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Freycinetia dewildeorum Pasaribu: A. Habit, B. Auricle, C. Cephalia

TWO NEW SPECIES OF FREYCINETIA (PANDANACEAE) FROM SUMATRA, INDONESIA

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NURSAHARA PASARIBU

Post Graduate School, Bogor Agricultural University, Bogor, and Biology Department, The Faculty of Mathematics and Natural Sciences, University of North Sumatra, Medan, Indonesia (permanent address).

E-mail: nursaharapasaribu@yahoo.com

ABSTRACT

PASARIBU, N. 2010. Two new species of *Freycinetia* (Pandanaceae) from Sumatra. *Reinwardtia* 13(2): 147–150. — A study of *Freycinetia* Gaud. (Pandanaceae) conducted in Sumatra has revealed a number of new species. Two are described and illustrated here.

Keywords: *Freycinetia*, Pandanaceae, Sumatra.

ABSTRAK

PASARIBU, N. 2010. Dua jenis baru *Freycinetia* (Pandanaceae) dari Sumatra. *Reinwardtia* 13(2): 147–150. — Penelitian *Freycinetia* Gaud. (Pandanaceae) di Sumatera mengungkapkan beberapa jenis baru. Dua jenis dipertelakan dan digambarkan di sini.

Kata kunci: *Freycinetia*, Pandanaceae, Sumatera.

INTRODUCTION

During the course of a study on *Freycinetia* Gaud. (Pandanaceae) in Sumatra, I came across two different species collected from Aceh province. Both differ from taxa reported before, e.g. by Stone (1970), Widjaja & Hidayat (2007), Widjaja *et al.* (2009), and Pasaribu & Widjaja (2009), and are described here as new. These increase the number of Sumatran species to 14.

1. *Freycinetia dewildeorum* Pasaribu, *spec. nov.* — Fig. 1

Inter congenera sumatrensis inflorescentiis pistillatis pseudo-umbellatis, syncarpiis 3–5 subglobosis distinctissima. Auriculae eis F. kalimantanicae simillissimae, sed foliis minoribus, syncarpiis oblonge cylindricis differt. — TYPE: Indonesia, Sumatra, West Sumatra, Harau, Payakumbuh, 26 January 2007, *Pasaribu 203* (MEDA, holo; BO, L).

Scrambling shrubs, 1–3 m high or climbing on tree trunks up to 8 m high. Internodes 6–18 mm long, 0.7–1.7 cm in diameter. Leaves imbricate, not very closely crowded, the basal ones overlapping, the others more remote, linear, 40–78 × 1.3–3.2 cm, coriaceous, stiff, sometimes revolute when dry,

margins armed from the base to the apex, densely serrate at the base and toward the apex, apex acuminate and sometimes with a long tapering tip, midrib armed in the upper third at the lower surface, longitudinal veins visible on the adaxial and abaxial surfaces. Auricles persistent in the upper leaves, 5.5–8.4 × 0.8–1.9 cm, apex adnate, fragments horizontal, yellow to light brown. *Staminate inflorescences* terminal, bracteate, inner bracts deltoid-ovate, outer bracts ovate-lanceolate, 4–6 cm long, creamy to yellow, spadices 3 or 4, ellipsoid, 8–12 × ca. 0.8 mm, creamy to yellow as in the bracts, pedicels semiterete, 2–2.5 × 0.2 cm. Stamens numerous, filantherous, filaments 1.5–2.5 mm long, anthers creamy-yellow, short cylindrical, 0.6–1 mm long, basifixed. *Pistillate inflorescences* terminal, pseudo-umbellate, bracteate, bracts as in the male, spadices 3–5, mostly 4 and rarely 5, peduncles terete, 4–6.6 × 0.7–1.2 cm in diameter, pedicels semiterete, 2.7–4 × 0.3–0.5 cm, apex sparsely scabrous, dark brown, scars of the bracts of the pedicels 1.1–2 cm, usually less than half the pedicel length, glabrous. *Cephalia* 3–5, subglobose, 1.8–6.5 × 1.4–3.6 cm in diameter, berries aggregated and rostrate, 0.5–1.2 cm long, pilei rigidly pyramidal, apex acuminate, stigmatic remains 4–8, the stigmatic areola without a ring, seeds very small, ellipsoid, ca. 0.3 mm long.

