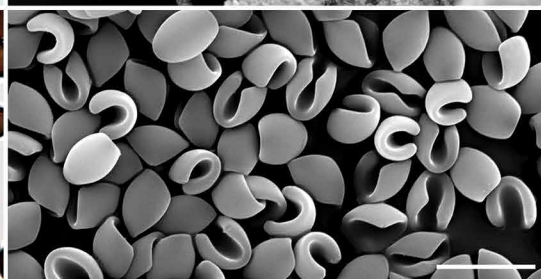
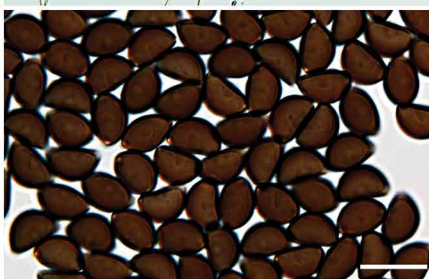
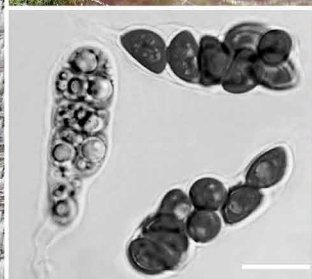
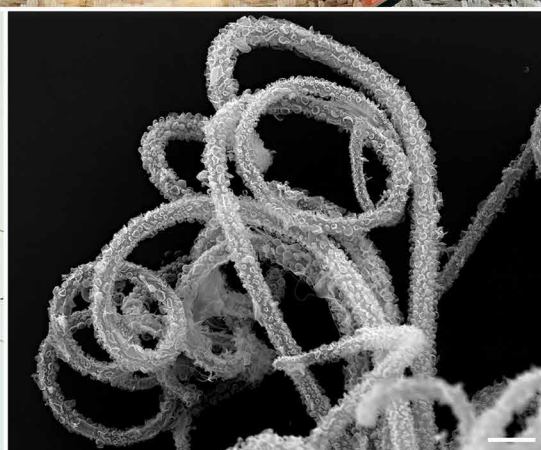
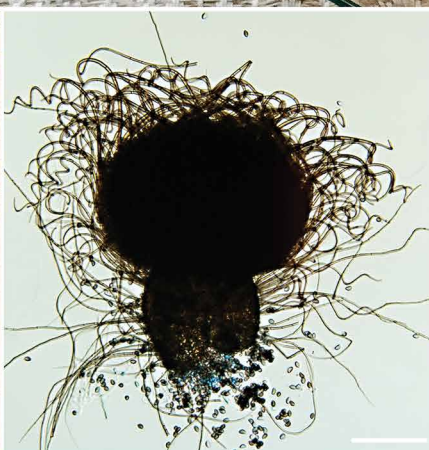
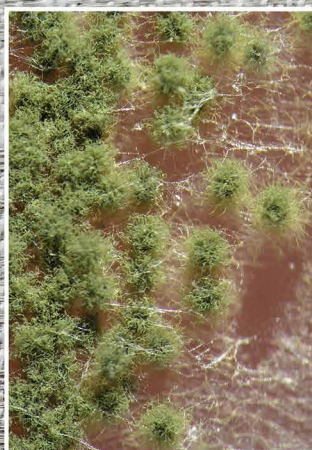


*Arcopilus navicularis*





Fungal Planet 1227 – 13 July 2021

***Arcopilus navicularis* Kubátová, V. Ostrý & Hubka, sp. nov.**

*Etymology.* Name reflects its boat-shaped ascospores.

*Classification* — *Chaetomiaceae*, *Sordariales*, *Sordariomycetes*.

*Micromorphology* (on oatmeal agar; OA): *Ascomata* superficial, ostiolate, subglobose or ovate, c. 130–200 µm diam, with brown walls of *textura angularis*. *Ascomatal hairs* pale green or greenish olivaceous in reflected light. *Terminal hairs* septate, warty, undulated at apices, brown to grey, 5–6.5 µm diam near the base, 2–2.8 µm diam at the tip. *Lateral hairs* straight or inequilaterally undulated. *Asci* clavate, 8-spored, about 30–37 × 9–12 µm. *Ascospores* dark brown, broadly navicular in side view, 7.2–8.8 × 4.5–5.5 µm (mean ± standard deviation: 8.0 ± 0.4 × 4.9 ± 0.3), lemon-shaped seen from above, 7.2–8.8 × 5.5–6.1 µm (8.0 ± 0.4 × 5.7 ± 0.2), with two apical germ pores. *Asexual morph* unknown. On PCA at 37 °C after 7 d, amorphous crystals in pigmented zone of agar were observed, about 5–7 µm diam.

