

## **Transfer of *Amomum fenzlii*, a Nicobar Islands endemic, to *Etilingera* (Zingiberaceae).**

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### **Abstract**

A new combination of *Etilingera fenzlii* (Kurz) Škorničk. & M. Sabu (Zingiberaceae) based on the basionym, *Amomum fenzlii* Kurz, is proposed. Recent exploration on Great Nicobar Island resulted in the collection of this endemic species. An amended description with a colour plate is provided and a lectotype is designated.

### **Introduction**

The genus *Etilingera* (Zingiberaceae) was established by Giseke in 1792. Taxa falling under *Etilingera* today include species previously placed in *Amomum* Roxburgh, *Diracodes* Blume and *Hornstedtia* Retzius. The taxonomic and nomenclatural history of *Etilingera* and related genera was elaborated by Burt & Smith (1986). Following the work of Holttum (1974), they proposed *Etilingera* as the inclusive name for *Achasma* Griffith, *Geanthus* Valetton and *Nicolaia* Horaninow, which share overlapping characters, such as an involucre of sterile bracts (sometimes reduced in *Geanthus*), elongate tubular bracteoles and a distinct androecial tube formed above the insertion of the petals by the lower part of the labellum and filament. This clarification resulted in the transfer of 57 taxa to *Etilingera* by Smith (1986), eight taxa by Poulsen (2003) and one taxon by Lim (2000).

*Etilingera* now comprises over 100 species (Poulsen, 2006) and is distributed from India and southwestern China into Myanmar, Thailand, Malaysia, Indonesia, New Guinea and Australia to the Pacific islands with center of diversity in Malaysia and Indonesia, notably in Borneo.

During our revisionary work on Indian Zingiberaceae the first author came across several herbarium sheets of plant specimens from the Nicobar Islands at CAL determined as *Amomum fenzlii* and suspected that

they belonged to *Etlingera*, but was unwilling to confirm their generic identity without studying living material. In 2003 the third author collected this interesting ginger from the lowland evergreen forest of Campbell Bay in Great Nicobar.

*Amomum fenzlii* was originally described by Kurz (1876) based on a collection from Kamorta in the Nicobar Islands, and the name was subsequently used by Baker (1892). Schumann in his 1904 Monograph on Zingiberaceae, transferred the species to *Hornstedtia* and as such, it has been upheld in Indian regional floras (Jain & Prakash, 1995; Srivastava, 1998; Sinha, 1999). Our study of living specimens confirmed the presence of sterile involucre bracts, tubular bracteoles, and a distinct androecial tube just above the insertion of the petals, placing it clearly in the genus *Etlingera*.

Kurz in his original 1876 description did not mention any collection numbers and failed to designate a type. There are two sheets of *Amomum fenzlii* collected by S. Kurz from Kamorta (Nicobar Islands) found among the general plant collections of CAL. According to Index Herbariorum, Kurz's collections from the Nicobars are supposed to be duplicated also at L and W. However, none of these herbaria houses duplicate of the collection in question. We therefore believe the two sheets at CAL to represent the only original materials of Kurz's *Amomum fenzlii* and propose one of them as the lectotype (sheet with inflorescence) and the other one as isolectotype (sterile sheet). Since the original description appears in Latin, we include below an amended English description of the taxon.

