



Meliolaceae of Kerala, India – XXVIII

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1. *Meliola aristolochigena* sp. nov. (Fig. 1)

Coloniae epiphyllae, tenues vel densae, ad 2mm diam. Hyphae subrectae vel flexuosae, alternatim, oppositae vel irregulariter acuteque vel laxae ramosae, laxae vel dense reticulatae, cellulae 12-16 x 8-10 µm. Appressoria alternata vel ad 3% opposita, antrorsa vel subantrorsa, 14-20µm longa; cellulae basiliares cylindratae vel cuneatae, 3-7µm longae; cellulae apicales ovatae vel globosae, integrae, 11-13 x 9-13 µm. Phialides appressorii mixtus, alternatae vel oppositae, ampulliformes, 16-20 x 8-10 µm. Setae myceliales dispersae, simplices, rectae, ad apicem acutae vel obtusae, ad 540µm longae. Perithecia dispersa, ad 120 µm diam.; ascosporae oblongae vel cylindratae, 4-septatae, constrictae ad septatae, 35-40 x 12-14 µm.

Colonies epiphyllous, thin to dense, up to 2mm in diam. Hyphae substraight to flexuous, branching alternate, opposite to irregular at acute to wide angles, loosely to closely reticulate, cells 12-16 x 8-10 µm. Appressoria alternate to about 3% opposite, antrorse to subantrorse, 14-20µm long; stalk cells cylindrical to cuneate, 3-7µm long; head cells ovate to globose, entire, 11-13 x 9-13 µm. Phialides mixed with appressoria, alternate to opposite, ampulliform, 16-20 x 8-10 µm. Mycelial setae scattered, simple, straight, acute to obtuse at the tip, up to 540 µm long. Perithecia scattered, up to 120µm in diam.; ascospores oblong to cylindrical, 4-septate, constricted at the septa, 35-40 x 12-14 µm.

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Material examined

Type: 13.xii.2003, On leaves of *Aristolochia tagala* Cham. (Aristolochiaceae), Sairandhri, Silent Valley, Palghat, Kerala, India, coll. V.B. Hosagoudar et al. HCIO 46237 (type), TBGT 1649 (isotype), (Mycobank # MB 513494).

Having opposite appressoria, *Meliola aristolochigena* can be compared with *M. catharinensis* Hansf. reported on *Aristolochia triangularis* from Brazil (Hansford 1961). However, differs from it in having distinctly longer appressoria (14-20µm against 11-15µm) and mycelial setae (540µm against 230µm).

2. *Meliola pycnosporae* sp. nov. (Fig. 2)

Coloniae amphigenae, caulicolae, densae, ad 2mm diam. Hyphae subrectae, flexuosae vel anfractuae, alternatim, oppositae vel irregulariter acuteque vel laxae ramosae, laxae vel dense reticulatae, cellulae 19-28 x 6-8 µm. Appressoria alternata, ad 2% opposita, antrorsa vel subantrorsa, 11-16µm longa; cellulae basiliares cylindratae vel cuneatae, 3-5µm longae; cellulae apicales ovatae, globosae, rectae vel curvulae, integrae, 8-11 x 7-10 µm. Phialides appressorii mixtus, alternatae vel oppositae, ampulliformes, 19-24 x 8-10µm. Setae myceliales paucae, dispersae, simplices, rectae, sursum obtusae, ad 300µm longae. Perithecia dispersa, ad 120µm diam.; ascosporae oblongae, cylindratae, 4-septatae, ad septatae leniter constrictae, 30-32 x 9-11 µm.

