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Short Report

Pseudocolus fusiformis: a new stinkhorn fungus (*Phallaceae*) for Iran

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Specimens of a stinkhorn fungus were collected from northern forests of Iran and transported to the laboratory for identification. The macroscopic characteristics of the samples were examined visually and microscopically using an Olympus BH2 microscope (Olympus, Japan).

The macroscopic and microscopic features of the specimens were as follows: Immature fruit body globose to sub-globose, egg-shaped, 10-22 mm broad, pale gray to grayish-brown, partially submerged in the substrate; with whitish rhizomorphs attached to the base of the fruit body. Peridium white to whitish gray or pale gray, thin, smooth, opening irregularly when the fruit body matures.

Mature fruit body 30-85 mm high, forming a stipe with tapering, three arm-like bodies that join at their tips. Stipe about 10-20 mm high and 10-15 mm thick, whitish to pale orange, hollow, spongy.

Arms 15-40 mm high and 5-15 mm thick; lanceolate, tapering to apex; spongy; hollow; bright orange, orange to reddish orange, with convex inner sides and flattened or concave outer sides. The upper two-thirds of the inner side is covered with dark brown to black spore slime, gleba, when fresh. Gleba olive-green to dark green and slimy. Volva sac-like, white to whitish gray, rugose and tough. Hyphae of the volva smooth; hyaline 2.5-10 µm wide. Clamp connections were not present.

Basidiospores 1.5–2.8 × 4.5–5.6 µm, ellipsoid, smooth, hyaline. Basidia in an unusual way with 6-8 spores (Fig. 1).

Specimens were identified as *Pseudocolus fusiformis* (E. Fisch.) Lloyd (*Phallomycetidae*, *Phallales*, *Phallaceae*) based on Calonge (1998), Miller and Miller (1988), and Coker and Couch (1974). This is the first report of a species from the genus *Pseudocolus* Lloyd in Iran.

The species *Pseudocolus fusiformis* was introduced in 1890, under the name *Colus fusiformis* E. Fisch., in a description by Fischer based on a painting in the Paris Museum of Natural History. However, Cunningham (1944) considered this name a *Nomen nudum*.

Fig 1. *Pseudocolus fusiformis.* (A, B) mature fruit body, (C) arms and black slime gleba, (D) basidiospores. Scale bars: (A, B) 25 mm, (C) 10 mm, (D) 10 µm.

In 1899, the species *C. javanicus* Penz. was described from Java, and then Fischer amended the name *C. fusiformis* to *C. javanicus*. However, it was later proven that the name *C. fusiformis* is valid and has priority over *C. javanicus.* In 1907, Lloyd described the new genus *Pseudocolus* Lloyd and reduced several species to synonyms of *Pseudocolus fusiformis*. Cunningham (1931) revised the genus *Anthurus*

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Kalchbr. & MacOwan and included species of *Pseudocolus* in the genus *Anthurus*. Dring (1973) considered that two genera, *Anthurus* and *Pseudocolus,* are distinct.

The species is rarely distributed in Europe, Australia, the United States, Japan, and Turkey (Akata and Doğan, 2011; Miller and Miller, 1988) and grows solitary or gregariously on disturbed soil or woodchips in deciduous or mixed forests.

Specimens examined: Iran, Guilan Province, Chesli forest, on soil, 24 September 2023, M.R. Asef (IRAN 18724F); Guilan Province, Masal, on soil, 24 September 2023, M.R. Asef (IRAN 18725F); Mazandaran Province, Chamestan, on soil, 1st October 2023, M.R. Asef (IRAN 18726F); Mazandaran Province, Abbasabad, Salmanshahr, Tilakenar forest, on soil, 19 September 2024, N. Jashnaii (IRAN 18727F).

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