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TWO NEW SPECIES OF SPHAERULINA FROM INDIA

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ABSTRACT

Two new species of the genus *Sphaerulina* (Ascomycetes-Dothideales) collected from India are described and illustrated here.

ABSTRAK

Dua jenis baru marga *Sphaerulina* (Ascomycetes—Dothideales) di kumpulkan dari India dipertelakan dan digambarkan.

Among some of the leaf spotting ascomycetous fungi from the Peninsular India, we came across two fungi causing necrotic spots on living leaves of *Dracaena marginata* and *Gymnosporia rothiana*. The first host plant is an ornamental herb, planted in gardens and the other one is small tree or a bush growing wild in dry deciduous forest of Western Ghats of Peninsular India, especially Maharashtra.

The two fungi on the above hosts although distinct from each other, were found to exhibit some common features which lead to their identity as members of the genus *Sphaerulina* Sacc.

There are hardly 10 species reported under this genus from India (Bilgrami *et al.* 1979, 1981 & 1991; Kamat *et al.* 1971; Bhide *et al.* 1987). Comparative studies showed that the two species at hand are distinct among themselves as well as differ from the type species or other so far known Indian species.

The fungi produces epiphyllous, buff coloured or light brown, necrotic leaf spots with brown margins. The spots are studded with minute punctate fruit bodies. On *Dracaena* the fungus starts growth at the leaf tips and spreads inwards producing leaf blemishes, while on *Gymnosporia* the small to medium sized scattered, necrotic spots develop on leaf which may coalesce to form larger spots.

The two fungi are described here as new taxa with their latin diagnoses.

Sphaerulina dracaenis Pande & Rao, *sp. nov.* - Fig. 1

Infectionis maculae foliicoliae, necroticae. Pseudothecia dispersa, epiphylla, minuta, immersa, magnit. ca 265 μm in diametro; ostiolo nigro. Asci bitunicati, clavati, octospori, magnit. 88-94 x 9.5-10.5 μm . Ascospores biseriatae, irregulariter ordnatae, hyalinae, transverso spetatae, septo 7, magnit. 29.7735,1 x 5.5-6.7 μm .

In foliis viventibus *Dracaena marginata* Leg. B. R. D. Yadav AMH 4112 (Holotype), at Pune (M.S. India), Dec. 1976.

Infection spots foliicolous, produced at the tips growing backwards, necrotic, dark buff with margin showing chocolate brown coloured rings; spots studded with dark coloured punctate ascocarps. The ascocarps (pseudothecia) scattered, minute, ostiolate, epiphyllous, embedded in leaf tissue, with black ostiole and thin wall made up of few layers of brown, polygonal cells. Pseudothecia measure up to 265 μm in diam. Asci clavate, pitunicate, 8-spored, thick walled at tip, 88-94 x 9.5-10.5 μm . Ascospores irregularly biseriatae, hyaline, narrowly elliptical, with up to 7 transverse septa, central cell slightly bigger, 29.7-35.1 x 5.5-6.7 μm .

Foliicolous on living leaves of *Dracaena marginata* (Agavaceae) Leg. B. R. D. Yadav AMH 4112 (Holotype), Dec. 1976. at Pune (M.S. India).

Remarks. No species of *Sphaerulina* is described on this host. The represent fungus also differed in morphology from other closely resembling species, *S. taxi* (Cke.) Masee, in having 7 - septate ascospores and also in the size of the asci.

Sphaerulina gymnosporiae Pande & Rao, *sp. nov.* - Fig.2

Infectionis maculae necroticae, foliicolae. Pseudothecia innata, ostiolata, globosa, minuta, magnit. 112-144 x 96-128 μm ., Asci cylindrici, aparaphysati, fasciculati, octopori, magnit. 52-62 x 10-12 μm . Ascospores cylindricae, leviter curvatae, hyalinae vel olivaceae, 3 cellularae, magnit. 36-44 x 4 μm .

In foliis viventibus *Gymnosporii rothianae* Law. (Celastraceae); Typo loco Pande AMH.510 (Holotypus), Mahabaleshwar (M.S. India).

