

Two new black mildews from Kerala, India

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Abstract: This paper gives an account of two new species, namely, *Bheemamyces jasmini* and *Meliola melicopegena* collected on the leaves of *Jasminum* sp. and *Euodia lunuankenda*, respectively, from the Western Ghats region of Kerala state described and illustrated here in detail.

Key words: Western Ghats, Kerala, fungi, new species, *Bheemamyces*, *Meliola*

1. DESCRIPTION OF SPECIES

Bheemamyces jasmini V.B. Hosagoudar & Sony Thomas, sp. nov. (Fig.-1)

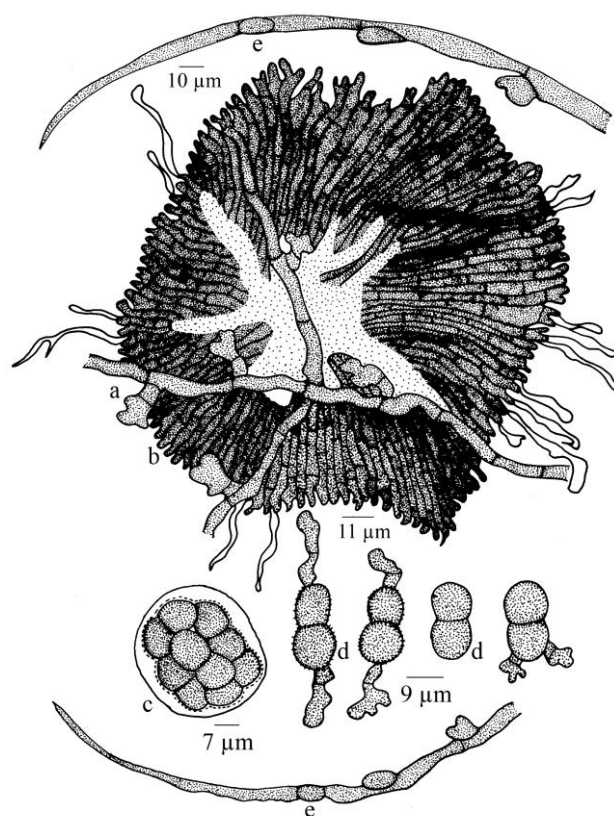


Fig.1. *Bheemamyces jasmini* a.Appressoriolate mycelium, b.Thyriothecium, c.Ascus, d.Ascospores, e. Whip-like apical portion of the mycelium with lateral, sublateral and intercalary appressoria

Colonies epiphyllous, spreading, upto 3 mm in diameter, confluent. Hyphae straight to substraight, flexuous to crooked, branching opposite to alternate at acute to wide angles, loosely reticulate, cells 20-25 x 4-7 μ m. Appressoria alternate to unilateral, distantly placed, straight to curved, antrorse to subantrorse, 15-20 μ m long; stalk cells cylindrical to cuneate, 5-10 μ m long; head cells ovate, oblong to globose, sublobate to stellately lobate, 5-11 x 5-7 μ m. Apical portion of the hyphae whip like, narrower, curved to uncinuate at the tip, slightly elevated from the host surface and sharply pointed at the tip, apical portion coiled and devoid of appressoria, but the

penultimate portion appressoriolate, appressoria lateral, sublateral to intercalary. The intercalary and sub intercalary or sublateral appressoria restricted to the penultimate tip of the appressoria, oval to globose, having slightly hyaline spot at the centre, 5-10 x 5-7 μm . Thyriothecia scattered, orbicular, stellately dehisced at the centre, up to 160 μm in diameter, margin crenate to fimbriate; asci globose, octosporous, 25-27 x 22-25 μm in diameter; ascospores brown, conglobate, uniseptate, constricted at the septum, 20-25 x 17-12, wall echinulate.

