Knufia tsunedae
Fungal Planet description sheets

Fungal Planet 209 – 26 November 2013

**Knufia tsunedae** Madrid, Guarro & Crous, sp. nov.

*Etymology.* Dedicated to Dr Akihiko Tsuneda, in recognition of his contributions to the study of meristematic and endoconidial fungi.

*Hyphae* septate, branched, pale olivaceous to dark olivaceous-brown, smooth to asperulate, 1.5–5 µm wide. *Endoconidia* mostly broadly ellipsoidal to subglobose, aseptate to muriform, pale olivaceous to pale olivaceous-brown, smooth-walled, (7–)9.5–16 (–20.5) x (6–)8–14 (–17) µm, formed singly or in groups within cells of torulose hyphae and in intercalary and terminal, ellipsoidal to subglobose, pale olivaceous to dark brown, smooth-walled mother cells up to 21.5 µm wide.

*Culture characteristics.* — Colonies on oatmeal agar attaining 42 mm after 21 d at 24 °C, olivaceous-black, umbonate and yeast-like at the centre, flat, with scarce tufts of aerial mycelium toward the periphery; reverse olivaceous-black, no exudates or soluble pigments observed. Growth positive between 6–33 °C, optimum between 24 and 27 °C. No growth observed at 36 °C.


Notes — The genus *Knufia* currently includes six species. The generic type, *K. cryptophialidica*, was isolated from tumour-like stem and branch deformities of *Populus tremuloides* in Canada (Hutchison et al. 1995). Other species have been reported from bark of *Populus*, rocks and clinical samples (Tsuneda & Currah 2004, Tsuneda et al. 2011, Saunte et al. 2012). One species, *K. epidermidis*, causes opportunistic skin infections in humans (Li et al. 2008, Li & Chen 2010). The species described herein does not grow at body temperature and is not expected to pose a danger to humans.

*Knufia tsunedae* produced some smooth-walled arthroconidia in the primary culture, but they were not observed in subcultures, including the one used for the species description. After some transfers the ex-type isolate became sterile. Morphologically, *K. tsunedae* is similar to *K. endospora*, but the endoconidia in the latter species are much smaller (3–5 × 4.5–6 µm) and aseptate (Tsuneda & Currah 2004).

The closest BLAST hits for the ITS sequence of *K. tsunedae* were members of the Chaetothyriales (Eurotiomycetes) such as *Bahusakala australiensis* GQ272637 (identities 519/534, 97 %), *Knufia chersonesos* JN040514 (identities 515/551, 93 %) and *Knufia perforans* JN040506 (identities 510/553, 92 %). Though *B. australiensis* showed higher ITS identity than *Knufia* spp., the latter genus was considered more appropriate for the new species because the phylogenetic placement of type species of *Bahusakala, B. olivaceonigra* is unknown, and no strain of this species is available for DNA sequence studies. Furthermore, *B. olivaceonigra* does not produce endoconidia and has rugose and striate arthroconidia (Ellis 1971). According to Seifert et al. (2011 and references therein), the genus *Bahusakala* probably has sexual morphs in Aulographina (*Asterinaceae, Dothideomycetes*) or Xylogone (*Leotiomycetes*). Further studies are required to assess if *B. australiensis* needs to be transferred to *Knufia*.