

STUDIES ON FOLIICOLOUS FUNGI - V TWO NEW SPECIES AND VALIDATION OF A *SARCINELLA* SPECIES

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Abstract

This paper gives an account on foliicolous fungi collected from the Western Ghats of peninsular India. Of these, *Asterina gomphandrae* and *Sarcinella hugoniae* are new species while *Sarcinella gymnosporiae* is validated. *Phyllactina gmelinae* Hosag. et al has priority.

Keywords

Asterina, Sarcinella, new species

Abbreviations

HCIO - Herbarium Cryptogamae Indiae Orientalis, New Delhi

TBGT - Tropical Botanic Garden, Thiruvananthapuram

Asterina gomphandrae

V.B. Hosagoudar et C.K. Biju, sp. nov.

(Fig. 1)

Materials examined

Holotype: 6.i.1999, Mannavan Shola, Idukki, Kerala, India, on leaves of *Gomphandra* sp. (Icacinaceae), coll. C.K. Biju, HCIO. Isotype: 6.i.1999, Mannavan Shola, Idukki, Kerala, India, on leaves of *Gomphandra* sp. (Icacinaceae), coll. C.K. Biju, TBGT.

Distribution

India: Mannavan Shola, Idukki in Kerala

Diagnostic features

Coloniae amphigenae, plerumque epiphyllae, subdensae vel densae, ad 1mm dia., confluentes. Hyphae rectae vel flexuosae, irregulariter acuteque ramosae, laxae vel dense reticulatae, cellulae 16-27 x 6-11µm. Appressoria sparsae dispersa, unicellula, antrorsa vel subantrorsa, ovata, oblonga vel cylindracea, integra, 16-20 x 9-11µm. Thyriothechia dispersa vel connata, orbicularia, ad 140µm dia., crenata vel fimbriata ad margine, hyphae fringiorae flexuosae vel anfractuae et non appressoriatae, thyriothechia stellatim dehiscentes ad centro; asci globosi, octospori, ad 50µm dia.; ascospores oblongae,

conglobatae, brunneae, uniseptatae, 36-40 x 17-20µm.

Colonies amphigenous, mostly epiphyllous, subdense to dense, up to 1mm in diameter, confluent. Hyphae straight to flexuous, branching irregular at acute angles, loosely to closely reticulate, cells 16-27 x 6-11µm. Appressoria more scattered, unicellular, antrorse to subantrorse, ovate, oblong to cylindrical, entire, 16-27 x 9-11µm. Thyriothechia scattered to connate, orbicular, up to 140µm in diameter, margin crenate to fimbriate, fringed hyphae flexuous to crooked and non appressoriatae, thyriothechia stellately dehiscent at the centre; asci globose, octosporous, up to 50µm in diameter; ascospores oblong, conglobate, brown, uniseptate, 36-40 x 17-20µm.

Remarks

Asterina mappiae Petrak and Ciferri, and *Asterina natsiati* Kar and Maity are known on the members of the family Icacinaceae (Petrak & Ciferri, 1930; Kar & Maity, 1970; Hosagoudar & Abraham, 2000). However, *Asterina gomphandrae* differs from both in having unicellular, oblong to cylindrical and entire appressoria, and having larger ascospores.

