

Note

An Unrecorded Species of Nematode-trapping Fungus, *Dactylella pseudoclavata* in Korea

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Dactylella pseudoclavata that captures nematodes in adhesive networks was isolated from nematode-infested strawberry plants from Andong, Korea. It produces obclavate, 0-1 septate conidia, 30-40 µm long and 8-11 µm wide, with round distal ends and bases shaped like bottle-necks. The conidiophores were simple, occasionally branched, 150-300 µm long, producing 1-4 conidia at the apex. Chlamydospores were abundant, intercalary or catenulate, yellowish to brown, globose or subglobose, wart on the surface, 30-35 × 25-30 µm in size. This is the first report of *Dactylella pseudoclavata* in Korea.

Keywords : *Dactylella pseudoclavata*, predatory fungi, nematophagous fungi, adhesive network

During a survey of nematophagous fungi in Korea, an unrecorded species of nematode-trapping fungus was isolated. Description of the species is presented in this paper.

About 20 g of soil was placed in a 100 ml beaker with 40 ml of water, and well mixed for a minute using a magnetic stirrer (Duddington, 1955; Kim et al., 1977). Four drops of soil mixtures, each 0.2 ml, were placed at four equally spaced location in a Petri dish containing 1/2 strength cornmeal agar (CMA). Nematophagous fungi appearing on agar surface were observed by a stereomicroscope (X30-50) and conidia of each species were separately transferred to CMA. The morphology of fungi was examined both in water and in cotton blue lactophenol mount under a compound light microscope (Olympus PROVIS) and pictures were taken by an attached digital camera (Nikon DXM1200F).

For scanning electron microscopic observation, fungi grown on CMA were fixed and dehydrated by alcohol series followed by critical point drying and coating (Eisenback, 1986). It was viewed with a scanning electron microscope (Leo 1450VP, Carl Zeiss) at 15 kV.

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Dactylella pseudoclavata Miao, Liu, Li & He

This species was originally described by Miao et al. (2003) from soil infested with root-knot nematode on tomato from greenhouse at Sijiqing farm in Beijing, China. It produces obclavate, 0-1 septate conidia, 30-40 µm long and 8-11 µm wide, with round distal ends and bases shaped like bottle-necks. The simple separate, and occasionally branched conidiophores bear 1-4 conidia at the apex. The fungus also produces three-dimensional adhesive networks, which trap nematodes. The conidiophores are simple, occasionally branched, 150-300 µm long, producing 1-4 conidia at the apex. Chlamydospore abundant, intercalary or catenulate, yellowish to brown, globose or subglobose, wart on the surface, 30-35 × 25-30 µm.

A fungus subsequently identified as *Dactylella pseudoclavata* was isolated from soil from a commercial strawberry-growing greenhouse at Andong, Korea. The fungus had larger conidia with bottle-neck shaped base and formed abundant chlamydospores on the surface of CMA, on aerial mycelium and on three-dimensional adhesive networks (Fig. 1A and 1B). Abundant chlamydospores and larger conidia with bottle-neck shaped conidial base (Fig. 1C and 1D) indicates that this fungus is *D. pseudoclavata* originally described by Miao et al. (2003). Few differences noted : its conidiophores were somewhat longer 180-465 µm (Table 1) and conidia a little larger than the original description by Miao et al. (2003). This is the second record of *D. pseudoclavata* in the world and the first report in Korea. The *D. pseudoclavata* isolate was deposited at Korean Agricultural Culture Collection (KACC) under accession number KACC 42847.

Table 1. Comparison of the *Dactylella pseudoclavata* isolates from Korea with the original description (Miao et al., 2003)

Characters	Korean isolate (µm)	Original description (µm)
Conidia length	35.3 (23-58)	30-45
width	13.3 (10-16)	8-11
Conidiophore length	318.4 (180-465)	150-300
	7.4 (6.1-8.5)	6-7.5
Chlamydospores	27.0 (23-29)	30-35 × 25-30



Fig. 1. *Dactylella pseudoclavata*. A. Adhesive network, B. Chlamyospores formed on adhesive network, C-D. Bottle-neck shaped conidia and short conidiophores, E. Chlamyospores. F. Scanning electron micrograph of chlamyospore and conidia. Bar represents 10 μ m.

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