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Three new species of *Septobasidium* from Yunnan and Guangxi in China

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Abstract — Three new species are described: *Septobasidium brunneum* on *Eurya* sp. associated with *Chionaspis* sp., *Septobasidium guangxiense* associated with *Pseudaulacaspis* sp., and *Septobasidium transversum* associated with tribe *Lepidosaphidini*. They were collected from Yunnan Province and Guangxi Zhuang Autonomous Region in China.

Key words — *Pucciniomycetes*, *Septobasidiales*, *Septobasidiaceae*, taxonomy

Previously, 26 species of *Septobasidium* have been recorded in Yunnan and Guangxi of China. An additional three new species of *Septobasidium*, collected from these regions, are described as follows:

Septobasidium brunneum Wei Li bis & L. Guo, **sp. nov.** Figs 1–7

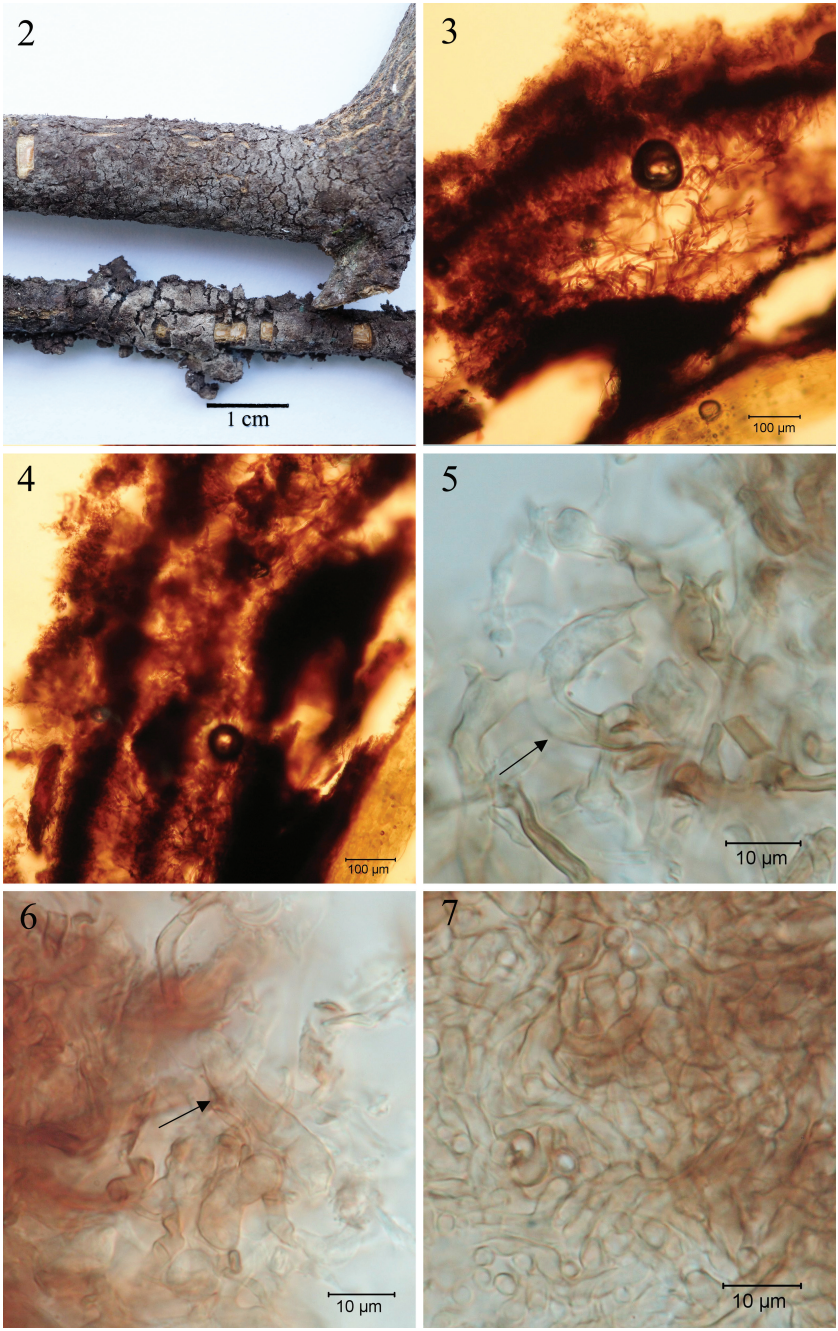
Fungal Name FN 570073

Differs from *Septobasidium thwaitesii* by its thinner section, smaller basidia, and absence of a horizontal section layer.

Type: China, Yunnan, Dali, Cangshan, on *Eurya* sp. *(Pentaphylacaceae)*, associated with *Chionaspis* sp. (*Diaspididae*), 11.VIII.2011, F. He YN45 (HMAS 243152, **holotype**).

Etymology: The epithet refers to the surface color of basidiomata.

