'Cort short on a mountaintop' – Eight new species of sequestrate *Cortinarius* from sub-alpine Australia and affinities to sections within the genus

Authors: Danks, M.; Lebel, T.; Vernes, K.
Source: Persoonia - Molecular Phylogeny and Evolution of Fungi, Volume 24, June 2010, pp. 106-126(21)
Publisher: Naturalis Biodiversity Center
DOI: https://doi.org/10.3767/003158510X512711

previous article
view table of contents
next article

ADD TO FAVOURITES

Abstract | References | Citations | Supplementary Data | Article Media | Metrics | Suggestions

During the course of research on mammal mycophagy and movement in the Northern Tablelands of New South Wales, Australia, extensive collections of sequestrate fungi were made, including numerous cortinarioid taxa. Historically any novel taxa would have been described in the cortinarioid sequestrate genera *Descomyces*, *Hymenogaster*, *Protoglossum*, *Quadrispora*, *Thaxterogaster* or *Timgrovea* based on broad morphological similarities of the sporocarps and spore ornamentation. However, consistent with other recent analyses of nuclear DNA regions, taxa from sequestrate genera were found to have affinities with *Cortinarius* and *Descolea* or *Hebeloma*, and to be scattered across many sections within *Cortinarius*. None of the historical sequestrate cortinarioid genera are monophyletic in our analyses. In particular, the gastroid genus *Hymenogaster* is paraphyletic, with one clade including two species of *Protoglossum* in *Cortinarius*, and a second clade sister to *Hebeloma*. Eight new species of sequestrate *Cortinarius* are described and illustrated, and discussion of their affinities with various sections provided: *C. argyronius*, *C. caesibulga* and *C. cinereoroseolus* in section *Purpurascentes*, *C. maculobulga* in section *Rozites*, *C. sinapivelus* in section *Splendidi*, *C. kaputarensis* in a mixed section *Phlegmacium/Myxacium* within a broader section *Dermocybe*, *C. basorapulus* in section *Percomes* and *C. nebulobrunneus* in section *Pseudotriumphantes*. Keys to genera of the *Bolbitiaceae* and *Cortinariaceae* containing sequestrate taxa and to currently known Australian species of sequestrate *Cortinarius* and *Protoglossum* are provided. As with the related agaricoid taxa, macroscopic characters such as colour and texture of basidioma, degree of loculisation of the hymenophore, and stipe-columella development and form remain useful for distinguishing species, but are generally not so useful at the sectional level within *Cortinarius*. Microscopic characters such as spore shape, size, and ornamentation, and pileipellis structure (simplex vs duplex and size of hyphal elements) are essential for determining species, and also appear to follow sectional boundaries.

Keywords: DIVERSITY; SYSTEMATICS; TAXONOMY; THAXTEROGASTER
Document Type: Research Article
Publication date: 2010年6月18日

ingenta

COUNTER
CONSISTENT CREDIBLE COMPARABLE