
Studies on Two Loculoascomycetes of West Bengal, India

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Two Loculoascomycetous fungi, viz. *Astrosphaeriella vesuvius* (Berk. and Broome) D. Hawksw. and Boise and *Trematosphaeria anglica* (Sacc.) Sacc. (Melanommatales, Platystomaceae) have been collected, described and illustrated in this paper. They are new records from India.

Key words : Taxonomy, Loculoascomycetes

During field survey of pyrenomycetous fungi, two species belonging to the genera *Astrosphaeriella* and *Trematosphaeria* were found to be associated with rotten wood. The specimens collected belong to the family Platystomaceae of the order Melanommatales of the class Loculoascomycetes. The family Platystomaceae is characterized by having well-developed ascomata, rounded or compressed papilla and by the peridium of rows of compressed cells. The ascospores are typically fusoid or ellipsoid, several septate, and ranges from hyaline through shades of brown often with reddish tinges. *Astrosphaeriella* Sydow is distinguished from *Trematosphaeria* Fuckel by relatively narrow and often also paler ascospores as well as the host ranges (Dennis, 1968 ; Ellis and Everhart, 1982 ; Hawkswarth, 1981 ; Hawksworth and Boise, 1983).

The genus *Astrosphaeriella* is closely related with newly created genus *Javaria*. However, it differs from *Javaria* in ascospore pigmentation and structure. The ascospore in *Astrosphaeriella* species produce brown pigments and lacks heaths or appendages, whereas, in *Javaria* the ascospores are hyaline and sheathed.

The genus *Trematosphaeria* is characterized by the ascospores remaining paler at their tips and the anatomy of the pseudothecial wall. The latter is described as

strong, composed of numerous layers of cells, usually thin-walled, very variable in shape and size, but heavily pigmented in an irregular manner so that in section the wall appears remarkably variegated.

Field studies of the behavior of these fungi were made and the specimens were collected from Jalpaiguri District of West Bengal (India) during 1987-1988. The specimens were dried and preserved following standard techniques. Their characters were studied macroscopically and also by free hand sections and stained in lactophenol-cotton blue. The taxonomic determination were made with the help of relevant literature and experts.

DESCRIPTION

Astrosphaeriella vesuvius (Berk. & Broome) D. Hawksw & Boise,
Sydowia 38 : 114-124 (122) (1985).

= *Sphaeria vesuvius* Berk. & Broome,
J. Linn. Soc., Bot. 14 : 127 (1875).

= *Trematosphaeria vesuvius* (Berk. & Broome) Sacc.
Syll. Fung. 2 : 119 (1883).

(Fig. 1)

Ascomata scattered or in small groups, brown to black, nearly superficial, base inserted in the wood, erumpent through the cortical layers of the host which sometimes persist as reflexed teeth-like flanges around the base of the ascomata, mammiform to steeply conical, 0.88-1.2 mm wide and 0.57-0.72 mm tall, ostiole black, papillate; peridium about 206 μm thick, composed of pseudoparenchymatous cells resembling *textura angularis*, dark brown, thick-walled, mainly 4-7 μm in diam., becoming occluded, cells in the angles of the ascomatal cavity arranged in palisade-like rows, elongated; base uneven; asci lining the base of the ascomata, numerous, bitunicate, cylindrical clavate to subcylindrical, short stalked, octosporous, 151.8-186.2 x 15.9-19 μm , intermingled with persistent paraphysoids; ascospores distichously arranged in the asci, broadly fusiform, brown to reddish brown, 1-septate at first, consistently 3-septate when mature, slightly constricted at the septa, smooth walled, 26.5-33.5 x 6-8.9 μm , lacking any gelatinous sheath.

Specimen studied: On unidentified rotten wood, Madarihat, Jalpaiguri, West Bengal, India, PCC 4375 (deposited at the Dept. of Botany, Univ. of Massachusetts, Amherst, U. S. A.), leg. K. Datta, December 27, 1988.

It is first time reported from India.