Basidiomata on branches, resupinate, 7–9 cm long, 2–3 cm wide, dark brown or purple-brown; surface with many cracks, frequently extending out to form lateral margins in old stage, margin indeterminate. In section 350–700 μm thick. Subiculum brown, 30–50 μm thick. Pillars brown, 50–80 μm high, 80–150 μm wide. Hyphal layer brown, 150–220 μm high. Hymenium brown, 70–100 μm thick. The hyphae renew grown to form successive hyphal layers and hymenium from hymenial layer in old stage. Probasidia pyriform or


2
1 cm
3
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4
100 µm
5
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10 µm
7
10 µm

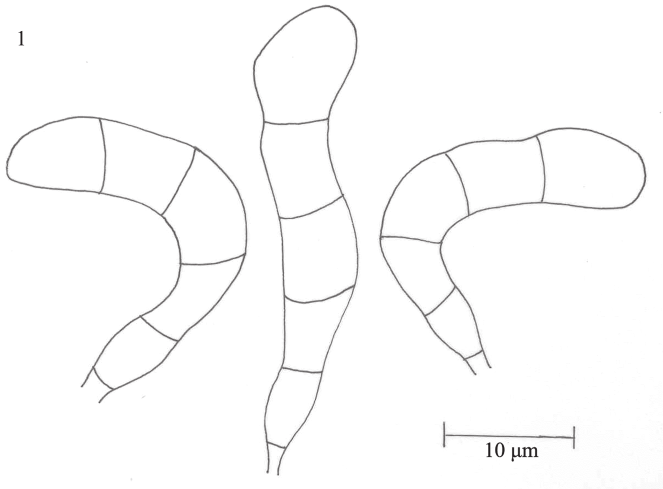


Fig 1. *Septobasidium brunneum* (HMAS 243152, holotype). Basidia.

subglobose, 10–15 × 7–9 μm, persistent. Basidia cylindrical, curved or straight, 4-celled, 20–30 × 4–6 μm, brown. Basidiospores not seen. Haustoria consisting of irregularly coiled hyphae.

Comments: *Septobasidium brunneum* is similar to *S. thwaitesii* (Berk. & Broome) Pat., which differs by having a thicker section (270–1500 μm), two distinct horizontal layers, and larger basidia (37–46 × 12–13.5 μm; Couch 1938).

Septobasidium guangxiense Wei Li bis & L. Guo, **sp. nov.** Figs 8–11

Fungal Name FN 570074

Differs from *Septobasidium ligustri* by its numerous fissures on the basidiome surface, its larger basidia, and its horizontal section layer.

Type: China, Guangxi, Wuming, Damingshan Scenic Area, alt. 700 m, on unidentified plant, associated with *Pseudaulacaspis* sp. (*Diaspididae*), 29.VIII.2011, W. Li & S.H. He 1519 (HMAS 244542, **holotype**).

Etymology: The epithet refers to the type locality, Guangxi.

