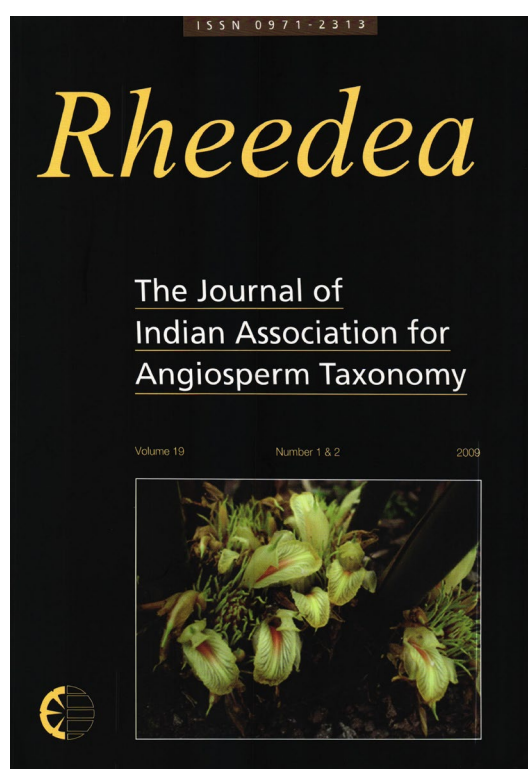




On the identity and occurrence of *Amomum fulviceps* (Zingiberaceae) in India

Thomas V.P., Sanoj E., Sabu M. & A.V. Prasanth



How to cite:

Thomas V.P., Sanoj E., Sabu M. & A.V. Prasanth 2009. On the identity and occurrence of *Amomum fulviceps* (Zingiberaceae) in India. *Rheedeia* 19(1&2): 13-17.

<https://dx.doi.org/10.22244/rheedeia.2009.19.01.03>

Received: 13.06.2009

Revised and accepted: 03.10.2009

Published in print: 30.12.2009

Published Online: 30.12.2009

On the identity and occurrence of *Amomum fulviceps* (Zingiberaceae) in India

V. P. Thomas, E. Sanoj, M. Sabu* and A. V. Prasanth

Department of Botany, University of Calicut, Calicut University P. O. – 673 635, Kerala, India.

*E-mail: msabu9@gmail.com

Abstract

Amomum fulviceps Thwaites is correctly identified for the first time from India. Previous record regarding the occurrence of the species is discussed. Detailed description, illustration, photographs, distributional and ecological details are provided.

Keywords: *Amomum fulviceps*, Zingiberaceae, New Record, India

Introduction

Amomum Roxb. is the second largest genus of the family Zingiberaceae (Tripathi & Prakash, 1999). The first account on *Amomum* was given by Roxburgh (1820). Baker (1892) recorded 12 species of *Amomum* from Indian subcontinent. Subsequently Karthikeyan *et al.* (1989) enumerated 14 species and Jain & Prakash (1995) 16 species from India. Since Baker, 5 new species, viz. *A. deorianum* D. P. & N. Dam, *A. jainii* S. Tripathi & V. Prakash, *A. garoense* S. Tripathi & V. Prakash, *A. ghaticum* K. G. Bhat and *A. vermanum* S. Tripathi & V. Prakash have been added to this genus. The first description of *A. fulviceps* was given by Thwaites (1864), followed by Baker (1892) and Trimen (1898) from Ceylon (Sri Lanka). Thwaites described two variations of *A. fulviceps* – one with glabrous leaves collected from Raxawa in Central Province (C. P. 3122) and another with hairy leaves collected from Reigam Corle (C. P. 3704). Baker (1892) established a new species named *A. ciliatum* based on the specimen C. P. 3704. Fischer (1928) reported 5 species of *Amomum* including an endemic from South India of which one species has been transferred to *Alpinia* thus reducing the number of species to four. Mitra (1958) reported 8 species of *Amomum* from Eastern India. Rao & Verma (1972) reported 5 taxa including one variety from Assam. Bhat (1988) added *A. ghaticum*, a new species and *A. masticatorium* Thwaites, a new record for India. Recently, Sabu (2006) dealt 6 species for South India.

