≡ *Rec. Trav. Bot. Neerl.* 40 (1943) 225; in *Backer & Bakh. f., Fl. Java* 1 (1965) 364; *J.F. Maxwell, Gard. Bull. Sing.*

33 (1981 "1980") 313. — *Melastoma bracteata* Jack, Trans. Linn. Soc. 14 (1823) 9 ("bracteatum"). — *Dissochaeta bracteolata* Blume ex J.G. Watson, Mal. For. Rec. 5 (1928) 183 (sphalm.). — Neotype: Malay Peninsula, Penang, *Wallich Cat.* 4044 (K, n.v., IDC microfiche 1084/1, proposed by Maxwell (in sched.), designated here).

Dissochaeta bracteata Korth. in Temminck, Verh. Nat. Gesch. Ned. Bezitt., Bot. (1844) 237, tab. 55, non Blume (1831). — *Dissochaeta korthalsii* Miq., Fl. Ned. Ind. 1, 1 (1855) 528. — Type: Sumatra, Doekoe, *Korthals s.n.* (L 908.129–662; iso L 908.129–1678, –1688).

Dissochaeta bracteosa Naudin, Ann. Sci. Nat. Bot. III, 15 (1851) 76; Miq., Fl. Ned. Ind. 1 (1855) 528. — Type: Malay Peninsula, Penang, *Gaudichaud* 97 (P, n.v.).

Anplectrum viminale auct. non Blume: Blume, Flora 14 (1831) 495, p.p. ≡ *Bijdr. Nat. Wet.* 6 (1831) 238, p.p. — Vouchers: Java, *Herb. Blume s.n.* (L 908.129–1531), Borneo, *Korthals s.n.* (L 908.129–8, –28).

Branchlets terete or subquadrangular, 3–5 mm

diameter, stellate-furfuraceous. *Petioles* stellate-furfuraceous, 5–10 mm long. *Leaves* blades ovate or oblong, chartaceous, 6–13 by 3–7 cm; base subcordate; apex acuminate, tip 3–5 mm long; underside stellate-puberulous, young leaf densely stellate-furfuraceous; midrib with 2 lateral veins. *Inflorescences* terminal, up to 15 cm long; main axis stellate-furfuraceous; peduncle 2–3 cm long; bracts ovate, stellate-furfuraceous, 10–12 by 5–6 mm; pedicels stellate-furfuraceous, 2–5 mm long; bracteoles ovate or ovate oblong, densely stellate-furfuraceous, covering the hypanthium, 5–9 by 2–4 mm. *Hypanthium* campanulate or nearly tubular, rarely suburceolate, densely stellate-furfuraceous, 3–8 by 2–4 mm diameter; calyx truncate with rounded or triangular lobes, stellate-furfuraceous, 1–1.5 mm long; petal bud conical or subrotund, 1–4 mm long; petals ovate, glabrous or with appressed hair at base inside, ca. 10 by 5 mm. *Stamens* 8, equal or subequal, alternipetalous and oppositipeta-

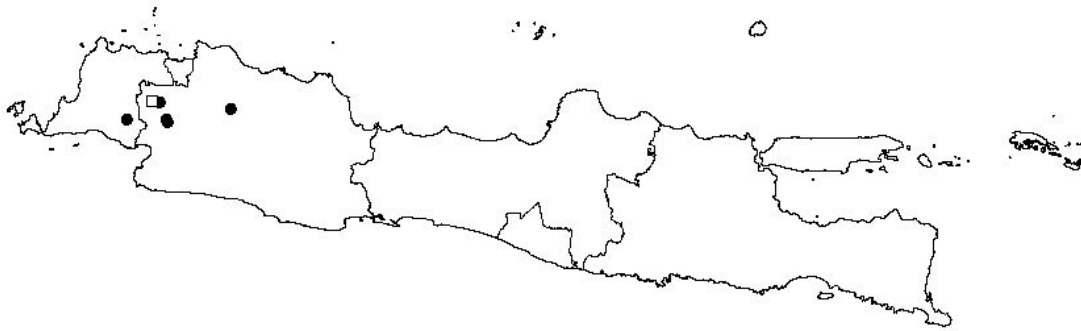


Fig. 1. Distribution map of *D. bakhuizenii* (●) and *D. bracteata* (□) in Java.

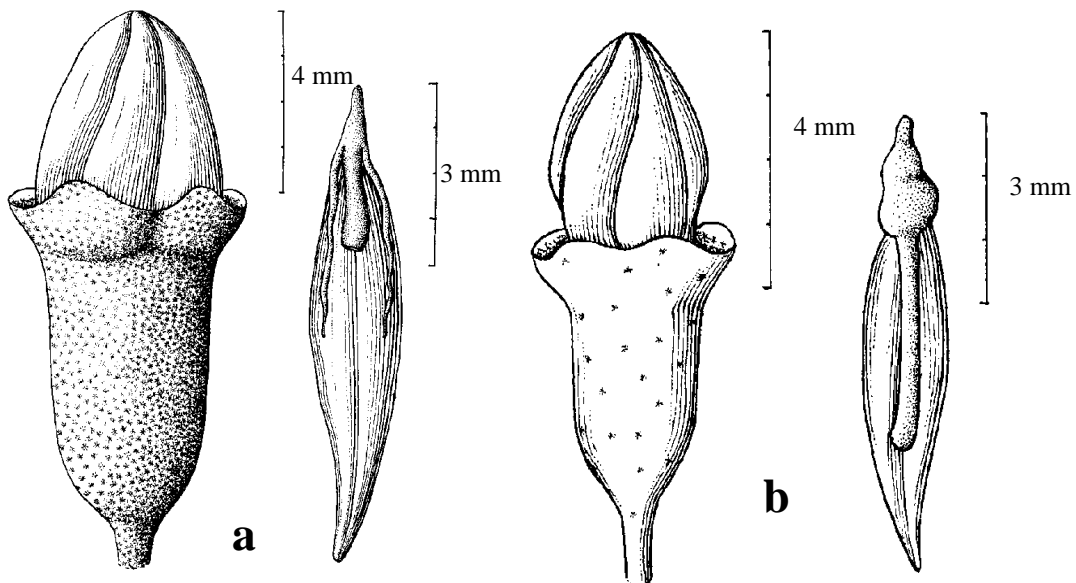


Fig. 2. Flower bud and alternipetalous stamen in bud, a. *D. bakhuizenii* (*Wiriadinata & Hoover* 31204). b. *D. bracteata* (*Backer* 4139).

lous, all fertile; filaments flat, basifixed 6–8 mm long; anthers linear or lanceolate, when mature S-shaped, *ca.* 15 mm long, straight in bud, *ca.* 8 mm long; crests triangular 1 mm long; lateral appendages two, filiform, 3–5 mm long, sometimes divided at the apex. *Ovary* half as long as the hypanthium, apex pubescent; extra-ovarial chambers 8, deep, reaching between the middle and the base of the ovary. Style glabrous or subglabrescent, swollen at the apex, 6–10 mm long. *Berry* elliptic, stellate-furfuraceous, 6–10 by 3–5 mm; stalks glabrescent or stellate-furfuraceous, 5–7 mm long.

Distribution. Malay Peninsula (Malacca, Penang, Perak, Selangor), Sumatra (West and North), Java (West, very rare, not seen for nearly a century), Borneo (Kalimantan, Sabah, Sarawak), Philippines (Panay).

Habitat and ecology. Secondary forest, *ca.* 600 m alt.

Notes. *Dissochaeta bracteata* has distinct ovate bracteoles which cover the hypanthium when in bud. The alternipetalous stamens are nearly similar in shape with those of *D. leprosa* but differ by having fertile oppositipetalous ones. This species is very rare in Java and known from only a few specimens. In L there is only one collection by Blume, identified as *Aplectrum viminale* by him. It probably is a mislabelled Korthals collection from Borneo. This is the only species in Java of section *Dissochaeta*.

Specimens examined. WEST JAVA. Bolang: *Backer 4139* (BO). No specific location: *Blume s.n.* (L. 908.129–1531,–8,–18) (L, vouchers for *Aplectrum viminale* sensu Blume, non Jack).

3. DISSOCHAETA DECIPIENS Blume — Fig. 3, 4a.

Dissochaeta decipiens Blume, Mus. Bot. Lugd.–Bat 1, 3 (1849) 36; Miq., Fl. Ned. Ind. 1 (1855) 529; Bakh. f., Meded. Mus. Bot. Utrecht 91 (1943) 222 ≡ Rec. Trav. Bot. Neerl. 40 (1943) 222; In Backer & Bakh. f., Fl. Java 1 (1965) 364. — Type: Java, *Kuhl & Van Hasselt s.n.* (L. 908.129–218; iso L. 908.129–258).

Branchlets terete 3–6 mm diameter, glabrous or sparsely stellate-furfuraceous. *Petioles* stellate-furfuraceous, 0.5–2 cm long. *Leaves* blades ovate or ovate-oblong, 6–15 by 3–6 cm; base rounded; apex acuminate, tip 1–2 cm long; underside glabrous or

sparsely stellate-puberulous; midrib with 1 lateral vein. *Inflorescences* terminal and from the upper leaf axils, up to 22 cm long; main axis sparsely stellate-furfuraceous; peduncle up to 7 cm long; bracts minute; pedicels sparsely stellate-furfuraceous, 2–5 mm long; bracteoles linear, sparsely stellate-furfuraceous, 3–4 mm long. *Hypanthium* campanulate or rarely urceolate, glabrescent or stellate-furfuraceous, 2–4 by 1–3 mm; calyx truncate with 4 undulate subtriangular lobes, glabrous, 0.5–1 mm long; petal bud conical 1–5 mm long; petals elliptic to oblong, glabrous, white, pink or red, 4–5 by 2.5–3.5 mm. *Stamens* 4, equal, alternipetalous, all fertile, curved when mature; filaments flat, basifixed 2–4 mm long; anthers oblong or lanceolate, 3–5 mm long; crests triangular 0.5–1 mm long; lateral appendages two, filiform or ribbon-like, sometimes unequal in length, 1–3 mm long. *Ovary* half or 2/3 times as long as the hypanthium, apex puberulous; extra-ovarial chambers 4, reaching beyond the apex and middle of the ovary. Style glabrous, swollen at apex, 4–8 mm long. *Berry* globose, glabrous to stellate-puberulous, 2–5 by 2.5–4 mm; stalks 4–7 mm long.

Distribution. Sumatra (West), Java (Banten, West Java, Central Java).

Habitat and ecology. Secondary forest at 600–1200 m alt.

Notes. When sterile *D. decipiens* is very similar to *D. vacillans*. It is distinct by having only 4 stamens. The shape of the alternipetalous stamens is also similar by their triangular to hastate crests and the two filiform lateral appendages. Maxwell (1983) put *D. decipiens* under synonymy of *D. monticola* because of the similarity in shape and the number of stamens (4 alternipetalous) but We agree with Bakhuizen van den Brink f. (1943) that this is a different species with a glabrous leaf and hypanthium while in *D. monticola* it is brown stellate-furfuraceous on the underside of the leaf and on the hypanthium. *Dissochaeta decipiens* is mainly found in Java since only a single collection one from Mt. Kerinci in Sumatra was made by Korthals (Bakhuizen van den Brink f., 1943).

Specimens examined. BANTEN. Citorek & Muncang: *Backer 1835* (BO); Mt. Karang: *Backer 7470* (BO). WEST JAVA. Leuwiliang: *Bakhuizen f. 3336* (BO, L, U); Mt. Pangrango: *Kartonegoro 318* (BO); Mt. Halimun: *Backer 10914* (BO). CENTRAL JAVA. Josorejo: *Backer 16219* (BO). No specific location: *De Vriese 77* (L); *De Vriese 95* (L); *Kuhl & Van Hasselt s.n.* (L. 908.129–218,–258) (L, type).

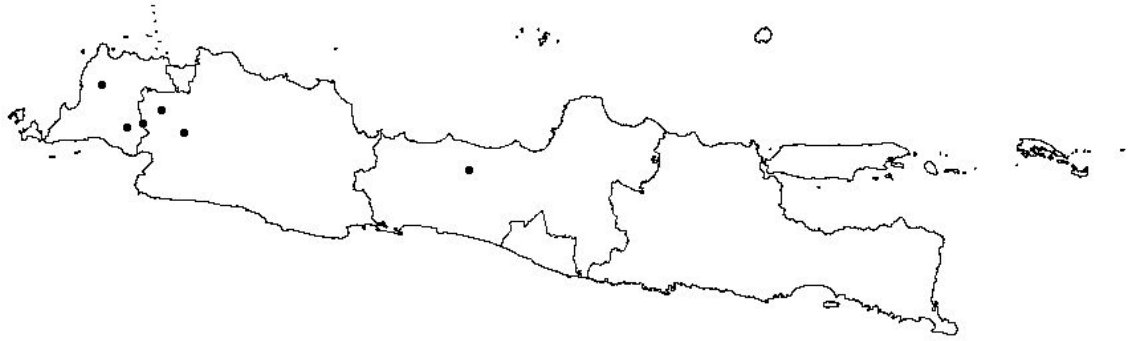


Fig. 3. Distribution map of *D. decipiens* in Java.

