



Two new species of *Dermoloma* from India

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Abstract

Two new species of *Dermoloma*, *Dermoloma indicum* and *Dermoloma keralense*, are documented from Kerala State, India, based on morphology. Comprehensive descriptions, photographs, and comparison with phenetically similar species are provided.

Key words: Agaricales, Basidiomycota, biodiversity, taxonomy

Introduction

Dermoloma J. E. Lange (1933: 12) ex Herink (1958: 62) (Agaricales, Basidiomycota) is a small genus of worldwide distribution with around 24 species names (excluding synonyms) listed in Species Fungorum (www.speciesfungorum.org). The genus is characterized primarily by the structure of the pileipellis, which is a pluristratous hymeniderm made up of densely packed, subglobose or broadly clavate cells (Arnolds 1992, 1993, 1995). Although *Dermoloma* is traditionally considered as belonging to the Tricholomataceae, Kropp (2008) found that *D. inconspicuum* Dennis (1961: 78), based on molecular data, had phylogenetic affinities to the Agaricaceae. Most of the known species are recorded from the temperate regions. So far, only a single species of *Dermoloma* has been reported from India (Manimohan & Arnolds 1998). During our studies on the agarics of Kerala State, India, we came across two remarkable species of *Dermoloma* that were found to be distinct from all other previously reported species of the genus. They are herein formally described as new.

Materials and Methods

Conventional morphology-based taxonomic methods were employed for this study. Microscopic observations were made on material stained with 1% aqueous solutions of phloxine and Congo red and mounted in 3% aqueous KOH. Melzer's reagent was used to observe whether the basidiospores and tissues were amyloid. To measure spore size, 20 basidiospores 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 (Q_m). Color codes used in the descriptions are from Kornerup & Wanscher (1978). The examined collections are deposited at Kew (Mycology) Herbarium and the Kew accession numbers (e.g., K(M) 190590) are indicated.

Results

Taxonomy

Dermoloma indicum K.N.A. Raj & Manim., *sp. nov.*, Fig. 1. A–H

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Etymology:—Specific epithet “keralense” refers to Kerala State, India, the region where this species was first observed.

Notes:—Because of the inamyloid nature of the basidiospores, *Dermoloma keralense* fits in the section *Dermoloma* J.E. Lange (1933: 12) ex Herink (1958: 62). The yellowish lamellae contrasting with the dark brown pileus surface is a very distinctive field character of this species. Microscopically, the bluish green/green encrusting pigment that dissolves in KOH is also very distinctive. These two characters together make this species unique among the documented species of *Dermoloma*. *Dermoloma cuneifolium*, a European species belonging to the section *Dermoloma*, shares a few characters such as somewhat similar sized basidiomata, hollow stipe with similar surface features, inamyloid and ellipsoid basidiospores and a fertile lamella edge (Wilhelm 1992). However, *D. cuneifolium* has differently shaped basidiomata, larger basidiospores and caulocystidia. *Dermoloma coryleti* Singer & Cléménçon (1971: 120), *D. intermedium* Bon (1979: 42) and *D. emiliae-dlouhyi* Svrček (1966: 147) are some other European species with inamyloid basidiospores (Arnolds 1995), but all those species have much larger basidiospores.

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