Panigrahi & Naik (1966) reported the occurrence of *A. fulviceps* Thwaites in Northeast India based on an earlier collection (Meghalaya, Khasia &

Jaintia Hills, Dawki forest, 27.4.1940, R. N. De 20322 (ASSAM)). After critical study of the specimen it has been identified as *A. deorianum*, a new species established by Dam & Dam (1992) based on the collections from East of Dawki (Meghalaya, Khasia & Jaintia Hills, East of Dawki, 22.4.1972, N. C. Deori 51696 (ASSAM)). The common characters such as pale yellow flowers, red-coloured bracts, trilobed labellum and hairy nature of bracts must have led to the wrong identification.

During recent explorations in Agasthyamala Hills of Western Ghats (Kerala), *A. fulviceps* has been collected and it forms a new addition to the Zingiberaceae flora of India. Its identity has been confirmed by comparing it with the photograph of type specimen obtained from National Herbarium, Paradeniya (PDA), Sri Lanka. Detailed description, distribution, ecology, etc. along with illustration and photographs are provided to facilitate its easy identification.

Amomum fulviceps Thwaites, Enum. Pl. Zeyl.: 317. 1864; Baker in Hook.f., Fl. Brit. India 6: 237. 1892; Trimen, Handb. Fl. Ceylon 4: 252. 1898; B. L. Burtt & R. M. Sm. in Dassan., Rev. Handb. Fl. Ceylon 4: 526. 1983.

Fig. 1, 2

Type: SRI LANKA, Raxawa, Central Province, February 1854, C. P. 3122 (PDA, photograph!)

Phaeomeria fulviceps (Thwaites) K. Schum. in Engl., Pflanzenn. 4(46): 263. 1904.

Perennial herbs; rhizome subterranean, woody, fibrous, hard. Leafy shoots 160 – 200 cm high,

