

Fungal Planet 1146 – 19 December 2020

Circinella lampensis E. Alvarez, C. Muñoz & I. Fernandez, *sp. nov.*

Etymology. Referring to Lampa, where this fungus was collected, Lampa Caves, Santiago, Chile.

Classification — *Lichtheimiaceae*, *Mucorales*, *Mucoromycetes*.

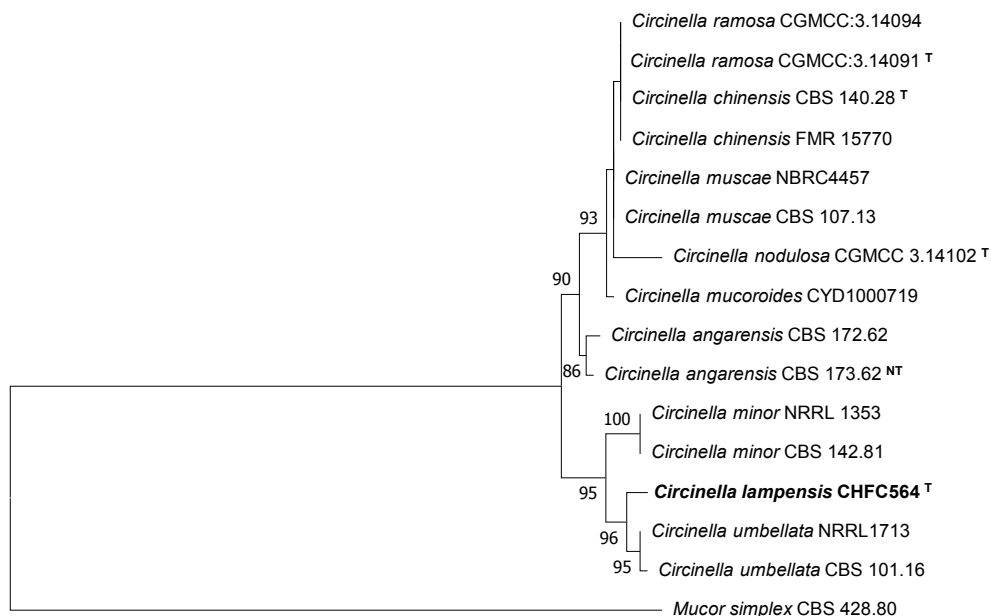
Hyphae hyaline, 5–10 µm wide, thin- to thick-walled, smooth, aseptate. *Sporangiophores* erect, 2–20 mm high, branched, hyaline to brownish when older, producing sporangia mainly in umbels of 4–6, circinate branches, often uniseptate stalks; *sporangia* spherical or subglobose, brown to black in transmitted light, 40–75 µm diam, but mostly about 55 µm; *columellae* ranging from 15–30 µm, but usually 20 µm, globose to subglobose or pyriform in shape; *sporangiospores* (4.5–)5–7.5 µm diam, mostly 6 µm, globose to subglobose, biconcave in the frontal view, singly hyaline to slightly coloured. *Zygospores* and *chlamydospores* not observed.

Culture characteristics — Colonies on potato dextrose agar (PDA) attaining 90 mm diam after 9–10 d at 25 °C, cottony, whitish to light greyish, reverse hyaline. Growth observed at 15 and 25 °C, but no growth at 5 and 37 °C.

Typus. CHILE, Santiago, Lampa caves, from soil, Jan. 2020, E. Alvarez, C. Muñoz & I. Fernandez (holotype ChFC-564 in Chilean Fungal Collection preserved in a metabolically inactive state, ex-type culture ChFC-2020564; ITS and LSU sequences GenBank MT764259 and MW082021, MycoBank MB836221).

Notes — Based on BLAST search results, the closest hits with the ITS sequence were *Circinella umbellata* (GenBank JN205858; Identities = 596/611 (97.55 %), six gaps (0 %)) and *C. minor* (GenBank MH854640; Identities = 588/611 (96 %), eight gaps (1 %)).

Phylogenetic inference, performed using the ITS sequences of different *Circinella* spp., including the type species *C. umbellata*, demonstrated that our fungus represents a new species of the genus *Circinella*, being closely related to the species *C. umbellata*. Macroscopically, *C. lampensis* resembles *C. umbellata* (Hesseltine & Fennell 1955). Both species showed whitish greyish colonies on all media tested. However, microscopically, *C. lampensis* presents umbels of up to six sporangia, contrasting to *C. umbellata* which produce umbels of up to 12 sporangia. Also, *C. lampensis* differs from *C. umbellata* in having smaller sporangia (up to 75 µm diam vs up to 120 µm diam in *C. umbellata*), usually smaller sporangiospores (5–7.5 µm vs 4.5–10.5 µm in *C. umbellata*), and smaller columellae (15–30 µm vs 84–90 µm in *C. umbellata*). In addition, *C. minor* can be distinguished from *C. lampensis* due the larger size of its sporangia and columellae (40–90 µm, and 12–75 µm vs 40–75 µm, and 15–30 µm, respectively).



0.05

Colour illustrations. Lampa caves, Santiago de Chile; colony after 7 d at 25 °C on PDA; umbel with sporangia; sporangia and columella; sporangiospores. Scale bars = 50 µm (sporangia borne in umbel), 10 µm (all others).