1 *Bahusutrabeeja manoharacharii* sp. nov., a Foliicolous Hyphomycete from the Forests of Western Ghats, India

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ABSTRACT

Bahusutrabeeja manoharacharii sp. nov., a foliicolous hyphomycete isolated from live leaves of *Bridelia scandens* Roxb (Euphorbiaceae) gathered from Chorla Ghat, Goa, India, is illustrated and described. In addition, hitherto described species of the genus are compared in this paper.

KEY WORDS : Biodiversity; conidial fungi; *Bahusutrabeeja manoharacharii*.

We deem it an honour to have been invited to present a paper to the Volume dedicated to Professor C. Manoharachary, Osmania University, Hyderabad, who made significant contribution to the development of mycology in India.

The hyphomycete genus *Bahusutrabeeja* Subram. & Bhat was established with *B. dwaya* Subram. & Bhat as type species (Subramanian and Bhat, 1977). The genus is characterized by mononematous, percurrently prolifereating conidiophores with simple, phialidic conidiogenous cells producing setulate conidia which are usually aggregated into a slimy mass at the tip of the phialide. To date, a further four species namely, *B. angularis* Rao & de Hoog, (Vasant Rao and de Hoog, 1986), *B. globosa* Bhat & Kendrick (Bhat and Kendrick, 1993), *B. dubhashii* Bhat (Bhat, 1994) and *B. bunyensis* Mckenzie (Mckenzie, 1997) have been described in the genus.

During the course of our studies on biodiversity and taxonomy of foliicolous fungi of the Western Ghat forests, we recovered an isolate of *Bahusutrabeeja*, from live leaves of *Bridelia scandens* Roxb (Euphorbiaceae) gathered from Chorla Ghat, Goa, India, which differed markedly from all known species in the genus in its conidiophore and conidial dimensions. The fungus is disposed in a new species.

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Materials and Methods

Fresh, green leaves with leaf spots gathered from the plant were placed in polythene bags and brought to the laboratory. The samples were first examined under a stereoscope to locate the fungal colony. On spotting, the fungus was lifted by a fine-tipped needle, placed on a drop of lactophenol on a clean slide and examined under a light microscope.

Taxonomic Part

Bahusutrabeeja manoharacharii Pratibha et Bhat sp. nov. (Figs. 1 & 2) (Etym., Specific epithet: in honour of Prof. C. Manoharachary, Osmania University, Hyderabad, India).

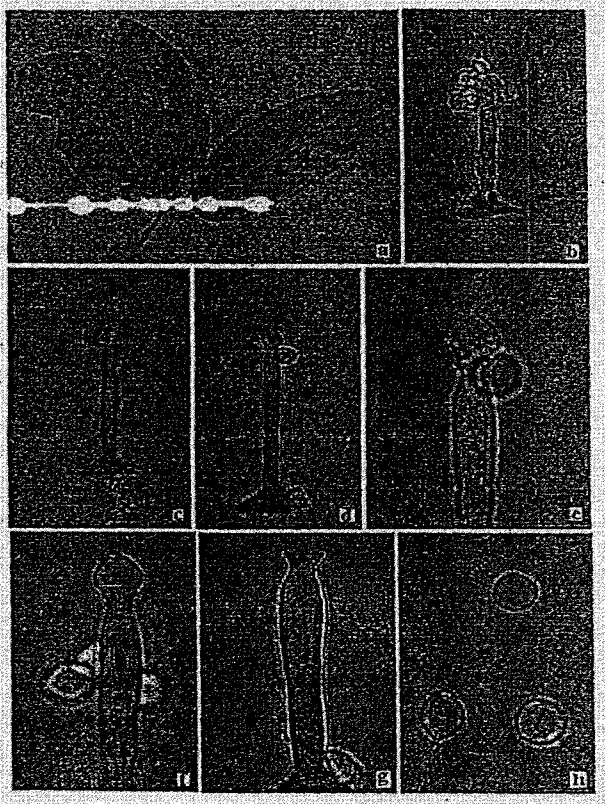

Figure 1 *B. manoharacharii*, a: leaf spots; b-f: conidiophores with conidia; g: phialide; h: conidia