*Etlingera fenzlii* (Kurz) Škorničk. & M. Sabu, *comb. nov.*

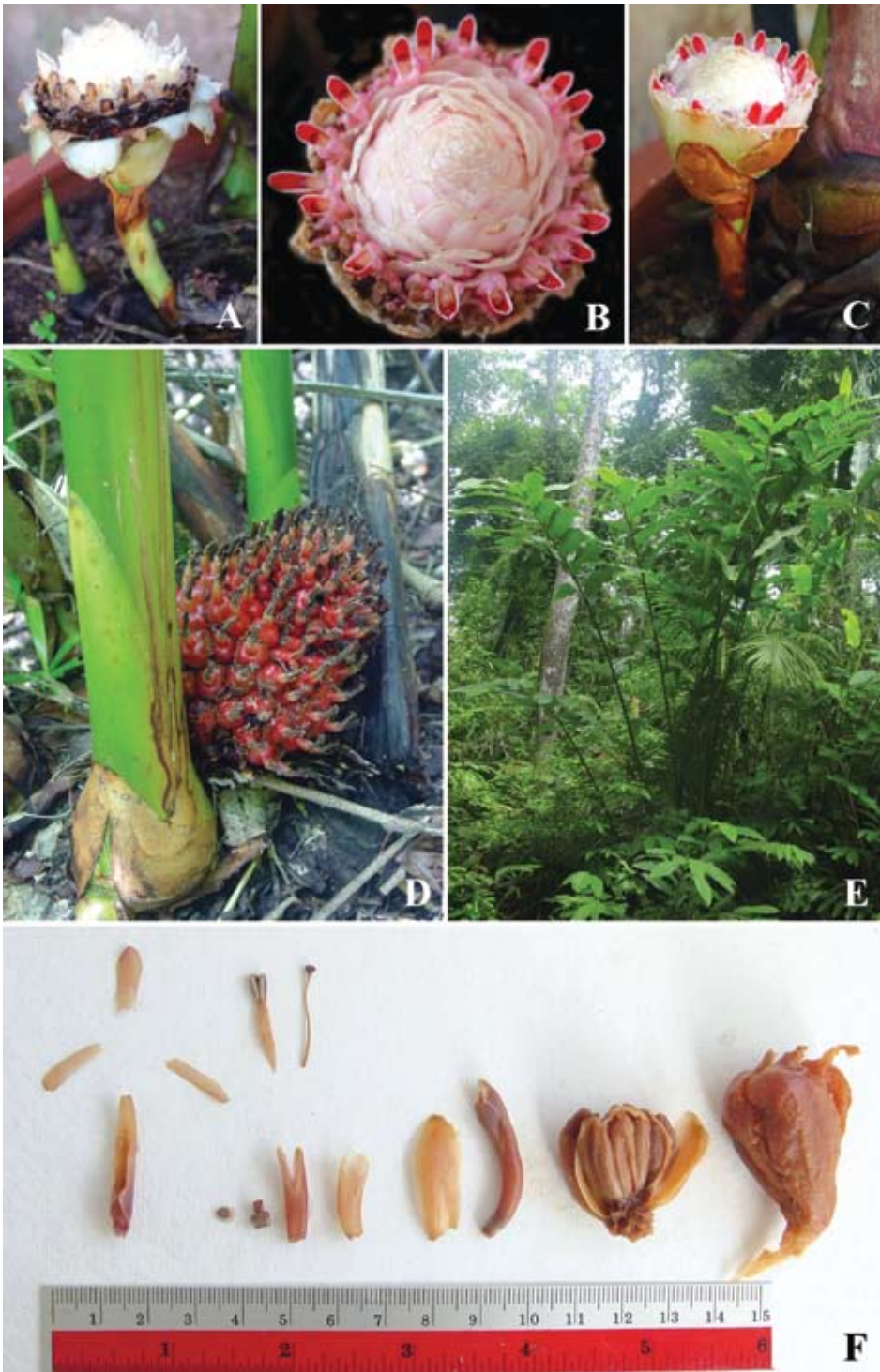
**Basionym:** *Amomum fenzlii* Kurz, J. Asiat. Soc. Bengal. 45(3): 154, t. 12. 1876 ≡ *Hornstedtia fenzlii* (Kurz) K. Schumann in Engler, Pflanzenr. 20:195. 1904. – **Typus:** India. Nicobar Islands, Kamorta Island, *s.d.*, Kurz *s.n.* (lectotype, designated here, CAL 467328; isolectotype, CAL 467329).

**Plate 1.**

Perennial erect **herb** growing in clumps, with 5-15 cm between shoots (at the base of plant). **Rhizome** subterranean, thick, ca 1.5-2 cm diam., covered with reddish brown triangular scales, roots densely white villous.

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**Plate 1.** *Etlingera fenzlii* (Kurz) Škorničk. & M. Sabu. A. Inflorescence of white-flowered form (side view); B. Inflorescence of pink flowered form (top view); C. Inflorescence of pink-flowered form (side view); D. Infructescence; E. Habit; F. Flower dissection and fruit. (Photos: A-C, M. Sabu; D-E, V.P. Thomas; F, J. Leong-Škorničková).