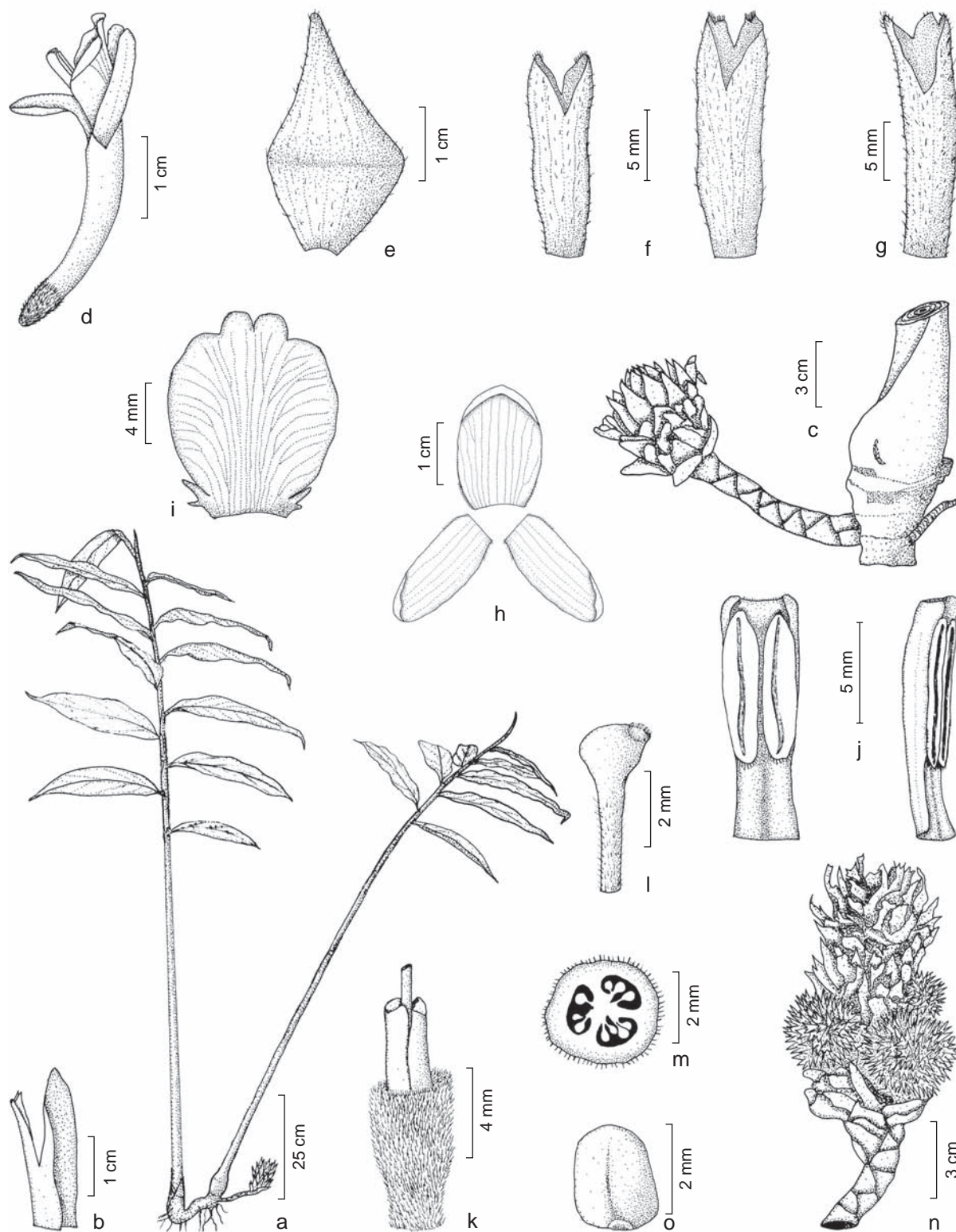


Figure 1. *Amomum fulviceps* Thwaites: a. Habit; b. Ligule; c. Inflorescence; d. Flower; e. Bract; f. Bracteoles; g. Calyx; h. Dorsal and Lateral Corolla lobes; i. Labellum; j. Stamens; k. Ovary with epigynous glands; l. Stigma; m. C. S. of Ovary; n. Infructescence; o. Seed.



Figure 2. *Amomum fulviceps* Thwaites: a. Population; b. Ligule; c. Inflorescence; d. Flower; e. Bract; f. Bracteoles; g. Calyx; h. Dorsal and Lateral Corolla lobes; i. Stamen; j. Epigynous glands; k. Fruits.

