
The Genus *Rhopalostroma* from Maharashtra State, India

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Two species of *Rhopalostroma*, viz. *R. africanum* collected on bark of *Ficus benghalensis* and *R. lekae* on bark of *Memecelon umbellatum* are recorded for the first time in India. A new variety, *R. sphaerocephalum* var. *indica* is described on bark of *Bombax malabaricum*.

Key words – Mycotaxonomy – *Rhopalostroma* – Xylariaceae

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Introduction

The genus *Rhopalostroma* was erected by Hawksworth (1977) to accommodate some species of Xylariaceae s.l. that appeared to be restricted to Africa and Asia. The genus is characterised by stipitate, separate or tufted in groups, mostly simple but occasionally branched, brown, purplish or black stromata with globose, clavate heads; perithecia with non-papillate ostioles, immersed in dark brown to black flesh, arranged peripherally in a single layer (monostichous), below the convex surface of the head. Hawksworth (1977) transferred four species into the genus and described a new species, *R. indicum* as the type species. An additional five new species have since been described, three from Thailand and two from India (Hawksworth et al. 1985, Whalley et al. 1996, 1998, Vaidya et al. 1991). No species of *Rhopalostroma* are listed in the 'Fungi of India' (Bilgrami et al. 2004) or in 'Ascomycetes of Peninsular India' (Pandey 2008).

Material and Methods

Specimens of *Rhopalostroma* were

collected by the authors on bark of *Memecelon umbellatum* Burm. and on *Bombax malabaricum* DC. and deposited at National Fungal Culture Collection of India (NFCCI), and Mycological Herbarium, Dept. of Botany, Shivaji University, respectively. The specimens were studied by routine mycological laboratory methods. The specimen described as *Elaphomyces fici* Tilak & Rokade on bark of *Ficus benghalensis* L. (Moraceae), Pune, M.S., August 1964, B.G. Rokade, M.I.M., 161120 was also studied and revised.

Rhopalostroma africanum (Wakef.) D. Hawks., Kew Bulletin 31, 423 (1977)
 ≡ *Camillea africana* Wakefield, Bull. Misc. Inf. Kew 74, 1916 (1917)
 = *Elaphomyces fici* Tilak & Rokade, Mycol. Appl. 22, 339 (1964)

Habit – on bark of *Ficus benghalensis* L. (Moraceae), Pune, M.S., August 1964, B.G. Rokade, M.I.M., 161120.

Remarks – Tilak & Rokade (1964) reported this taxon as *Elaphomyces fici* collected on bark of *Ficus benghalensis*, Pune, vide Pandey (2008). The genus *Elaphomyces*

