

Two new *Sarcinella* species from Kerala, India

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Abstract: Two new species of the genus *Sarcinella*, namely *Sarcinella cipadessae* and *Sarcinella quisqualidis*, infected the leaves of *Cipadessa baccifera* and *Quisqualidis indica* have been described and illustrated.

Keywords: *Sarcinella*, new species, Kerala, India.

Introduction

During a survey of foliicolous fungi in the Western Ghats region of Kerala state, medicinal plant *Cipadessa baccifera* and an ornamental plant *Quisqualidis indica* were found infected with black mildew fungi. Microscopic examination of the infected leaves revealed an undescribed species of the genus *Sarcinella*. Hence, the note.

1. *Sarcinella cipadessae* sp. nov. (Fig.1, Plate 1)

Coloniae epiphyllae, densae, ad 2 mm in diam., confluentes. Hyphae palid brunneae, subrectae vel flexuosae, oppositae vel irregulariter acuteque vel laxe ramosae, laxae vel arte reticulatae, cellulae 19-29 x 4-7 µm. Appressoria alternata, unicellularis, subglobosa vel ovata, mammiformes, integra, 7-12 x 9-12 µm. Conidiophorae macronematae, mononematae, simplices, rectae, producentis a hyphis lateralis, glabrae, 7-12 x 4-7 µm; cellulae conidiogenae integratae, plerumque terminalis, monoblasticae, determinatae, cylindratae; conidia simplices, solitaria, sicca, acrogena, globosa vel ovala, integra, brunnea vel nigra, constrictus ad septata, 4-6 cellula, cellulae circinatim positae, 26-31 x 21-36 µm. Conidia *Questieriella* in coloniis dispersa, pallid brunnea, leniter falcata, 3-septata, cellulae terminalis

loosely to closely reticulate, cells 19-29 x 4-7 µm. Appressoria alternate, unicellular, subglobose to ovate, mammiform, entire, 7-12 x 9-12 µm. Conidiophores macronematous, mononematous, simple, straight, arise laterally from the hyphae, smooth, 7-12 x 4-7 µm; conidiogenous cells integrated, mostly terminal, monoblastic, determinate, cylindrical; conidia simple, solitary, dry, acrogenous, globose to oval, smooth, brown to dark, constricted at the septa, 4-6 celled, cells circinately arranged, 26-31 x 21-36 µm. Conidia of *Questieriella* were scattered in the colonies, pale brown, slightly falcate, 3-septate, end cells attenuated, light brown, 31-34 x 7-10 µm, wall smooth.

Material examined: On leaves of *Cipadessa baccifera* (Roth.) Miq. (Meliaceae), Peppara Wildlife Sanctuary, Thiruvananthapuram, Kerala, India, Nov. 18, 2007, Jacob Thomas and Vimal Kumar HClO 48249 (type), TBGT 2988 (isotype).

Sarcinella azadirachtae Meenu *et al.* is known on *Azadirachta indica* from Nepal (Meenu *et al.* 1994, J. Living World 1: 107). In absence of teleomorph and based on the host specificity, the present fungus has been placed under a new species

2. *Sarcinella quisqualidis* sp. nov. (Fig. 2, Plate-2)

Coloniae amphigenae, plerumque epiphyllae, densae, velutinae, ad 2 mm diam., confluentes. Hyphae fortiter brunneae, subrectae vel flexuosae, oppositae vel alternate acuteque ramosae, arte reticulatae, cellulae 12-26 x 4-7 µm. Appressoria alternata, unicellularis, globosa,

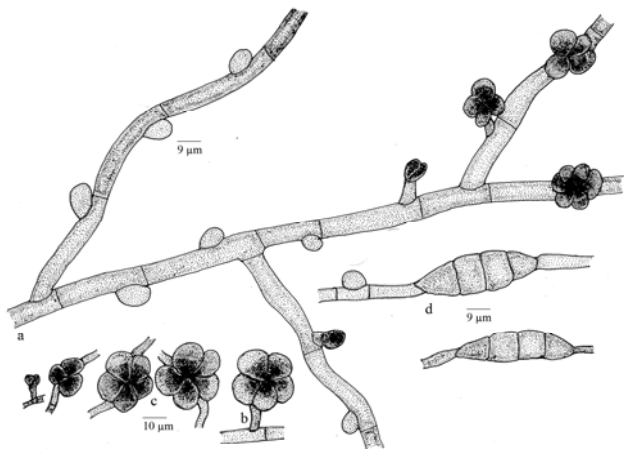


Fig. 1. *Sarcinella cipadessae* sp. nov.

a. Appressariate mycelium, b. Conidiophore of *Sarcinella* conidia, c. Conidia of *Sarcinella*, d. Conidia of *Questieriella*

attenuatae, pallid brunnea, 31-34 x 7-10 µm, parietus glabrus.

