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## Three wood-inhabiting Loculoascomycetes from West Bengal

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Three wood-inhabiting Loculoascomycetous fungi have been collected, figured and described from West Bengal during 1986-87, of which *Herpotrichia mellettiae* Sivan., and *Zopfia rhizophila* Rabenh. are reported for the first time from India. *Leptosphaeria coniothyrium* Sacc. is first reported from the state of West Bengal.

Key words : Taxonomy, Loculoascomycetes.

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The genus *Herpotrichia* was established by Fuckel (1869). This genus was considered by all workers as a "Phragmosporae" genus till Bose (1961) followed by Muller and von Arx (1962) worked on this genus. After studying the original specimen of *Herpotrichia rhenana*, the type species of "Phragmosporae" genus Muller and von Arx (1962) stated that the ascospores are permanently bicellular. *Zopfia* was erected by Rabenhorst in 1874 with only one species *Zopfia rhizophila* Rabenh. Arnaud (1913) noted the similarity of the ascospores of *Zopfia rhizophila* to those of *Coryospora putaminum* (Schw) de Not. The other specimen *Leptosphaeria* was created by Cesati and de Notaris (1863) with *L. doliolum* (Pers.) Ces. and de Not. as its type species. Saccardo (1883) segregated *Metasphaeria* from *Leptosphaeria* on the basis of hyaline ascospores. Several authors (Muller, 1950; Holms, 1957; Munk, 1957, ) later divided the genus *Leptosphaeria* from time to time.

The above mentioned specimens of loculoascomycetous fungi are characterized by having bitunicate asci borne in an ascostroma. Their bitunicate nature is evident in mature asci by fissitunicate dehiscence, the breaking of the inelastic ectotunica and extension of the elastic endotunica (Bigelow, 1987).

## MATERIALS AND METHODS

The fungal specimens were collected, their field data were recorded, preserved dry and wet in 40 per cent formalin. Their characters were studied macroscopically and also by free hand sections stained in lactophenol-cotton blue. The measurements of different structures were taken and camera-lucida drawings were prepared. The taxonomic determination were made with the help of relevant literature and experts.

A part of each specimens were sent to CAB, International Mycological Institute, Kew, Surrey, England, for accession and confirmation of the identify of fungal specimens.

## DESCRIPTION OF THE SPECIES

*Herpotrichia mellettiae* Sivan., Mycol. Pap. 127 : 14. 1971.

Ascstromata superficial, develop directly on wood or have a short sterile basal cone or on subiculum, brownish-black, densely gregarious, globose to subglobose, measuring 182-462x140-350  $\mu\text{m}$ , flattened above, with prominent apical pore which is simple, schizogenic, up to 39  $\mu\text{m}$  wide, pseudothecial wall 35-44.8  $\mu\text{m}$  thick, differentiated into two layers, outer layer made of globose, brown, thick-walled cells, the surface of which give rise to numerous septate thick-walled hyphae, measuring 56-112x5.9-7.3  $\mu\text{m}$ , inner wall made of oblong thin-walled cells that become crushed as the asci develop; asci arising from the base of the centrum, cylindrical-clavate, measuring 112.2-155.1x9.9-11.5  $\mu\text{m}$ , with obtuse apex, stalked, bitunicate, 8-spored, intermingled with abundant hyaline, filiform paraphysoids; ascospores uniseriate, broadly fusoid to lenticular, measuring 16.5-21.4x6.9-9.9  $\mu\text{m}$ , 1-septate, slightly constricted at the septum, thick-walled, olivaceous brown (Fig 1).

Collected on bark of unidentified plant parts, Mangalbari forest, Jalpaiguri, West Bengal, India, 20.12.87, leg. K. Datta, PCC 4341 (=IMI 325724).

### Note

First time reported from India (Bilgrami *et al.*, 1979,1981; Sarbhoy *et al.*, 1977-81; Sivanesan, 1971)

*Zopfia rhizophila* Rabenh., Fungi Eur. No. 1734. 1874.

