TAPROBANICA, ISSN 1800-427X. October, 2010. Vol. 02, No. 02: pp. 95-96, 1 pl.

TWO NEW MELIOLACEAE MEMBERS FROM KERALA, INDIA

Sectional Editor: Kevin Hyde *Submitted*: 14 February 2011, *Accepted*: 22 April 2011

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Abstract
This paper gives an account of two new species, namely, *Asteridiella sebastianiae* and *Meliola gluticola*, infecting leaves of *Sebastiania chamaelea* and *Gluta travancorica*. Both these fungal species are new and are described, illustrated and compared with most similar taxa.

***Key words*:** New species, fungi, *Asteridiella*, *Meliola*, *Sebastiania chamaelea*, *Gluta travancorica*

Introduction

During a survey of the foliicolous fungi of Garden plants in Kerala State, *Sebastiania chamaelea* and *Gluta travancorica* were found infected with black mildew fungi. Critical examination of these fungi revealed that both are hitherto undescribed species of the genera *Asteridiella* and *Meliola*. Part of the collections has been deposited in Herbarium Cryptogamae *Indiae* Orientalis (HCIO), New Delhi as isotypes.

Taxonomy

1. *Asteridiella sebastianiae* Hosagoudar, Sabeena *et* Jacob-Thomas, **sp. nov.** (Fig. 1)

Coloniae amphigenae, tenues, ad 2 mm diam., confluentes. Hyphae subrectae, flexuosae vel anfractuae, opposite vel unilateralis acuteque vel laxe ramosae, cellulae 20-50 x 6-9 µm. Appressoria alternata vel unilateralis, antrorsa, subantrorsa vel retrorsa, recta to curvula, 18-29 µm longa; cellulae basilares cylindraceae vel cuneatae, 4-9 µm longae; cellulae apicales ovatae, globosae, integrae, angularis, 13-20 x 9-13 µm. Phialides appressoriis intermixtae, alternatae vel oppositae, ampulliformes, 15-24 x 6-9 µm. Perithecia globosa, dispersa, ad 172 µm in diam.; cellulae peritheciales conoideae, ad 26 µm longae; ascosporae oblongae, ellipsoideae vel cylindraceae, 4-septatae, constrictus ad septatae, 31-37 x 9-13 µm.

Colonies amphigenous, thin, up to 2 mm in diameter, confluent. Hyphae substraight, flexuous to crooked, branching opposite to unilateral at acute to wide angles, cells 20-50 x 6-9 µm. Appressoria alternate to unilateral, antrorse, subantrorse to

retrorse, straight to curved, 18-29 µm long; stalk cells cylindrical to cuneate, 4-9 µm long; head cells ovate, globose, entire, angular, 13-20 x 9-13 µm. Phialides mixed with appressoria, alternate to opposite, ampulliform, 15-24 x 6-9 µm. Perithecia globose, scattered, up to 172 µm in diameter; perithecial cells conoid, up to 26 µm long; ascospores oblong, ellipsoidal to cylindrical, 4-septate, constricted at the septa, 31-37 x 9-13 µm.

Material examined: type
On leaves of *Sebastiania chamaelea* (L.) Mull. (Euphorbiaceae); *Cat. no*. HCIO 48046; *Loc.* Tropical Botanic Garden & Research Institute (TBGRI) Campus, Palode, Thiruvananthapuram, Kerala, India; *Coll.* A. Sabeena *et al.*; *Date.* 14-V-2007. Isotype, *Cat. no*. TBGT 2829

Asteridiella sebastianiae can be compared with *Asteridiella phyllanthi* (Deight.) Hansford, *A. erythrococcae* Hansford, *A. hansfordii* (Stev.) Hansford var. *densa* (Hansford & Deight.) Hansford, *A. macarangicola* Hosagoudar and *A. wayanadensis* Hosagoudar *et al.* (Biju *et al*., 2005; Hansford, 1961; Hosagoudar, 1996 & 2008; Hosagoudar & Agarwal, 2008) having the beeli formula 3101. 3220. However, it differs from *A. phyllanthii*, *A. hansfordii* var. *densa*, *A. macarangicola* and *A. combeensis* in having distinctly narrow ascospores (9-13 µm against 16-18 µm). It differs from *A. erythrococcae* in having entire head cells of the appressoria in contrast to angulose to sublobate. *Asteridiella sebastianiae* also differs from *A. wayanadensis* in having longer, antrorse to retrorse appressoria. This is the first report of meliolaceous fungi on this host genus.