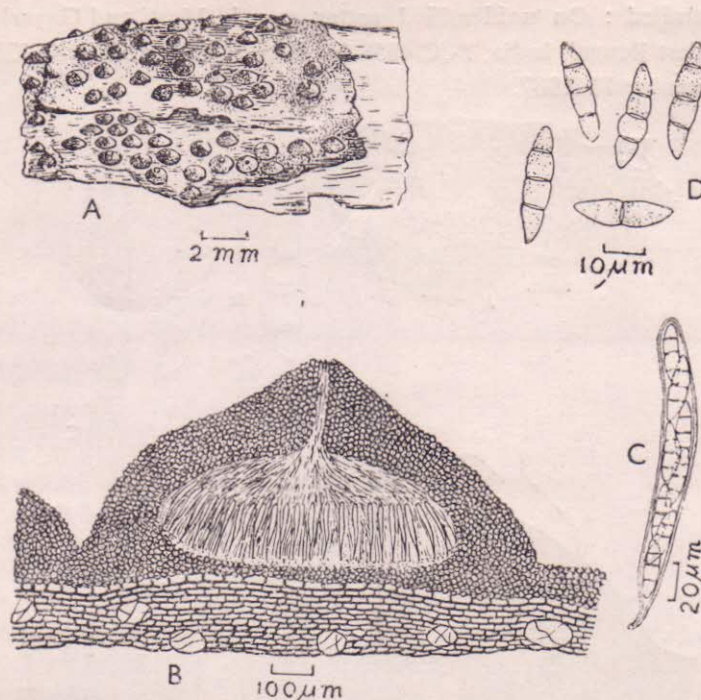


Fig. 1 : *Astrosphaeriella vesuvius*

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

Trematosphaeria anglica (Sacc.) Sacc.

Syll. Fung. 2 : 115 (1883).

= *Trematosphaeria confusa* (Garov.) Boise & Hawksworth,

Mycologia 77 (2) : 232 (1985).

= *Melanomma pertusum* (Pers.) Sacc.

Michelia 1 : 345 (1878).

(Fig. 2)

Ascomata gregarious, nearly superficial, base slightly sunk in wood, depressed conical, 810-1148 μm in diam., black, carbonaceous, ostiole broad, beak like, wall thick, 154-210 μm , with few filiform outsidal hairs, up to 7.2 μm in diam., asci numerous, lining the base of the ascomata, narrowly clavate or cylindrical clavate, bitunicate, sub-sessile, octosporous, 147-198 x 13.2-16.5 μm , intermingled with abundant hyaline, filiform paraphysoids; ascospores 8 in each ascus, biseriate above, uniseriate below, elliptical to fusiform-elliptical, slightly curved, 34.6-46.2 x 8.9-12.2 μm , at first hyaline, 1-septate and markedly constricted at the septum, finally brown with two additional septa, thick walled, 2-4-guttulate, spore wall intact or ruptured at tips.

Specimens studied : On unidentified rotten wood, Murti and Gayarkata forest, Jalpaiguri, West Bengal, India, PCC 4859 (= IMI 314013) and PCC 4339 (= IMI 325722), December 18, 1987.

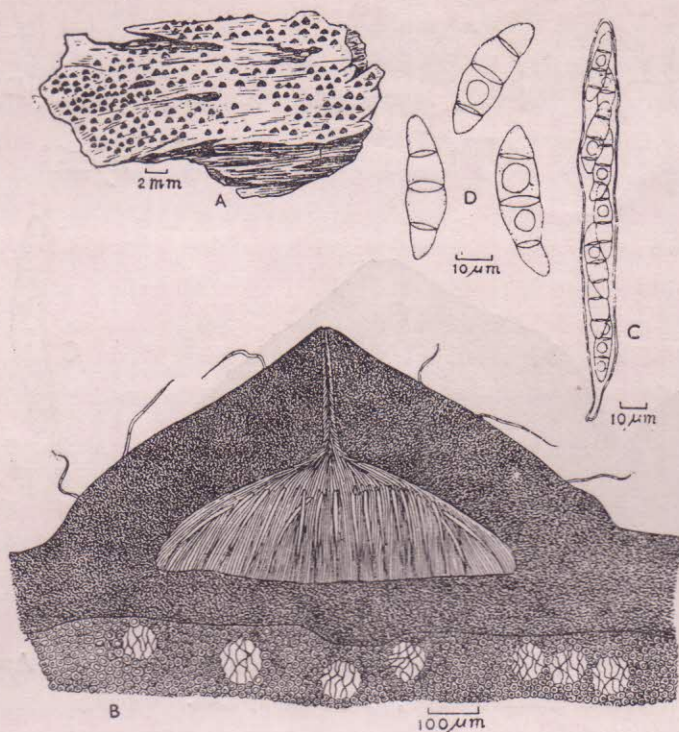


Fig. 2 : *Trematosphaeria anglica*

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

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