Colonies amphigenous, caulicolous, dense, up to 2 mm in diam. Hyphae substraight, flexuous to crooked, branching alternate, opposite to irregular at acute to wide angles, loosely to closely reticulate, cells 19-28 x 6-8 µm. Appressoria alternate, about 2% opposite, antrorse to subantrorse, 11-16µm long; stalk cells cylindrical to cuneate, 3-5µm long; head cells ovate, globose, straight to curved, entire, 8-11 x 7-10µm. Phialides mixed with appressoria, alternate to opposite, ampulliform, 19-24 x 8-10 µm. Mycelial setae few, scattered, simple, straight, obtuse at the tip, up to 300µm long. Perithecia scattered, up to 120 µm in diam.; ascospores oblong, cylindrical, 4-septate, very slightly constricted at the septa, 30-32 x 9-11 µm.

Material examined

Type: 14.xii.2003, On leaves of *Pycnospora lutescens* (Poir.) Schindl. (Fabaceae), on the way to Chempathy, Silent Valley, Palghat, Kerala, coll. V.B. Hosagoudar et al. HCIO 46244 (type), TBGT 1656 (isotype), (Mycobank # MB 513495).

Based on the Beeli formula 3113.3221, this species is close to *Meliola erythrinae-microptericis* Hansf. known on *Erythrina micropteryx* from San Domingo, but differs from it in having only 2% opposite appressoria, have straight setae and distinctly narrow ascospores (Hansford 1961).

3. *Meliola sairandhriana* sp. nov. (Fig.- 3)

Coloniae amphigenae, plerumque hypophyllae, densae, velutinae, ad 5 mm diam. Hyphae rectae vel subrectae, alternatim vel unilateralis acuteque vel laxae ramosae, laxae vel arcte reticulatae, cellulae 19-32 x 6-8 µm. Appressoria opposita,

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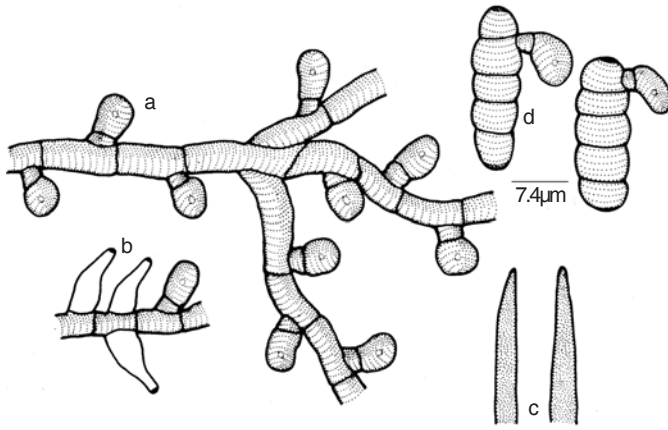


Figure 1. *Meliola aristolochigena* sp. nov.

a - Appressorium; b - Phialide; c - Apical portion of the mycelial setae; d - Ascospores

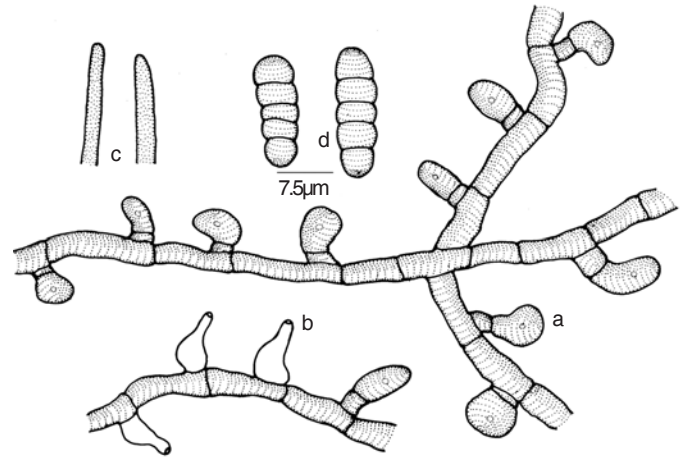


Figure 2. *Meliola pycnosporae* sp. nov.

a - Appressorium; b - Phialide; c - Apical portion of the mycelial setae; d - Ascospores