4. DISSOCHAETA FALLAX (Jack) Blume — Fig. 4b, 5.

Dissochaeta fallax (Jack) Blume, Flora 14 (1831) 493 ≡ Bijdr. Nat. Wet. 6 (1831) 236. — *Melastoma fallax* Jack, Trans. Linn. Soc., London 14 (1823) 13; Blume, Bijdr. Fl. Ned.-Ind. 17 (1826) 1068. — *Omphalopus fallax* (Jack) Naudin, Ann. Sci. Nat. Bot. III, 15 (1851) 277; Miq., Fl. Ned. Ind. 1 (1855) 531; Cogn., in A. DC., Monogr. Phan. 7 (1891) 570; Bakh. f., Meded. Mus. Bot. Utrecht 91 (1943) 118 ≡ Rec. Trav. Bot. Neerl. 40 (1943) 118; in Backer & Bakh. f., Fl. Java 1 (1965) 363; J.F. Maxwell, Gard. Bull. Sing. 33 (1981 "1980") 314. — Neotype: Sumatra, Bencoolen, Ajer Angat, G. Kaba, *Forbes 2882-a* (L, designated here).

Melastoma reinwardtianum Blume, Bijdr. Fl. Ned.-Ind. 17 (1826) 1069. — *Dissochaeta reinwardtiana* (Blume) Hochr., Candollea 2 (1925) 472. — Type: Java, West. *Kuhl & Van Hasselt s.n.* (lectotype L 908.132-336; iso L 908.132-335, -337, designated by Bakhuizen f. (1943: 119)).

Dissochaeta diepenhorstii Miq., Fl. Ned. Ind. Suppl. 1, Sumatra (1860) 121 — Type: Sumatra, West Coast, Priaman, *Diepenhorst HB 1323* (U; iso BO).

Omphalopus fallax (Jack) Naudin var. *no-*

voguineensis Mansf. in Engl., Bot. Jahrb. Syst. 60 (1926) 113 — Type: New Guinea, Kaiser Wilhelmsland, Kani-Gebirges, *Schlechter 15159* (B; lost; iso NY, photo).

Branchlets terete or subquadrangular, 3–6 mm diameter, puberulous to brown stellate-furfuraceous. *Petioles* puberulous to densely stellate-furfuraceous, 8–23 mm long. *Leaves* blades ovate, ovate-oblong, or oblong-lanceolate, 6–15.5 by 3–9 cm; base subcordate, rarely rounded; apex acuminate, tip 0.5–1 cm long; underside densely brown stellate-furfuraceous; midrib with 2 lateral veins. *Inflorescences* terminal and from the upper leaf axils, up to 35 cm long; main axis densely stellate-furfuraceous; peduncle up to 8 cm long; bracts minute; pedicels densely stellate-furfuraceous (1–)3–5 mm long; bracteoles linear, stellate-furfuraceous, 2 mm long. *Hypanthium* campanulate or usually suburceolate, slender, terete or angular, densely stellate-furfuraceous, 1–6 by 1–3 mm diameter; calyx truncate with rounded or triangular lobes, 0.5–1(–2.5) mm long, glabrous or with stellate hairs; petals in bud rounded or subconical, with an acuminate tip,

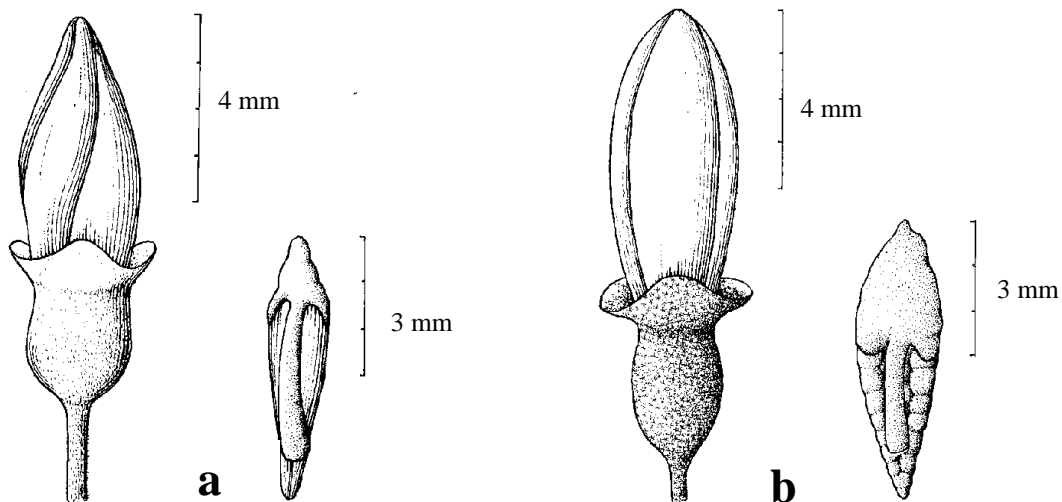


Fig. 4. Flower bud and alternipetalous stamen in bud.
a. *D. decipiens* (Kartonegoro 318). b. *D. fallax* (Koorders 40738).

subangular, 2–10 mm long; petals ovate, glabrous or inside with appressed hairs at the base, white, pink or red, 7–8 by 2–4 mm. *Stamens* 4, equal, all alternipetalous and fertile; filaments flat, medifixed, 2–4 mm long; anthers ovate or lanceolate, tessellate or reticulate, when mature falcate or rarely straight, beaked, yellow, 3–6 mm long; crests triangular or orbicular attached to the attachment of filament 1–3 mm long; lateral appendages absent. *Ovary* half or 2/3 times as long as the hypanthium, concrescent with or without septa, apex pubescent; extra-ovarial chambers absent or shallow. *Style* glabrous, 7–15 mm long. *Berry* globose, with 8 ridges, glabrous or stellate-puberulous, violet when mature, 4–8(–12) by 4–5(–7) mm, calyx remnant 1–2 mm long; stalks with or without stellate furfuraceous hairs, 4–7 mm long.

Distribution. Thailand (Peninsular), Malay Peninsula (twice found: Negeri Sembilan, Selangor), Sumatra (North Sumatra, West Sumatra, Bengkulu, Lampung), Java (Banten, West Java, East Java), Lesser Sunda Isl. (Bali), Moluccas (Ambon), New Guinea (Papua New Guinea).

Habitat and ecology. Primary or secondary forest, rarely near a crater or at the edge of a forest, 400–1350 m alt.

Local name. Harendong, Harendong areuy, Harendong beureum, Harendong oyot (Sunda).

Notes. *Dissochaeta fallax* is easily distinguished by the densely brown stellate-furfuraceous indument of the branchlets, underside of the leaf blades, and hypanthium; the 4 alternipetalous stamens with tessellate-reticulate locules; and medifixed filament. The hypanthium is suburceolate, slender and smaller than the petals in bud which is usually rounded.

This species is common from Peninsular Thailand (but only once found in Nakhon si Thammarat) to West Malesia, but occurs disjunct also in New Guinea. In Java this species is found all over the island. There are no reports that it is found in Borneo, Sulawesi or the Moluccas. *Dissochaeta fallax* is so different from the other species, that it has long been regarded to represent a distinct genus, *Omphalopus*, until Maxwell (1981) regarded it as a section of *Dissochaeta*.

Specimens examined. BANTEN. Bayah & Sangkop: *Backer* 1722 (BO); Pasir Orai: *Forbes* 460 (BO); Mt. Karang: *Koorders* 40738 (BO). WEST JAVA. Mt. Paniisan: *Van Steenis* 2300 (BO, L); Mt. Besar: *Van Steenis* 11782 (BO); Mt. Menapa: *Van Steenis* 17373 (BO, L); Bolang: *Docters Van Leeuwen* 7904 (BO, L); Leuwiliang: *Backer* 26007 (BO), *Backer* 25698 (BO), *Dakkus* 169 (BO); Jasinga: *Backer* 10358 (BO); Cibeber: *Backer* 10571 (BO); Mt. Salak: *Backer* 2479 (BO), *Backer* 4206 (BO), *Anon.* 24 (BO, L), *Koorders* 24270 (BO, L.); Mt. Sunarari: *Backer* 6379 (BO); Mt. Kendeng: *Backer* 25893 (BO); Pasir Walang: *Backer* 8726 (BO); Mt. Halimun: *Uchida* 90 (BO); Cibadak: *Bakhuizen* 195 (BO), *Bakhuizen* 1474 (BO); Marinjung: *Koorders* 34613 (BO); Cibeber: *Winckel* 710 (BO), *Winckel* 959 (BO), *Bakhuizen* 1631 (BO), *Bakhuizen* 3548 (BO), *Bakhuizen* 1495 (BO), *Bakhuizen* 872 (BO), *Bakhuizen* 2049 (BO), *Bakhuizen* 2769 (BO); Takokak: *Koorders* 33358 (BO); Leuwi Manggu: *Hellendoorn* 9 (BO); Karawang: *De Monchy* s.n. (BO); Pasir Ipis: *Scheffer* s.n. (BO); Mt. Galunggung: *Backer* 8619 (BO). CENTRAL JAVA. Mt. Slamet: *Hoover et al.* 36 (BO). EAST JAVA. Sumber Mujur: *Adm. Ondern. Soember Moedjoer* s.n. (BO, L, U), *Ultée* s.n. (BO). No specific location: *Teijsmann* 1860 (L); *De Vriese* 50 (L); *Ploem* s.n. (BO); *Binnendijk* HB359 (BO); *Anon.* s.n. (L 908.129.464) (L, p.p.); *Anon.* s.n. (L 908.129.1667) (L); *Anon.* s.n. (L 908.129.1682) (L); *Anon.* s.n. (L.908.132.357) (L); *Blume.* s.n. (L.908.129.1679) (L); *Blume* s.n. (L 908.129.1702) (L); *Blume* s.n. (L 908.132.358) (L); *Blume* s.n. (L.908.132.348) (L); *Junghuhn* s.n. (L 908.132.355) (L); *Kuhl & Van Hasselt* s.n. (L 908.132–336, –335, –337) (L, type of *Melastoma reinwardtianum* Blume).

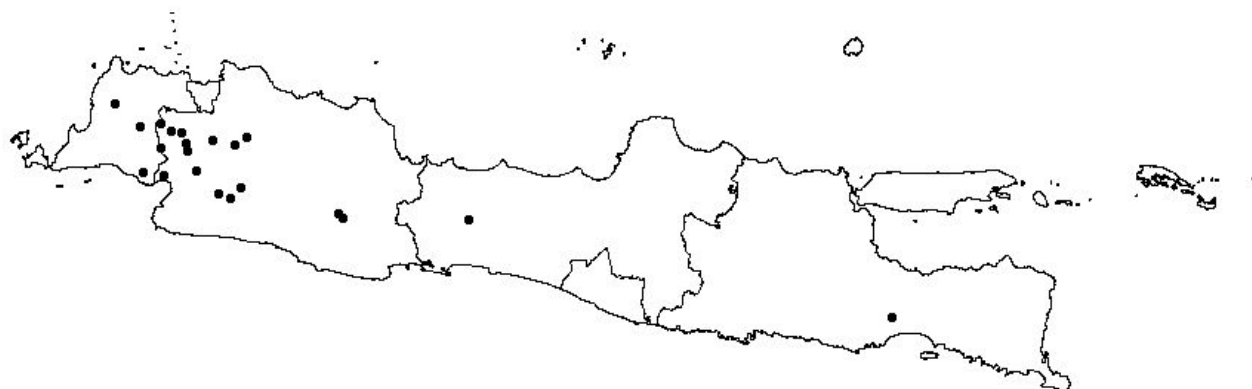


Fig. 5. Distribution map of *D. fallax* in Java.

5. DISSOCHAETA GRACILIS (Jack) Blume — Fig. 6, 7a.

Dissochaeta gracilis (Jack) Blume, Flora 14 (1831) 498 ≡ Bijdr. Nat. Wet. 6 (1831) 239; Miq., Fl. Ned. Ind. I (1855) 526; Cogn., in A. DC., Monogr. Phan. 7 (1891) 559. — *Melastoma gracilis* Jack, Trans. Linn. Soc. 14 (1823) 14 (“*gracile*”). — *Neodissochaeta gracilis* (Jack) Bakh. f., Meded. Mus. Bot. Utrecht 91 (1943) 137 ≡ Rec. Trav. Bot. Néerl. 40 (1943) 137; in Backer & Bakh. f., Fl. Java 1 (1965) 366. — Neotype: Sumatra, Bencoelen, Boekit Daoen, *De Voogd* 591 (L; iso BO, designated here).

