Pythium wohlseniourum
**Pythium wohlseniorum** J.E. Blair, sp. nov.


**Classification.** Pythiaceae, Pythiales, Oomycetes.

Main hyphae up to 5 µm diam. Sporangia filamentous non-inflated, giving rise to vesicles containing abundant zoospores at room temperature on 0.2% water agar with sterile grass blades. Encysted zoospores 7–10 µm (av. 8.5 µm) diam, form large grape-like clusters. Oogonia produced in single culture after several weeks, globose, smooth-walled, mostly intercalary, occasionally catenulate, 20–23 µm (av. 21.6 µm) diam. Antheridia mononucleous, one per oogonium. Oospores single, aplerotic or nearly plerotic, globose, 16–19 µm (av. 17.9 µm) diam, wall 1.1–1.6 µm (av. 1.3 µm) thick.

Culture characteristics. Produces dense, aerial hyphae on potato-dextrose agar (PDA), thin aerial hyphae with no special pattern on potato-carrot (PCA) and clarified V8 agars (V8A), and a chrysanthemum pattern with light aerial hyphae on cornmeal agar (CMA). Colony diam. after 24 h at 25 °C on PDA 26 mm, PCA 28 mm, V8A 25 mm, CMA 23 mm. Optimal growth at 28 °C.

**Typus.** USA, Pennsylvania, Warwick Township, Millport Conservancy, from stream water, 12 May 2015, J.E. Blair & S. Lobdell W15-2 (holotype CBS 144501, preserved as metabolically inactive culture, ITS, COI, COII, beta-tubulin and LSU sequences GenBank MH277978, MH289796, MH289798, MH289799 and MH289800; MycoBank MB826753).

**Additional material examined.** USA, Pennsylvania, Warwick Township, Millport Conservancy, from stream water, 20 June 2017, J.E. Blair & A.M. Bauer (CBS 144502 = W17-56; COI sequence GenBank MH289797).

Notes. Isolates were first collected in 2013 and subsequently in 2015 and 2017; this species is commonly baited from stream water with hemp seed, or in association with various submerged pondweeds. Despite extensive stream sampling in the area, *Pythium wohlseniorum* has only been recovered to date from Lititz Run at Millport Conservancy. Phylogenetic analysis of both mitochondrial and nuclear loci place *P. wohlseniorum* in *Pythium* Clade B2 sensu Levesque & De Cock (2004), closely related to *P. pachycaule*. Sequences from 11 isolates were identical for COII, ITS, LSU and beta-tubulin loci; a single nucleotide polymorphism was present in COI sequences. *Pythium wohlseniorum* has a higher optimal temperature compared to *P. pachycaule*, and a faster growth rate at 25 °C than *P. pachycaule*, *P. coloratum*, *P. diclinum*, *P. dissotomum* and *P. lutarium*. Other morphological features overlap with other Clade B2 species.

**Colour illustrations.** Lititz Run at Millport Conservancy; culture morphology (clockwise from top-left) on V8A, PCA, CMA and PDA, vesicle containing zoospores, cluster of encysted zoospores, intercalary oogonium with single oospore, catenulate oogonia. Scale bars = 10 µm.