Ascstromata non-stromatic, solitary, scattered, variable in size, 546-714  $\mu\text{m}$  in diam., superficial or partially embedded on wood, black, subglobose, without an ostiole, carbonaceous, smooth, perithecial wall 70-98  $\mu\text{m}$  wide, consisting of heavily sclerotised dark brown to black polyhedral pseudoparenchymatous cells;

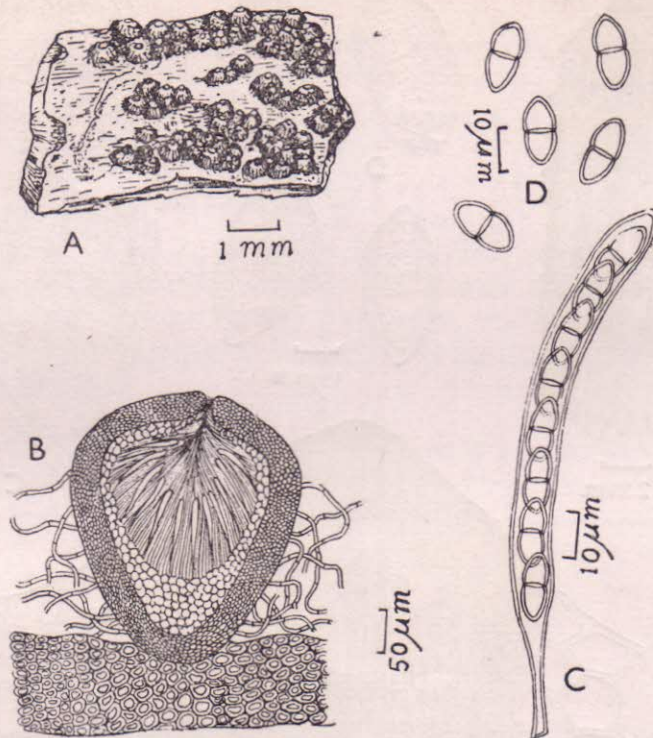


Fig. 1. *Herpotrichia mellettiae*; A. Habit; B. Section through ascostroma; C. Ascus showing arrangement of ascospores; D. Ascospores.

asci usually 8-14 per ascocarp, arising from the base of the centrum, maturing in locules in the central portion, apparently usually irregularly arranged, broadly clavate, sub-sessile, bitunicate, evanescent at maturity,  $132-181.5 \times 52.8-72.6 \mu\text{m}$ , 6-8 spored; pseudoparaphyses long, hyaline, entwined, occupying the central portions of the ascocarps at maturity; ascospores large,  $49.5-72.6 \times 23.1-33 \mu\text{m}$ , ellipsoid, brown to dark brown, 1-septate, constricted at septum, thick-walled, apiculate with umbonate ends, biseriolate or obliquely triseriate (Fig. 2).

Collected on unidentified log of wood, Baruipur, 24-Parganas (South), West Bengal, India, 29.8.1986, leg. K. Datta, PCC 4809 (=IMI 312427).

#### Note

First time reported from India (Bilgrami *et al.*, 1979,91; Sarbhoy *et al.*, 1977-81; Hawksworth *et al.*, 1973)

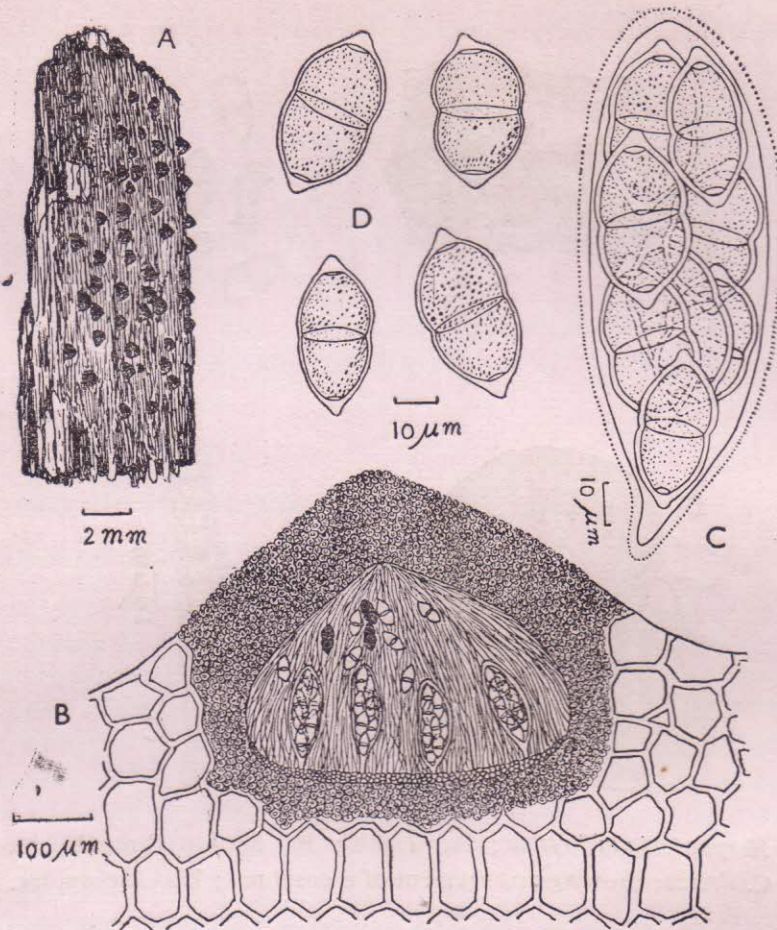


Fig. 2. *Zopfia rhizophila*; A. Habit; B. Section through ascostroma; C. Ascus showing arrangement of ascospores; D. Ascospores.