Infection spots foliicolous; minute, black, compactly arranged in circular necrotic lesions. Pseudothecia dark, epiphyllous, globose, innate, ostiolate, 112-144 x 96-128 μm . Asci cylindrical, aparaphysate, in fascicles, octosporous, 52-62 x 10-12 μm . Ascospores cylindrical, slightly curved, hyaline to olivaceous, uniformly 3 celled, 36-44 x 4 μm .

Foliicolous on living leaves of *Gymnosporia rothiana* Law. (Celastraceae) Leg. Pande AMH 510 (Holotype) at Mahabaleshwar (M.S. India). Other materials: AMH 4191 Bhimashankar, (M.S. India); AMH 4195 Lonavla (M.S. India).

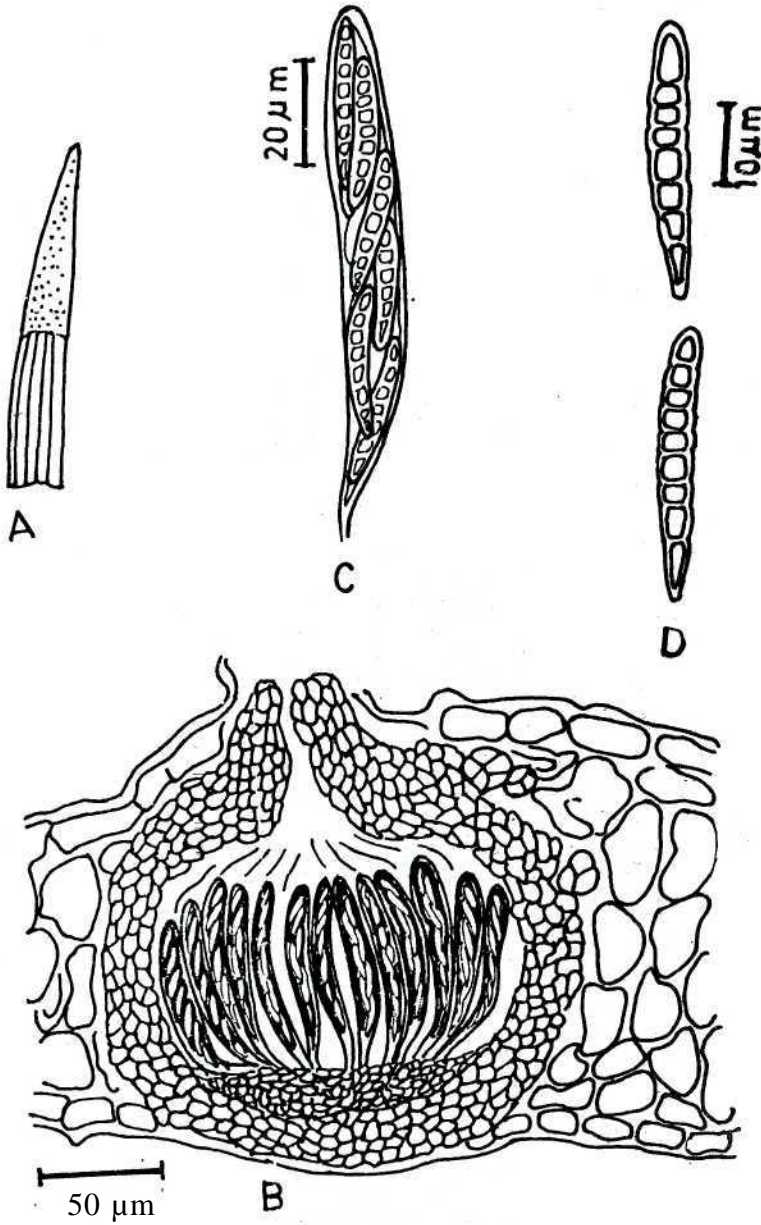


Fig. 1. *Sphaerulina dracaenis*
A. Habit. B. v.s. Pseudothecium. C. Ascus. D. Ascospores.

