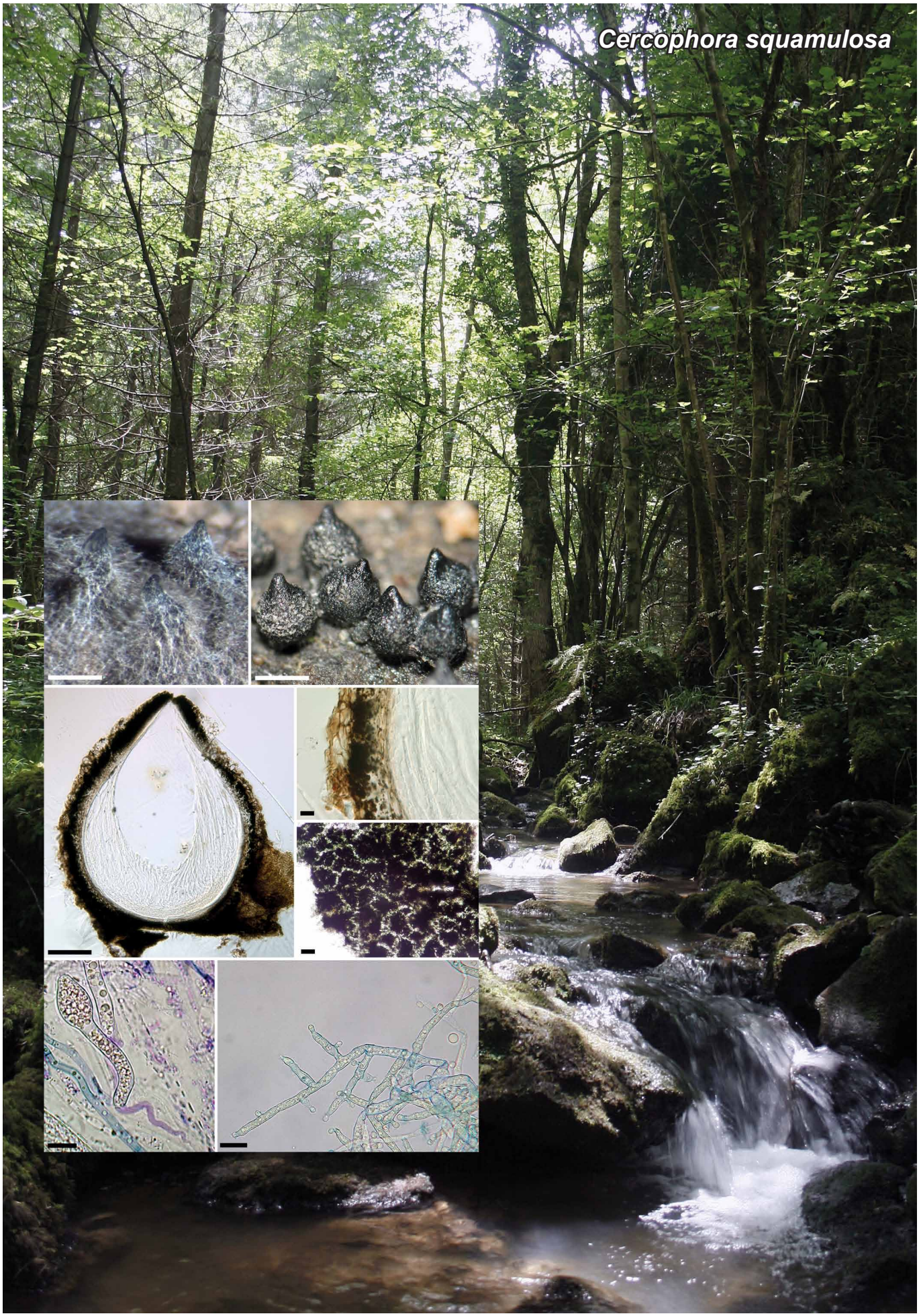
Cercophora squamulosa

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Cercophora squamulosa A.N. Mill., J. Fourn., Raja & Lechat, *sp. nov.*

Etymology. The specific epithet refers to the ascomatal vestiture.

Classification — *Lasiosphaeriaceae*, *Sordariales*, *Sordariomycetes*.

