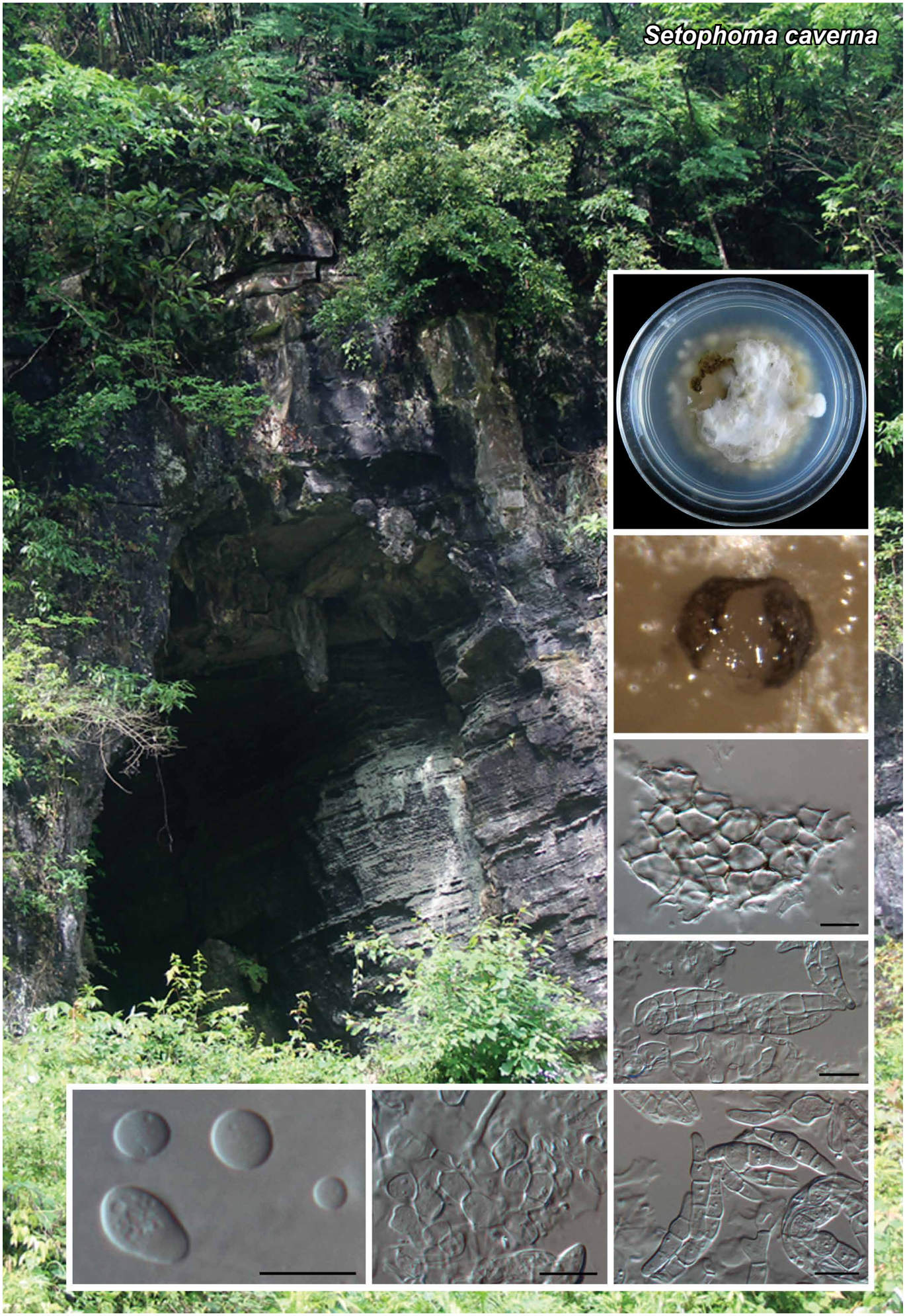
Setophoma caverna

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Setophoma caverna F. Liu & L. Cai, *sp. nov.*

Etymology. Named after the habitat of this fungus, occurring in a cave.

