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A New Myxomycetes Genus Record for Turkey (*Stemonitopsis* (Nann.-Brem.) Nann.-Brem.)

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Abstract: *Stemonitopsis typhina* (Wiggers) Nann.-Brem. and *Stemonitopsis microspora* (A.Lister) Nann.-Brem. (*Stemonitales/Stemonitaceae*) are recorded for the first time from Turkey. This is also a new Myxomycetes genus record for Turkey.

Key Words: Myxomycetes, Turkish mycoflora

Türkiye İçin Yeni Bir Miksomiset Cins Kaydı (*Stemonitopsis* (Nann.-Brem.) Nann.-Brem.)

Özet: *Stemonitopsis typhina* (Wiggers) Nann.-Brem. ve *Stemonitopsis microspora* (A.Lister) Nann.-Brem. (*Stemonitales/Stemonitaceae*) Türkiye'den ilk defa kaydedilmektedir. Aynı zamanda bu, Türkiye için yeni bir miksomiset cins kaydıdır.

Anahtar Sözcükler: Miksomiset, Türkiye Mikoflorası

Introduction

Myxomycetes flora of Turkey have not been researched effectively. There is a great need for an increase in the frequency of taxonomical and mycofloristical studies. The number of known Myxomycetes species in the world is 750 (1, 2). To date, studies have been carried out first by Finnish scientists and then by Turkish scientists and some new taxa have been identified and recorded. Only about 100 taxa have been reported with the moist chamber technique and naturally in Turkey (3). In Turkey, the Myxomycetes have remained somewhat unexplored.

Materials and Methods

In 1997, during a routine field trip to Bartın – İnkum, some specimens were collected. After laboratory studies, these specimens were identified as *Stemonitopsis typhina* (Wiggers) Nann.-Brem. and *Stemonitopsis microspora* (A. Lister) Nann.-Brem. On referring to the literature on Turkish Myxomycetes (3-5), these taxa are new records for the Turkish Mycoflora. The identification of these taxa was carried out using the literature on Myxomycetes (6-

8). The specimens were collected and identified by using the methods of Martin and Alexopoulos (7). These specimens are stored at the herbarium of the Arts and Science Faculty of Uludağ University, Bursa.

Description of Taxa

Stemonitopsis typhina (Wiggers) Nann.-Brem., Syn: *Stemonitis typhina* Wiggers, Prim. Fl. Holst. 110, 1780; *Comatricha typhina* (Wiggers) Rost., Mon. 197, 1874; *Trichia typhoides* Bull., Hist. Champ. Fr. 119, 1791; *Comatricha typhoides* (Bull.) Rost. in Lister, Mycet. 120, 1984.

Sporangia scattered to gregarious, stipitate, cylindrical to narrowly ovoid, obtuse, erect, lilac-gray with a silvery shine, after its loss then brown, 3.0-4.0 mm total height, 0.3-0.4 mm in diam. Stipe black, shining, covered with a silvery sheet, up to half of the total height, surrounded by a silvery membrane which merges into the peridium and varies in transmitted light from colorless to red-brown. Hypothallus membranous, red-brown. Peridium lilac-gray and shining silvery in reflected light, dehiscing into large flakes and often disappearing completely except,

occasionally persistent as irregular patches or basal collars or cups. Capillitium densely reticulate arising from the entire columella, branching and anastomosing pale brown filaments, ending in free, no surface net. Columella tapering, reaching nearly the apex of the sporangium. Spores brown in mass, lilac-brown in transmitted light, marked with a few distinct clusters of warts, otherwise smooth, (6.0 -) 6.5-7.0 μ in diameter (Figures 1-2).

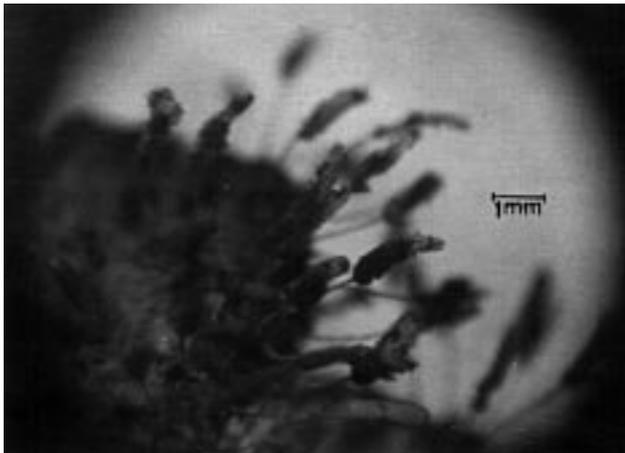


Figure 1. Stereomicroscopic image of the sporangia of *Stemonitopsis typhina* (Wiggers) Nann.-Brem.