Melastoma vacillans Blume var. *pallens* Blume, Bijdr. Fl. Ned.-Ind. 17 (1826) 1074. — Lectotype: Java, Blume s.n. (L 908.129–692; iso BO, L 908.129–180, designated here).

Neodissochaeta puberula Bakh. f., Meded. Mus. Bot. Utrecht 91 (1943) 139 ≡ Rec. Trav. Bot. Néerl. 40 (1943) 139 — Type: Borneo, Samarinda, Sungai Wain, *Rutten* 86 (U).

Neodissochaeta compressa Bakh. f., Meded. Mus. Bot. Utrecht 91 (1943) 146 ≡ Rec. Trav. Bot. Néerl. 40 (1943) 146 — Type: Borneo, Batoe Babi, *Hubert Winkler* 2809 (L; iso BO; WRSL).

Branchlets subterete or nearly quadrangular, 3 mm diameter, sparsely to densely furfuraceous. *Petioles* glabrous or sparsely stellate-furfuraceous, 7–15 mm long. *Leaves* blades ovate to lanceolate or oblong, distinctly thin when dry, 8–17 by 3–8 cm; base rounded or subcordate; apex acuminate, tip 0.5–1 cm long; underside glabrous or sparsely stellate-furfuraceous; midrib with 2 lateral veins. *Inflorescences* terminal and from the upper leaf axils; main axis sparsely to densely furfuraceous; peduncle 8–20 cm long; bracts linear or lanceolate, 3–6 mm long, thin, sparsely or densely stellate-pubescent; pedicels stellate-furfuraceous or glabrescent, 1–4 mm long; bracteoles linear, stellate-pubescent, 6–8 mm long. *Hypanthium* campanulate or suburceolate, glabrous or sparsely to densely stellate-furfuraceous or furfuraceous, 2–3 by 2 mm diameter; calyx with 4 undulate lobes, widened, rarely with minutely triangular lobes, glabrous, 0.5–0.7 mm long;

petal bud conical, 2–3 mm long; petals ovate, oblong or suborbicular, glabrous, veined, white to pale orange, ca. 2–3 by 2–3 mm. *Stamens* 8, unequal, heteromorphous; the alternipetalous ones larger, fertile; filaments flat, basifixed, 2–3 mm long; anthers clavate, opening with two pores, ca. 2–3 mm long; crests membranous, thin, ca. 0.25–0.5 mm long; lateral appendages two, flat, wavy, filiform, ca. 2 mm long; the oppositipetalous ones smaller, staminodial or rudimentary; filament ca. 2 mm long; crests minute or spuriform, erect; anther curved, 1–1.5 mm long; lateral appendages two, filiform 1.5–2 mm long. *Ovary* half as long as the hypanthium, apex villous or glabrous; extra-ovarial chambers 4, reaching up to the middle of the ovary. Style glabrous, 4–6 mm long. *Berry* globose, glabrous, 5–6 by 2–4 mm; stalks glabrescent or puberulous, 3–6 mm long.

Distribution. Thailand (Peninsular), Malay Peninsula (widespread), Sumatra, Java (West Java, Central Java), Borneo (Kalimantan, Sabah, Sarawak).

Habitat and ecology. Primary or secondary forest at 100–1425 m alt.

Local name. Harendong areuy (Sunda)

Notes. This species can easily be distinguished by its thin and glabrous leaf blades and the 4 fertile alternipetalous stamens, which sometimes have 2 pores. It has the smallest hypanthium of all species and has distinct bracteoles. The extra-ovarial chambers are shallow due to the size of hypanthium and fertile stamens. This species is very common in West to East Java also at neighbouring islands in Malesia, with a high range in elevation.

Specimens examined. BANTEN. Menes: *Backer* 7032 (BO); Mt. Pulasari: *Backer* 7054 (BO), *Adelbert* 459 (BO, L), *Adelbert* 478 (BO, L); Ujung Kulon: *Wirawan* 265 (BO, L); Bojong Manik: *Koorders* 40911 (BO), *Koorders* 40927 (BO); Gunung Kencana: *Backer* 1249 (BO); Bayah-Sangkop: *Backer* 1697 (BO). WEST

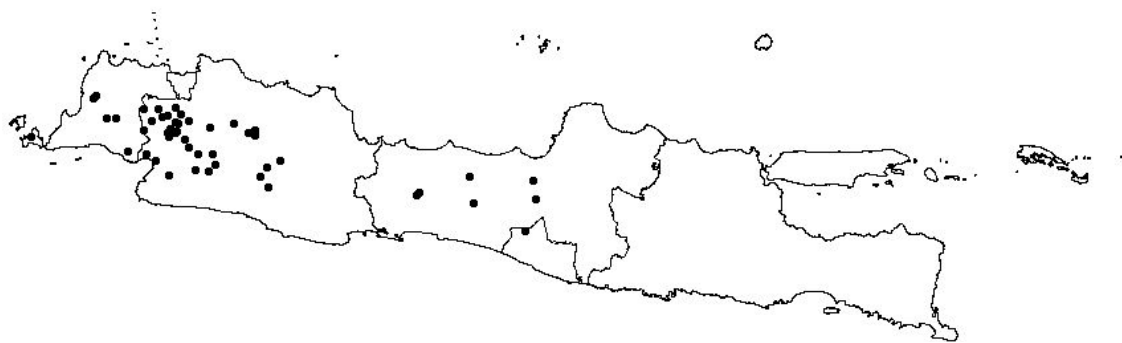


Fig. 6. Distribution map of *D. gracilis* in Java.

JAVA. Mt. Salak: *Backer 31627* (BO), *Backer 31628* (BO), *Van Steenis 4002* (BO), *Hoover & Wiriadinata 30486* (BO), *Anon. 20* (BO, L), *Kurz 1011* (BO), *Hochreutiner 159* (L), *Kuhl & Van Hasselt 48* (L); Pasir Karet: *Backer 31626* (BO); Leuwiliang: *Backer 25894* (BO), *Backer 25714* (BO), *Backer 4130* (BO), *Backer 4031* (BO), *Bakhuizen f. 3301* (BO), *Bakhuizen 7641* (BO, L,U), *Van Steenis 11756* (BO), *Van Steenis 2712* (BO), *den Berger s.n.* (BO), *Dakkus 193* (BO, L); Mt. Karang Gambangan: *Backer 6314* (BO); Nanggung: *Backer 10579* (BO); Cihanjavar: *Backer 6027* (BO); Jasinga: *Backer 10060* (BO); Ciampea: *Koorders 30690* (BO); Cimandala: *Bakhuizen 6048* (BO); Cisalak: *Bakhuizen 2731* (BO, L); Masing: *Bakhuizen f. 1305* (BO, L); Mt. Pancar: *Docters Van Leeuwen 14130* (BO); Cimaelang: *Smith s.n.* (BO); Nanggerang: *Soegandiredja 82* (BO); Ciapus: *Hallier 334* (BO), *Hallier s.n.* (BO); Cipaku: *Hallier s.n.* (BO); Ciomas: *Boerlage 32* (L); Kampung Baru: *Boerlage s.n.* (L); Cisolok: *Backer 774* (BO); Lengkon: *Backer 17129* (BO), *Kostermans 23846* (BO, L); Mt. Halimun: *Backer 11160* (BO), *Bakhuizen 3156* (BO, L), *Arifiani et al. 74* (BO), *Van Balgooy 5179* (BO, L), *Van Balgooy & Wiriadinata 2921* (BO, L); Pelabuhan Ratu: *Koorders 34611* (BO); Mt. Pangrango: *Kartonegoro 314* (BO); Cipetir: *Burck & De Monchy s.n.* (BO); Cibeber: *Backer 22493* (BO), *Bakhuizen 3839* (BO, L), *Bakhuizen 3922* (BO, L), *Bakhuizen 3892* (BO, L); Takokak: *Koorders 15149* (BO), *Koorders 14934* (BO); Sukanegara: *Hellendoorn 4* (BO); Wanayasa: *Backer 14361* (BO), *Backer 14108* (BO); Pasir Ipi: *Scheffer s.n.* (BO); Cikuya & Denu: *Backer 8940* (BO); Mt. Rendang: *Junghuhn s.n.* (L 908.129.1812) (L); Nanggerang: *Backer 8790* (BO); Mt. Ciparay: *Backer 15019* (BO); Cireungkas: *Backer 15119* (BO); Mt. Ciburayut: *Anon. 54* (BO, L); Mt. Sesapan: *Scheffer s.n.* (BO); Preanger: *Ploem s.n.* (L 909.27.145) (L), *Ploem s.n.* (L 909.25.269) (L), *Ploem s.n.* (L 909.92.319) (L), *Ploem s.n.* (L 909.25.168) (L); , *Ploem s.n.* (L 909.26.62) (L); , *Ploem s.n.* (L 909.25.259) (L). CENTRAL JAVA. Mt. Slamet: *Backer 186* (BO); *Murata et al. 875* (BO, L); Mt. Cendana: *Backer 18668* (BO); Medangan: *Koorders 33833* (BO), *Koorders 34045* (BO); Pringombo: *Koorders 27106* (BO); Doro and Petung Kriono: *Backer 15750* (BO), *Docters Van Leeuwen 479* (BO); Josorejo: *Backer 16056* (BO); Mt. Ungaran: *Docters van Leeuwen 1264* (BO); Mt. Telomoyo: *Koorders 35839* (BO). No specific location: *Ploem s.n.* (L 908.223.1042) (L); *Ploem s.n.* (L 908.223.188) (L); *De Vriese 173* (L); *De Vriese 174* (L); *Kuhl & Van Hasselt s.n.* (BO, L); *Kuhl & Van Hasselt 12* (L); *Van Hasselt s.n.* (L 908.129.673) (L); *Lanjouw 179*, (BO, L); *Anon. s.n.* (L); *Anon. s.n.* (L 908.129.1813) (L); *Anon. s.n.* (L 908.129.1814) (L); *Anon. s.n.* (L 908.129.1793) (L); *Anon. s.n.* (L 908.129.1782) (L); *Anon. s.n.* (L 908.129.1783) (L); *Anon. s.n.* (L 908.129.683) (L); *Anon. s.n.* (L 908.129.693) (L); *Anon. s.n.* (L 908.129.690) (L); *Anon. s.n.* (L 944.258.8) (L); *Anon. s.n.* (L 944.258.11) (L); *Anon. s.n.* (L 7.899.302) (L); *Anon. s.n.* (L 909.92.358) (L); *Anon. s.n.* (L 936.238.182) (L); *Blume s.n.* (L 908.129.1792) (L); *Blume 3084* (L 992.233.284) (L); *Blume 1791* (L 908.129.692;–1804) (BO, L, type of *Melastoma vacillans* Blume var. *pallens* Blume); *De*

Vriese 169 (L); *Reinwardt s.n.* (L 908.129.681) (L); *Reinwardt s.n.* (L 908.129.672) (L).

6. DISSOCHAETA INAPPENDICULATA Blume — Fig. 7b, 8.

Dissochaeta inappendiculata Blume, *Flora* 14 (1831) 499 ≡ *Bijdr. Nat. Wet.* 6 (1831) 240; *Miq., Fl. Ned. Ind.* 1 (1855) 525; *Cogn., in A. DC., Monogr. Phan.* 7 (1891) 560. — *Melastoma vacillans* Blume var. *a* Blume, *Bijdr. Fl. Ned.–Ind.* 17 (1826) 1074. — Type: Java, *Blume s.n.* (L 908.129–481; iso L 908.129–471).

Dissochaeta cinnamomea Blume, *Mus. Bot. Lugd.–Bat.* 1, 3 (1849) 36; *Naudin, Ann. Sci. Nat. Bot.* III, 15 (1851) 79; *Miq., Fl. Ned. Ind.* 1 (1855) 522. — Type: Java, *Blume s.n.* (L 908.129–474; iso L 908.129–466).

Dissochaeta inappendiculata Blume var. *tomentosa* Blume, *Flora* 14 (1831) 499 ≡ *Bijdr. Nat. Wet.* 6 (1831) 241. — Type: Java, Rendang, *Junghuhn s.n.* (L 908.129–1669).

Dissochaeta inappendiculata Blume var. *purpurascens* Blume, *Flora* 14 (1831) 499 ≡ *Bijdr. Nat. Wet.* 6 (1831) 241. — Type: Java, Preanger Regentsch., Mt. Megamendoeng, *Kuhl & Van Hasselt s.n.* (L 908.129–473).

