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The Occurrence of *Stemonitis Splendens* (Myxomycota: Stemonitales) on *Rhizophora Mangle*

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ABSTRACT.—We reported the occurrence of the myxomycete *Stemonitis splendens* on red mangrove, *Rhizophora mangle*. Although *S. splendens* was reported previously from Puerto Rico, its presence on *R. mangle* suggests that mangroves, although usually neglected as a potential substrate for myxomycetes, may support a larger assemblage of species than indicated by the few published records.

KEYWORDS.—Stemonitaceae, Protozoa, myxomycetes, mangrove, Puerto Rico, West Indies, Caribbean

The myxomycetes in Puerto Rico are still poorly known; although a number of reports do exist (a summary of previous works was included in Novozhilov et al. 2001). The genus *Stemonitis* (Myxomycota, Stemonitales) includes a number of common and widespread species, some of which are fairly distinctive. The single most important distinguishing feature of this genus is the presence of a reticulum (also known as surface net), a structure lacking in the morphologically similar genus *Comatricha*. This reticulum, which develops just beneath the peridium and is connected to the tips of the branches of the capillitium, forms a well-defined netlike cover-

ing over the surface of the spore mass (Stephenson and Stempen 1994). Other features used to distinguish *Stemonitis* from other members of the Stemonitales are differences in stipe structure and ontogeny, as well as the origin of the capillitium (Stephenson and Stempen 1994). The type species of the genus is *Stemonitis fusca* Roth.

We note here the occurrence of *Stemonitis splendens* Rostafinski from a red mangrove (*Rhizophora mangle* L.) forest site at Cabo Rojo, Puerto Rico. This marks the first Caribbean record and the fifth published report of the occurrence of a myxomycete on red mangrove. The first species reported was *Arcyria cinerea* (Bulliard) Persoon, which was collected on June 4, 1968 in the Heeia Swamp, Oahu, Hawaii, on a branch of *R. mangle* (Kohlmeyer 1969). Jan Kohlmeyer gave the material to Constantine J. Alexopoulos who identified the specimen and deposited it in the University of Texas Myxomycete Collection (UTMC), under herbarium number 1922 (J. Kohlmeyer pers. comm. 2003). Later, Lee and Baker (1973) reported *Arcyria virescens* G. Lister, *Ceratiomyxa* sp., and *Physarum* sp. from living roots of *R. mangle* above the tidal line at the same locality. *Arcyria cinerea* and *A. virescens* were the only myxomycetes included in Schmit and Shearer (2003) survey of mangrove-associated fungi and fungal-like organisms. The occurrence of myxomycetes on mangroves appears to be rare.

The study area is located at the Boquerón Commonwealth Forest (BCF), next to the town of Boquerón, Barrio Boquerón, Cabo Rojo, southwestern Puerto Rico, in a secondary road (PR-307) at km 17.9, at 18°01'68.5"N, 67°10'49.8"W, at mean sea level. The region is classified as a subtropical dry forest (Ewel and Whitmore 1973). Further details on climatology, ecology, geology, and edaphic formations of BCF are discussed in Vázquez (1983), Toro and Colón (1986), and Nieves-Rivera et al. (2002). *Rhizophora mangle* occasionally forms thick coastal woodland in BCF and in the rest of the southwestern coast of Puerto Rico (Cintrón et al. 1978; Lugo 1989; Vázquez and Kolterman 1998).

Stemonitis splendens Rostafinski, *Sluzowce* (Mycetozoa) *Monografia* 195, 1874.

Description.—Sporangia 12-15 mm high, clustered and usually forming a large colony, densely crowded or agglutinated,

stipitate, cylindric, rigid and more or less erect, or flexuous, obtuse to acuminate at the apex, dark purplish brown (Figs. 1A-B). Sporotheca cylindrical, deep purplish brown, obtuse, more or less erect but flex-