Distribution. Sumatra (Aceh, North Sumatra, West

Sumatra and Aceh).

Habitat & ecology. *Freycinetia dewildeorum* is found in bushes area of roadsides and secondary forest at lowland below 1000 m in protected area of Lembah Harau and reach highland or mountain primary forest up to 1750 m above sea level far to the north in Mt. Leuser National Park, Aceh. This species grows mainly on Humic Acrisols and rarely in Andosols, Cambisols and Nitosols of the area with the lowest mean annual rainfall ranges from 2000–2500 mm and the highest ranges from 4000–4500 mm; flowering in June and fruiting in February to June.

Notes. This species is very distinct among Sumatran species by the pseudo-umbellate pistillate inflorescences and the 3–5 subglobose cephalia. The auricles are very similar to those of *F. kalimantanica* B. C. Stone but the species differs by the smaller leaves and the oblong-cylindric cephalia.

Etymology. *Freycinetia dewildeorum* is named after the collectors Dr. W.J.J.O. de Wilde & B.E.E. de Wilde-Duyfjes, botanists from the former Rijksherbarium, Leiden University (L), now (after Jan 1, 2010) Netherlands Centre for Biodiversity Naturalis (section National Herbarium of The Netherlands, NHN), Leiden University. They collected *F. dewildeorum* for the first time in 1972 in the Mt.

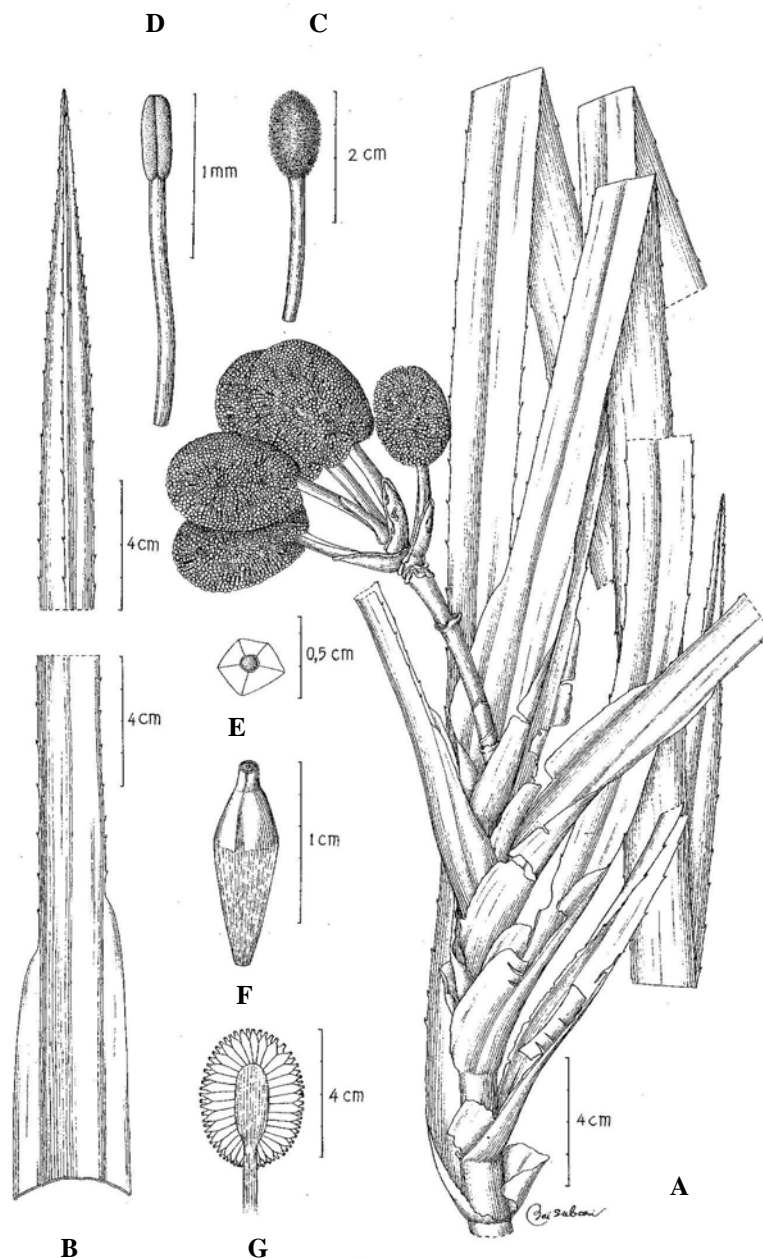


Fig. 1. *Freycinetia dewildeorum* Pasaribu (A. Habit, B. Leaf, C. Staminate inflorescence, D. Anther, E. Stigma, F. Berry, G. Pistillate inflorescence with one cephalium in longisection). Drawn from the holotype (Pasaribu 203) by Subari.