Basidiomata on branches, resupinate, 40–50 cm long, 6–7 cm wide, yellowish brown or brown; surface with numerous fissures at maturity; margin determinate. In section 200–500 μm thick. Subiculum brown, 30–70 μm thick. Pillars brown, 70–100 μm high, 50–80 μm wide, forming a horizontal layer 20–40 μm thick on the top of pillars. Hyphal layer brown, 150–250 μm thick.

Figs 2–7. ***Septobasidium brunneum*** (HMAS 243152, holotype). 2. Basidiomata on branches; 3–4. Sections of basidiomata; 5–6. Basidia (arrows); 7. Haustoria.

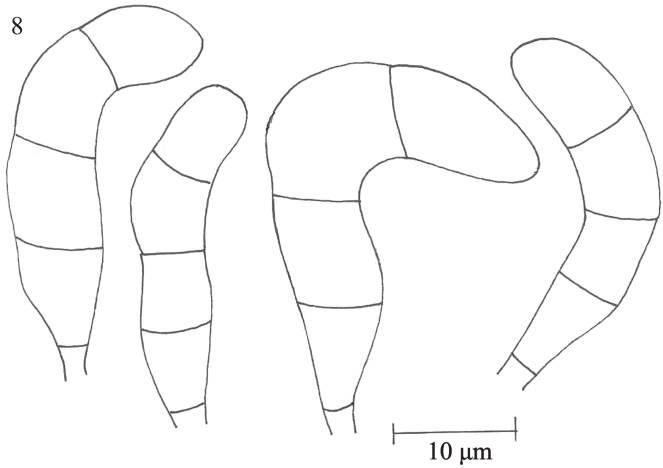


Fig 8. *Septobasidium guangxiense* (HMAS 244542, holotype). Basidia.

Hymenium brown, 50–100 μm thick, with irregularly arranged hyphae. Basidia arising directly from the hyphae without a probasidial cell, cylindrical, straight or curved, 4-celled, 27–38 × 5–10 μm, hyaline or brownish. Basidiospores not seen. Haustoria not seen.

Comments: *Septobasidium guangxiense* is similar to *S. ligustri* C.X. Lu & L. Guo, which differs by having fewer fissures on the basidiome surface, lacking a horizontal section layer, and having smaller basidia (15–29 × 5–7.5 μm; Lu & Guo 2010c).

Septobasidium transversum Wei Li bis & L. Guo, **sp. nov.** Figs 12–15

Fungal Name FN 570075

Differs from *Septobasidium pittospori* by its transverse layer at the pillar bases.

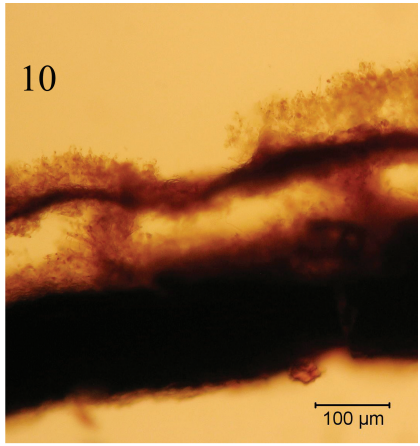
Type: China, Guangxi, Longzhou, Nonggang Natural Reserve, alt. 400 m, on unidentified plant, associated with tribe *Lepidosaphidini* (*Diaspididae*), 21.VII.2012, S.H. He GX02 (HMAS 244429, **holotype**).

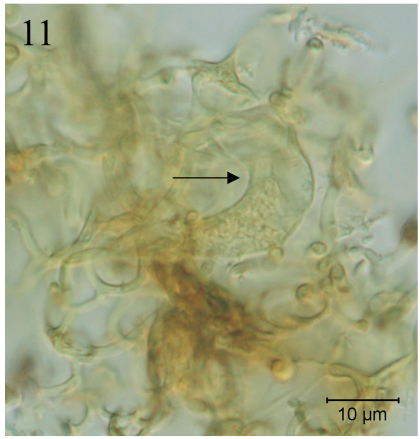
Etymology: The epithet refers to the transverse layer running below the pillars in section.