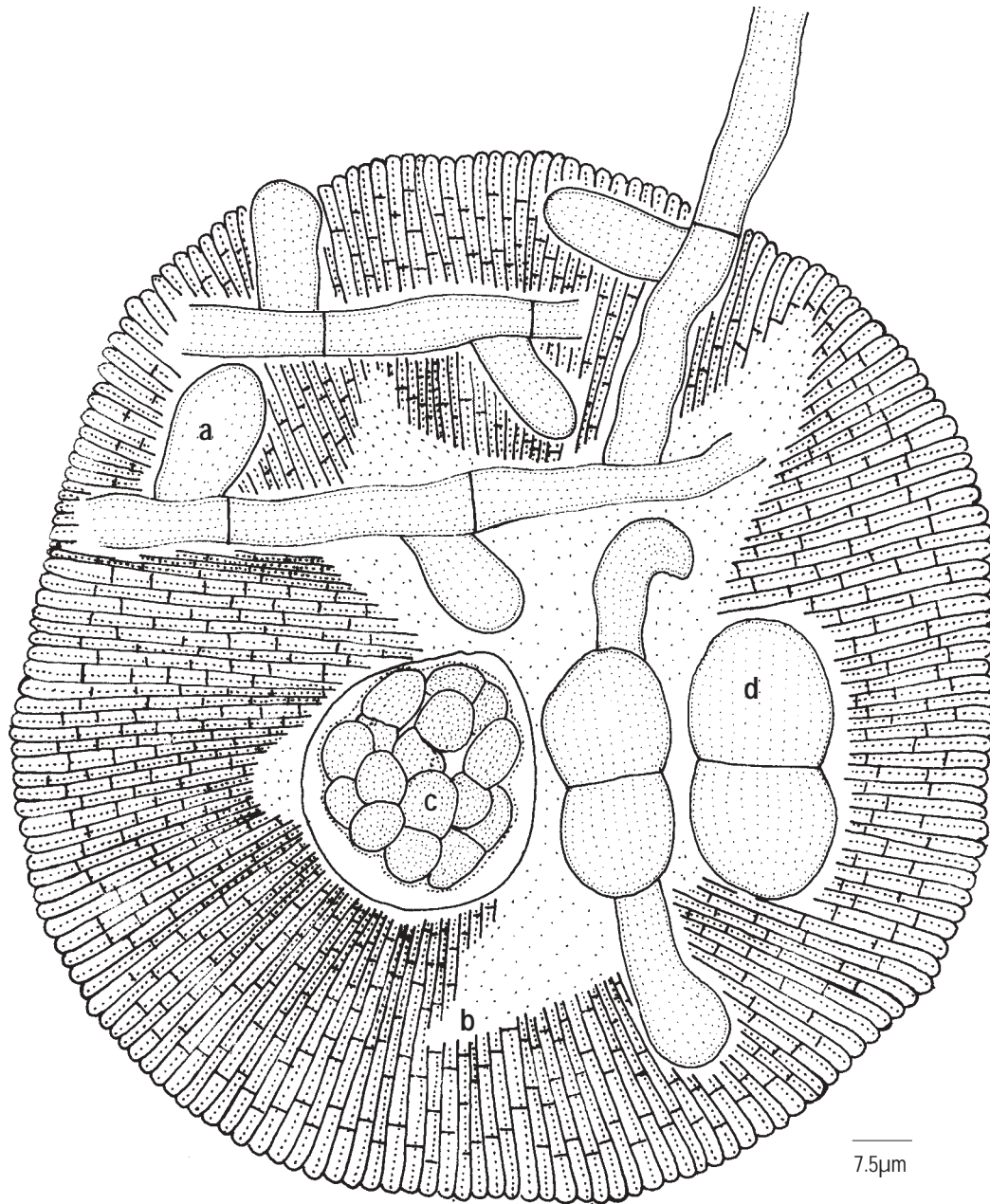


Figure 1. *Asterina gomphandrae* sp. nov.
a - Appressoriolate mycelium; b - Ascus; c - Ascospores; d - Sarciniform conidia

***Phyllactina gmelinae* Hosagouder, Boppammal & Udaiyan**

Indian J. Trop. Biod. 1: 318, 1993.

= *Phyllactina suffulta* (Rabent.) Sacc. var. *gmelinae* Patil, *Curr. Sci.* 30: 156, 1961

= *Phyllactina gmelinae* Braun & Bagyanarayana, *Sydowia* 51: 1, 1999.

Material examined

20.xii.1959, Chikhald, Maharashtra, India, on leaves of *Gmelina arborea* (Verbenaceae), coll. B. V. Patil.

Distribution

India: Chikhald in Maharashtra.

***Sarcinella gymnosporiae* Subhedar & Rao
ex V.B. Hosagoudar, sp. nov.**

Sarcinella gymnosporiae Subhedar & Rao, *Biovigyanam* 1: 194, 1975 (nom. nud.)

Materials examined

Holotype: 7.xi.1973, Simhagad, Pune, Maharashtra, India, on leaves of *Gymnosporia rothiana* (Celastraceae), coll. A.W. Subhedar AMH 2741.

Distribution

India: Simhagad, Pune in Maharashtra

Diagnostic features

Coloniae amphigenae, plerumque epiphyllae, subdensae, ad 1mm dia., confluentes. Hyphae flexuosae, irregulariter acuteque vel laxe ramosae, laxae vel fortiter reticulatae, cellulae 12-20 x 3-5µm. Appressoria plerumque opposita, raro tri-numerosa, plerumque globosa, ovata, integra, 6-8 x 8-12µm. Conidia Questieriella pauca, germinatio, falcata, pallid brunnea, 3-septata, utrinque attenuata, acuta, 28-30 x 8-10µm. Conidia Sarcinellae numerosa; conidiophora macronemata, unicellula vel uniseptata, simplices pallid brunnea; cellulae conidiogenae monoblasticae integratae, terminaliae, determinatae; conidia solitaria, subspherica, sarciniformes, 4-8 cellula, nigra-brunnea, constricta, 17-24 x 14-28µm, parietus glabrus.

Colonies amphigenous, mostly epiphyllous, subdense, up to 1mm in diameter, confluent. Hyphae flexuous, branching irregular at acute to wide angles, loosely to closely reticulate and form a loose net of mycelia, cells 12-20 x 3-5µm. Appressoria mostly globose, often ovate, entire, 6-8 x 8-12µm. *Questieriella* conidia very few, germinating, falcate, pale brown, 3-septate, tapering towards both ends, acute, 28-30 x 8-10µm. *Sarcinella* conidia many; conidiophores macronematous, entire to 1-septate, simple,

pale brown; conidiogenous cells monoblastic, integrated, terminal, determinate; conidia solitary, subspherical, sarciniform, 4-8 celled, dark-brown, constricted at the septa, 17-24 x 14-28µm, wall smooth.

