Blumea 65, 2020: 102–103
www.ingentaconnect.com/content/nhn/blumea

RESEARCH ARTICLE

https://doi.org/10.3767/blumea.2020.65.02.02

A new species of *Freycinetia* (*Pandanaceae*; *Freycinetoideae*) from Luzon Island, the Philippines

A.P. Keim[1], C.C. Tan[2]

Key words

Auriculifoliae
Freycinetia
Luzon
Pandanaceae
Philippines
Quezon

Abstract A new species of *Freycinetia* (*Pandanaceae*; *Freycinetoideae*) from Llavac, Quezon Province in Luzon Island, the Philippines, is proposed here, namely *Freycinetia nonatoi*. *Freycinetia nonatoi* is characterized by a lobed auricle of the sheath with conspicuous spines on the margins and bright yellow bracts. These three morphological features distinguish it from the nearest species, *F. sumatrana*. The discovery of *F. nonatoi* also marks the first record of a member of the section *Auriculifoliae* with spiny margins.

Citation: Keim AP, Tan CC. 2020. A new species of Freycinetia (Pandanaceae; Freycinetoideae) from Luzon Island, the Philippines. Blumea 65 (2): 102–103. https://doi.org/10.3767/blumea.2020.65.02.02.
Effectively published online: 18 August 2020.

INTRODUCTION

The Philippines are part of a region with very high plant diversity, Malesia (i.e., the area covered by Flora Malesiana), a floristic region that comprises the political entities of Malaysia, Singapore, Indonesia, Brunei Darussalam, Philippines, East Timor, and Papua New Guinea. The flora of the Philippines remains largely under-studied and the possibility of the discovery of new species is still wide open. This is certainly true for its pandan flora.

The Philippines is one of the three countries in Malesia (the other two are Indonesia and Papua New Guinea), where the three traditionally known genera in *Pandanaceae* coexist (*Freycinetia* Gaudich., *Pandanus* Parkinson, and *Sararanga* Hemsl., the latter with one endemic species in the Philippines, *S. philippinensis* Merr.). In general, the pandan flora of the country is still poorly understood, especially the genus *Freycinetia*. The pandan flora of the Philippines was only mentioned by Solms (1878) and was again only briefly described by Warburg (1900a, b). Our knowledge of the *Pandanaceae* increased greatly with the studies by Merrill (1908) and Martelli (1910a, b). Prior to the current study the most recent publication on the genus *Freycinetia* in the Philippines was by Stone (1969).

Since then, the study of the Philippine *Pandanaceae* has been progressing moderately slowly and no new information has been published, even though the genus *Freycinetia* has been a subject of study since 2012 (see Keim et al. 2013).

The current study documents a new species found in Llavac, Quezon in Luzon Island, the Philippines, proposed here as *Freycinetia nonatoi* A.P.Keim & C.C.Tan.

[1] Herbarium Bogoriense, Botany Division, Research Centre for Biology, Indonesian Institute of Sciences – LIPI, Cibinong Science Centre, Jl. Raya Jakarta-Bogor Km 46, Cibinong 16911, Bogor, West Java, Indonesia.
[2] Graduate School, Research Center for the Natural and Applied Sciences, University of Santo Tomas Espana 1015, Manila, Philippines; corresponding author e-mail: christina_paper@yahoo.com.

TAXONOMIC TREATMENT

Freycinetia nonatoi A.P.Keim & C.C.Tan, *sp. nov.* — Fig. 1

Climbing pandan of moderate size; auricle lobed with conspicuous spines on margin; colour of bracts bright yellow. — Type: *C.C. Tan 002* (holo BO; iso USTH), Philippines, Luzon, Quezon, Llavac, N14°29.247' E121°30.966', 14 May 2013.

Etymology. We name this species in honour of Professor Maribel G. Nonato of the University of Santo Tomas (Luzon, Philippines), who has been conducting research on the phytochemistry of pandans for decades. She is the adviser of the second author.