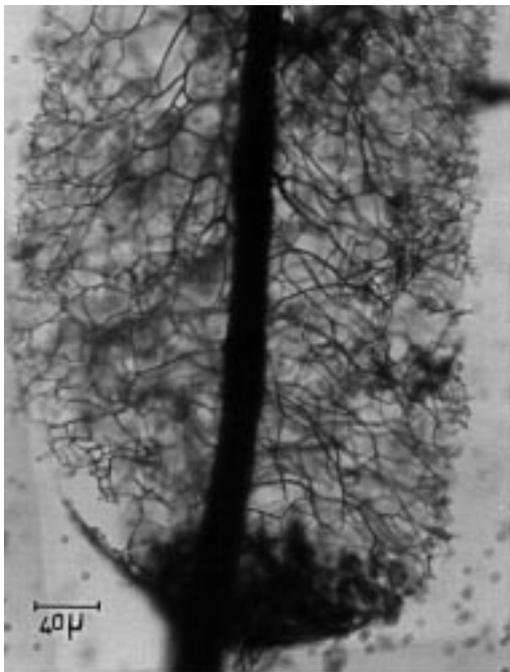


Figure 2. Light microscopic image of the fructification of *Stemonitopsis typhina* (Wiggers) Nann.-Brem. on which a basal collar has been noticed.

Locality: Northwest Anatolian Region, Bartın-İnkum, in the cavity of dead tree, on shady sloping area, 01.08.97, ERGUL 171³, Approx. 60 m.

Distribution: Cosmopolitan and common (6-7).

Stemonitopsis microspora (A. Lister) Nann.-Brem., Syn: *Comatricha microspora* (Bull.) Rost. var. *microspora* A. Lister, Mycet. 121, 1894; *Comatricha microspora* (A. Lister) G. Lister, Guide Brit. Mycet. ed. 4: 39, 1919; *Stemonitis hyperopta* Meylan var. *microspora* (A. Lister) G. Lister, Mycet. ed. 8: 134, 1925; *Comatricha microsperma* (B. Ing) Nann.-Brem., Proc. K. Akad. Wet. Ser. C. 70: 208, 1967.

Sporangia gregarious, cylindrical, dark lilaceous brown, 3.0-3.5 mm in total height. Peridium evanescent. Stipe black, shining, 0.8-1.5 mm long. Hypothallus blackish, in transmitted light with a fibrous net at the base, membranous. Columella tapering upwards, branching radially below the apex of the sporangium. Capillitium red-brown, the internal net with 3-5 meshes across the radius, the threads flexuous and tapering, almost without expansions, the surface net usually fragmentary with irregular meshes of thin undulate threads, almost without free ends. Spores reddish brown in mass, pale by transmitted light, marked with a complete delicate reticulation, 3.5-4.5 (-5.0) μ in diameter (Figures 3-4).

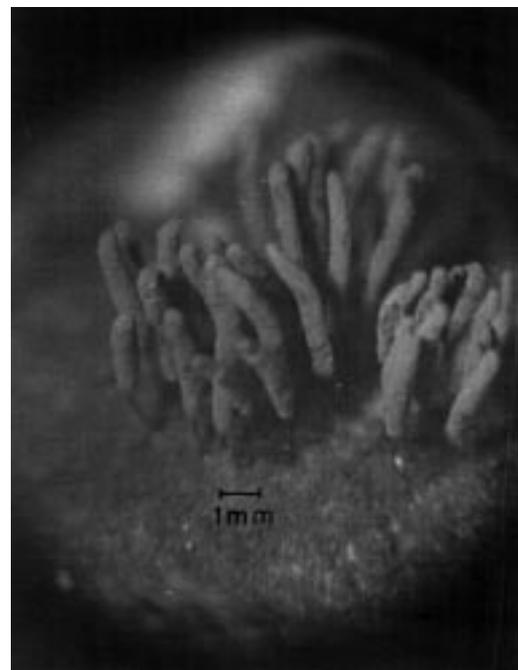


Figure 3. Stereomicroscopic image of the sporangia of *Stemonitopsis microspora* (A. Lister) Nann.-Brem.