Sarcinella hugoniae

V.B. Hosagoudar et M. Kamarudeen, sp. nov.

(Fig. 2)

Materials examined

Holotype: 3.xii.2000, Malapuram, Kerala, India, on leaves of *Hugonia mystax* L. (Linaceae), coll. M. Kamarudeen, HCIO.

Isotype: 3.xii.2000, Malapuram, Kerala, India, on leaves of *Hugonia mystax* L. (Linaceae), coll. M. Kamarudeen, TBGT.

Distribution

India: Malapuram in Kerala

Diagnostic features

Coloniae epiphyllae, densae, ad 3mm diam., confluentes. Hyphae subrectae vel flexuosae, irregulariter acuteque ramosae, laxae vel fortiter reticulatae, cellulae 16-23 x 7-9µm. Questieriella conidia nulla. Sarcinella conidia visa; conidiophora macronemata, unicellula vel raro uniseptata, recta vel flexuosa, 14-18 x 7-9µm; cellulae conidiogenae monoblasticae, integratae, terminaliae, determinatae; conidia solitaria, subspherica et ovata, sarciniformes, nigra, 4-6 cellula, constricta, 32-40 x 28-32µm, parietus glabrus.

Colonies epiphyllous, dense, up to 3mm in diameter, often confluent. Hyphae substraight to flexuous, branching irregular at acute angles, loosely to closely reticulate and form solid mycelial mat, cells 16-23 x 7-9µm. *Questieriella* conidia absent. *Sarcinella* conidia present; conidiophores macronematous, unicellular to rarely uniseptate, straight to flexuous, 14-18 x 7-9µm; conidiogenous cells monoblastic, integrated, terminal, determinate; conidia solitary, subspherical to ovate, sarciniform, black, 4-6 celled, constricted at the septa, 32-40 x 28-32µm, wall smooth.

Remarks

This forms the first report of the genus *Sarcinella* on the members of the family Linaceae (Hughes, 1987). This collection was severely parasitized with *Acremonium sarcinellae* (Pat. & Har.) Arn. ex Deight.

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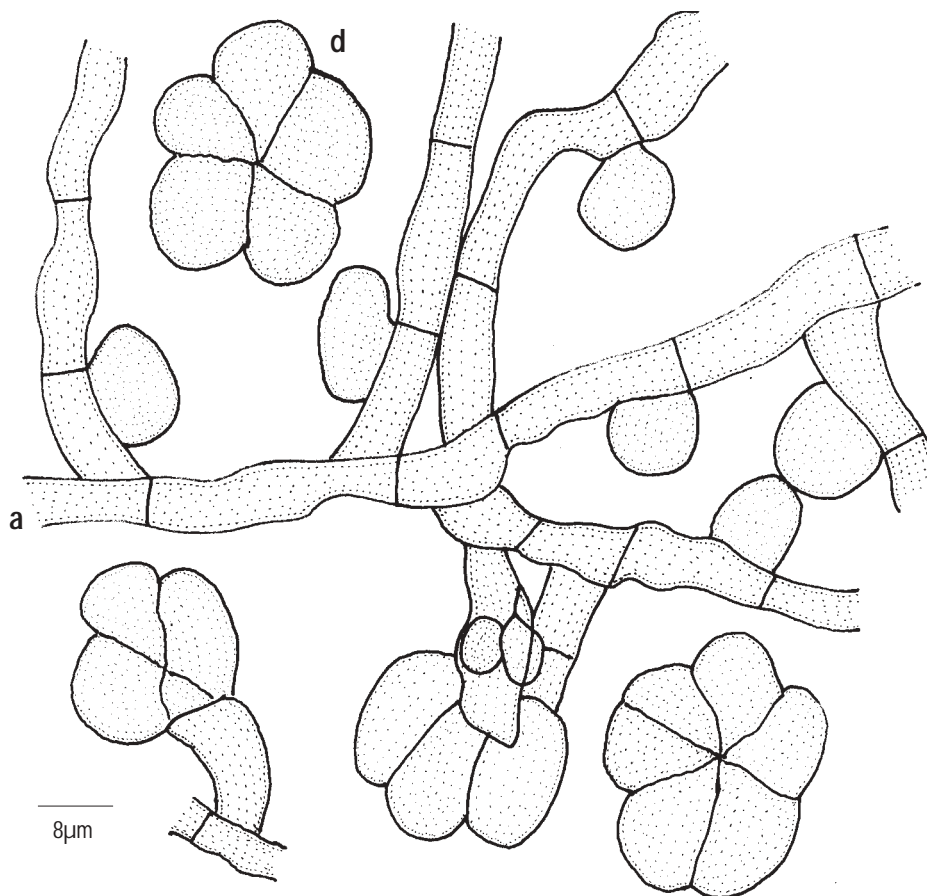


Figure 2. *Sarcinella hugoniae* sp. nov.
a - Appressariate mycelium; d - Sarciniform conidia

References

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