2. *Meliola gluticola* V. B. Hosagoudar and A. Sabeena **sp. nov.** (Fig. 2)

Coloniae amphigenae, plerumque hypophyllae, tenues, ad 4 mm diam., confluentes. Hyphae rectae vel subrectae, opposite acuteque vel laxe ramosae, cellulae 13-20 x 6-9 µm. Appressoria alternata, dense posita, antrorsa vel subantrorsa, 15-20 µm longa; cellulae basilares cylindraceae vel cuneatae, 2-6 µm longae; cellulae apicales ovatae, integrae, 13-15 x 6-9 µm. Phialides appressoriis intermixtae, alternatae vel oppositae, ampulliformes, 15-22 x 6-9 µm. Setae myceliales simplices, rectae, ad apicem acutae vel obtusae, ad 330 µm longae. Perithecia dispersa, ad 110 µm diam.; ascosporae cylindraceae, 4-septatae, constrictus ad septatae, 39-44 x 15-17 µm.

Colonies amphigenous, mostly hypophyllous, thin, upto 4 mm in diameter, confluent. Hyphae, straight to substraight, branching opposite at acute to wide angles, cells 13-20 x 6-9 µm. Appressoria alternate, closely arranged on the hyphae antrorse to subantrorse, 15-20 µm long; stalk cells cylindrical to cuneate, 2-6 µm long; head cells ovate, entire, 13-15 x 6-9 µm. Phialides mixed with appressoria, alternate to opposite, ampulliform, 15-22 x 6-9 µm. Mycelial setae simple, straight, acute to obtuse at the tip, up to 330 µm long. Perithecia scattered, up to 110 µm in diameter; ascospores cylindrical, 4-septate, constricted at the septa, 39-44 x 15-17µm.

Material examined: type
On leaves of *Gluta travancorica* L**.** (Anacardiaceae); *Cat. no*. HCIO 48337; *Loc.* TBGRI Campus, Palode, Thiruvananthapuram, Kerala, India; *Coll.* A. Sabeena *et al.*; *Date.* 10-X-2007. Isotype, *Cat. no*. TBGT 3058

Gluta travancorica L**.** is an endemic plant and *Meliola glutae* is known to infect this plant (Hosagoudar, 1996 & 1998; Hosagoudar & Agarwal, 2008; Hosagoudar *et al*., 1997). However, differs from it in having regularly antrorse to subantrorse appressoria with ovate to oblong and entire head cells. The colonies of both these species were mixed together but can be easily distinguished based on the above characters.

Acknowledgement
We thank the Director (TBGRI) for providing facilities.

