

Outlineoffungi.org - Note 1322 *Tasmaniomyxa*

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Tasmaniomyxa S.J. Lloyd, Leontyev, G. Moreno, López-Vill. & Schnittler

The monotypic genus *Tasmaniomyxa* was erected by Lloyd et al. (2023) to accommodate *T. umbilicata* S.J. Lloyd, Leontyev, G. Moreno, López-Vill. & Schnittler as the type species based on morphological characters and phylogeny (18SrDNA, *tef1α*, and COI). *Tasmaniomyxa umbilicata* was discovered on decomposed wood, on large logs, stumps, moss, and leaf litter in Australia, Tasmania, and New Zealand. In the type species, stalked sporocarps are available. The peridium is membranous and persistent. The capillitium, a network of tubular structures, is attached to the peridium with funnel-shaped ends. This capillitium is composed of thin, flaccid threads that are poorly branched and do not form a rigid network. The columella is cylindrical and opaque. No lime deposits are observed. Overall, the characteristics of this fungus suggest a unique and distinct morphology compared to other fungi. Both morphological and molecular evidence suggest that *Tasmaniomyxa* could be seen as the link connecting the primitive, limeless *Physarales* with more recent calcareous species within the group. Due to the lack of clear morphological characteristics and available phylogenetic information, it is believed that *Tasmaniomyxa* does not fit into any known families and may potentially belong to a distinct, unidentified family. The uncertain phylogenetic relationships among various species in the traditional genera *Lamproderma* and *Physarum* prevent the classification of this new genus into a specific family. Thus, *Tasmaniomyxa* is regarded as a member of the order *Physarales* without a designated family (Lloyd et al. 2023). The unique characteristics of the newly discovered species allow it to be classified under a new genus, showcasing a peculiar blend of traits from the *Lamprodermataceae* and *Didymiaceae*. While the appearance of the fruiting bodies of *Tasmaniomyxa* initially resembles that of *Lamproderma*, with both genera featuring stalked sporocarps and spherical sporotheca covered in a shiny, membranous peridium, the similarities end there. The capillitium of *Tasmaniomyxa* is more akin to that of *Didymiaceae*, consisting of soft, flaccid threads that lack the rigid three-dimensional network seen in *Lamproderma*. Additionally, the capillitial threads in *Tasmaniomyxa* share characteristics with *Didymiaceae*, such as a rough surface, a hollow structure, and spindle-shaped nodules. Notably, the ornamentation of the spores, featuring large grouped and small scattered warts, is a shared trait between *Tasmaniomyxa* and *Didymiaceae*, setting them apart from *Lamproderma*, which does not exhibit pigmented plasmodia (Lloyd et al. 2023). Despite not exhibiting all the typical traits of this family, the new genus falls somewhere in between the stalked species of *Lamproderma* and *Diderma* in terms of its evolutionary placement (Lloyd et al. 2023).

Reference

Lloyd SJ, Leontyev DV, Moreno G, Villalba ÁL, Schnittler M. 2023 – *Tasmaniomyxa umbilicata*, a new genus and new species of myxomycete from Tasmania. *Mycologia* 116(1), 170-183.

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