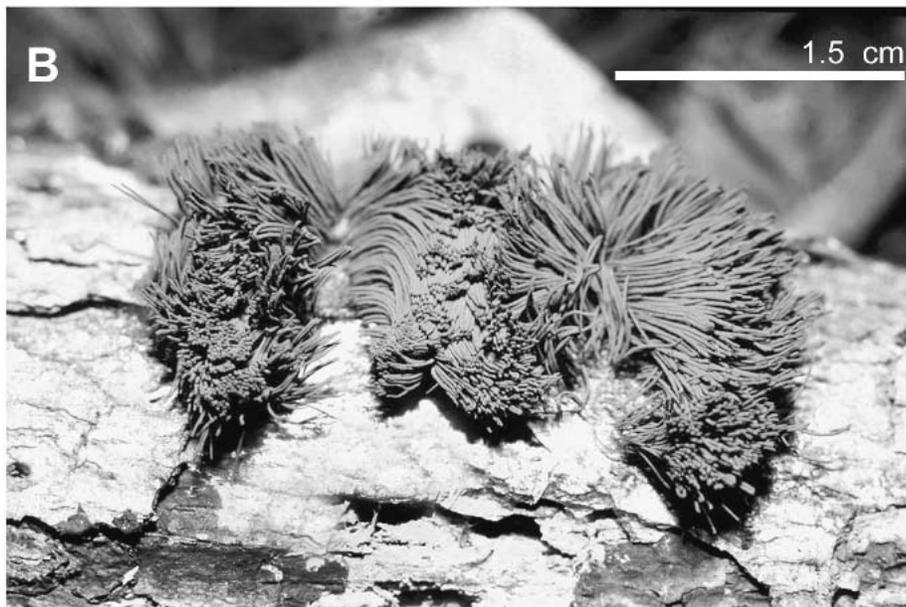
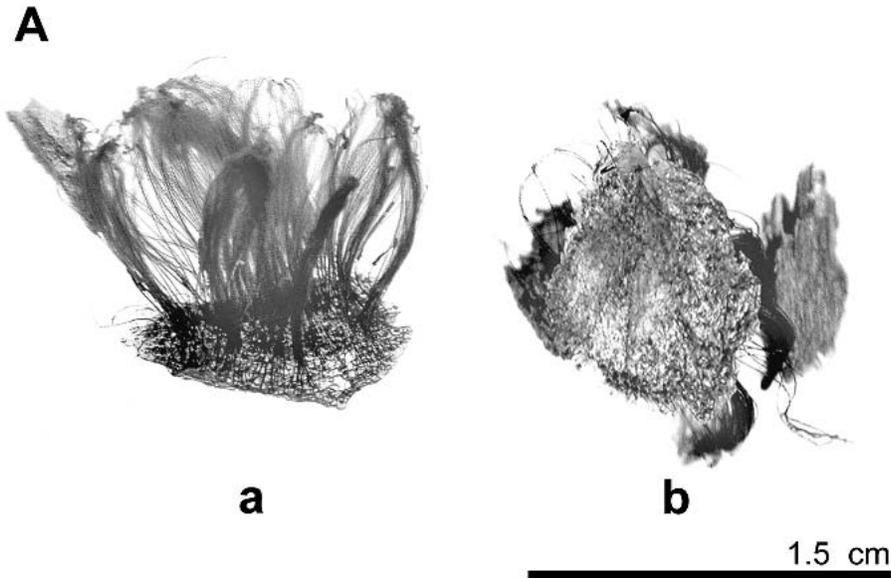


FIG. 1A-B. A. Sporangia of *Stemonitis splendens* (UARK #17308; a = side view, b = bottom view) collected on *Rhizophora mangle*, Boquerón Commonwealth Forest, Cabo Rojo, Puerto Rico, West Indies. B. Fruiting of *Stemonitis splendens* in New Zealand.

uose towards the apex, 0.5 mm in diameter. Stipe 3-4 × 0.1-0.2 mm, slender, lustrous, conspicuously flared at the base, arising from a widely expanded, silvery to somewhat purplish hypothallus. Columella reaching nearly to the sporangial apex, attenuate, often coiled and tortuous toward the tip, dark reddish brown. Capillitium open-meshed and arising from the columella by relatively few major branches, sometimes with membranous junctions; surface reticulum fairly robust, smooth, with irregular, rounded to polygonal meshes, mostly 30-90 μm in diameter, incomplete or absent in agglutinated fruitings, brown. Spores 7-9 μm in diameter, globose, thin-walled, faintly verrucose (warted), lilaceous brown by transmitted light, dark purplish black in mass.

Habitat.—Gregarious or solitary on decayed fallen trunk (25 cm in diameter) of *R. mangle* (0.5 m above ground).

Referred Material.—PUERTO RICO: Boquerón Commonwealth Forest, next to Puerto Real, boardwalk that passes through a mangrove forest and reaches the lagoon on the Boquerón-Guaniquilla mangrove forest, < 1 m alt., May, 2002, UARK #17308.

Remarks.—*Stemonitis splendens* Rostafinski is a common species, often occurs in large fruitings (Fig. 1B) and has sporangia with conspicuous large-meshed surface net and nonreticulate spores (Stephenson and Stempen 1994). This specimen was deposited in the herbarium (UARK) of the University of Arkansas in Fayetteville, Arkansas, and its accession number is 17380.

Although *Stemonitis splendens* was reported previously from Puerto Rico (Novozhilov et al. 2001) and Cuba (Camino et al. 2003), its presence on *R. mangle* suggests that mangroves, although usually neglected as a potential substrate for myxomycetes, may support a larger assemblage of species than indicated by the few published records. Therefore, it would seem important to continue studying such habitats, in order to contribute to the conservation and knowledge of the biodiversity of myxomycetes of Puerto Rico.

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