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PLATE 06

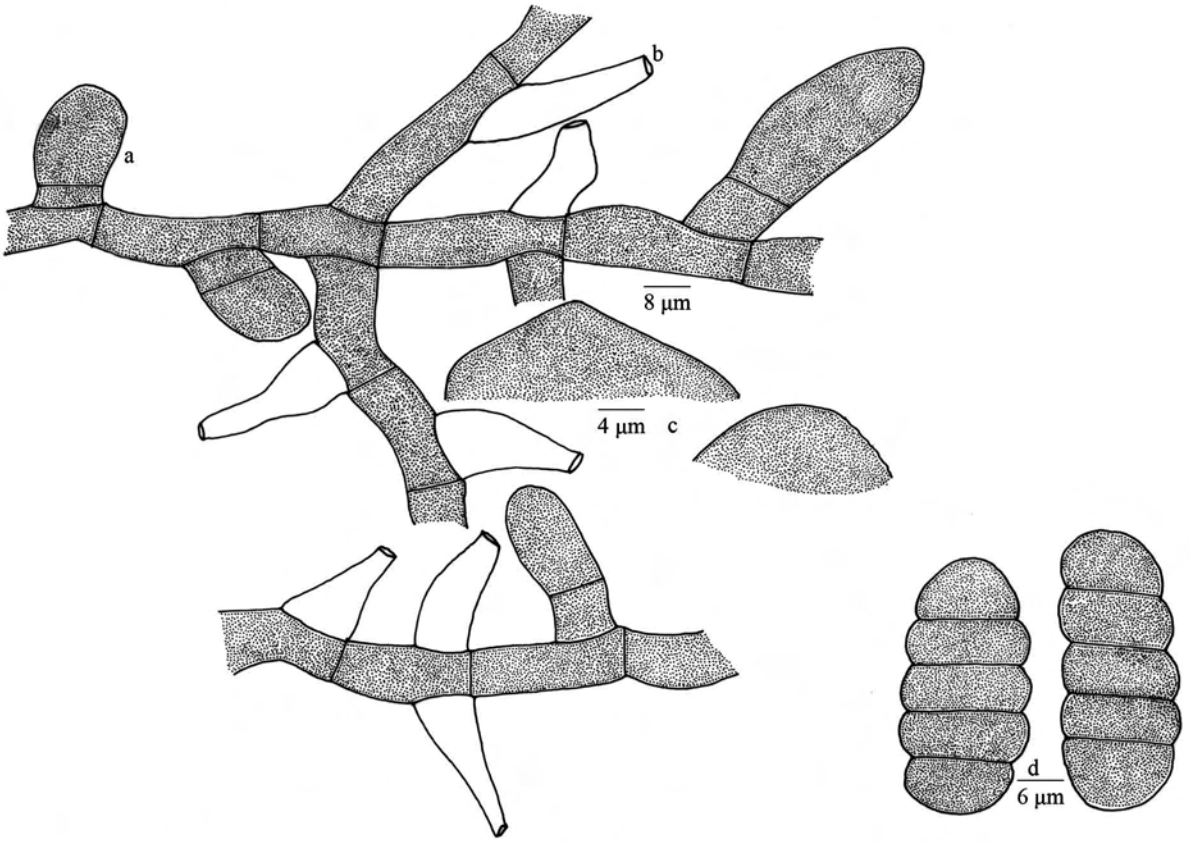

Fig. 01: *Asteridiella sebastianiae* V. B. Hosagoudar, A. Sabeena & J. Thomas, sp. nov.
a. Appressoriate mycelium, **b.** Phialide, **c.** Perithecial wall cells, **d.** Ascospores

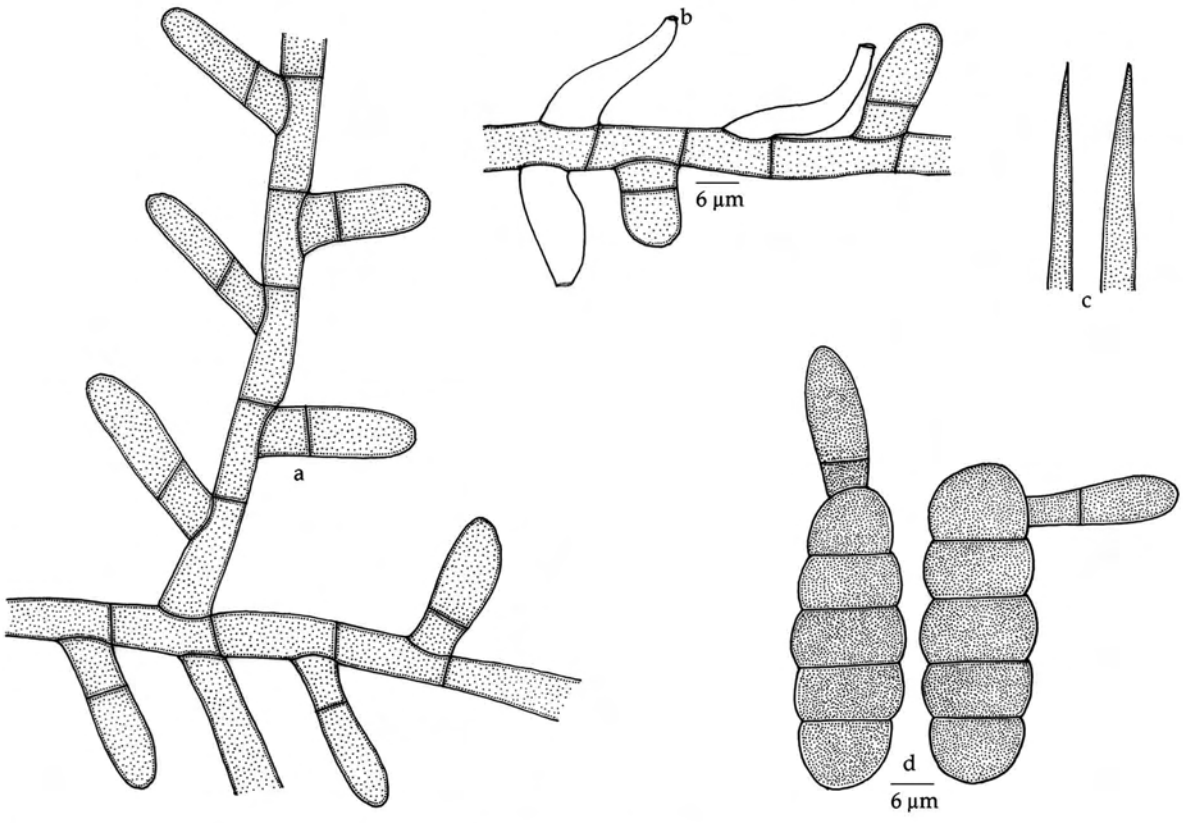

Fig. 02: 2. *Meliola gluticola* V. B. Hosagoudar & A. Sabeena sp. nov.
a. Appressoriate mycelium, **b.** Phialide, **c.** Apical portion of mycelial setae, **d.** Ascospores