



Amorphophallus hirsutus Teysm. et Binn. (Araceae): A new report from India

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***Amorphophallus hirsutus* Teysm. et Binn. (Araceae): A new report from India**

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Abstract

Amorphophallus hirsutus Teysm. et Binn., a native of Java has been collected from Great Nicobar Island, India, and it forms a new report and an addition to the flora of India.

INTRODUCTION

The genus *Amorphophallus* Blume ex Decaisne is represented in India by about 16 species. Out of the sixteen species, three viz., *A. carnosus* Engl., *A. longistylus* Kurz ex Hook.f. and *A. oncophyllus* Prain ex Hook. f. are endemic to Andaman islands. Earlier, *A. longistylus* could be rediscovered after 131 years of its first collection (Sivadasan & Jaleel, 1998) and *A. carnosus* after 100 years of its first collection (Sivadasan & Jaleel, 2000).

Recently a species of *Amorphophallus* has been collected in vegetative phase from the Great Nicobar Island, and cultivated in the Calicut University Botanical Garden. During April 2000, it flowered and detailed studies revealed it to be *A. hirsutus*, a native of Java. Therefore, the present collection forms a new distributional record and an addition to the aroid flora of India.

***Amorphophallus hirsutus* Teysm. & Binn.**, Naturk. Tijdschr. Nederl. Ind. XXIV: 332. 1862; Miq., Ann. Mus. Lugd. Bat. I: 286. 1863; Engl. in DC., Mon. Phan. II: 311. 1879; Engler, Pflanzenr. IV. 23C(48): 106. 1911; Koorders, Exkurs. – Fl. Java 1: 257. 1911; Hetterscheid & Ittenbach, Aroideana 19: 80. 1996 (Figs. 1 & 2).

Tuber depressed globose, 4.5-8.5 cm diam., 2.5-5.0 cm thick in vegetative phase, ca. 11 cm diam., 7 cm thick in reproductive phase. Root scars thickened, annulate. Leaf with petiole 73-82 cm long, 2.0-2.5 cm diam. at base, slightly tapering to the tip, smooth, pale green with small blackish green irregular specks and mottles with minute dark green spots in between, paler towards the tip, extreme base with purplish blue hue; some with pale green

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background having large irregular blackish green patches with light greyish margin, and minute greenish spots in between, and paler towards the tip. Lamina trichotomously decompose, 48-86 cm diam., leaflets sessile, elliptic-lanceolate, larger leaflets 11-17 cm long, 3-5 cm broad, smaller 6.2-10.5 cm long, 1.8-4.0 cm broad, acuminate at apex, base unequal and decurrent on rachis, greenish above and pale below; lateral veins united below the margin forming a sub-marginal collective vein.

Inflorescence solitary; peduncle short, 3-5.5 cm long, 1.5-2 cm diam., greenish in colour, surrounded by ca. 4 cataphylls, each ca. 2.3-10.5 cm long, 2-6.2 cm broad, green in colour. Spathe campanulate, broad triangular ovate, ca. 17.5 cm long, ca. 26 cm broad, basal tube is separated from the limb by a constriction, tip acute, margin undulate; tube 7.5 cm diam., 5.5 cm high, greenish outside with few small white mottlings, smooth; pale greenish inside with extreme base purplish-orange or maroon, rough, irregularly and longitudinally rugose and verrucate; limb ca. 9.5 cm long, ca. 12 cm diam., purplish outside and inside. Spadix shorter than the spathe, ca. 12.5 cm long, sessile, differentiated into a basal fertile portion of female zone, a male zone above, and a terminal appendix. Female zone ca. 3.3 cm long, 3.5 cm diam., flowers densely arranged, each flower ca. 10 mm high; ovary subglobular, pale greenish, ca. 4 mm diam., 3 mm high, 2-3-locular, each locule with a single basal anatropous ovule; style ca. 5 mm long, 1 mm diam., purplish; stigma 2-3-lobed, ca. 2.5 mm diam., pale yellowish; male zone ca. 3.8 cm long, 3.5 cm diam. at the base and 4.5 cm diam. at the top; male flowers closely arranged, pale yellowish with purple tinge along the connectives; each flower ca. 1.5 mm diam., 2 mm high, sessile, inconspicuously 2-lobed; spadix appendix sub-globose, ca. 5.5 cm diam., 3 cm high with a suddenly narrowed truncate columnar tip of ca. 0.9 cm diam., 1.8 cm high; light purplish yellow, rough; the cylindrical columnar portion and its basal surrounding areas are covered with stiff slender papillae; the papillae on the cylindrical column are smaller compared to that of the basal neighbouring area. The appendix becomes minutely bullate after anthesis.

Flowering: May

Fruiting: Fruiting specimens could not be collected.

Distribution: The species was originally collected from Java and described by Teysmann and Binnendijk. Hettterscheid and Ittenbach (1996) reported its occurrence in Western Sumatra. The present collection of the species is from Great Nicobar island of India where it is rare.

