

## THREE WOOD-INHABITING PYRENOAMYCETES OF GARUMARA FOREST ( W. B. )

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Three wood-inhabiting pyrenomycetous fungi have been collected and described from the Garumara forest (West Bengal), of which *Zignoella fallax* (Sacc.) Sacc., *Eutypella cerviculata* (Fr.) Sacc. are reported for the first time from India. *Lophiostoma angustilabrum* (Berk. & Broome) Cooke is first reported from West Bengal.

Key words : Taxonomy, Pyrenomycetes, Garumara forest.

### INTRODUCTION

This paper deals with the taxonomical study of three wood - inhabiting pyrenomycetous fungi collected during 1986 87 from Garumara forest ( Jalpaiguri District ; altitude 250-300 ft.) of West Bengal. Out of them, two species viz. *Zignoella fallax* (Sacc.) Sacc. and *Eutypella cerviculata* (Fr.) Sacc. belong to Euascomycetes. These species are characterized by having unitunicate, thin-walled asci. While *Lophiostoma angustilabrum* (Berk. & Broome) Cooke shows the bitunicate nature of the ascus and so considered under Loculoascomycetes ( Dennis, 1968 ).

### 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 from free hand sections stained in lactophenol-cotton blue. The measurements of different structures were taken and camera-lucida drawings were prepared. Recent and up to date literature was followed for characterization and identification of the species.

#### Description of the Species

1. *Zignoella fallax* (Sacc.) Sacc., Syll. Fung. 2 :218,1883=*Melanomma fallax* Sacc., Michelia 1:41,1877

*Perithecia* few, scattered irregularly, seated on the bark, with the base sunk in the host tissue, subglobose or conical, 350-630  $\mu$ m in diam., outer wall-layers black, with prominent papilliform ostiole ; *asci* many, arising from the bases of the perithecia, cylindrical, 8-spored, short-stalked, unitunicate, 112-132  $\times$  8.2-10.1  $\mu$ m, with long hyaline paraphyses ; *ascospores* uniseriate to obliquely

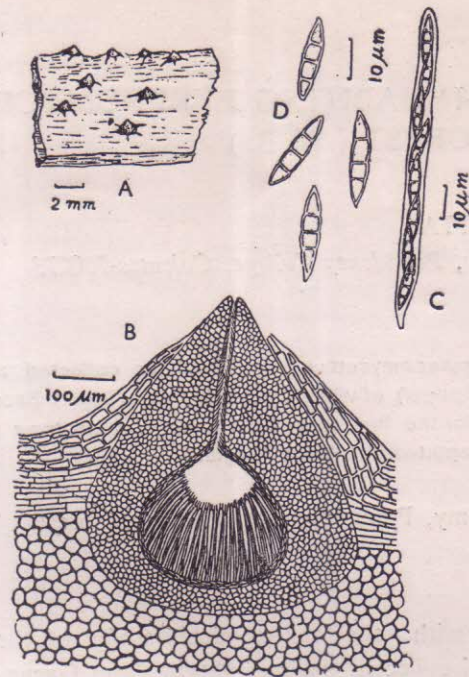


Fig. 1. *Zignoella fallax*

A. Habit, B. Section through perithecium, C. Ascus showing arrangement of ascospores, D. Ascospores.

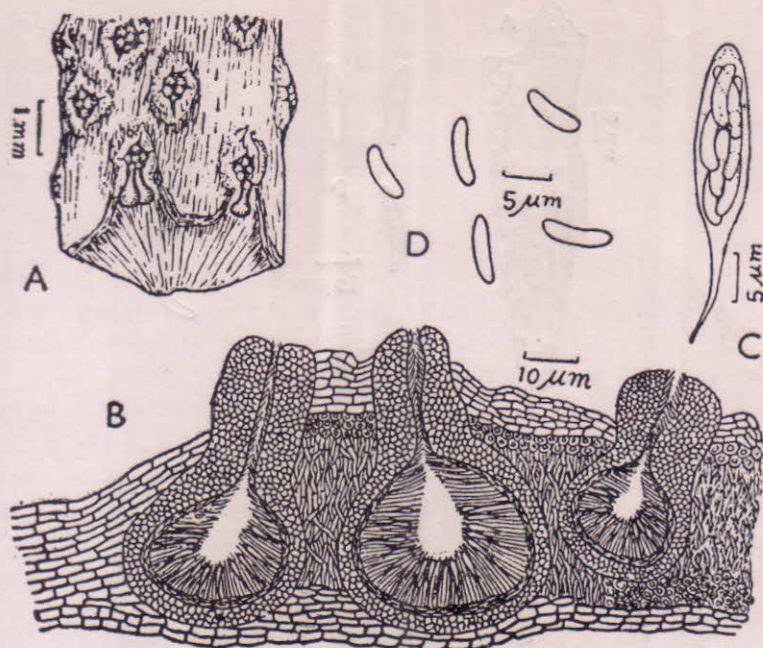
uniseriate, elliptical to elliptic-cylindrical, tip more or less pointed, 3-septate, thick-walled, hyaline,  $20.1-24.7 \times 4.9-6.9 \mu\text{m}$ ., guttulate.

Specimen studied : On an unidentified log of wood ; Garumara forest, Jalpaiguri, West Bengal ; PCC 4875 (IMI 316405), leg. K. Datta, July 9, 1986.

