



Rhopalostroma brevistipitatum sp. nov. from Thailand with an extended generic description for *Rhopalostroma*

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Abstract

Rhopalostroma species were collected from Northern Thailand and subjected to morph-molecular analysis. One species possessed small, clavate stromata, with short and stout stipes, asci with an amyloid apical apparatus and ellipsoidal, dark ascospores with germ slits. Morphology and combined phylogenetic analysis of ITS, LSU, β -tubulin and RPB2 sequence data, showed it to be a new *Rhopalostroma* species introduced herein as *R. brevistipitatum*. A nodulisporium-like asexual morph was produced in culture. A morphological description and photographs of *R. brevistipitatum* are provided in this paper, with amendments to the generic description.

Key words: apical apparatus, *Nodulisporium*, phylogeny, taxonomy, Xylariaceae

Introduction

Hawksworth (1977) introduced the genus *Rhopalostroma* for species characterized by stipitate, carbonaceous stromata with expanded convex heads, dark brown to black internal flesh without concentric zones, in which the perithecia are immersed and arranged in a single layer. Asci are reported to be evanescent in the majority of the species, but when present the asci are inamyloid (Hawksworth 1977, Hawksworth *et al.* 1979, Whalley & Thienhirun 1996, Whalley *et al.* 1998, Stadler *et al.* 2010, Daranagama *et al.* 2014). *Rhopalostroma* currently comprises ten species and two varieties (Index Fungorum 2015). Hawksworth (1977) transferred four species previously disposed in various genera of Xylariaceae into the genus and described *R. indicum* D. Hawksw. & Muthappa as the type species. An additional five new species have since been described, three from Thailand and two from India (Hawksworth and Whalley 1985, Vaidya *et al.* 1991, Whalley & Thienhirun 1996, Whalley *et al.* 1998). *Rhopalostroma angolense* (Welw. & Curr.) D. Hawksw. is the only species restricted to Africa (Patil *et al.* 2012). Thus it is believed the genus is exclusively African and Asian.

Rhopalostroma gracile D. Hawksw. & Whalley (Hawksworth & Whalley 1985) and *R. hawksworthii* Vaidya *et al.* (Vaidya *et al.* 1991) were grown in culture and produced nodulisporium-like asexual morphs. Stadler *et al.* (2010) and Daranagama *et al.* (2014) have described nodulisporium-like asexual morphs in culture from *R. angolense* and *R. lekae* Whalley *et al.*

The phylogenetic affinities of *Rhopalostroma* were shown by Stadler *et al.* (2004, 2010) and Daranagama *et al.* (2014). In this study we introduce a new species of *Rhopalostroma* from Northern Thailand. *Rhopalostroma brevistipitatum* contains certain characters that have not previously been observed in other *Rhopalostroma* species. Therefore we have observed the type, *Rhopalostroma indicum* from IMI in order to facilitate a better morphological comparison with our new species.