**Leafy shoots** 2-5 (6) m, leafless for 50-90 cm from the base with ca 18-22 leaves per frond complement, base of leafy shoot swollen, ca 5-6 cm diam., green. Sheaths mucronate, mucro 2-10 mm, obscurely striate, glabrous with pubescent margin at apex, green; ligule 1.5-2 × 1.8-2 cm, ovate, slightly unequally twisted, green to brownish green (when older), glabrous with villose margin, with 1.3 mm white hairs; petiole ca 15-20 mm, green, glabrous; lamina oblong to ovate, (16-) 40-75 × (7.5-) 13-18 cm, glabrous, dark green above, lighter below, acuminate, ca 1.5 mm, base obtuse or rounded, slightly oblique, margin wavy, hyaline, slightly incurved, pinkish (on young leaves) to light brownish green (when old), 0.2-0.3 mm broad, densely ciliate, hairs light golden, 1.5-2 mm. **Inflorescence** radical; peduncle to 15 cm, creeping or erect, ca 1.5 cm diam., covered with reddish brown scales; sterile bracts 5-6 × 2-2.5 cm, pink to white; inflorescence head 6-10 × 6-8 cm, many-flowered (ca 80-150), 5 to 6 flowers open at a time, fertile and sterile bracts compactly forming a rosette or strobilate structure; lower sterile bracts 22 to 25 as involucre, broadly ovate, outer ones ca 4-6 × 2-4 cm (inner ones gradually smaller), colour vary from pink to white, margin hyaline, lanate, outer surface pubescent, apices slightly darker in colour; fertile bracts, ca 3-4 × 1-1.5 cm, numerous, compactly arranged, pink to white, size acropetally decreases, margin lanate or villous, outer surface villous near to margin and apex, but almost glabrous in the center, subtending a single flower; bracteole ca 20 mm, 5-6 mm diam., tubular, slightly curved, broader toward apex, purple-red, pink or white, densely pubescent, with white hairs ca 1-1.5 mm, bracteole apex bilobed, rarely three lobed with unilateral split 6-10 mm, villous at margins with white hairs, hair ca 1 mm. **Flower** 3.5-4 cm; calyx ca 18-21 mm, slightly curved, apex deeply bilobed with unilateral split ca 1 cm deep, purple or white, densely pubescent, with ca 1 mm white hairs, villous at margins; corolla tube ca 11-13 mm, light purple or white, sparsely pubescent outside, glabrous at internal base, but densely pubescent in distal portion, hairs ca 1.2 mm, white; dorsal corolla lobe, ca 13-15 × 6 mm, light purple to the base, dark purple to the tip, or pink or white, slightly obovate, apex hooded, sparsely pubescent on dorsal surface; lateral lobes ca 15-17 × 3-4 mm, narrowly oblong-spatulate, light purple basally, darker purple apically, or light pink or white, dorsal surface sparsely pubescent, apex slightly hooded, inserted slightly below (ca 0.5 mm) or with the dorsal lobe; labellum dark purple with white or yellowish margins or white, 14-16 × 13-15 mm, rhomboid, obscurely three-lobed, basal lobes folded toward anther, distance between insertion of lobes and base of filament ca 6 mm; filament 1-2 × 2 mm, white, densely pubescent, hair 1 mm, white, externally rather appressed, internally less so; anther 6 × 4 mm at apex (2 mm at base), apex emarginate, anther theca 5-6 mm × 1 mm,

white, dehiscing in upper half, densely pubescent toward base; ovary ca 5 × 3.5 mm, trilobular, ovules many, with axile placentation; style ca 25 mm, filiform, white, densely pubescent, more so apically, white hairs 0.5-1 mm; stigma triangular, capitate, deep purple or cream colour, glabrous, ciliate at slit; epigynous glands two, ca 3 mm long, yellow, cylindrical, surrounding style. **Infructescence** capitate, ± globose to 13 cm diam., deep scarlet or greenish when mature; capsule irregularly obovoid, 2.8-4 × 1.8-2.2 cm (at top), densely pubescent, apex flattened to depressed with persistent calyx remnants. **Seeds** 5 × 3 mm, rounded triangular, brown-black, completely embedded in a white, fleshy, sweet aril.

*Additional specimens examined:* INDIA: Andaman & Nicobar Islands. South Nicobars, Great Nicobar Isl., 26<sup>th</sup> km on East-West Road, *Hore 6771* (CAL, PBL); Great Nicobar Isl., Campbell Bay near jetty, *Hamza 6712* (CAL, PBL); Great Nicobar 6<sup>th</sup> km on E-W Road, *Balakrishnan 2960* (CAL, PBL); 33<sup>rd</sup> km on E-W Road, *Balakrishnan 3942* (CAL, PBL); Great Nicobar 24<sup>th</sup> km on E-W Road, *Sinha 16371* (PBL); Campbell Bay 35<sup>th</sup> km North-South Road, *Prasanthkumar 92604* (CALI); 30<sup>th</sup> km on N-S Road, *Prasanthkumar 92605* (CALI); 9<sup>th</sup> km on E-W road, *Prasanthkumar 92610* (CALI). North Nicobar, Arong, Car Nicobars, *Nair 2631* (CAL, PBL); Katchal Island, Nirman Nagar, *Vasudeva Rao 7421 & 7422* (PBL). Nicobars, *Man* s.n. (CAL); Nicobars?, *sine coll.* 89 (BM).

