

Three polypores from Xizang new to China

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ABSTRACT

Three polypores, *Haploporus thindii*, *Oxyporus subulatus*, and *Skeletocutis krawtzevii*, are newly reported from Xizang Autonomous Region, southwestern China. The illustrated descriptions of these fungi are given based on the Chinese collections. A new combination, *Haploporus thindii* (Natarajan & Kolandavelu) Y.C. Dai, is proposed.

Key words: *Haploporus thindii*, *Oxyporus subulatus*, *Skeletocutis krawtzevii*, taxonomy.

Introduction

A field inventory on wood-decaying fungi was carried out in Xizang Autonomous Region (Tibet), southwestern China during the autumn of 2004, and three poroid Aphyllophorales, *Oxyporus subulatus* Ryvardeen, *Pachykytospora thindii* Natarajan & Kolandavelu and *Skeletocutis krawtzevii* (Pilát) Kotl. & Pouzar, were identified from the materials collected from Xizang. Because these three species were not recorded in China before, and the illustrated descriptions of them are supplied in this paper. The microscopic method used in this study is the same as described by Dai *et al.* (2002). The following abbreviations are used: L = mean spore length (arithmetical mean of all spores), W = mean spore width (arithmetical mean of all spores), Q = variation in the L/W ratios between the specimens studied (quotient of the

mean spore length and the mean spore width), n = means number of spores measured from given number of specimens. In presenting the variation in the size of spores, 5% of the measurements were excluded from each end of the range, and are given in parentheses; IKI stands for Melzer's reagent and KOH for 5% potassium hydroxide, and CB is the abbreviation of Cotton Blue. CB+ means cyanophilous and CB– acyanophilous; IKI– means both inamyloid and indextrinoïd. Voucher specimens are deposited at Herbarium of Applied Institute of Ecology, Chinese Academy of Sciences (IFP).

Description

Haploporus thindii (Natarajan & Kolandavelu) Y.C. Dai, comb. nova. (Fig. 1)

Basionym: *Pachykytospora thindii* Natarajan & Kolandavelu, Cryptog. Bot. 3: 195, 1993.

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Fruitbody. Basidiocarps annual to perennial, resupinate, inseparable, up to 25 cm long, 12 cm wide, and 8 mm thick at center, with fragrant odour when fresh. Pore surface cream to pinkish buff and soft corky when fresh, pinkish buff and corky when dry; margin distinct, up to 5 mm wide; pores angular, regular, 3–4 per mm; dissepiments thin, entire. Section: subiculum pinkish buff to pale brownish, slightly darker than tubes, corky, very thin, 0.2–0.3 mm thick; tube layer pinkish buff, slightly darker than pore surface, tubes up to 7 mm long; tube layers distinct.

Hyphal structure. Hyphal system dimitic; generative hyphae mostly with clamp connections, but sometimes with simple septa; skeletal hyphae IKI–, strongly CB+; tissue unchanged in KOH.

Subiculum. Generative hyphae abundant, hyaline, thin-walled, frequently bearing clamp connections, occasionally branched, 2.5–3.2 μm diam; skeletal hyphae thick-walled with a wide lumen, flexuous, frequently branched, interwoven, 3.3–4.7 μm diam.

Tubes. Generative hyphae similar to those in subiculum, slightly thinner, 2–3 μm diam; skeletal hyphae thick-walled with a distinct lumen, flexuous, frequently branched, interwoven, 2.7–3.5 μm diam. Basidia barrel-shaped, with four sterigmata and a basal clamp, 20–37 \times 6.5–9.1 μm ; basidioles in shape mostly similar to basidia, but some pear-shaped, 24.3–37.5 \times 5–11.7 μm .

Spores. Basidiospores oblong ellipsoid, thick-walled, ornamented with echinulate ornamentations, IKI– or very weakly dextrinoid, strongly CB+, (10.4–)10.5–14.6(–14.7) \times (5–)5.2–6.4(–7) μm , L = 12.51 μm , W = 5.92

μm , Q = 2.11 (n = 32/1).

Remarks. *Pachykytospora* was merged in *Haploporus* by Dai *et al.* (2002), and accordingly the above combination is proposed.

