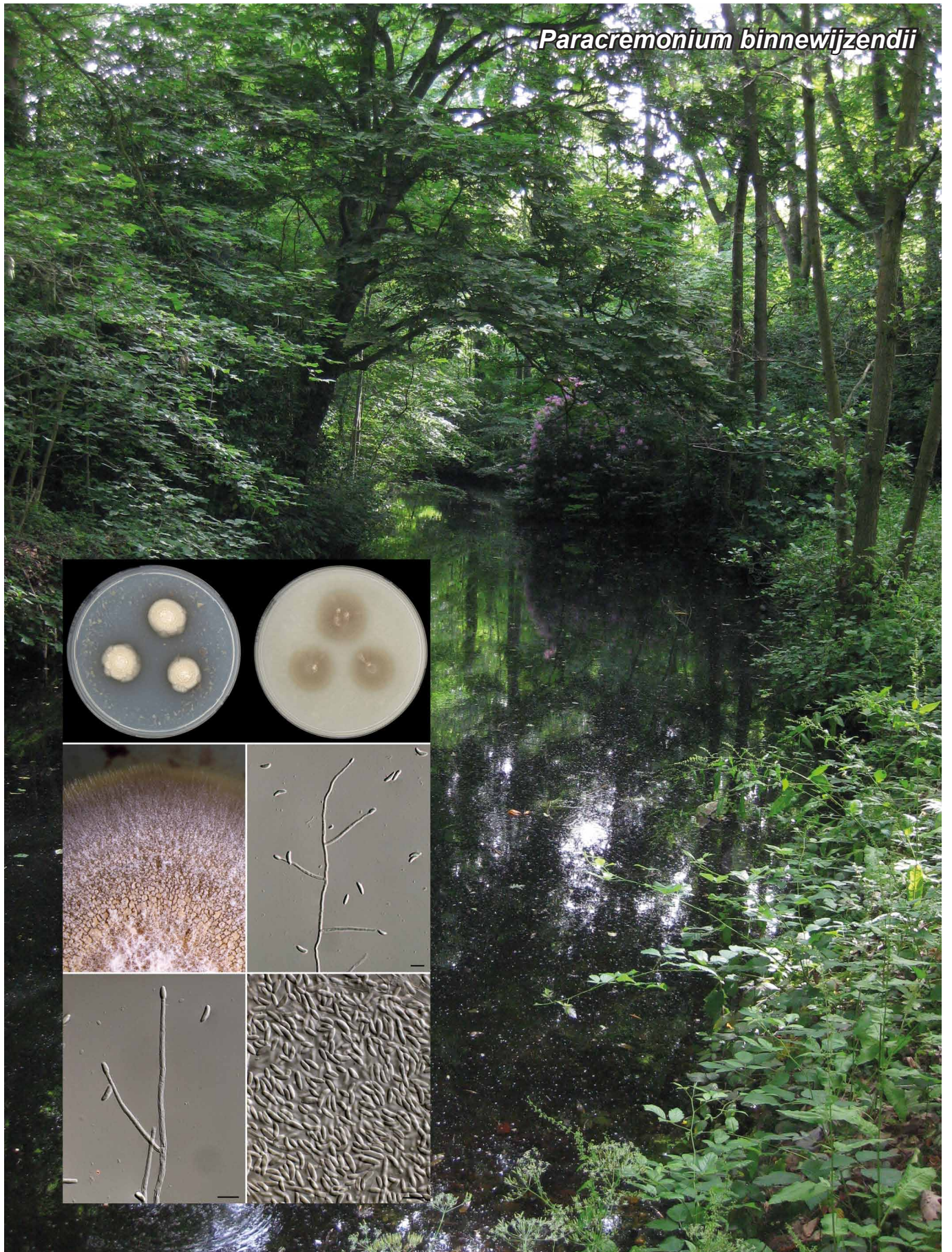


Paracremonium binnewijzendii



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Paracremonium binnewijzendii Houbraken, van der Kleij & L. Lombard, *sp. nov.*

Etymology. Named after Daan Binnewijzend, who collected this species.

