

A NOVEL ADDITION TO THE FUNGAL GENUS

Trimmatostroma CORDA

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ABSTRACT

During frequent and periodic survey for the collection of phytopathogenic fungi from the forest plants of Madhya Pradesh a large number of specimens were collected. The detailed morphotaxonomic treatment was given to some of the interesting fungal specimens which resulted into the description and illustration of a new species namely *Trimmatostroma indica* sp. nov on *Diospyros melanoxylon* Roxb. (Ebenaceae).

Keywords: Biodiversity, *Trimmatostroma*, Taxonomy

I MATERIALS & METHODS

Specimens of dried were collected during the course of field trips. Detailed observations of morphological characters were carried out by means of an Olympus CX31 light microscope using oil immersion (1000×). Specimens for microscopic observation were prepared by hand sectioning. Water and lactophenol were used as mounting media. Measurements were made of 30 conidia, hila, and conidiophores and of 15 stromata. Line drawings were prepared at a magnification of 1000×. Morphotaxonomic determinations were made with the help of standard literature and available resident expertise. The holotype has been deposited in Herbarium Cryptogamiae Indiae Orientalis (HCIO), Indian Agricultural Research Institute, New Delhi, India; and an isotype was retained in the herbarium of Department of Botany, Dr. H.S. Gour University for further reference.

II RESULT AND DISCUSSION

Trimmatostroma indica sp. nov.

Maculae reddo per colomies, coloniae amphiphyllosae, effusae, crustaceous, disseminatus pertotam superficiem folii, atra. Mycelium hypharum immersum, laevia, ramosum, septatum, angustum, pallide olivacea. Stromata presentia, bene formata, magnus, brunnea, psudoparenchymatosa 43-158 × 43-100 μm. Conidiophori meristematae, incrementum in tractus captus locus crux crucis moenia iustus secundum apice, eramosum vel aliquando laxe ramosum, plerumque parvus, recta vel flexuosa, confertim situs,



pallide vel olivacea brunnea quod unafortassa formatura a reticularis vel multicellularis reticularis vulgus (unafortosse conidiophori quod conidio tamen non videlicettermino). Cellulae conidiogenosae, integratae, terminales, scabrosus, cylindricus (valde variable in vultus). Conidia (Pauciae) ramosum in catenis schizogenus, sicca, simplex, ramosum, furcatus vel lobulatus, erecta vel flexuosae, valde proteusa ir figurae cylindrata, apice rotundata, clavata, ellipsoidae, pyriformis, subglobosa, pollide olivacea vel atra-brunnae, laevia, cum transversus et saepe longitudinalis vel obliquus septata, $9-46 \times 9-14.5 \mu\text{m}$.

Lesions represented by colonies. Colonies amphiphylous effuse, crust like, scattered all over the leaf surface, dark black. Mycelium of hyphae immersed, smooth, branched, septate, narrow, pale olivaceous. Stromata present, well developed, large, brown, pseudoparenchymatous $43-158 \times 43-100 \mu\text{m}$. Conidiophores meristematic, growth in length taking place by laying down of cross walls and elongation of cells just behind the apex, unbranched or occasionally loosely branched, usually short, straight or flexuous, closely packed, pale to olivaceous brown and placed together forming a network (reticulum) of multicellular interwoven mass (together may be called conidiophores and conidia but not clearly defined). Conidiogenous cells integrated, terminal, roughly cylindrical (not very clear). Conidia (few), branched, in chain, schizogenous, dry, simple, branched, forked or lobed straight or flexuous, very variable in shape, cylindrical, rounded at the apex, ellipsoidal, clavate, pyriform, subspherical, pale olivaceous to dark brown, smooth, with transverse and often longitudinal or oblique septa, $9-46 \times 9-14.5 \mu\text{m}$.