Branchlets terete to nearly subquadrangular, 3–5 mm diameter, glabrous, or glabrescent, or sometimes with stellate-hairs. *Petioles* stellate–puberulous or stellate–furfuraceous, rarely furfuraceous, 0.5–1.8 cm long. *Leaves* blades ovate, elliptic, ovate–oblong, oblong, or lanceolate, (5–)7–14 by (1–)3–6 cm; base rounded; apex acute or acuminate, tip 0.5–2 cm long; underside glabrous or sparsely stellate–furfuraceous; densely stellate furfuraceous at midrib and vein; midrib with 1 or 2 lateral veins. *Inflorescences* terminal and from the upper leaf axils, up to 28 cm long; main axis stellate–puberulous or stellate–furfuraceous, rarely not stellate; peduncle up to 7.5 cm long; bracts linear, lanceolate or oblong, veined, caducous, glabrescent, (0.7–)2–3.5 by 1–1.5 mm; pedicels stellate–puberulous, 2–8 mm long; bracteoles linear to ovate, glabrescent or stellate–furfuraceous, sometimes with bristly hairs along the margin, 1–7 mm long. *Hypanthium* campanulate or urceolate, glabrescent to densely furfuraceous or stellate–furfuraceous, 1–4 by 1–3 mm diameter; calyx truncate with 4 undulate, rounded, or subtriangular lobes, glabrous, 0.5–1 mm long; petal bud conical to subrounded, rarely angular, 1–5 mm long; petals ovate or oblong, glabrous or inside with appressed hairs at base, purplish white, pink, or red, 4–6 by 2–3 mm. *Stamens* 8, unequal, heteromorphous, opening by a single pore; alternipetalous ones larger, fertile; filaments flat, basifixed, 2–3.5 mm long; anthers oblong or lanceolate, 3–4 mm long; crests

triangular or ovate with acute narrow apex, 1 mm long; lateral appendages usually absent or minute, 0–2 mm long; the oppositipetalous ones smaller, staminodial; filaments bent, 1.5–2 mm long; anthers lanceolate or elliptic, 1–1.5 mm long; crests spuriform, erect, *ca.* 0.5–0.8 mm long; lateral appendages absent. *Ovary* 2/3 times as long as the hypanthium, apex puberulous; extra-ovarial chambers 4, reaching to the middle of the ovary. Style glabrous, swollen at apex, 5–8 mm long. *Berry* globose, glabrous to sparsely stellate-furfuraceous, 2–5(–7) by 2–5 mm, with 8 ridges; stalks 4–7 mm long.

Distribution. Malay Peninsula (Malacca, Pahang, Perak, Selangor), Sumatra (North Sumatra, West Sumatra), Java (Banten, West Java, Central Java), Borneo (Kalimantan).

Habitat and ecology. Primary montane forest or secondary forest at 400–1800 m alt.

Local name. Harendong, harendong cai (Sunda).

Collectors notes. Climber height 10 m (*Koorders* 32905). Branches pendent (*Van Balgooy & Moge* 4284).

Notes. *Dissochaeta inappendiculata* is easily recognized by having 8 stamens, the alternipetalous are fertile and the oppositipetalous are staminodial. The alternipetalous ones are always inappendiculate usually without lateral appendages and with a triangular or orbicular crest. The oppositipetalous ones have a spuriform crest. Maxwell (1983) included some of the specimens of this species (L) as part of *D. velutina* var. *velutina*. Since the type of *D. velutina* belongs to *D. vacillans*, *D. inappendiculata* is regarded as a distinct species very different from the later (see no. 12, *D. vacillans*).

Specimens examined. BANTEN. Mt. Pulasari: *Adelbert* 476 (BO, L). WEST JAVA. Nanggung: *Backer* 10522 (BO); Mt. Salak: *Backer* 4201 (BO), *Backer s.n.* (BO), *Polak s.n.* (BO), *Van Steenis* 4023 (BO), *Hoover & Girmansyah* 31877 (BO), *De Voogd s.n.* (BO, L), *Lam* 2205 (BO, L), *Van Balgooy* 5161 (BO, L), *Sulistyaningsih* 5 (BO); G. Luhur: *Van Balgooy & Moge* 4284 (BO, L); Gadok: *Lam* 65 (BO); Mt. Megamendung: *Kuhl & Van Hasselt s.n.* (L.908.129–473) (L, type of *D. inappendiculata* Blume var. *purpurascens* Blume); Cisarua: *Van Ooststroom* 12833 (L); Situ Gunung: *Van Steenis* 5685 (BO); Cipetir: *Burck & De Monchy s.n.*, (BO.1429431) (BO); Mt. Halimun: *Backer* 10794 (BO), *Hoover et al.* 20323 (BO), *Hoover et al.* 820 (BO), *Hoover et al.*

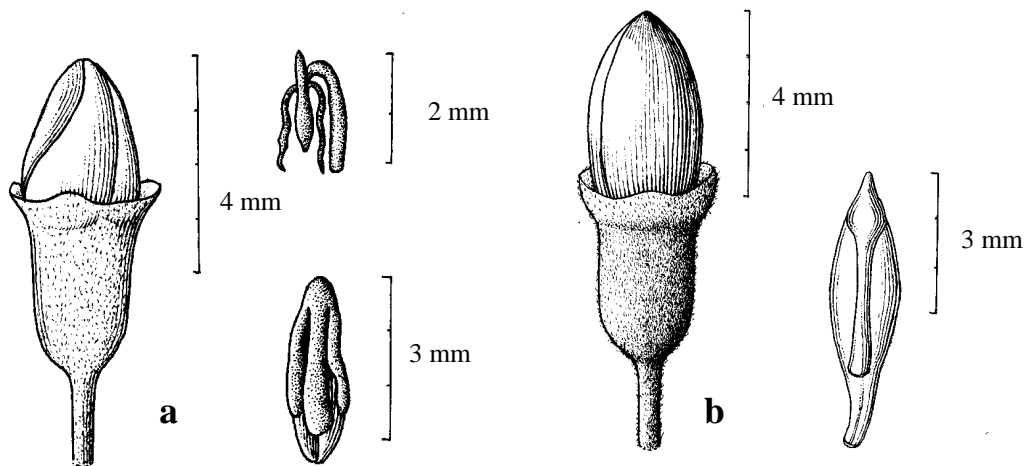


Fig. 7. Flower bud, alternipetalous (downside) and oppositipetalous (upside) stamen in bud. a. *D. gracilis* (*Kartonegoro* 314). b. *D. inappendiculata* (*Van Balgooy* 5161).

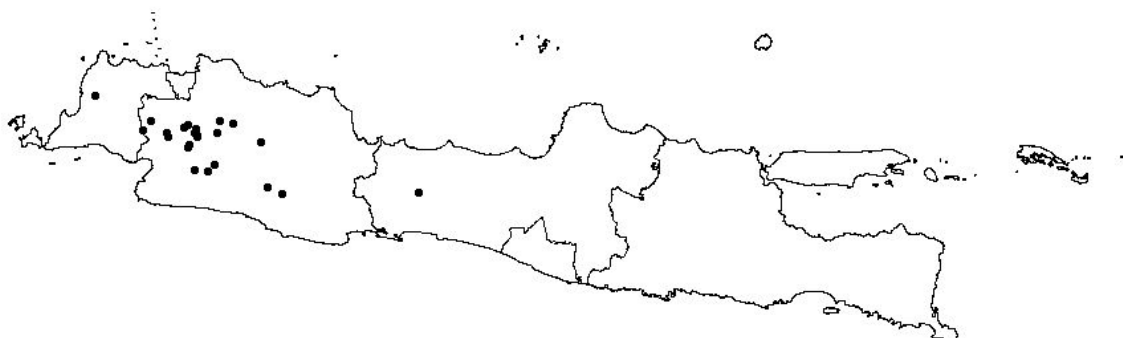


Fig. 8. Distribution map of *D. inappendiculata* in Java.

31994 (BO), Hoover *et al.* 32767 (BO), Arifiani *et al.* 136 (BO); Sindanglaya: *Ploem s.n.* (BO, L); Cibodas: *Valeton s.n.* (BO); Sukanegara: *Hellendoorn 3* (BO); Takokak: *Koorders 14991* (BO), *Koorders 32905* (BO); Cibebur: *Backer 23703* (BO), *Backer 22891* (BO, L); Mt. Jayagiri: *Lam 141* (BO, L); Mt. Cikuray: *Backer 8687* (BO); Karawang: *De Monchy 27* (BO); Mt. Sembung: *Backer 12256* (BO); Cikopo: *Boerlage s.n.* (L 909.92–483) (L); Mt. Rendang: *Junghuhn s.n.* (L 908.129–1669) (L, type of *D. inappendiculata* Blume var. *tomentosa* Blume). CENTRAL JAVA. Mt. Slamet: *Backer 296* (BO). No specific location: *Blume s.n.* (L 908.129–474, –466) (L, type of *D. cinnamomea* Blume); *Blume s.n.* (L 908.129–47, –481) (L, type); *Junghuhn 201* (L); *Junghuhn s.n.* (L 908.129–1803) (L); *Korthals s.n.* (L 908.129–463) (L); *Reinwardt s.n.* (L 908.129–494) (L); *Reinwardt s.n.* (L 908.129–461) (L).

7. DISSOCHAETA INTERMEDIA Blume — Fig. 9, 10a.

Dissochaeta intermedia Blume, *Flora* 14 (1831) 493 ≡ *Bijdr. Nat. Wet.* 6 (1831) 236; *Mus. Bot. Lugd.-Bat Mus.* 1, 3 (1849) 35; *Korth. in Temminck, Verh. Nat. Gesch. Ned. Bezitt., Bot.* (1844) 236; *Naudin, Ann. Sci. Nat. Bot.* III, 15 (1851) 72; *Miq., Fl. Ned. Ind.* 1 (1855) 524; *Cogn., in A. DC., Monogr. Phan.* 7 (1891) 562; *Bakh. f., Meded. Mus. Bot. Utrecht* 91 (1943) 223 ≡ *Rec. Trav. Bot. Neerl.* 40 (1943) 223; in *Backer & Bakh. f., Fl. Java* 1 (1965) 364. — Type: Java, Preanger Regentsch., Gegerbentang, *Blume 539* (L 908.129–1662; iso L 908.129–1659, –1668, –1589).

Branchlets terete or subquadrangular, 4–7 mm diameter, furfuraceous or stellate–furfuraceous. *Petioles* glabrescent to densely furfuraceous or stellate–furfuraceous, 5–20(–25) mm long. *Leaves* blades ovate or oblong, 7–16 by 2.5–8.5 cm; base rounded or rarely subcordate; apex acuminate, tip 0.5–2 cm long; underside densely brown stellate–furfuraceous; midrib with 1 or 2 lateral veins. *Inflorescences* terminal and from the upper leaf axils, up to 30 cm long; main axis densely stellate–furfuraceous or furfuraceous; peduncle up to 6 cm long; bracts minute; pedicels densely stellate–

furfuraceous, 2–7 mm long; bracteoles linear to ovate–oblong, densely stellate–furfuraceous, 1–2 mm long. *Hypanthium* campanulate or suburceolate, angular, with four distinct ridges, stellate–puberulous to densely stellate–tomentose, 2–5 by 1–3 mm diameter; calyx truncate with rounded or subtriangular lobes, widened, stellate–furfuraceous, 0.5–1 mm long; petal bud conical 3–7 mm long; petals ovate or oblong, pink, purple or red, glabrous or inside at base with appressed hairs, 6–10 by 3–5 mm. *Stamens* 4, equal, alternipetalous, all fertile; filaments flat, basifixed 3–5(–7) mm long; anthers linear–lanceolate, when mature S-shaped or falcate, 4–8(–10) mm long; crests triangular, 1–2 mm long, narrow with acute apex; lateral appendages two, filiform, 3–4 mm long. *Ovary* half or 2/3 times as long as the hypanthium, apex pubescent; extra-ovarial chambers 4, reaching the base of the ovary. *Style* glabrous, erect, swollen at apex, (5–)11–14 mm long. *Berry* ovoid or subglobose, glabrous to sparsely stellate–furfuraceous, rarely with distinct vertical ridges, green, 5–10 by 3–7 mm; stalks stellate–furfuraceous, 3–7 mm long.

Distribution. Thailand (Peninsular), Malay Peninsula (Johor, Pahang, Singapore), Sumatra (West), Java (West).

Habitat and ecology. Primary forest, 1100–2000 m alt.

Local name. Harendong cai; harendong areuy (Sunda).

Collectors notes. Epiphyte (*Hoover et al.* 5502), height up to 26 m (*Koorders 42153*).

