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RESEARCH ARTICLE

MEMECYLON SAHYADRICA (MELASTOMATACEAE), A NEW SPECIES FROM THE WESTERN GHATS, INDIA

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Abstract

Memecylon sahyadrica Sivu, Ratheesh & N.S. Pradeep, a new species of Melastomataceae collected from an evergreen forest in the southern Western Ghats, Kerala, India is described and illustrated. It resembles *M. sisparense* Gamble, but mainly differs in having broadly ovate leaves with cordate base, obscure intra-marginal veins, inflorescence without peduncle, flowers with 9–12 mm long pedicels, campanulate calyx tube and broadly obovoid fruit.

Introduction

The genus *Memecylon* L. (Melastomataceae) was established by Linnaeus in 1753 since when more than 250 species have been added to it, mainly from the paleotropics (Mabberley, 2005). A total of 67 taxa of *Memecylon* (40 species and 27 varieties) were included in the Flora of British India (Clarke, 1879) of which nine species and three varieties are from modern-day India. Recent enumeration reveals that 40 taxa of this genus are now reported from India, of which 21 are endemics (Murugan & Gopalan, 2006; Sivu, 2012). In India, the Western Ghats is the major centre of diversity with 27 *Memecylon* species, including 20 endemics confined to this 'hotspot' of biodiversity (Gamble, 1919; Mohanan *et al.*, 2001; Viswanathan & Manikandan, 2001; Santhosh Kumar *et al.*, 2003; Manickam *et al.*, 2007; Sivu *et al.*, 2012).

Wayanad district in Kerala is a 'hotspeck' of biodiversity in the Nilgiri phytogeographical region of the Western Ghats. Forests of Wayanad district are rich in diverse flora with several endemics species (Ratheesh Narayanan, 2010) and are highly fragmented due to large-scale plantations of coffee, tea, cardamom etc., and they form a buffer zone for the Nilgiri Biosphere Reserve. Among the 21 species of *Memecylon* of Peninsular India, 12 including the recently published species, viz. *M. wayanadense*, are reported from Wayanad. Recent floristic exploration in the evergreen forests of Wayanad yielded some additional specimens of *Memecylon*. On detailed examination, combined with a study of the pertinent literature (Gamble, 1919; Henry & Subramanyam, 1971; Bremer, 1979, 1987; Balakrishnan & Nair, 1982; Mohanan *et al.*, 2001) and type materials, these collections turned out to represent a new species.

Memecylon sahyadrica Sivu, Ratheesh & N.S. Pradeep sp. nov. (**Fig. 1 & Plate 1**).
Type: INDIA, Kerala, Wayanad, Chanthanathodu, 800 m, 28 February, 2008, Sivu, Ratheesh Narayanan & N. S. Pradeep 61742 (Holotype, TBGT; Isotype, MH).

Small trees, up to 3.5 m high; branchlets terete; bark greyish black, shallowly fissured. Leaves opposite, ovate, 8–15 x 4–6 cm, coriaceous with obscure intra-marginal veins, dull green to yellow on drying, base cordate, margin entire or slightly revolute, apex broadly acute to obtuse; lateral veins 14–16 pairs, indistinct above; filliform elongated foliar sclereides; petiole 1–1.3 mm long. Cymes umbellate on lower leaf axils and lateral tubercles, 15–25 flowered, 2.5–3 cm across; peduncles absent; pedicels 9–12 mm long, slender, pinkish; bracteoles ovate, ca. 0.7 mm long, light green. Flowers 4–6 mm across, pinkish blue; buds obtuse-rounded; calyx campanulate, 1.8–2.2 mm across, shallowly 4 lobed, pink, disc shallowly striate; petals 4, broadly orbicular, ca. 2 x 2.5 mm, blue, base shortly clawed, apex apiculate; stamens 8, equal; filaments slender, ca. 3.5 mm long, blue; anthers curved, connective with a gland, ca. 1 mm long, blue; ovary unilocular, 4–5 ovules, placentation free-central; style subulate, 4 mm long, blue; stigma simple. Berries broadly obovoid, 8–10 mm across with persistent calyx. Seed 1; embryo with wrinkled cotyledons and long hypocotyle.

