# International Journal of Botany

ISSN: 1811-9700

science alert

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International Journal of Botany 1 (1): 62-63, 2005
ISSN 1811-9700


# A New Myxomycete Record for the Fungi Flora of Turkey

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**Abstract:** *Arcyria occidentalis* (Macbr.) G.Lister is recorded for the first time from Turkey. It has been isolated using the moist chamber technique.

**Key words:** *Arcyria occidentalis*, myxomycetes, Turkish Mycoflora

## INTRODUCTION

Myxomycetes flora of Turkey has not been research effectively. There is a great need for an increase in the frequency of taxonomical and floristical studies.

About 100 myxomycetes species have been reported from Turkey[1,2]. 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 *Arcyria occidentalis* was new record for Turkish Mycoflora.

## 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 the dried for a week. All the chamber were then rewetted for another four-week period and examined as before[3,4].

The specimens are preserved also as permanent slides in Hoyer's medium. Both microscopic and macroscopic observations have been realised for taxonomical approaches. In the meantime, some photographs from characteristic qualitative objects are taken. All data have been evaluated comparatively for taxonomical aims[5].

The myxomycetes specimen was identified with the aid of the literature listed in the references[5-8]. This specimen is stored at the Herbarium of Canakkale Onsekiz Mart University, Canakkale-Turkey.

## RESULTS

Taxonomic position

| | |
|---|---|
| Regnum | : *Myceteae* |
| Division | : *Gymnomycota* |
| Classis | : *Myxomycetes* |
| Subclass | : *Myxogasteromycetidae* |
| Order | : *Trichiales* |
| Family | : *Arcyriaceae* |

*Arcyria occidentalis* (Macbr.) G.Lister, Mcyet. Ed. 2.245.1911.
Syn: *Lachnobolus occidentalis* Macbr. N. Am. Slime-Moulds 188.1899

Sporangia ovate to subcylindric, short stipitate or sessile on a constricted base; at first rosy, then brown or ochraceous, gregarious to crowded, 0.5-0.7 mm wide and up to 1.0 mm long; stipe minute, concolorous or darker, hollow, filled with spore-like cells; calyculus scarcely differentiated, irregular, more or less ribbed or fluted; hypothallus inconspicuous, silvery brown, common to a patch, thin, papery; peridium thin, metallic, persistent or somewhat fugacious above; capillitium a loose, readily detached net, scarcely to moderately elastic, some times scanty, with many free ends and inflations, the threads mostly 3-4 μ wide, marked with warts and low transverse cogs often stimulating spirals; spores reddish brown in mass, ochraceous by transmitted light, globose, inconspicuously verrucose to almost smooth, 6.0-7.5 (-8.2) μ in diameter (Fig. 1 and 2).

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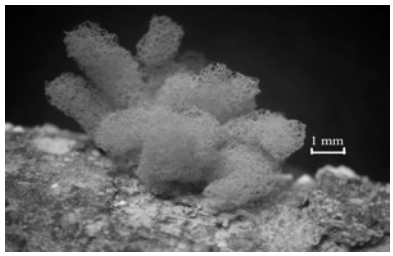


Fig. 1: Stereoscopic appearance of sporangia of *Arcyria occidentalis* (Macbr.) G.Lister

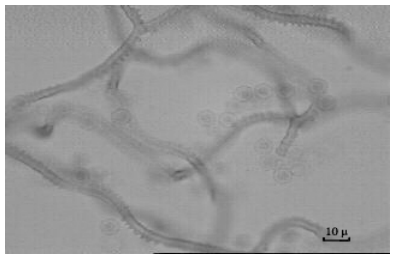


Fig. 2: A view of capillitial and spores of *Arcyria occidentalis* (Macbr.) G.Lister

Locality and habitat: Turkey, Canakkale, Can, Etili village, Seyret hill, elevation 120 m, on *Quercus cerris* L. Var. *cerris* barks, 21 November 2004, E.Karabacak 3626

## DISCUSSION

Since Gilbert and Martin[3] accidentally discovered that the moist chamber technique was an excellent method for obtaining fructifications of the standard means for studies and inventories of myxomycetes. It is applicable to almost any kind of substrate but has often been used for bark samples. Moist chamber cultures have yielded sporangia of species too small to be detected in the field and several new species have been described[7].

*Arcyria occidentalis* is quite variable. So, it can be distinguished from other similar-looking species of *Arcyria* as follows: Calyculus of this species is faintly distinguishable, but the margin between it and the rather persistent peridium is not always sharp and characteristic deeply lobed cup is in part of the peridium. In some specimens, the net is moderately elastic, in others scarcely so or not at all, which accounts for its assignment to *Lachnobolus* and it may be rather scanty. In closely appressed developments, the stalks tend to be reduced to a point and in old collections the cups are more pronounced. However, the same collection may show all phases with complete intergradations[5].

The spore diameter of *Arcyria occidentalis* given in the literature varies: Martin and Alexopoulos[5], 7-8 µ; Thind[9], 6.5-7.5 µ. The spores of our specimen were 6.0-7.5 (-8.2) µ in diam. According to Thind[9], the total size is 0.8 mm. The total size of our specimen was 1.0 mm.

In conclusion, the number of known Myxomycetes species in the world is 1000. Only about 100 taxa have been reported with the moist chamber technique and naturally in Turkey[1].

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