

Outlineoffungi.org - Note 858 *Polyrhizophydium*

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Polyrhizophydium Longcore & D.R. Simmons

Polyrhizophydium was introduced by Simmons et al. (2021) as a monotypic genus and accommodates *P. stewartii* as the type species. The placement of the taxa is based on morphological characteristics and phylogenetic analysis of 18S and 28S sequence data. *Polyrhizophydium* was isolated from moribund leaves of *Eriocaulon aquaticum*, a submersed plant from the shoreline of Williams Pond in Maine, USA. This genus is morphologically characterized by consistently long and inoperculate discharge papillae, emerging from the zoosporangia. The zoosporangium develops directly from uneven, and intercalary swellings along the rhizomycelium. This genus bears a slight resemblance to *Zopfochytrium*, in having long discharge papillae, however it differs from *Z. polystomum* by the production of rhizomycelium via indeterminate polycentric growth with no central zoosporangium. In pure culture (on agar medium) of *Z. polystomum*, the majority of the profuse rhizomycelium emerge from enlarged, spherical and intercalary zoosporangia. Furthermore, the production of zoospores from axenic culture in an agar medium was not observed in *Polyrhizophydium* while *Z. polystomum* releases an abundant number of spores. *Polyrhizophydium* formed a sister clade with *Batrachochytrium* and *Homolaphlyctis* based on phylogenetic analysis of 18S and 28S sequence data. Both *Polyrhizophydium* and *Homolaphlyctis* are incertae sedis genera awaiting the assignment of a taxonomic family (Simmons et al. 2021). The current taxonomic placement of *Polyrhizophydium* is in *Rhizophydiales*, *Rhizophydiomycetes*, *Chytridiomycotina*, and *Chytridiomycota*.

Reference

Simmons DR, Longcore JE, James TY. 2021 – *Polyrhizophydium stewartii*, the first known rhizomycelial genus and species in the *Rhizophydiales*, is closely related to *Batrachochytrium*. *Mycologia* 113(3), 684–690.
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