

A new species of *Corynespora* from terai forest of northeastern Uttar Pradesh, India

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A new species of *Corynespora* is described, illustrated and compared to a similar species. *C. pogostemonicola* sp. nov. was collected on living leaves of *Pogostemon plectranthoides* (*Lamiaceae*) from terai forest of northeastern Uttar Pradesh.

Key words – *Corynespora* – Foliicolous hyphomycete – Fungi– Morphotaxonomy – New species

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Introduction

Uttar Pradesh, India has a place next to Western Ghats as a hot spot for biodiversity in general, and for foliar fungal biodiversity in particular. This region is nurtured under a diverse set of climatic conditions and has a rich phanerogamic vegetation. Rainfall, soil and humidity are very favourable for luxuriant growth and development of fungi such as *Corynespora*. Many *Corynespora* species are saprobic but others are pathogenic to both forest plants as well as crop plants and cause foliar infections. They attack mostly living leaves as paratrophs and destroy productivity by bringing about quantitative reduction and qualitative dearrangement of living tissues of the host in multiple ways. The present collection shows a specific association with its host. The areas of leaf invaded by this pathogen usually become distinct showing a blackish or brownish leaf spot. The foliicolous hyphomycetous genus *Corynespora* was established by Güssow (1906). Several novel species of *Corynespora* have been described by workers from India (Bilgrami et al. 1991, Sarbhoy et al. 1986, 1996, Jamaluddin et al. 2004, Pal et al. 2007, Kumar et al. 2007, 2008, Singh & Mall

2011, Singh et al. 2007a, b, Singh & Kamal 2012). This paper is a continuation with the aforesaid contributions.

During our recent survey (2006–2009) of northeastern terai forests of Uttar Pradesh, many collections showing foliar disease have been encountered. Upon critical examination and comparison of morphotaxonomic features with those of allied forms, a new species of the genus *Corynespora* was found. A description and illustration of this taxon is presented.

Methods

Surface scrappings and free-hand cut sections of infected leaf samples, collected from northeastern terai (Nichloul) forest (subtropical) of Uttar Pradesh, were taken through infection spots. The material was mounted in lactophenol cotton-blue for microscopic examination, camera lucida drawing and micrometry. The type specimen has been deposited in H.C.I.O., IARI, New Delhi and an isotype has been retained in the departmental herbarium for further reference. Morphotaxonomic determinations were done by comparing with allied taxa and by consulting the current literature pertaining to taxonomy of

