

A new predatory fungus from China

DONGSHEN YANG*, WEIMIN CHEN*, YING HUANG,
MINGHE MO & KEQIN ZHANG

minghemo@yahoo.com.cn

Laboratory for Conservation and Utilization of Bioresources
Yunnan University, Kunming 650091, P.R. China

Abstract—*Dactylellina illaqueata*, a new predacious fungus capturing nematode by stalked adhesive knob in combination with non-constricting ring, is reported from Yunnan Province, China. The fungus is characterized by its simple, unbranched conidiophores singly bearing elongate fusiform conidia with 3-8 septa (usually 5) on the tip.

Key words—orbiliaceous fungi, nematode-trapping fungi

While surveying predacious fungi in Yunnan Province, soil samples were collected and spread on plates containing 2% corn meal agar medium. Nematodes (*Panagrellus redivivus*) were added in the plates as bait for predacious fungi. After 20 d for incubation at room temperature (about 20-28°C), predacious fungi were isolated under a dissecting microscope and identified according to the taxonomic system of Scholler et al. (1999). A new taxon, named *Dactylellina illaqueata*, is described here.

Dactylellina illaqueata D. S. Yang & M. H. Mo sp. nov. (Figures 1-15)

Mycelium effusum, hyphis sterilibus hyalinis, septatis, plerumque 1.8-2.5 μm crassis. Conidiophoris hyalinis, septatis, erectis, simplicis, plerumque 95-250 μm altis, basi 2.2-2.6 μm crassis, apice 1.8-2.1 μm crassis. Conidiis hyalinis, elongato fusiformibus, apice rotundatis, basi truncates, 3-8 septatis (plerumque 5-septatis), 25.5-117.5 μm (saepe circa 66.5 μm) longis, 5.5-15.2 μm (saepe circa 4.8 μm) crassis. Chlamydosporis in culturis vetustioribus, globosis ad ellipsoidis.

Etymology: The species epithet refers to the species capturing nematodes by trapping devices.

Holotype: YMF1.01846D, Simao, Yunnan, China, Oct 2005, DongSheng Yang. The holotype and its living culture (YMF1.01846) were deposited in the Laboratory for Conservation and Utilization of Bio-resources, Yunnan, P. R. China.

Mycelium scanty, spreading, vegetative mycelium colorless, septate, mostly 1.8-2.5 μm wide. Conidiophores (Figs 1-3) colorless, erect, unbranched, often 95-250 μm high, 2.2-2.6 μm wide at base, and gradually tapering upward to a width of 1.8-2.1 μm

* Authors DongShen Yang and WeiMin Chen contributed equally to this work.

at tip, bearing a single conidium on the tip, occasionally two conidia. Conidia (Figs 4-12) colorless, elongate fusiform, narrowly obtuse at the distal end, truncate at the base, the middle cell swelling obviously, $25.5-117.5(66.5) \times 5.5-15.2(14.1) \mu\text{m}$, 3-8 septa, mainly 5 septa. The proportion of conidia with 3, 4, 5, 6, 7 and 8 septa accounts for 9.1%, 15.2%, 63.6%, 6.1%, 3.0% and 3.0%, respectively. When induced with nematodes, the fungus produced non-constricting ring (Fig 13) and stalked adhesive knob (Fig 14). Chlamydospores (Fig 15) spherical to ellipsoidal, intercalary.

