

Two new species of *Postia* from China

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Two new species of *Postia* from China, *P. obliqua* and *P. zebra*, are described and illustrated. *Postia obliqua* was collected on *Larix* from Xizang Autonomous Region. The most striking character of this species is its resupinate, large basidiomata with a size of up to 100 cm × 50 cm. Its tubes are oblique and its subiculum is almost lacking. *Postia zebra* was collected from a rotten stump of *Abies* sp. in Changbaishan Nature Reserve, Jilin Province. It resembles *P. balsamea* in spore size but differs from the latter by its zonate pileus and the lack of cystidia.

Keywords: lignicolous and poroid fungi, new species, *Postia obliqua*, *P. zebra*, taxonomy

Postia Fr. (*Polyporales*, Basidiomycota) is an important genus of brown-rot fungi which is widely distributed in the Northern hemisphere and primarily inhabits gymnosperm wood (Ryvarden & Gilbertson 1993). There are several reports of this genus from China (Cui et al. 2008, Dai 2009, Dai and Penttilä 2006, Dai et al. 2009, Li et al. 2007, Yuan 2005, Yuan & Dai 2008), however knowledge concerning this genus in China is still incomplete. Twenty-two species are presently known from China (Wei & Dai 2006, Dai 2009). The morphological characters of three collections from Sejila Mountains, Xizang Autonomous Region and one collection from Changbaishan Nature Reserve, Jilin Province represent two undescribed species of *Postia*. They are described here as *P. obliqua* Y.L. Wei & W.M. Qin and *P. zebra* Y.L. Wei & W.M. Qin.

Materials and Methods

The studied specimens were collected during field trips from 2004 to 2005. Fresh characters were recorded during the field excursions. Specimens were dried using a mushroom dryer with ventilated temperature of 40 °C – 50 °C.

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All studied specimens are deposited at the herbarium of Institute of Applied Ecology, Chinese Academy of Sciences (IFP). Anatomy was studied, and measurements and drawings made from slide preparations stained Cotton Blue. The microscopic routine used in the study is as presented by Yuan & Dai (2009). In the text the following abbreviations were used: L = mean spore length (arithmetical average of all spores), W = mean spore width (arithmetical average of all spores), Q = quotient of the mean spore length and the mean spore width (L/W ratio). Sections were studied at magnification up to $\times 1000$ using a Nikon Eclipse 80i microscope and phase contrast illumination. Drawings were made with the aid of a drawing tube. Special colour terms are according to Petersen (1996).

Results and Discussion

Postia obliqua Y.L. Wei & W.M. Qin, **sp. nov.** – Fig. 1

MycoBank no.: MB 518334

Carpophorum annuum, resupinatum; facies pororum crenea; pori rotundi vel angular, 2–3 per mm. Systema hypharum monomiticum, hyphae fibulatae, hyphae subiculi 2–4 μm in diam. Sporae cylindricae, IKI–, CB–, 4.8–6.3 \times 2–2.5 μm .

Holotypus. – China. Xizang Autonomous Region, Linzhi County, Sejila Mountains, on rotten wood of *Larix*, 4.VIII.2004 Dai 5724 (holotype, in IFP).

Description – Basidiomata annual, resupinate, forming large areas up to 100 cm long and 50 cm wide, hard to peel from the substrate, soft corky when fresh, without odor or taste, corky and light in weight when dry. Pore surface white when fresh, colour unchanged when bruised, becoming pale brown to brown upon drying; pores round to angular, 2–3 per mm; dissepiments thin, entire to lacerate. Subiculum red-brown when fresh, unchanging after drying, very thin to almost lacking. Tube layer cream to reddish-brown, up to 1.2 cm long. Hyphal system monomitic; all septa with clamp connections; hyphae negative in both Melzer's reagent and Cotton Blue, tissue unchanged in KOH. Gloeopleurous-like hyphae present, winding, bearing septa with clamp connections, 2.8–4.1 μm in diam. – Subicular hyphae hyaline, thin-walled, rarely branched, interwoven, 2–4 μm in diam. – Tramal hyphae hyaline, thin-walled, rarely branched, winding, interwoven, 2.5–3.6 μm in diam. Cystidia absent. Basidia clavate, thin-walled, with a basal clamp connection and four sterigmata, 13–18 \times 5–6 μm ($n = 12/2$). Basidioles similar in shape to basidia, but slightly shorter. – Basidiospores cylindrical, hyaline, thin-walled, smooth, IKI–, CB–, (4.1–)4.8–6.3(–7.1) \times (1.9–)2–2.5(–2.8) μm , L = 5.37 μm , W = 2.16 μm , Q = 2.41–2.53 ($n=99/3$).

Etymology. – *Obliqua* (Lat.), referring to the oblique tubes of fruitbody.

Habitat or Host plant. – On rotten wood of *Larix*.

Distribution. – Known only from the type locality.

