

Outlineoffungi.org - Note 1320 *Saxispiralis*

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Saxispiralis D.S. Paiva & A. Portugal

The monotypic genus *Saxispiralis* was introduced by Paiva et al. (2023) to accommodate *S. lemnorum* D.S. Paiva & A. Portugal based on morphology and phylogeny of LSU, ITS, and *rpb2* sequence data. *Saxispiralis lemnorum* was isolated from deteriorated limestone in the Lemos Pantheon, Portugal. The stone surface where the fungus was isolated had salt damage, and *S. lemnorum* exhibited the ability to survive on surfaces with high evaporation levels and low water activity. *Saxispiralis* represents yet another genus of rock-inhabiting fungi (Liu et al. 2021) that are classified in several orders of *Dothideomycetes* (Gueidan et al. 2008, Abdollahzadeh et al. 2020). It is a member of *Aeminiaceae* in *Mycosphaerellales*. The only other genus in *Aeminiaceae* is the monotypic *Aeminium* J. Trovão, I. Tiago & A. Portugal, based on *A. ludgeri* J. Trovão, I. Tiago & A. Portugal, described from biodeteriorated limestone collected in the Old Cathedral of Coimbra, Portugal (Trovão et al. 2019). Both *Saxispiralis* and *Aeminium* are black hyphomycetes with similar morphology that form terminal chains of brown arthroconidia, although *A. ludgeri* lacks the spirally twisted hyphae observed in *S. lemnorum*. Phylogenetically (a combined DNA sequence data of LSU, ITS, and *rpb2*), *A. ludgeri* and *S. lemnorum* represent a sister clade within *Aeminiaceae*. In the new genus, before dividing into arthroconidia, the cells undergo a process of gradually swelling (torulose), thickening their walls, and darkening, eventually forming long chains of conidia. The conidia are dark brown, spiral-like shape in chains, thick-walled, rugose, and globose. Chlamydospores were not observed in the culture, and there is no identifiable sexual morph present (Paiva et al. 2023). If the branch lengths are also considered (fig. 1; Paiva et al. 2023), then there is also a case to be made for recognizing *Aeminium* as a sole genus in *Aeminiaceae*, rather than introducing additional genera in *Neodevriesiaceae* and *Extremaceae*.

References

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