

Three dematiaceous hyphomycetes from Taiwan

Ho-Shii Chang

Institute of Botany, Academia Sinica, Taipei, Taiwan 115, Republic of China

(Received April 10, 1998; Accepted November 24, 1998)

Abstract. Three dematiaceous hyphomycetes, *Virgatospora echinofibrosa*, *Helicoma depressispora*, and *Lylea catanulata* are reported from Taiwan for the first time. The species are described and illustrated.

Keywords: *Helicoma*; *Lylea*; Taiwan; *Virgatospora*.

During our investigation of freshwater Ascomycetes on decaying woods and twigs, three interesting hyphomycetes were observed. They were described as follows.

Virgatospora echinofibrosa Finley, 1967, *Mycologia*, 59: 538-541. (Figure 1A-C)

Conidiophores macronematous, synnematos, scattered, solitary, up to 1.3 mm high, 80 μm wide at the middle, and 130-145 μm wide at the base, individual conidiophores narrow, 1.5-2.7 μm , straight or flexuous, subhyaline to brown or blackish brown, smooth to finely echinulate, unbranched and tightly adpressed along most of their length but separating, splaying out and branching penicillately towards their apices. Conidiogenous cells monophialidic, determinate, cylindrical to clavate. Conidia broadly fusiform with papillate, truncate ends, straight or curved, 3-septate, 35-48 \times 9-15 μm . olivaceous grey, coarsely striate.

This stilbaceous hyphomycete has been indicated as an anamorph of *Nectria spirostriata* by Rossman (1983) and Matsushima (1993). A Myrothecium-state has also been reported as an anamorph of *N. echinofibrosa* by Rossman and Matsushima respectively. Our isolate growing on autoclaved sterilized corn leaf section placed on Sach's medium formed only *Virgatospora*-state synnemata and conidia. No teleomorph has been observed in our case.

Habitat. This fungus was isolated from the twig of an unknown tree collected from a stream at Wulai, Taipei county, Taiwan on September 25, 1996.

Helicoma depressispora Matsushima, *Matsushima Mycological Memoirs* No.7, p. 52, 1993. (Figure 1D-F)

Conidiophores micronematous to semi-macronematous. Conidia produced holoblastically on blunt-tipped denticles produced on lateral swellings of repent hyphae. Conidia pale yellow, circinate, coiled 1.25 to 1.75 times in a single plane, non-hygroscopic, 5-(6-7)-12 septate, slightly constricted at septa, 15-23 μm wide and 11-(14-15)-17 μm high;

conidial filament 4.5-7.0 μm wide. Chlamydo-spores intercalary, developing by cell division and enlargement, dictyosporous, constricted at septa, light brown at first, becoming black, 50-(75-85)-95 \times 33-60 μm ; outer wall of surface cells protuberant.

Two species of *Helicoma*, *Helicoma chlamydo-sporum* Shearer and *H. depressispora* form dictyochlamydo-spores. During our survey on microfungi on decayed twigs on streams we came across a fungal isolate that not only produced conidia of the genus *Helicoma* but also formed dictyochlamydo-spores. This fungus was identified as *H. depressispora* Matsushima. Matsushima (1993) first described this fungus, which he observed on decaying *Palmae*-petioles at Tambopata, Peru in 1990 and Rio Yuturi, Ecuador in 1992. In 1983 Schoknecht and Crane apparently also obtained this fungus, but they found only dictyochlamydo-spores which resembled those produced by *H. depressispora*, but with no helico-conidia.

Habitat. This fungus was observed on twigs collected at Wulai, Taipei county on July 9, 1995.

Lylea catanulata Morgan-Jones, *Mycotaxon* 3: 129-132, 1975. (Figure 2)

Conidiophores micronematous or semi-macronematous, inconspicuous, short, erect, cylindrical branches of the superficial mycelium, pale brown, smooth-walled, usually separated from the mycelium by a transverse septum, 20-28 \times 6-8 μm . Conidiophore growth ceases as the first conidium is formed. Conidiogenous cells monoblastic, integrate, frequently sympodial, cicatrized, scars prominent, dark, determinate or indeterminate. Conidia straight or slightly curved, cylindrical, obtuse at each end, catenate, dry, acrogenous, formed acropetally in chains, thick-walled with narrow cell lumina, guttulate, mid to dark brown smooth, (2-3) 6-8(13)-pseudosepta, 24-(50)-96 \times 10-15 μm , formed in short acropetal chains. Successive conidia are formed apically from the terminal cell of the previously formed conidia and afterwards may be produced from the second and subsequent conidia at the terminal or intercalary loci.

