

Two new *Stenella* spp. from India

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Two new species of *Stenella* viz, *Stenella bauhiniae* and *Stenella sonneratae* occurring on *Bauhinia vahlii* and *Sonneratia apetala* respectively from Jhargram, Midnapur, and Sundarban, South 24 Parganas, West Bengal, India are described and illustrated in this communication.

Key words : New species, foliicolous, dematiaceous hyphomycetes, *Stenella*

INTRODUCTION

The form genus *Stenella* was first established by Sydow (1930) and known to be represented by more than one hundred species till the date. Of these, fifty species have been reported from India, twenty four being reported from North-Eastern U.P. (Chaudhary *et al.*, 2001). Some distinguished workers have done their work on this interesting group of fungi viz. Abbasi *et al.*, (1980), Bilgrami *et al.*, (1991), Chaudhury *et al.*, (1996), Das (1990), Kamal *et al.*, (1980 a, b), Kar and Ray (1987), Khan *et al.* (1995), Ponappa (1988), Singh *et al.* (1997), Srivastava *et al.*, (1995), Subramanian (1983), and Varma and Kamal (1987). Researchers from all over the world have made valuable contribution on this group. (Deighton, 1971 ; Huguenum, 1966 ; Mulder, 1975 ; 1982 ; 1989 ; Sinclair *et al.*, 1990 ; Sutton, 1996 ; Walker and White 1991 and Yip, 1989).

MATERIALS AND METHODS

The infected leaves having distinct symptoms were collected and dried to make herbarium specimens, a part of which was deposited in the herbarium, International Mycological Institute (IMI), Kew, Surrey, England as type materials. Morphotaxonomic study of the associated fungi were done through the low and high magnification of the compound microscope. The measurements of different structures were also taken and camera lucida drawings were made with the aid of standard camera lucida attachments.

OBSERVATIONS

Stenella bauhiniae Halder, Ray & Das sp. nov.

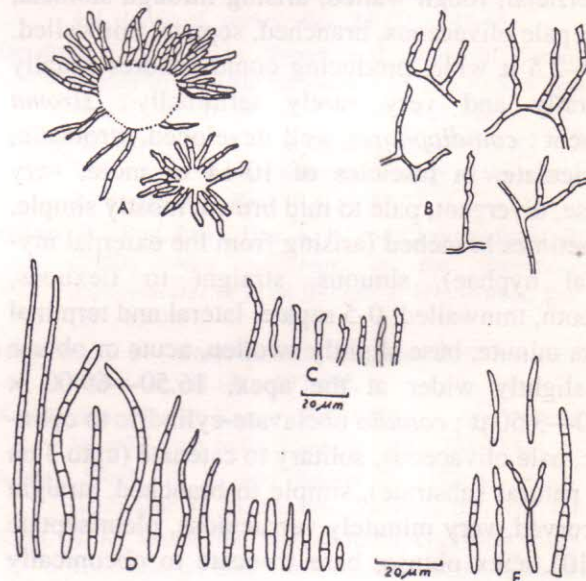


Fig. 1 : *Stenella bauhiniae* sp. nov. : A. conidiophore fascicles, B. external mycelial hyphae bearing conidiophores, C. conidiophores, D. conidia, E. conidia in chains showing branch.

Maculae amphigenae, atro-brunneae, irregulares, majoresque gravitis, numerosae, veinlimitatae, 5-10 mm diam ; *caespituli* amphigeni, effusi, punctiformes, atrobunneae, hyphae pallidissime olivaceae, *primarium mycelium* immersum ; *secundarium mycelium* superficiale, per stoma emergentia, 1.5—2.5 μ latae ; *stroma* parvum, *conidiophora* fasciculata, usque 10-40 in fasciculo divergentia, pallide brunneae vel modice brunneae, plerumque simplicia, sinuosa, leniter vel flexuosa,

laevia 0-5 septata, lateraliter et terminaliter cicatrices minutissimae, 16.50—69.00 × 2.50—3.50 μ ; *conidia* obclavato cylindrica, pallide olivacea, solitaria vel catenata, simplicia vel ramosa, verruculosa, pleuriseptata (0-10), ad apicem obtusa, ad basim subtruncata, 5.00—102.50 × 1.50—3.00 μ .

Habitat in foliis vivis *Bauhinia vahlii* W & A., (Fabaceae), Jhargram, Midnapur, Bengal occidentales, India, IMI 297815, typus, 24. ii. 1985.

Leaf spots amphigenous, blackish brown, irregular, scattered to coalescent, sometimes covering major portion of the leaf, virulent, numerous, veinlimited, 5-10 mm, diam; *caespituli* amphigenous, effuse, punctiform, dark brown, unevenly distributed over the spots; *mycelium* both internal and external; primary mycelium internal; secondary mycelium superficial, rough walled, arising through stomata, very pale olivaceous, branched, septate, thinwalled, 1.5—2.5 μ wide, producing conidiophores usually laterally and very rarely terminally; *stroma* present; *conidiophores* well developed, stromatic, fasciculate, in fascicles of 10-14 or more, very dense, divergent, pale to mid brown, mostly simple, sometimes branched (arising from the external mycelial hyphae), sinuous, straight to flexuous, smooth, thinwalled, 0-5 septe, lateral and terminal scars minute, base slightly swollen, acute or obtuse or slightly wider at the apex, 16.50—69.00 × 2.50—3.50 μ ; *conidia* obclavate-cylindric to cylindric, pale olivaceous, solitary to catenate (upto 3 on the natural substrate), simple to branched, straight to curved, very minutely verruculose, pleuriseptate (0-10), apex obtuse, base truncate to obconically truncate, (scars either one end or both the ends) 5.00—102.50 × 1.50—3.00 μ .

