SOUTH INDIAN PHYCOMYCETES—II

Some Little Known Species of *Pythium* Occurring in South India*

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The following account is a brief description of some species of *Pythium* collected by the author during the investigation of the *Pythiacete* under a scheme financed by the Indian Council of Agricultural Research. The descriptions given are based on the writer's own observations and vary slightly from the original descriptions of the species. For these the reader is referred to Middleton's (1943) excellent monograph of the genus and to Mathew's (1931) handbook "Studies on the genus *Pythium*".

I. *Pythium carolinianum* Mathews (*loc. cit.*), p. 71 (Text-Fig. 1)

Hyphae slender and delicate, measuring 1.5–4 μ in thickness, profusely branched. Sporangia terminal, rarely intercalary, spherical, elongate or limoniform, 15–30 μ in diameter, mostly 25 μ, with a small papilla, proliferous, the secondary sporangia borne either inside or outside the primary sporangia. Zoospores 12 to numerous, delimited in a vesicle formed at the tip of a short evacuation tube, reniform, laterally biciliate, measuring 8–12 μ × 6–10 μ when swimming and 8–10 μ when encysted, germinating by the production of one to three germ tubes. Sporangia also capable of direct germination. Sexual reproduction not observed. In some 3–4 months’ old cultures on slices of boiled carrots in distilled water resting spores (Text-Fig. 1, *L, M.*) similar to those described by Mathews could be observed.

Isolated from water containing vegetable debris, Coimbatore; inoculation trials proved that it could parasitize on *Spirogyra* spp. This species is recorded for the first time outside the United States of America.

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II. *Pythium paracandrum* Drechsler, *J. Wash. Acad. Sc.*, 20, 398–418, 1930
(Text-Fig. 2)

Hyphæ 2.5–12 μ in diameter; curved and clavate appressoria developed in abundance on most culture media. Sporangia spherical, subspherical or ellipsoidal, when spherical 20–30 μ in diameter, when ellipsoidal 15–40 μ long and 10–30 μ wide, terminal or intercalary, germinating by one to several germ tubes. Formation of zoospores not observed. Oogonia subspherical, spherical or barrel-shaped, terminal or intercalary, 10–30 μ in diameter (mean 24 μ) smooth, occasionally with one or two papillate protuberances. Antheridia 1–4 per oogonium, usually 1–3, monoclinous or diclinous. When monoclinous they may be hypogynous, sessile and adjacent to the oogonium, often including the adjacent segment, pouch-like or crook-necked or rarely terminal on a stalk always arising very near the oogonium. When diclinous they are usually terminal, rarely intercalary, saccate, inflated, crook-necked and sessile or stalked. Oospores aplerotic with a wall upto 1.5 μ thick, containing a single reserve globule and a single refringent body. Oospores measuring 10–25 μ (mean 19 μ) in diameter.