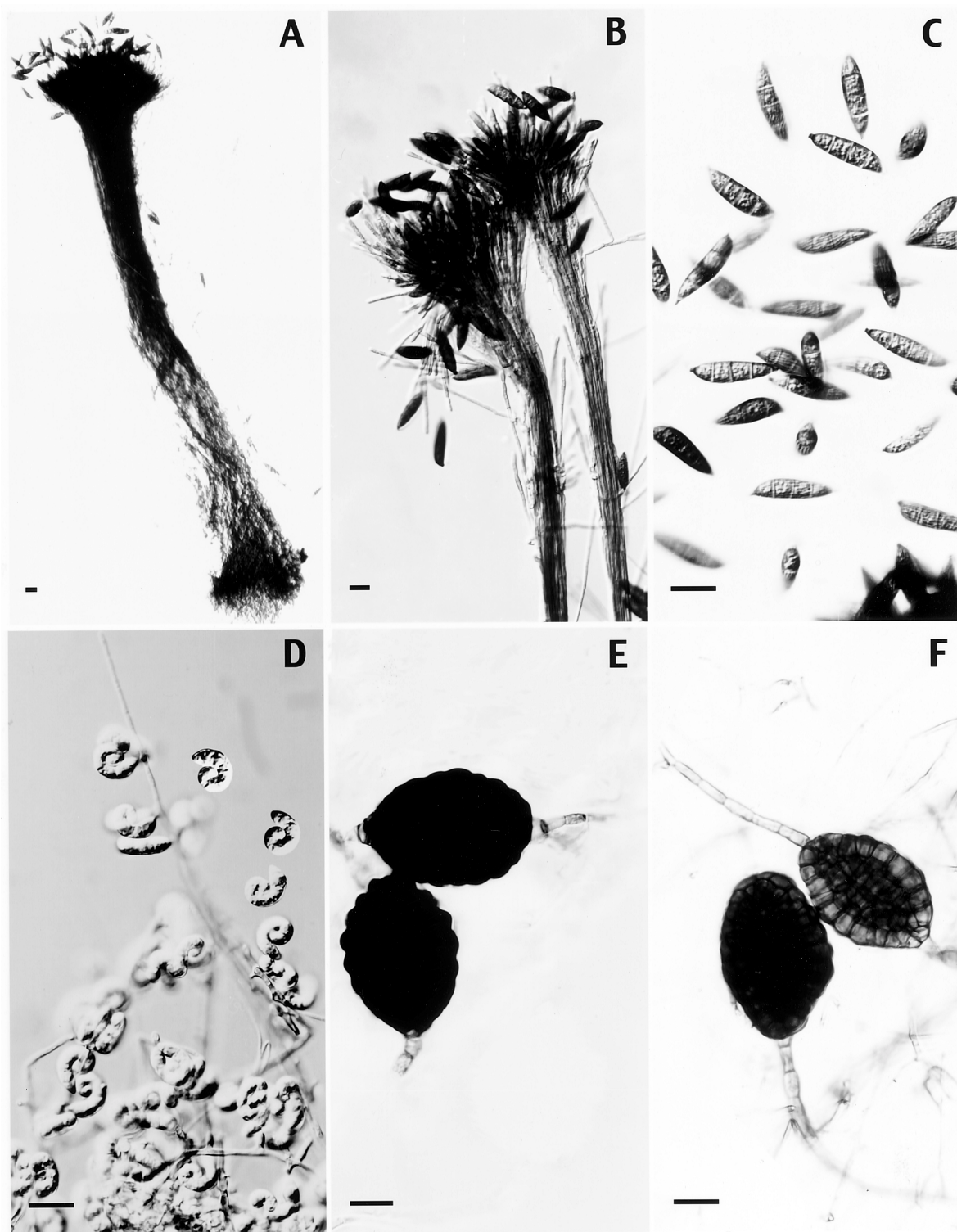


Figure 1. *Virgatospora echinofibrosa*, A, B, and C; *Helicoma depressispora*, D, E, and F. Scale bar = 20 μ m

