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REVIEW

A compendium of generic names of agarics and Agaricales

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Abstract

Agarics (gilled mushrooms) and the order Agaricales include some of the best-known and most charismatic fungi. However, neither group has had its constituent genera exhaustively compiled in a modern phylogenetic context. To provide that framework, we identified and analyzed 1383 names of genera of agarics (regardless of taxonomic placement) and the Agaricales (regardless of morphology), compiling various data for each name. Including 590 accepted names, the other 793 listed with reasons explaining their disuse, this compendium is intended to be comprehensive at present and phylogenetically up-to-date. Data we gathered included type species, continents from which type species were described, accepted synonyms of those species, current family placements, gross macromorphological categories, and sequenced loci (for type specimens, type species, and each genus as a whole). Index Fungorum provided a basis for the data, but much was manually confirmed, augmented, or corrected based on recent literature. Among accepted gilled genera, 82% belonged to the Agaricales; among accepted genera of Agaricales, 67% were gilled. Based on automated searches of GenBank and MycoCosm, 7% of generic names had DNA sequences of their type specimens, 68% had sequences of their type species, and 87% had sequences representing their genus. This leaves an estimated 103 accepted genera entirely lacking molecular data. Some subsets of genera have been sequenced relatively thoroughly (e.g., nidularioid genera and genera described from Europe); others relatively poorly (e.g.,