

## A new species of *Dysoxylum* Blume (Meliaceae) from India

**N. Anil Kumar, M. Sivadasan\* and M.K. Ratheesh Narayanan**

M.S. Swaminathan Research Foundation

Community Agrobiodiversity Centre, Puthoorvayal P.O., Kalpetta,  
Wayanad Dist. - 673 121, Kerala, India

\*Department of Botany, University of Calicut, Calicut University P.O.  
Kerala - 673 635, India

---

### Abstract

A new species of the genus *Dysoxylum* Blume viz., *D. swaminathanianum* is described from Kerala, India.

### INTRODUCTION

The genus *Dysoxylum* Bl. (Meliaceae) with about 80 species (Mabberley, 1997) is distributed in the tropical and subtropical zones of East Asia from India and Sri Lanka to South China, Indochina, throughout Malesia to the Pacific, south to Australia, New Caledonia, Norfolk Islands, Lord Howes Islands, New Zealand, and east to Niue (Pennington & Styles, 1975; Mabberley *et al.*, 1995). The most striking differentiating taxonomic character of this genus from its closely allied genus *Chisocheton* Bl. is the presence of usually a cyathiform or tubular disc of the flower and anatropous seeds. In India the genus is represented by 16 species including 8 endemic species distributed mostly in Western and Northeastern regions and Andaman and Nicobar Islands. There are four species of *Dysoxylum* known from Kerala viz., *D. beddomei* Hiern, *D. ficiforme* (Wt.) Gamble, *D. malabaricum* Bedd. *ex* Hiern, and *D. binectariferum* (Roxb.) Hook. *f. ex* Bedd. Of the endemic species, *D. beddomei*, *D. ficiforme* and *D. malabaricum* are confined to Western Ghats (Ahamedullah & Nayar, 1986), and *D. ficiforme* and *D. malabaricum* are restricted to southern Western Ghats. *D. beddomei* is known only from Peerumedu-Cardomom Hills of Kerala on the southern Western Ghats and is an endangered species.

During the floristic explorations of southern Western Ghats by the first author (1988-1996), flowering materials of *Dysoxylum malabaricum* were collected from Pathanamthitta District in Kerala. One of the collection of *Dysoxylum* from Angamoozhy in Pathanamthitta (Anil Kumar 1818), initially identified as *D. binectariferum* did not match with any of the species described from India or elsewhere and is strikingly different from the other three

N. Anil Kumar *et al.*

endemic species viz., *D. beddomei*, *D. ficiforme* and *D. malabaricum* by having pentamerous corolla. Among the species of Indian *Dysoxylum*, only one species – *D. arborescens* (Bl.) Miq. – is having pentamerous corolla. This is hitherto known only from Andaman Islands in India and is quite different from the taxon in question in many of the characters. Since it differs from all the hitherto known taxa, it is described here as a new species. A key also has been provided to identify the newly described species from the allied ones.

***Dysoxylum swaminathanianum*** Anil Kumar *et* Sivadasan, *sp. nov.* (Fig. 1).

*Dysoxylum swaminathanianum*, species nova *D. arborescenti* proxima sed differt vero tubo staminali longo cum antheribus linearibus, et tubo calycis grosse lobato. A *D. binectarifero* petalis quinque multo exertis, disco multo excedenti ovario, et tubo staminali cylindrico.

*Types:* India, Kerala state, Pathanamthitta District, Angamoozhy, alt. c. 200 m, 21 April 1990, Anil Kumar 1818 (*Holo* – MH; *Iso* – CAL, CALI).

Medium sized trees up to 10 m tall, profusely branched; branchlets obtusely angled, thinly pubescent with simple hairs. Leaves irregularly odd-pinnate or even pinnate, ca. 30 cm long; petiole and rachis sharply angled; leaflets 6(7)-8(9), alternate, elliptic-oblong or elliptic-ovate, 10-18 x 4.5-7 cm, base oblique, apex shortly acuminate or obtuse, glabrescent, chartaceous; venation finely reticulate, prominent; petiole cylindric, ca. 5 mm long. Panicles ca. 15 cm long, axillary, rachis finely pubescent. Flower buds erect, ovoid-obtuse. Flowers bisexual, actinomorphic, hypogynous, 5-merous, protandrous; pedicel erect, jointed at middle, ca. 3 mm long; calyx cupular, slightly inflated at base 4-5 mm high, pubescent; lobes inconspicuous and irregular, 4 or 5; petals 5, ca. 13 mm long, cream-coloured, oblong, recurved, apex thick, 3-angled, sparsely hairy inside; disc cupular, exceeding the ovary, ca. 3 mm long, coarsely 8-lobed; staminal-tube cylindric, ca. 1 cm long, 8-lobed, anthers 8, included, linear; ovary ovoid, ca. 2 mm long, 4-locular; ovules 2-per locule; style slender, terete, sublateral, ca. 8 mm long, puberulous near base; stigma capitate. Fruits could not be collected.

*Flowering:* April – May.

*Habitat:* Moist evergreen forests.

*Distribution:* Hitherto known only from the type locality.

*Etymology:* The species is named after Dr. M.S. Swaminathan in appreciation of his efforts and contributions to our understanding on the biodiversity of this region.

