Tricholoma lavendulophyllum, a new species from Yunnan, China

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Abstract—A new species of Tricholoma from the matsutake group, Tricholoma lavendulophyllum, is described and illustrated from Yunnan, China. It is characterized by its lavender lamellae and sweetish-aromatic smell resembling T. matsutake. The relationship of the new species to other closely related species is discussed.

Keywords—Matsutake, mushroom, taxonomy

Introduction

Tricholoma matsutake (S. Ito & S. Imai) Singer, commonly known as “Matsutake” or pine mushroom, is one of the most precious edible mushrooms in the world. There are a few closely related species, such as T. bakamatsutake Hongo, T. caligatum (Viv.) Ricken and T. magnivelare (Peck) Redhead, that are generally included in “Matsutake” (Wang et al., 1997). Although some taxonomical work has been done on this group (Zeller, 1934; Hotson, 1940; Hongo, 1960, 1974; Smith, 1979; Kytövuori, 1989), it is still insufficiently known, especially from China (Zang, 1990; Cao et al., 2003). In the fall of 2005, two collections of matsutake similar to T. bakamatsutake were obtained from Kunming wild edible mushroom markets. Careful examination of these two collections resulted in the description of a new species, T. lavendulophyllum.

Materials and Methods

Macroscopic characters were taken from fresh specimens. Descriptions of microscopic characters were observed under a Nikon E400 microscope with light and phase-contrast optics. Sections were made with a razor blade under the stereomicroscope, mounted

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in 5% KOH, and Melzer's solution, and then illustrated under the light microscope, with the aid of a drawing tube. Specimens examined were deposited in the Cryptogamic Herbarium of Kunming Institute of Botany, Academia Sinica (HKAS).

**Taxonomy**

**Tricholoma lavendulophyllum** F.Q. Yu, sp. nov.  

*Fig. 1–4*

Pileus 45-70 mm latus, subumbonatus vel convexus, margine involuto dein recto, castaneo in centro, subcreneo ad marginem, fibrilloso. Lamellae lavandulus, adnatae vel subliberae. Stipes 80-95 × 12-15 mm, annulato, aequali vel basi incassato, supra annulum albo, infra annulum pileo concolori, fibrilloso castaneo squamoso. Carne alba, odor fragrans sicut in T. bakamatsutake. Basidia clavata, 40-50 × 7.5-15 μm; basidiosporae (5.5)-6-7.5 × (4.5) 5-5.5 (6) μm, late ellipsoidae.

**Etymology**—The specific epithet refers to the lavender-coloured lamellae

Pileus 45-70 mm broad, hemispherical to convex when young, becoming subumbonate to plano-convex when mature; surface slightly viscid when wet, chestnut brown to fuscous in the center, with appressed dark brown zoned scales, often becoming broken up into rather indistinct pieces; margin brown to whitish brown, inrolled when young. Context thick in the center, thin toward the margin, compact, white, taste sweetish. Aroma resembling *T. matsutake*, but stronger and with a slight smell of honey. Lamellae adnate, sinuate or arcuate, then separating from stem, pale to creamy lavender, with some lamellae. Stipe 80-95 × 12-15 mm, equal or enlarged at the base, with an persistent but inconspicuous annulus on the upper part, 1.5-2.2 cm downward from the lamellae; concolorous with the pileus below the ring, with dark brown, appressed scales, whitish above the ring. Context white, solid, compact.

Pileipellis a layer of interwoven and thin-walled hyphae, 5-13 μm in diam., light yellowish brown, terminal elements subclavate to clavate, 7.5-9 × 22.5-67.5 μm. Lamellar trama subparallel, hyphae mostly 3-12 μm in diam., thin-walled, hyaline. Basidium 40-50 × 7.5-15 μm, clavate, hyaline, 4-spored, rarely 2- and 1-spored, sterigmata 2-5 μm long. Cystidia absent, but some clavate free hyphal ends present at the gill edge. Basidiospores (5.5-) 6-7.5 × (4.5-) 5-5.5 (-6) μm, Q= (1.18-) 1.25-1.33, broadly ellipsoid, thin-walled, hyaline, smooth, inamyloid. Stipitpellis with longitudinally arranged, appressed, parallel hyphae, 4-12 μm in diam., thin-walled, whitish brown to yellowish brown, terminal elements scattered, cylindrical, 6.8-9 × 30-54 μm, periclinally arranged.

**Ecology:** unknown.


**Notes**—*T. lavendulophyllum* strongly resembles *T. bakamatsutake* in its appearance and aroma. It is sold as *T. bakamatsutake* at wild edible mushroom markets in Yunnan, China, but *T. lavendulophyllum* can be distinguished by its creamy lavender lamellae, and the absence of ventricose or flask-shaped cheilocystidia (Hongo, 1974). *T. fulvocastaneum* Hongo is another similar species to *T. lavendulophyllum* but differs in
Figs 1-4: *Tricholoma lavendulophyllum*, HKAS49804 (Holotype).
lacking of matsutake aroma, having whitish lamellae and a tapered base (Hongo, 1960). This species also resembles *T. caligatum* but the latter has whitish lamellae, relatively narrow spores, and a sweetish-bitterish to bitter taste (Kytövuori, 1989).

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**Literature Cited**