green, swollen at base; sheath 2.5–4 cm long, broad at base, margins hyaline, puberulous outside, glabrous inside, green. Leaves simple, alternate, distichous, 12–14 per tiller; lamina lanceolate, 35–40 × 6–7 cm, acute at base, equal, wavy and hyaline along margin, apex acuminate; dark green on upper side, pale beneath, glabrous; midrib green, glabrous; parallel nerves many, glabrous; petiole 1–1.5 cm long, grooved above. Ligule 1.7–1.9 cm long, margin entire, apex nearly rounded, coriaceous, glabrous, green. Spike radical, ovoid, 10–14.5 × 4–5 cm, compact, many-flowered, 2–4 flowers at a time; peduncle 5–8 cm long. Bract ovate, boat-shaped, 2.5–3.2 × 0.9–1.6 cm, imbricate, margin ciliate, apex acute to rounded, appressed-pubescent outside, hair yellow-brown when dry, densely hairy towards base, glabrous inside, red. Bracteole tubular, 1.4–1.7 × 0.3–0.4 cm, thin, pink, 2-lobed; lobes nearly equal or unequal, rarely each lobe shallowly lobed into two, margin ciliate, hairy outside, hair yellow-brown, glabrous inside. Flowers 3.6–4 cm long, pale yellow, born singly from each bract and bracteole. Calyx cylindrical, tubular, slightly longer than corolla tube, 2–2.2 × 0.3–0.4 cm, pale pink, unequally split, 3-clefted; cleft 2–6 mm deep, apex hairy, hairy outside, glabrous inside. Corolla tube shorter than calyx, 1.8–2 cm long, c. 3 mm width at mouth, pale yellow, pink towards base, hairy outside, densely hairy towards mouth inside, glabrous towards base; dorsal corolla lobe ovate, broader than laterals, 1.4–1.5 × 0.8–0.9 cm, pale yellow, margin ciliate near pouch, slightly ciliate near base, apex pouched, pubescent outside, glabrous inside, c. 10 nerves enter to lobe; lateral corolla lobe oblong, equal to dorsal lobe with less width, 1.4–1.5 × 0.5–0.6 cm, pale yellow, sparsely ciliate near base, apex incurved, glabrous inside, pubescent outside, 4 or 5 nerves enter lobe. Labellum obovate, 3-lobed; mid lobe bifid, 1.5–1.6 × 1–1.1 cm, pale yellow, parallel hyaline-nerved, nerves diverge to periphery, densely hairy in middle part inside, margin entire, glabrous. Lateral staminodes rarely branching, 1–2 mm long, glabrous. Stamens shorter than lip, 1.1–1.2 cm long; filaments 4–5 × 2–2.5 mm, creamy-white, sparsely hairy outside, hairy inside; connective produced into a crest, slightly hairy; crest very small, semi-lunar, emarginate, c. 4 × 1 mm, pale yellow, reaches level of stigma, ciliate at margin; anthers 2-celled; thecae oblong, c. 7 × 1 mm, cream-coloured, base hairy, base nearly rounded, margin glabrous, apex nearly acute, dehiscence complete, linear. Epigynous glands 2 in number, oblong, 3–4 × 1.5–2 mm, slightly notched at apex, cream-coloured, glabrous, style passing through middle of glands. Ovary inferior,

obconic, 4–5 × 3–3.5 mm, densely hairy outside, 3-loculed; ovules many, on axile placenta, 2 or 3 in each row; style linear, 3–3.2 cm long, densely hairy; stigma subglobose, slightly bulged at one side, c. 1 mm long, minutely red-spotted, situated at tip of anther locule, not exceeding crest; mouth ciliate, opening lateral, elliptic. Infructescence 11–18.5 × 4–4.5 cm, elongate during fruiting; fruit a capsule, 3–6 per spike, globose, 1.5–3 cm, red, densely echinate, pubescent; seeds many, 3–4 × 4–5 mm, glabrous, brown-red, arillate; aril white.

Flowering & Fruiting: February–April.

Distribution: India and Sri Lanka; in India, this species is reported only from Agasthyamala Hills of Kerala.

Ecology: Plants growing in deep evergreen forests at an altitude between 1200 and 2000 m.

Notes: The species can be easily distinguished from other *Amomum* spp. by red-coloured bracts, pale yellow flowers with trilobed lip, semi-lunar anther crest, yellow-brown indumentum when dry and echinate red capsule. However, descriptions given by Burt & Smith (1983) has 2-lobed calyx instead of three lobed, corolla lobes flushed with brownish red on middle of back (here colouration only near lower part of corolla tube) deep yellow lip instead of pale yellow and slight changes in size. But the specimens match with the type and protologue.

Etymology: The specific epithet '*fulviceps*' derived from a Latin word '*fulvovus*' means yellow-brown (tawny) indicates the presence of yellow-brown-coloured hairs on surface of bracts, bracteole, calyx and ovary.

