

## MYCOTAXON

DOI: 10.5248/114.217

Volume 114, pp. 217–223

October–December 2010

**Two new species of *Septobasidium* (Septobasidiaceae)  
from Hainan Province in China**CHUNXIA LU<sup>1,2</sup> & LIN GUO<sup>1\*</sup>

Ch.x.lu@hotmail.com &amp; \*guol@im.ac.cn

<sup>1</sup>Key Laboratory of Systematic Mycology and Lichenology  
Institute of Microbiology, Chinese Academy of Sciences  
Beijing 100101, China<sup>2</sup>Graduate University of Chinese Academy of Sciences  
Beijing 100049, China

**Abstract** — Two new species, *Septobasidium hainanense* on *Harpullia* sp. associated with *Pseudaulacaspis* sp. and *Septobasidium ligustri* on *Ligustrum sinense* associated with *Lepidosaphes* sp., are described.

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

The mycota is very rich in tropical forests of Hainan. Several mycological investigations dealing with many new species including the genus *Septobasidium* were published recently (Dai & Cui 2006, Dai & Li 2010, Cui et al. 2009, Dai et al. 2009, Lu & Guo 2009a, 2010b, Yuan & Dai 2008, Xiong & Dai 2008, Wei & Dai 2008). The present paper belongs to a series of studies devoted to the fungal diversity of the Hainan Province. Two new species of *Septobasidium* are described as follows:

***Septobasidium hainanense* C.X. Lu & L. Guo, sp. nov.**

FIGS. 1–7

MYCOBANK MB 518658

*Basidiomata resupinata*, 0.2–2.5 cm longa, 0.15–1 cm lata, purpurea, margine determinata, superficie laevia, in sectione 220–830 µm crassa. Subiculum brunneum, 25–60 µm crassum. Columnae brunneae, 50–110 µm altae, 60–155 µm crassae vel hyphis laxae completae. Strata hypharum 70–505 µm alta, saepe strata horizontalia formantia, interdum hyphae partim successiveque crescentes et texturam hemisphaericam tum formantes. Hymenium 50–200 µm crassum. Hyphae hymenii erectae. Basidia cylindrica, recta vel curvata, 4-cellularia, 25–36 × 7–13 µm, hyalina vel brunneola. Sine probasidio. Basidiosporae non visae. Haustoria ex hyphis irregulariter spiralibus constantia.