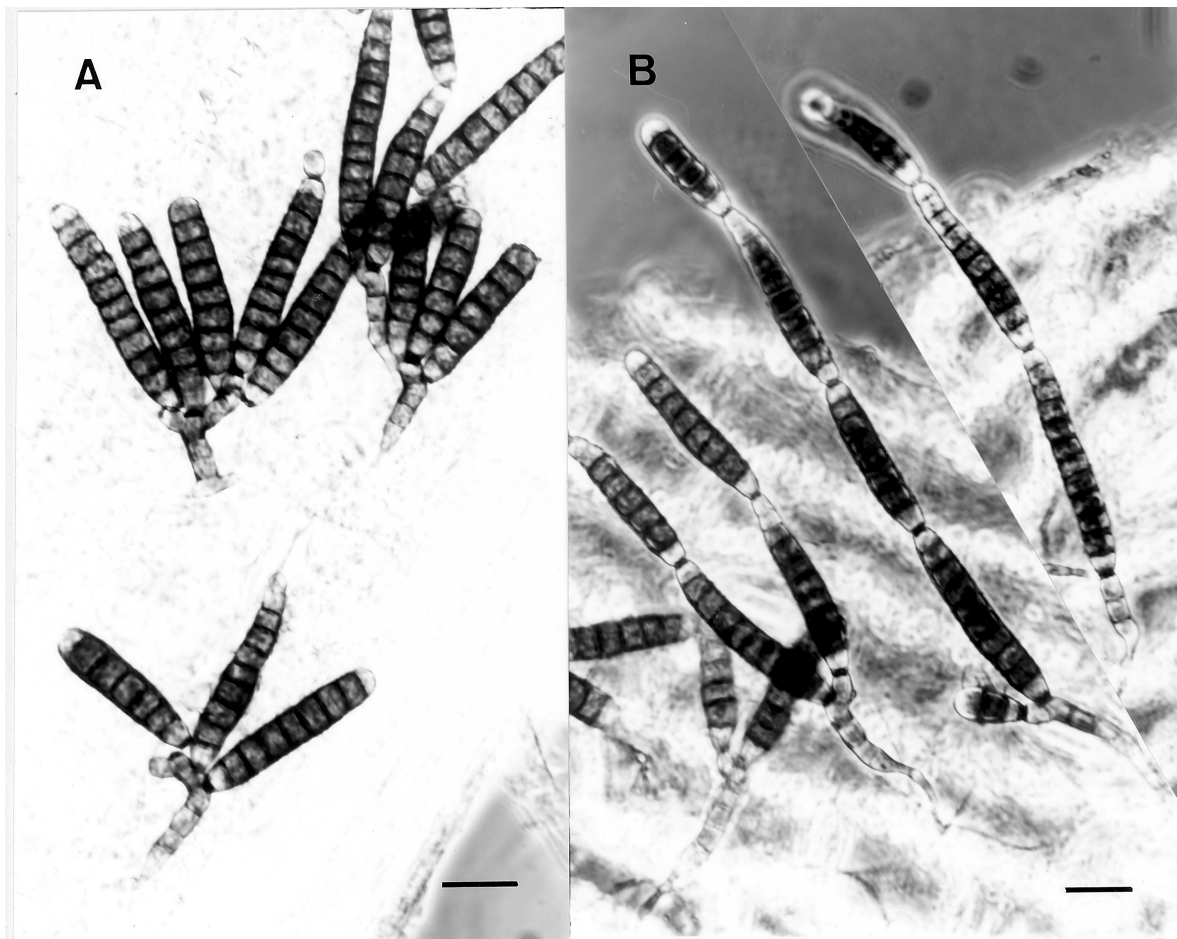


Figure 2. *Lylea catenulata*, A and B features of conidium formation. Scale bar = 20 μ m

In our isolate, conidiophores are macronematous and distinct, and conidiogenous cells are monoblastic, integrated, and also frequently sympodial or few cicatrized. Morgan-Jones, by contrast, defined genus *Lylea* as conidiophores micronematous or semi-macronematous and conidiogenous cells monoblastic, integrated, determinate for type species *L. catenulata*. Even for these differences we tentatively include our isolate as an isolate of *L. catenulata*. Our isolate is also closely related to genus *Heteroconium* (Ellis, 1971), in which conidium forms acropetal chains. However, conidiogenous cells are integrated for the latter fungus but frequently sympodial and cicatrized for our isolate. There is some relation of our isolate to the genus *Vargamyces* (type species *V. aquaticus*, Gonczol et al., 1990), but though percurrent conidiogenous cells were observed in *V. aquaticus*, but were not in our isolate. Conidia of our isolate are usually cylindrical with true septa, whereas in *V. aquaticus* conidia are fusiform or elongated-fusiform with distinct constriction at septa.

Habitat. On unknown decaying twig at Alisan, Chia-I County, collected from a stream on September 2, 1984. This fungus was first described by Morgan-Jones from Auburn, Alabama, USA.

Literature Cited

- Ellis, M. B. 1971. Dematiaceous Hyphomycetes. Commonwealth Mycological Institute, Kew, Surrey, England.
- Finley, D.E. 1967. *Virgatospora*: a new genus of Stilbellaceae. *Mycologia* **59**: 538-541.
- Gonczol, J., A. Revay, and P.J. Fisher. 1990. Notes on *Vargamyces aquaticus*, a water borne dematiaceous hyphomycete. *Mycotaxon* **39**: 301-310.
- Matsushima, T. 1993. Matsushima Mycological Memoirs, No. 7, Matsushima Fungus Collection, Kobe, Japan.
- Morgan-Jones, G. 1975. Notes on hyphomycetes, VIII. *Lylea*, a new genus. *Mycotaxon* **3**: 129-132.
- Rossmann, A.Y. 1983. The phragmosporous species of *Nectria* and related genera. *Mycol. Paper No. 150*, CMI, Kew, Surrey, England.
- Schoknecht, J.D. and J.L. Crane. 1983. Additional hyphomycetes from freshwater swamps and hammocks. *Can. J. Bot.* **61**: 2243-2247.
- Shearer, C.A. 1987. *Helicoma chlamydosporum*, a new hyphomycete from submerged wood in Panama. *Mycologia* **79**: 468-472.

三種台灣新記錄之暗色不完全菌

張和喜

中央研究院植物研究所

本文記錄並描述三種台灣新記錄之暗色不完全菌 *Virgatospora echinofibrosa*，*Helicoma depressispora* 以及 *Lylea catanulata*。

關鍵詞：台灣；新記錄；暗色不完全菌。