Notes. Resembles *D. leprosa* in the number and shape of the stamens but is different in having a smaller hypanthium and a truncate rounded calyx. Sterile specimens are very similar to *D. fallax* and *D. reticulata*. Together with *D. leprosa*, this species is common at high elevations up from 1000 m, for

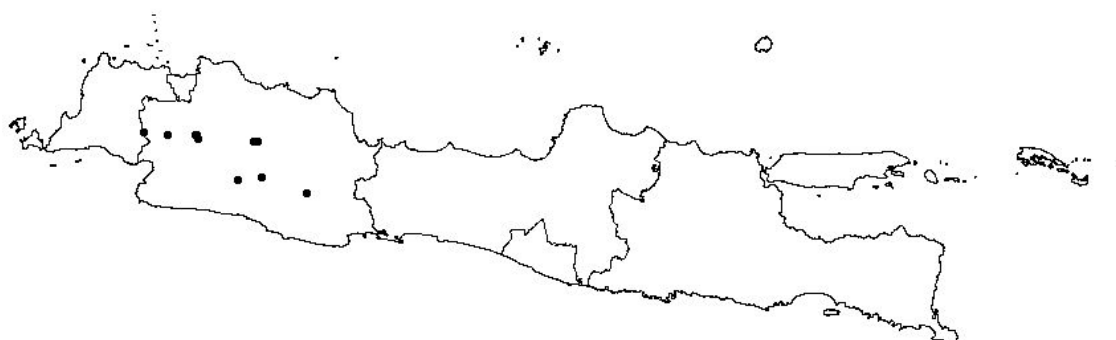


Fig. 9. Distribution map of *D. intermedia* in Java.

instance in Cibodas (Mt. Gede–Pangrango National Park) and Mt. Tangkuban Perahu in West Java.

Specimens examined. WEST JAVA. Puncak: *Beumée* 390 (BO); Mt. Salak: *Raap* 158 (L); Cisarua: *Van Steenis* 12735 (L); Mt. Halimun: *Van Balgooy & Wiriadinata* 2889 (BO, L), *Hoover et al.* 5502 (BO); Mt. Gede: *Arsin* 19556 (BO), *Koorders* 42153 (BO), *Koorders* 25927 (BO), *Backer* 22286 (BO), *Lörzing* 1493 (BO), *Hallier* 626 (BO), *Hallier* 432 (BO); Mt. Pangrango: *De Monchy s.n.* (BO), *Blume* 539 (L.908.129–1662, –1659, –1668, –1589, 1700) (L, type); Mt. Tangkuban Perahu: *Backer* 2387 (BO), *Backer* 2415 (BO), *Docters van Leeuwen* 2301a (BO), *Docters van Leeuwen* 11423 (BO), *Meijer* 1363 (BO), *Zeylotra* 19 (BO), *Wisse* 1188 (BO); Mt. Patuha: *Backer* 12787 (BO); Mt. Burangrang: *Bakhuizen* 4557 (BO, L), *Reksodihardjo* 6 (BO); Mt. Malabar: *Scheffer s.n.* (BO); Mt. Mandalagiri: *Lam* 230 (BO). No specific location: *Anon. s.n.* (BO); *Anon. s.n.* (L.908.129.1718) (L).

8. DISSOCHAETA LEPROSA (Blume) Blume — Fig. 10b, 11.

Dissochaeta leprosa (Blume) Blume, *Flora* 14 (1831) 494 ≡ *Bijdr. Nat. Wet.* 6 (1831) 237; *Cogn.*, in A. DC., *Monogr. Phan.* 7 (1891) 562; *Bakh. f.*, *Meded. Mus. Bot. Utrecht* 91 (1943) 221 ≡ *Rec. Trav. Bot. Neerl.* 40 (1943) 221; in *Backer & Bakh. f.*, *Fl. Java* 1 (1965) 364. — *Melastoma leprosum* Blume, *Bijdr. Fl. Ned.-Ind* 17 (1826) 1068. — *Omphalopus leprosus* (Blume) Naudin, *Ann. Sci. Nat. Bot.* III, 15 (1851) 278. — *Dissochaeta intermedia* Blume var. *leprosa* (Blume) J.F. Maxwell, *Gard. Bull. Singapore* 33 (1981, “1980”) 315. — Type: Java, *Kuhl & Van Hasselt s.n.* (L 908.129–1657; iso L 908.129–1692, –1708, –1712).

Dissochaeta calothyrsa Miq., *Fl. Ned.-Ind.* 1, 1 (1855) 523; *Cogn.*, in A. DC., *Monogr. Phan.* 7 (1891) 563. — Type: Java, Pengalengan, *Junghuhn* 13 (U 000551; iso L 908.129–691, –962, –963).

Branchlets terete, 3–6 mm diameter, densely stellate–furfuraceous to stellate–tomentose. Petioles densely stellate–furfuraceous, 8–23 mm long. *Leaves* blades ovate, elliptic, ovate–oblong, or ovate–lanceolate, 8–17 by 3–8 cm; base rounded or subcordate; apex acuminate, tip 0.5–1.5 cm long; underside densely stellate–tomentose; midrib with 2 or 3 lateral veins; *Inflorescences* terminal and axillary, up to 20 cm long; main axis densely stellate–tomentose; peduncle up to 10 cm long; bracts lanceolate, densely stellate–pubescent, ca. 10 by 2 mm; pedicels densely stellate–tomentose, 2–12(–16) mm long; bracteoles linear or lanceolate, densely stellate–pubescent, 1–6 mm long. *Hypanthium* campanulate or suburceolate, tubular or rarely angular, covered with densely stellate–tomentose hairs, 4–10 by 3–5 mm diameter; calyx with dis-

tinctly triangular lobes, erect, densely stellate–tomentose, 2–3 mm long; petal bud conical, (2–)4–10 mm long; petals oblong or ovate, glabrous or hairy at base inside, red, pink, or violet, veined, 6–15 by 3–8 mm. *Stamens* 4, equal, alternipetalous and fertile or 8, unequal, heteromorphous; the alternipetalous ones larger, fertile; filaments flat, basifixed, 4–8 mm long; anthers glabrous, linear or lanceolate, falcate or S-shaped when mature, 5–12 mm long; crests distinctly triangular, narrow with acute apex, 1–1.5 mm long; lateral appendages two, flat, filiform, sometimes divided at the apex, (2–)4–7 mm long; anthers oblong or lanceolate, 5–7 mm long; filament, bent or not, 2–3 mm long; crests triangular or ligular, erect; lateral appendages two, filiform, 2–3 mm long; staminodes with bent filaments, 2–3 mm long; anthers ovate–oblong, 1–2 mm long; crests spuriform, erect, 0.2–1 mm long; lateral appendages absent. *Ovary* half or 2/3 times as long as the hypanthium in length, apex pubescent; extra-ovarial chambers 4, 6 or 8; 4 reach the base of the ovary, the rest reach beyond the middle of the ovary or less. Style glabrous, apex swollen, 8–15 mm long. *Berry* ovoid, stellate–puberulous or nearly stellate–tomentose, red when mature, with 4 distinct vertical ridges, 6–12 by 4–8 mm, with a calyx remnant widened, 2–3 mm long; stalks densely stellate–furfuraceous, 4–11 mm long.

Distribution. Sumatra, Java (West, Central, East).

Habitat and ecology. Primary or secondary forest, rarely near crater at 1350–2000 m alt.

Local Name. Harendong cai (Sunda); kramas madu (Java).

Collector’s note. Height up 28 m (*Koorders* 31523).

Notes. Resembles *D. intermedia*, but differs by the larger hypanthium and distinctly triangular calyx. Otherwise, *D. leprosa* has a more tomentose indument than *D. intermedia*. Most of specimens show that this species has larger and more cordate leaf blades than the other Javanese ones. The similarity of the shape of the alternipetalous stamens with those of *D. intermedia* made Maxwell (1981 “1980”) regard this as a variety of the latter, but because of the differences in indumentum, size and shape of the hypanthium, the calyx lobes, and the alternipetalous stamens it is here considered to be a distinct species.

Specimens examined. WEST JAVA. Puncak: *Sapiin* 1115 (BO); Mt. Pancar: *Schiffner* 2291 (BO, L); Mt.

Halimun: *Uchida 20* (BO), *Hoover et al. 32663* (BO); Gunung Melati: *Went s.n. (L.908.129-215)* (L); Mt. Gede: *Danser 5955* (L), *Koorders 31506* (BO), *Koorders 31523* (BO), *Koorders 25949* (BO), *Kakah 92* (BO, L), *Backer 14714* (BO), *Bruggeman 211* (BO), *Bruggeman 48* (BO), *Scheffer s.n. (BO.1779360)* (BO), *Van Oostroom 13840* (L), *Raap 667* (L), *Boerlage s.n. (L.908.129.661)* (L), *Hallier 626a* (BO); Cibeber: *Smith 719* (BO, L,U); Mt. Tangkuban Prahur: *Horst 2* (BO), *Docters van Leeuwen 11487* (BO), *Docters van Leeuwen 2301* (BO), *Boerlage s.n. (L.909.92.149)* (L), *De Vriese 149* (L), *Backer s.n. (BO)*, *Backer 2386* (BO); Ci-beureum: *Smith & Rant 125* (BO); Mt. Malabar: *Scheffer s.n. (BO.1779361)* (BO); Pengalengan: *Junghuhn 13 (U-000551)* (L, type *D. calothyrsa* Miq.); Mt. Rendang: *Junghuhn s.n. (L.908.129.963)* (L); Mt. Guntur: *Karsten 66* (L); Pangencongan: *Backer s.n. (BO)*; Cireungas: *Backer s.n. (BO)*. CENTRAL JAVA. Mt. Praboto: *Backer 15983* (BO); Petung Kriyono: *Backer 15787* (BO); Mt. Telomoyo: *Koorders 27844* (BO), *Koorders 35840* (BO), *Koorders 35841* (BO); Mt. Andong: *Koorders 27846* (BO). EAST JAVA. Mt. Wilis: *Koorders 29308*

(BO); Punter: *Van Steenis 2486* (BO); Mt. Kawi: *Anon. FS 48* (L). No specific location; *Junghuhn 196* (L); *Junghuhn 198* (L); *Junghuhn s.n. (L.908.129.962)* (L); *Anon. s.n. (L.909.92.150)* (L); *Kuhl & Van Hasselt s.n. (L.908.129-1657)* (L, type).

9. DISSOCHAETA MONTICOLA Blume — Fig. 12, 13a

Dissochaeta monticola Blume, *Flora* 14 (1831) 494 ≡ *Bijdr. Nat. Wet.* 6 (1831) 237; *Naudin, Ann. Sci. Nat. Bot.* III, 15 (1851) 78; *Miq., Fl. Ned. Ind.* 1 (1855) 524; *Cogn., in A. DC., Monogr. Phan.* 7 (1891) 562. — Type: Java, Preanger Regentsch., Gegerbentang, *Kuhl & Van Hasselt s.n. (L.908.129-238; iso L.908.129-248, 944.258-3)*.

Dissochaeta biligulata Korth. in *Temminck, Verh. Nat. Gesch. Ned. Bezitt., Bot.* (1844) 240; *Blume, Mus. Bot. Lugd.-Bat.* 1, 3 (1849) 35; *Miq., Fl. Ned. Ind.* 1 (1855) 529; *Cogn., in A. DC., Monogr. Phan.* 7 (1891) 561; *Veldk., Blumea* 24 (1978) 438. — *Anplectrum*

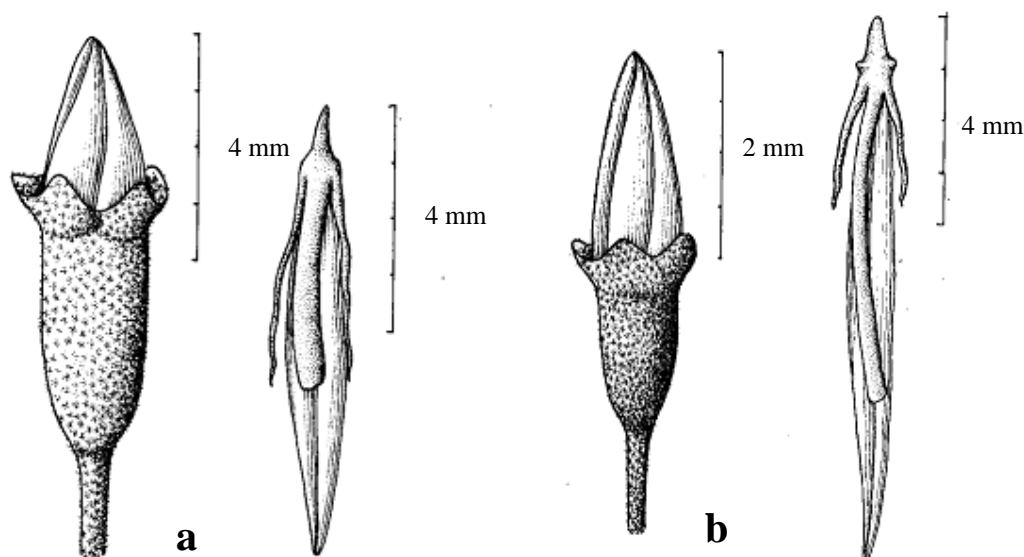


Fig. 10. Flower bud and alternipetalous stamen in bud.
a. *D. intermedia* (*Hoover et al. 5502*). b. *D. leprosa* (*Smith & Rant 125*).