Note: *Memecylon sahyadrica* sp. nov. is similar to *M. sisparense* but differ from the latter by the characters given in the Table 1.

Additional specimen examined (Paratype): INDIA. Kerala: Wayanad District, Periya, near MPCA, 18 December 2009, Sivu & Ratheesh Narayanan 63598 (TBGT); Kozhikode District, Kattipara, way to Vellarimala, 1427 m, 11^0 28^1 083'' N and 76^0 08^1 200'' E, 13 February 2010, Sivu & Ratheesh Narayanan 65176 (TBGT); Pathanamthitta District, Konni, Vakkalar, way from Seethathodu, 22 March 2012, Sivu & Shaju 65191 (TBGT).

Distribution, Habitat and Ecology: Distribution range of new species starts in Vakkalar forests of Konni (Pathanamthitta district) and extends to the Chanthanathode forests of Periya (Wayanad district) through the evergreen forests in the western side of Wayanad Ghats. Evergreen forests, at elevations of ca. 700–1500 m a.s.l. are the ideal habitat of the new species. It is seen as a lower stratum small tree. The other plant species commonly found in this habitat are *Desmos lawii* Safford, *Goniothalamus wynaadensis* Bedd., *Meiogyne ramarowii* Gandhi, *Orophea malabarica* Sasidharan & Sivarajan, *Polyalthia fragrans* (Dalz.) Bedd., *Glyptopetalum grandiflorum* Bedd., *Agrostistachys borneensis* Becc., *Dimocarpus longan* Lour., *Drypetes venusta* (Wight) Pax & Hoffm., *Epiprinus mallotiformis* (Muell.-Arg.) Croizat and *Palaquium ellipticum* (Dalz.) Baill.

Phenology: Flowering starts from December with a peak in January; fruiting in March.
Etymology: The specific epithet 'sahyadrica' is derived from the geographical name, Sahyadri Mountains (Western Ghats) which includes the type locality.

Interrelationships: *Memecylon sahyadrica* resembles *M. sisparense* in its terete branches and inflorescence on lateral tubercles. The shape and size of the leaves, shape of leaf base, number of lateral veins, nature of intramarginal veins, length of peduncle and pedicel distinguish the new species from the latter. The new species has broadly ovate leaf with cordate leaf base, 4-16 pairs of lateral veins, inflorescence without peduncle and flowers with up to 1.2 cm long pedicels in contrast to the ovate-oblong leaf with rounded or sub-cordate leaf base, less than 14 pairs of distinct lateral veins, inflorescence with up to 2 mm long peduncle and flowers with less than 6 mm long pedicel of *M. sisparense*. Presence of very distinct intra-marginal veins is another distinguishing character of *M. sisparense* which is obscure in *M. sahyadrica*.

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Table 1: Diagnostic morphological characters of *Memeycylon sahyadrica* and *M. sisparense*

Characters	***M. sahyadrica***	***M. sisparense***
Habit	Small trees up to 3.5 m high, branchlets terete	Trees up to 8 m high, branchlets terete
Leaf shape and size	Ovate, 8–15 x 4–6 cm	Ovate-oblong, 6–10 x 2.5–4.5 cm
Leaf base	Cordate	Rounded or sub-cordate
Leaf apex	Acute to obtuse	Acute to obtuse
Petiole	1–1.3 mm long	2–3 mm long
Lateral veins	14–16 pairs with obscure intra-marginal veins	8–10 pairs with conspicuous Intra-marginal veins
Inflorescence	On leaf axils and lateral tubercles; 15-25 flowered; peduncle absent	On lateral tubercles; more than 30 flowered; peduncle 1–2 mm long
Pedicel	9–12 mm long	4–5 mm long
Calyx tube	Campanulate	Cup shaped
Fruit	Broadly obovoid, 8–10 mm across	Globose, 6-7 mm across

