

Microscopic and Macroscopic Morphology of *Curvularia clavata*

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Curvularia clavata is a dematiaceous, saprophytic, heterotrophic fungus that is widely distributed in tropical and

subtropical environments. Taxonomically, it belongs to the phylum Ascomycota, class Dothideomycetes, order Pleo-

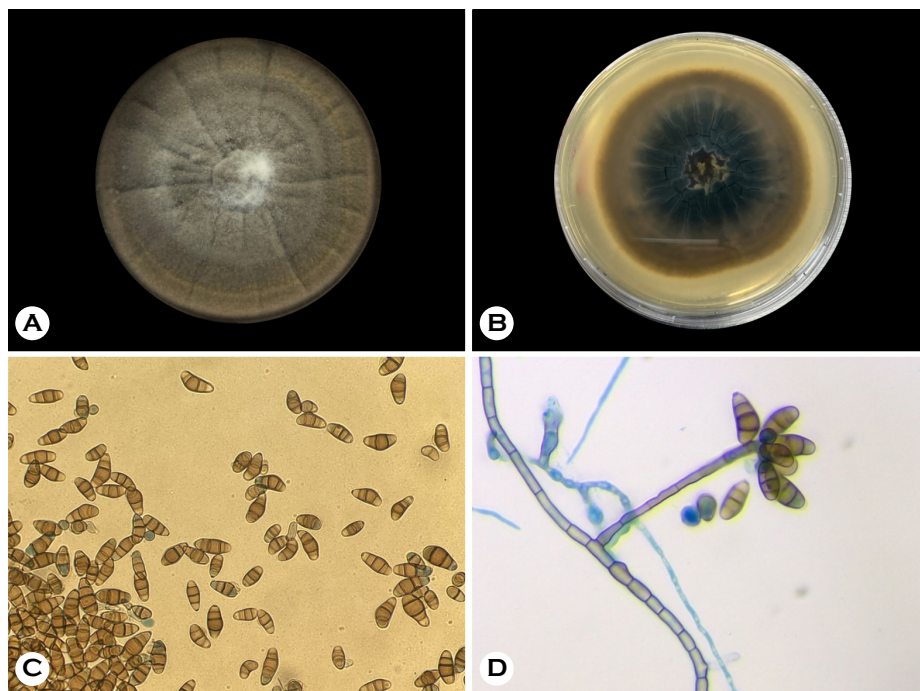


Fig. 1. (A) Front colony morphology of *Curvularia clavata* after 10 days of incubation on Sabouraud agar at 25°C. (B) Reverse colony morphology of *Curvularia clavata* after 5 days of incubation on Sabouraud agar at 25°C. (C) Conidia are smooth; either straight or curved with a claviform shape (lactophenol cotton blue, × 40). (D) A macrosiphonated mycelium with pigmented and segmented hyphae with thick, branched walls and color varying from pale to dark brown (lactophenol cotton blue, × 40).

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sporales, family Pleosporaceae, and is grouped in the genus *Curvularia* along with >232 species^{1,2}. In humans, *C. clavata* is primarily associated with skin infections, such as phaeo-hyphomycosis, and sinusitis. In exceptional cases, it has been reported as a causative agent of invasive cerebritis^{2,3}. In addition, in agro-industrial fields, it is reported as a plant pathogen, causing leaf spots, seed discoloration, and wilting in seedlings of crops such as *Curcuma longa*, *Jatropha* spp., *Ananas comosus*, and *Zea mays*².

Curvularia clavata colonies have rapid growth; during the first 3 days, they show white colonies that later turn gray. On the fifth day, the colonies started turning olive green, and over time, they became black with a velvet-like texture and a fluffy center (Fig. 1A). The reverse side colonies are dark brown, with visible grooves and a clear halo at the periphery, without pigment production (Fig. 1B). Their optimal growth temperature is 20~25°C³. The conidia are smooth, either straight or curved, and have a claviform shape. Some cells are bigger than others and are colored pale to dark brown; apical and basal cells are both generally lighter. Their size ranges from 3~27 × 7~13.5 µm (Fig. 1C). The macrosiphonated mycelium with pigmented and segmented thick-wall hyphae are branched, pale to dark brown, with a diameter of 1.5~3.5 µm. Conidiophores can appear as isolated or in groups; commonly macronematous, they can also be observed as semi/mononematous. These conidiophores can be straight or curved, with cell walls thicker than vegetative hyphae, generally lighter at the top, and 34~102.5 × 2.5~5.5 µm². Conidiogenous cells have smooth walls and can be in terminal or intercalary positions, proliferating sympodially. Their shape is subcylindrical or slightly swollen, being 5.5~17 × 4~6 µm² (Fig. 1D).

For a more accurate description, molecular identification was performed by amplifying and sequencing the ribosomal

internal transcribed spacer region. A sequence was deposited in GenBank under accession number PP373713.1.

Key Words: *Curvularia clavata*, Dematiaceous fungi, Morphology

CONFLICT OF INTEREST

In relation to this article, we declare that there is no conflict of interest.

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