Note : The genus *Zignoella* was founded by Saccardo (1878) for the fungi having smooth walled superficial perithecia, papillate ostiole and unicellular to multicellular hyaline ascospores. It occupies a very isolated position in the Sphaeriales and bears considerable resemblance to *Melanomma* in Pleosporales but its asci are not bitunicate (Dennis, 1968).

2. *Eutypella cerviculata* (Fr.) Sacc., Syll. 1 : 146-147, 1882 = *Sphaeria cerviculata* Fr. in Kunze et Schmidt Mycol. Hefte II, p. 43

*Stromata* well developed, scattered or often standing close together, orbicular to semi-orbicular, about 1 mm in diam., at first buried in the inner bark, later erumpent cracking the overlying periderm, black, without any circumscribing line ; *perithecia* 2-6 or more in a stroma, in a row, globose to subglobose,  $490-700 \times 252-476 \mu\text{m}$ ;

Fig. 2. *Eutypella cerviculata*

A. Habit, B. Section through stroma showing perithecia, C. Ascus showing arrangement of ascospores, D. Ascospores.

*ostirole* short, strongly thickened, 2-3 radiate-sulcate, black, erumpent, forming small shield-like patches on the surface of the bark; *asci* many, lining the sides and bases of the perithecia, clavate, long stipitate, apex obtuse, unitunicate, 8-spored, 32-38.4 x 5.6-6.4  $\mu\text{m}$ , paraphysate; *ascospores* biseriata, unicellular, allantoid, straight or slightly curved, yellowish, 7.2-9.6 x 2.7-3.7  $\mu\text{m}$ .

Specimen studied: On unidentified rotten wood; Baradighi (Garumara), Jalpaiguri, West Bengal; PCC 4305, leg. K. Datta, July 6, 1986; deposited at the Dept. of Botany, Massachusetts, Amherst, U.S.A.

*Note*: The subgenus *Eutypella* of Nitschke (1870) was raised to generic rank by Saccardo (1875) included stromatic pyrenomycetes having widely erumpent, cushion shaped stroma and crowded perithecia with long necks which are collectively erumpent. Tiffany and Gilman (1965) merged this genus with *Eutypa* Tul. Such a merger has been questioned by workers in this line.

3. *Lophiostoma angustilabrum* (Berk. & Broome) Cooke, Trans. Bot. Soc. Edinburgh 9: 330, 1868 = *Lophiostoma macrostomum* (Tode: Fr.) Ces. & de Not. Comment. Soc. Cri t. Ital. 1: 219, 1863, according to Holm and K. Holm (Symb. Bot. Upsal. 28 (2): 6, 1988).

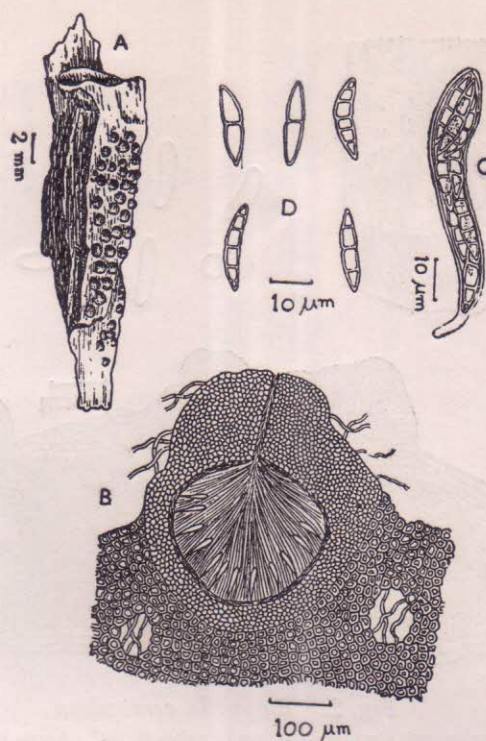


Fig. 3. *Lophiostoma angustilabrum*

A. Habit, B. Section through perithecium, C. Ascus showing arrangement of ascospores, D. Ascospores.

*Pseudothecia* dark brown to black, free to densely gregarious, semi-immersed, globose to subglobose, or flask-shaped, clypeate, measuring 0.5-1.0 mm in diam. ostiole compressed, narrow, pseudothecial wall 40-60  $\mu\text{m}$  thick, composed of dark brown, thick-walled, polyhedral cells, the surface cells give rise to numerous, brown, septate, thick-walled hyphae which ramify in all directions; *asci* arising from the base and sides of the pseudothecia, cylindro-clavate, measuring 66-72.6 x 8.3  $\mu\text{m}$  with stalk 16.5-19.1  $\mu\text{m}$  long, bitunicate, with obtuse apex, intermingled with hyaline, filiform paraphysoids; *ascospores* fusiform, slightly curved, with tapering ends, measuring 20.5-26.4 x 3.3-3.9  $\mu\text{m}$ , irregularly biseriolate, one septa at first, later two additional septa at the ends, sometimes 5-septate, constricted at the middle septum, middle cells larger, olive-brown, terminal cells subhyaline.

Specimen studied: On an unidentified log of wood; Garumara forest, Jalpaiguri, West Bengal; PCC 4873 (=IMI 316403), leg. K. Datta, March 30, 1987.

Note: This is placed by Berlese as a Synonym of *Lophiotroma praemorsum* (Lasch) Sacc., op. cit.: 338 (1878), but on account of the longer, appendiculate sporidia, it seems properly distinct (Ellis & Everhart, 1892).

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