\*corresponding author

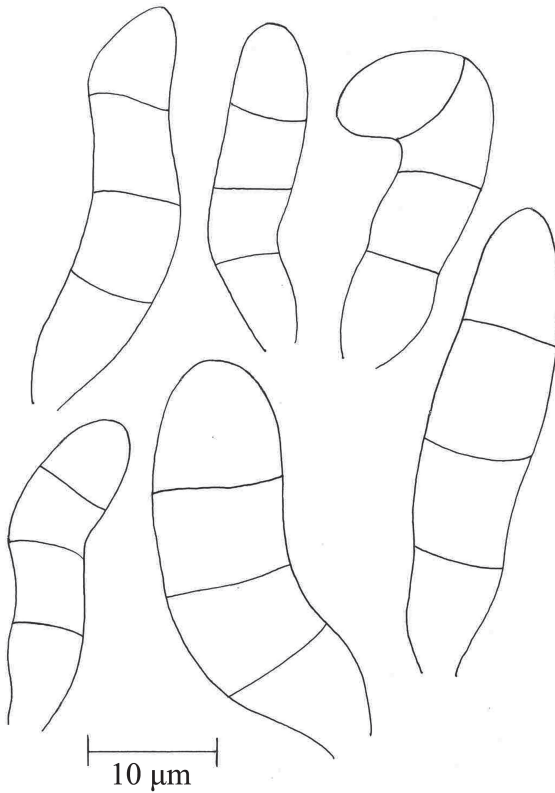


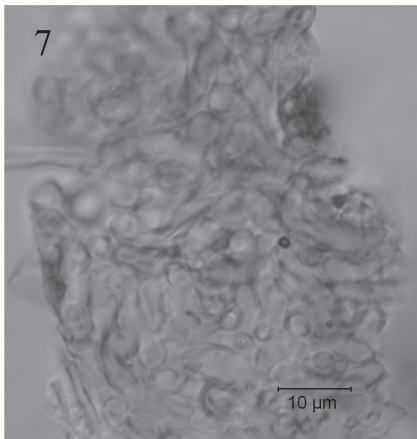
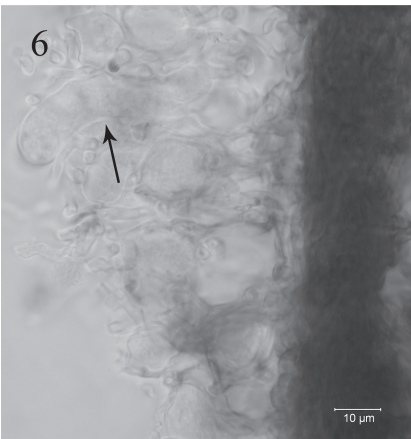
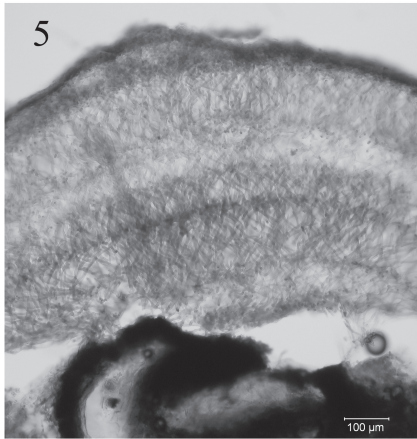
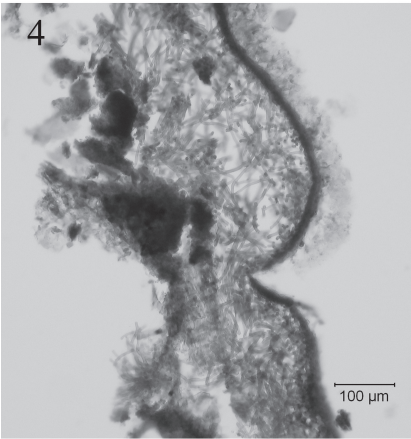
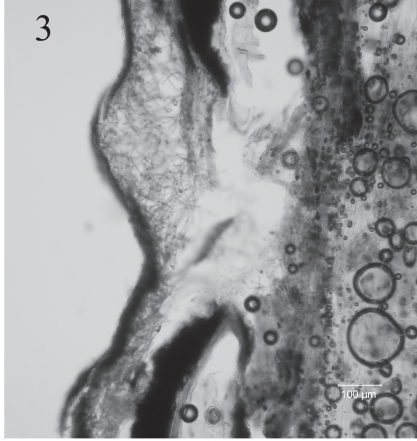
FIG. 1. Basidia of *Septobasidium hainanense* (HMAS 240078, holotype).

TYPE: On *Harpullia* sp. (*Sapindaceae*): China, Hainan, Bawangling, Yajia, alt. 740 m, 12.XII.2009, Y.F. Zhu & L. Guo 141, HMAS 240078 (**holotype**), associated with *Pseudaulacaspis* sp. (*Diaspididae*).

Basidiomata on trunks, resupinate, small, rounded, elongate or irregular, often confluent, 0.2–2.5 cm long, 0.15–1 cm wide, purple; margin determinate; surface smooth, often with mounds. In section 220–830  $\mu\text{m}$  thick. Subiculum brown, 25–60  $\mu\text{m}$  thick. Pillars brown, 50–110  $\mu\text{m}$  high, 60–155  $\mu\text{m}$  wide, sometimes loosely filled with hyphae from the subiculum. Hyphal layer 70–505  $\mu\text{m}$  high, often forming a distinct horizontal layer, sometimes hyphae partly and successively growing and forming hemispheric tissue. Hymenial layer 50–200  $\mu\text{m}$  thick, with closely arranged upright hyphae. Basidia arising directly from

---

FIGS. 2–7 (right). *Septobasidium hainanense* (HMAS 240078, holotype). 2. Basidiomata on trunk. 3–5. Sections of basidiomata. 6. Basidium (arrow). 7. Haustoria.



the hyphae, cylindrical, straight or curved, 4-celled,  $25\text{--}36 \times 7\text{--}13 \mu\text{m}$ , hyaline or brownish, without a probasidial cell. Basidiospores not seen. Haustoria consisting of irregularly coiled hyphae.