Colonies epiphyllous, dense, up to 2 mm in diameter, confluent. Hyphae pale brown, substraight to flexuous, branching opposite to irregular at acute to wide angles,

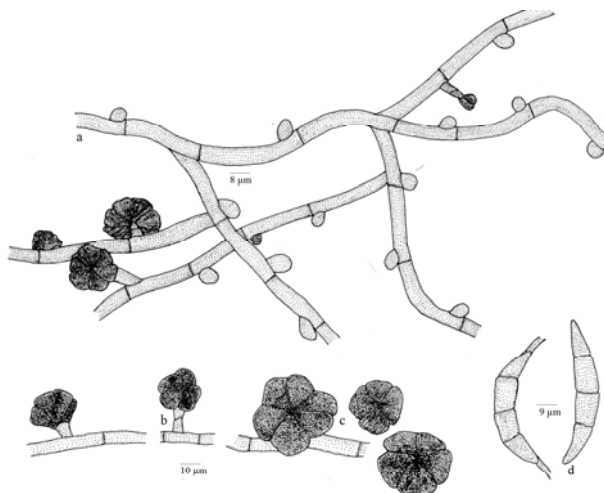


Fig. 2. *Sarcinella quisqualidis* sp. nov.

a. Appressariate mycelium, b. Conidiophore of *Sarcinella* conidia, c. Conidia of *Sarcinella*, d. Conidia of *Questieriella*

subglobosa vel mammiformis, integra, 7-12 x 9-12 µm. Conidiophorae macronematae, mononematae, simplices, rectae, producentes a hyphis lateralis, glabrae, 7-15 x 7-10 µm; cellulae conidiogenae integratae, plerumque terminalis, monoblasticae,

determinatae, cylindracea; conidia simplices, solitaria, sicca, acrogena, globosa vel leniter ovala, glabra, anthracina, constrictus ad septata, 4-8-cellula, cellulae circinatim positae, 28-36 x 24-31 μm . Conidia *Questieriella* in coloniis dispersa, 3-septata, leniter constrictus ad septata, brunnea vel fortiter brunnea, falcata, cellulae terminalis attenuatae, 31-43 x 9-12 μm , parietus glabrus.

Colonies amphigenous, mostly epiphyllous, dense, velvety, up to 2 mm in diameter, confluent. Hyphae deep brown, substraight to flexuous, branching opposite to alternate at acute angles, closely reticulate, cells 12-26 x 4-7 μm . Appressoria alternate, unicellular, globose, subglobose to mammiform, entire, 7-12 x 9-12 μm . Conidiophores macronematous, mononematous, simple, straight, produced lateral to the hyphae, smooth, 7-15 x 7-10 μm ; conidiogenous cells integrated, mostly terminal, monoblastic, determinate, cylindrical; conidia simple, solitary, dry, acrogenous, globose to slightly oval, smooth, carbonaceous black, constricted at the septa, 4-8-celled, cells sarciniform, 28-36 x 24-31 μm . Conidia



Plate-2. *Sarcinella quisqualidis* sp. nov.

1. Infected leaves, 2. Mycelial clony with *Sarcinella* conidia, 3-4. Branched mycelium, 5. *Sarcinella* conidia, 6-7. Germinating *Questieriella* conidia

of *Questieriella* were scattered in the colonies, 3-septate, slightly constricted at the septa, brown to deep brown, falcate, end cells attenuated, 31-43 x 9-12 μm , wall smooth.

Materials examined: On leaves of *Quisqualis indica* L. (Combretaceae), Peppara Wildlife Sanctuary, Thiruvananthapuram, Kerala, India, November 18, 2007, Jacob Thomas and Vimal Kumar HClO 48254 (type), TBGT 2993 (isotype).

Questieriella terminaliae Hosag & Agarwal and *Sarcinella jarwaensis* Chandra *et al.* (Chandra *et al.* 1991, Hosagoudar & Agarwal, 2002) are known on *Terminalia chebula* from Uttar Pradesh and Kerala States. Based on the host specificity, this species has been accommodated in a new species.

References

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Plate-I. *Sarcinella cipadessae* sp. nov.

1. Infected leaves, 2. Mycelium, 3. Appressariate mycelium, 4. Conidia of *Sarcinella*, 5. Germinating conidia of *Questieriella*