Material examined (paratypes). – China. Xizang Autonomous Region, Linzhi County, Sejila Mountain, on stump of *Larix*, 4.VIII.2004 Dai 5728, Dai 5730 (IFP).

The very large basidiocarps and oblique tubes clearly separate *Postia obliqua* from all described species in the genus. Although the basidiocarps are resupinate, they frequently form pseudopilei (no context) which are imbricate. This species can induce an intense brown rot on dead gymnosperm wood. Some species of brown-rot fungi, such as *Antrodia pulvinascens* (Pilát) Niemelä, also have large basidiocarps and oblique tubes, similar to those in *P. obliqua*. However, with the exception of ochraceous to unevenly dirty brown basidiocarps, *Antrodia pulvinascens* has a dimitic hyphal system, smaller pores (4–5 per mm), and larger basidiospores ($6\text{--}7.5 \times 2.5\text{--}3.2\ \mu\text{m}$, Ryvarden & Gilbertson 1993).

Postia rancida (Bres.) M.J. Larsen & Lombard ($5\text{--}6.1 \times 2\text{--}2.3\ \mu\text{m}$, Wei 2006) can be confused with *P. obliqua* as both have white resupinate basidiocarps, and cylindrical and similar sized basidiospores. The basidiocarps of *P. rancida* are however, rancid while our new species lacks any smell. The main difference between these species is the gloeopleurous-like hyphae present in *P. obliqua* but absent in *P. rancida*.

Postia zebra Y.L. Wei & Y.C. Dai **sp.nov.** – Fig 2
MycoBank no.: MB 518335

Carpophorum annuum, pileatum; facies pororum eburnean vel cremea; pori rotundi, 7–8 per mm. Systema hypharum monomiticum, hyphae generatoriae fibulatae, hyphae contexti $3\text{--}5.5\ \mu\text{m}$ in diam. Sporae oblonge-ellipsoideae, IKI–, CB–, $3.6\text{--}4.3 \times 2\text{--}2.4\ \mu\text{m}$.

Holotype. – China. Jilin Province, Antu County, Changbaishan Nature Reserve, on rotten stump of *Abies*, 29.VIII. 2005 Dai 7131 (holotype, in IFP).

Description – Basidiomata annual, pileate, confluent or imbricate, soft to fibrous when fresh, without odor or taste, corky and slightly fragile upon drying. Pilei fan-shaped, projecting up 2.7 cm, 2.5 cm wide; margin sharp, sometimes curled down. Upper surface white to cream when fresh, smooth, with gray-brown zonations, becoming cream to pale brown upon drying; Pore surface white to cream when fresh, colour unchanged when bruised, becoming brownish on drying, pores round or angular, 7–8 per mm; dissepiments thin, lacerate. Context cream and soft when fresh, unchanging and become hard chalky upon drying, up to 0.4 mm thick. Tubes cream to pale brown and hard corky, up to 0.8 mm long. Hyphal system monomitic; all septa with clamp connections; generative hyphae negative in both Melzer's reagent and Cotton Blue, tissues unchanged in KOH. – Contextual hyphae hyaline, thick-walled with a wide lumen, occasionally branched, interwoven, $3\text{--}5.5\ \mu\text{m}$ in diam. – Trametal hyphae hyaline, thin-walled, occasionally branched, more or less paral-

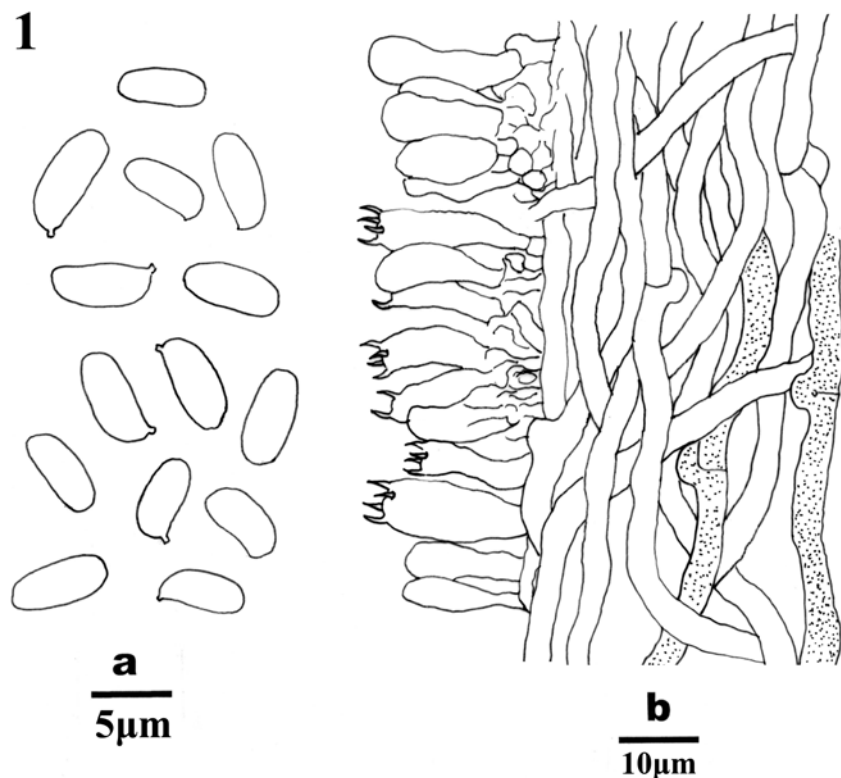
lel to the tubes, 2.3–4 µm in diam. Cystidia absent. Basidia clavate, thin-walled, with a basal clamp connection and four sterigmata, 12–19 × 5–6 µm (n = 9/1). Basidioles in shape similar to basidia, but slightly smaller – Basidiospores oblong-ellipsoid, hyaline, thin-walled, smooth, negative in both Melzer's reagent and Cotton Blue, (3.2–)3.6–4.3(–4.8) × (1.9–)2–2.4(–2.5) µm, L = 4 µm, W = 2.1 µm, Q = 1.9 (n = 32/1).

