Outlineoffungi.org - Note 838 *Khoyollomyces*

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Khoyollomyces Hanafy, Lanjekar, Dhakephalkar, T.M. Callaghan, Dagar, G.W. Griff., Elshahed & N.H. Youssef

Khoyollomyces was established by Hanafy et al. (2020) to accommodate *K. ramosus* Hanafy, Vikram B. Lanjekar, Prashant K. Dhakephalkar, T.M. Callaghan, Dagar, G.W. Griff, Elshahed, and N.H. Youssef as the type species, based on morphology and phylogenetic analysis with ITS and D1-D2 LSU sequence data. The genus is currently monospecific (*K. ramosus*), that was isolated from fecal samples of horses and zebras in the states of Oklahoma and Texas, USA, 2020. The life cycle of *Khoyollomyces* involves the production and release of motile spores (zoospores) from sporangia and is obligate anaerobic. These zoospores encyst, germinate, and develop into a thallus structure, anchoring the formation of new sporangia. *Khoyollomyces* spores are monoflagellate and sporangia are pleomorphic, but most are either subglobose or ellipsoid. The majority of *Khoyollomyces* sporangiophores are branched and bear two to four sporangia. The genus is characterized by monocentric thallus development, and filamentous rhizoidal growth pattern. The lack of additional species beyond *K. ramosus* precluded proposing a new family to accommodate the genus. Consequently, it is currently designated as "genus incertae sedis" in *Neocallimastigales* (Hanfey et al. 2023). The taxonomic placement of *Khoyollomyces* is in *Neocallimastigales*, *Neocallimastigomycetes*, *Neocallimastigomycotina*, and *Neocallimastigomycota*.

References

Hanafy RA, Lanjekar VB, Dhakephalkar PK, Callaghan TM, Dagar SS et al. 2020 – Seven new *Neocallimastigomycota* genera from wild, zoo-housed, and domesticated herbivores greatly expand the taxonomic diversity of the phylum. Mycologia 112, 1212-1239. https://doi.org/10.1080/00275514.2019.1696619

Hanafy RA, Wang Y, Stajich J., Youssef NH, Pratt CJ et al. 2023 – Phylogenomic analysis of the Neocallimastigomycota: Proposal of *Caecomycetaceae* fam. nov., *Piromycetaceae* fam. nov., and emended description of the families *Neocallimastigaceae and Anaeromycetaceae.* International Journal of Systematic and Evolutionary Microbiology 73, 5735. https://doi.org/10.1099/ijsem.0.005735

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