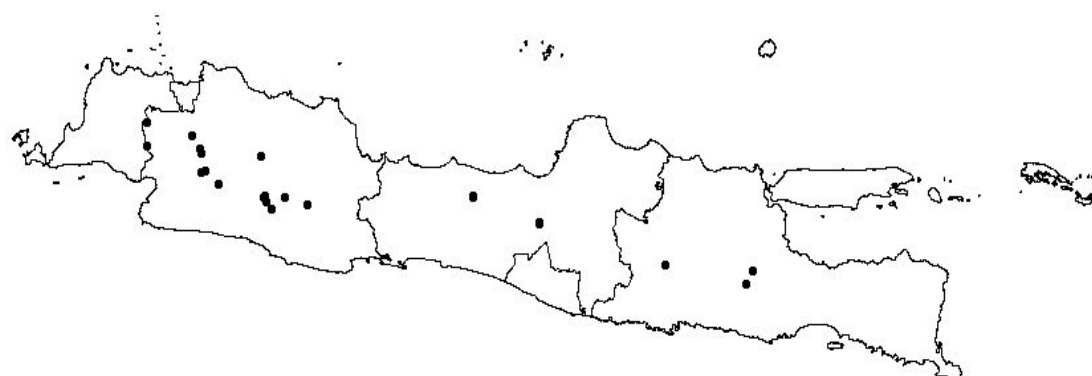


Fig. 11. Distribution map of *D. leprosa* in Java.

biligulatum (Korth.) Triana, Trans. Linn. Soc. 28 (1871–1872) 85. — *Diplectria biligulata* (Korth.) Kuntze, Rev. Gen. Pl. 1 (1891) 246. — *Neodissochaeta biligulata* (Korth.) Bakh. f., Meded. Mus. Bot. Utrecht 91 (1943) 140 ≡ Rec. Trav. Bot. Néerl. 40 (1943) 140. — Type: Sumatra, East Coast, G. Paauw, *Korthals s.n.* (L 908.129–356; iso L 908.129–397).

Dissochaeta bancana Miq., Fl. Ned.–Ind. 1 (1855) 529. — Type: Bangka, *Horsfield s.n.* (K).

Dissochaeta celebica Blume var. *contracta* King, J. Asiat. Soc. Bengal 69, 2 (1900) 54. — Type: Perak, *King's collector 2911* (CAL, n.v.).

Dissochaeta scortechinii King, J. As. Soc. Bengal 69, 2 (1900) 55. — Type: Malay Peninsula, Perak, *Scortechinii 23* (BM; iso SING).

Branchlets terete or nearly angular, 3–6 mm diameter, densely brown stellate–furfuraceous. *Petioles* terete, stellate–furfuraceous, 0.6–1 cm long. *Leaves* blades ovate or oblong, 6.5–10 by 3–4 cm; base rounded; underside densely brown stellate–puberulous; apex acuminate, tip 1–1.5 cm long; midrib with 1 or 2 lateral veins. *Inflorescences* terminal, up to 18 cm long; main axis densely stellate–furfuraceous; peduncle up to 6 cm long; bracts minute or linear, ca. 2.5 mm long; pedicels densely stellate–furfuraceous, 1–2 mm long; bracteoles linear, densely stellate–furfuraceous, 0.5–1 mm long. *Hypanthium* campanulate or urceolate, stellate–furfuraceous, 3–4 by 1–3 mm diameter; calyx truncate with 4 undulating, cuspidate lobes, glabrous, 0.5–1 mm long; petal bud conical, 1–4 mm long; petals ovate to elliptic, glabrous, pink, 4–6 by 3–3.5 mm. *Stamens* 4, equal, alternipetalous, all fertile, curved when mature; filaments flat, basifixed, 3–5 mm long; anthers oblong or lanceolate, slightly curved when mature, 3.5–5 mm long; crests triangular, ca. 0.5 mm long; lateral appendages 2, filiform or ribbon-like, sometimes unequal in length and with an irregular margin, 2–3 mm long. *Ovary* half or 2/3 times as long as the hypanthium, apex minutely villous; extra-ovarial chambers 4, reaching beyond the middle of the ovary. Style glabrous, swollen at apex, 5–9 mm long. *Berry* globose, glabrous to stellate–puberulous, 3–6 by 2.5–3 mm; stalks 3–6 mm long.

Distribution. Thailand (Peninsular), Malay Peninsula (Johor, Kedah, Negeri Sembilan, Singapore, Pahang, Penang, Perak, Selangor), Sumatra (West Sumatra, North Sumatra, Jambi, Bangka, Bintan), Java (Banten, West Java), Borneo (Kalimantan, Sabah, Sarawak), Celebes (Minahasa), Philippines (Mindanao).

Habitat and ecology. Forest edge at 600–1000 m alt.

Notes. *Dissochaeta monticola* can be recognized by the presence of 4 alternipetalous fertile stamens, without oppositipetalous ones. This species is most similar to *D. intermedia* to which Bakhuizen f. (1943) referred it, but differs in the size of the hypanthium and the curved mature anthers which are “S” shaped in *D. intermedia*. The indument of *D. intermedia* is more tomentose while in *D. monticola* it is brown furfuraceous. Bakhuizen f. (1943: 141) stated that the type of *D. bancana* would be *Teysmann s.n.* (U 000552), but Miquel himself attributed it to Horsfield, now presumably in BM.

Specimens examined. BANTEN. *Backer 1835* (BO). WEST JAVA. Mt. Pangrango: *Kartonegoro 317* (BO), *Kuhl & Van Hasselt s.n.* (L.908.129–238; 908.129–248, 944.258–3) (L, type).

10. DISSOCHAETA RETICULATA Blume — Fig. 12, 13b.

Dissochaeta reticulata Blume, Flora 14 (1831) 499 ≡ Bijdr. Nat. Wet. 6 (1831) 241; Veldk., Blumea 24 (1978) 439. — *Omphalopus reticulatus* (Blume) Naudin, Ann. Sci. Nat. Bot. III, 15 (1851) 278. — *Neodissochaeta reticulata* (Blume) Bakh. f., Meded. Mus. Bot. Utrecht 91 (1943) 143 ≡ Rec. Trav. Bot. Néerl. 40 (1943) 143; in Backer & Bakh. f., Fl. Java 1 (1965) 366. — *Dissochaeta velutina* Blume var. *reticulata* (Blume) J.F. Maxwell, Gard. Bull. Singapore 33 (1981, “1980”) 321. — Type: Java, *Blume s.n.* (L 908.129–491; iso L 908.129–495).

Dissochaeta inappendiculata Blume var. *tomentosa* Blume, Flora 14 (1831) 499 ≡ Bijdr. Nat. Wet. 6 (1831) 241. — Type: Java, Rendang, *Junghuhn s.n.* (L 908.129–1669).

Dissochaeta ligulata Blume, Mus. Bot. Lugd.–Bat 1, 3 (1849) 35; Naudin, Ann. Sci. Nat. Bot. III, 15 (1851) 79; Miq., Fl. Ned. Ind. 1 (1855) 524; Veldk., Blumea 24 (1978) 439. — *Anplectrum ligulatum* (Blume) Triana, Trans. Linn. Soc. 28 (1871–1872) 85. — *Diplectria ligulata* (Blume) Kuntze, Rev. Gen. Pl. 1 (1891) 246. — Type: Java, *Junghuhn s.n.* (L 908.129–5).

Branchlets terete, 3–6 mm diameter, densely stellate–furfuraceous or furfuraceous, nodes with a distinct annular ridge. *Petioles* densely stellate–furfuraceous or furfuraceous, 0.5–2 cm long. *Leaves* blades ovate, ovate–oblong or ovate–elliptic, rarely lanceolate, 7–14 by 2–6 cm; base rounded or subcordate; apex acuminate, tip 0.5–2 mm long; underside densely brown stellate–furfuraceous; midrib with 2 lateral veins. *Inflorescences* terminal and axillary, up to 23 cm long; main axis densely stellate–furfuraceous or furfuraceous; peduncle up to 9 cm long; bracts minute or oblong to lanceolate, 15–17 by 4–5 mm, caducous; pedicels furfuraceous, 2–5 mm long; bracteoles minute or ovate to linear–

lanceolate, glabrescent or densely stellate-furfuraceous, 2–5 mm long. *Hypanthium* campanulate or suburceolate, densely stellate-furfuraceous or furfuraceous, 2–5 by 1–3 mm diameter; calyx with 4 rounded lobes, glabrous or puberulous, widened 0.5–2 cm long; petal bud conical or subrounded, angular, 1–6 mm long; petals oblong or ovate-oblong, glabrous or with appressed hairs at base inside, 7–10 by 3–4 mm. *Stamens* 8, unequal or subequal, homomorphous, all fertile; the alternipetalous ones larger; filaments flat, basifixed, sometimes subbasifixed, 2–5 mm long; anthers ovate-oblong or lanceolate, when mature curved or straight, 3–6.5 mm long; crests triangular, 1–1.5 mm long; lateral appendages minute or usually absent; the oppositipetalous ones smaller; filaments bent or not, 2–3 mm long; anthers oblong, oblong-lanceolate, 2–4 mm long; crests triangular or ligular, erect or sometimes horizontally inward tapering to anther, rare with tri- or bifid, 1–1.5 mm long; lateral appendages absent. *Ovary* half or 2/3 times as long as the hypanthium, apex puberulous or pubescent; extra-ovarial chambers 8, reaching at most to the middle of the ovary. *Style* glabrous, apex swollen, (5–)10–12 mm long. *Berry* globose, glabrous, with distinct 8 vertical ridges, 4–8 by 3–6 mm;

stalks densely stellate-furfuraceous, 4–6 mm long.

Distribution. Malay Peninsula (Johor, Selangor), Sumatra (Aceh, North Sumatra), Java (West Java).

Habitat and ecology. Secondary forest at 700–1000 m alt.

Local name. Harendong areuy (Sunda).

Notes. *Dissochaeta reticulata* is a distinct species because it has a densely stellate-furfuraceous or furfuraceous indument, all stamens fertile, and erect ligular crests on the oppositipetalous ones. When sterile it resembles to *D. intermedia* and *D. fallax*, but it is different in the number, shape, and size of the stamens. Maxwell (1981) regarded *D. reticulata* as a variety of *D. velutina* which is in this paper recognized as *D. inappendiculata* because its inappendiculate alternipetalous anthers.

Specimens examined. WEST JAVA. Gunung Melati: *Went s.n.* (L.908.129–235) (L); Mt. Sanggabuana: *Backer* 23839 (BO); Cibeber: *Bakhuizen* 732 (BO), *Backer* 22623 (BO); Takokak: *Koorders* 33313 (BO); Nanggerang: *Backer* 8761 (BO). No specific location: *Binnendijk* 418HB; *Binnendijk* 360HB; *Blume s.n.* (L.908.129–491);

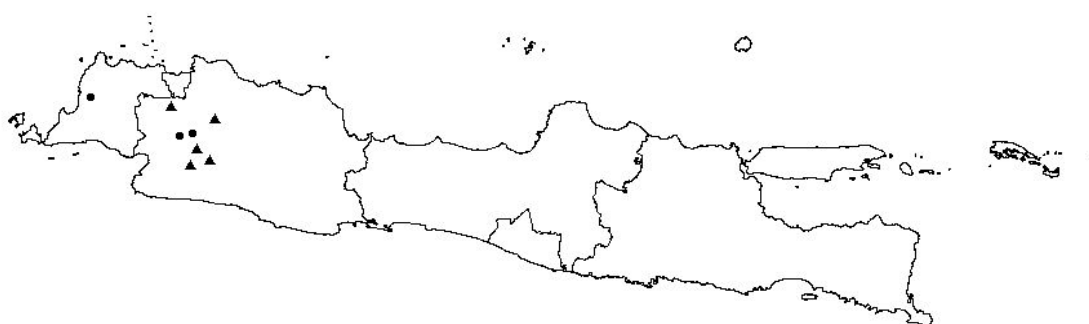


Fig. 12. Distribution map of *D. monticola* (●) and *D. reticulata* (▲) in Java.

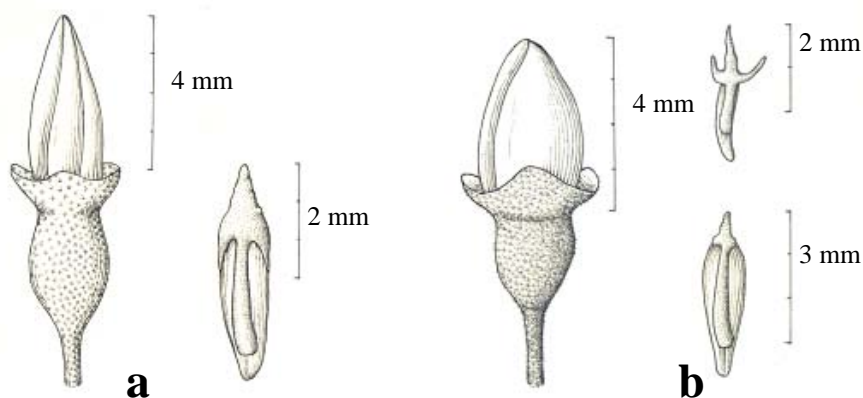


Fig. 13. Flower bud, alternipetalous (downside) and oppositipetalous (upside) stamen in bud. a. *D. monticola* (Kartonegoro 317). b. *D. reticulata* (Backer 23839).

