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REINWARDTIA

A JOURNAL ON TAXONOMIC BOTANY, PLANT SOCIOLOGY AND ECOLOGY

ISSN 0034 – 365 X | E-ISSN 2337 – 8824 | Accredited 792/AU3/P2MI-LIPI/04/2016



2017 16 (1)

REINWARDTIA

A JOURNAL ON TAXONOMIC BOTANY, PLANT SOCIOLOGY AND ECOLOGY

Vol. 16 (1): 1 – 48, June 15, 2017

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

The Editors would like to thank all reviewers of volume 16(1):

Agus Susatya - University of Bengkulu, Bengkulu, Indonesia
Agus Sutanto - Indonesian Tropical Fruit Research Institute (ITFRI), West Sumatra, Indonesia
Axel D. Poulsen - Royal Botanic Garden Edinburgh, Edinburgh, Scotland, UK
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A NEW RECORD OF *ETLINGERA PAUCIFLORA* (ZINGIBERACEAE) IN JAVA, INDONESIA

Received August 4, 2016; accepted February 7, 2017

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ABSTRACT

PUSPITANINGRUM, D., MUSTAQIM, WENDY A. & ARDIYANI, M. 2017. A new record of *Etilingera pauciflora* (Zingiberaceae) in Java, Indonesia. *Reinwardtia* 16 (1): 1 – 4. — *Etilingera pauciflora* has been documented for the first time in Java, Indonesia, at Mount Honje, Ujung Kulon National Park, Banten. Description, figure as well as DNA barcodes are provided.

Key words: *Etilingera pauciflora*, Java, new records, taxonomy, Ujung Kulon, Zingiberaceae.

ABSTRAK

PUSPITANINGRUM, D., MUSTAQIM, WENDY A. & ARDIYANI, M. 2017. Sebuah rekaman baru *Etilingera pauciflora* (Zingiberaceae) di Jawa, Indonesia. *Reinwardtia* 16 (1): 1 – 4. — *Etilingera pauciflora* telah ditemukan untuk pertama kalinya di Jawa, Indonesia, dari spesimen yang berasal dari kawasan Gunung Honje, Taman Nasional Ujung Kulon, Banten. Pertelaan, gambar dan *barcode* DNA diberikan.

Kata kunci: *Etilingera pauciflora*, Jawa, rekaman baru, taksonomi, Ujung Kulon, Zingiberaceae.

INTRODUCTION

Etilingera is one of the largest genera in the family Zingiberaceae with perhaps as many as 200 species. The genus is widely distributed from India (Sikkim) and extends east to Pacific Islands (Poulsen, 2012). Accounts of *Etilingera* in Malaysian region have been made for Peninsular Malaysia (Khaw, 2001), Borneo (Smith, 1986b, Poulsen, 2006), Java (Poulsen, 2007) and Sulawesi (Poulsen, 2012). The revision of the genus in Java included nine species of *Etilingera*.

During a field collecting in Mount Honje, Ujung Kulon National Park, Banten, in August 2015, a species that does not match with any *Etilingera* species in Poulsen (2007) and Backer & Bakhuizen f. (1968) was found. After thorough examination, the characters of the species collected from Ujung Kulon NP match very well with the description of *Etilingera pauciflora*, in that occurs in Peninsular Malaysia (Khaw, 2001) and in Thailand (Kittipanangkul & Ngamriabsakul, 2008). This species was described for the first time as *Hornstedtia pauciflora* Ridl., and was later transferred to *Achasma* (*Achasma pauciflora* (Ridl.) Holtt.) and finally included in *Etilingera* (Smith, 1986a). Maruzy (2009) documented Zingiberaceae in Gunung Halimun Salak National Park, but he did not encounter *Etilingera pauciflora*.

This paper aimed to report the first occurrence of *Etilingera pauciflora* in Java, Indonesia. Specimens are deposited in Herbarium Bogoriense (BO),

Research Center for Biology, Indonesian Institute of Sciences (LIPI).

MATERIALS AND METHODS

The morphology of newly recorded species was described from living plants collected in the field. Detailed morphological measurements were made using ruler and a long arm microscope. DNA extraction amplification and sequencing of two barcoding regions, namely *rbcL*, and ITS were carried out using published primers under standard conditions (see Kress & Erickson, 2007). GenBank accession number are summarized in Table 1.

TAXONOMIC TREATMENT

ETLINGERA PAUCIFLORA (Ridl.) R.M. Sm. – Fig.1.

Etilingera pauciflora (Ridl.) R.M. Sm., Notes Roy. Bot. Gard. Edinburgh 43 (2) (1986) 248, Khaw. Gard. Bull. Sing. 53 (2001) 225. — Type: *Ridley, H.N. 8174* (image on website K! Holo), Dec. 1896: Peninsular Malaysia, Selangor, Gua Batu.

Basionym: *Hornstedtia pauciflora* Ridl., J. Straits Branch Roy. Asiat. Soc. 32: 144 (1899).

