

LEAF-INHABITING PYRENOMYCETES OF WEST BENGAL-II

By

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Five pyrenomycetous fungi have been described from West Bengal. Of which *Meliola reevesiae* Maity is a new species and *Meliola diospyri* Syd. is first reported from West Bengal. The rest three, *Meliola aethiops* Sacc. var. *longiseta* Deighton, *Asterina jasminicola* Yates and *Asteridiella quercina* (Hansf) Hasnf. are first reported from India.

This paper which is a continuation of the paper entitled 'Leaf inhabiting Pyrenomycetes of West Bengal (India)-I' deals with five pyrenomycetous fungi collected from different parts of West Bengal. All specimens including the type species of *Meliola reevesiae* have been deposited in the herbarium, IMI, Kew, Surrey, England.

Meliola reevesiae Maity sp. nov. (Text-fig. 1, A-C)

Plagulae amphigenae, raro hypophyllae, globosae, exilis, ad 3 mm diam. Mycelium ex hyphae a trobrunneae, septatae, rectae, cellula plerumque 18 - 39 x 7.2 - 12 nm, oppositae ad lata ramosae, laxe reticulatae compositae. Hyphopodia capitata alternata, bicellularia, a trobrunnea, recta vel antrorsa, 19.5 - 34.5 nm longa. Cellula inferior cuneata vel quadrata, 4.8 - 9 x 7.2 - 8.4 nm ac cellula terminalia capitata, ovaes vel brevi-cylindrica, integra, 14.4 - 25.5 x 12 - 15.6 nm. Hyphopodia mucronata opposita, raro solitaria, unicellularia, ampulliformia, brunnea, 21 - 36 x 9 nm. Mycelial setae circumambiens perithecia aggregatae, rectae vel curvae, simplices, acutae, nigrae, ad 643.2 x 9.6 - 12.2 nm. Perithecia sparsa, verrucosa, nigra, ad 172.8 nm diam. Ascosporae oblongo-ellipticae vel cylindricae, utrinque rotundatae vel conicae, 4-septatae, septis constrictae parietibus

levibus, brunneae, 42 - 51 x 18 - 24 nm.

Fungus on both surfaces of the leaves, rarely on the lower surface, forming superficial, thin, round patches, upto 3 mm diameter. *Mycelium* superficial, radiating, loosely reticulate, cells usually 18.39 x 7.2 - 12 nm, giving rise to opposite branches at an wide angle just behind the septa. *Hyphopodia* two types - capitate and mucronate; capitate hyphopodia alternate, 2-celled, dark brown, straight or antrorse, 19.5 - 34.5 nm long; lower cell of the hyphopodium cuneate to square, 4.8 - 9 x 7.2 - 8.4 nm and upper cell of the hyphopodium capitate, oval to short cylindric, entire, 14.4 - 25.5 x 12 - 15.6 nm; mucronate hyphopodia usually opposite, rarely solitary, unicellular, brown, ampulliform, 21 - 36 x 9 nm. *Mycelial setae* aggregated encircling perithecia, straight to curved, simple, acute, black, to 643.2 x 9.6 - 12.2 nm. *Perithecia* scattered, verrucose, black, to 172.8 nm diameter. *Ascospores* oblong-elliptical to cylindrical, rounded at ends 4-septate, constricted at the septum, smooth-walled, brown, 42 - 51 x 18 - 24 nm.

Etymology : The specific epithet is derived from the name of the host.

Host : On leaves of *Reevesia pubescens* Mast. Type locality Sukhiapokhari, Darjeeling, West Bengal, August, 1977, Type specimen IMI 224589.

This fungus is quite distinct from the species recorded on the family Sterculiaceae. No species of *Meliola* has been described on the genus *Reevesia*. Therefore it is proposed as a new species.

Meliola diospyri Syd., *Ann. Mycol.*, **9** : 381, 1911.
(Text-fig 1,G-J)

Fungus on both surfaces of the leaves, forming superficial, round, dense patches, to 7 mm diameter or confluent. *Mycelium* superficial, closely reticulate, straight to substraight, and composed of dark brown, septate, branched hyphae, cells usually 12 - 33 x 6 - 9 nm, giving rise to opposite branches at an acute (sometimes wide) angle just behind the septa. *Hyphopodia* two types : capitate and mucronate; capitate hyphopodia opposite, 2-celled, dark brown, straight or antrorse, 12 - 21 nm long; lower cells of the hyphopodia cuneate to cylindric, 3 - 6 x 6 - 7.5 nm and upper cells of the hyphopodia oval to short-cylindric, entire 9 - 15 x 6 - 12 nm; mucronate hyphopodia, opposite or mixed with capitate hyphopodia, brown, unicellular, ampulliform, 15 - 25.5 x 6 - 9 nm. *Mycelial setae* scattered, straight, simple, acute to obtuse, black, septate, to 864 x 9 - 12 nm. *Perithecia* scattered, verrucose, black, round, to 165 nm diam. *Ascospores* oblong-elliptical to cylindrical, rounded at ends, 4-septate, constricted at the septum, smooth and thick-walled, brown, 45 - 51 x 15 - 21 nm.