Leuser Nature Reserves, Mt. Bandahara, Kampung Seldok, Kutacane. Three years after, they collected this species again from the same area but at a different altitude. In 1979, they collected male flowering plants in the Mammars valley, Kutacane. Other botanists, Dr. E. F. de Vogel & J. J. Vermeulen (L) collected it in Air Sirah Padang, West Sumatra in 1985. The author also found it in Harau, Payakumbuh, West Sumatra and Lancang Kuning, Tesso Nilo National Park, Riau, in January and September 2007, respectively.

Specimens examined. — ACEH: Mt. Leuser Nature Reserves, Mt. Bandahara, Kampung Seldok, Kotatjane, De Wilde & De Wilde–Duyfjes 12980 (BO, K, L), 13413 (BO, L), 15122 (BO, K, L); Mamas valley, Kutacane, De Wilde & De Wilde–Duyfjes 19151 (L). — WEST SUMATRA: Air Sirah, Padang, De Vogel & Vermeulen 7353 (L); Harau, Payakumbuh, Pasaribu 208 (BO, MEDA), Pasaribu 210 (BO, L, MEDA). — RIAU: Lancang Kuning, Tesso Nilo National Park, Pasaribu 282 (MEDA).

2. *Freycinetia leuserensis* Pasaribu, *spec. nov.* — Fig. 2.

Freycinetiae insigni similis inflorescentiae positione numero forma dispositione, sed folii apex acutum dum F. leuserensi acuminata caudatum. Reliquiae stigmaticae 1–6, dum F. leuserensi 2, rarissime 1 vel 3. — TYPE: Indonesia, Sumatra, Aceh, Mt. Leuser National Park, South of the road Sibulussalam–Gelombang, 1 August 1985, *De Wilde & De Wilde–Duyfjes 20157* (L, holo; BO).

Erect, *ca.* 1.5 m tall or climber in trees up to *ca.* 4 meter high, internodes *ca.* 15 mm long, 8–12 mm in diameter. *Leaves* imbricate, very closely crowded, the basal ones imbricate, broadly linear to lanceolate, 59–82x3–4 cm, coriaceous, patent, striate on both surfaces, midrib adaxially indistinct, abaxially prominent, armed in the upper part, apex acuminate–caudate (1–5 cm long), margins armed from the base to the apex, minutely serrate at the apex. Auricles persistent in some leaves, 11–13x *ca.* 1 cm, adnate, tapering toward the apex, the upper third thinner than the rest, with 2 horizontal septa across the width. *Staminate inflorescences* terminal, bracteate, bracts 8–14x2–5 cm, orange, paler toward the base, tip green, fleshy and whitish toward the base, spadices 3 or 4, ellipsoid, *ca.* 4 cm, pedicels *ca.* 3x0.2 cm. Stamens numerous, filantherous, filaments *ca.* 3 mm long, anthers creamy–yellow, short cylindrical, 0.8–1 mm long, subbasifixed. *Pistillate inflorescences* terminal, umbellate, bracteate, bracts as in the male, spadices 3 or 4, peduncle terete, *ca.*

7.5x0.2–0.4 cm in diameter, glabrous and black, pedicels semiterete 1.5–1.8x0.2–0.3 cm, densely scabrous toward the top, brown to slightly black, scars of the bracts of the pedicels *ca.* 6 mm, more or less half the pedicel length. *Cephalia* 3 or 4, cylindrical, 4.3–5.8x0.6–0.9 cm in diameter, berries not aggregated, 2–3 mm long, oblong, apex obtuse, stigmatic remains mostly 2, rarely 1 or 3, the stigmatic areola with a distinct ring, seeds straight, *ca.* 0.8 mm long.

Distribution. Sumatra (Aceh).

Habitat & ecology. *Freycinetia leuserensis* is locally common in Aceh, Mt. Leuser National Park, growing on *Humic Acrisols* at flat land *ca.* 35 m above sea level in primary and peat swamp forest with the mean annual rainfall ranges between 2500–3000 mm; flowering and fruiting in August.

