ISSN (print) 0093-4666 ISSN (online) 2154-8889

MYCOTAXON

http://dx.doi.org/10.5248/117.87

Volume 117, pp. 87–92 *July–September 2011*

New records of *Digitoramispora* from China

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Abstract — Four species collected from plant debris in natural areas of southern China are recorded for the first time from China. *Digitoramispora caribensis*, *D. tambdisurlensis*, *D. excentrica,* and *D. lageniformis* are described and illustrated, and a key to currently accepted *Digitoramispora* species is provided. The specimens are deposited in Herbarium of Shandong Agricultural University, Plant Pathology (HSAUP), and Mycological Herbarium, Institute of Microbiology, Chinese Academy of Sciences (HMAS).

Key words — anamorphic fungi, taxonomy

Introduction

Castañeda & Kendrick (1990) introduced *Digitoramispora* to accommodate two species, *D. caribensis* (type species) and *D. excentrica*. Two other species, *D. lageniformis* and *D. tambdisurlensis* were described from Thailand and India, respectively (Somrithipol & Jones 2003, Pratibha et al. 2009). Until now, *Digitoramispora* has contained only these four species with no reports from China. *Digitoramispora* species produce dictyosporous, digitate or irregular conidia with peripheral hyaline or colourless short radiating branches or cells, and irregularly (often percurrently) extending conidiophores (Castañeda & Kendrick 1990). During investigations of tropical fungi from the forests of southern China, all four species of *Digitoramispora* were collected. They are illustrated and described as new records for China.

Taxonomy

Digitoramispora caribensis R. F. Castañeda & W.B. Kendr., University of Waterloo Biology Series 33: 20 (1990) Fig. 1

Colonies on the natural substrate effuse, black. Mycelium partly superficial, partly immersed in the substrate, composed of smooth, brown, branched, septate hyphae, 1–2 μm wide. Conidiophores macronematous, mononematous,

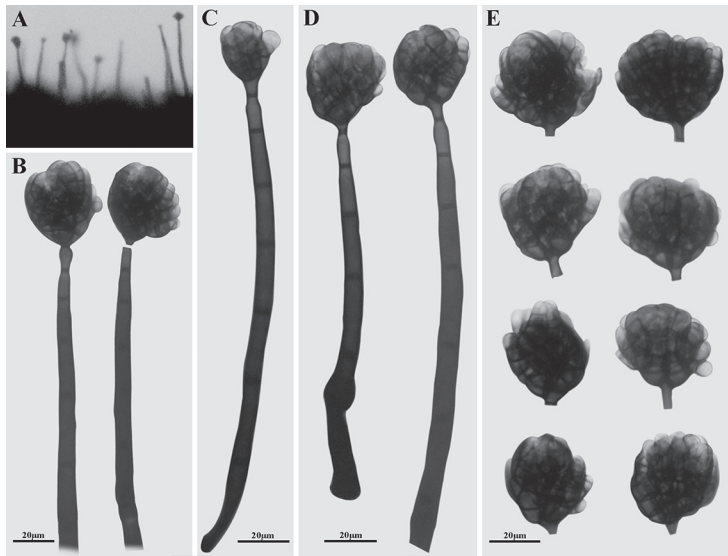

Fig. 1. *Digitoramispora caribensis* A. Colonies on the natural substratum. B–D. Conidiophores, conidiogenous cells and conidia. E. Mature conidia.

single, straight to slightly flexuous, unbranched, dark brown, often swollen at the base, up to 110 μm long, 3–5 μm thick. Conidiogenous cells monoblastic, integrated, terminal, cylindrical to lageniform, 6–12 × 2–2.5 μm. Conidia holoblastic, digitate, lobed at the apex, 17–21 × 14–20 μm, dark brown at the base and centre, pale brown to colourless at apical cells and short branches, seceding schizolytically.

Specimen examined: CHINA. Gungdong Province: Mountain Danxia, on dead branches of unidentified plant, 22 Oct. 2010, L.Y. Sun, HSAUP H3273 (duplicate HMAS 146118).

Comments—*Digitoramispora caribensis,* the type species of *Digitoramispora,* was previously known only from Cuba. Our specimen is similar to the type species, but it lacks annellidic conidiogenous cells and its conidia are somewhat larger (17–21 × 14–20 μm vs. 15–20 × 10–15 μm).

Digitoramispora tambdisurlensis Pratibha, Raghuk. & Bhat, Mycotaxon 107: 383 (2009) Fig. 2

Colonies on the natural substrate effuse, dark brown. Mycelium immersed in the substrate, composed of smooth, brown, branched, septate hyphae, 2–3 μm wide. Conidiophores macronematous, mononematous, straight to slightly flexuous, unbranched, dark brown, swollen at the base, 200–230 × 5.5–11 μm.

