



PRINTED ISSN : 0215-4706
ONLINE ISSN : 2469-6944

FLORIBUNDA

JURNAL SISTEMATIKA TUMBUHAN

Floribunda 6(5): 167–206. 30 Oktober 2020

DAFTAR ISI

Phenetic Analysis and Distribution of <i>Claoxylon</i> in the Lesser Sunda Islands Adhy Widya Setiawan & Tatik Chikmawati	167–174
Keanekaragaman Morfologi Cempedak [<i>Artocarpus integer</i> (Thunb.) Merr.] di Kabupaten Bangka Tengah dan Selatan Relin Lestari, Anggraeni & Edi Romdhoni	175–182
<i>Melothria</i> (<i>Cucurbitaceae</i>): A New Genus Record of Naturalized Cucumber in Sumatra Wendy A. Mustaqim & Hirmas F. Putra	183–187
<i>Phyllanthus myrtifolius</i> (Moon ex Wight) Müll.Arg. and <i>Phyllanthus tenellus</i> Roxb. (<i>Phyllanthaceae</i>) in Java Muhammad Rifqi Hariri, Arifin Surya Dwipa Irsyam, Afri Irawan, Zakaria Al-Anshori, Arie Muntara & Rina Ratnasih Irwanto	188–194
Keanekaragaman dan Kekerabatan Genetik <i>Artocarpus</i> Berdasarkan Penanda DNA Kloroplas <i>matK</i> & <i>rbcL</i> : Kajian in <i>Silico</i> Dindin H. Mursyidin & M. Irfan Makruf	195–206



PRINTED ISSN : 0215-4706
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Floribunda merupakan organ resmi Penggalang Taksonomi Tumbuhan Indonesia, diterbitkan dua kali setahun dan menerbitkan makalah dalam bahasa Indonesia dan Inggris mengenai pelbagai gatra sistematika keanekaragaman flora Malesia pada umumnya dan Indonesia pada khususnya yang berasal dari hasil penelitian, pengamatan lapangan, pengalaman pribadi, telaahan bergagasan, dan tinjauan kritis.

Sidang Penyunting

Ketua Penyunting

Tutie Djarwaningsih (BO)

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Dewi Susan (BO)

Penyunting Pelaksana

Wita Wardani (BO)

Tata Letak

Andi Hapid (BO)

Petunjuk kepada pengarang

Jenis tulisan

Makalah lengkap memuat hasil penelitian floristik, revisi, atau monografi unsur-unsur flora Malesia. Komunikasi pendek mencakup laporan kemajuan kegiatan penelitian, pengembangan dan rekayasa keanekaragaman flora Malesia yang perlu segera dikomunikasikan.

Tulisan lain meliputi obituari tokoh keanekaragaman flora, tinjauan kritis bergagasan, telaahan serta pembahasan persoalan aktual seputar kegiatan penelitian, pengembangan dan rekayasa tetumbuhan Indonesia, serta timbangan buku akan dimuat berdasarkan undangan.

Rujukan pembakuan

Pemakaian Bahasa Indonesia sepenuhnya mengikuti *Pedoman Umum Ejaan yang Disempurnakan*, *Pedoman Umum Pembentukan Istilah*, *Kamus Besar Bahasa Indonesia*, serta kamus-kamus istilah yang dikeluarkan Pusat Bahasa. Bahasa Inggris yang dipakai adalah the Queen English dengan berpedoman pada *Oxford Dictionary of*

the English Language. Ketentuan-ketentuan yang dimuat dalam *Pegangan Gaya Penulisan, Penyuntingan, dan Penerbitan Karya Ilmiah Indonesia*, serta *Scientific Style and Format: CBE Manuals for Author, Editor, and Publishers*, dan buku-buku pegangan pembakuan lain akan sangat diperhatikan. Kepatuhan penuh pada *International Code of Botanical Nomenclature* bersifat mutlak.

Gaya penulisan

Penulisan naskah yang akan diajukan supaya disesuaikan dengan gaya penulisan yang terdapat dalam nomor terakhir terbitan *Floribunda*.

Abstrak informatif supaya diberikan dalam bahasa Indonesia dan Inggris yang masing-masing tidak melebihi 200 kata. Sediakan sekitar 7 kata kunci untuk keperluan pengindeksan dan pemindaian.

Bilamana diperlukan ucapan terima kasih dan bentuk persantunan lain dapat dicantumkan sesudah tubuh teks tetapi sebelum daftar pustaka.

Pengacuan pada pustaka hendaklah dilakukan dengan sistem nama-tahun. Daftar pustaka supaya disusun berdasarkan alfabet nama pengarang dengan memakai sistem Harvard.