Haploporus thindii was previously reported from South India only (Natarajan and Kolandavelu, 1993). Its distribution in China is the second record of the species. We have not studied its type material, and trimitic hyphal structure and basidioles were mentioned in its original description (Natarajan and Kolandavelu, 1993). However, we consider its hyphal system is dimitic based on our study, although its skeletal branch frequently, the branches are in fact different from binding hyphae. We did not find the cystidioles in our collections, most of our collections are annual, but one specimen (Dai 5435) is distinctly perennial. *Haploporus thindii* is closely related to *H. papyraceus* (Schwein.) Y.C. Dai & Niemelä, but the latter species has trimitic hyphal structure and dextrinoid skeletal. In addition, skeleto-binding hyphae are dominant in *H. papyraceus*, while both generative and skeletal hyphae are common in *H. thindii*.

Specimens examined. Xizang Autonomous Region, Linzhi, Bayi County, on fallen branch of *Lonicera*, 3.VIII.2004 Dai 5641, Yu & Wang; on rotten wood of *Lonicera*, 3.VIII.2004 Dai 5651, Yu & Wang. Linzhi County, Sejila Mts., on dead tree of *Acer*, 31.VIII.2004 Dai 5435, Yu & Wang.

***Oxyporus subulatus* Ryvardeen**, Nordic J. Bot. 2: 280, 1982. (Fig. 2)

Fruitbody. Basidiocarps annual, resupinate, inseparable, up to 7 cm long, 5 cm wide, and 5 mm thick at center. Pore surface white to

