Phylogeny and taxonomy of *Ceriporia* and other related taxa

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**Purpose:** The polypore genus *Ceriporia* belongs to *Polyporales* of *Basidiomycota* and encompasses around 80 species which are saprotrophs or endophytes in forest ecosystems. Despite its high species diversity, few *Ceriporia* species have been incorporated into phylogenetic studies. To better understand the limits of *Ceriporia* and its phylogenetic relationship with other related taxa, we expand the molecular and taxonomic sampling, including new sequences, and new samples from East Asia.

**Methods:** We used morphology and multi-marker phylogenetic analyses based on sequences of the nuc rDNA ITS1-5.8S-ITS2 (ITS), D1-D2 domains of nuc 28S rDNA (28S), and RNA polymerase II largest subunit (rpb1). Two datasets were used: (i) The ITS+28S+rpb1 dataset was used to investigate the systematic positions of *Ceriporia* species within families of *Polyporales*; (ii) The ITS+28S dataset, with a larger sampling of species and specimens, was used to infer interspecific relationships and taxonomy in clades I and II recovered in the 3-marker analyses.

**Results and conclusions:** Our results show that *Ceriporia* is polyphyletic, and distribute across clades I-III in *Irpicaceae* and a lineage (*C. alachuana*) in *Meruliaceae*. In clade I, some species previously considered classified in *Ceriporia*, are now recovered in *Meruliopsis*, resulting in four new combinations: *M. albomellea*, *M. crassitunicata*, *M. nanlingensis*, and *M. pseudocystidiata*. Clade II, having dominant *Ceriporia* species, represents *Ceriporia* sensu stricto. Clade III includes *C. cystidiata* and *C. sulphuricolor*. Three species are new to science: *C. arbuscula* and *M. parvispora* from Taiwan; *M. leptocystidiata* from North East Asia. Three species are new records: *C. mellita* and *M. nanlingensis* from Japan and Taiwan; *M. taxicola* from Taiwan.