Hydropisphaera fungicola Rossman, Farr & Newcombe, **sp. nov.**

***MycoBank*:** MB511278.

***Etymology*:** *fungicola* (L.) – on another fungus, referring to the fungus on *Ulocladium atrum* on leaves of poplar.

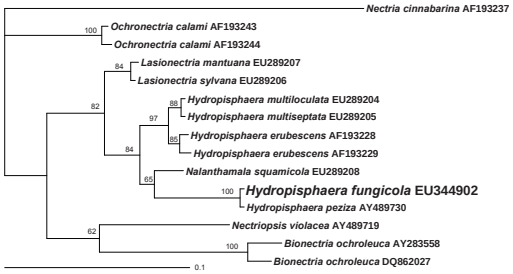
> ***Latin diagnosis*:** Ascomata subglobosa vel globosa, 310–420 µm diam, 280–350 µm alta, apice leviter vel manifeste complanata, 140–210 µm diam. Ascosporae 8.9–10.6 × 4.3–5.9 µm, breviter fusiformes, 1-septatae, leviter striatae. Status asexualis *Acremonii* similis.

***Description*:** *Ascomata* (*in vivo*) solitary to aggregated in groups of up to five, superficial, surrounded by a white, thin, byssoid subiculum, subglobose to globose, 310–420 µm diam × 280–350 µm high, with faint to distinct, flattened, ostiolate apex, 140–210 µm diam, with thickened margin 20–40 µm high, collapsed cupulate when young, rarely collapsing when mature, yellow to dark brown, surface slightly scurfy with loose, hyaline cells. *Ascomatal wall* 40–70 µm diam, thicker towards apex, of thin-walled, globose to elongate cells, 10–20 × 10–15 µm, forming *textura angularis*. *Asci* unitunicate, narrowly clavate, 80–90 × 9–11 µm, with apical ring, ascospores obliquely uniseriate. *Ascospores* 8.9–10.6 × 4.3–5.9 µm [av. = 9.9 µm (SD 0.4) × 5.2 µm (SD 0.3), n = 46], short fusiform, one-septate, rarely slightly constricted, often with a single oil drop in each cell, faintly striate.

***Cultural characteristics*:** After 3 weeks on potato-dextrose agar under alternating near-ultraviolet and fluorescent light (12/12 h) growing without *Ulocladium*, colony white to pale vinaceous-buff, 1.5–1.9 cm diam, thin, sparse, aerial mycelium forming slimy fascicles, becoming solitary extended hyphae toward outer region, margin irregularly wavy, reverse white at margin to vinaceous-buff in centre. Under same conditions but in dual culture, producing an acremonium-like state in association with conidia of *Ulocladium*, conidia of *H. fungicola* produced on sparse, long, narrow, non-septate conidiogenous cells, 32–46 × 0.9–1.6 µm, tapering to apex; conidia 3.2–6 × 1.8–2 µm, variable in length, ellipsoidal with rounded ends, hyaline, non-septate, forming small globose heads at apex of conidiogenous cells.

> ***Typus*: USA,** Idaho, Lapwai Canyon, in the riparian community of Lapwai Creek, 46 20 13.93 N. 116 36 21.73 W, on *Ulocladium atrum* associated with *Melampsora* rust on decaying leaves of *Populus trichocarpa*, collected and cultured by G. Newcombe, BPI 878275, **holotypus**, culture ex-type ARS 4170 = CBS 122304, GenBank LSU = EU344902; ITS = EU344903.

***Notes*:** In the *Hypocreales*, *Bionectriaceae*, the genus *Hydropisphaera* Dumort. is characterised by yellow, orange to brown ascomata that collapse, and are cupulate upon drying, with ascomatal walls of thin-walled, globose cells[1]. The type species, *H. peziza* (Tode) Dumort., is relatively common in temperate regions on moist decaying wood. This new species, *H. fungicola*, is unusual in that it appears to parasitize *Ulocladium atrum* Preuss. In addition, the ascospores of *H. fungicola* are smaller than any previously described species of *Hydropisphaera*, including those recently described[2,3]. Ascomata of *H. fungicola* are especially abundant at the edge of the *Ulocladium* colony on the decaying leaves. An anamorphic state of *H. fungicola* is also present, forming a thin, loose hyphal subiculum on the surface of the leaves. Although *H. fungicola* will grow by itself in culture, the development of the acremonium-like anamorph is produced in the presence of this dematiaceous hyphomycete (*Ulocladium atrum* AR 4177 = CBS 122493). Many species of *Hydropisphaera* occur in habitats such as well-rotten wood, and thus may be fungicolous, although not conspicuously.



Phylogenetic tree placing *Hydropisphaera fungicola* in the *Hydropisphaera* close to the type species *H. peziza*. The tree results from a Bayesian analysis based on Markov chain Monte Carlo (MCMC) approach using MrBayes 3.01.

***Colour illustrations*:** *Populus trichocarpa* in the riparian community of Lapwai Creek, Idaho (G. Newcombe); ascomata, longitudinal section of ascoma, asci, ascospores (D. Farr). Scale bars = 100 µm, 10 µm.

***References*:** [1]Rossman AY, Samuels GT, Rogerson CT, Lowen RL (1999). Genera of *Bionectriaceae*, *Hypocreaceae*, and *Nectriaceae* (*Hypocreales*, *Ascomycetes*). *Studies in Mycology* **42**: 1–248. [2]Nong Y, Zhuang W-Y (2005). Preliminary survey of *Bionectriaceae* and *Nectriaceae* (*Hypocreales*, *Ascomycetes*) from Jigongshan, China. *Fungal Diversity* **19**: 95–107. [3]Zhuang W-Y (2000). New species of fungi from tropical China: a new species of *Hydropisphaera* (*Bionectriaceae*). *Mycotaxon* **76**: 93–95.

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