*Leptosphaeria coniothyrium* Sacc. in Nuovo. Giorn. Bot. Ital. 7: 317. 1875.  
 = *Melanomma coniothyrium* (Sacc.) Holm, op. cit.: 57.1959

Ascstromata gregarious, immersed in the cortex, depressed-globose to pyriform, 280-350x182-252  $\mu\text{m}$ , wall coriaceous having outer wall-layers black and thick-walled, inner layers hyaline, with a blackish clypeus around the ostiole, up to 128.7  $\mu\text{m}$  in diam., ostiole papillate, erumpent, with a clearly visible central canal; asci arising from the sides and base of the centrum, cylindrical, short-stalked, with round apex, octosporous, bitunicate, 52.8-92.4x5.9-7.3  $\mu\text{m}$ , intermingled with hyaline, filiform paraphysoids; ascospores obliquely uniseriate or biseriate oblong or oblong-cylindrical, subobtuse, usually with one flattened side or slightly curved, 3-septate, slightly constricted at septa, the second cell somewhat broader, pale olive-brown, thick-walled, 11.5-14.5x3.6-4.6  $\mu\text{m}$  (Fig. 3).

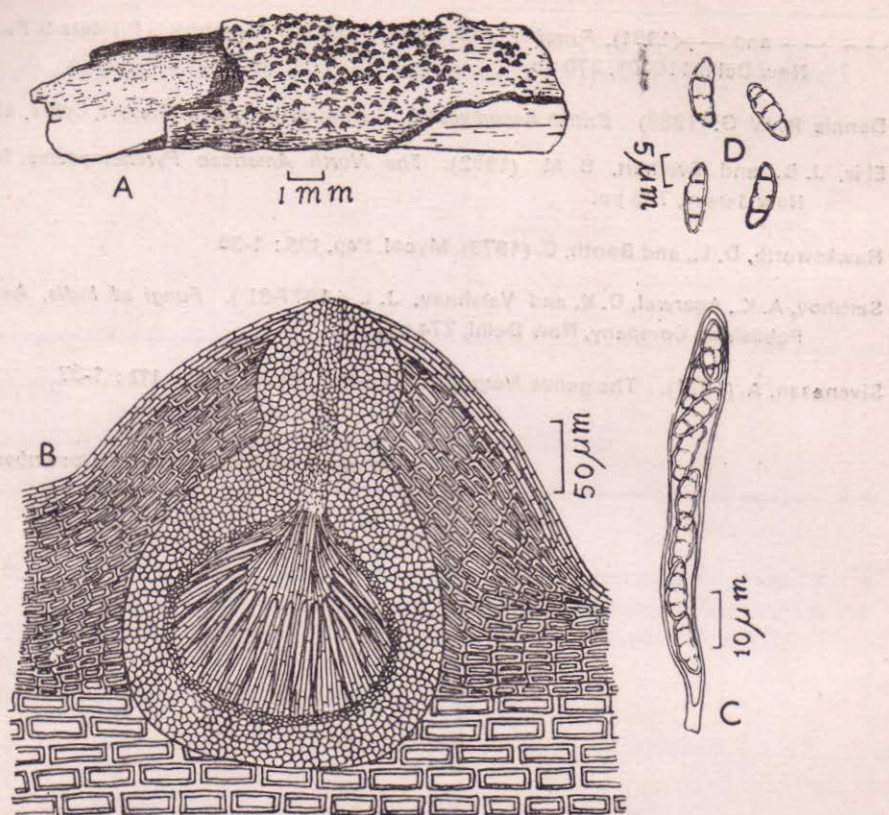


Fig. 3. *Leptosphaeria coniothyrium*; A. Habit; B. Section through ascostroma; C. Ascus showing arrangement of ascospores; D. Ascospores.

Collected on unidentified log of wood, Murti, Jalpaiguri, West Bengal, India, 17.10.1986, leg. K. Datta, PCC 4858 (=IMI 1314012).

Note

First time reported from the state of West Bengal. (Bilgrami *et al*, 1979,91; Sarbhoy *et al.*, 1977-81)

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