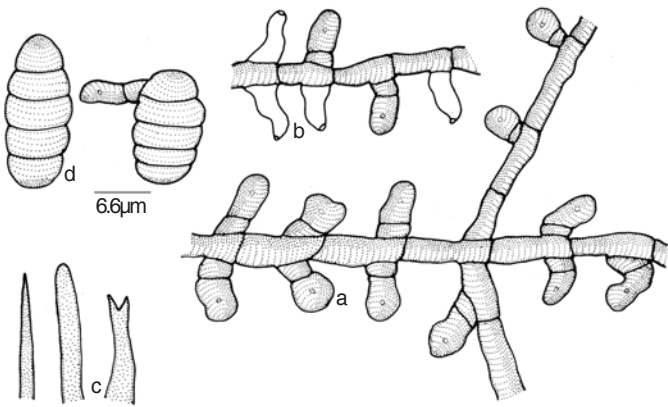


Figure 3. *Meliola sairandhriana* sp. nov.

a - Appressorium; b - Phialide; c - Apical portion of the mycelial setae; d - Ascospores

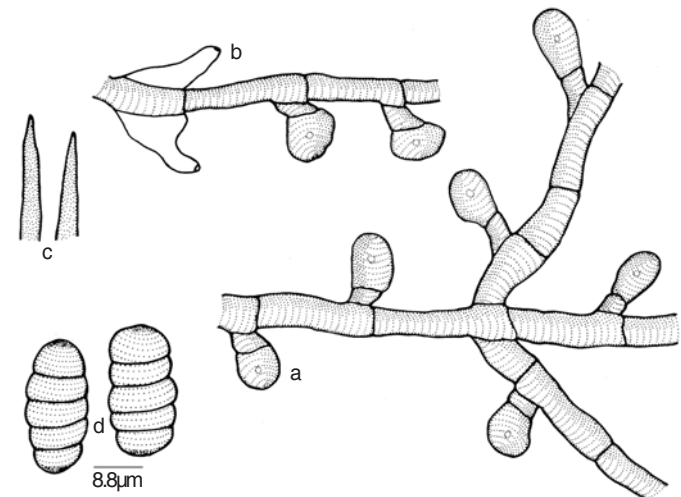


Figure 4. *Meliola strebli* sp. nov.

a - Appressorium; b - Phialide; c - Apical portion of the mycelial setae; d - Ascospores

raro solitaria, recta vel curvula, antrorsa, subantrorsa vel retrorsa, 14–18 μm longa; cellulae basiliares cylindraceae vel cuneatae, 3–5 μm longa; cellulae apicales ovatae, oblongae, cylindraceae, integrae, angularis, sublobatae vel saepe bilobatae, 11–13 x 8–12 μm. Phialides appressoriis mixtus, alternatae vel oppositae, ampulliformes, 19–23 x 8–10 μm. Setae myceliales numerosae, circa peritheciis aggregatae, simplices, sigmoideae, ad sursum curvulae vel uncinatae, ad apicem acutae, obtusae vel bifidae, ad 345 μm longae. Perithecia laxa aggregata, ad 196 μm diam.; ascospores ovatae, 4-septatae, constrictae ad septatae, 36–40 x 20–23 μm.

Colonies amphigenous, mostly hypophyllous, dense, velvety, up to 5 mm in diam. Hyphae straight to substraight, branching alternate to unilateral at acute to wide angles, loosely to closely reticulate, cells 19–32 x 6–8 μm. Appressoria opposite, rarely solitary, straight to curved, antrorse, subantrorse to retrorse, 14–18 μm long; stalk cells cylindrical to cuneate, 3–5 μm long; head cells ovate, oblong, cylindrical, entire, angular, sublobate to often bilobed, 11–13 x 8–12 μm. Phialides mixed with appressoria, alternate to opposite, ampulliform, 19–23 x 8–10 μm. Mycelial setae many, grouped around perithecia, simple, sigmoid, curved to uncinatae at the apical portion, acute, obtuse to bifid at the tip, up to 345 μm long. Perithecia loosely grouped, up to 196 μm in diam.; ascospores oval, 4-septate, constricted at

the septa, 36–40 x 20–23 μm.

