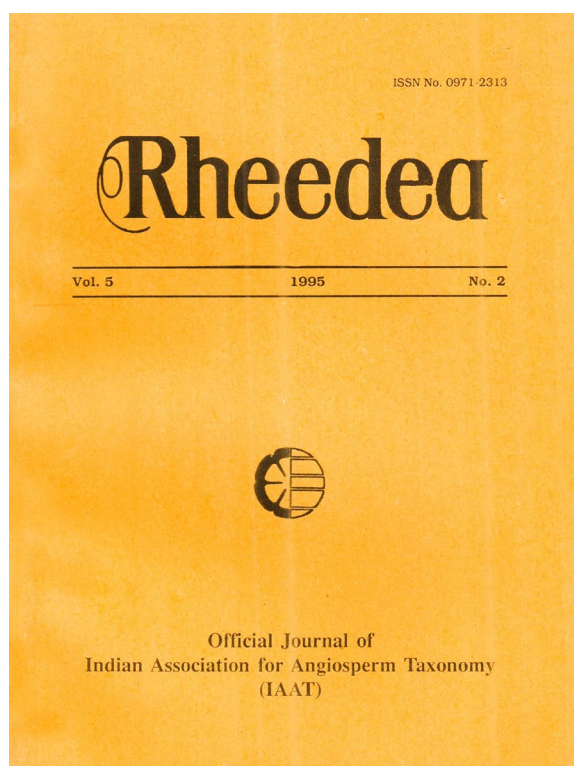




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A little known Indian endemic and rare variety of *Lagenandra toxicaria* Dalzell (Araceae)

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Abstract

Lagenandra toxicaria var. *barnesii* Fischer (Araceae) is a rare and endemic taxon restricted in distribution to S. W. India. In the absence of any documented morphological description other than that in the protologue, elaborate description and illustrations are provided for easy recognition of the little known variety.

INTRODUCTION

The genus *Lagenandra* Dalzell, belongs to the subfamily Aroideae of Araceae with about 15 species confined to South Asia. It has five species in India, four of them, viz. *L. meeboldii* (Engl.) Fisch., *L. nairii* Ramam. & Rajan, *L. ovata* (L.) Thw. and *L. toxicaria* Dalz., confined to Peninsular India and one, *L. undulata* Sastry restricted to N. E. India.

Of these, *L. ovata* and *L. toxicaria* are a complex pair, closely resembling each other in their vegetative characters, and as a result, many subsequent authors have tended to treat them as conspecific, some of them treating the whole lot under the name *L. toxicaria* (Hooker, 1893) and others placing it under *L. ovata* (Engler, 1920; Fischer, 1931; Santapau, 1957). Fischer (1936), however, soon realised the mistake and separated the two species, to be followed by other authors.

Subsequently, Fischer (1938) recognised a new variety of *L. toxicaria*, viz., var. *barnesii* based on Barnes' collections (in 1937) from "Niligiri-Wynad, near Nadgani". This taxon can easily be distinguished from *L. toxicaria* var. *toxicaria*, by its clearly bent, or bent and upwardly twisted limb of spathe. Later on, Santapau and Jain (1966) transferred it to *L. ovata*. But, close scrutiny of type specimens at Kew have revealed that its correct position is in *L. toxicaria* rather than in *L. ovata*.

However, the unfortunate part of it is that the distinguishing characters of the limb of spathe are obvious only in fresh specimens. In herbarium, they might easily pass as due to inept handling while pressing. As a consequence, most reject this variety (de Wit, 1978; Sivadasan, 1990). Nor are there reports of new collections of this taxon.

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So, the authors were fascinated, when they found two distinct populations of *L. toxicaria*, growing side by side in Nadgani, adjacent to the Nilgiris and Wynad, the type locality of the variety. They closely resembled each other in their vegetative features, but one of them had greenish purple or dark purple spathes with erect limb abruptly tapered and caudate at tip and had around 50 pistillate and 100 staminate flowers on each spadix, while the other had light greenish pink or pinkish spathe with a bent, or bent and upwardly twisted limb, gradually tapering into the tail, and had about 70-80 pistillate and 175-200 staminate flowers on each spadix. It was also found that while the former is a perfect match for *L. toxicaria* proper, the latter compares well with *L. toxicaria* var. *barnesii*.