Fig. 2. *Digitoramispora tambdisurlensis* A. Colonies on the natural substratum. B. Conidiophores and conidiogenous cells. C. Conidiophores with conidia. D. Conidia

Conidiogenous cells monoblastic, integrated, terminal, cylindrical, producing only one terminal conidium, 9–12.5 × 4.5–6 μm. Conidia holoblastic, muriform, digitate, variable in shape, dark brown at the base and centre with peripheral light brown cells or branches, 64.5–80 × 38.5–55.5 μm.

Specimen examined: CHINA. Hunan Province: forest park of Zhang jiajie, on dead branches of unidentified plant, 18 Aug. 2010, Y.D. Zhang, HSAUP H3168 (duplicate HMAS 146119).

Comments—*Digitoramispora tambdisurlensis* differs from the other three species in the genus by its larger conidia and conidiophores. The shape and size of the conidia in our collection compare well with those described by Pratibha et al. (2009). The only difference is that the conidia and conidiophores in our collection are slightly smaller.

Digitoramispora excentrica (B. Sutton) R.F. Castañeda & W.B. Kendr., University of Waterloo Biology Series 33: 20 (1990) Fig. 3

Colonies on natural substrate effuse, black. Mycelium partly superficial, partly immersed in the substrate, composed of smooth, brown, branched, septate hyphae, 1–2 μm wide. Conidiophores macronematous, mononematous, single, straight to slightly flexuous, unbranched, dark brown, often swollen at the base, up to 140 μm long, 3–4 μm thick, with up to 5 lageniform or doliiform

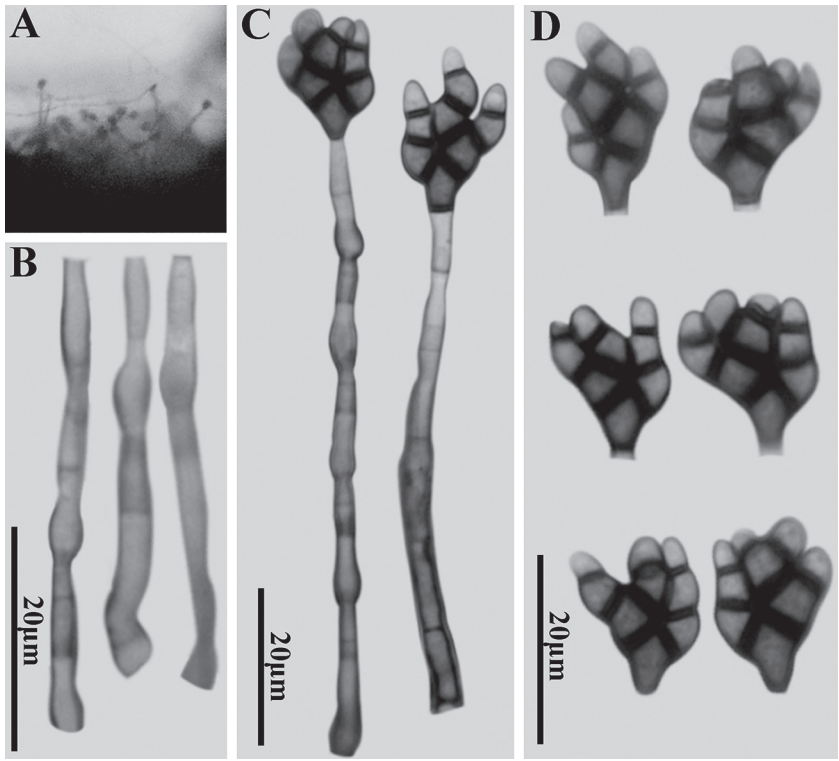

Fig. 3. *Digitoramispora excentrica* A. Colonies on the natural substratum. B. Conidiophores and conidiogenous cells. C. Conidiophores with conidia. D. Conidia.

percurrent proliferations. Conidiogenous cells monoblastic, integrated, terminal, cylindrical to lageniform, 7–10 × 2–2.5 μm. Conidia holoblastic, muriform or cheiroid, lobed at the apex, variable in shape, with 1–2 transverse septa and 1–3 longitudinal septa, the septa are partly obscured by a band of wall which is more deeply pigmented and almost black, apical cell of each branch colourless, 16.5–21 × 11.5–14 μm.

Specimen examined: CHINA. Gungdong Province: Mountain Danxia, on dead branches of unidentified plant, 22 Oct. 2010, Y.D. Zhang, HSAUP H3273 (duplicate HMAS 146120).