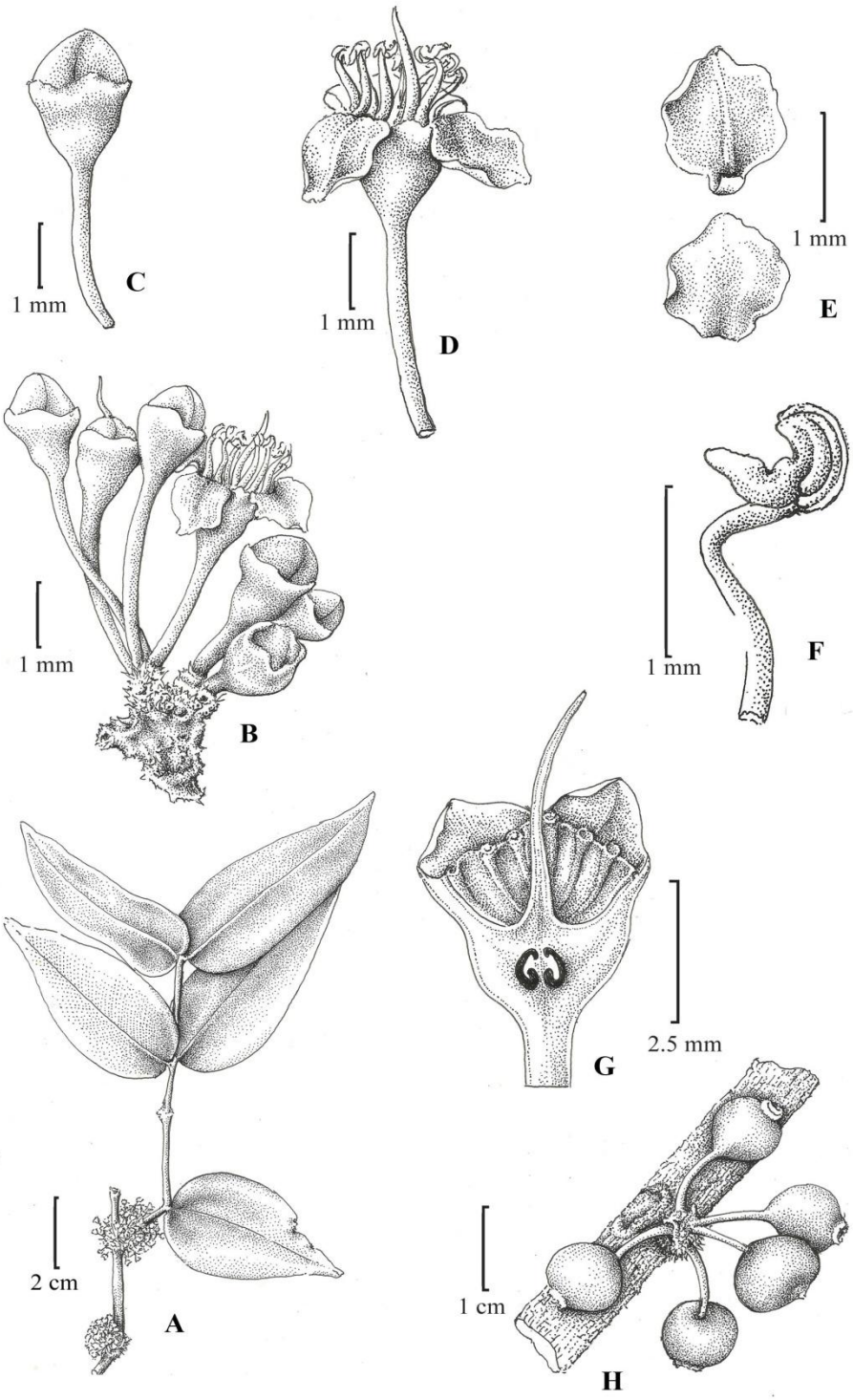

Fig. 1: A. habit; B. Inflorescence; C. Flower bud; D. Flower; E. Petals; F. Stamen; G. Flower L.S.; H. Fruits.

Plate 1: A. habit; B. leaves; C & D. inflorescence; E. flowers; F. fruits