Gambar dan tabel merupakan pendukung teks sehingga perlu disusun secara logis dalam bentuk teks atau tabel atau sebagai gambar, tetapi tidak dalam bentuk ketiganya sekaligus. Siapkan gambar yang lebarnya dua kolom cetak.

Penyumbangan naskah

Naskah dikirimkan secara *online* atau melalui *e-mail*. Naskah yang ingin diterbitkan dalam *Floribunda* akan dipertimbangkan pemuatannya *hanya* jika pengirimannya disertai pernyataan tertulis dari 2 (dua) orang mitra bestari yang dipilih sendiri oleh penulisnya (akan lebih diutamakan bila mitra bestari dipilihkan dari luar lingkungan kerja penulis), yang menyatakan bahwa secara ilmiah keorisinalan dan makna sumbangan naskah tersebut memang layak diterbitkan. Makalah yang dimuat dikenai biaya Rp. 450.000,00 untuk anggota PTTI dan Rp. 500.000,00 untuk non anggota.

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FLORIBUNDA

Jurnal Sistematika Tumbuhan

DOI : 10.32556/floribunda.v6i5.2020.318

P-ISSN : 0215 - 4706

E-ISSN : 2460 - 6944

MELOTHRIA (CUCURBITACEAE): A NEW GENUS RECORD OF NATURALIZED CUCUMBER IN SUMATRA

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Wendy A. Mustaqim & Hirmas F. Putra. 2020. *Melothria* (Cucurbitaceae): Rekaman Baru Genus Timun-timun Ternaturalisasi di Sumatra. *Floribunda* 6(5): 183–187. — Catatan pertama untuk marga anggota suku ketimun *Melothria* (Cucurbitaceae) disajikan untuk Sumatera. Marga ini di Sumatera diwakili oleh satu jenis kosmopolitan, yaitu *Melothria pendula*. Jenis ini ditemukan ketika eksplorasi dilakukan di bagian utara pulau. Pertelaan morfologi, peta distribusi, diskusi singkat dan foto-foto disajikan.

Kata kunci: Jenis asing, Malesia barat, taksonomi.

Wendy A. Mustaqim & Hirmas F. Putra. 2020. *Melothria* (Cucurbitaceae): A New Genus Record of Naturalized Cucumber in Sumatra. *Floribunda* 6(5): 183–187. — The first record of a naturalized cucumber genus *Melothria* (Cucurbitaceae) is presented for Sumatra, represented by one cosmopolitan species *Melothria pendula*. The species has been found during an exploration in the northern part of the island. A morphological description, distribution map, brief discussions, and photographs are given.

Keywords: Alien flora, taxonomy, West Malesia.

Melothria L. belongs to the cucumber family (Cucurbitaceae). It is a genus that has a native distribution in the New World, with 10 species have been described. The genus is characterized by its climbing habits, male and female flowers on the same plant, the yellow petals with notched apex, and male flowers are borne in pedunculate racemes. The stamens are three in numbers that consist of two two-celled and one single-celled anther. The closely related to the genus is *Indomelothria*, but the latter differs in its petal color which is white or less frequent creamy-white and its obtuse apex (vs notched in *Melothria*) (de Wilde & Duyfjes 2010). Further details of the differences between *Melothria* and *Indomelothria* have been discussed in de Wilde & Duyfjes (2006).

During an exploration in Muara Upu swamps, Batang Toru, North Sumatra, we collected two sets of specimens that have been identified as a species belongs to *Melothria*. Both representing small climbing plants grown on the open area and roadsides in the degraded peat-swamp forests. Further

identification concluded that the species is *Melothria pendula* L., the only species of *Melothria* reported as a weed in Malesia (de Wilde & Duyfjes 2010). This species has been recorded from several areas of Malesia, including Peninsular Malaysia, Borneo (Sabah), Philippines, Sulawesi, and the Lesser Sunda Islands (from Bali) (de Wilde & Duyfjes 2006; de Wilde & Duyfjes 2010). A comparison to the literature and herbarium database including the Herbarium Universitas Andalas (ANDA) (Nurainas *et al.* 2020), as well as some other digital herbaria indicated that this species has not been reported for Sumatra. Therefore, those specimens represents the first record for Sumatra.

MATERIALS AND METHODS

The morphological description of the species was made based on recently collected herbarium materials. Plant collecting follows van Balgooy (1987). Important field notes were also incorporated in the description. The distribution map was

prepared using QGIS (QGIS Development Team 2019). Identification was done according to de Wilde & Duyfjes (2006) and de Wilde & Duyfjes (2010) as well as type specimens available in JSTOR Global Plants (plants.jstor.org) and some digital herbaria (ANDA, K, and L) (acronym follow Thiers 2020-continuously updated).