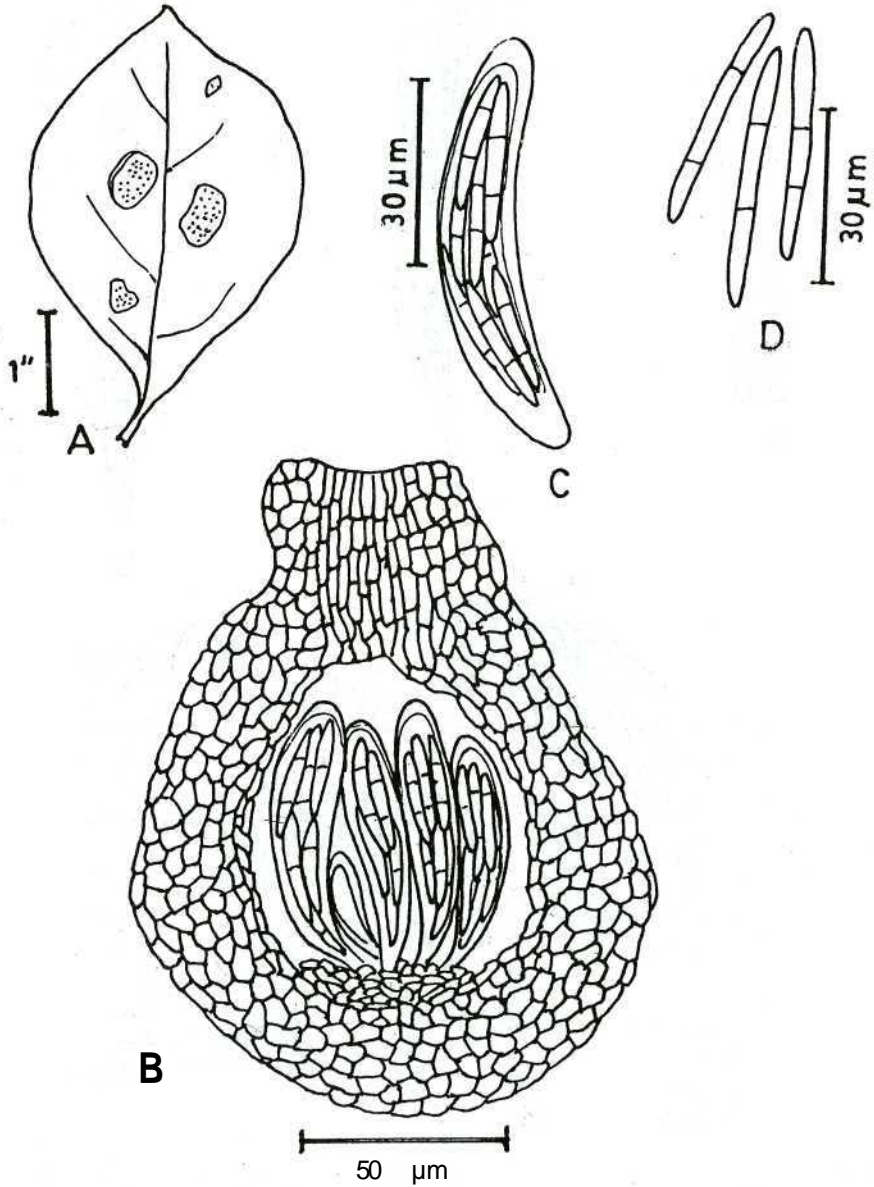


Fig. 2. *Sphaerulina gymnosporiae*
 A.Habit. B. v.s. Pseudothecium.-C. Ascus. D. Ascospores.

Remarks: *S. myriadea* (DC.) Sacc. which is the **lectotype** for the genus *Sphaerulina*. *Sphaerulina myriadea* is collected on *Fagus* and *Quercus* (Fagaceae) with temperate distribution. Comparison of the present collections with the type species showed that the present species differed in dimensions, especially in having much bigger ascospores.

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