

Outlineoffungi.org - Note 835 *Aklioshbomyces*

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

Aklioshbomyces was established by Hanafy et al. (2020) to accommodate *A. papillarum* 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 (*A. papillarum*) that was isolated from fecal samples of white tailed deer in Oklahoma, USA. Phylogenetic analysis based on ITS1, D1/D2 LSU, and RPB1, along with phylogenomic analysis, confirms its position as a distinct genus, with no clear affiliation to any of the four *Neocallimastigales* families (Hanfey et al. 2023). The life cycle of *Aklioshbomyces* involves the production and release of motile spores (zoospores) from sporangia. These zoospores encyst, germinate, and develop into a thallus structure, anchoring the formation of new sporangia. *Aklioshbomyces* spores are monoflagellate. Sporangia are pleomorphic with ovoid, globose, obpyriform, and ellipsoid, papillated with one or two papillae, thought to facilitate zoospore release. Sporangioophores are unbranched, with lengths varying widely from a few microns to 230 µm. The genus exhibits monocentric thallus development, and filamentous rhizoidal growth pattern. The taxonomic placement of *Aklioshbomyces* 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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