Etymology. – *Zebra* (Lat.), referring to the zonate upper surface of pileate.

Habitat or Host plant. – On rotten stump of *Abies*.

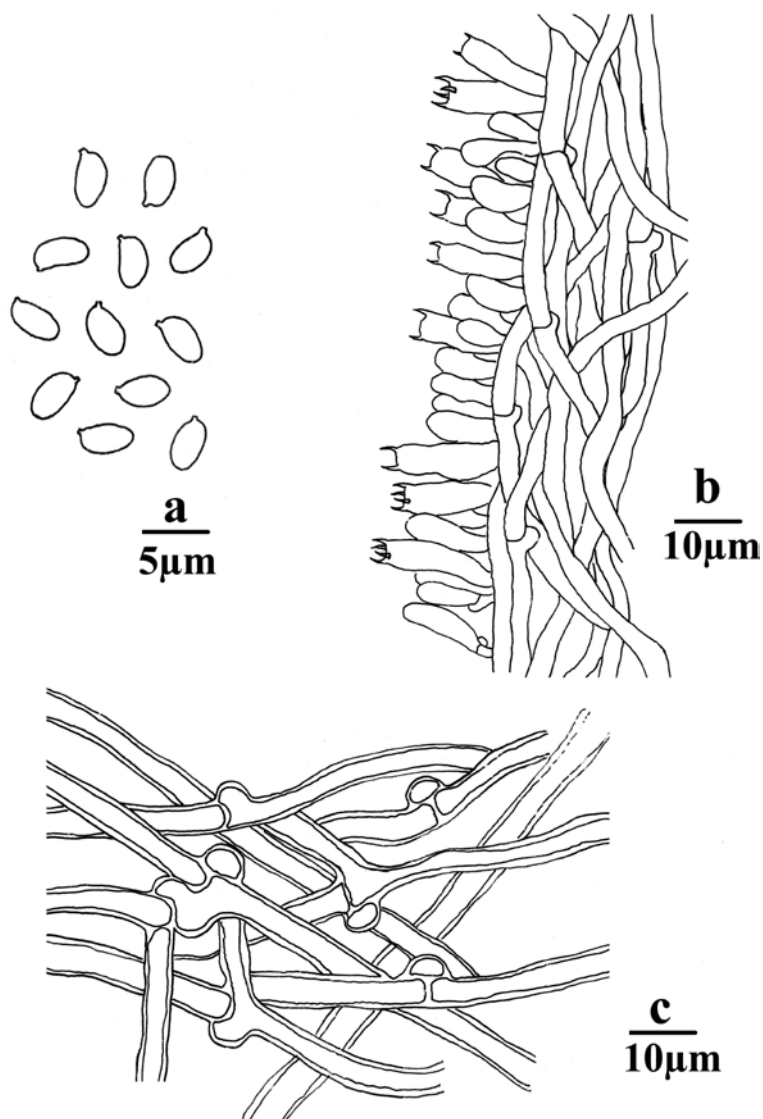
Distribution. – Known only from the type locality.

Postia balsamea (Peck) Jülich has some similarities with *P. zebra*, especially in the basidiospores. *Postia zebra* however differs in having larger pores and obclavate or bullet-shaped, thick-walled cystidia (Niemelä et al. 2004). There are no cystidia in *P. zebra*. The most important character the distinguishes *P. zebra* from other species of *Postia* is that the upper surface of pilea has gray-brown zonations.



Figs. 1. Microscopic structures of *Postia obliqua* (from holotype). – a: Basidiospores. – b: Hymenophor, trama.

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Figs. 2. Microscopic structures of *Postia zebra* (from holotype). – a: Basidiospores.
– b: Hymenophor, trama. – c: Hyphae from context.

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