

A Multilocus worldwide phylogeny of *Fomitiporia* evidence a strong biogeographical pattern within the genus, with endemism at species and lineage levels

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Abstract:

Fomitiporia was erected with *F. langloisii* as type. From then on, the genus was barely considered, and mostly regarded as one of the numerous taxonomic synonyms of *Phellinus*. It is better known as the *Phellinus punctatus* - *Phellinus robustus* complex. It was recently reinstated on the basis of biochemical and DNA sequence data. In the last 20 years, many progresses have been made in the taxonomy of the genus, with description of new taxa or new species concepts, but efforts were fundamentally restricted to the North temperate geographic areas, east China, and, at a lesser degree, southern America. Other regions such as Africa, Southeast Asia and the neotropical phytogeographic region remained poorly investigated and still obscure in what regard the taxonomy of the genus. The status of the *Fomitiporia punctata* - *Fomitiporia robusta* complex was partially assessed in the present studies using both molecular approaches, and considering ecological and biogeographical aspects. A multiloci phylogenetic analysis, including 90% of the known species, was performed based on a combined data set of partial LSU, ITS-5.8 regions of the nuclear rDNA and partial *tef1* gene. From these studies, at least 17 "new" terminal clades are evidenced, of which a set represent species new to science (ex. *F. nobilissima*, *F. gabonensis*, *F. ivindoensis*, all three from Central Africa). The resulting phylogeny strongly supports two major clades within the genus *Fomitiporia*, a primarily northern hemisphere Laurasian clade (though extending into african eastern highland), and a primarily southern hemisphere Austral/African/South American clade. Furthermore, The phylogenetic relationships of the taxa in *Fomitiporia* reveal a complex biogeographical structure of the genus, with so far, a Holarctic, an Asian, an African and two American endemic lineages.

Key words: Phylogeny, Taxonomy, Fungi, Hymenochaetaceae, *Phellinus*