Specimens Examined: INDIA, Kerala, Thiruvananthapuram District, Near Nadukanippara, 7.2.2007, Sanoj 86185; Near Pongalappara, 7.2.2007, Sanoj 86188; Agasthyamala, Athirumala, near camp shed, 27.2.2008, Thomas & Prasanth 103025, 103027, 103030; beneath Agasthyakoodam, 28.2.2008, Thomas & Prasanth 103031; forest track, way to Pandavanpara, 29.2.2008, Thomas & Prasanth 103030; Pongalappara, 1.3.2008, Thomas & Prasanth 103035 (CALI).

Acknowledgements

The authors are grateful to Department of Biotechnology and Department of Science and Technology, New Delhi, for the financial assistance to the research projects on Indian Zingiberaceae (BT/PR6735/PBD/16/605/2005, dt. 29.9.2006 and SP/SO/PS-52/2005, dt. 17.10.2006). Thanks are due to the Forest Department, Government of

Kerala, for the necessary permission. We are thankful to Dr. Siril Wijesundara, Director, Royal Botanic Garden, Paradeniya, Sri Lanka, for providing digital images of type specimen. Also thankful to Mr. V. K. Sreenivas, Research Scholar, University of Calicut, and Mr. Jacob Thomas, Research Scholar, Tropical Botanic Garden and Research Institute, Palode, for their valuable help during plant exploration.

Literature Cited

- Baker, J. G. 1892.** Scitamineae. In: Hooker, J. D. (Ed), *The Flora of British India*. Vol. 6. L. Reeve & Co., London. pp. 240.
- Bhat, K. G. 1988.** Studies on Zingiberaceae of Karnataka: A new species and a new record for India. *Indian J. Forest.* **11**: 322 – 326.
- Burtt, B. L. & R. M. Smith 1983.** Zingiberaceae. In: Dassanayake, M. D. (Ed), *A Revised Handbook to the Flora of Ceylon*. Vol. 4. Oxford & IBH, New Delhi. pp. 488 – 532.
- Dam, D. P. & N. Dam 1992.** A new species of *Amomum* from Jaintia Hills, Meghalaya. *Bull. Bot. Surv. India* **34**: 212 – 214.
- Fischer, C. E. C. 1928.** Zingiberaceae. *Flora of the Presidency of Madras*. Vol. 3. Adlard & Son Ltd., London. pp. 1485 – 1487.
- Jain, S. K. & V. Prakash 1995.** Zingiberaceae in India: Phytogeography and Endemism. *Rheedea* **5**: 154 – 169.
- Karthikeyan, S., Jain, S. K., Nayar, M. P. & M. Sanjappa 1989.** Zingiberaceae. In: *Florae Indicae Enumeratio: Monocotyledonae*, Ser. 4. Botanical Survey of India, Calcutta. pp. 289 – 299.
- Mitra, J. N. 1958.** *Flowering Plants of Eastern India*. The World Press, Calcutta. pp. 253 – 255.
- Panigrahi, C. & V. N. Naik 1966.** New Records of Plants for India. *Bull. Bot. Surv. India* **8**: 89 – 90.
- Rao, A. S. & D. M. Verma 1972.** Material towards a Monocot Flora of Assam – II (Zingiberaceae and Marantaceae). *Bull. Bot. Surv. India* **14**: 134 – 136.
- Roxburgh, W. 1820.** *Flora Indica*. Vol. 1. Mission Press, Serampore.
- Sabu, M. 2006.** *Zingiberaceae and Costaceae of South India*. Indian Association for Angiosperm Taxonomy, Calicut University, Kerala.
- Thwaites, G. H. K. 1864.** *Enumeratio Plantarum Zeylanicae: An Enumeration of Ceylon Plants*. Dulauco, London.
- Trimen, H. 1898.** *A Hand-book to the Flora of Ceylon* (Repr. ed., 1974). Vol. 4. Bishen Singh Mahendra Pal Singh, Dehra Dun. pp. 250 – 251.
- Tripathi, S. & V. Prakash 1999.** A new species of *Amomum* Roxb. from Meghalaya, India. *Rheedea* **9**: 177 – 180.

Received: 13.6.2009

Revised and Accepted: 3.10.2009