REMARKS: Morphologically, *Septobasidium hainanense* is similar to *S. lichenicola* (Berk. & Broome) Petch, from which it differs in having small patches of basidiomata, hyphae partly growing and forming hemispheric tissue, and with pillars or loosely filled with hyphae from subiculum. *Septobasidium lichenicola* has large patches of basidiomata, hyphae not forming hemispheric tissue and not loosely filled with hyphae from subiculum.

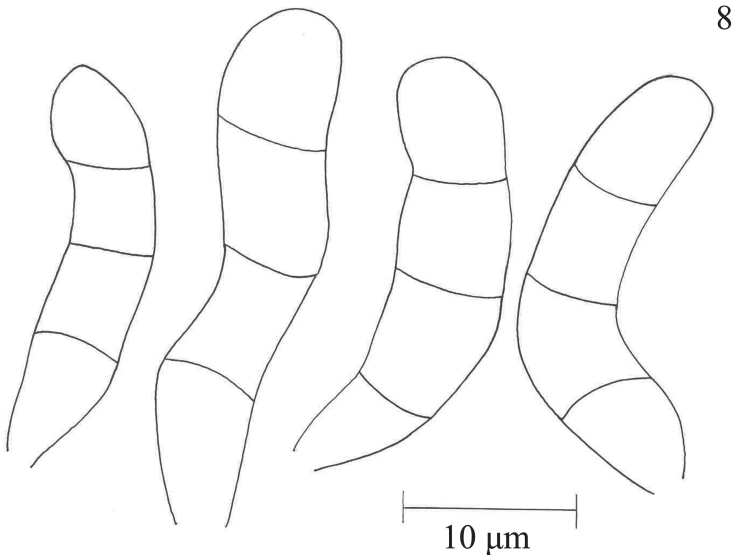


FIG. 8. Basidia of *Septobasidium ligustri* (HMAS 240079, holotype).

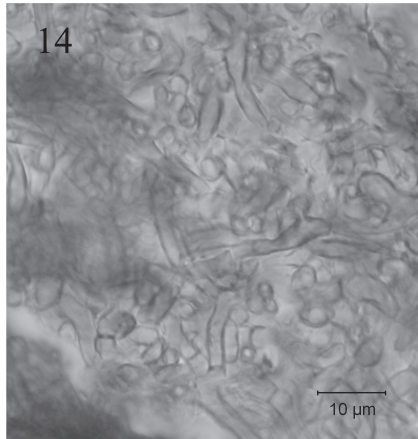
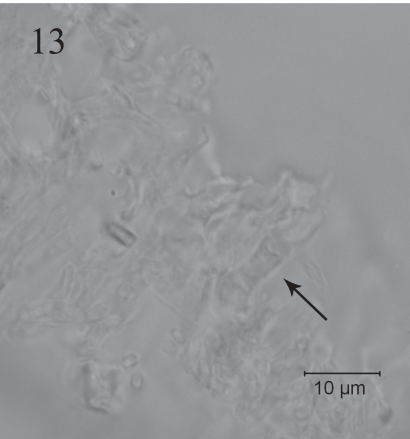
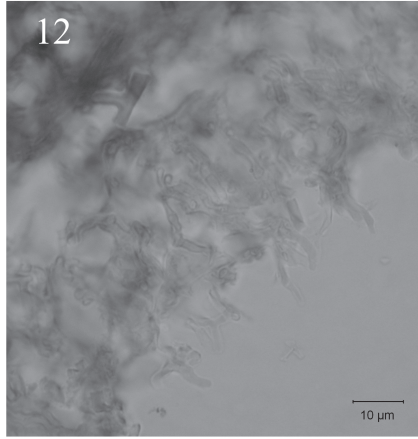
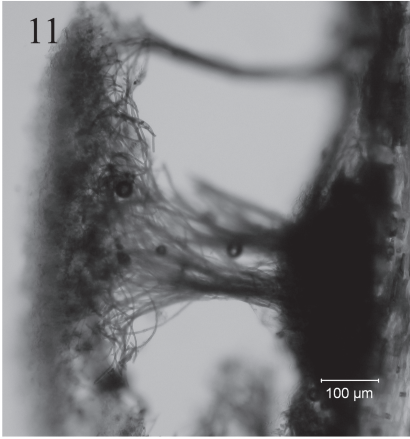
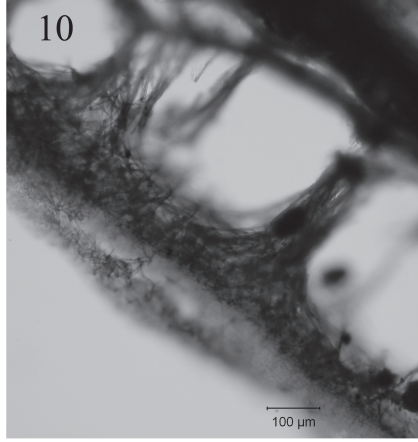
***Septobasidium ligustri*** C.X. Lu & L. Guo, sp. nov.

