Outlineoffungi.org - Note 910 *Aenigmatomyces*

Web-links: Index Fungorum, Facesoffungi, MycoBank, GenBank

Aenigmatomyces R.F. Castañeda & W.B. Kendr.

Aenigmatomyces was established by Castañeda-Ruiz & Kendrick (1993) based on the morphology of the genus. This genus is typified by *Aenigmatomyces ampullisporus* R.F. Castañeda & W.B. Kendr. It was characterized by sporophores differentiated, upright or ascending, flexuous, fertile distal portion closely septate, unbranched (rarely branched), smooth, colorless; sporogenous cells are monoblastic, intercalary and terminal, barrel-shaped or short-cylindrical, developing one lateral outgrowth, needle-like, spores solitary, ampulliform, smooth and colorless, uniform in size. The genus has three key diagnostic characteristics: 1) an apical beak with a sharp tip, 2) a narrow isthmus about 1/3 of the way down the spore, 3) a broader, ellipsoidal spore body toward the base. Its holotype was reported to be parasitic on hyphae and oogonia of *Pythium* on decaying leaf from Alternate Lookout Trail, Algonquin Park, Ontario, Canada, and other specimens were collected from fungal hyphae on dead leaf of *Myrica gale* L. on Spruce Bog Trail in the same park, but attempts to isolate it failed (Castañeda-Ruiz and Kendrick 1993). Degawa (2002) collected this fungus several times in Hakone, Japan, and reported that this fungus parasitized the spermatophore of Collembola (springtails). Castañeda-Ruiz and Kendrick (1993) could not assign this genus to any phylum. According to Species Fungorum (http://www.speciesfungorum.org/) and MycoBank (http://www.mycobank.org/), *Aenigmatomyces* is *incertae sedis* in *Dothideomycetidae*, *Dothideomycetes*, *Pezizomycotina*). However, Degawa (2002) stated that he observed zygospores of *Aenigmatomyces* and suggested that *Aenigmatomyces* probably belonged to *Cochlonemataceae*, *Zoopagales*, *Zoopagomycota*. Degawa (2002) opinion was shared by Seifert et al. (2011) and Benny et al. (2014). Since no culture and sequence data are available, the taxonomic placement of this genus remains unsolved. collecting more samples at the type locality should be carried out to isolate this fungus for phylogenetic studies so that the mystery of this unusual fungus can be solved. At present, *Aenigmatomyces* remains monotypic.

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