Classification — *Nectriaceae*, *Hypocreales*, *Sordariomycetes*.

No sexual morph or chlamydospores observed. *Mycelium* consisting of hyaline, septate, branched, 2–4 µm diam hyphae. *Conidiogenous cells* subcylindrical, hyaline, smooth, unbranched, erect, slightly tapering towards apex with an inconspicuous collarette, (17.5–)30–55(–65) × 1.5–3 µm, 0(–1)-septate. *Conidia* formed in slimy heads at apices of conidiogenous cells, aseptate, ellipsoidal to fusoid, occasionally curved, smooth, (6–)7–11(–13) × (1.5–)2.5–3.5(–4.5) µm, mean ± standard deviation 8.5 ± 1.6 × 3.0 ± 0.5.

Culture characteristics — Colony diam, 7 d, in mm: PDA (25 °C) 16–23; PDA (30 °C) 18–25; PDA (37 °C) 8–13; MEA (25 °C) 16–22; SNA (25 °C) 20–25.

PDA, 25 °C: Colonies low convex; sporulation profuse; aerial mycelium present in centre, white; soluble pigments in agar orange-brown; margin slightly irregular; conidia *en masse* orange-pink; reverse orange-brown in centre, margin pale orange-brown. MEA, 25 °C: Colonies centrally elevated, slightly radially and concentric sulcate; sporulation poor; mycelium white to pale brown, synnematously bundled; soluble pigments absent; margin slightly irregular; conidial colour inconspicuous; reverse reddish brown. OA, 25 °C: Colonies effuse; sporulation moderate; mycelium white; aerial mycelium absent; conidia *en masse* pink-orange, in centre; reverse red-brown.

Typus. NETHERLANDS, Leiden, ex soil from stream embankment, 2015, *D. Binnewijzend* (holotype CBS H-23246, culture ex-type DP-39 = CBS 143277; ITS, LSU and *BenA* sequences GenBank MG250173, MG250174 and MG254816, MycoBank MB823317).

Additional material examined. NETHERLANDS, Leiden, isol. soil from stream embankment, 2015, *D. Binnewijzend* (DP-166; DP-167 = CBS 143278).

The phylogenetic tree (*BenA*+ITS+LSU) was inferred using the Maximum Likelihood method using the RAXML-HPC v. 8.2.8 BlackBox. Bootstrap support values are indicated at the nodes (1 000 bootstraps). The scale bar indicates the expected number of changes per site. *Paracremonium binnewijzendii* is phylogenetically unique and is basal to other species in the genus.

Colour illustrations. Stream embankment in Leiden, The Netherlands; PDA (left), OA (right) (7-d-old colonies); detail of colony on PDA; conidiophores; conidia. Scale bars = 10 µm.

Notes — The genus *Paracremonium* was recently established for different strains from a group of fungi previously treated as *Acremonium recifei* (Lombard et al. 2015). Four species are currently accepted in *Paracremonium*, *P. binnewijzendii* (described here), *P. contagium*, *P. inflatum* and *P. pembeum*. *Paracremonium binnewijzendii* was isolated from stream embankments (The Netherlands), while *P. contagium* (Canada) and *P. inflatum* (India, Colombia) are associated with human infections, and *P. pembeum* with trees (*Acer negundo*, *Persea americana*, *Platanus racemosa*, *Ricinus communis*) and heads of *Euwallacea* sp. (California, USA) (Lombard et al. 2015, Lynch et al. 2016).

Paracremonium binnewijzendii can be distinguished from the other species in the genus by its conidial size: the conidia of *P. binnewijzendii* are generally more than 7 µm in length, and the conidia of the other species in the genus are usually less than 7 µm long. *Paracremonium inflatum* can be distinguished from the other species by the production of sterile coils from which conidiophores radiate, and *P. pembeum* is the sole species in the genus that produces globose to ellipsoidal, hyaline, thick-walled chlamydospores. No chlamydospores or coiled hyphae were observed in *P. contagium* (Lombard et al. 2015, Lynch et al. 2016).