908.129–495)(L, type); *Junghuhn s.n.* (L.908.129–5) (L, type of *D. ligulata* Blume); *De Vriese 53* (L); *De Vriese 51A* (L); *Anon. s.n.* (L.908.129.464) (L, p.p.).

11. DISSOCHAETA SAGITTATA Blume — Fig. 14, 15a.

Dissochaeta sagittata Blume, Flora 14 (1831) 500 ≡ Bijdr. Nat. Wet. 6 (1831) 214; Naudin, Ann. Sci. Nat. Bot. III, 15 (1851) 79; Miq., Fl. Ned. Ind. 1 (1855) 525; Cogn., in A. DC., Monogr. Phan. 7 (1891) 555; Bakh. f., Meded. Mus. Bot. Utrecht 91 (1943) 23 ≡ Rec. Trav. Bot. Neerl. 40 (1943) 233; in Backer & Bakh. f., Fl. Java 1 (1965) 364. — *Dissochaeta intermedia* Blume var. *sagittata* (Blume) J.F. Maxwell, Gard. Bull. Singapore 33 (1981, “1980”) 315. — *Diplectria sagittata* (Blume) Blume ex Veldkamp, Blumea 24 (1978) 445 (lapsus calamitatis!). — Type: Java, Bantam, *Blume 11* (L.908.129–216).

Dissochaeta cumingii Naudin, Ann. Sci. Nat. Bot. III, 15 (1851) 75; Miq., Fl. Ned. Ind. 1 (1855) 526; Cogn., in A. DC., Monogr. Phan. 7 (1891) 555. — Type: Luzon, Manila, *Cuming 1344* (P, n.v.; iso L).

Dissochaeta rubiginosa Stapf, J. Linn. Soc. Bot. 42 (1914) 79. — Type: Borneo, Sarawak, Mt. Matang, *Haviland s.n.* (BM; iso SAR).

Branchlets terete, up to 4 mm diameter, densely stellate–furfuraceous, interpetiolar ridge inconspicuous, covered by stellate furfuraceous hairs. *Petioles* densely stellate–furfuraceous, ca. 1 cm long. *Leaves* blades oblong, 10–11 by 4.5–5 cm; base rounded; apex acuminate, tip ca. 1 cm long; underside densely stellate–furfuraceous; midrib with 1 pair of lateral veins. *Inflorescences* terminal and from the upper leaf axils, up to 21 cm long; main axis quadrangular, densely stellate–furfuraceous; peduncle up to 5.5 cm long; bracts lanceolate, stellate–furfuraceous, 10 by 2 mm; pedicels densely stellate–furfuraceous, 2–5 mm long; bracteoles lanceolate, stellate–furfuraceous, 4–6 mm long. *Hypanthium* campanulate or suburceolate, densely stellate–

furfuraceous, 4–7 by 2–5 mm diameter; calyx truncate with 4 more or less triangular lobes, stellate–furfuraceous, 1 mm long; petal bud conical 2–10 mm long; petals oblong, glabrous, red to pinkish red, 9–11 by 4 mm. *Stamens* 8, subequal, the alternipetalous ones fertile, straight when mature; filaments flat, basifixed, ca. 6 mm long; anthers lanceolate, 6–7 mm long; crests triangular, hastate to sagittate, 1.5 mm long; lateral appendages 2, filiform or ribbon–like, sometimes unequal in length, 3–4 mm long. Oppositipetalous stamens smaller, fertile or staminodial; straight or falcate when mature; filaments flat, 4–6 mm; anthers lanceolate, 3–5 mm long; crest triangular or spuriform, up to 1 mm long; lateral appendages 2, filiform or absent. *Ovary* 2/3 times as long as the hypanthium, apex pubescent; extra–ovarial chambers 8, reaching beyond the middle of the ovary. Style glabrous, swollen at apex, 13–15 mm long. Fruits unknown.

Distribution. Malay Peninsula (Malacca), Sumatra (Aceh, North Sumatra), Java (West Java), Borneo (Sabah), Philippine (Luzon).

Habitat and ecology. Secondary forest 700–1400 m.

Notes. *Dissochaeta sagittata* can easily be recognised by the very dense indument on the branchlets, underside of the leaf blade, and hypanthium. The alternipetalous stamens have a triangular, hastate, or sagittate crest, larger than in *D. vacillans*.

It is most similar to *D. intermedia* but differs by having 8 subequal stamens. The difference of shape and number of stamens make this species distinct and not a variety of *D. intermedia* (Maxwell 1981 “1980”) as was also observed by G. Kadereit (in sched. L).

Specimens examined. BANTEN. *Blume 11* (L.908.129–216) (L, type). WEST JAVA. Mt. Karang Gantungan: *Backer 6272* (BO); Cisangku: *Backer 10549* (BO); Su-

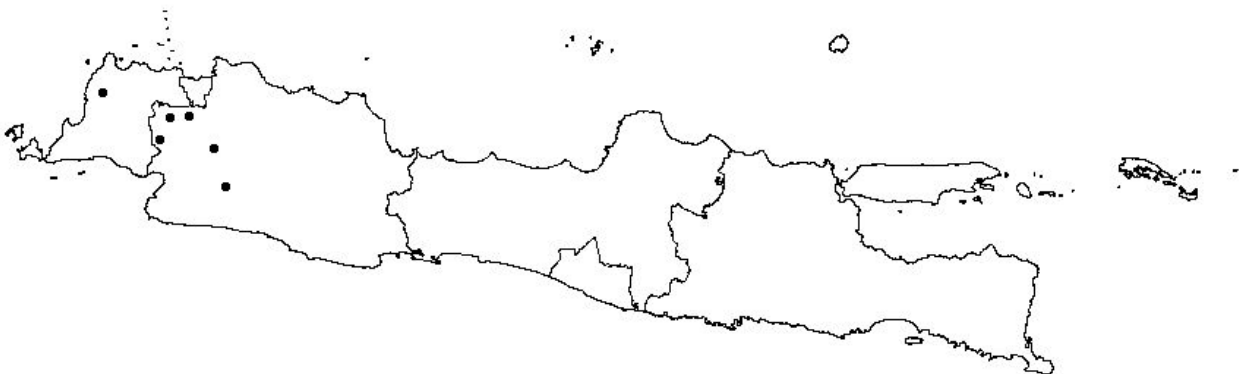


Fig. 14. Distribution map of *D. sagittata* in Java.

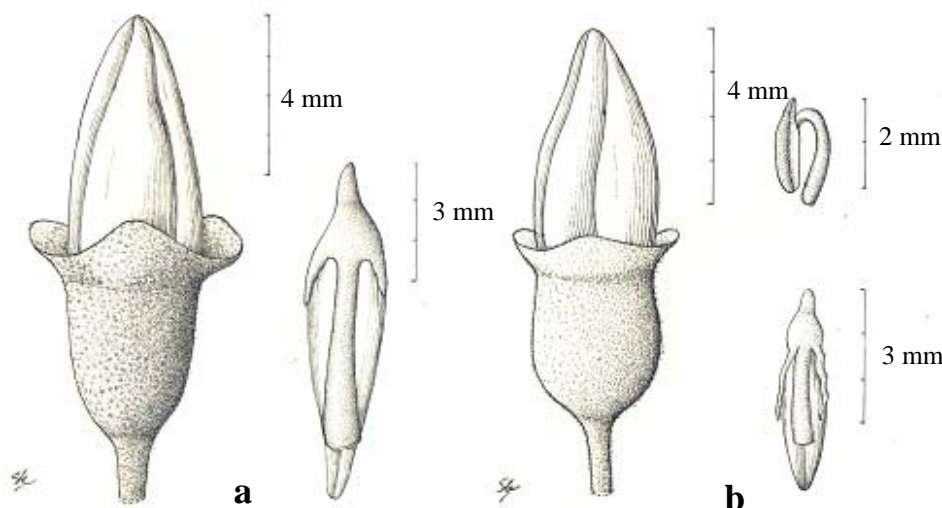


Fig. 15. Flower bud, alternipetalous (downside) and oppositipetalous (upside) stamen in bud.
a. *D. sagittata* (Hellendoorn 8). b. *D. vacillans* (Arifiani et al. 142).

kanegara: Hellendoorn 8 (BO); Mt. Gede: Raap 695A (L); Nanggerang: Backer 9097 (BO). No specific location: Anon. s.n. (L 908.129–1652) (L); Anon. s.n. (L 908.129–228) (L).

12. DISSOCHAETA VACILLANS (Blume) Blume — Fig. 15b, 16.

Dissochaeta vacillans (Blume) Blume, Flora 14 (1831) 495 ≡ Bijdr. Nat. Wet. 6 (1831) 238; Naudin, Ann. Sci. Nat. Bot. III, 15 (1851) 79; Miq., Fl. Ned. Ind. 1 (1855) 526; Cogn., in A. DC., Monogr. Phan. 7 (1891) 559; Veldk., Blumea 24 (1978) 440. — *Melastoma vacillans* Blume, Bijdr. Fl. Ned. Ind. 17 (1826) 1074. — *Neodissochaeta vacillans* (Blume) Bakh. f., Meded. Mus. Bot. Utrecht 91 (1943) 144 ≡ Rec. Trav. Bot. Néerl. 40 (1943) 144; in Backer & Bakh. f., Fl. Java 1 (1965) 366. — Lectotype: Java, Tjiawi, Herb. Reinwardt s.n. in Herb. Blume (L 944.258–9; iso L 908.129–475, designated here).

Dissochaeta fusca Blume, Flora 14 (1831) 497 ≡ Bijdr. Nat. Wet. 6 (1831) 238; Naudin, Ann. Sci. Nat. Bot. III, 15 (1851) 74; Cogn., in A. DC., Monogr. Phan. 7 (1891) 560. — *Melastoma vacillans* Blume var. *c* Blume, Bijdr. Fl. Ned. Ind. 17 (1826) 1074. — *Dissochaeta inappendiculata* Blume var. *fusca* (Blume) Miq., Fl. Ned. Ind. 1, 1 (1855) 525. — *Neodissochaeta fusca* (Blume) Bakh. f., Meded. Mus. Bot. Utrecht 91 (1943) 144 ≡ Rec. Trav. Bot. Néerl. 40 (1943) 144; in Backer & Bakh. f., Fl. Java I (1965) 366. — Lectotype: Java, Blume s.n. (L 908.129–196; iso L 908.129–676, designated here).

Dissochaeta fusca Blume var. *β ferruginea* Blume, Flora 14 (1831) 497 ≡ Bijdr. Nat. Wet. 6 (1831) 239. — Lectotype: Java, Bantam, Van Hasselt s.n. (L 908.129–676; iso L 908.129–679, –685, –699 p.p., designated here).

Dissochaeta fusca Blume var. *obtusum-acuminata*

Blume, Flora 14 (1831) 497 ≡ Bijdr. Nat. Wet. 6 (1831) 239. — Lectotype: Java, Batavia, Tjiampea, Blume s.n. (L 908.129–689; iso L 908.129–699 p.p., designated here).

Dissochaeta velutina Blume, Flora 14 (1831) 497 ≡ Bijdr. Nat. Wet. 6 (1831) 239; Naudin, Ann. Sci. Nat. Bot. III, 15 (1851) 79; Miq., Fl. Ned. Ind. 1 (1855) 527; Cogn., in A. DC., Monogr. Phan. 7 (1891) 560. — Lectotype: Java, Bantam, Leuwi Boengoer, Kuhl & Van Hasselt s.n. (L 908.129–202; iso L 908.129–212, designated here).

Dissochaeta nodosa Korth. in Temminck, Verh. Nat. Gesch. Ned. Bezitt., Bot. (1844) 239; Bakh. f., Meded. Mus. Bot. Utrecht 91 (1943) 232 ≡ Rec. Trav. Bot. Néerl. 40 (1943) 232. — *Anplectrum nodosum* (Korth.) Blume, Mus. Bot. Lugd.–Bat 1, 3 (1849) 37. — *Anplectrum nodosum* (Korth.) Triana, Trans. Linn. Soc. 28 (1871–1872) 84. — Type: Sumatra, West Coast, Mount Kerintji, Korthals s.n. (L 908.129–15; iso L 908.129–12).