FIGS. 8–14

MYCOBANK MB 518659

*Basidiomata* resupinata, 9–20 cm longa, 1–3 cm lata, griseo-brunnea, margine determinata, superficie laevia, maturitate fissurata, in sectione 480–630  $\mu\text{m}$  crassa. Subiculum brunneum, 20–60  $\mu\text{m}$  crassum. Columnae brunneolae, 210–390  $\mu\text{m}$  altae, 30–150  $\mu\text{m}$  latae, extus ramosae strata hypharum 100–170  $\mu\text{m}$  alta tum formantes. Hymenium 50–80  $\mu\text{m}$  crassum. Hyphae hymenii irregulariter dispositae, erectae, ramosae. Basidia cylindrica, recta vel curvata, 4-cellularia, 15–29  $\times$  5–7.5  $\mu\text{m}$ , hyalina. Sine probasidio. Sterigmata 3–8  $\mu\text{m}$  longa. Basidiospora ovoidea, 9  $\times$  4  $\mu\text{m}$ , hyalina. Haustoria ex hyphis irregulariter spiralibus constantia.

FIGS. 9–14 (right). *Septobasidium ligustri* (HMAS 240079, holotype). 9. Basidiomata on branch. 10–11. Sections of basidiomata. 12. Hymenium. 13. Basidium (arrow). 14. Haustoria.



TYPE: On *Ligustrum sinense* Lour. (*Oleaceae*): China, Hainan, Wanning, Xinglong Tropical Plant Garden, alt. 38 m, 6.XII.2009, Y.F. Zhu & L. Guo 41, HMAS 240079 (holotype), associated with *Lepidosaphes* sp. (*Diaspididae*).

Basidiomata on branches, resupinate, 9–20 cm long, 1–3 cm wide, grey-brown; margin determinate; surface smooth, becoming cracked. In section 480–630  $\mu\text{m}$  thick. Subiculum brown, 20–60  $\mu\text{m}$  thick. Pillars brownish, 210–390  $\mu\text{m}$  high, 30–150  $\mu\text{m}$  wide, branched outwards to form a 100–170  $\mu\text{m}$  high hyphal layer. Hymenium 50–80  $\mu\text{m}$  thick, with irregularly arranged upright branched hyphae. Basidia arising directly from the hyphae, cylindrical, straight or curved, 4-celled, 15–29  $\times$  5–7.5  $\mu\text{m}$ , hyaline, without a probasidial cell. Sterigmata 3–8  $\mu\text{m}$  long. Basidiospore ovoid, 9  $\times$  4  $\mu\text{m}$ , hyaline. Haustoria consisting of irregularly coiled hyphae.

REMARKS: Morphologically, *Septobasidium ligustri* is similar to *S. septobasidioides* (Henn.) Höhn. & Litsch., but differs mainly in having grey-brown basidioma, thinner section (480–630  $\mu\text{m}$  vs about 1 mm) and smaller basidia (15–29  $\times$  5–7.5  $\mu\text{m}$  vs 40–55  $\times$  8.4–10  $\mu\text{m}$ ).

