

New species and new Chinese records of *Dothideomycetes*

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Abstract — Some previous and recent collections of bitunicate ascomycetes from China were examined. *Saccardoella psidiicola* is described as a new species. *Dothidotthia ramulicola*, *Macrovalsaria megalospora*, *Phaeosphaeria eustomoides* and *Plowrightia periclymeni* are recorded for the first time from China.

Key words — morphology, taxonomy

Introduction

Patouillard (1886) recorded the first *Dothideomycetes* from China when he described *Leptosphaeria delavayi* Pat. together with six other new fungal species collected by Delavay from Yunnan Province. Later research was attributed to and summarized by Teng (1963), Tai (1979) and Eriksson & Yue (1988). More recently, Wang et al. (1999) and Lu et al. (2000), as well Yuan & Zhao (1994), Hsieh & Chen (1994, 1996), Hyde (1995), Hsieh et al. (1997) and Li & Zhuang (2007, 2008) provided additional records to the Chinese *Dothideomycetes* mycobiota. Some interesting fungi were encountered during our work on the group from tropical and subtropical areas of China. Among them, one new species was discovered and four taxa are recorded for the first time from China.

Material and methods

Herbarium material and recent collections from Hainan, Yunnan and Zhejiang provinces were studied. Ascomata from substrate were rehydrated and sectioned at a thickness of 10–20 µm with a freezing microtome (YD-1508A, Yidi Medical Instrument Co.). Measurements were taken from the sections and from squash mounts in lactophenol cotton blue solution. Photographs were taken using a

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digital camera (Canon G5) connected to a Zeiss Axioskop 2 Plus microscope. The collections studied are deposited in the Mycological Herbarium, Chinese Academy of Sciences (HMAS).

Taxonomy

New species

Saccardoella psidiicola W.Y. Zhuang, W.Y. Li & K.D. Hyde, sp. nov. FIGS 1–5
MYCOBANK MB 512350

Pseudothecis subglobosis vel piriformibus, 200–365 μm diam., 360–510 μm alt.; *ascis clavatis*, 8-sporis, 85–124 \times 16.5–22 μm ; *ascosporis fusiformibus*, 7–10-septatis, hyalinis, 27–43.5 \times 5.3–7.8 μm .

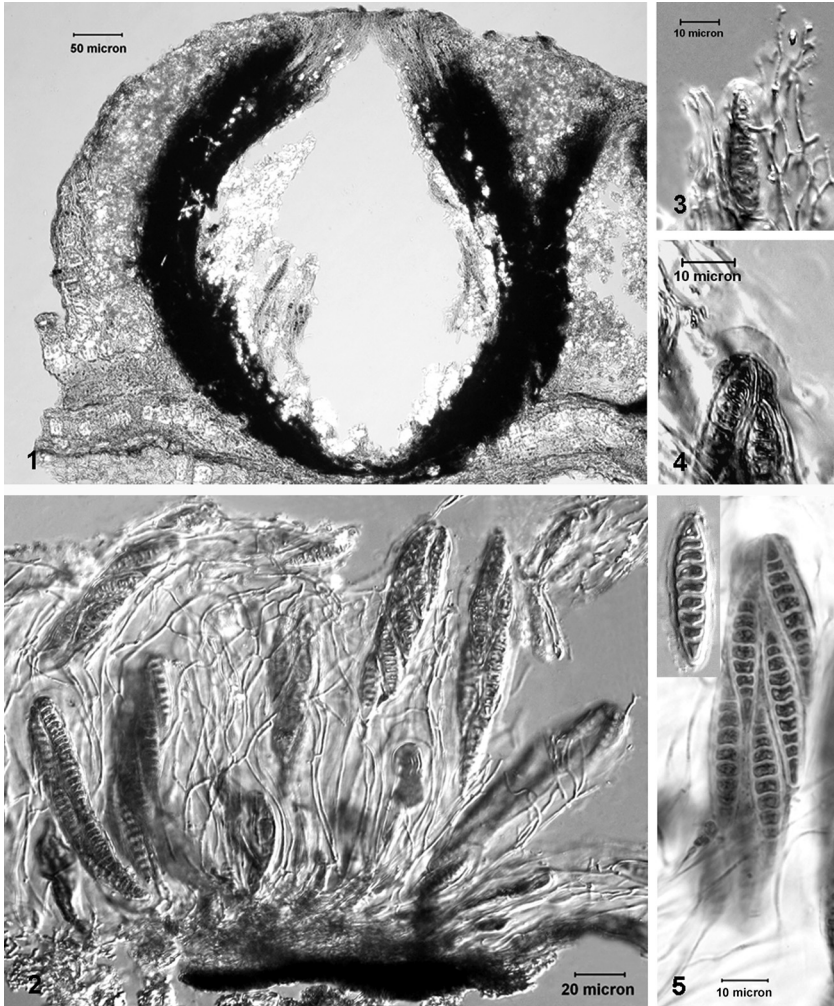
HOLOTYPE: China. Paak Shan, on dead branches of *Psidium guajava* associated with at least four other ascomycetes, V-1919, Otto A. Reinking, HMAS 10708.