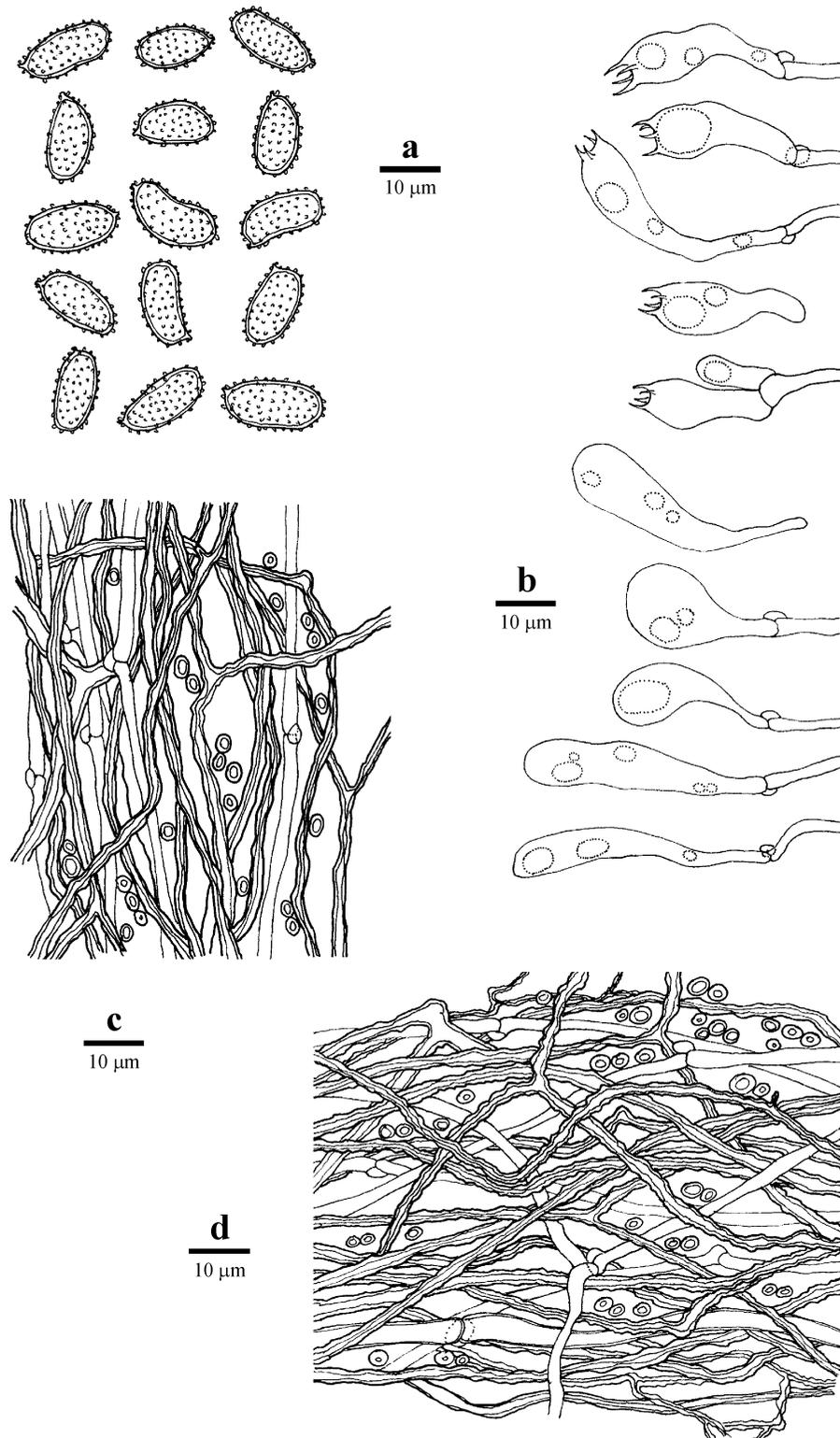


Fig. 1. Microscopic structures of *Haploporus thindii* (Natarajan & Kolandavelu) Y.C. Dai (drawn from *Dai 5641*). a: Basidiospores. b: Basidia and basidioles. c: Hyphae from trama. d: Hyphae from subiculum.