Since the latter is known only from the original collection of Barnes and the original description of Fischer, which in any case, is too brief to help easy identification, we thought a detailed description and illustrations would be helpful.

Lagenandra toxicaria Dalzell in Hooker's J. Bot. Kew Gard. Misc. 4: 289 1852, var. *barnesii* Fischer, Bull. Misc. Inform. 1938(3): 126. 1938; Karthikeyan *et al.*, Fl. Ind. Enum. Monocot. 11. 1989.

L. ovata var. *barnesii* (Fischer) Sant. & Jain, Ind. For. 92: 643. 1966.

Type: (Tamilnadu?). "Nilgiri-Wynad, near Nadgani", 3000 ft., 12 Jun. 1937, *Barnes 1523* (K). (Fig. 1)

Rhizomatous creeping procumbent or erect evergreen herbs. Rhizome ca. 4 cm diam. Leaves with cylindrical petiole ca. 40-48 cm long, 0.5-1.0 cm diam., basally sheathing for ca. 8-10 cm; lamina 30-40 cm long, 10-15 cm broad, oblong-acuminate, venation pinnately parallel, venation involute. Inflorescence with a short peduncle of ca. 2 cm long. Spathe ca. 13-15 cm long, divisible into a basal tubular portion, a middle broad limb, and a terminal tapering caudate portion; light greenish pink or pinkish cream in colour, outer surface smooth; tube ca. 2 cm long, 1.2 cm diam., purplish with darker vertical ridges inside; limb ca. 3 cm long, 1.5 cm diam., slightly laterally compressed with closely and irregularly oriented, dark purplish, light-tipped densely fimbriate ridges; terminal caudation about 6 cm long. Spadix very small, ca. 1.8 cm long with basal pistillate portion followed by a slender barren interstice of ca. 3 mm long, a staminate portion, and terminating into a short barren appendix. Pistillate flowers ca. 70-80, closely oriented forming a subglobose or subcylindric mass, each flower ca. 2 mm high, 1 mm diam., more or less truncate, muricate on outside on the upper half. ovary unilocular with 4-7 orthotropous ovules, and unicellular placental hairs; stigma sessile, hexagonal with slightly raised central portion. Few small, white, clavate, olfactory bodies or neuter flowers present just above the pistillate portion around the base of the interstice and sometimes one or two on the interstice below the staminate portion. Staminate portion more or less conoid-spherical and with ca. 175-200 sessile staminate flowers, each flower ca. 0.5 mm high, each theca with a short apical horn-like tube through which pollen grains liberate out. Spadix-appendix ca. 0.5 mm, broadly conical with apical tapering pointed tip by which the spadix is attached to the roof of the tube. Fruit a more or less fleshy capsule; dehiscence by 3-4