ETYMOLOGY: The specific epithet refers to the substrate of the fungus.

Ascomata pseudothecial, subcortical, immersed in a pulvinate stroma, solitary to gregarious, carbonaceous, subspherical to pyriform, individual locules 200–365 μm diam. and 360–510 μm high; hamathecia of trabeculate anastomosing pseudoparaphyses ca 0.8–1 μm wide; asci bitunicate, outer wall very thin, with a thickened apex and a small ocular chamber, apical apparatus absent or unobvious, broadly clavate, 8-spored, 85–124 \times 16.5–22 μm ; ascospores fusiform, hyaline, surrounded by a thick layer of hyaline gel sheath, mostly 7–10-septate, not constricted at septa, 27–43.5 \times 5.3–7.8 μm excluding the sheath, irregularly biseriate to overlapping, spore sheath 1.2–2 μm thick. Anamorph unknown.

NOTES: Among the known species of the genus *Saccardoella* (Spegazzini 1879, Saccardo 1895, 1899, Riedl 1968, Malhotra & Mukerji 1978, Hyde 1992, Mathiassen 1993, Barr 1994, Hsieh et al. 1997, Barr et al. 1998, Tsui et al. 1998, Hyde et al. 2000, Fallah & Shearer 2001, Cai et al. 2002), *S. mangrovei* K.D. Hyde from intertidal mangrove wood is the most similar to the Chinese fungus in ascospore shape and septation, but it differs significantly in fruitbody size (390–845 μm diam., 380–585 μm high), longer and narrower asci (154–216 \times 8.5–14 μm) with an apical ring, and shorter spores (26–33 \times 6–8 μm) diagonally uniseriate in ascus. *S. graeweana* (Blomb.) M.E. Barr et al. possesses a somewhat similar spore shape, but has narrower asci (75–120 \times 8–10 μm) with an apical ring, and narrower spores (30–40 \times 3–5.5 μm) with 10–14 septa. The fungus on *Psidium guajava* is new to the genus.

The taxonomic position of *Saccardoella* remains unclear (Eriksson & Hawksworth 1991, Kirk et al. 2001). Because of its thickened ascus apex, small ocular chamber at apical portion of ascus, and trabeculate anastomosing pseudoparaphyses among asci observed in the material, we treat the fungus as a bitunicate ascomycete.



FIGS 1–5. *Saccardoella psidiicola* (holotype): 1. Structure of ascocarp; 2. Hamathecium, showing clavate asci associated with trabeculate pseudoparaphyses; 3, 4. Thickening at ascus apex; 5. Overlapping ascospores in ascus and an ascospore surrounded by a hyaline gel sheath.

New records for China

Dothidotthia ramulicola (Peck) M.E. Barr, Mycotaxon 29: 503, 1987.