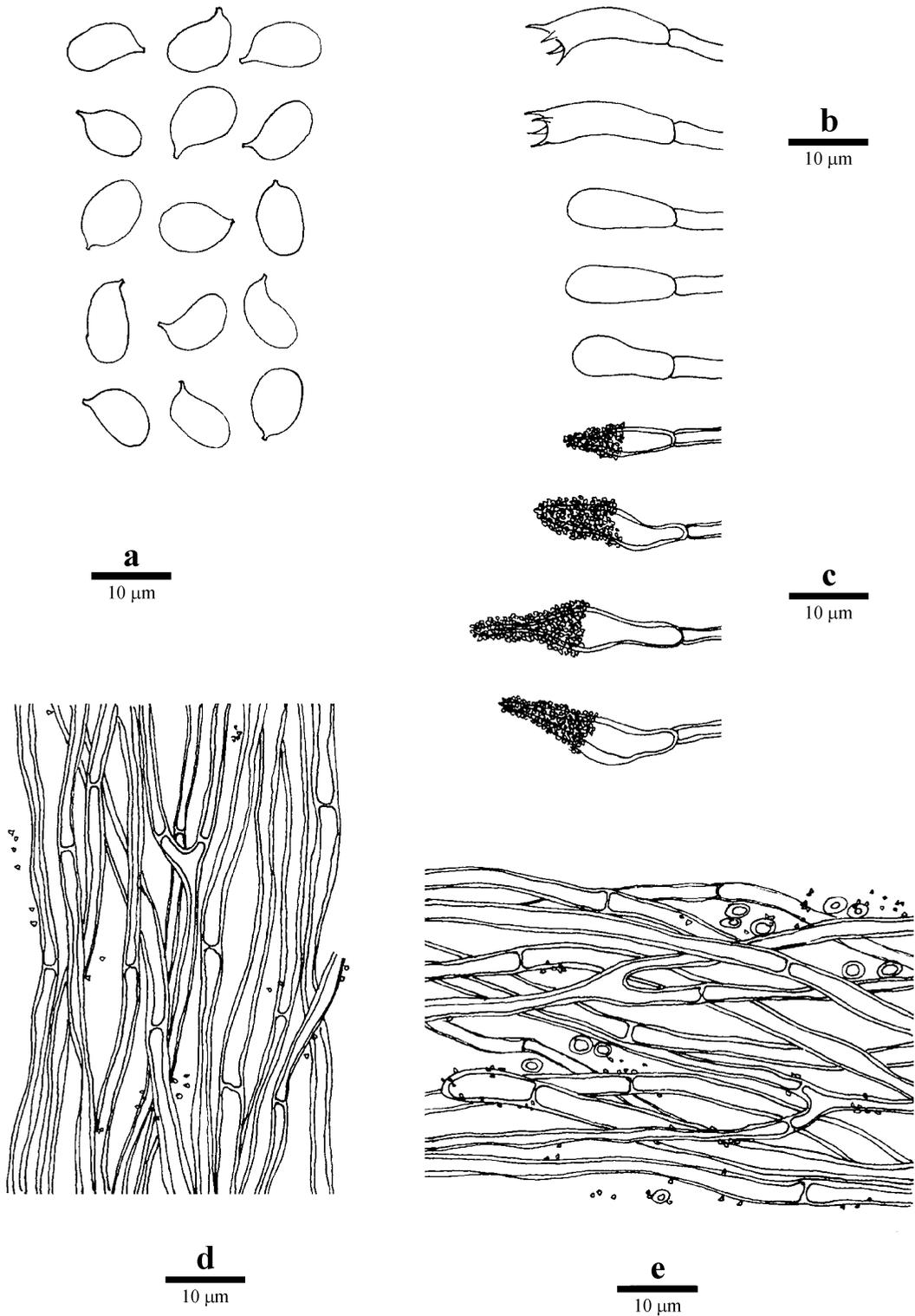


Fig. 2. Microscopic structures of *Oxyporus subulatus* Ryvarden (drawn from *Yu 280*). a: Basidiospores. b: Basidia and basidioles. c: Cystidia. d: Hyphae from trama. f: Hyphae from subiculum.

cream, soft, more or less watery, without odor or taste when fresh, when dry pore surface cream to buff, hard to fragile; margin very narrow, 1–3 mm wide, sometimes pores extending up to the very edge; pores angular to irregular, 1–2 per mm; dissepiments fairly thick, lacerate. Section: subiculum cream and hard when dry, very thin, 0.1–0.2 mm thick; tube layer cream when fresh, becoming buff, hard to brittle up on drying, darker than subiculum, tubes up to 5 mm long.

Hyphal structure. Hyphal system monomitic; hyphae simple septate, IKI–, moderately CB+, tissue unchanged in KOH.

Subiculum. Subicular hyphae hyaline, fairly thick-walled with a wide lumen, occasionally branched, frequently simple septate, with a more or less radial orientation, (2–)2.3–3.5(–4) μm diam ($n = 30/1$); some crystals present on hyphae.

Tubes. Tramal hyphae similar to subicular hyphae, parallel along the tubes. Cystidia frequent, originated from subhymenium, subulate, thick-walled, encrusted by crystals at apex, 13–27 \times 4.5–6.3 μm . Basidia barrel-shaped to broadly clavate, with four sterigmata and a basal septum, 13.5–16 \times 4–5 μm ; basidioles in shape similar to basidia, but slightly shorter, 12–13 \times 4–5 μm .

Spores. Basidiospores ellipsoid, hyaline, thin-walled, smooth, IKI–, CB–, (4.2–)4.3–5(–5.2) \times (2.3–)2.4–3 μm , $L = 4.6 \mu\text{m}$, $W = 2.68 \mu\text{m}$, $Q = 1.72$ ($n = 30/1$).

Remarks. *Oxyporus subulatus* was originally described from Thailand by Hjortstam and Ryvarden (1982), and then reported in subtropical Japan (Núñez and Ryvarden, 2001). The species differs mainly from the other spe-

cies in the genus by its subulate cystidia. It resembles *O. pellicula* (Jung.) Ryvarden in macroscopy, but the latter species has larger basidiospores (5–8 \times 3–5 μm , Gilbertson and Ryvarden, 1987) and clavate cystidia. *O. subulatus* has very similar spores as in *O. similis* (Bres.) Ryvarden which, however, has small pores (4–6 per mm). In addition, *O. similis* has clavate cystidia, and these cystidia originate from trama. Núñez and Ryvarden (2001) mentioned *O. subulatus* has fertile dissepiments, but the dissepiments are sterile in the Chinese specimen. We have not studied the type of *O. subulatus*, hyphal structure and spores of our collection fit *O. subulatus* well.

