

Outlineoffungi.org - Note 1091 *Gyrothricaceae*

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Gyrothricaceae Hern Restr. & Crous

Hernández-Restrepo et al. (2022) introduced *Gyrothricaceae* into the *Xylariales* to accommodate genera *Gyrothrix*, *Neogyrothrix*, *Pseudoceratocladium*, *Pseudocircinotrichum*, and *Xenoanthostomella*. The type genus is *Gyrothrix* (Corda) Corda. The members of this family are distributed in different countries. *Gyrothricaceae* is characterized by gyrothrix- and circinotrichum-like asexual morphs in having erect, straight, or flexuous, simple or branched, pale brown to brown, septate, smooth to verrucose setae; polyblastic, obclavate to lageniform, hyaline to subhyaline, thin-walled conidiogenous cells born laterally on the superficial hyphae; and cylindrical to fusiform, straight, or slightly curved, ends bluntly corniform, free end more obtuse than the attached end, hyaline conidia adherent, dry, aggregated into a thick whitish layer at the base of the setae. The anthostomella-like sexual morphs are immersed, black, coriaceous, clustered, rarely solitary, globose in cross-section ascomata with wide ostiolar neck; papillate ostioles with a central periphysate canal; two to multiple cell layers, pale brown cells of *textura irregularis* peridium; longer, numerous, filamentous, septate paraphyses; 8-spores, unitunicate, cylindrical asci with discoid, apical ring, J+ in Melzer's reagent; and uni- to biseriate, ellipsoidal, unicellular, pale brown to dark brown, smooth-walled ascospores occasionally with mucilaginous sheath, sigmoid to straight germ slit. Four *Gyrothrix* species have been described, mainly collected from the Czech Republic (*Sambucus nigra*), Italy (*Vitis vinifera*), Mexico (unidentified host), the Netherlands (*Astragalus* sp., *Juncus inflexus*), South Africa (*Elegia equisetacea*, *Encephalartos* sp., *Eucalyptus dunnii*, *Eucalyptus* sp., *Podocarpus falcatus*, *Thamnochortus spicigerus*), and the UK (*Urtica dioica*) (Daranagama et al. 2016, Hernández-Restrepo et al. 2022). *Neogyrothrix* is a monotypic genus that is morphologically similar to *Gyrothrix* but phylogenetically distinct. The only known *Neogyrothrix* species has been recorded from South Africa (*Olea capensis* subsp. *macrocarpa*, *Diospyros whyteana*) (Crous et al. 2019, Hernández-Restrepo et al. 2022). *Pseudoceratocladium* species has been recorded from Spain (unidentified tree), while *Pseudocircinotrichum* from Brazil (*Theobromae cacao*) and New Zealand (*Beilschmiedia taraire*). Species belonging to the above-mentioned genera have been mainly isolated from dry or rotted leaves. *Xenoanthostomella* species have been described from Australia (*Cycas* sp.), Brazil (*Drimys* sp.), Malaysia (petioles of *Albizia falcataria*, seed pods of *Falcataria moluccana*), South Africa (*Kniphofia roeperi*), and Thailand (*Chromolaena odorata*, *Nephrolepis* sp., *Calamus* sp.) Based on ITS, LSU, and rpb2 combined phylogeny, *Gyrothricaceae* forms a sister clade to Lopadostamataceae. However, in our preliminary phylogenies, with the addition of more taxa from the Xylariales genera incertae sedis, the taxonomic placements of some of the accepted species show uncertain phylogenetic placements. Therefore, further studies with additional collections and robust phylogenies are required for the acceptance of genera into the *Gyrothricaceae*.

Reference

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Entry by

Milan C. Samarakoon, Department of Entomology and Plant Pathology, Faculty of Agriculture, Chiang Mai University, Chiang Mai 50200, Thailand.

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