

***Xylaria choui*, a new species from China**

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Xylaria choui (Xylariales, Xylariaceae) is described as a new species from China. Photographs of stromata and microstructures are provided, and its delimitation from similar taxa is discussed.

Keywords: Ascomycota, pyrenomycetous fungi, taxonomy

Most species of *Xylaria* are saprotrophs and known as wood decomposer organisms (Dennis 1956, 1957, 1958, Martin 1970, Rogers 1979, 1983, 1984a,b, 1986, Rogers & Callan 1986, Rogers *et al.* 1987, 1988, 1997, Læssøe 1987, 1992, 1993, 1999, San Martín & Rogers 1989; Callan & Rogers 1990, 1993, Ju & Hsieh 2007, Ju *et al.* 2009, Trierveiler-Pereira *et al.* 2009, Fournier *et al.* 2011). Only few were registered to cause a root rot of apple trees and some other angiosperms (Boyce 1961, Hepting 1971). The species diversity of *Xylaria* in China is still poorly known (Tai 1979, Abe & Liu 1995) and requires a thorough investigation.

Materials and Methods

The fungal material was collected from rotten wood in mixed evergreen and deciduous broadleaf forests of the National Nature Protection Area of Mountain Fanjing, Guizhou, China. The photographs of asci, **ascal apical ring, and ascospores were taken using a VHX-600E** microscope of the Keyence Corporation. A SUPERSKAN SSX-550 scanning electron microscope was also used to examine ascospores. The photographs of stromatal surface were taken with a ZSA30w microscope and **S70 Canon camera. Ascospores were measured in water** mounts (n > 30). The average range of ascospore length (32–35 µm) is repeated with a frequency of 95 percent.

Taxonomy

Xylaria choui H.-X. Ma, Lar. N. Vassiljeva & Yu Li **sp. nov.** – Figs. 1–8.
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Stromata non ramosa, cum apicibus rotundatis fertilibus, ellipsoideo-clavata vel late ellipsoideo-clavata, 0.7–1.6 cm alta, 0.4–1.1 cm lata, consistentiam dura, breve-stipitata, superficie grisea, squamulis albis et solubilis conspersa, leviter rugosa et tenuiter rimosa, intus alba, aetate cava; stipes cinereo-fuliginosus, 0.2–1.1 cm altus, 1–2 mm latus. Perithecia 0.5–0.8 mm diam., ostiola leniter papillata, inconspicua. Asci octospori, cylindrici, longe stipitati, 260–325 μm longi, partibus sporiferis 190–210 μm x 10–11.5 μm , annulo apicali in liquore iodato Melzeri cyanescente, urniformi, 6–8.5 μm alto, 4–5 μm lato. Ascospores fuscae, unicellulares, ellipsoideo-inequilaterales vel naviculares, apicibus rotundatis, episporium leve, 31–35(–37) μm x 8.5–9.5 μm , rima germinativa recta, 1/2 sporilongae vel longitudine minus quam spora integra.

Holotypus. – CHINA, National Nature Protection Area of Mountain Fanjing, Guizhou, alt. 2000 m, on rotten wood, 21 Aug 2010, Haixia Ma, holotype HM-JAU 23622.

Stromata unbranched, with rounded fertile apices, ellipsoid-clavate to broadly ellipsoid-clavate, 0.7–1.6 cm high, 0.4–1.1 cm broad, texture hard, on short stipes, externally grayish, with white sloughing scales, smooth except for wrinkles and fine cracks, internally white, and becoming hollow; stipes gray-blackish, 0.2–1.1 cm high, 1–2 mm diam. Perithecia 0.5–0.8 mm diam., ostioles slightly papillate, inconspicuous. Asci eight-spored, cylindrical, long-stipitate, 260–325 μm total length, the spore-bearing part 190–210 x 10–11.5 μm , with apical ring bluing in Melzer's iodine reagent, urn-shaped, 6–8.5 μm high, 4–5 μm broad. Ascospores dark brown, unicellular, ellipsoid-inequilateral to navicular to pod-shaped with broadly rounded ends, smooth, 31–35(37) x 8.5–9.5 μm , with straight germ slit, 1/2 spore-length to slightly less than spore length.