Specimen examined. Xizang Autonomous Region, Cuona County, Le village, on fallen trunk of *Quercus aquifolioides*, 20.VIII.2004 Yu 280, Wang & Song.

Skeletocutis krawtzevii (Pilát) Kotl. & Pouzar, Česká Mykol. 45:93, 1991. (Fig. 3)

—*Poria krawtzevii* Pilát, Bull. Trimestriel Soc. Mycol. France 48: 32, 1932.

Fruitbody. Basidiocarps annual, resupinate, inseparable, soft when fresh, becoming corky up on drying, up to 5 cm long, 2.5 cm wide, and 1 mm thick at center. Pore surface pinkish rose when fresh, becoming pinkish buff when dry; margin white and fimbriate when fresh, cream when dry, up to 1 mm wide; pores angular, 5–7 per mm; dissepiments thin, lacerate. Section: subiculum cream and soft corky when dry, very thin, 0.1–0.2 mm thick; tube layer cream, paler than pore surface, fragile to soft corky, tubes up to 0.8 mm long.

Hyphal structure. Hyphal system dimitic except at dissepiment edges; generative hyphae

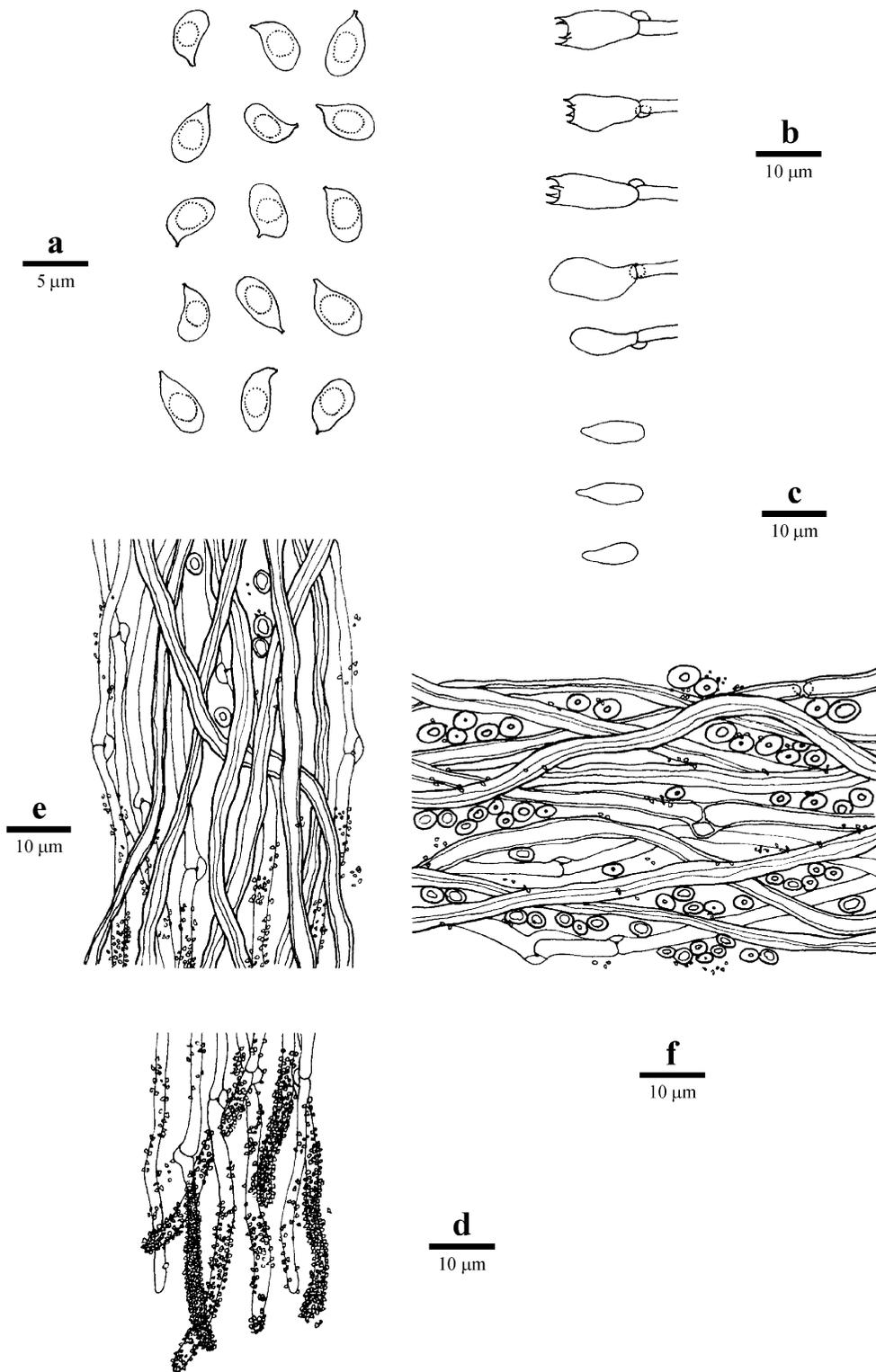


Fig. 3. Microscopic structures of *Skeletocutis krawtzevii* (Pilát) Kotl. & Pouzar (drawn from Yu 29). a: Basidiospores. b: Basidia and basidioles. c: Cystidioles. d: Hyphae at the dissepiment edge. e: Hyphae from trama. f: Hyphae from subiculum.

with clamp connections; skeletal hyphae dominant; tissue unchanged in KOH.

Subiculum. Generative hyphae hyaline, thin-walled, frequently bearing clamp connections, occasionally branched, 2.2–3 µm diam; skeletal hyphae thick-walled to subsolid, interwoven, 2.3–3.5 µm diam.