*Culture characteristics* — (at 25 °C after 7 d, in darkness): Colonies on potato carrot agar (PCA) 32–37 mm diam, olivaceous in the centre due to formation of ascomata, finely filamentous and pale towards the edges, with pale vinaceous exudates diffusing into the medium around the colonies; reverse dark grey-vinaceous in the centre, pink-grey towards the edges; ascomata maturing after 14 d. Colonies on OA 39–41 mm diam; the appearance of colonies similar to those on PCA, but the pigmentation is more pronounced, and the colonies form

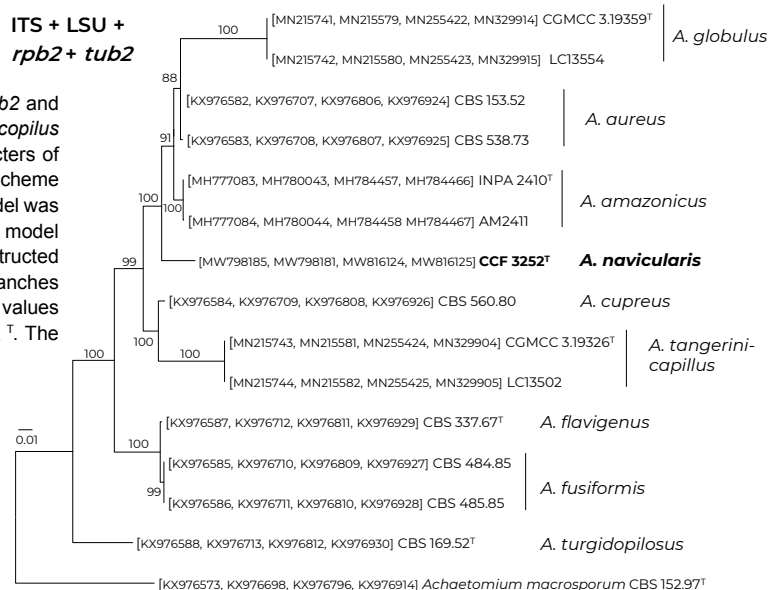
more abundant aerial mycelium; ascomata maturing later than on PCA. Colonies on malt extract agar (MEA) 35–38 mm diam, with pinkish white aerial mycelium, wine red exudates diffusing into the medium, reverse dark ruby; ascomata not formed after 7 d. Colonies on PCA at 37 °C after 7 d 18–20 mm diam.

*Typus.* CZECH REPUBLIC, Brno, tea bag with fruit tea (lemons, rose hips and apple pulp), Nov. 2001, V. Ostrý (holotype PRM 954081, isotype PRC 295, culture ex-type CCF 3252 = CBS 147158, ITS, LSU, *rpb2* and *tub2* sequences GenBank MW798185, MW798181, MW816124 and MW816125, MycoBank MB 839209).

*Notes* — *Arcopilus navicularis* shares an identical ITS and LSU region with *A. aureus*, *A. amazonicus* and *A. globulus*. BLAST analysis with the *rpb2* sequences showed 96–96.5 % similarity with the latter three mentioned species, while the *tub2* gene showed only 87–87.5 % similarity.

The strain CCF 3252 was originally identified as *Chaetomium aureum* (Kubátová 2006), currently *Arcopilus aureus*. The latter has similar pigmentation of ascomatal hairs, but differs in ascospore shape. *Arcopilus cupreus*, *A. amazonicus* and *A. globulus* have similar shaped ascospores to *A. navicularis*, but their ascospores are slightly larger. *Arcopilus cupreus* differs moreover by red or orange-red hairs in reflected light, and *A. amazonicus* has smaller ascomata and yellow mature hairs (Ames 1949, Von Arx et al. 1986, Wang et al. 2016, Raza et al. 2019, Sousa et al. 2020).

A best scoring maximum likelihood tree based on the ITS, LSU, *rpb2* and *tub2* genes shows the relationships of *A. navicularis* with other *Arcopilus* species. The dataset contained 15 taxa and a total of 2054 characters of which 421 were variable and 297 parsimony-informative. Partitioning scheme and substitution models for analyses were as follows: the HKY+I model was proposed for the ITS region; TrNef model for the LSU region; TrN+G model for the *RPB2* gene; and K80+I for the *tub2* gene. The tree was constructed with IQ-TREE v. 1.4.4 (Nguyen et al. 2015). Support values at branches were obtained from 1000 bootstrap replicates; only bootstrap support values ≥ 70 % are shown; ex-type strains are indicated by the superscript †. The tree is rooted with *Achaetomium macrosporum*.

ITS + LSU +  
*rpb2* + *tub2*

*Colour illustrations.* Fruit tea (lemons, rose hips and apple pulp). Fourteen-day-old colonies on OA, PCA, and MEA; ascomata (stereoscopic dissecting microscope); ascoma, hairs (scanning electron microscopy, SEM), asci, ascospores in light microscopy and SEM. Scale bars = 100 µm (ascoma), 10 µm (others).

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