

*Nothodactylaria nephrolepidis*



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## *Nothodactylariaceae* Crous, *fam. nov.*

*Etymology.* Name refers to the genus *Nothodactylaria*.

Classification — *Nothodactylariaceae*, *Xylariales*, *Sordariomycetes*.

*Mycelium* consisting of hyaline, smooth, branched, septate, hyphae. *Conidiophores* solitary or aggregated in clusters, subcylindrical, unbranched, erect, hyaline to pale brown, smooth, with slight apical taper, septate. *Conidiogenous cells* terminal,

integrated, hyaline to pale brown, smooth, subcylindrical with apical taper, forming a rachis with sympodially proliferating pimple-like denticles. *Conidia* solitary, aggregating in a mucoid mass, septate, hyaline, smooth, subcylindrical to fusoid-ellipsoid, straight, apex obtuse, tapering to truncate hilum.

*Type genus.* *Nothodactylaria* Crous.  
Mycobank MB833022.

## *Nothodactylaria* Crous, *gen. nov.*

*Etymology.* Name refers to its similarity with *Dactylaria*.

*Mycelium* consisting of hyaline, smooth, branched, septate, hyphae. *Conidiophores* solitary or aggregated in clusters, subcylindrical, unbranched, erect, hyaline to pale brown, smooth, with slight apical taper, septate. *Conidiogenous cells* terminal, integrated, hyaline to pale brown, smooth, subcylindrical with

apical taper, forming a rachis with sympodially proliferating pimple-like denticles. *Conidia* solitary, aggregating in a mucoid mass, septate, hyaline, smooth, subcylindrical to fusoid-ellipsoid, straight, apex obtuse, tapering to truncate hilum.

*Type species.* *Nothodactylaria nephrolepidis* Crous.  
Mycobank MB833023.

## *Nothodactylaria nephrolepidis* Crous, *sp. nov.*

*Etymology.* Name refers to the host genus *Nephrolepis* from which it was isolated.

*Mycelium* consisting of hyaline, smooth, branched, septate, 1.5–2 µm diam hyphae. *Conidiophores* solitary or aggregated in clusters of 2–6, subcylindrical, unbranched, erect, hyaline to pale brown, smooth, with slight apical taper, 1–2-septate, 30–50 × 3–4.5 µm. *Conidiogenous cells* terminal, integrated, hyaline to pale brown, smooth, subcylindrical with apical taper, forming a rachis with sympodially proliferating pimple-like denticles, 0.5 µm diam, 25–45 × 3–4 µm. *Conidia* solitary, aggregating in a mucoid mass, 1(–3)-septate, hyaline, smooth, guttulate to granular, subcylindrical to fusoid-ellipsoid, straight, apex obtuse, tapering to truncate hilum, 1 µm diam, (7–)12–16(–18) × 2(–2.5) µm.

Culture characteristics — Colonies flat, spreading, surface folded, with sparse aerial mycelium and smooth, lobate margin, reaching 30 mm diam after 2 wk at 25 °C. On MEA, PDA and OA surface and reverse cinnamon.

*Typus.* SOUTH AFRICA, Western Cape Province, Knysna, Knysna area, on leaves of *Nephrolepis exaltata* (*Lomariopsidaceae*), 23 Nov. 2018, *F. Roets*, HPC 2722 (holotype CBS H-24179, culture ex-type CPC 37028 = CBS 146078, ITS, LSU and *rpb2* sequences GenBank MN562132.1, MN567639.1 and MN556809.1, MycoBank MB832890).

*Colour illustrations.* Knysna forest where *Nothodactylaria nephrolepidis* was collected. Colony on synthetic nutrient poor agar; conidiophores with conidiogenous cells; conidia. Scale bars = 10 µm.

Notes — *Dactylaria* is characterised by having hyaline conidiophores and septate, hyaline conidia formed on denticles (De Hoog 1985). The genus *Dactylaria* is polyphyletic, and the phylogeny of its type species (*D. purpurella*) remains unresolved. *Nothodactylaria nephrolepidis* resembles *Dactylaria*, but clusters apart from other species considered to belong to *Dactylaria* s.lat.

Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the ITS sequence had highest similarity to *Inocybe ochroalba* (strain 254, GenBank EU326165.1; Identities = 504/554 (91 %), 21 gaps (3 %)), *Dactylaria fragilis* (strain MG12, GenBank KM246212.1; Identities = 366/409 (89 %), 15 gaps (3 %)), and *Cylindrium purgamentum* (strain CPC 29580, GenBank NR\_155691.1; Identities = 474/553 (86 %), 17 gaps (3 %)). Closest hits using the LSU sequence are *Pseudotruncatella arezzoensis* (strain MFLUCC 14-0988, GenBank MG192317.1; Identities = 813/843 (96 %), 1 gap (0 %)), *Dactylaria sparsa* (strain P055, GenBank EU107291.1; Identities = 798/829 (96 %), 6 gaps (0 %)), and *Dactylaria fragilis* (strain P057, GenBank EU107290.1; Identities = 795/826 (96 %), 4 gaps (0 %)). No significant hits were obtained when the *rpb2* sequence was used in blastn and megablast searches.

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