International Journal of Botany

ISSN: 1811-9700
A New Variety of *Badhamia* (Myxomycetes) From Turkey

Basaran Dulger and Ahmet Gonuz
Department of Biology, Faculty of Science and Arts, Canakkale Onsekiz Mart University, Canakkale, Turkey

**Abstract**: A new variety of myxomycetes, *Badhamia utricularis* var. *microsporus*, is described from Turkey. It differs from *B. utricularis* by small spores. It has been isolated by the moist chamber technique.

**Key words**: *Badhamia utricularis* var. *microsporus*, Myxomycetes

**INTRODUCTION**

Studies on the Myxomycetes started at the end of the 18th century in America and until now, approx. 900 species have been identified[9]. But we come across a very scanty data on Turkish Myxomycetes and about 100 myxomycetes species have been reported from Turkey until now[2,3]. In this study, species of myxomycetes were collected in different localities from Turkey. The macroscopic and microscopic features of these species were determined. After referring to the existing records, it was realized that *Badhamia utricularis* var. *microsporus* is a new variety for science.

**MATERIALS AND METHODS**

The myxomycetes fructification has been obtained by using of the moist chamber technique in the laboratory. Several kinds of plant remains and bark from living trees were kept in an incubator at the temperature of 25±0.1°C illuminated artificially in a 12:12 h light-dark cycle. The cultures were moistened with distilled water adjusted with KOH to pH 7. After two days the pH of the moisture in the dishes was measured with pH sticks. The moist chamber was then examined every second or third days under a dissecting microscope. When developing myxomycetes were found, the moist chamber was allowed to dry slowly and the myxomycetes were then rewetted for another four-week period an examined as before[4,5].

The specimens are preserved also as permanent slides in Hoyer’s medium. Both microscopic and macroscopic observations have been realized for taxonomical approaches. In the meantime, some photographs from characteristic qualitative objects are taken. All data have been evaluated comparatively for taxonomical aims[6].

**RESULTS**

The myxomycetes specimen was identified with the aid of the literatures listed in the references[6-12]. This specimen is stored at the Herbarium of Canakkale Onsekiz Mart University, Canakkale, Turkey.

**Taxonomic position**

Regnum : **Mycetaceae**
Division : **Gymnomycota**
Classis : **Myxomycetes**
Subclassis : **Myxogasteromycetidae**
Order : **Pysarales**
Family : **Physaraceae**

*Badhamia utricularis* (Bull.) Berk. var. *microsporus*
Dulger and Gonuz var. nov.
Differt a variete *utricularis* sporis maioribus: 5-6 μ diam.

Sporocarps often in large groups, with some with merged stalks and often hanging down in bunches under the substrate; stalked, rarely spherical, usually prolate, pear-shaped, obovate, subcylindrical, usually with a narrowed base and rounded at the apex, 0.5-0.8 mm in diam., up to 3.0 mm long without the stalks, which are up to five times longer than the sporangium proper and often procumbent; sporangia, blue-gray, often with green, violet and red iridescent colours, veined by the capillitium showing through the peridium, rarely pale grey from impregnated white lime. Hypotallus membranous; brown to ochraceous; not very conspicuous, venulose, gradually merging into the stalks. Stalks weak, membranous, often branched, often prostrate, merging with each other and bearing a cluster of sporangia, straw yellow. Peridium membranous, iridescent, hyaline or white.

**Corresponding Author**: Dr. Basaran Dulger, Department of Biology, Faculty of Science and Arts, 17100, Canakkale Onsekiz Mart University, Canakkale, Turkey
E-mail : dbasaran@comu.edu.tr
Badhamia utricularis slightly resembles B. capsulifera and B. dubia but these species lack the long membranous stalks and are easy to recognize by the persistent spore clusters and the spores with their cap of spines. Sometimes B. foliicola is similar but this species appears on dead leaves and grass and has a much smaller meshed, more delicate capitillat net, generally consisting of somewhat less smooth tubes which are often slightly phsparoid, it also has smaller, free spores.\(^7\)

\textbf{B. utricularis} is a very variable species: in colour, form (from almost spherical to long conical), in length and colour of the stalk; the red-brown stalks are usually slim, straight and long, making their flat character not very obvious; also in the shape of the groups, which may hang in bunches under the substrate, or sit crowded on top (with procumbent stalks), or the sporangia may be separate from each other in the groups. The loose spore clusters, with slightly irregular shaped spores, are a rather constant character with the exception of the form described as \textit{B. manga} which differs in its typical form but is connected to \textit{B. utricularis} by transitional forms and so is hardly worthy of distinction. The capitillat reticulum of smooth tubes is characteristic of \textit{B. utricularis} but also varies towards the small mesh type of \textit{B. manga} which often show constrictions on the tubes.\(^7\)

This variety differs from \textit{B. utricularis} in the spore sizes. The spore diameter of \textit{B. utricularis} given in the literature varies: Martin and Alexopoulos\(^8\), 10-14 \(\mu\); Nannenga-Bremekamp\(^7\), (11-)12-14 (-15) \(\mu\); Fart\(^7\), 9-14 \(\mu\); Lakanpal and Mukarji\(^10\), 11-15.5 \(\mu\); Ing\(^10\), 10-14 \(\mu\). The spores of variety are 5-6 \(\mu\).

In conclusion, the number of known myxomycetes species in the world is 900. Only about taxa have been reported with the moist chamber technique and naturally in Turkey.\(^14\)

\textbf{REFERENCES}