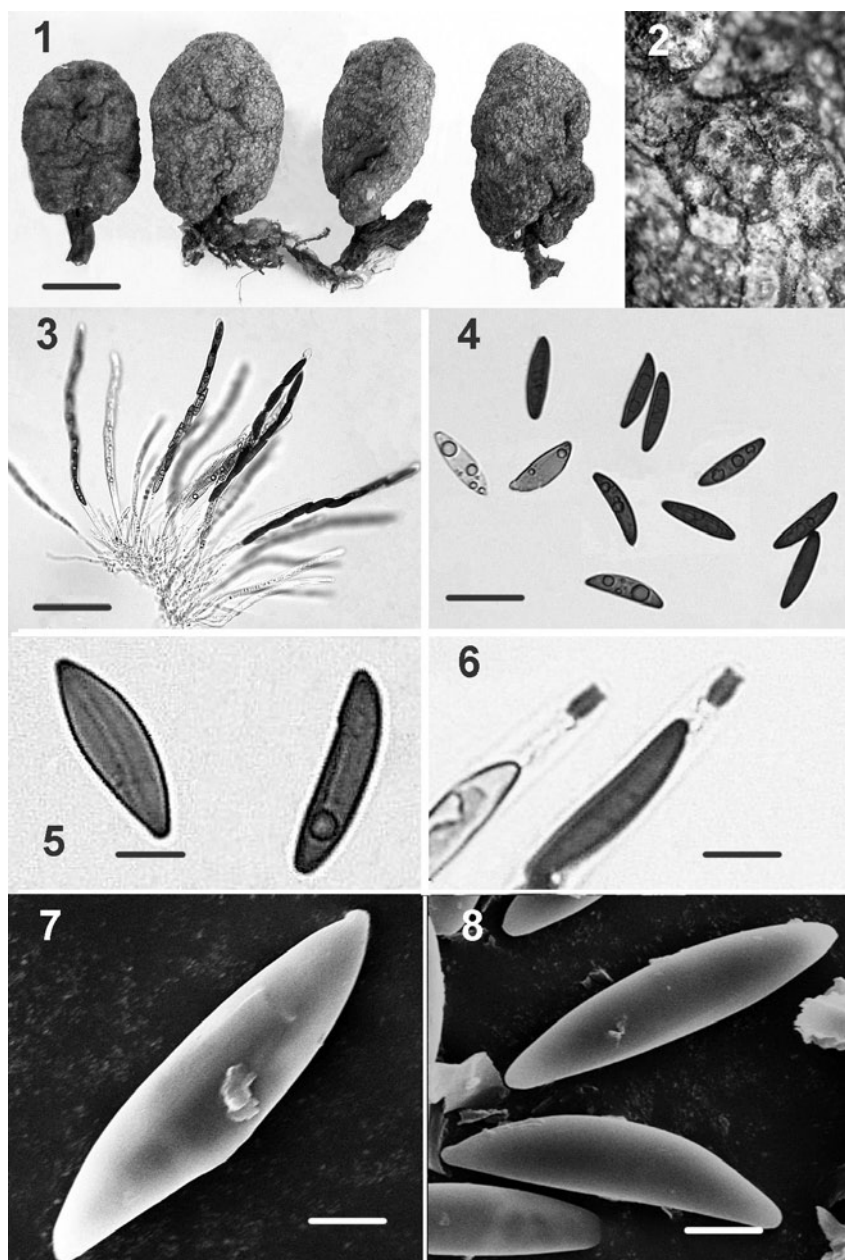
Etymology. – The species is named in honour of Prof. Zonghuang Chou, probably the first Chinese mycologist to report *Xylaria* in China.

Habitat. – The fungus grows on rotten wood in mixed evergreen and deciduous broadleaf forests.

Distribution. – Known only from type locality.

Discussion

Xylaria choui is similar to *Xylaria* sp. (77080301) from Taiwan (Ju & Rogers 1999) in having the same shape of stromata and almost comparable, although slightly larger – 31–35(37) μm x 8.5–9.5 μm vs. (26–) 28–32(–35) x 7–9 μm – size of ascospores. The apical ring of *X. choui* is, however, somewhat larger (6–8.5 μm x 4–5 μm vs. 5–6.2 μm x 3.8–4.3 μm), ascospores lack minute hyaline, non-cellular appendages which are described for *Xylaria* sp. from Taiwan, and the germ slit in



Figs. 1–8. – *Xylaria choui* (holotype): **1.** Stromata (bar = 6 mm). **2.** Stromatal surface. **3.** Asci (bar = 80 μ m). **4–5.** Ascospores (bars = 33 & 13 μ m). **6.** Ascus apical ring (bar = 15 μ m). **7–8.** SEM micrograph of ascospores (bars = 4 & 5 μ m).

ascospores is shorter. The shape of ascospores is also different, being ellipsoid to navicular or pod-shaped in *X. choui* and fusoid in *Xylaria* sp. (77080301). The spore-bearing part of asci in *X. choui* is much larger than in Taiwanese specimens (190–210 µm vs. 100–135 µm).

Xylaria choui is somewhat similar to *X. obovata* (Berk.) Fr. in stromatal morphology, but stromata of the latter are conspicuously smooth, and it has smaller ascospores [23.5–29.5 x (6–)6.5–7.5 µm].

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