Host : On leaves of *Diospyros tomentosa* Roxb. *Locality* : Boluhati, Howrah, 11, December 1977, RPM 26 (IMI 224605).

Meliola aethipos Sacc. var. *longiseta* Deighton, *Sydowia* 11 : 98, 1958.

(Text-fig. 1, D-F)

Fungus on both surfaces of the leaves, forming superficial, thin to subdense patches, to 3 mm diameter and confluent. *Mycelium* superficial, radiating, loosely reticulate, substraight to crooked and composed of dark brown, septate, branched hyphae, cells usually 15 - 33.5 X 6 - 8.2 nm, giving rise to opposite branches at an acute angle just behind the septa. *Hyphopodia* two types : capitate and mucronate ; capitate hyphopodia alternate, 2-celled, brown, straight to bent, 10.5 - 18 nm long ; lower cell of the hyphopodia cuneate to rectangular, 3.5 - 7.5 X 6 - 6.7 nm and upper cell of the hyphopodia capitate, oval to short-cylindric, entire 7.5 - 12 X 7.5 - 10.5 nm ; mucronate hyphopodia opposite to mixed with capitate hyphopodia, unicellular, brown, ampulliform, 18 - 33 X 6 - 8.2 nm. *Mycelial setae* scattered, straight, simple, acute, black, septate, to 453 X 8.2 - 9.9 nm. *Perithecia* scattered, verrucose, black, round, to 195 nm diameter. *Ascospores* oblong-elliptical to cylindrical, rounded at ends, 4-septate, constricted at the septum, brown, smooth walled, 33 - 39 X 9 - 15 nm.

Host : On leaves of *Mimosa rubicaulis* Lamk. *Locality* : Boluhati, Howrah, December 1977, leg. M. K. Maity, RPM 15 (IMI 224604).

Asterina jasminicola Yates, *Philipp Jour. Sci.* 13 : 373, 1918.

(Text-fig 1, K,-L)

Fungus on both surface of the leaves, forming black, thin, scattered, round to irregular patches, to 5 mm diameter or confluent. *Mycelium* superficial, loosely reticulate and composed of dark brown, septate, flexuous hyphae, cells usually 9.6-21.5x3.4-5 nm, giving rise to alternate (rarely opposite or irregular) branches and capitate hyphopodia at an acute to wide angle. *Hyphopodia* alternately or irregularly arranged, 2-celled, straight or antrorse, 13.5-21 nm long : lower cells of the hyphopodia small, rectangular or irregular, 4.5-6x4.5-7.5 nm and upper cells of the hyphopodia capitate, irregular in shape, variously incised, 6.6-15x7.5 - 9.8 nm. *Thyriothecia* many, scattered, sometimes 2-4 fruit bodies coalesce with each other and take an irregular shape, attached with free mycelium, orbicular, 120-135 nm diameter dimidiate with radiate scutellum, stellately dehiscing at first, subsequently developing into an aperture, dark brown, convex, hymenium simple, margin fimbriate. *Asci* many, round to oval, 24-33 nm diameter sessile, 8-spored, bitunicate, with filiform paraphysoids. *Ascospores* crowded, 2-celled, constricted at the septum, elliptic oblong, rounded at ends, with verrucose to echinulate wall, brown, 18-22, 5x9-10.5 nm.

Host : On leaves of *Jasminum pubescens* Willd. *Locality* : Panchla, Howrah, West Bengal, June 1977, leg. M. K. Maity, RPM 11 (IMI 224595).

Asteridiella quercina (Hansf.) Hansf., *Sydowia* 10 : 50, 1957

(Text-fig. 1, M-0)