Material examined

Type: 13.xii.2003, On leaves of *Aglaia minutiflora* Bedd. (Meliaceae), Sairandhri, Silent Valley, Palghat, Kerala, India, coll. V.B. Hosagoudar et al. HClO 46139 (type), TBGT 1902 (isotype), (Mycobank # MB 513496).

Based on the uncinatae mycelial setae, *M. sairandhriana* can be compared to *M. reinwardtioidendri* Hosag. known on *Reinwardtioidendron anamallayanam* from the Western Ghats region but differs from it in having amphigenous colonies, simple to dentate mycelial setae and smaller ascospores (Hosagoudar 1996).

4. *Meliola strebli* sp. nov.

(Fig.-4)

Coloniae amphigenae, plerumque hypophyllae, densae, velutinae, ad 3 mm diam. confluentes. Hyphae rectae vel

subrectae, alternate vel opposite acuteque vel laxe ramosae, laxe vel dense reticulatae, cellulae 20-24 x 6-8 μm . Appressoria alternata vel unilateralis, sparse posita, antrorsa, subantrorsa vel raro retrorsa, 17-21 μm longa; cellulae basillares cylindratae vel cuneatae, 4-6 μm longae; cellulae apicales ovatae, globosae, integrae, rectae vel curvulae, 11-15 x 9-11 μm . Phialides appressoriis mixtus, alternatae vel oppositae, ampulliformes, 16-19 x 8-10 μm . Setae myceliales dispersae, simplices, rectae, acutae ad apicem, ad 735 μm longae. Perithecia dispersa vel laxe aggregata, ad 212 μm diam.; ascospores oblongae, 4-septatae, leniter constrictae ad septatae, 40-44 x 16-18 μm .

Colonies amphigenous, mostly hypophyllous, dense, velvety, up to 3 mm diam., confluent. Hyphae straight to substraight, branching alternate to opposite at acute to wide angles, loosely to closely reticulate, cells 20-24 x 6-8 μm . Appressoria alternate to unilateral, distantly placed, antrorse, subantrorse to rarely retrorse, 17-21 μm long; stalk cells cylindrical to cuneate, 4-6 μm long; head cells ovate, globose, entire, straight to curved, 11-15 x 9-11 μm . Phialides mixed with appressoria, alternate to opposite, ampulliform, 16-19 x 8-10 μm . Mycelial setae scattered, simple, straight, acute at the tip, up to 735 μm long. Perithecia scattered to loosely grouped, up to 212 μm diam.; ascospores oblong, 4-septate, slightly constricted at the septa, 40-44 x 16-18 μm .

Material examined

Type: 23.xi.2004, On leaves of *Streblus taxoides* (Heyne ex

Roth) Kurz (Moraceae), near Sasthanada tribal colony, Sankili forest, Shendhurney Wildlife Sanctuary, Kollam, Kerala, India, coll. V.B. Hosagoudar et al. HClO 46162 (type), TBGT 1574 (isotype); TBGT 1605, HClO 46193; 23.xi.2004, *S. asper* Lour., Sankili forest, Shendhurney Wildlife Sanctuary, Kollam, Kerala, coll. V.B. Hosagoudar et al. TBGT 1889, HClO 46126; 23.xi.2004, *Streblus* sp., Tribal colony, Sasthanamada, Sankili forest, Shendhurney Wildlife Sanctuary, Kollam, coll. V.B. Hosagoudar et al. TBGT 1893, HClO 46130, (MycoBank # MB 513497).

Based on the digital formula 3111.4233, this species can be compared with *Meliola ficium* Yates and its variety var. *ugandensis* Hansf. However, *M. strebli* differs from *M. ficium* in having narrow ascospores and having longer mycelial setae (3111.4333). It also differs from *M. ficium* Yates var. *ugandensis* Hansf. in having shorter appressoria and larger ascospores (3111.4223) (Hansford 1961).

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