*Vernacular name:* Hami (in Nicobari tribal language).

*Phenology:* April – August.

*Ecology:* This species grows profusely in the evergreen forests of Nicobar Islands, especially in open places near the streams and along roadsides.

*Distribution:* Endemic to the Nicobar Islands.

*Uses:* Juice of the rhizome is used in the treatment of cough, fever, respiratory disorder and skin diseases by the Nicobari tribes (Srivastava, 1998), who also eat the sweet and fleshy white aril.

*Notes:* Variability among populations of this species growing in Great Nicobar Island has been observed. Locals consider two different varieties, the more common plants with rose-pink fertile and sterile bracts and scarlet red capsules and the plants with white fertile and sterile bracts and greenish capsules. We have observed that the form with white bracts further shows

variability in flower colour, which can be white or pink and that the intensity of colour in plants with pink bracts varies considerably. We are of the opinion that these characters are not enough to treat any of these as distinct varieties.

In India *Etilingera* is represented by two species, *E. loroglossa* (Gagnepain) R.M. Smith and *E. linguiformis* (Roxburgh) R.M. Smith (Prakash & Tripathi, 1998), both distributed in Northeastern part of the country. *Etilingera fenzlii* can be readily distinguished from the above two taxa by short labellum and well developed, showy bracts of involucre (*Nicolaia* type), while the former two have long prominent labellum (*Achasma* type).

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### References

- Baker, J.G. 1892. *Amomum*, pp. 233-243. In: Hooker, J.D. *Flora of British India*. Vol. VI. L. Reeve & Co. London.
- Burt, B.L. and R.M. Smith. 1986. *Etilingera*: The inclusive name for *Achasma*, *Geanthus* and *Nicolaia* (Zingiberaceae). *Notes from Royal Botanic Garden, Edinburgh* **43**: 235-241.
- Giseke, P.D. 1792. *Praelectiones in Ordines Naturales Plantarum*, Hamburg. Pp. 209, 229, 251.
- Sinha, B.K. 1999. Zingiberaceae, pp. 447-449. In: *Flora of Great Nicobar Island*. BSI, Calcutta.

- Holttum, R.E. 1974. A Commentary on comparative morphology in Zingiberaceae. *Gardens Bulletin Singapore* **27**: 155-165.
- Jain, S.K. and V. Prakash. 1995. Zingiberaceae in India: Phytogeography and Endemism. *Rheedea*. **5(2)**: 154-169.
- Kurz, S. 1876. A Sketch of the vegetation of the Nicobar Islands. Scitamineae. *Journal of Asiatic Society of Bengal, Part 2. Natural History* **45**: 154-155.
- Lim, C.K. 2000. Taxonomic Notes on *Etilingera* Giseke (Zingiberaceae) in Peninsular Malaysia: the “*Nicolaia*” taxa. *Folia Malaysiana* **1(1)**: 1-12.
- Poulsen, A.D. 2003. One new name and new combinations of Malesian Zingiberaceae. *Blumea* **48**: 523-527.
- Poulsen, A.D. 2006. *Etilingera of Borneo*. Natural History Publications (Borneo), Kota Kinabalu in association with Royal Botanic Garden Edinburgh.
- Prakash, V., and S. Tripathi. 1998. Studies on Zingiberaceae of N.E India: II. Notes on *Etilingera* Giseke. *Rheedea*. **8(2)**: 173-178.
- Schumann, K. 1904. Zingibeaceae, pp. 195-196. In: A. Engler (ed.), *Das Pflanzenreich*, Heft 20. Berlin.
- Smith, R.M. 1986. New Combinations in *Etilingera* Giseke (Zingiberaceae). *Notes from Royal Botanic Garden, Edinburgh* **43**: 243-254.
- Srivastava, S.K. 1998. Zingiberaceae in Andaman and Nicobar Islands, India. *Higher Plant Indian Subcontinent* **8**: 1-33.