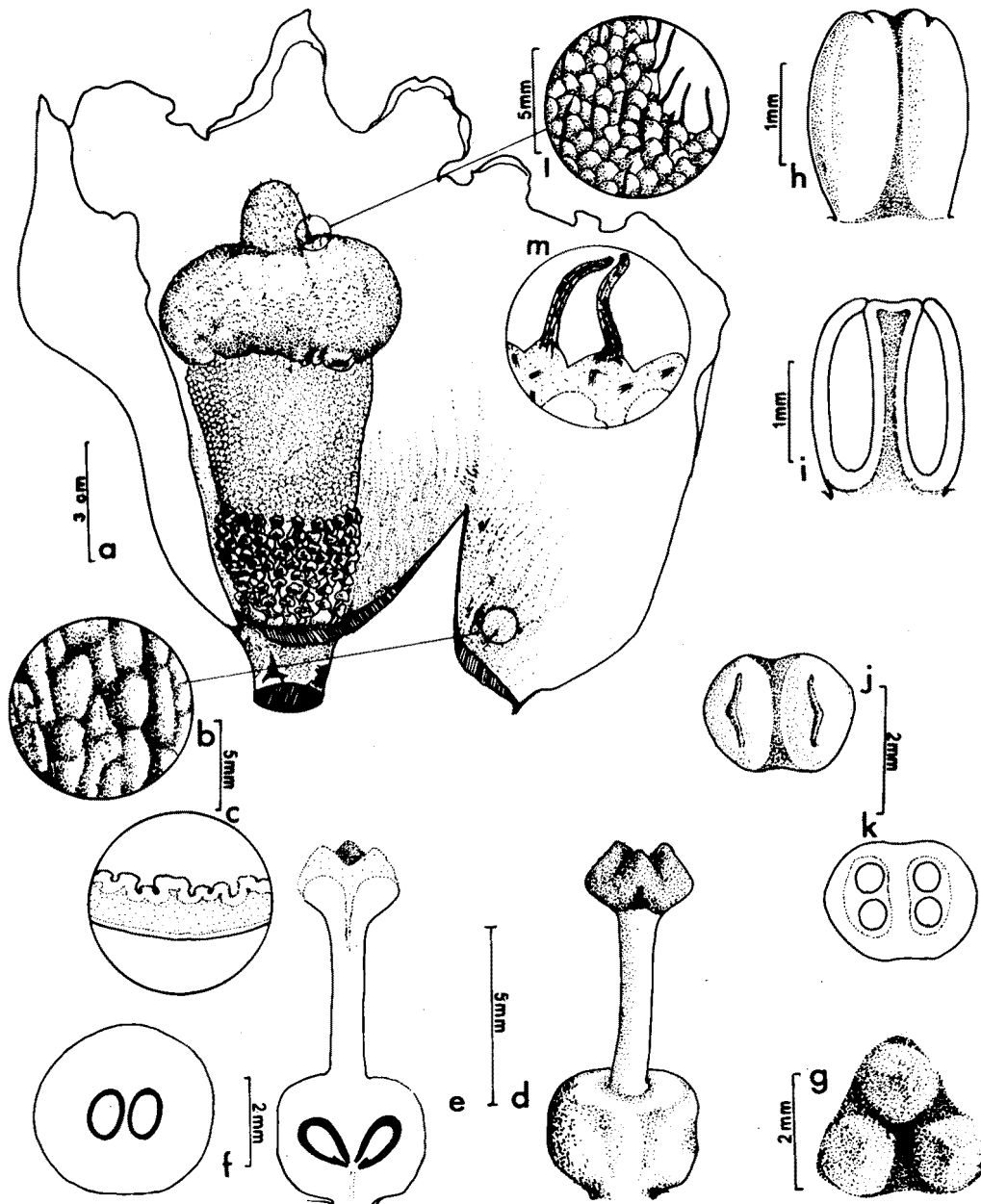
Specimens examined: Great Nicobar Island, on the way to East-West Road, 17 May 1999, Abdul Jaleel RIA 350 (Inflorescence) (CALI); *ibid.*, 17 May 1999, Abdul Jaleel RIA 351 (corm and leaf) (CALI); *ibid.*, 20 May 1999, Abdul Jaleel RIA 355 (corm and leaf) (CALI); Kerala State, Calicut University Botanical Garden, 17 April 2000, Abdul Jaleel RIA 382 (Inflorescence) (CALI) (originally introduced from East West Road, Great Nicobar, and flowered in the Calicut University Botanical Garden).

Amorphophallus hirsutus Teysm. et Binn. (Araceae)



Fig. 1. *Amorphophallus hirsutus* Teysm. & Binn.: a. Tuber with leaf; b. Marginal portion of a leaflet; c. Tuber with inflorescence.

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Fig. 2. *Amorphophallus hirsutus* Teysm. & Binn.

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Notes: *Amorphophallus hirsutus* resembles *A. paeoniifolius* and *A. prainii* in general vegetative morphology, and the inflorescence, during the early stages. It differs from the above two by the presence of a subglobose appendix with a suddenly narrowed truncate columnar tip, covered with short stiff papillae. The other species with hairs on the appendix are *A. cirrifer* Stapf, *A. henryi* N. E. Br., *A. hirtus* N. E. Br., *A. kiusianus* Makino, *A. lanuginosus* Hett., *A. laoticus* Hett., *A. pilosus* Hett., etc. In *A. cirrifer*, hairs are seen throughout its spadix. The shape and structure of the appendix in *A. hirsutus* render the species unique in the entire genus.

Acknowledgements

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Explanation of Fig. 2. *Amorphophallus hirsutus* Teysm. & Binn.: a. Inflorescence – spathe cut open showing the spadix; b. A small basal inside portion of the spathe – magnified; c. A small basal portion of the spathe – C.S.; d. Female flower; e. Female flower – L.S.; f. Ovary – C.S.; g. Stigma; h. Male flower – view from side; i. Male flower – L.S.; j. Male flower – view from top showing openings of thecae; k. Male flower – C.S.; l. A small portion at the apical portion of the appendix showing papillae; m. Papillae – enlarged.