Outlineoffungi.org - Note 931 *Neogymnomycetaceae*

Web-links: Index Fungorum, Facesoffungi, MycoBank, Genbank

Neogymnomycetaceae Kandemir & de Hoog

Kandemir et al. (2022) established the family *Neogymnomycetaceae* to accommodate several keratinophilic genera which mainly isolated from dung and soil based on a stable phylogenetic analysis with a combined eight loci (LSU, ITS, *TUB*, *RP60S*, *TEF1*, *TEF3*, *RPB1* and *RPB2*) sequences. *Neogymnomyces* was designated to be the generic type. Currently, six genera were accepted, viz. *Auxarthronopsis*, *Canomyces*, *Currahmyces*, *Neogymnomyces* and *Renispora* (Orr 1970; Sigler et al. 1979; Sharma et al. 2013, Sharma and Shouche 2020; Kandemir et al. 2022). In addition, the genera *Canomyces* and *Auxarthronopsis* have been found to be associated with plant debris in Karst Cave in China (Zhang et al. 2021). Since the family *Neogymnomycetaceae* was defined based on a stable phylogenetic analysis and similar ecological habitats, several species, i.e., *Amauroascus purpureus*, *A. volatilis-patellus*, *Chrysosporium speluncarum*, and *Nannizziopsis mirabilis* have converged on this clade, requiring further research on nomenclature (Kandemir et al. 2022). *Chlamydosauromyces punctatus* which was isolated from the skin of a lizard in the USA (Sigler et al. 2002) clustered with *Neogymnomyces* species with a high support value, and according to the keratinophilic habitat and gymnothecial ascomata, but different characters of ascospores (Doveri et al. 2012), Kandemir et al. (2022) synonymized *C. punctatus* with *Neogymnomyces demonbreunii.*

Reference

Doveri F, Pecchia S, Vergara M, Sarrocco S, Vannacci G. 2012– A comparative study of *Neogymnomyces virgineus*, a new keratinolytic species from dung, and its relationships with the *Onygenales*. Fungal Diversity 52(1), 13–34. https://doi.org/10.1007/s13225-011-0120-2

Kandemir H, Dukik K, de Melo Teixeira M, Stielow JB, Delma FZ, Al-Hatmi AM, Ahmed SA, Ilkit M and de Hoog GS.2022– Phylogenetic and ecological reevaluation of the order *Onygenales.* Fungal Diversity 115(1), 1–72. http://dx.doi.org/10.21203/rs.3.rs-1049506/v1

Orr GF.1970 – *Neogymnomyces*, a new genus of the *Gymnoascaceae*. Canadian Journal of Botany 48(6), 1061–1066. https://doi.org/10.1139/b70-153

Sigler L, Gauer PK, Lichtwardt RW, Carmichael JW.1979 – *Renispora favissima,* a new gymnoascaceous fungus with tuberculate conidia. Mycotaxon 10(1), 133–141.

Sigler L, Hambleton S, Paré JA. 2002 – Chlamydosauromyces punctatus gen. & sp. nov. (*Onygenaceae)* from the skin of a lizard. Studies in Mycology 47, 123–130.

Sharma R, Gräser Y, Singh SK. 2013 – *Auxarthronopsis*, a new genus of *Onygenales* isolated from the vicinity of Bandhavgarh National Park, India. IMA Fungus 4, 89–102. https://doi.org/10.5598/imafungus.2013.04.01.09

Sharma R, Shouche YS. 2020 – Diversity of onygenalean fungi in keratin-rich habitats of Maharashtra (India) and description of three novel taxa. Mycopathologia 185(1),67–85. https://link.springer.com/article/10.1007/s11046-019-00346-7

Zhang ZF, Zhou SY, Eurwilaichitr L, Ingsriswang S, Raza M, Chen Q, Zhao P, Liu F, Cai L 2021– *Culturable mycobiota* from Karst caves in China II, with descriptions of 33 new species. Fungal Diversity 106, 29–136. https://doi.org/10.1007/s13225-020-00453-7

Entry by
Qing Tian, School of Life Science and Technology, Center for Informational Biology, University of Electronic Science and Technology of China, Chengdu 611731, People's Republic of China

(Edited by **Kevin D. Hyde & Maryam Tavakol Noorabadi**)

Published online 5 April 2024