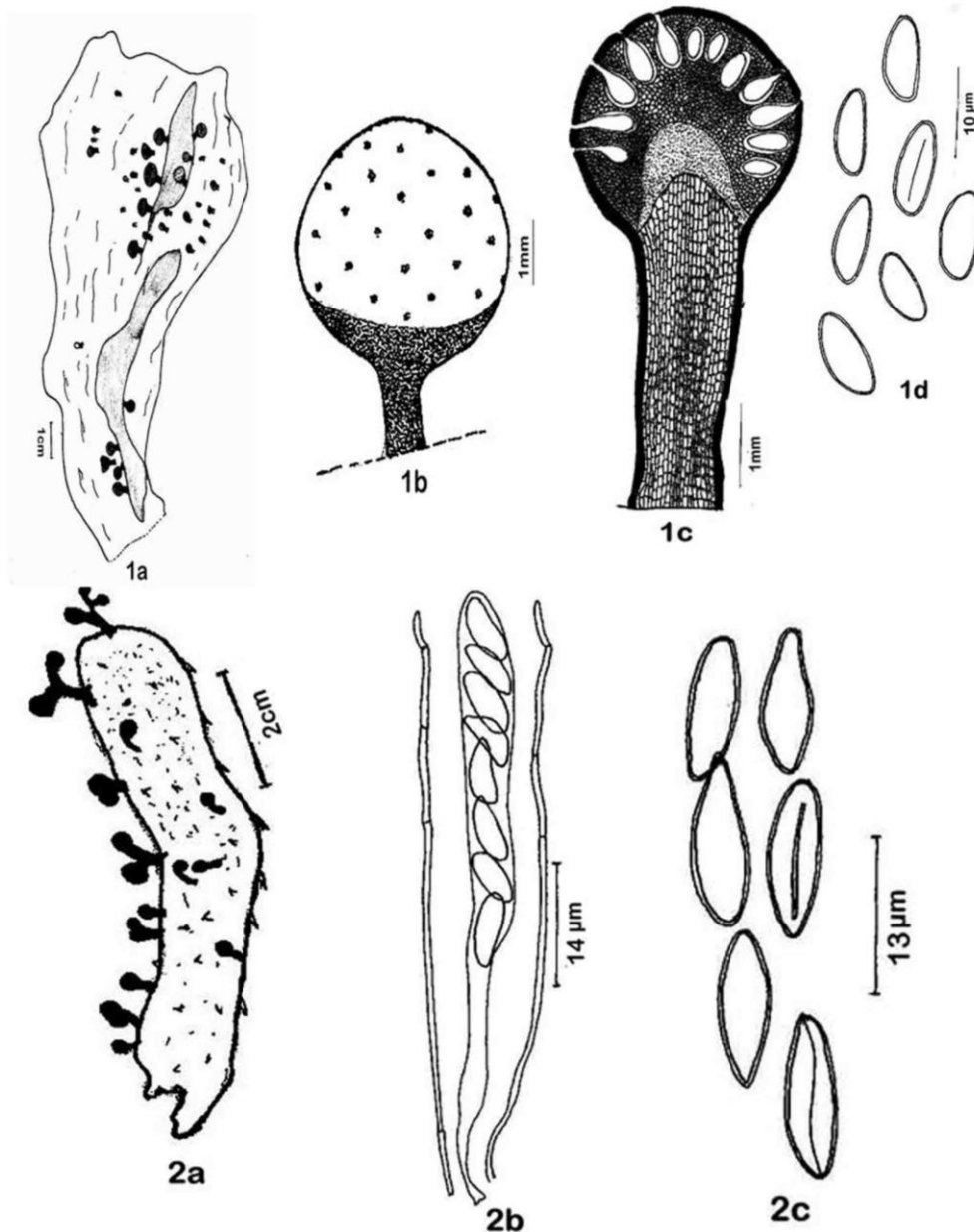


Fig. 1 – 1a–1d *Rhopalostroma lekae*. **a** habit, **b** single stroma, **c** stromata in section, **d** ascospores. **2a** *R. sphaerocephalum* var *indica* habit; **2b–2c** *R. sphaerocephalum*, **2b** ascus and paraphyses, **2c** ascospores.

Nees (Elaphomycetaceae, Elaphomycetales, Discomycetes) is characterized by large, subterranean, mycorrhizal ascocarps and evanescent asci. The genus is known by 20 species (Lawrynowicz, Maria 1988). According to the description of habit, host, ascostromata and ascospores, this material belongs to *Rhopalostroma africanum*. Exceptionally in the present material, the perithecia and asci are scattered and aparaphysate. There are two more species of *Rhopalostroma* viz. *R. indicum* D. Hawks. &

Muthappa (type species) and *R. hawksworthii* Vaidya, ADM Rayner & Whalley recorded on *Ficus* from Karnataka and Madhya Pradesh. However, all the characteristics of the present collection match well with *R. africanum* reported from Uganda on decaying wood. It is a new record to the fungi of India.

Rhopalostroma lekae Whalley, Thienh., M.A. Whalley & Sihan., Bot. J. Scotland 50(2), 188, 1998.



Fig. 2a – Habit – *Rhopalostroma lekae* on bark of *Memecylon umbellatum*.

Habit – on bark of *Memecylon umbellatum* Burm. (Melastomataceae) Panhala, Dist. Kolhapur, Maharashtra, India, Anjali Patil, January 2012, AMH no. – 9455 Fig. 2a.

Remarks – The present collection shows stromata which are widely spread, separate, simple, single, up to 6 mm tall, with 1–2 mm long stalks, globose head 5–6 mm in diameter, externally punctate and purplish brown (Fig. 2b) on the upper surface and black on the lower side. Asci and paraphyses evanescent, ascospores measure $7.8\text{--}10.4 \times 3.9\text{--}5 \mu\text{m}$, dark brown with indistinct germ slit. Thus, the present collection resembles in all aspects to *R. lekae* reported from Thailand on dead bark. It is a new record to the fungi of India.

Rhopalostroma sphaerocephalum (Petch) D. Hawks. **var. *indica*, var. nov.**

Similar to var. *sphaerocephalum* but with stromata simple or dichotomously branched, ascospores $12\text{--}13 \times 3\text{--}4 \mu\text{m}$ versus $14\text{--}16 \times 4\text{--}6 \mu\text{m}$.

Habit – on bark of *Bombax malabaricum* DC. (Bombacaceae), Radhanagari, Dist. Kolhapur, Maharashtra, India, M.S. Patil, August 1975, deposited in the Mycological herbarium, Botany Department, Shivaji University, Kolhapur as W.I.F.No. 250.

Remarks – Patil (1979) described this collection in his Ph.D. thesis as *Xylosphaera dichotoma* (Mont.) Dennis. After the establishment of the genus *Rhopalostroma* in 1977 the material was revised as genus *Rhopalostroma* on the basis of key characters. Morphologically the collection matches in some characters with *R. sphaerocephalum*. However, in the present material the stromata are simple, short but branched and ascospores are smaller in size. Taking into consideration these variations, a new variety is proposed. *Rhopalostroma sphaerocephalum* var. *sphaerocephalum* has been reported from Sri Lanka on the same host.

Rhopalostroma angolense (Welw. & Curr.) D. Hawks., recorded on wood and bark of different members of family Bombacaceae



Fig. 2b – Stalked stromata with purple-brown globose head, punctate upper surface.

(*Bombax*, *Ceiba*, and *Eriodendron*) from Angola, Ghana, Nigeria, Sierra Leon and Zaire, has larger stromata and smaller ascospores when compared with the present collection. Moreover, in the Indian collection stromata are simple and branched dichotomously, which is not found in any specimen from Africa.

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