To date, 28 species of *Septobasidium* have been reported in China (Sawada 1933, Couch 1938, Teng 1963, Tai 1979, Kirschner & Chen 2007, Lu & Guo 2009a, b, c, 2010a, b, Lu et al. 2010), including the two new species reported in this paper.

### Acknowledgements

The authors would like to express their deep thanks to Drs Eric H.C. McKenzie (Auckland, New Zealand) and Shuanghui He (Beijing Forestry University) for serving as pre-submission reviewers, to Dr. Shaun Pennycook (Auckland, New Zealand) for nomenclatural review, to Prof. Jianyun Zhuang (Institute of Microbiology, Chinese Academy of Sciences) for Latin corrections, to Mr Ziyu Cao (Institute of Botany, Chinese Academy of Sciences) for identifying the host plants, to Prof. Sanan Wu (Beijing Forestry University) for identifying the scale insects, and to Mrs Xiangfei Zhu for inking in line drawings. This study was supported by the Ministry of Science and Technology of the People's Republic of China (No. 2006FY110500–5).

### Literature cited

- Couch JN. 1938. The genus *Septobasidium*. Univ. of North Carolina Press, Chapel Hill. 480 p.
- Cui BK, Dai YC, Bao HY. 2009. Wood-inhabiting fungi in southern China 3. A new species of *Phellinus* (*Hymenochaetales*) from tropical China. *Mycotaxon*, 110: 125–130.
- Dai YC, Cui BK. 2006. Two new species of *Wrightoporia* (*Basidiomycota*, *Aphyllphorales*) from southern China. *Mycotaxon* 96: 199–206.
- Dai YC, Cui BK, Yuan HS. 2009. *Trichaptum* (*Basidiomycota*, *Hymenochaetales*) from China with a description of three new species. *Mycol. Progr.* 8: 281–287. doi:10.1007/s11557-009-0598-0
- Dai YC, Li HJ. 2010. Notes on *Hydnochaete* (*Hymenochaetales*) with a seta-less new species discovered in China. *Mycotaxon* 111: 481–487.



- Kirschner R, Chen CJ. 2007. New reports of two hypophyllous *Septobasidium* species from Taiwan. *Fung. Sci.* 22: 39–46.
- Lu CX, Guo L. 2009a. *Septobasidium maesae* sp. nov. (*Septobasidiaceae*) from China. *Mycotaxon* 109: 103–106.
- Lu CX, Guo L. 2009b. Two new species of *Septobasidium* (*Septobasidiaceae*) from China. *Mycotaxon* 109: 477–482.
- Lu CX, Guo L. 2009c. *Septobasidium annulatum* sp. nov. (*Septobasidiaceae*) and *Septobasidium kameii* new to China. *Mycotaxon* 110: 239–245.
- Lu CX, Guo L. 2010a. Three new species of *Septobasidium* (*Septobasidiaceae*) from Gaoligong Mountains in China. *Mycotaxon* 112: 143–151.
- Lu CX, Guo L. 2010b. Two new species of *Septobasidium* (*Septobasidiaceae*) and *S. pallidum* new to China. *Mycotaxon* 113: 87–93. doi:10.5248/113.87
- Lu CX, Guo L, Wei JG, Li JB. 2010. Two new species of *Septobasidium* (*Septobasidiaceae*) from southern China. *Mycotaxon* 111: 269–274.
- Sawada K. 1933. Descriptive catalogue of the Formosan fungi. Part VI. Rep. Dept. Agric. Govt. Res. Inst. Formosa 61: 1–99.
- Tai FL. 1979. *Sylloge Fungorum Sinicorum*. Science Press, Beijing. 1527 p.
- Teng SC. 1963. *Fungi of China*. Science Press, Beijing. 808 p.
- Wei YL, Dai YC. 2008. Notes on *Elmerina* and *Protomerulius* (*Basidiomycota*). *Mycotaxon* 105: 349–354.
- Xiong HX, Dai YC. 2008. A new species of *Inonotus* (*Basidiomycota*, *Hymenochaetaceae*) from China. *Crypt. Mycol.* 29: 279–283.
- Yuan HS, Dai YC. 2008. Two new species of *Junghuhnia* (*Basidiomycota*, *Polyporales*), and a key to the species of China. *Nord. J. Bot.* 26: 96–100.