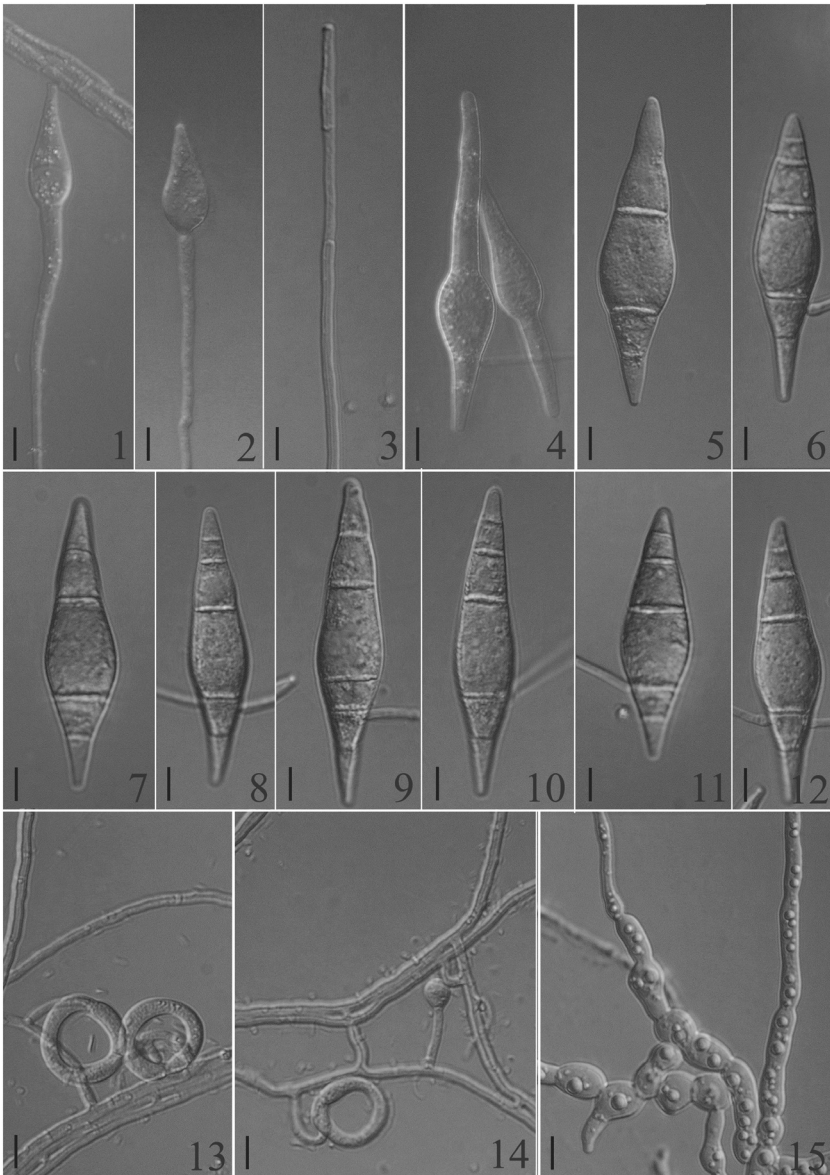
Based on phylogenetic analysis of 18s rDNA, a new genus concept was proposed for predatory anamorphic *Orbiliaceae* by Scholler et al. (1999) in which the trapping device is the main morphological criterion for generic delimitation. In this taxonomic system, the genus *Dactylellina* M. Morelet emend. M. Scholler et al. includes three species capturing nematode by stalked adhesive knob in combination with non-constricting ring, *D. leptospora* (Drechsler) M. Morelet (Drechsler, 1937), *D. lysipaga* (Drechsler) M. Scholler et al. (Drechsler, 1937) and *D. yunnanensis* (K. Q. Zhang et al.) M. Scholler et al. (Zhang et al. 1996). *D. illaqueata* described here is mainly characterized by its 5-septate conidia singly bearing on the unbranched conidiophores and this species resembles *D. yunnanensis* and *D. lysipaga* in conidial shape. However, *D. yunnanensis* usually forms short denticles on tip of conidiophores and bears 2-5 conidia, and *D. lysipaga* produces the conidia mainly with 2-4 septa. In comparison with *D. leptospora*, the conidia of *D. illaqueata* usually have a wider middle cell (average $14.1 \mu\text{m}$) than that of *D. leptospora* ($4.0-5.8 \mu\text{m}$). In addition, conidia of *D. leptospora* have more septa (5-15) than those of *D. illaqueata* (3-8, mainly 5 septa).

Acknowledgments

We are very grateful to the presubmission peer reviewers Dr. ShiDong Li and Dr. XueFeng Liu. We are also indebted to Prof. MeiHua Liu for helping with the Latin. This work was jointly supported by the projects from Ministry of Science and Technology of P. R. China (2003CB415102), NSFC (30460078), and Department of Science and Technology of Yunnan Province (2005NG05, 2003RC03, 2004C0001Q).

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Figs 1-15. *Dactylellina illaqueata*. 1-3. Conidiophores and immature conidia. 4. Immature conidia. 5-12. Mature conidia. 13. Non-constricting rings. 14. Adhesive knobs and non-constricting rings. 15. Chlamydospores. Bar=10 μ m.