Comments—*Digitoramispora excentrica* was originally described as *Acrodictys excentrica* by Sutton (1969) in Canada. Hughes (1979) transferred it to *Arachnophora* (as *A. excentrica* (B. Sutton) S. Hughes) based on the rhexolytic conidial secession. Castañeda & Kendrick (1990) provided the combination *Digitoramispora excentrica* based on the percurrently proliferating

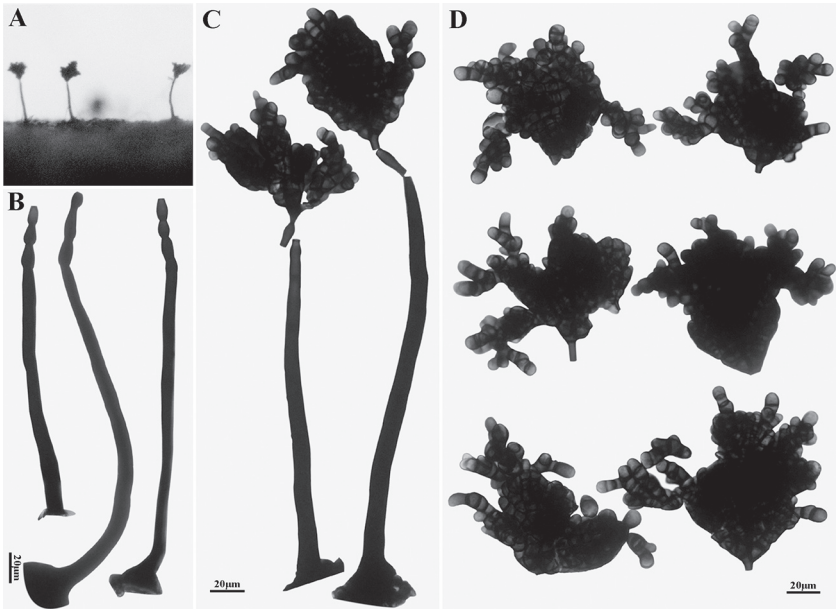

Fig. 4. *Digitoramispora lageniformis* A. Colonies on the natural substratum. B. Conidiophores and conidiogenous cells. C. Conidiophores with conidia. D. Conidia.

conidiophores and dictyosporous, digitate conidia with colourless apical cells. Our specimen lacks the *Selenosporella*-like synanamorph at the apex. The conidial shape is similar to the type specimen, but the conidia are somewhat longer (16.5–21 μm vs. 13–18 μm) than those of the type.

Digitoramispora lageniformis Somrith. & E.B.G. Jones, Nova Hedwigia 77: 374 (2003) Fig. 4

Colonies on natural substrate effuse, black. Mycelium partly superficial, partly immersed in the substrate, composed of smooth, brown, branched, septate hyphae, 1.5–3 μm wide. Conidiophores macronematous, mononematous, straight to slightly flexuous, unbranched, dark brown, often swollen at the base, up to 260 μm long, 6–10.5 μm thick, with up to 3 lageniform or doliiform percurrent proliferations. Conidiogenous cells monoblastic, integrated, terminal, producing only one terminal conidium, cylindrical to lageniform, 12–17 × 4–6 μm. Conidia holoblastic, muriform or digitate, variable in shape, 38–57 × 40–51 μm, with many short, 1–3 septate, aggregated branches, brown or dark brown at the base and in the centre, apical cell of each branch colourless.

Specimen examined: CHINA. Gungdong Province: Mountain Danxia, on dead branches of unidentified plant, 22 Oct. 2010, L.Y. Sun, HSAUP H7034 (duplicate HMAS 146121).

Comments—*Digitoramispora lageniformis* is distinguished from other species by the lageniform or doliiform percurrently proliferating conidiophores and numerous short branches on the conidia. Compared with the morphology of the type specimen described by Somrithipol & Jones (2003), the conidia in our collection are slightly larger.

Key to *Digitoramispora* species

1. Conidiogenous cells without proliferation 2
   Conidiogenous cells with lageniform or doliiform proliferations 3
2. Conidia 15–20 µm long, 10–15 µm wide .....*D. caribensis*
   Conidia 50–90 µm long, 40–75 µm wide .....*D. tambdisurlensis*
3. Conidia 13–18 µm wide ..... *D. excentrica*
   Conidia 37–45 µm long, 28–32 µm wide ..... *D. lageniformis*

Acknowledgments

The authors express gratitude to Dr Eric H.C. McKenzie and Dr R.F. Castañeda Ruiz for serving as pre-submission reviewers and for their valuable comments and suggestions. This project was supported by the National Natural Science Foundation of China (Nos. 30499340, 30770015) and the Ministry of Science and Technology of the People's Republic of China (Nos. 2006FY120100, 2006FY110500–5).

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