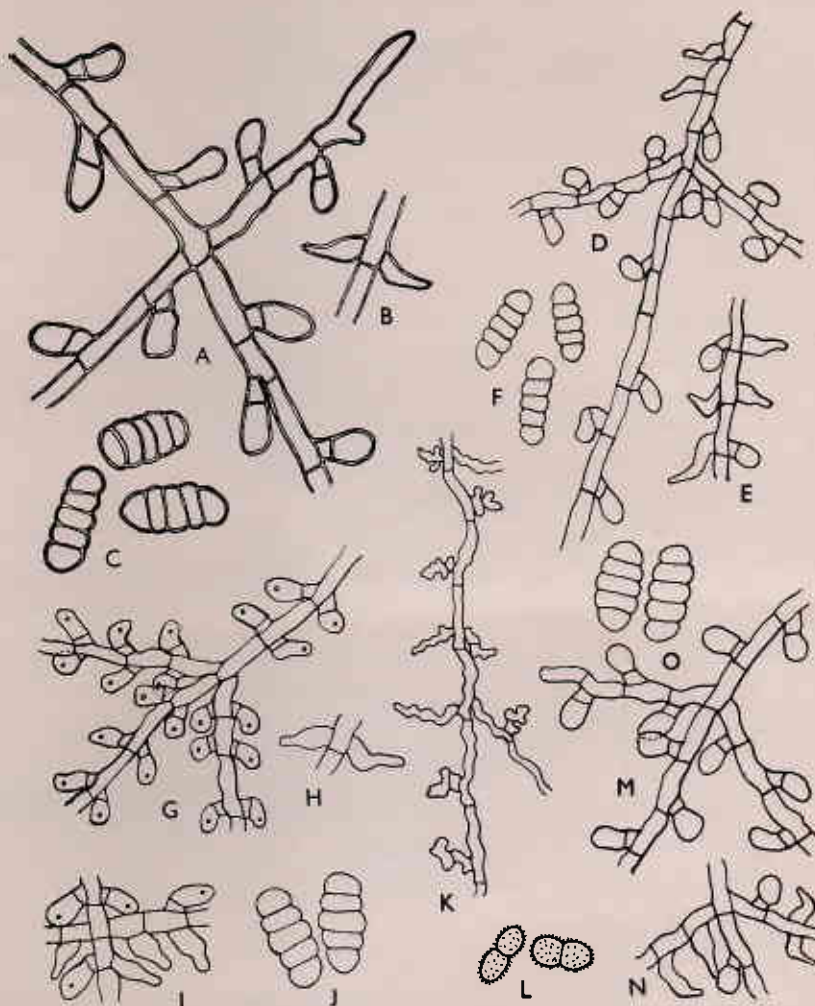
Synonym : *Irenina quercina* Hansf., *Farlowia* 3 : 273, 1948

Fungus on upper surface of the leaves, forming black, superficial, subdense, orbicular, to 4 mm diameter or confluent patches. *Mycelium* superficial, radiating, closely reticulate, substraight or coiled, devoid of setae and composed of dark brown septate, branched hyphae, cells usually $17 - 26 \times 6 - 8.5$ nm, giving rise to opposite branches and hyphopodia at an acute to wide angle just behind the septa. *Hyphopodia* two types - capitate and mucronate; capitate hyphopodia usually alternate, sometimes irregular (but not opposite), 2-celled, dark brown, straight or bent, $16.5 - 22.5$ nm long; lower cells of the hyphopodia small, cunrate to rectangular, $3.9 \times 6 - 7.5$ nm and upper cells of the hyphopodia capitate, oval to short-cylindric, entire, $12 - 15 \times 9 - 13.5$ nm; mucronate hyphopodia mixed with capitate hyphopodia or opposite or alternate, unicellular, brown, ampulliform, $18 - 24 \times 7.5 - 8.2$ nm. *Perithecia* few, scattered, black, orbicular, to 255 nm diameter, surface cells dark coloured obtusely conoid, to 165 nm long. *Asci* 2-spored, sessile, ellipticle, unitunicate. *Ascospores* cylindrical, to elliptic-cylindrical, 4-septate, constricted at the septum, rounded at ends, smooth walled, straight, brown, $39 - 48 \times 12 - 21$ nm.

Host : On leaves of *Quercus* sp. *Locality* : Sukhiapokhari, Garjeeling, West Bengal, August 1977, leg. M. K. Maity, RPM 1 (—IMI 224586).

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Text fig. 1. A-C, *Meliola reevesae*, A, mycellium with capitate hyphopodia, X 290, B, mucronate hyphopodia, X 290 C, ascospores, X 290 ; D-F, *Meliola aetheops* var *inited longiseta* ; D, mycellium with hyphopodia, X 290, E, mucronate hyphopodia, X 290 ; F, ascospores, X 290 ; G-I *Meliola diospyre*, G, mycellium with hyphopodia, X 290, H, mucronate hyphopodia, X 350, I, capitate and mucronate hyphopodia, X 350, J, ascospores, X 290 ; K-L, *Asterina jasminicola*, K, mycellium with hyphopodia, X 350 L, ascospores, X 350 ; M-O, *Asteridiella quercina*, M, mycellium with capitate hyphopodia, X 290, N capitate and mucronate hyphopodia, X 290, O, ascospores, X 290.