



Smithiomyces dominicanus (Agaricales: Agaricaceae), a new species from the Dominican Republic

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Abstract

Smithiomyces dominicanus is described as new, based on collections made in the Dominican Republic. Morphologically this taxon is very similar to *S. mexicanus*, but differs in the non-umbonate pileus, the broad stipe base and the smooth basidiospores as seen under light microscope, but with isolated, small warts under SEM. Molecular (nrITS) data also supports the recognition of this taxon as a separate species.

Introduction

The genus *Smithiomyces* Singer was created to accommodate *Leucomyces mexicanus* Murrill (1911: 80), a tropical lepiotoid species originally described from the state of Veracruz (Mexico), and characterized by the white basidiocarps, velar remnants on pileus and stipe, non-dextrinoid, non-metachromatic and rough basidiospores, globose elements in the pileus covering and abundant clamp-connections (Singer 1944; Horak 1968; Vellinga 1999). The neutral term “pileus covering” is used here for all the covering layers of the pileus, not taking into account their origin (Vellinga 2001a: 109). A second species, *Lepiota lanosofarinosa* Rick (1937: 335), originally described from Brazil, was later included in *Smithiomyces* (Raithelhuber 1988).

Over the past ten years, one of the authors (C.A.) has collected and studied fungi in the Dominican Republic. More than 300 species of macrofungi have been recorded, vouchered and deposited in the herbarium of the Jardín Botánico Nacional Dr. Rafael Ma. Moscoso (JBSD-Santo Domingo, Dominican Republic). Approximately 20% of the collections represent lepiotaceous fungi of different genera (*Chlorophyllum* Masee, *Cystolepiota* Singer, *Lepiota* (Pers.: Fr.) S.F. Gray, *Leucoagaricus* Locq. ex Singer, *Leucocoprinus* Pat., *Smithiomyces*) and are currently being studied and sequenced.

This paper focuses on the description of a new species in the genus *Smithiomyces*, based on morphological and molecular (nrITS) data.

Material and Methods

Fungal collections:—The basidiomata were photographed fresh in habitat using a digital camera Nikon coolpix 8400 and subsequently dried. Collections were studied using standard procedures for morphological examination of lepiotaceous fungi (Candusso & Lanzoni 1990; Vellinga 2001a). Microscopic preparations were mounted in 5% KOH, ammoniacal Congo Red, Melzer’s Reagent and Cresyl Blue. Microscopic observations were made with a Nikon Eclipse E-200 microscope. Descriptive terms for morphological features follow Vellinga (1988, 2001a). The notation [105/5/3] indicates that measurements were made on 105 spores, in five samples, in 3 collections. Color codes are from Munsell Soil Color Charts (Munsell Color 2009). The following abbreviations are used in the descriptions: avl for average length, avw for average width, Q for quotient of length and width and avQ for average quotient. Herbarium acronyms follow Thiers (2015).