Material examined: On leaves of *Jasminum* sp. (Oleaceae), Sacred grove (Kaavu) of Kallil Bhagavathy Temple, Perumbavoor, Ernakulam, October 16, 2012, V. B Hosagoudar & al, TBGT 6597 (holotype).

The genus *Bheemamyces* proposed to accommodate the *Asterina* species possessing both lateral appressoria on the main hyphae and lateral, sublateral to intercalary appressoria on the apical whip like uncinete hyphae with acute tip. So far *Bheemamyces argyreicola* Hosag. *et al.*, *B. argyreiae* (Hansf.) Hosag., *B. capparidis* Hosag. & Sabeena and *B. oleae* Hosag. & Fathima on the members of the family Convolvulaceae, Capparaceae and Oleaceae are known. *Bheemamyces jasmini* differs from *B. oleae* in having two celled appressoria (Hosagoudar *et al.* 2010; Hosagoudar, 2012; Hosagoudar & Fathima, 2013).

Meliola melicopegena V.B. Hosagoudar & Sony Thomas, sp. nov. (Fig.-2)

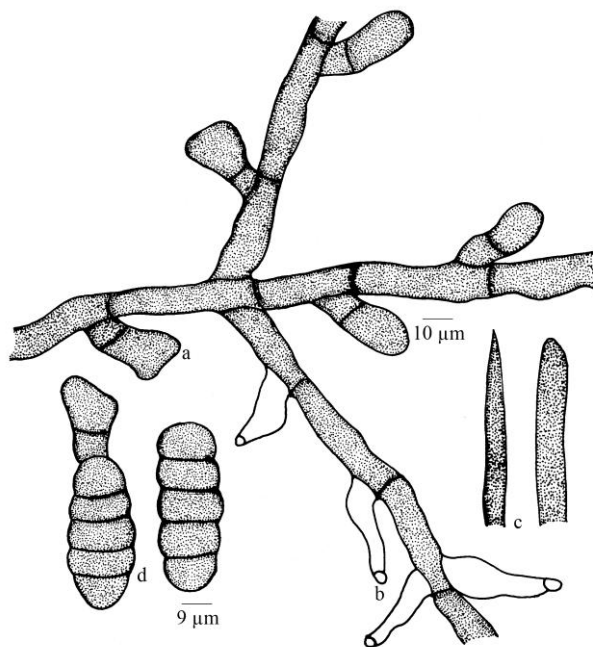


Fig.2. *Meliola melicopegena* a.Appressorium, b. Phialide, c.Apical portion of mycelial setae, d. Ascospores

Colonies amphigenous, subdense, scattered, up to 6 mm in diameter. Hyphae straight to substraight, branching opposite to alternate at acute angles, loosely reticulate, cells 20-35 x 5-7 μm . Appressoria alternate, straight to curved, antrorse to subantrorse, 20-27 μm long; stalk cells cylindrical to cuneate, 5-12 μm long; head cells straight to curved, ovate to oblong, entire, rarely angular to truncate at the apex, 12-20 x 10-12 μm . Phialides mixed with appressoria, opposite to alternate, ampulliform, 20-25 x 5-7 μm . Mycelial setae simple straight, acute to obtuse at the tip, up to 360 μm long. Perithecia scattered, globose, up to 160 μm in diameter; ascospores obovoidal, 4-septate, slightly constricted at the septa, 32-40 x 12-15 μm , wall smooth.

Material examined: On leaves of *Euodia lunuankenda* (Gaertn.) T.G. Hartley (Rutaceae), Thattekad Bird Sanctuary, Ernakulam, October 16, 2012, V. B. Hosagoudar & al, TBGT 6598 (holotype).

The *Meliola* species on this host was collected from Amboli, Maharashtra by M.S. Patil and was assigned to *Meliola luvungae* Hosag. (Hosagoudar, 1996). Based on the host specificity,

entire to angular head cells of the appressoria and smaller ascospores, the present fungus warrants its placement into a new species.

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