Abstract:

The genus *Ramariopsis* (Clavariaceae, Agaricales) having ramarioid, rarely clavarioid basidiomata includes about 15 species in central Europe. They are probably saprotrophic species which usually occur in grasslands or rarely open places in shrubs or deciduous forests. In this work, 88 collections of this genus mainly from the Czech Republic and Slovakia were studied, of which 57 sequences from the LSU and 36 from the ITS regions of the nuclear ribosomal RNA gene complex were obtained. Based on molecular-phylogenetic analyses using the maximum likelihood and bayesian methods, phylogenetic trees were created showing 16 well-supported clades. So detailed study on the phylogeny and relationships among species of the genus *Ramariopsis* is presented for first time, even within the world literature. Subsequent morphological analysis supported by SEM study of basidiospores showed that obtained clades represent nine species known in taxonomic literature, three so far non-described species (that were labelled with provisional names) and four clades whose interpretation is uncertain at the moment. Thus, seven clades represent cryptic diversity, which is a rather high extent. A new species *Ramariopsis robusta* Matouš et Holec has already been published and *Ramariopsis rufipes* and *Ramariopsis kunzei* var. *bispora* were documented from the Czech Republic for the first time. *Ramariopsis biformis*, *R. tenuiramosa* and *R. tenuicula* are shown to be possible synonyms. *Clavulinopsis microspora* is probably a synonym of *Ramariopsis luteoochracea*.

All well-supported taxa are presented by detailed descriptions and plates with photographs of basidiocarps, basidiospores and line drawings of main microcharacters. Notes on taxonomy and delimitation of similar and related species are added. Diagnostic characters of accepted taxa are summarized in a table. Taxonomic value of individual macro- and microcharacters within the genus *Ramariopsis* is discussed.

Key words: *Ramariopsis,* LSU, ITS, fylogeny, morphology, taxonomy, cryptic diversity