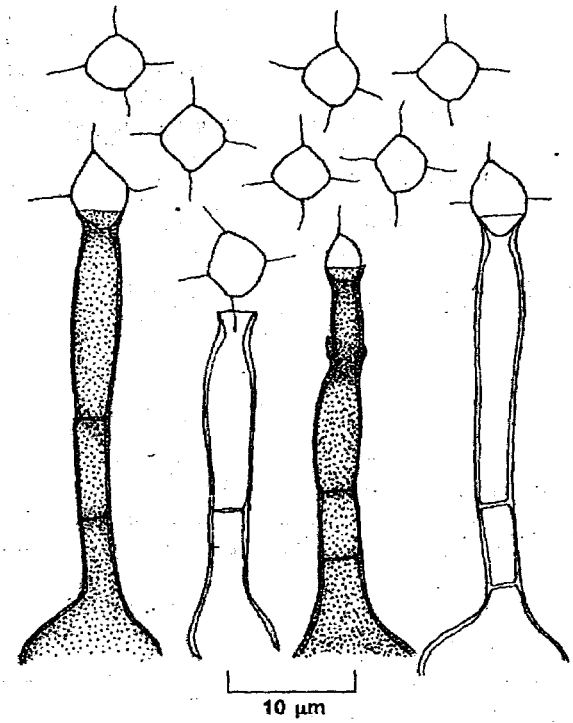

Figure 2 *B. manoharacharii*, Conidiophores and conidia

Ad fungos conidiales, hyphomycetes. *Leaf spots* amphigenae, dissitae, sphaericae, atrobrunneae, 4-6 mm dia. *Coloniae* effusae, atrobrunneae, velutinae. *Mycelium* immersum, laevis, subhyalinis, septatis, ex hyphis ramosis 2-2.5 µm lat. compositum. *Conidiophora* mononematica, erecta, recta vel flexuosa, laevia, brunnea, crassitunicata, 1-2-septata, non-ramosa, percurrenter proliferations, 40-87.5 × 5.5-8.5 µm. *Cellulae conidiogenae* terminales, integratae, monophialidicae, subcylindricalis, laeviae, 25.5-50 × 5.8-8.5 µm, cum collarulo conspicuo. *Conidia* solitaria, hyalina, crassitunicata, angulata, aseptata, 9.5-11.5 × 7.5-9 µm, ad setulis hyalina up to 4.5 µm longa, ad apicem cellulae conidiogenae in massa mucosa aggregata.

HOLOTYPUS in foliis viva *Bridelia scandens* Roxb. (Euphorbiaceae), Chorle Ghat, Goa, India, leg. Pratibha J., 2.7.2004, Herb. GUBH No. 1143.

Conidial fungi, hyphomycetes. *Leaf spots* amphigenous, scattered, irregular to circular, dark brown with a black spot in the center, 4-6 mm diam. *Colonies* on natural substrate effuse, dark brown, velvety. *Mycelium* immersed, composed of smooth, subhyaline,

septate, branched hyphae 2-2.5 µm wide. *Conidiophores* mononematous, erect, straight or flexuous, smooth, brown, thick-walled, 1-2-septate, unbranched, sometimes percurrently proliferating 1-2 times, 40-87.5 × 5.5-8.5 µm. *Conidiogenous cells* terminal, integrated, monophialidic, cylindrical, smooth, 25.5-50 × 5.8-8.5 µm, with flared conspicuous collarette. *Conidia* hyaline, thick-walled, angular, 0-septate, 9.5-11.5 × 7.5-9 µm, with fine hyaline setulae up to 4.5 µm long at each angulate end, aggregating into a slimy mass at the tip of the phialide.

The fungus was brought into culture by sowing conidia on antibiotic-embedded 2% malt extract agar medium. The colony was slow growing, attaining a diam of 1-2 cm in 10 days, reddish brown at the center and pale brown towards the periphery, with superficial, floccose mycelium. The fungus did not produce any spore producing structures in culture.

Discussion

The diagnostic features of the species of *Bahusutrabeeja* are given in Table 1. *B. manoharacharii* can be compared with *B. angularis* in view of its angulate conidia. However, the conidia of *B. angularis* are smaller and 7-8 µm diam., whereas in the former it is 9.5-11.5 × 7.5-9 µm. The conidiophores in *B. manoharacharii* are shortest of all species so far described in the genus. Further, *B. manoharacharii* is the first species recognized as foliicolous in the genus *Bahusutrabeeja*.

Table 1 Conidia and conidia producing structures of species of *Bahusutrabeeja*

Species	Conidiophore length	Phialide collaratte	Conidia : shape size	Conidial appendages Number and length
B. angularis	200-500	Well developed	Angular, 7-8 µm	3-5; up to 4 µm
B. bunyensis	Up to 210 µm	Well developed	Spherical, 7.5-10.5 µm	3; up to 5-9 µm
B. dubhashii	Up to 170 µm	Well developed	Obpyriform, 15-20 × 5-8 µm	6; up to 18 µm
B. dwaya	170-290 µm	Well developed	Spherical, 12-14 µm	8-16; 4.5-12 µm
B. globosa	Up to 350 µm	inconspicuous	Spherical, 18-22 µm	9-12; 6.5-12.5 µm
B. manoharacharii	40 - 90 µm	Well developed	Rounded to angular, 9.5-11.5 × 7.5-9 µm	4; up to 4.5 µm

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