A little known Indian endemic

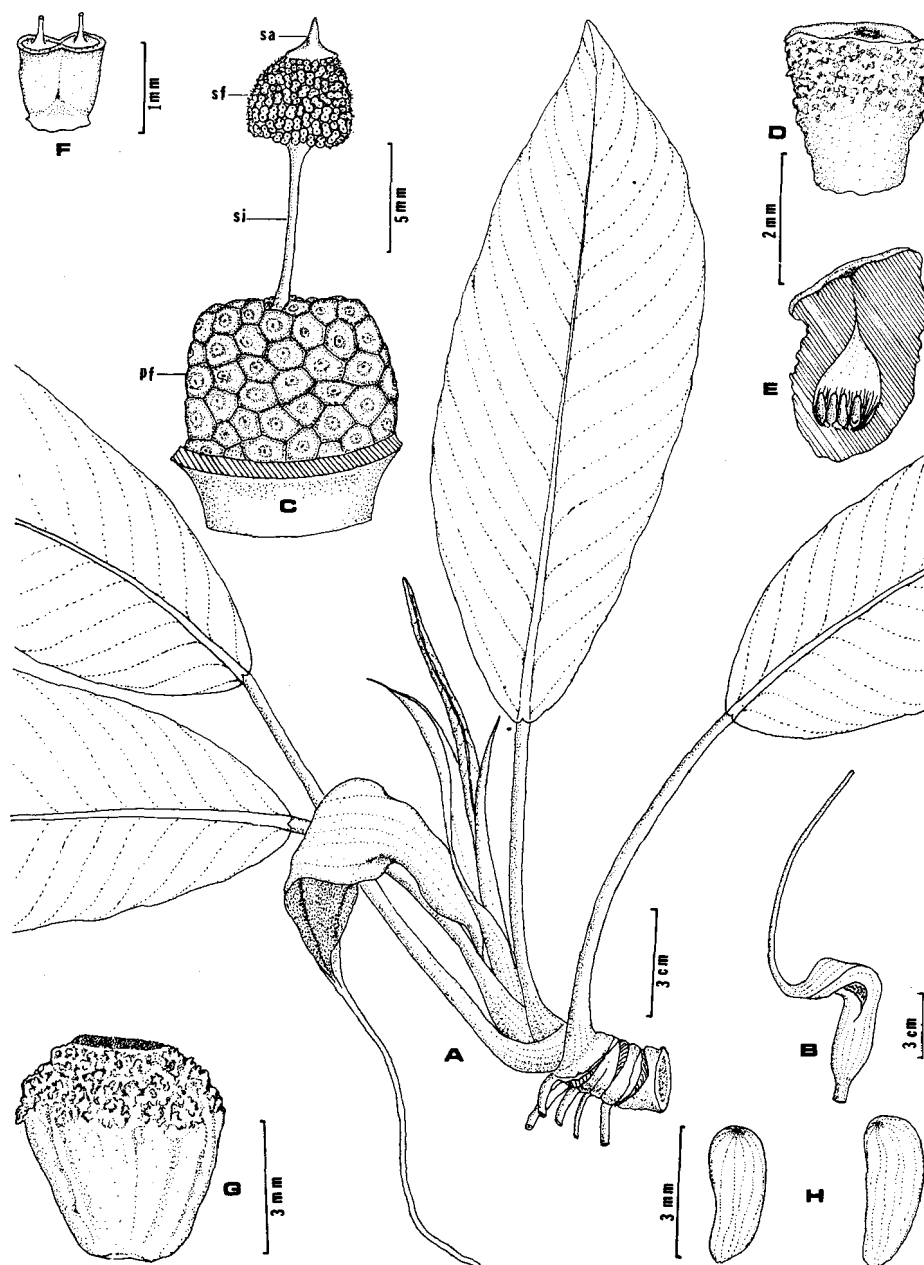


Fig. 1. *Lagenandra toxicaria* var. *barnesii* Fischer. A. Habit; B. Inflorescence; C. Spadix; D. Pistillate flower; E. L. S. of pistillate flower; F. Staminate flower; G. Fruit; H. Seeds; pf. pistillate flowers; sa. spadix appendix; sf. staminate flowers; si. sterile interstice. Drawings by C. M. Babu.

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longitudinal splits from the base upwards at maturity. Seeds ca. 1.6 mm long, ovoid-ellipsoid, slightly bent, longitudinally ridged.

Flowering and fruiting : February – May.

Specimens examined : Tamilnadu State?: "Nilgiri–Wynad, near Nadgani", Jun. 1937, *Barnes 1524, 1525* (K); Tamilnadu: Nilgiri Dist., Nadgani, 5 Mar. 1991, *Babu CU 36705* (CALI); Kerala State: "Niligiri Hills, Wynad", Jun. 1937, *Barnes 1605* (Spirit collection) (K); Idukki Dist., Thodupuzha, 6 Feb. 1991, *Babu CU 36703* (CALI); Malappuram Dist., Idimuzhikkal near Thiruvangad temple, alt. ca. 40 m, 28 Mar. 1991, *Babu CU 36708* (CALI); Kannur Dist., Kannavam forest, 11 Apr. 1991, *Babu CU 36709* (CALI).

The type collection was stated to have been made from "Nilgiri-Wynad, near Nadgani". But it is not quite specific as to the exact locality of the collection. 'Nilgiri' is presently in Tamilnadu State, whereas 'Wynad' is in Kerala State; 'Nadgani' is at the border of the two states, in Tamilnadu State.

This variety is very much restricted in distribution and is so far known only from the type locality and four other localities. The populations are decreasing in number due to destruction of habitats and drying up of streams and rivers owing to many reasons.

Acknowledgement

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