Homotypic synonym: *Achasma pauciflorum* (Ridl.) Holttum, Gard. Bull. Singapore 13(1): 187

Table 1. Voucher information and GenBank accession numbers for *Etlingera pauciflora*

Species	Gene region	GenBank accession number	Voucher (Herbarium location)
<i>Etlingera pauciflora</i>	rbcL	KX893482	RA 004 (BO)
	ITS2	KX893483	RA 004 (BO)

(1950).

Rhizomes long-creeping, up to 70 cm between leafy shoots, 0.6 – 1.3 cm diameter, cream at main axis with cream-brown rhizome scale. Leafy shoot 2 – 4 m long with up to 50 leaves, base 2.2 – 3.7 cm diameter, green, glabrous. *Sheath* reticulate, white at base, reddish towards apex. *Ligule* 1.15 – 2.85 cm long, entire, apex rounded or obtuse, sometimes nearly acute, glabrous with brown hairs at margins. *Petiole* to 0.7 cm long, dark green, glabrous. *Lamina* 23.3 – 67 × 3.85 – 10.5 cm, green above, light green beneath, narrowly elliptic or slightly obovate, base narrowly cuneate, oblique, margin reddish brown (when dried), hairy especially at cauda or rarely hairy along margins (when young), abaxial midrib with minute, appressed hairs to glabrous at very apex, apex acuminate to caudate. *Inflorescence* subterranean, except for fertile bracts and flowers. *Peduncle* 5 – 5.5 cm long, 3 – 3.5 mm diameter, ascending. *Peduncular bracts* 6.1 – 4.3 × 1 – 1.5 cm, *sterile bracts* larger 1.5 – 5 × 1.5 – 2 cm, white. *Spike* with flowers to ca. 12 cm long, without flowers ca. 7 cm long, 1.8 cm wide, receptacle short, 2 – 3 mm with 3 – 4 flowers, 1 – 2 flowers open at a time, *flowers* to 10 cm long. *Sterile bracts* ca. 1.4 × 4 cm, apex rather stiff, concave, sparsely hairy at apex outside, white, very slightly reddish apically. *Fertile bracts* slightly smaller and narrower than largest sterile one, 4.9 × 0.8 cm, reddish at apex, sparsely hairy, hairs appressed at apex. *Bracteoles* 3.9 – 5 cm long, bilobed, split to 3.5 cm, equal or slightly unequally lobed, minutely hairy outside, apex rounded to acute, gradually red towards apex. *Calyx* to 7.7 cm long, basally white, gradually turn red towards apex, shortly 3-lobed or minutely 3-dentate, slit to ca. 2.6 cm from the apex, hairy towards lobes, at apex with tufted, longer hairs. *Corolla* tube 5.1 – 6.3 cm, inner side with long hairs at apex, dorsal lobes obovate-oblong, ca. 3.05 × 1.55 cm, glabrous, retuse at apex, lateral lobes narrower than dorsal one, obovate-lanceolate, ca. 3.4 × 0.88 cm, not hooded, lobes red. *Labellum* 4.8 – 5.2 × 2.6 – 2.7 cm at base, held horizontally, bright orange, bright orange-red towards margin with yellow-orange middle band, apex entire to deeply bilobed. *Staminal tube* ca. 2 – 2.3 cm, hairy on dorsal side, glabrous at apex. *Filament* glabrous, 3.5 × 3 – 4 mm, tapering towards apex, anthers held at 90° to filament,

anthers ca. 1 × 0.4 cm, emarginate, sinus to 2.5 mm deep, hairy near slit. Epigynous glands bilamellate, oblong, ca. 0.6 × 0.2 cm, smooth, apex not divided. Ovary ca. 0.3 × 0.4 cm, minutely hairy especially at base and apex, style hairy at apex, stigma ca. 2 – 3 mm wide, white. Fruit not seen.

Distribution. This species formerly known from southern Thailand (Kittipanangkul & Ngamriabsakul, 2008) Peninsular Malaysia (Khaw, 2001) and Western Java.

Vernacular name. *Tepus*.

Uses. Local people use as *lalab*, ingredient of condiments, spices (for soup and local cuisine known as *pecak ikan*), deodorant and analgetic or painkiller.

Ecology. This species has been found in humid, shaded areas, near water, on a rather steep slope or small plain near river. Found at elevation of about 159 – 176 m alt.

Notes. The description of *Etlingera pauciflora* from Java similar from how it has been described previously in Malaysia and Thailand. It is interesting that this species has never been collected in Java and also due to its disjunct distribution. It is strongly assumed that this species also occurs in Sumatra.

Specimens examined. West Java, Cimenteng, Ujung Kulon, (S 06°46.566' E 105°31.533'), 159.4 m, flowering, *Reno Agassi 004* (BO); Cisaat, Ujung Kulon (S 06°46.543' E 105°31.539'), 175.6 m, flowering, *WA Mustaqim 1210* (BO); Cimenteng, Ujung Kulon (S 06°46.576' E 105°31.543'), 140 m asl, flowering, *WA Mustaqim 1211* (BO).