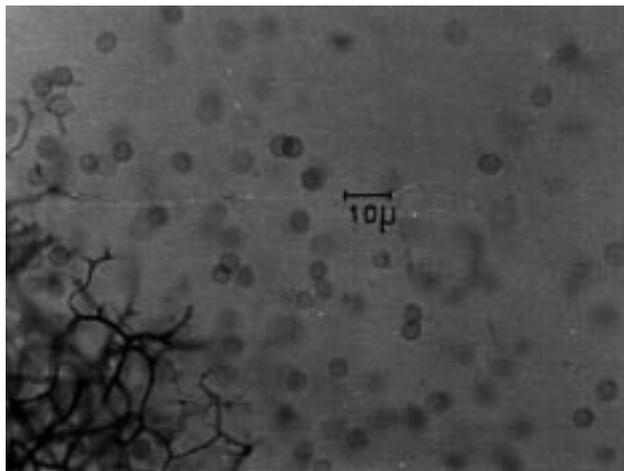


Figure 4. A view of capillitial threads and spores of *Stemonitopsis microspora* (A. Lister) Nann.-Brem.

Locality: Northwest Anatolian Region, Bartın-İnkum, on fallen twigs, on shady sloping area, 01.08.97, ERGUL 171⁸, Approx. 60 m.

Distribution: Cosmopolitan and common (6-7)

Result and Discussion

Stemonitopsis (Nann.-Brem.) Nann.-Brem. genus occupies a place between *Stemonitis* Roth. and *Comatricha* Preuss. It resembles *Stemonitis* most because the sporangia are short stalked and cylindrical but the capillitial surface net is fragmentary. It resembles *Comatricha* in the fibrous structure of the stalk base (6).

The peridium of *Stemonitopsis typhina* is usually rather persistent, and the species can thus be recognized immediately; the silvery shining membrane around the stalk is also a good characteristic. The pale spores with their dispersed, small groups of dark wartlets are also

typical. *Stemonitopsis microspora*, *Stemonitopsis hyperopta* (Meylan) Nann.-Brem., *Comatricha aequalis* Peck and *Paradiachea caespitosa* (Sturgis) Hertel can all be distinguished by the above characters although they bear a superficial resemblance to *Stemonitopsis typhina*. *Comatricha aequalis* usually has a much longer stalk and spores with scattered uniform warts and *Paradiachea caespitosa* has shorter stalks, no capillitial surface reticulum and spores 10-13 μ in diameter (6-8). The spore diameter of *Stemonitopsis typhina* given in the literature varies: Harkonen and Saarimaki (9) 6 - 6.1 - 7 μ , Martin and Alexopoulos (7) 6-8 μ and Nannenga-Bremekamp (6) 6-8 μ . The spores of this specimen are determined as (6.0) - 6.5 - 7.0 μ in diameter. Total height of this specimen is somewhat smaller than that reported by Harkonen and Saarimaki (9) as 3-8 mm and Martin and Alexopoulos (7) as 2-4 μ .

At first sight *Stemonitopsis microspora* resembles *Stemonitopsis hyperopta* in color and sometimes *Stemonitis virginiensis* Rex also; it can be recognized by the shape of the sporangia and its very small spores; often the habitat is also diagnostic (6-8). The examined specimen is somewhat different owing to total size. According to Martin and Alexopoulos (7), the total size is 1.7 - 3.2 mm, while according to Harkonen and Saarimaki (9) it is 3 - 4.5 mm. The spore color of *Stemonitopsis microspora* is violet-brown in mass according Martin and Alexopoulos (7).

According to Nannenga-Bremekamp (6), the *Stemonitaceae* family has 13 genera throughout the world. The family is distributed most abundantly in temperate regions all around the world. The *Stemonitaceae* is represented by 6 genera and 22 species in Turkey. With the new records this number reaches 7 and 24 respectively (3-5, 10).

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