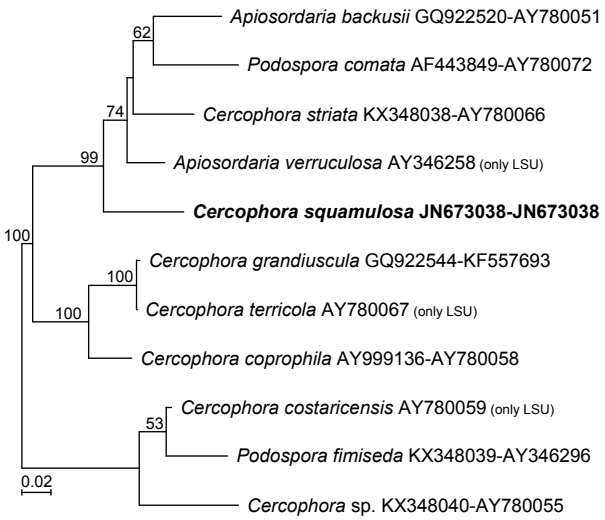
Ascomata subglobose to obpyriform with a conical neck, 320–500 µm diam × 390–580 µm high, superficial, clustered in small groups, at times in contact, young ascomata with white hyphae radiating from the lower part of ascomata, covering the ascomata and becoming grey with age then wearing away, surface of older ascomata covered with white to greyish granules or crystalline flakes below the neck, most noticeable upon drying, sometimes laterally collapsed; neck papillate, broadly conical to bluntly rounded, 60–200 µm high, ostiolate, black, slightly sulcate or roughened, at times not clearly differentiated from the venter. *Ascomatal wall* 40–50 µm thick, upper part 10–24 µm thick, covered by a fugacious pseudoparenchymatous tissue of *textura angularis*, composed of hyaline thin-walled cells, sloughing off into greyish flakes, base 30–120 µm thick, embedded in a dense prosenchymatous tissue of *textura intricata*, composed of olivaceous brown hyphae 2–4 µm wide, areolate in surface view, roughened, black, pseudoparenchymatous, 3-layered: outermost layer 15–20 µm thick, composed of patches of dark brown, entirely melanised cells separated by hyaline thin-walled cells; middle layer 15–20 µm thick, composed of hyaline thin-walled cells interspersed with dark brown opaque hyphae 1.5–2 µm wide; inner layer 10–15 µm thick, composed of flattened, thin-walled hyaline to pale brown cells. *Ascomatal apex* periphysate, wall entirely melanised. *Centrum* hyaline. *Paraphyses* filiform, 2.5–7 µm wide, tapering above asci, hyaline, thin-walled, abundant, septate, slightly constricted at the refractive septa, unbranched, persistent. *Asci* unitunicate, cylindrical becoming slightly fusiform, 280–360 × 10–13 µm, apex rounded, long-stipitate, with eight bi- to triseriate ascospores, apical ring refractive, 4.5–5 µm wide × 0.5 µm high, inamyloid, subapical globule absent. *Ascospores* cylindrical, 50–80 × 4–6 µm, sigmoid, geniculate in lower quarter, hyaline, aseptate, guttulate; bipolar appendages 30–50 µm long, lash-like, centrally attached on ascospores ends, fragile; ascospore becoming differentiated into an apical swollen head and a basal tail while inside the ascus; head ellipsoid, 17–21 × 8–10 µm, hyaline, rarely pigmented, pale brown; tail 30–43 × 4–6 µm, 0–4-septate, hyaline, rarely pigmented, pale brown.

Culture characteristics — Colonies (of holotype) moderately fast-growing on all media, covering the PDA and WA plates in 14 d and the CMA plate in 21 d, downy to silky on all media, appressed, hyaline on WA and CMA, brown (5F8) at centre, becoming olive brown (4E8) towards margin on PDA; margin even, appressed, hyaline on all media; reverse same as the mat. *Asexual morph*: Hyphae largely undifferentiated, 2–3 µm wide, thin-walled, hyaline to pale brown. *Conidiogenous cells* phialides, commonly produced from hyphae as single terminal or several lateral phialides, delimited by a basal septum, mono- or polyphialidic, cylindrical to lageniform, 7–12 × 1.5–4 µm at widest part, hyaline to pale brown, constricted below the collarette, 1–1.5 µm just below the collarette; collarette short, slightly flaring, inconspicuous, same colour as phialide. *Conidia* subglobose to pyriform, truncate at base, 2–2.5 × 2.5–3 µm, hyaline to pale greenish brown.

Typus. France, Ariège, Clermont, Le Pujol stream, along road D 119, c. 360 m elev., on submerged wood, 31 July 2009, incubated in moist chamber until 11 Aug. 2009, *J. Fournier*, JF 09214 (holotype ILLS 79803, cultures ex-type ANM Acc#323-1 = CBS 125293, ITS-LSU sequence GenBank JN673038, *mcm7* sequence GenBank JN672980, MycoBank MB817292).

Additional material examined. France, Ariège, Rimont, Peyrau brook, 400 m elev., on driftwood of *Alnus glutinosa* and *Salix* sp. in the bed of the stream, likely long submerged and recently out of the water, 26 July 2006, collected immature and incubated in moist chamber, *J. Fournier* (JF 06159); on *Alnus glutinosa* driftwood, 8 Aug. 2006, *J. Fournier* (JF 06174); on submerged wood of *Alnus glutinosa*, 26 June 2009, *M. Fournier* (JF 09171, ILLS 79954).

Notes — *Cercophora squamulosa* is distinguished by its ascomata that develop whitish flakes with age, cephalothecoid ascomatal wall, asci that lack a subapical globule, long ascospores with long, lash-like appendages, and aquatic habitat. Only one other species in the genus, *C. striata* is known to produce ascomata with whitish flakes (Miller & Huhndorf 2001) and these two species occur in a well-supported clade (see tree) along with two species of *Apiosordaria* and *Podospora comata*. However, *C. striata* is a terrestrial taxon that is only known from the tropics and possesses a striate neck but lacks a subiculum. A typical phialophora-like asexual morph was produced in culture (JF 09214; CBS 125293).



Maximum likelihood tree generated using PhyML in Seaview v. 4.5.4 (Gouy et al. 2010). *Cercophora squamulosa* is in **bold**. Numbers above branches refer to bootstrap support values. GenBank accession numbers for the ITS and LSU regions are given after taxon names.

Colour illustrations. Background photo of Peyrau stream in the Ariège region of south-western France; ascomata, longitudinal section through ascoma, longitudinal section through ascomal wall, squash mount of ascomal wall, ascospore, and phialides. Photos: Jacques Fournier, Huzefa Raja, Andrew Miller and Christian Lechat. Scale bars: 500 µm (ascomata), 100 µm (ascomal section), 10 µm (all others).

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