Classification — *Phaeosphaeriaceae, Pleosporales, Dothideomycetes.*

Ascomata brown to dark brown, solitary or gregarious, globose to subglobose, semi-immersed, usually covered by aerial mycelia, erumpent. *Peridium* hyaline to pale brown, 12–20 µm wide, with 3–5 layers, walls of *textura angularis*. *Asci* cylindrical to cylindrical-clavate, 8-spored, wall easy to dissolve and invisible. *Ascospores* hyaline, fusoid-ellipsoidal with rounded ends, 3-septate and constricted at the first and second septa, the second cell from apex wider than other cells, 17–28.5 × 3.5–6 µm (av. = 22.4 ± 2.8 × 4.6 ± 0.5 µm). *Asexual morph*: *Conidiophores* hyaline, branched, often reduced to *conidiogenous cells* lining in the inner cavity. *Conidiogenous cells* hyaline, smooth, ovoid, ampulliform or subcylindrical, aseptate, 5–7.5 × 2–6 µm (av. = 6.3 ± 0.7 × 3.8 ± 1 µm). *Conidia* aseptate, hyaline, granular to guttulate, surface smooth or roughened, variable in shape and size, globose, ellipsoid or irregularly, 3–16.5 × 2.5–10.5 µm (av. = 7.4 ± 3.8 × 5.4 ± 2.1 µm).

Culture characteristics — On potato dextrose agar, flat with lobate edge, buff, sometimes olivaceous at the edge, reverse buff, reaching 27–30 mm diam after 10 d at 25 °C. On malt extract agar, flat with undulate edge, front and reverse buff, reaching 17–18 mm diam after 10 d at 25 °C.

Typus. China, Guizhou Province, Suiyang, Shuanghe Cave National Geopark, unnamed Karst cave, from carbonatite, 8 May 2015, *Z.F. Zhang* (holotype HMAS 248085, ex-type culture CGMCC 3.19526 = LC7511 = R150, LSU, ITS, *tub2*, *tef-1α* and *gapdh* sequences GenBank MK511965, MK511944, MK525032, MK525105 and MK525066, MycoBank MB829901).

Additional materials examined. China, Guizhou Province, Suiyang, Shuanghe Cave National Geopark, unnamed Karst cave, from carbonatite, 8 May 2015, *Z.F. Zhang*, LC12841 = LF2095, ITS, *tub2*, *tef-1α* and *gapdh* sequences GenBank MK511927, MK525016, MK525088 and MK525049; ibid., LC12842 = LF2096, ITS, *tub2*, *tef-1α* and *gapdh* sequences GenBank MK511928, MK525017, MK525089 and MK525050.

Notes — The oligotrophic fungus *S. caverna* was isolated from carbonatite using 1/2 000 PDA and silica agar (Jiang et al. 2017), and this is the first report of a *Setophoma* species from a Karst cave. It differs from other *Setophoma* species, in that the peridium of *S. caverna* is hyaline, and its ascus wall was difficult to observe, which is probably due to its adaptation to the cave habitat. It is closely related with the tea plant associated species *S. longinqua* (Liu et al. 2019b), but with low sequence similarity (95 % on ITS, 92 % on *tef-1α* and 90 % on *tub2*). Morphologically, they could be easily distinguished from each other by the conidial shape and dimensions (globose or ellipsoid, 3–16.5 × 2.5–10.5 µm in *S. caverna* vs cylindrical or subcylindrical, 4–5.5 × 1.5–2 µm in *S. longinqua*).

Colour illustrations. Karst cave where the type was collected. Colony on PDA; ascomata; vertical section of ascomata; ascus and ascospores; conidiogenous cells and conidia. Scale bars = 10 µm.

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