

## Outlineoffungi.org - Note 1086 *Lineolatales*

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***Lineolatales*** Crous, Spatafora, Haridas & I.V. Grig.

Kohlmeyer & Kohlmeyer (1967, 1979) described the type species, *Didymosphaeria rhizophorae*, and subsequently, Kohlmeyer et al. (1990) suggested a transfer to a new genus, *Lineolata* Kohlm. & Volkm.-Kohlm, reflecting changes in the understanding of the generic concept *Didymosphaeria*'s. *Lineolata rhizophorae* (Kohlm. & E. Kohlm.) Kohlm. & Volkm. could be differentiated from *Didymosphaeria fufilis* (Berk. & Broome) Rehm based on distinctive morphological traits. These include the lack of a clypeus, nearly superficial ascomata, a colored peridium, and a hamathecium with a gelatinous matrix. Asci possess an apical ring-like structure around the ocular chamber. Ascospores display ornamented features (Kohlmeyer et al. 1990). Haridas et al. (2020) introduced *Lineolatales* to accommodate the monotypic family, *Lineolataceae* Crous, Spatafora, Haridas & I.V. Grig. based on morphology and phylogeny using pyrosequencing, Sanger fosmids, and Illumina data. The type genus and type species are *Lineolata* Kohlm. & Volkm.-Kohlm. and *Lineolata rhizophorae* (Kohlm. & E. Kohlm.) Kohlm. & Volkm.-Kohlm.. Based on the taxonomic classification, this newly established order encompasses a singular family, genus, and species. (Haridas et al. 2020). In another study, the whole genome data supported the reconstruction of the phylogenetic relationships within the *Dothideomycetes*. The phylogenomic tree displayed strongly supported branches. In general, there were two main groups identified. The first group consisted of 17 species from four different orders. The second group comprised 62 species from 11 orders within the *Dothideomycetes*, which was further divided into two closely related subgroups. *Lineolatales* is classified in the second subgroup, which consisted of only one species (Dal'Sasso et al. 2023). The taxonomic placement of *Lineolatales* is in *Dothideomycetes*, *Ascomycota*, *Pezizomycotina* (Haridas et al. 2020, Dal'Sasso et al. 2023). Phylogenetically, *Lineolatales* formed a sister clade with *Patellariales* using phylogeny, pyrosequencing, Sanger fosmids, and Illumina data (Haridas et al. 2020) and whole-genome data (Dal'Sasso et al. 2023). In the new order, the ascomata are obpyriform, immersed to superficial ostiolate, papillate, periphysate, and dark brown to black. The pseudoparaphyses are trabeculate in a gelatinous matrix (sensu Liew et al. 2000). The asci are eight-spored, cylindrical, short pedicellate, non-amyloid, with a multi-layered refractive ring, and fissitunicate. The ascospores are uniseriate, one-septate, ellipsoidal, and brown with surface sculpturing (Haridas et al. 2020). *Lineolata rhizophorae* was discovered in marine environments as a saprobe (Haridas et al. 2020).

### References

- Dal'Sasso TC, Rody HV, Oliveira LO. 2023 – Genome-wide analysis and evolutionary history of the necrosis-and ethylene-inducing peptide 1-like protein (NLP) superfamily across the *Dothideomycetes* class of fungi. *Current Microbiology* 80(1), 44.
- Haridas S, Albert R, Binder M et al. 2020 – 101 *Dothideomycetes* genomes: a test case for predicting lifestyles and the emergence of pathogens. *Studies in Mycology* 96(1), 141–153.
- Kohlmeyer J, Kohlmeyer E. 1979 – *Marine Mycology. The Higher Fungi*. New York and London, Academic Press.
- Kohlmeyer J, Kohlmeyer E. 1967 – *Icones Fungorum Maris, Fasc. 4 & 5*. Lehre: J. Cramer.

Kohlmeyer J, Volkmann-Kohlmeyer B. 1990 – Revision of marine species of *Didymosphaeria* (*Ascomycotina*). *Mycological Research* 94(5), 685–690.  
Liew ECY, Aptroot A, Hyde KD. 2000 – Phylogenetic significance of the pseudoparaphyses in Loculoascomycete taxonomy. *Molecular Phylogeny and Evolution* 16:392–402.

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