Tubes. Tramal hyphae similar to subicular hyphae; generative hyphae at dissepiment edge commonly encrusted by fine crystals, 1.7–2.6 µm diam; skeletal hyphae thick-walled to subsolid, tightly interwoven, 2.2–3 µm diam. Cystidioles occasionally present, fusiform, 8–10 × 3–4.1 µm. Basidia barrel-shaped, with four sterigmata and a basal clamp connection, 11.2–13.5 × 5.1–6.5 µm; basidioles in shape similar to basidia, but slightly smaller, 8.5–13 × 4.1–5.9 µm.

Spores. Basidiospores ellipsoid, hyaline, thin-walled, smooth, usually bearing a guttule, IKI–, CB–, 3.9–4.5(–4.6) × 1.9–2.4(–2.5) µm, L = 4.13 µm, W = 2.13 µm, Q = 1.94 (n = 30/1).

Remarks. *Skeletocutis krawtzevii* was originally described from Siberia on larch by Pilát (1932), then it was mentioned by Kotlaba and Pouzar (1991) and Niemelä (1998). The species was previously found in Siberia only, and our collection is its second record. As mentioned by Niemelä (1998), it is close to *S. perennis* Ryvarden, but the latter species has a perennial habit. In addition, *S. perennis* has dimitic hyphal structure in dissepiment edge, and hyphae in its subiculum mostly with a radial orientation. In contrast, *S. krawtzevii* has an annual habit; its hyphae at dissepiment edge are almost monomitic, and hyphae in its subiculum are interwoven.

Specimen examined. Xizang Autonomous

Region, Linzhi, Bayi County, north slope of Rijimuzuo lake, on dead branch of angiosperm, 8.VIII.2004 Yu 29, Wang & Xu.

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產自西藏的中國多孔菌三個新記錄種

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摘 要

本文報導了中國多孔菌三個新記錄種：辛氏香孔菌 (*Haploporus thindii*)、尖囊銳孔菌 (*Oxyporus subulatus*) 和克氏幹皮菌 (*Skeletocutis krawtzevii*)，對這三個種進行了詳細描述和顯微結構繪圖。辛氏香孔菌 (*H. thindii*) 被建議為一新組和種。

關鍵詞：尖囊銳孔菌、辛氏刺孢孔菌、克氏幹皮菌。