Bheemamyces, a new genus of the family Asterinaceae (Ascomycetes)

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During a survey of foliicolous fungi in the Western Ghats region of Kerala State, authors came across infected leaves of Argyreia nervosa, collected from the Malabar Botanic Garden, Kozhikode. The fungus revealed brown mycelium with the lateral appressoria and stellately dehisced orbicular thyriothecia. These are the characters of the genus Asterina. In addition to these typical characters, the mycelia originated from the main hyphae, lifted slightly above the host surface, appearing like a ‘whip’, possessing intercalary and sub intercalary or sub lateral appressoria, making it distinct from the genus Asterina. Because of the intercalary appressoria, it can not be placed under the genus Asterolibertia because it also possesses the characters of the genus Asterina, having lateral appressoria (Muller & Arx 1962; Arx & Muller 1975; Hosagoudar et al. 2001). Hence, to accommodate such fungi, the genus Bheemamyces is proposed here. This is a transitional genus between the genera Asterina and Asterolibertia.

Bheemamyces, V.B. Hosagoudar, gen. nov.

The name Bheema is derived from the brave personality of Pandavas from the epic Mahabharata.

Colonies foliicolae, brunneae, ramosae, septatae, appressoria uterque intercalaris vel lateralis, saepe hyphae formans annulus. Thyriothecia orbicularis, stellatim dehiscentes ad centre; asci globosi, octospori; ascosporae conglobatae, brunneae, uniseptatae.

Colonies foliicolous, brown, branched, septate, appressoria both intercalary and lateral, often form mycelial ring. Thyriothecia orbicular, stellately dehisce at the centre; asci globose, octosporous; ascospores conglobate, brown, uniseptate.

Type species Bheemamyces argyreicola sp. nov.

Bheemamyces argyreicola sp. nov.

Material examined: 04.xi.2009, on leaves of Argyreia nervosa (Burm. f.) Bojer. (Convolvulaceae), Malabar Botanic Garden, Kozhikode, Kerala, India, coll. A. Sabeena & M.C Riju, TBGT 4324 (holotype). Isotype is in HCIO, New Delhi.

Colonies epiphyllae, dense vel arte dispersae, ad 2mm diam., saepe confluentes. Hyphae bi-typus: subrectae vel anfractuae, irregulariter acutaeque vel laxe ramosae, laxe vel arte reticulatae, cellulae 12-32 × 4-5 μm. Appressoria dispersa, alternata vel unilateralis, unicellularis, ovata, oblonga, globosa, integra, angularis vel subglobosa, 5-17 × 5-10 μm hyphae secundus exorioratus a hyphae primariae, angustatae, curvulae, leniter elevatae a hostus surfacalis et acutus ad apicem. Appressoria intercalaribus, sub intercalaribus et lateralis. Annuae hyphales irregulabrubs.
et appressoria nulla. Appressoria intercalaria et sub intercalaria, ovala vel globosa, loculum hyalinae ad centre persistantis, 5-10 × 5-7 μm. Thyrothecia dispersa vel connata, orbicularis, stellatim dehiscentes ad centre, ad 90 μm diam., margine crenatae vel fimbriatae, hyphae fringitori rectae, flexuose vel anfractuae; asci globosi, octospori, 32-35 μm diam.; ascosporae brunneae, conglobatae, uniseptatae, constrictus ad septatae, 15-25 × 7-12 μm, parietus glabrus, confestatim germinatae.

Colonies epiphyllous, densely or closely scattered, up to 2mm in diameter, often confluent. Hyphae of two types: substraight to crooked, branching irregular at acute to wide angles, loosely to closely reticulate, cells 12-32 × 4-5 μm. Appressoria scattered, alternate to unilateral, unicellular, ovate, oblong, globose, entire, angular to sublobate, 5-17 × 5-10 μm. The second type of hyphae originated from the main hyphae, narrower, curved, slightly elevated from the host surface and sharply pointed at the tip. These hyphae possess intercalary, sub intercalary and lateral appressoria. Hyphal rings are formed randomly but are devoid of appressoria. The intercalary and sub intercalary appressoria oval to globose, having a central slightly hyaline spot, 5-10 × 5-7 μm. Thyrothecia scattered to connate, orbicular, stellatim dehiscentes at the centre, up to 90μm in diameter, margin crenate to fimbriate, fringed hyphae straight, flexuous to crooked; asci globose, octosporous, 32-35 μm in diameter; ascospores brown, conglobate, uniseptate, constricted at the septum, 15-25 × 7-12 μm, wall smooth, readily germinated.

**Bheemamyces argyreiae** (Hansf.) Hosag., comb. nov.


Hansford (1954) has also mentioned peculiarity about the appressoria in *Asterina argyreiae* Hansf. However, the presence of intercalary and sub intercalary appressoria does fit this taxon into the genus *Bheemamyces*.

**REFERENCES**


