

Vandijckella johanna



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Vandijkellaceae Sandoval-Denis, *fam. nov.*

Classification — *Vandijkellaceae*, *Helotiales*, *Leotiomyces*.

Colonies buff to ochreous, flat and radially folded with abundant aerial mycelium commonly aggregated forming hyphal ropes. *Mycelium* hyaline, septate, branched and smooth. *Conidiophores* simple, determinate, commonly reduced to conidio-

Vandijkella Sandoval-Denis, *gen. nov.*

Etymology. Named in honour of the president of the Royal Dutch Academy of Arts and Sciences (KNAW), José F.T.M. van Dijk. This species was discovered during a Citizen Science project in the Netherlands, 'Wereldfaam, een schimmel met je eigen naam', describing novel fungal species isolated from Dutch soils.

Mycelium hyaline, septate, smooth- and thin-walled, commonly aggregated to form ropes. *Conidiophores* monomorphic, smooth- and thin-walled, mononematous, short, simple and

Vandijkella johannae Sandoval-Denis, *sp. nov.*

Etymology. Linking the first female professor of the Netherlands, Johanna Westerdijk (10 Feb. 1917), to the first female president of the KNAW, José F.T.M. van Dijk (18 May 2015) – two phenomenal individuals, with a great legacy.

Conidiophores simple, mostly reduced to monophialides borne singly and laterally on the aerial hyphae or more commonly from hyphal ropes; rarely borne singly on swollen basal cells, 5–8.5 µm diam, (10.5–)11–51.5(–60) × 2.5–4(–5) µm, smooth and thin-walled. *Conidiogenous cells* ampulliform, lageniform to wide subulate, hyaline, (10.5–)13–17.5(–18) × 3–3.5(–4) µm, smooth- and thin-walled with discreet periclinal thickening and a conspicuous apical collarette, 3.5–4.5(–5) × 2–3.5 µm. *Conidia* catenulate, unicellular, clavate, cylindrical to oblong, often tapering toward the base, hyaline, (3.5–)4–5(–6) × (1–)2–2.5 µm.

Culture characteristics — Colonies on MEA reaching 30–35 mm diam in 7 d at 25 °C. Colony surface ochreous to buff at the centre with sienna to umber periphery, flat with raised centre and radially folded, velvety to dusty, sporulation abundant from copious aerial mycelium; margins regular, entire to undulate. Reverse sienna to luteous, becoming umber to olivaceous, without diffusible pigments. On OA reaching 25–35 mm diam in 7 d at 25 °C. Colony surface white to buff, with white margins, flat with scarce white aerial mycelium forming faint radial striations, membranous to velvety; margin regular and complete. Reverse white, umber at the centre, without diffusible pigments. On PDA reaching 33–40 mm diam in 7 d at 25 °C. Colony surface white, straw to umber coloured, raised and radially folded with flat margins, membranous at first becoming velvety to felty with the production of abundant floccose aerial mycelium, densely sporulating; margins regular with abundant submerged mycelium. Reverse white with umber to olivaceous centre, without diffusible pigments.

Typus. THE NETHERLANDS, Amsterdam, from garden soil, Feb. 2017, *J.F.T.M. van Dijk* (holotype CBS H-23223, culture ex-type CBS 143182; ITS, LSU, *rpb2* and *tub2* sequences GenBank LT904725, LT904726, LT904707 and LT904703, MycoBank MB822626).

Colour illustrations. Background, garden and collector (José F.T.M. van Dijk); conidiophores, conidiogenous cells and conidia. Scale bars = 5 µm.

genous cells borne directly on the aerial hyphae or rarely on a basal cell. *Conidiogenous cells* phialidic, hyaline and smooth-walled. *Conidia* clavate to cylindrical, rounded, smooth- and thin-walled, borne in chains.

Type genus. *Vandijkella* Sandoval-Denis.
MycoBank MB823486.

determinate, often reduced to conidiogenous cells. *Conidiogenous cells* hyaline, smooth- and thin-walled, borne laterally on aerial hyphae, monophialidic, ampulliform, with a conspicuous and long collarette at the apical conidiogenous locus. *Conidia* clavate, short cylindrical to oblong with rounded apices, straight, smooth- and thin-walled, grouping in a chain that easily detaches. *Sexual morph* unknown.

Type species. *Vandijkella johannae* Sandoval-Denis.
MycoBank MB822625.

Additional material examined. THE NETHERLANDS, Amsterdam, from garden soil, Feb. 2017, *J.F.T.M. van Dijk*, CBS 143181; ITS, LSU, *rpb2* and *tub2* sequences GenBank LT904723, LT904724, LT904706 and LT904702; *ibid.*, CBS 143183; ITS, LSU, *rpb2* and *tub2* sequences GenBank LT904727, LT904728, LT904708 and LT904704.

Notes — Ribosomal DNA sequences related *Vandijkella johannae* to the *Dermataceae* and *Helotiaceae*, helotialean families including a heterogeneous assembly of asexual and sexual morphs, mostly plant pathogenic or saprobic species (Zhang & Wang 2015). However, the genus *Vandijkella* nested in an undefined clade well differentiated from the currently known families of the *Helotiales*, for which the family *Vandijkellaceae* is introduced. The new family is phylogenetically related to representatives from known polyphyletic genera, mostly discomycetes of uncertain association but previously assigned to the *Calloriceae*, *Dermataceae*, *Helotiaceae* or *Hyaloscyphaceae* s.lat. (Baschien et al. 2013, Baral & Haelewaters 2015). Moreover, the currently accepted families in *Helotiales* have been demonstrated to be polyphyletic by morphological and molecular data (Schoch et al. 2009, Zhang & Wang 2015). The new species *Vandijkella johannae* resembles the recently described genus *Davidhawksworthia* (Crous & Groenewald 2016), which is genetically closely related, both genera producing more or less cylindrical, aseptate conidia on ampulliform, somewhat swollen phialides. Nevertheless, *V. johannae* is distinguished by having monomorphic conidiophores bearing single phialides, and short cylindrical conidia formed in chains; vs dimorphic conidiophores (phialides borne on erect, penicillate conidiophores or as multiple phialides on a basal cell) and long cylindrical conidia (18–20(–22) µm long) of *Davidhawksworthia illicicola*, the only species of that genus (Crous & Groenewald 2016). Another taxon phylogenetically closely related to *V. johannae* is *Mycosphaera corallina* (Marvanová et al. 2002), a fungus also forming chains of elongated cylindrical conidia. It is, however, morphologically dissimilar by producing polyblastic conidiogenous cells, with sympodial elongations.