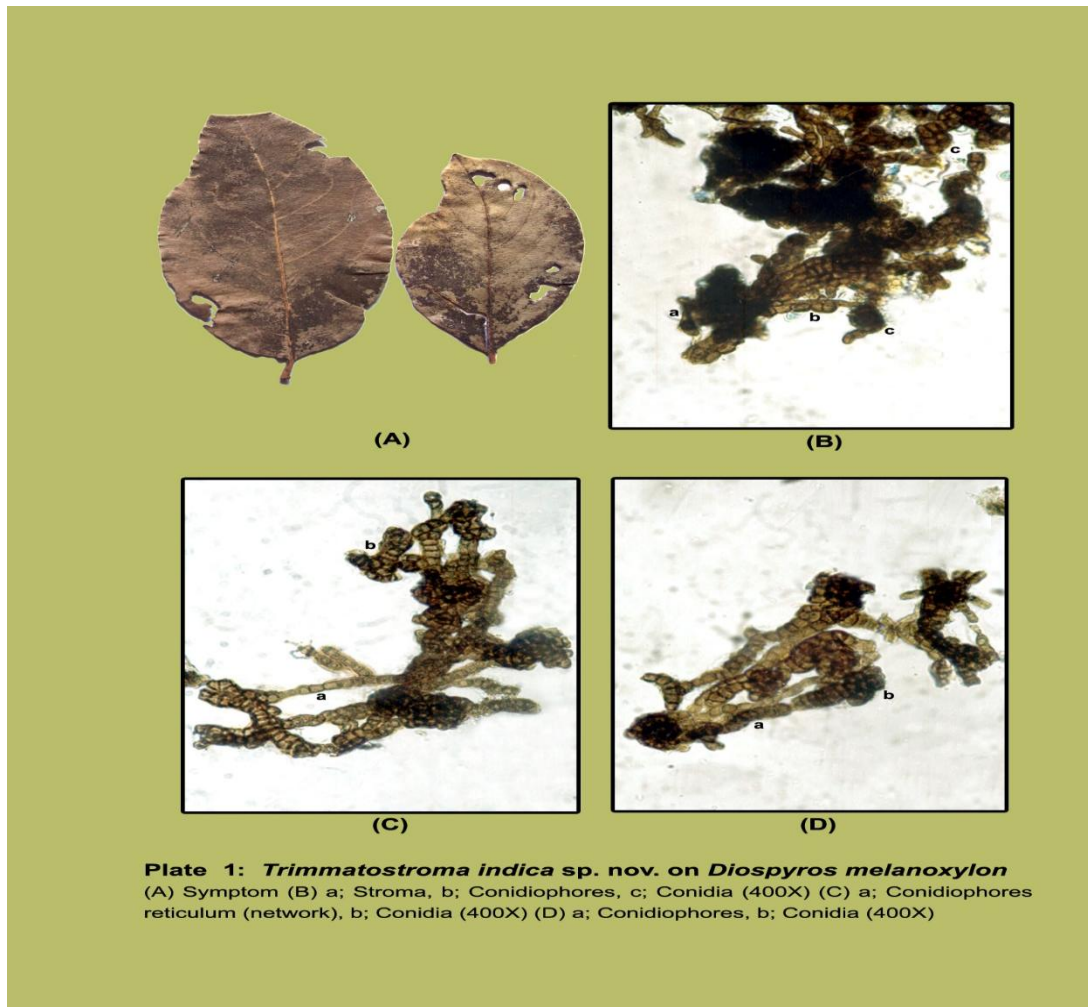
On living leaves of *Diospyros melanoxylo* Roxb. (Ebenaceae). Oct. 2005, Balaghat (M.P.) India, leg. V.R. Yadav, S.U. Herb. No. VRR-70 Holotypus, HClO Isotypus 49,278.

A combing of literature on fungus genus *Trimmatostroma* reveals that *T. salicis* Corda (Ellis, 1971) and *T. scutellare* (Berk. & Br.) Ellis (Ellis, 1976) are the two species found to be compared with author's collection in (Table 1). A critical observation very clearly shows that the proposed fungus is altogether distinct and different with *T. salicis* and *T. scutellare* in having clear symptoms (amphiphylous, crust like dark black colony), straight or flexuous, closely packed, unbranched or occasionally loosely branched, usually short and placed together forming a network (reticulum) of multicellular interwoven mass of conidiophores with few (conidia) branched, forked or lobed straight or flexuous, very variable in shape, cylindrical, clavate, pyriform, subspherical, transverse and longitudinal or oblique septa, smooth and dark brown. The measurement of conidia are also different from the comparing species.

Therefore, it is concluded that it cannot be accommodated with any earlier described species and merits its placement a new taxon of species rank. It is also to be noted that no *Trimmatostroma* species has ever been reported on the host genus.

III ACKNOWLEDGMENTS

The authors are grateful to The Curator, Herbarium Cryptogamiae Indiae Orientalis (Indian Agricultural Research Institute) New Delhi for depositing the fungal specimens and their accession and the Head, Department of Botany, Dr HS Gour University, Sagar for providing necessary facilities.



REFERENCES

- [1] Ellis, M.B., *dematiaceous hyphomycetes* 1971, CMI, Kew England.
- [2] Ellis, M.B. *more dematiaceous hyphomycetes* 1976, CMI, Kew England.

Table 1: *Trimmatostromaindicasp. nov.* with related species.

Species	Spots & Colonies	Stromata	Conidiophores			Conidia		
			Colour & Septation	Size	Structure	Colour & Septation	Size	Structure
<i>T. scutellare</i> (Berk. & Br.) M.B. Ellis (Ellis, 1976).		Erumpent up to 250 μ wide and 150μ high, dark brown.	Pale to mid brown.	Up to 30μ long, 1-4 μ thick.	Smooth or wrinkled	Pale to mid brown.	10-30 × 8-25μ	Conidia in simple or branched chains which fragment easily, very variable in shape, deeply, lobed, mostly many celled, smooth, the individual cells often very dark at their tips or along the edge, gradually shading inwards.
<i>T. salicis</i> Corda (Ellis, 1971).						Up to 13 transverse and sometime 1 or a few longitudinal or oblique septa, pale to mid brown or oliv. brown.	12-38 × 4-10μ	Conidia curved or bent cylindrical rounded at the ends or clavate, often forked or variously branched, wall and septa darker, smooth or verruculose.
<i>T. indica</i> sp. nov.	Colonies amphiphylous, effuse, crust like, scattered all over the leaf surface dark, black.	Stromata present well developed, large, brown, 43-158 × 43-100μm.	Pale to oliv. brown.		Straight or flexuous, closely packed unbranched or occasionally loosely branched, usually short and placed together forming a network (reticulum) of multicellular interwoven mass.	Pale oliv. to dark brown, transverse and often longitudinal or oblique septa.	9-46 × 9-14.5 μm	Conidia (few) branched in chain forked or lobed straight or flexuous, very variable in shape, cylindrical, rounded at the apex, ellipsoidal, clavate, pyriform, subspherical, smooth.