*Relationships:* *Dysoxylum swaminathanianum* is closely related to *D. arborescens* in having pentamerous flowers, but differs in having long staminal tube with linear anthers, prominently reticulate-veined leaves, and coarsely-lobed calyx tube. It also resembles with *D. binectariferum*, but differs in having much exerted corolla, 4-5-lobed calyx, disc much exceeding the ovary, cylindric staminal-tube, and inflorescence nearly half as long as the

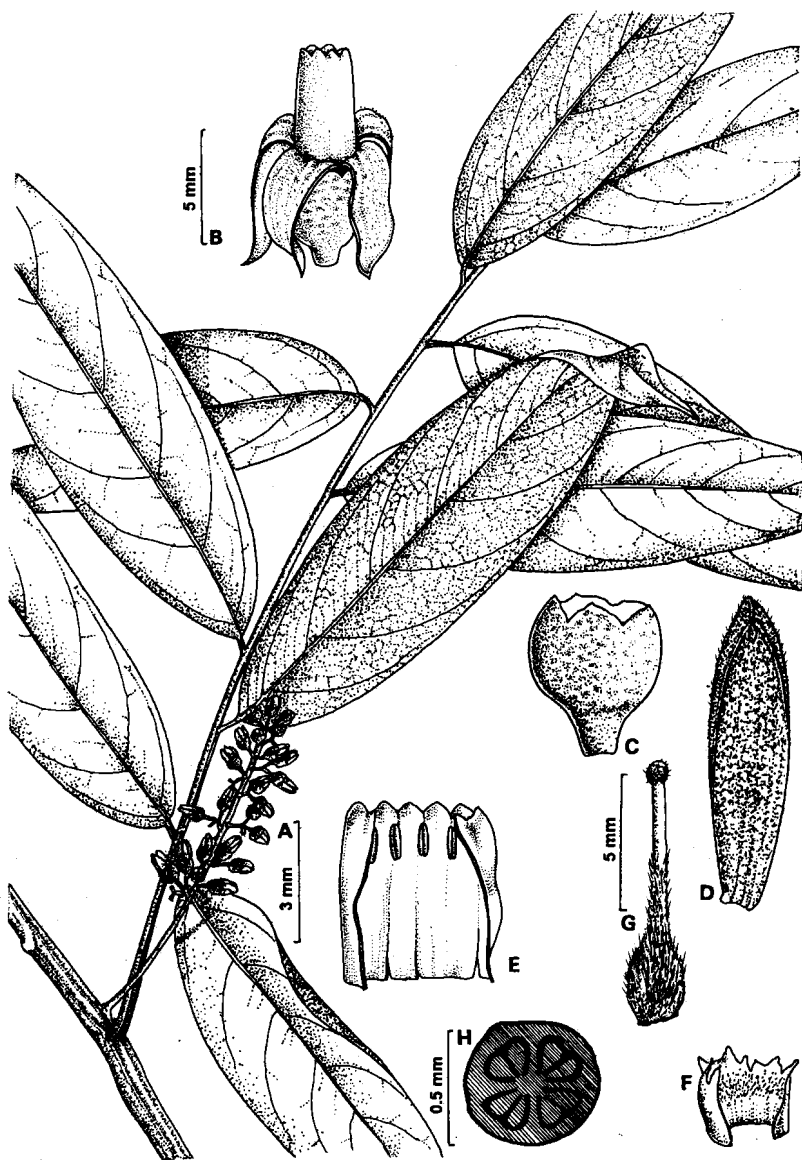
A new species of *Dysoxylum* from India

Fig. 1. *Dysoxylum swaminathanianum* Anil Kumar *et* Sivadasan, *sp. nov.*: A. Habit – a twig; B. Flower; C. Calyx; D. Petal; E. Staminal tube – split open; F. Cupular disc – cut open; G. Pistil, H. Ovary – C.S. (Drawings by V.B. Sajeev).

N. Anil Kumar *et al.*

leaves. It differs from *D. ficiforme* in having finely reticulate, prominently veined leaves, coarsely toothed disc and 8-logged staminal-tube.

**Key to identify the four closely related species of *Dysoxylum***

1. Petals 5; disc longer than the ovary.
  2. Staminal tube cylindric, up to 7 mm long, shallowly 10-theeded terminally teethed; anthers 10, ovoid; leaf-venation faint ..... **D. arborescens**
  2. Staminal tube cylindric, 7 to 10 mm long, 8-lobed; anthers 8, linear; leaf-venation very prominent ..... **D. swaminathanianum**
1. Petals 4; disc as long as the ovary.
  3. Staminal tube nearly 4-angled, 3 to 5 mm long; style 4-angled; leaf-venation finely reticulate, prominent ..... **D. binectariferum**
  3. Staminal tube cylindric, up to 8 mm long; style cylindric; slightly exerted; leaf-venation faint ..... **D. ficiforme**

**Acknowledgements**

The authors wish to express sincere gratitude towards Dr. Dan H. Nicolson, Department of Botany, Smithsonian Institution, Washington DC., USA, for Latinisation of the species diagnosis, and towards Prof. N. Ravi, for his motivation and encouragement. The help rendered by the officials of the Forest Department, Govt. of Kerala during collection trips to various regions of Pathanamthitta District is thankfully acknowledged..

**Literature cited**

- Ahmedullah, M. A. & M. P. Nayar. 1986. *Endemic Plants of South India*. Vol. 1. Botanical Survey of India, Calcutta.
- Anil Kumar, N. 1993. *Floristic Study of Pathanamthitta District, Kerala*. Ph.D. thesis (Unpublished), University of Calicut, Kerala.
- Mabberley, D. J. 1997. *The Plant Book* (Ed. 2). Cambridge University Press, Cambridge, U.K.
- Mabberley, D. J., C. M. Pennell & A. M. Sing. 1995. Meliaceae. *Flora Malesiana* I, 12(1): 1-407.
- Pennington, T. D. & B. T. Styles. 1975. A generic monograph of the Meliaceae. *Blumea* 22: 4119-540.