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A new species of *Scytalidium* from Himachal Pradesh, India

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ABSTRACT

Scytalidium aeglicola a new species from India is described and illustrated. Fungus was collected from infected *Aegle marmelos* leaves. After comparison with different *Scytalidium* species available in literature, a close similarity was observed with *S. lignicola*, but differs in having larger size of arthroconidia and the conidia.

Key Words: *Aegle marmelos*, Himachal Pradesh, India, *Scytalidium aeglicola* sp. nov.

INTRODUCTION

The *Scytalidium* is generally classified as a dematiaceous (dark-walled) fungal genus, known from several plant hosts. The genus contains about 18 species and is characterized by presence of intercalary or terminal arthroconidia and chlamydospores (Kirk et al. 2008). The fungus is known to cause onychomycosis in tea pluckers (Barua et al. 2007).

A new species of *Scytalidium* was reported during a routine mycological survey of various locations of central region of Himachal Pradesh, India. The fungus was found to cause infection on *Aegle marmelos* as brown coloured necrotic lesions which rapidly engulf surrounding tissue. Necrotic lesions appeared as concentric rings leading chlorosis and ultimately complete drying of the infected leaves. Isolation and identification fungal reveals a new species of *Scytalidium* named as *Scytalidium aeglicola* sp. nov.

MATERIAL AND METHODS

Samples were collected during mycological survey of central region of Himachal Pradesh, India. Infected leaves were randomly collected in polythene bags and transported to the laboratory for further investigation. Infected leaf tissue was dissected into small pieces and surface sterilize in 95% ethanol (20s) and 0.525% NaOCl (60s). After washing three to four times with sterilized distilled water, tissue was transferred aseptically to potato dextrose agar (PDA; Hi Media, India) media containing 50 mg/l streptomycin sulphate. The inoculated material was incubated at 25±2º C for 6-7 days. Fungi that grew from lesions were subcultured on PDA and pure cultures were maintained for further analysis. Microscopic and cultural examinations were carried out for pathogen identification. Spore measurements are given in the form: min–max (mean ± standard deviation). A voucher specimen of infected leaves was deposited at Department of Botany, Abhilashi Institute of Life Sciences (AILS), Mandi, Himachal Pradesh,

India while, a pure culture (Culture number 003) of isolated fungal pathogen deposited at National Fungal Culture Collection of India (NFCCI), Agharkar Research Institute, Pune, India.

The presence intercalary or terminal arthroconidia, chlamydospores and other morphological, cultural and microscopic characteristics, confirm the fungus as *Scytalidium* sp. Further, based on comparison of the fungus with the available literature on *Scytalidium* species, it was recognized as new species of *Scytalidium*, and the name *Scytalidium aeglicola* sp. nov. is introduced here.

RESULTS AND DISCUSSION

Taxonomic description

Scytalidium aeglicola Gautam A K **sp. nov.**
(Figs. 1–3)

MycoBank **MB 808080**
Etymology – derived from the host genus

Leaf spots amphigenous, circular, appears as concentric rings, spreading on entire leaf surface, necrotic, brown to dark brown with golden coloured centres and dark brown margins. Fungal cultures on media are effuse, cottony hairy to woolly, white to grey or blackish with maturity. Mycelium internal, branched, septate, thin walled, smooth, dark brown; arthroconidia intercalary or terminal, colourless or hyaline, smooth, thick-walled, cylindrical, oblong or broadly ellipsoidal, 0-1 septate, pale to mid brown, 10–17.5 (14.65 ±1.93) × 2.5– 7.5 (4.83± 1.6) µm; chlamydospores single or in chains, smooth, spherical, thick walled, dark brown, 7.5 – 15 (11± 2.38) µm.

Material examined: India, Himachal Pradesh, Bilaspur, on living leaves of *Aegle marmelos* (*Rutaceae*), 673 meters (2,208 ft), 25 Dec. 2012, Ajay Kumar Gautam (AILS 1009).

Notes: After comparison with different *Scytalidium* species available in literature, a close similarity was observed with *S. lignicola*, but, differs in having larger size of arthroconidia and the conidia are 4-9× 1.5-2.5 µm (Hoog 2000; Wu and Zhang 2010). Therefore, the present species merits recognition as a new taxon.

One closely resembled species *Scytalidium lignicola* was reported from citrus causing wilt and leaf spot (Oren et al. 2001); but differs from *Scytalidium aeglicola* in having small size of arthroconidia and the conidia. The genus was also reported earlier from numerous host range including; banana (Lakshmanan & Muthusamy 1994), *Albizia lebbek* (Elshafie & Ba-Omar 2001) and tea (Barua et al. 2007). Fungi like *Alternaria alternata* (Madaan & Gupta 1985) and *Schiffnerula girijae* (Gautam 2014) has been reported on *A. marmelos*. But no previous reports of *Scytalidium*. Therefore, this is the first reports of *Scytalidium* on *A. marmelos*. This also constitutes the new host record for *Scytalidium* in India and elsewhere.

Fig. 1. **A.** Disease symptoms on *A. marmelos* leaves. **B.** Culture of *S. aeglicola* on PDA

Fig. 2. Microscopic characteristics of Fungus. **A.** Mycelium. **B – D**. Chlamydospores. **E.** arthroconidia. Scale Bar = 10 µm

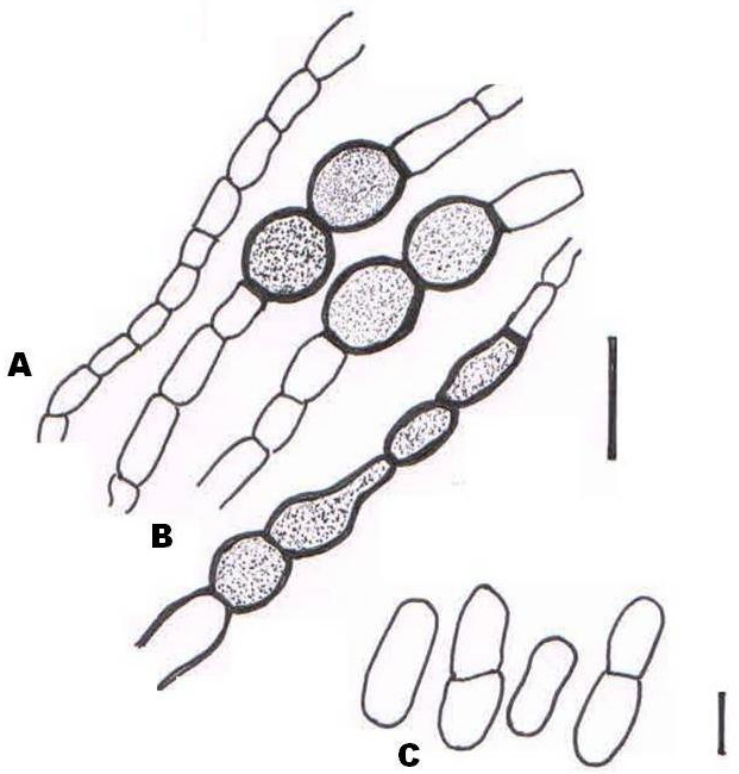

Fig. 3. *Scytalidium aeglicola*. **A.** Mycelium **B.** Chlamydospores. **C.** arthroconidia. Scale Bar (A – B) = 20 µm. C = 10 µm

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