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diversity and systematics of the sequestrate genus *Octaviania* in Japan: two new subgenera and eleven new species

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previous article



view table of contents

next article



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Citations

Supplementary Data

Article Media

Metrics

Suggestions

The sequestrate fungi of Japan, including truffle and truffle-like fungi, have not been well characterized but are potentially diverse. We investigated the diversity and phylogeny of Japanese *Octaviania* specimens using a multifaceted approach including scanning and transmission electron microscopy as well as analysis of nuclear ribosomal DNA (ITS and LSU) and EF-1 α (tef1) sequences. Phylogenetic analyses indicate that the genus *Octaviania* is divided into three major clades, and that there are at least 12 species-level lineages in Japan. Accordingly, we describe two new subgenera, *Parcaea* and *Fulvoglobus*, and eleven new species. Subgenus *Parcaea* accommodates four highly divergent, but macromorphologically almost indiscernible cryptic species. We discuss not only the diversity and species delimitation within the genus *Octaviania* but also the phylogeography of the Japanese taxa and their relatives.

Keywords: BIOGEOGRAPHY; BOLETACEAE; CRYPTIC SPECIES; HYPOGEOUS FUNGI; PHYLOGENY; TAXONOMY

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