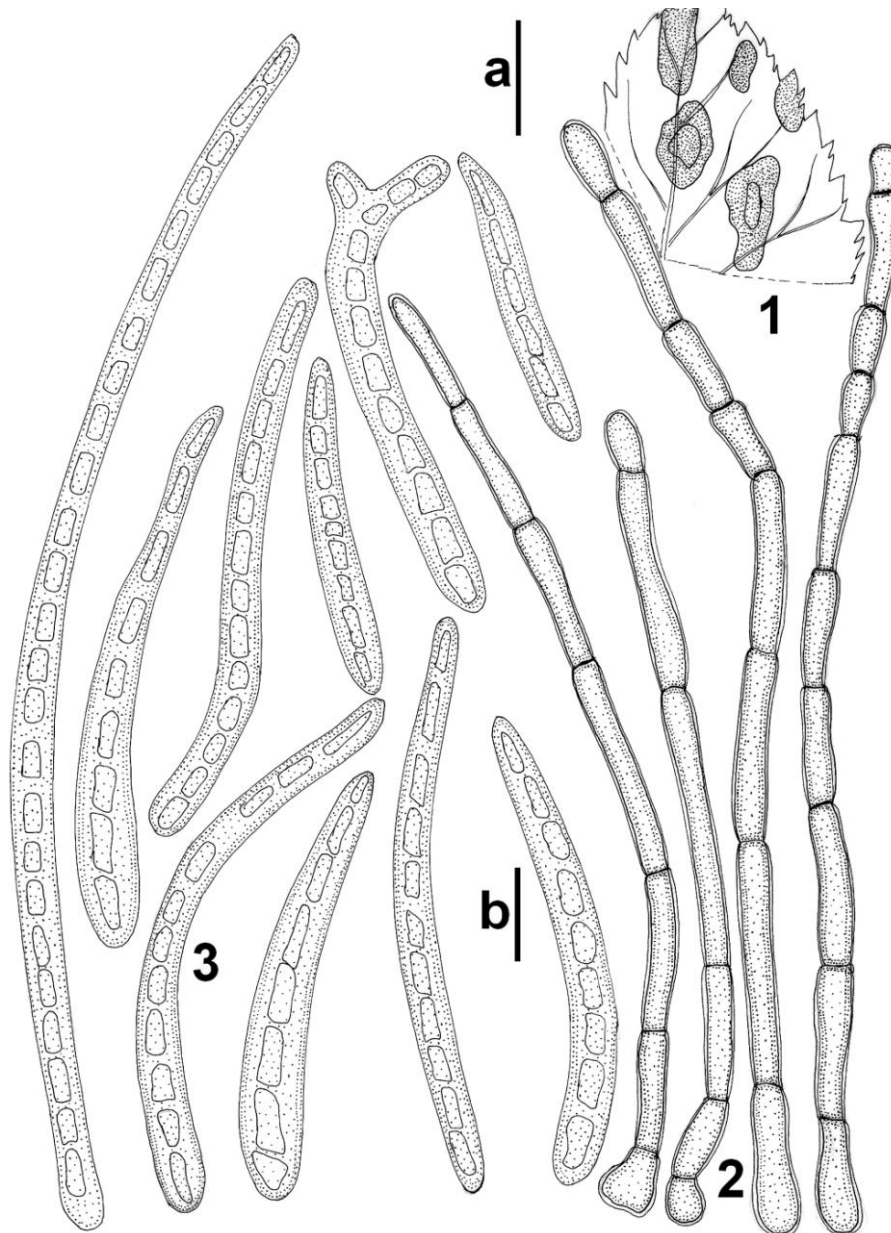


Fig. 1 – *Corynespora pogostemonicola*. 1 Infection spots 2 Conidiophores 3 Conidia Bars a= 20 mm, b= 20 μ m.

Corynespora.

Results

Taxonomy

Corynespora pogostemonicola Sham. Kumar, R. Singh, Saini & Kamal, **sp. nov.** Fig. 1
Mycobank MB 800580

Infection spots hypogenous, circular to irregular, dark brown, 5–18 mm. Colonies amphiphylous, effuse. Mycelium external and internal, smooth, branched, septate, olivaceous brown. Conidiophores macronematous, mononematous, arising singly, simple, straight to slightly flexuous, smooth-walled, cylindrical,

4–5-euseptate with 0–5 successive cylindrical proliferations, olivaceous brown, 188–265 \times 5–7 μ m. Conidiogenous cells integrated, terminal, monotretic, swollen towards the apex, scars unthickened. Conidia solitary, dry, acrogenous, simple, smooth, unbranched, thin-walled, obclavate to obclavate-cylindrical, apices subacute to obtuse, bases obclavate to truncate, 5–24-distoseptate, hilum unthickened, sometimes germinating, olivaceous to olivaceous brown, 77–288 \times 8–14 μ m.

Type – On living leaves of *Pogostemon plectranthoides* Desf. (*Lamiaceae*), Nichlaur Forest, Mahrajganj, (U.P.), India, 12 December 2006, coll. Shambhu Kumar, KSR–113 (**isotype**), HClO 48275 (**holotype**).

Etymology – *pogostemonicola* in reference to the host genus.

A species of *Corynespora* has already been reported on the same host genus. *Corynespora pogostemonis* (MycoBank MB 512529, HCIO 47129) was described on *Pogostemon lanceolatus* from Jaspur, Chhatisgarh, India (Verma et al. 2008). Therefore, a morphotaxonomic comparison was done with *C. pogostemonis*, which appears to be the most closely related species to the new collection.

The leaf spots are hypogenous in the novel species while they are amphigenous in *C. pogostemonis*. The conidiophores of *C. pogostemonicola* are shorter (188–265 × 5–7 µm) than those of *C. pogostemonis* (130–350 × 5–7.5 µm). The conidiophores of *C. pogostemonicola* may have more (0–7) successive proliferations whereas there are only 0–1 proliferations in *C. pogostemonis*. The conidia are larger than those of *C. pogostemonis* (17.5–212.5 × 7.5–10 µm) and have more distosepta than those of *C. pogostemonis*. Therefore, treatment of *C. pogostemonicola* as a new taxon at species rank is thought to be justified.

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