RESULT AND DISCUSSION

Melothria pendula L. Sp. Pl. ed. 1 (1753) 35; de Wilde & Duyfjes, Fl. Malesiana I, 19 (2010) 107. — Type: *Herb. LINN No. 51.1* (lecto LINN *n.v.*, designated by Wunderlin (1978)). (Figure 1).

Monoecious, annual creeper or climber, slender, plant to *c.* 3 m long, flower-bearing stem *c.* 0.5 mm when dry, sparsely pubescent, late glabrescent. Tendril slender, not branched, with very few hairs on its surfaces. Leaves: petiole 1–2 cm long, covered with whitish, *c.* 0.5 mm long hairs; blade ovate-sagittate, or ovate-hastate, 2.5–5 × 2–4.5 cm, base deeply cordate, margin sinuate, sparsely dentate, apex acute, subacuminate, ending in a minute teeth; venation palmate, main nerves *c.* 7, faintly raised above, prominent beneath, venation reticulate, obscure above, faintly raised beneath; scabrous on both surfaces, cystoliths minute. Male inflorescences: hairy as the petiole; peduncle 1.6–1.9 cm long, raceme with 7–8-crowded flowers. Male flowers: Pedicels 3–4.5 mm long, perianth *c.* 5 mm across, receptacle tube *c.* 2.25 mm long, 1.5 mm wide, outside sparsely hairy; sepals *c.* 0.4 mm long, petals patent, yellow, diameter *c.* 7.5 mm across, lobes 2–2.5 × 2.8–3.2 mm, shallowly retuse at the apex; stamens 3, finely glandular; filaments slender *c.* 0.5 mm long, , anthers *c.* 1 mm long; disc *c.* 0.75 mm across. Female flowers soliter; pedicel *c.* 26 mm long, sparsely pubescent;; perianth similar to those of female flower; corolla *c.* 10.5 mm diam., lobes *c.* 4 × 4.25 mm, apex obtuse, very shallowly retuse; ovary *c.* 4 mm long, with a *c.* 1 mm long neck, at very first laxly set with minute hairs, style *c.* 1.5 mm long; stigma-lobes 3, 2-lobed at the apex, shortly exerted, disc *c.* 0.5 mm high. Fruit solitary, ripening purple-black, ellipsoid, *c.* 1.5 × 1 cm. Seeds 11 (once counted), obovate in outline, *c.* 4.5 × 2.5 mm.

Distribution: This species is native of America, from Texas to Argentina, introduced and naturalized elsewhere in the Old World including West

Africa and Asia. In Malesia, this species previously reported from Peninsular Malaysia, Borneo (Sabah), Philippines, Sulawesi and the Lesser Sunda Islands (de Wilde & Duyfjes 2010). It is now confirmed that this species also occurs in Sumatra (Figure 2).

Ecology: The plant grows on roadsides, palm oil plantation, and crop fields. It has been reported that this species only occurs in lowland (de Wilde & Duyfjes 2010). The plants in Muara Upu, Sibolga, Northern Sumatra, were collected recently at a peat swamp forests. It grows in open areas among shrubs and grasses on predominantly sandy, alluvial soils, as well as on roadsides.

Specimens examined: Sumatra: Northern Sumatra, Tapanuli Selatan Regency, Muara Upu, near the Batang Toru River, *Mustaqim & Putra* 2307 (FIPIA); *ibid.* 2308 (FIPIA).

Notes: The two specimens collected from palm oil plantations and nearby vegetations. During our field trip, some plantation staff said that this species is often identified as *Mikania micrantha*, another weed species from the Asteraceae family.

The history of the introduction for this species in Sumatra is not known at present times. No report has been available so far in the recent publications of the cucumber family in Malesia (de Wilde & Duyfjes 2006; 2010). We observed that this species is quite common in the area where the explorations have been conducted, and quite possibly, they are already naturalized elsewhere in Sumatra.

This discovery also gives us the impression that it is highly likely that alien naturalized species are under-sampled in Sumatra. This might be caused by the fact that they mostly inhabit disturbed areas that are less favorable for botanical explorations. As a comparison, many alien naturalized species have been reported from the surrounding regions within last five years such as Singapore (Chen *et al.* 2018; Chen *et al.* 2019) and Java (Irsyam *et al.* 2019a; Irsyam *et al.* 2019b; Hariri & Irsyam 2018; Mustaqim & Nisyawati 2016). Therefore, there is a need to study for naturalized alien plant species in Indonesia, including Sumatra and surrounding areas, where the presence of alien species in naturalized states has been proven to be overlooked even when they are already common (Veldkamp 1997). The need for research in alien naturalized plant species is that to make sure that their presence outside their native range can be properly controlled and eradicated (Kiew & Tan 2016).