Dissochaeta brachyanthera Naudin, Ann. Sci. Nat. Bot. III, 15 (1851) 74; Miq., Fl. Ned. Ind. 1 (1855) 525; Veldk., Blumea 24 (1978) 444. — Type: Java, West, Zollinger 3511 (P; iso L).

Dissochaeta montana Cogn. in A. DC., Monogr. Phan. 7 (1891) 558. — Type: Sumatra, East Coast, Mt. Singgalang, Beccari 4124 (FI, n.v.).

Branchlets terete or subquadrangular, 2–5 mm diameter, glabrescent to brown stellate-furfuraceous or furfuraceous, rarely with minute bristles. *Petioles* puberulous to furfuraceous, 5–24 mm long. *Leaves* blades ovate-oblong or elliptic-oblong to lanceolate, 6.5–14 by 2.5–7 cm; base rounded; apex acuminate, tip 5–10 mm long; underside glabrous to nearly brown sparsely stellate-furfuraceous; midrib with 1 lateral vein. *Inflorescences* terminal and from the upper leaf axils, up to

30 cm long; main axis sparsely stellate-furfuraceous; peduncle up to 7 cm long; bracts minute or linear-lanceolate, caducous, furfuraceous; pedicels sparsely stellate-furfuraceous, 1–6 mm long; bracteoles minute or linear to oblong, stellate-furfuraceous, 1.5–2 mm long. *Hypanthium* campanulate or urceolate, sometimes angular, glabrescent or sparsely to densely stellate-furfuraceous, 2–5 by 1–3 mm diameter; calyx truncate with 4 undulating, rounded, or subtriangular lobes, rarely entire, glabrous, 0.5–1 mm long; petal bud conical, 1–4 mm long; petals ovate or oblong, glabrous or with minute hairs at margin, red, white, pink, or violet, 5–6 by 3 mm. *Stamens* 8, unequal, homomorphous; the alternipetalous ones larger; filaments flat, basifixed, 2.5–4 mm long; anthers oblong or lanceolate, yellow, 3–5 mm long; crests triangular, 1–2 mm long; lateral appendages 2, filiform or ribbon-like, 1.5–3 mm long; the oppositipetalous ones smaller; filaments flat, bent or not, 2–3 mm long; anthers ovate-oblong or lanceolate, 2.5–4 mm long; crests triangular or ligular, erect, 0.5–1 mm long; lateral appendages two or reduced to a single lateral one, filiform or ribbon-like, 1–2 mm long. *Ovary* half or 2/3 times as long as the hypanthium, apex puberulous or pubescent; extra-ovarial chambers 8, 4 reaching between the apex and the middle of the ovary; the other 4 shallower. *Style* glabrous, 5–8 mm long. *Berry* globose, rarely subglobose, glabrous, with mammiform shaped, blue-lilac, 3–6(–10) by 2–6 mm; stalks 2–5(–7) mm long.

Distribution. Malay Peninsula (Malacca, Pahang, Perak, Selangor), Sumatra (Aceh, North Sumatra, West Sumatra, Mentawai), Java (Banten, West Java, Central Java), Borneo (Kalimantan), Lesser Sunda Isl. (Sumbawa).

Habitat and ecology. Forest, depleted forest or river edge at 500–1400 m alt.

Local name. Harendong areuy (Sunda), harendong bokor areuy (Sunda), harendong gede (Sunda).

Collector notes. Height up to 15 m. Flowering time

in May, fruiting time: May, June (*Koorders 33315*).

Notes. *Dissochaeta vacillans* has 8 stamens, the alternipetalous ones are fertile with two filiform lateral appendages and an auricular crest; the oppositipetalous are fertile or staminodial. The underside of leaf blades vary from glabrous to nearly brown sparsely stellate-furfuraceous. Sometimes the glabrous ones are very similar to *D. gracilis* and *D. decipiens* when sterile. The species is very common in Java especially in the West.

Specimens examined. BANTEN. Mt. Karang: *Koorders 40727* (BO), *Koorders 40659* (BO); Mt. Pulasari: *Backer 7055* (BO), *Van Hasselt s.n.* (L 908.129–676; L 908.129–679) (L, type of *D. fusca* Blume var. *ferruginea* Blume); Leuwi Bungur: *Kuhl & Van Hasselt s.n.* (L 908.129–202; 908.129–212; 908.129–222) (L, type of *D. velutina* Blume). WEST JAVA. Mt. Salak: *Hoover & Hendra 32564* (BO), *De Voogd & Bloembergen s.n.* (BO.1755056) (BO), *Schiffner 2293* (BO, L), *Backer 4198* (BO), *Wiriadinata & Hoover 31188* (BO); Leuwiliang: *Van Steenis 2712* (BO.1757865) (BO); Mt. Butik Buligir: *Backer 6150* (BO); Mt. Sunarari: *Backer 6380* (BO); Ciampea: *Blume s.n.* (L 08.129–689) (L, type of *D. fusca* Blume var. *obtusum-acuminata* Blume); Ciawi: *Reinwardt s.n.* (L 944.258–9, 908.129–475) (L, type of *Melastoma vacillans* Blume); Puncak: *Meijer 105* (BO, L); Mt. Halimun: *Arifiani et al. 142* (BO), *Van Balgooy & Wiriadinata 2922* (BO, L); Mt. Gede: *Boerlage s.n.* (BO.1428704) (BO), *Boerlage s.n.* (BO.1429158) (BO), *Scheffer s.n.* (BO.1755010) (BO), *Backer 21507* (BO), *Widjaja 3220* (BO, CHTJ), *Enoh 181* (BO, CHTJ, L), *Koorders 31670* (BO); Sukanegara: *Hellendoorn 5* (BO); Cibebur: *Smith 822* (BO, L), *Bakhuizen 1469* (BO), *Winckell 1176β* (BO, L); Takokak: *Koorders 33314* (BO), *Koorders 33315* (BO); Cisondari: *Koorders 26306* (BO); Mt. Tangkuban Prahur: *Docters van Leeuwen 11487a* (BO); Mt. Sembung: *Backer 12298* (BO); Rawa Cangkuang: *Scheffer s.n.* (BO); Pasawahan: *Backer 2261* (BO); Mt. Ciparay: *Backer 15041* (BO); Mt. Cikuray: *Backer 8685* (BO); Panjalu: *Koorders 47851* (BO). CENTRAL JAVA. Mt. Slamet: *BJ Bernardius D43051* (BO). No specific location: *Blume 1791* (L 908.129–196; L 908.129–676) (L, type of *D. fusca* Blume); *Blume s.n.* (L 908.129–694) (L); *De Vriese 58* (L); *De Vriese 171* (L); *De Vriese s.n.* (L 908.129–1690) (L); *Anon. s.n.* (L 944.258–1) (L); *Anon. s.n.* (L 908.129–252) (L);

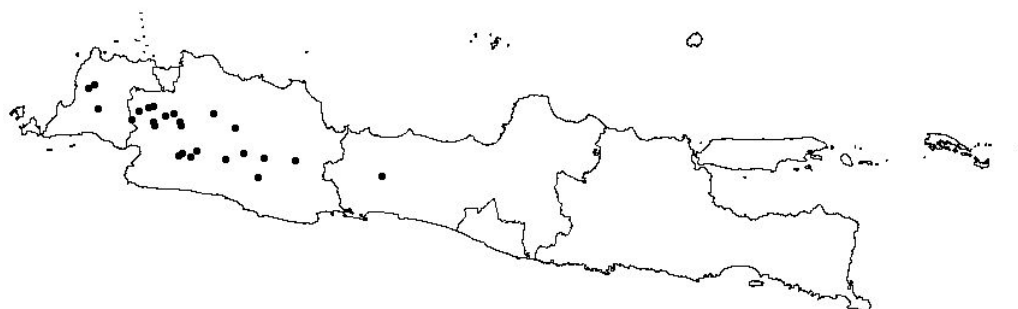


Fig. 16. Distribution map of *D. vacillans* in Java.

Anon. s.n. (L 908.129–255) (L); Anon. s.n. (L 908.129–484) (L); Anon. s.n. (L 908.129–675) (L); Anon. s.n. (L 908.129–697) (L).

ACKNOWLEDGMENTS

This study was made as the first part of a revision of the genus *Dissochaeta* in Indonesia, starting with the species of Java. AK did the revisional work, while JFV contributed to the editing and nomenclature. The Directors and Keepers of the following herbaria are thanked for loans of their specimens: BO, CHTJ, L, U, and US. J.F. Maxwell (CMU) is gratefully acknowledged for providing his unpublished thesis on the *Dissochaeteae*. AK would like to render special thanks to S.S. Renner (M) and G. Kadereit (MJG) for their valuable advice and references from their study of woody climbers of Melastomes and N. Cellinese (FLAS) for giving valuable comments and suggestion in reviewing the paper. We also thanks to Mr. Subari (BO) for beautiful hypanthiums and stamens drawing. All map distributions are using the ArcView GIS 3.2.

REFERENCES

- BACKER, C.A. 1936. *Verklarend woordenboek van wetenschappelijke plantennamen*. Noordhoff, Groningen. 179.
- BAKHUIZEN VAN DEN BRINK Jr., R.C. 1943. A contribution to the knowledge of the *Melastomataceae* occurring in the Malay Archipelago, especially in the Netherlands East Indies. *Meded. Bot. Mus. Herb. Rijks Univ. Utrecht* 91: 1–391. Reprinted in *Rec. Trav. Bot. Néerl.* 40: 1–391.
- BAKHUIZEN VAN DEN BRINK Jr., R.C. 1963. *Melastomataceae*. In BACKER, C. A. & BAKHUIZEN VAN DEN BRINK Jr., R.C. *Flora of Java 1*. Noordhoff, Groningen. 364–365.
- BLUME, C.L. 1826. Melastomeae. *Bijdr. Fl. Ned.–Ind.* 17: 1067–1080.
- BLUME, C.L. 1831a. Ueber einige Ostindische und besonders Javanische Melastomeen. *Flora* 14: 465–528.
- BLUME, C. L. 1831b. Over eenige Oostindische, bijzonder Javaansche Melastomeen. *Bijdr. Nat. Wet.* 6: 211–268 (234–242).
- BLUME, C. L. 1849. *Museum botanicum Lugduno Batavum 1*. Brill, Leiden. :35–37.
- CLAUSING, G. & RENNER, S. S. 2001. Evolution of growth form in epiphytic *Dissochaetea (Melastomataceae)*. *Org. Divers. Evol.* 1: 45–60.
- COGNIAUX, A. 1891. *Melastomataceae*. In CANDOLLE, A. DE. *Monographiae Phanerogamarum 7*: 554–563. Masson, Paris.
- KADEREIT, G. 2006. A new species of *Dissochaeta* Blume (*Melastomataceae*) from Kalimantan (Borneo, Indonesia). *Edinburgh J. Bot.* 63: 3–8.
- KORTHALS, P. W. 1844. In TEMMINCK, C. J. *Verhandelingen over De natuurlijke geschiedenis der Nederlandsche overzeesche bezittingen, Botanie*. Natuurkundige Commissie, Leiden. :236–243.
- MAXWELL, J.F. 1980. *Taxonomic revision of Diplectrinae Maxw. and Dissochaetinae Naud. (Dissochaeteae) Melastomataceae*. Ph.D. Thesis University of Singapore.
- MAXWELL, J.F. 1981 (“1980”). Taxonomic notes on the tribe *Dissochaeteae* (Naudin) Triana (*Melastomataceae*). *Gard. Bull. Singapore* 33: 312–324.
- MAXWELL, J.F. 1984. Taxonomic studies of the Melastomataceae (Part 1). A revision of subtribes *Diplectrinae* Maxw. and *Dissochaetinae* (Naudin) Triana (Genera *Diplectria* (Bl.) Reichb., *Dissochaeta* Bl., *Macrolenes* Naudin, *Creochiton* Bl., and *Pseudodissochaeta* Nayar). *Fed. Mus. J.* 29: 45–117.
- MIQUEL, F.A.W. 1855. *Flora van Nederlandsch Indië 1*. Van der Post. Amsterdam. 521–532.
- NAUDIN, C. 1851. Melastomeacearum. *Ann. Sci. Nat. Bot.* III, 15: 69–69.
- RENNER, S.S., CLAUSING, G., CELLINESE, N., & MEYER, K. 2001. Melastomataceae. *Fl. Thailand 7*: 412–497.
- TRIANA, J. 1871. Les Mélastomacées. *Trans. Linn. Soc. London* 28: 82–84.
- VELDKAMP, J.F. 1978. Notes on *Creochiton*, *Dissochaeta*, and *Macrolenes* (Melastomataceae). *Blumea* 24: 437–446.
- VELDKAMP, J.F., FRANKEN, N.A.P., ROOS, M.C. & NAYAR, M.P. 1978. A revision of *Diplectria (Melastomataceae)*. *Blumea* 24: 405–430.

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