Basidiomata on branches, resupinate, 14–28 cm long, 4–6 cm wide, pale cinnamon-brown, cinnamon-brown or brown; surface smooth, peeling off at

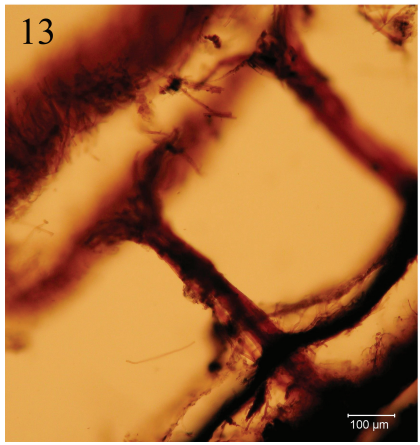
Figs 9–11. ***Septobasidium guangxiense*** (HMAS 244542, holotype). 9. Basidiomata on branches; 10. Section of basidioma; 11. Basidium (arrow). Figs 12–14. ***Septobasidium transversum*** (HMAS 244429, holotype). 12. Basidiomata on branches; 13. Section of basidioma; 14. Basidia.


9
1 cm


10
100 µm


11
10 µm


12
0 1CM 2 3 4 5


13
100 µm


14
10 µm

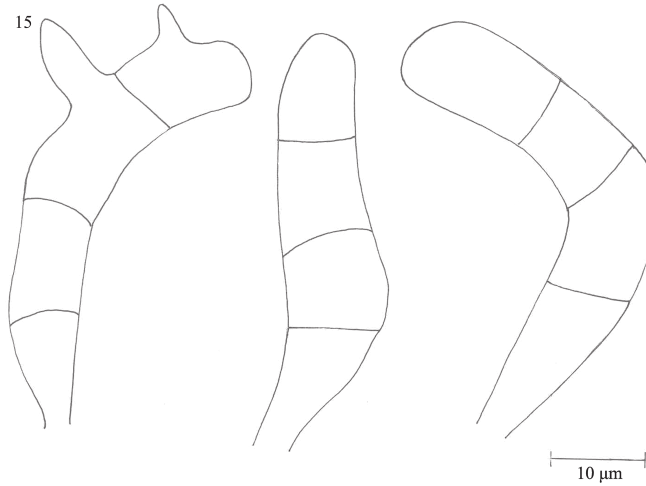


Fig 15. *Septobasidium transversum* (HMAS 244429, holotype). Basidia.

maturity, emerging pillars; margin determinate or indeterminate. In section 800–1200 μm thick. Subiculum brown, 30–100 μm thick. Pillars brown, 300–730 μm high, 50–190 μm wide, forming a transverse layer 20–60 μm thick at the pillar bases. Hyphal layer brown, 150–250 μm thick. Hymenium hyaline or brown, 70–120 μm thick. Basidia arising directly from the hyphae without a probasidial cell, cylindrical, straight or curved, 4-celled, 42–60 × 9–12 μm, hyaline or brown. Sterigmata conical, hyaline or brown. Basidiospores not seen. Haustoria consisting of irregularly coiled hyphae.

Comments: *Septobasidium transversum* is similar to *S. pittospori* C.X. Lu & L. Guo, which differs by having shorter pillars (190–290 μm), thicker hyphal layer (340–580 μm) in the section, and without a transverse layer at the base of pillars (Lu & Guo 2011).

Including the three new species reported in this paper, 57 *Septobasidium* species have now been reported in China (Sawada 1933, Couch 1938, Teng 1963, Tai 1979, Kirschner & Chen 2007, Lu & Guo 2009a,b,c, 2010a,b,c, 2011, Lu et al. 2010, Chen & Guo 2011a,b,c, 2012a,b,c, Li & Guo 2013a,b, Li et al. 2013).

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