Climbing pandan up to 10 m high. *Stem* stout, greyish green, glabrous, c. 1 cm diam; internodes 1.5–2 cm long; climbing roots present at the nodes. *Leaf blades* long lanceolate, 60–65 by 1.5–2 cm, apex acuminate, without adaxial ventral pleats, margin with minute spines on terminal and basal parts; adaxial surface green, glabrous, without ventral pleats; abaxial surface light green, glabrous; adaxial and abaxial surfaces of leaves on terminal part of stem green with conspicuous, deep purplish pink tints; leaf sheath deep purplish pink, glabrous; auricle c. 2 cm long, persistent, apically lobed, margin with conspicuous, brown spines. *Staminate inflorescences* terminal, ternate, with 3 separate elongated flowering parts, in an umbel, juvenile (in the type still enclosed in bright yellow bracts); peduncle short, brown, c. 1 cm long; pedicel c. 4 cm long, glabrous, brown; flowering part c. 4 cm long. *Staminate flowers* minute; anthers pale creamy brown. *Pistillate inflorescences* and *pistillate flowers* unknown. *Infructescences* unknown from the type; based on field photos: apparently ternate (with 3 cephalia). *Cephalium* unknown from the type; on field photo apparently immature, green, elongate-lanceolate. *Berry* unknown.

Distribution — Malesia: Philippines (endemic to Luzon).

Habitat & Ecology — Lowland tropical rainforest, along forest trails and very close to a stream with local lemon grass plantations nearby. Altitude: c. 465 m.

Fig. 1 *Freycinetia nonatoi* A.P.Keim & C.C.Tan. a. Lobed auricle with spines on the margin (black arrows); b. dried leaf; c. climbing habit, up to about 10 m high; d. staminate inflorescence of showing the separated flowering parts (i.e., 'staminate cephalium') and numerous minute anthers. — Scale bars = 4.5 cm. — Photos by C.C. Tan.

Conservation status — This species is known only from the type and should be assessed as Data Deficient (IUCN 2017).

Notes — 1. The presence of a lobed apex of the sheath auricle indicates that this taxon of the section *Auriculifoliae* B.C.Stone (Stone 1968); however, prior to this current publication species in the section with conspicuous spiny lobed auricles were unknown.

2. In the field *F. nonatoi* looks very similar to *F. sumatrana* Hemsl., which also occurs in the Philippines (Keim et al. 2013), especially regarding the colour of the bracts and the possession of lobed auricles. Nevertheless, the presence of spines on the margins of the auricles distinguishes *F. nonatoi* from *F. sumatrana*. *Freycinetia sumatrana* always possesses auricles with entire margins.

REFERENCES

IUCN Standards and Petitions Subcommittee. 2017. Guidelines for Using the IUCN Red List Categories and Criteria. Version 13. Prepared by the Standards and Petitions Subcommittee. http://www.iucnredlistorg./documents/RedListGuidelines.pdf.

Keim AP, Rugayah T, Rustiami H. 2013. Pandanaceae of Flora Malesiana in the past eight years (2005–2013): A state of the art. Herbarium Bogoriense, LIPI, Bogor.

Martelli U. 1910a. Le Freycinetia delle isole Filippine. Webbia 3: 1–35.

Martelli U. 1910b. Unumerazione delle Pandanaceae. I. Freycinetia. Webbia 3: 307–327.

Merrill ED. 1908. Philippine Freycinetia. Philippine Journal of Science 5 (3): 307–315.

Solms H. 1878. Monographiapandanacearum. Linnaea 42: 85–105.

Stone BC. 1968. Materials for a monograph of Freycinetia Gaud. (Pandanaceae). IV. Subdivision of the genus, with fifteen new sections. Blumea 16: 361–372.

Stone BC. 1969. Materials for a monograph of Freycinetia Gaud. (Pandanaceae). VIII. A revised list of Philippine species with critical notes and some new taxa. Webbia 23: 597–607.

Warburg O. 1900a. Pandanaceae. In: Schumann K, Lauterbach K (eds., Flora der Deutschen Schutzgebiete in der Südsee. Gebrüder Borntraeger, Leipzig.

Warburg O. 1900b. Pandanaceae. In: Engler HGA (ed), Das Pflanzenreich IV, 9. Engelmann, Berlin.