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A new species of the genus *Corneriella* from India supported by morphological and molecular data

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Abstract

Corneriella indica sp. nov. is described from Kerala State, India. Comprehensive description, photographs, and comparisons with phenetically similar species are provided. Maximum likelihood analysis conducted on a concatenated dataset comprising ITS, nLSU, nSSU and *rpb2* of the Tricholomataceae supported the generic placement and species validity of *C. indica*. Conspicuous cheilocystidia, one of the defining features of the genus, are missing in *C. indica* but the lamella edges are still sterile and composed of projecting tramal hyphae with cystidioid terminal elements.

Key words: Agaricales, Basidiomycota, phylogeny, taxonomy

Introduction

Corneriella Sánchez-García (2014: 1007) (Tricholomataceae, Agaricales, Basidiomycota) is a recently described genus sister to *Porpoloma* Singer (1952: 198) and *Dennisiomyces* Singer (1955: 225) (Sánchez-García *et al.* 2014). Currently the genus comprises four tropical species, *Corneriella bambusarum* (Desjardin & Hemmes 2001: 97) Sánchez-García (2014: 1000) (≡ *Porpoloma bambusarum* Desjardin & Hemmes 2001: 97) described from Hawaii, *Corneriella humicola* (Corner 1994: 109) Sánchez-García (2014: 1000) (≡ *Cantharellula humicola* Corner 1994: 109) described from Malaysia, and two undescribed species from Puerto Rico and Brazil (Sánchez-García *et al.* 2014). *Corneriella* is characterized by putatively saprotrophic species occurring on soil and humus, tricholomatoid basidiomata not changing color when cut or bruised and adnexed to sinuate or decurrent, sometimes forked lamellae that are initially pale and becoming darker. Additionally, the genus has smooth, thin-walled and amyloid basidiospores, conspicuous, versiform, thin-walled cheilocystidia, a hymenium devoid of pleurocystidia, a cutis-type pileipellis with suberect to erect terminal cells and hyphae with clamp connections (Sánchez-García *et al.* 2014).

During ongoing studies on agarics of Kerala State, India, we came across an agaric that we initially thought to be a species of *Porpoloma*. Subsequent molecular phylogenetic analysis, however, revealed it to be more closely related to *Corneriella* than to *Porpoloma.* It is formally described here as a new species of *Corneriella*.

Materials and Methods

Morphological studies

Light microscopic observations were made on material stained with 1% aqueous solutions of both phloxine and Congo red and mounted in 3% aqueous KOH. Melzer's reagent was used to observe whether the basidiospores and tissues were amyloid. For evaluation of the range of spore-size, 20 basidiospores each from one specimen of each collection cited were measured. Basidiospore measurements include both the mean and the standard deviation for both the length and the width, together with the range of spore quotient (Q, length/width ratio) and its mean value (Qm). Color codes from both Kornerup & Wanscher (1978) (e.g., 5E7) and the Online Auction Color Chart (Anonymous 2004) (e.g.,