ACKNOWLEDGEMENTS

The first and the second author thanked the team of Zingiberaceae Exploration of OMPT (Organisasi Mahasiswa Pencinta Tumbuhan) Canopy Universitas Indonesia, who made collection in Ujung Kulon National Park; the Ujung Kulon National Park for permitting us to conduct research, Mr. Joni and Cakra who gave numerous helps in the field, also to Aulia Suci Ningrum for

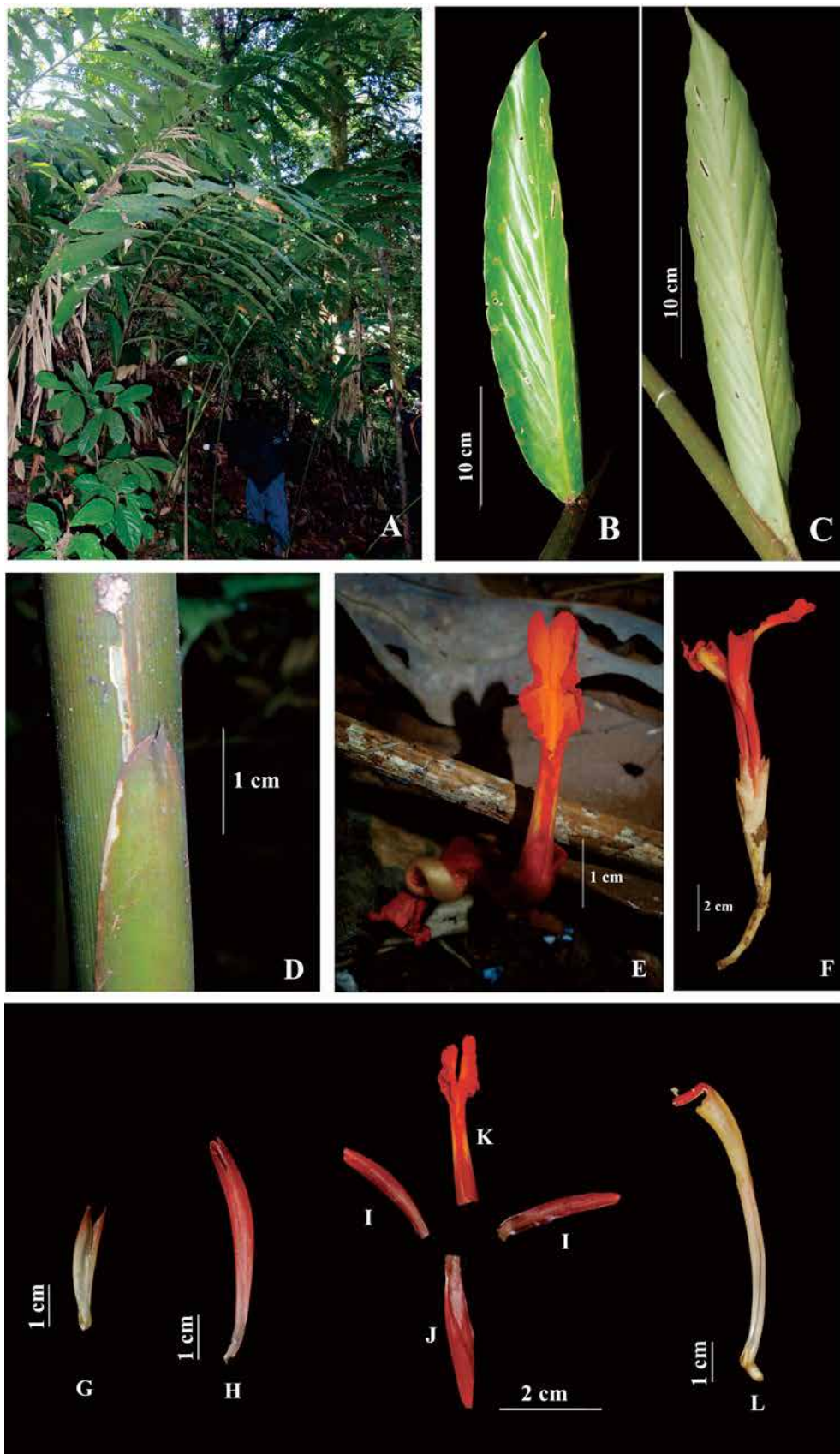


Fig. 1. *Etilingera pauciflora* from Ujung Kulon National Park, Banten, Java. A. Living plants. B. Leaves (upper surfaces). C. Lower surface of leaves. D. Leaf showing ligule. E. Inflorescence in natural position. F. Inflorescence with peduncle. G. Bracteole. H. Calyx. I. Corolla – lateral lobes. J. Corolla – dorsal lobe. K. Labellum. L. Corolla tube, staminal tube, stamen, and stigma. (Photos: Aulia Suci Ningrum). (A from *WA Mustaqim 1210*, B-L from *Reno Agassi 004*).

the photographs. We are indebted to Axel Dalberg Poulsen for the discussion of the early identification of the species. Thanks are also due to Susila who helped in the Molecular Lab, Herbarium Bogoriense, LIPI. Last but not least, we would like to thank the Editors and Reviewers who helped us to improve the quality of this paper.

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Published by Herbarium Bogoriense, Botany Division, Research Center for Biology,
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