Specimen studied : On the living leaves of *Bauhinia vahlii* W & A., (fam. Fabaceae), Jhargram, Midnapore, West Bengal, India. IMI 297815, 24 February, 1985.

The most striking characters of the specimen are rough walled hyphae, verruculose conidia with chains (simple and branched), conidiophores 16.50—69.00 × 2.50—3.50 μ and conidia 5.00—102.50 × 1.50—3.00 μ . Studying all these morphotaxonomic characters in details and after

consultation with the relevant literature, the present specimen deserves as a new species of *Stenella*. Morphological characters are primary criteria for proposing new taxon.

Stenella sonneratae Halder, Ray & Das sp. nov.

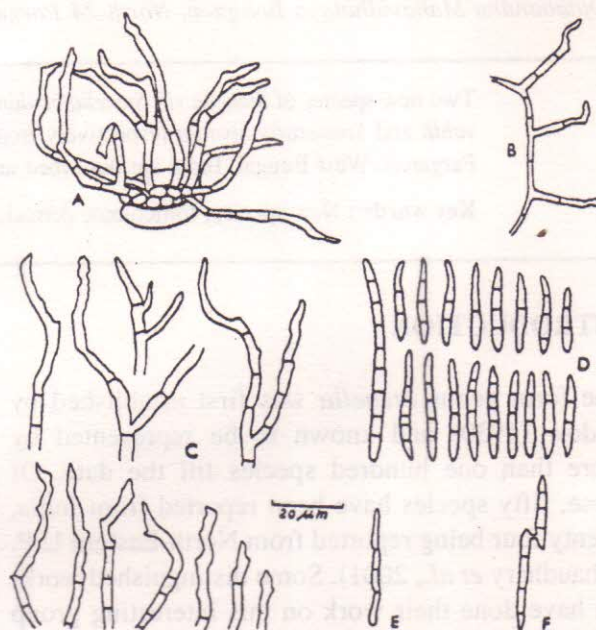


Fig. 2 : *Stenella sonneratae* sp. nov. : A. conidiophore fascicles, B. superficial mycelium bearing conidiophores, C. conidiophores, D. conidia, E. conidia in chain, F. conidium showing germination.

Maculae amphigeneae, orbiculares vel suborbiculares, brunneae demum centrogriseo, dispersae, coalescere, 0.5-2 mm latae; *caespituli* amphigeni, atrobrunnei, inaequaliter dispersi; *stroma* non evoluta; *mycelium* immersum ad mycelium secundarium superficiale, hyphae pallidissime, olivacea brunneae, emergentia basifasciculorum, *conidiophora* oriundae, laevia, ramosa, septata, *conidiophora* secundaria, lateraliter et terminaliter gerentes, 1.5 μ latae; *conidiophora* per stomata emergentia fasciculo (6-numerosae), divergentia, pallide olivaceabrunneae; simplicia vel ramosa, laevia, recta vel flexuosa, pleuriseptata (2-6), raro sinuosa, et geniculata, crassa tunicata, cicatrices conidiales, 26.5—99.0 × 2.5—3.5 μ ; *conidia* obclavata, pallide olivacea brunnea, plerumque solitaria, raro catenata, recta vel curvata, minutissimum, verruculosa, macertunicata, septata (1-8), apicem subobtusa, basim obconico-truncata, 10.0—66.0 × 2.5—3.5 μ .

Habitat in foliis vivis *Sonneratia apetala* Ham., (Lythraceae), Sundarban, South 24 Parganas, Bengal occidentales, India, IMI 297812, typus 11. ii. 1985.

Leaf spots amphigenous, circular to subcircular, greyish brown centre surrounded by raised pale brown margin, usually scattered, sometimes coalescent, 0.5–2 mm diam; *caespituli* amphigenous, blackish brown, unevenly distributed over the spots; *stroma* poorly developed; *mycelium* both internal and external, mycelial hyphae pale olivaceous brown, emerging from the base of the conidiophore fascicles, smooth, branched, septate, producing conidiophores laterally and terminally, 1.5 μ . wide; *conidiophores* emerging through stomata, fasciculate (6-numerous), dense to very dense, divergent, pale olivaceous brown, simple to branched, smooth, straight to flexuous, occasionally sinuous, geniculate towards the acute apex, thickwalled, pleuriseptate (2-6), scar present at the point of geniculation of the conidiophores, 26.5–99.0 \times 2.5–3.5 μ ; *conidia* obclavate, pale olivaceous brown, mostly solitary rarely catenate, 3 in chains, (on the natural substrate), straight to curved, minutely verruculose, thinwalled, 1.8 septate, tip subobtuse, base obconic-truncate, 10.0–66.0 \times 2.5–3.5 μ .

Specimen studied : On the living leaves of *Sonneratia apetala* Ham., (fam. Lythraceae) Sundarban, South 24 Parganas, West Bengal, India, IMI 297812, 11 February 1985.

Literature survey till the date reveals that no *Stenella* has yet been described and illustrated on the present host in question. So the morphological features and illustrations of the collection as a new taxon of *Stenella*, is therefore considered worthwhile to accommodate it.

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