Notes. This species resembles *F. insignis e.g.* in the position, number, shape, and arrangement of the inflorescences, but the leaf apex is acute while in *F. leuserensis* it is acuminate–caudate. The stigmatic remains are one to six in *F. insignis* while there are two and very rarely one or three in *F. leuserensis*.

Etymology. The epithet '*leuserensis*' refers to the locality where this species is collected, *i.e.* in the Mt. Leuser National Park, Aceh. It is so far only known from the type locality.

Specimens examined. — ACEH: Mt. Leuser National Park, South of the road Sibulussalam–Gelombang, *De Wilde & De Wilde–Duyfjes 20517, 20564* (BO, L).

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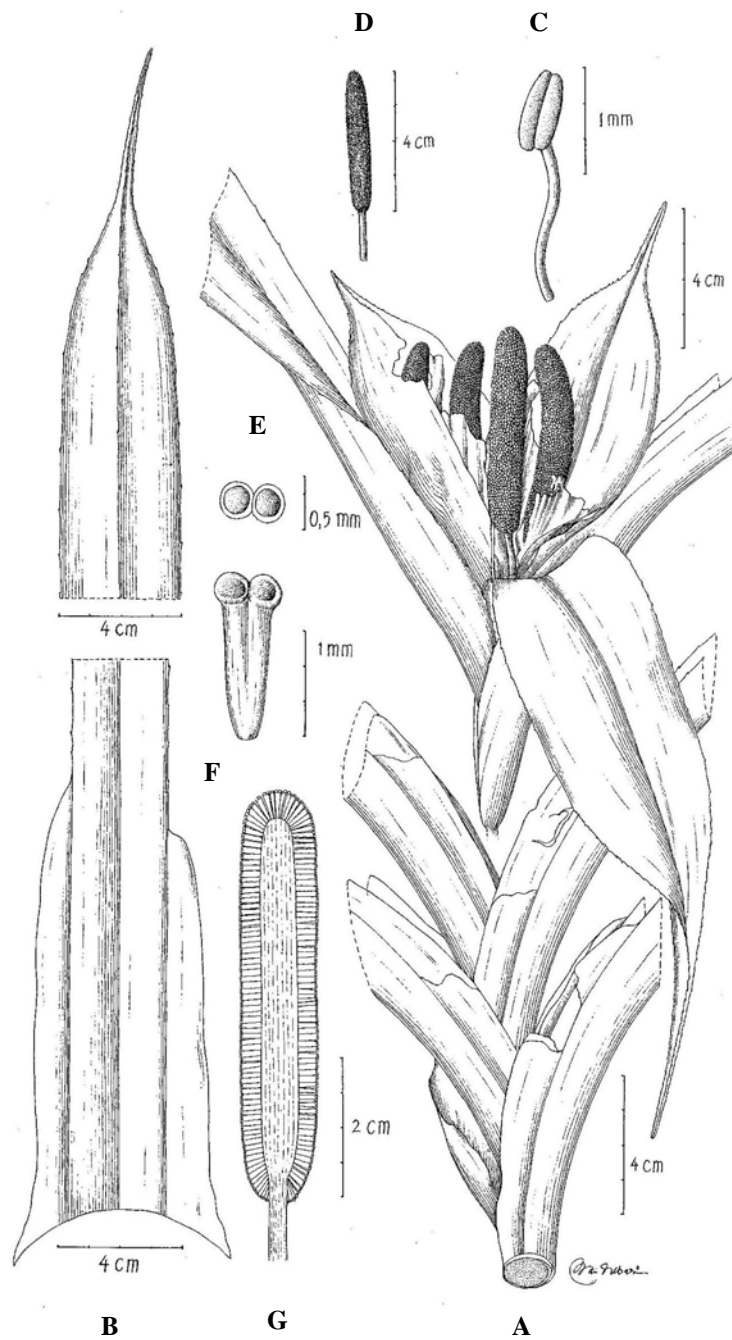


Fig. 2. *Freycinetia leuserensis* Pasaribu (A. Habit, B. Leaf, C. Anther, D. Staminate inflorescence, E. Stigma, F. Berry, G. Pistillate inflorescence with one cephalium in longisection). Drawn from the

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