= *Sphaeria ramulicola* Peck, Ann. Rep. New York State Mus. 25: 104, 1872.

SPECIMEN EXAMINED: China. Zhejiang, Tianmushan, alt. 500 m, on dead twigs, 6-XI-2005, W.Y. Li & J. Luo 6785, HMAS 178097.

NOTES: Barr (1989) provided a detailed description of this species. The Zhejiang collection is identical with the North American material, especially the red-brown, straight and uniseptate ascospores measuring $19.5\text{--}25 \times 9.5\text{--}14 \mu\text{m}$.

Macrovalsaria megalospora (Mont.) Sivan., Trans. Brit. Mycol. Soc. 65: 400, 1975.

= *Sphaeria megalospora* Mont., Ann. Sci. Nat., Bot., 2e sér., 14: 324, 1840.

= *Macrovalsaria leonensis* (Deighton) Petr., Sydowia 15: 300, 1962.

SPECIMENS EXAMINED: China. Hainan, Sanya, alt. 300 m, on dead twigs, 21-XI-2006, W.Y. Li 7441, 7443, 7447, 7511, HMAS 178153, 178152, 178149, 178150; Hainan, Ledong, alt. 1100 m, on dead twigs, 22-XI-2006, W.Y. Li 7475, HMAS 178151.

NOTES: The brown, uniseptate ascospores that are constricted at the septum and the skull cap-like germ apparatus at one end are diagnostic features for the fungus. The genus is monotypic and *Macrovalsaria leonensis* is a synonym (Sivanesan 1975, Hyde et al. 2000).

Phaeosphaeria eustomoides (Sacc.) Shoemaker & C.E. Babco.,

Can. J. Bot. 67: 1526, 1989.

= *Lepetosphaeria eustomoides* Sacc., Fungi Venet. Nov. Vel. Crit. 2: 319, 1875.

SPECIMEN EXAMINED: China. Yunnan, Wenshan, on leaves of *Oryza sativa*, 11-VIII-1938, Q.H. Wang & S.Z. Zhao 6310, HMAS 02310 (filed under *Metasphaeria albescens* Thüm.).

NOTES: Our examination indicates that the Yunnan collection is identical with the morphology of *Phaeosphaeria eustomoides* described by Shoemaker & Babcock (1989) based on a collection on *Andropogon ischaemum*.

Plowrightia periclymeni (Fuckel) Sacc., Syll. Fung. 2: 637, 1833.

= *Dothidea periclymeni* Fuckel, Jahrb. Nassauischen Vereins Naturk. 23-24: 223, 1870.

SPECIMEN EXAMINED: China. Zhejiang, Tianmushan, 1400 m, on small dead twigs of a shrub, 2-XI-2005, W.Y. Li & J. Luo 6695, HMAS 178096.

DIAGNOSTIC FEATURES: Ascostromata initially immersed, becoming erumpent through the epidermis, pulvinate, with 2-3 locules, $0.5\text{--}0.65 \times 0.16\text{--}0.17 \text{ mm}$; pseudothecia subglobose, dark brown to nearly black, surface smooth or slightly roughened, $96\text{--}226 \mu\text{m}$ diam., $63\text{--}99 \mu\text{m}$ high; peridium of textura angularis, composed of dark brown, thick-walled cells; asci bitunicate, clavate, 8-spored, $66\text{--}96 \times 11\text{--}14 \mu\text{m}$; ascospores fusiform, tapering towards both ends, 1-septate, slightly constricted at septum, hyaline, smooth-walled, irregularly biseriate, $13.5\text{--}16.5 \times 4.5\text{--}5.5 \mu\text{m}$.

NOTES: The pulvinate ascostromata with small locules immersed, bitunicate asci, and hyaline ascospores with one septum indicate its position in the genus *Plowrightia* (Saccardo 1883, 1913, Arx & Müller 1975, Barr 2001). The Chinese collection matches well the original description of *Dothidea periclymeni* on *Lonicera periclymenum* (Fuckel 1870, Saccardo 1833).

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