Figure 1. *M. pendula* in Muara Upu, Batang Toru, North Sumatra. A. Living plant. B. Young stem and tendril. C. Male inflorescence. D. Male flower. E. Female inflorescence. F. Female flower. G. Immature fruit. H. Mature fruit. Scale bar: A & G–H = 1 cm; B–F = 5 mm. Photographs: Wendy A. Mustaqim.

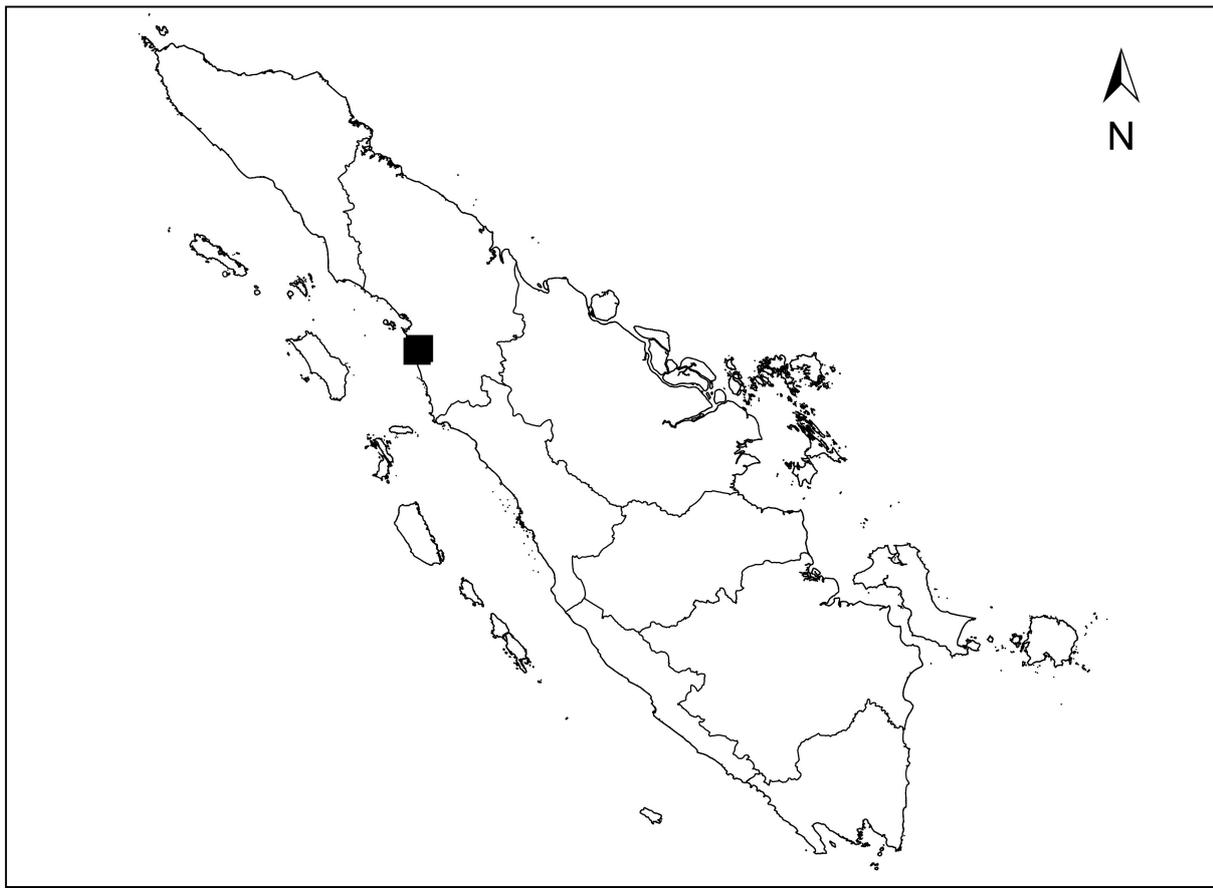


Figure 2. Distribution of *M. pendula* in Sumatra

ACKNOWLEDGEMENTS

This work was supported by Unilever and PTPN III via the Faculty of Agriculture, IPB University c.q. Dr. Supijatno. The authors thanked all Dr. Supijatno team members as well as staff from PTPN III Muara Upu, for invaluable help during the exploration where the materials used in this paper has been collected. Also thanks to the Laboratory of Ecology and Plant Resources, Department of Biology, IPB University, for facilities during the preparation of the manuscript.

REFERENCES

- Chen LMJ, Lua HK, Yeo RSW, Choo LM, Ho B-C, Chua KS & Koh SL. 2018. Additions to the flora of Singapore - New and overlooked records of naturalized plant species (2). *Nature in Singapore* 11: 63–75.
- Chen LMJ, Duyfjes BEE, Ibrahim A & de Wilde WJJO. 2019. Flora of Singapore precursors, 16: New records and notes on the plant diversity of Singapore. *Gardens' Bulletin Singapore* 71(2): 401–406.
- de Wilde WJJO & Duyfjes BEE. 2006. Redefinition of *Zehneria* and four new related genera (Cucurbitaceae), with an enumeration of the Australasian and Pacific species. *Blumea* 51: 1–88.
- de Wilde WJJO & Duyfjes BEE. 2010. Cucurbitaceae. *Flora Malesiana Cucurbitaceae Series 1 Vol. 19*. Leiden (NL): Netherlands Centre for Biodiversity Naturalis, Leiden University
- Hariri MR & Irsyam ASD. 2018. Catatan tentang *Solanum diphyllum* L. (Solanaceae) ternaturalisasi di Pulau Jawa. *Al-Kauniyah* 11(1): 25–32.
- Irsyam ASD, Hariri MR, Al Anshori Z & Irawan A. 2019a. Rekaman baru *Euphorbia graminea* Jacq. dan *E. hyssopifolia* L. (Euphorbiaceae) di Pulau Jawa. *Biotika* 17 (1): 16–24.
- Irsyam ASD, Irwanto RR & Hariri MR. 2019b. Catatan keberadaan *Costus afer* Ker Gawl. (Costaceae) di Pulau Jawa. *Floribunda* 6(2): 64–71.
- JSTOR Global Plants. 2020. <http://plants.jstor.org>. Accessed 8 October 2020.
- Kiew R & Tan JPC. 2016. Stop that weed! *UTAR*

- Agricultural Science Journal* 2(2): 53–60.
- Mustaqim WA & Nisyawati. 2016. Records of Adventive *Syngonium wenlandii* (Araceae) from Universitas Indonesia, Depok, West Java. *Aroideana* 39(3): 23–26.
- Nurainas N, Taufiq A, Handika H, Harapan TS, Syamsuardi S. 2020. *Flora Sumatra*: Digitizing and data basing specimens of the Sumatran Flora deposited at Herbarium Universitas Andalas (ANDA)-Part 2. Version 1.7. Herbarium of Andalas University. <https://doi.org/10.15468/55evew>. Accessed 3 Oct 2020.
- QGIS Development Team. 2019. *QGIS Geographic Information System*. Open Source Geospatial Foundation Project. <http://qgis.osgeo.org>
- Thiers B. 2020-continuously updated. *Index Herbariorum*: A global directory of public herbaria and associated staff. New York Botanical Garden's Virtual Herbarium. <http://sweetgum.nybg.org/ih> Accessed 19 Jan 2020.
- Van Balgooy MMJ. 1987. Collecting. In: De Vogel EF [editor]. *Manual of Herbarium Taxonomy: Theory and Practice*. Jakarta(ID): UNESCO. Pp: 14–19.
- Veldkamp JF. 1997. Overlooked genera and species in the Malesian flora: The case of *Crocasmia* (Iridaceae) and some others. *Flora Malesiana Bulletin* 11(8): 511–514.
- Wunderlin RP. 1978. Cucurbitaceae. In: Woodson Jr, RE & Schery RW [editors]. *Flora of Panama*. Part IX. *Annals of the Missouri Botanical Garden* 65(1): 285–366.



Dewan Penyunting *Floribunda* amat berterima kasih kepada:

Dr. Kusumadewi Sri Yulita (BO, Bogor)
Dr. Gunawan, M.Si (Universitas Lambung Mangkurat, Kalimantan Selatan)
Dr. Fitmawati (Universitas Riau, Pekanbaru)
Dr. Sri Endarti Rahayu (Universitas Nasional, Jakarta)
Dr. Rugayah (BO, Bogor)
Dr. Deby Arifiani (BO, Bogor)
Prof. Dr. Amin Retnoningsih (Universitas Negeri Semarang)

atas kesudiannya bertindak selaku mitra bestari untuk terbitan
Floribunda 6(5) Oktober 2020

ISSN: 0215 – 4706; e – ISSN: 2469 – 6944

Diterbitkan oleh:

PENGALANG TAKSONOMI TUMBUHAN INDONESIA

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