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# A new myxomycetes record for the myxobiota of Turkey: *Physarum melleum*

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**Abstract**
In this study, *Physarum melleum* (Berk. & Br.) Massee (Physaraceae) has been reported for the first time in Turkey. Its description, morphological character, and photos were presented.

**Keywords:** *Physarum melleum,* myxomycetes, new record, Turkey

## 1. Introduction
Myxomycetes (plasmodial slime moulds) are phagotrophic eukaryotes that commonly occur in association with decaying plant material in terrestrial ecosystems. The majority of these are probably cosmopolitan, but a few seem to be confined to the tropics or subtropics and some others have been collected only in temperate regions of the world. About 1000 species have been described in the world. However, only about 252 taxa have been reported with the moist chamber technique and naturally in Turkey [1]. The studies on myxomycetes diversity are quite insufficient. Myxomycetes have remained somewhat unexplored in Turkey.
In this paper, *Physarum melleum* (Berk. & Br.) Massee (Physaraceae) is described and illustrated as a new record for the first time from Turkey.

## 2. Materials and Methods
In July 2015, during routine field trips to different localities of Turkey, many samples of myxomycetes were collected. The samples were gently and directly picked from the substratum and placed in cardboard herbarium boxes. Specimens are preserved as permanent slides in Hoyer's medium. Both microscopical and stereomicroscopical 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 [2]. According to the checklists by (Sesli et al., 2016) [1], Sesli & Denchev (2014) [3], Dulger (2007) [4], and Yagiz and Afyon (2007) [5], *Physarum melleum* (Berk. & Br.) Massee (Physaraceae) was found to be new record for the myxobiota of Turkey. The taxon was identified with the aid of the literatures listed in the references [6-8]. The specimen cited is deposited in the first author's personal collection.

## 3. Results and Discussion
A species found to be new for Turkey Myxobiota. This record is *Physarum melleum* (Berk. & Br.) Massee and explained below.
*Physarum melleum* (Berk. & Br.) Massee, A Monograph of the Myxogastres: 278 (1892)
Sporangia gregarious, not closely crowded, stipitate, pale orange or honey-colored, globose, 0.75-0.90 mm in total height. Peridium rugose, persistent at base, opaque, coarse when mature, stiff, pale brown, encrusted with lime granules. Stalk cylindric or tapering upward, stout, opaque, white, furrowed, embedded with calcareous globulos. Up to ca. 50% of the total height. Columella structurally similar to stalk, small, conical, white. Hypothallus white, inconspicuous. Capillitium abundant, consisting of slender threads and large, white calcareous nodes. Spores globose, dark brown to black in mass, purplish brown with transmitted light, 7.5-10 µm diam. (Fig. 1-2).
Specimen examined: Turkey, Duzce, Golyaka, 40º43'24'' N, 31º2'54'' E, alt. 630 m, on fallen leaves, 27 July 2015, BD (BD 724).
This species is a pale orange or honey color describes it well. It is not the vivid yellow of *P. auriscalpium*, and it has a white stipe, whereas that of *P. auriscalpium* is dark. In *P. melleum*, the stipes often remains after the sporangia disappear. The mentioned descriptions render it easy to determine. Although often considered as cosmopolitan (Martin & Alexopoulos 1969) [2] *P. melleum* appears to be most common in the tropics. It was recorded only once in the present study and thus does not seem to be common in Turkey. With the addition of *P. melleum*, the number of Turkish *Physarum* records has increased to 33.


**Fig 1:** Stereomicroscopic image of the sporangia of *P. melleum.*

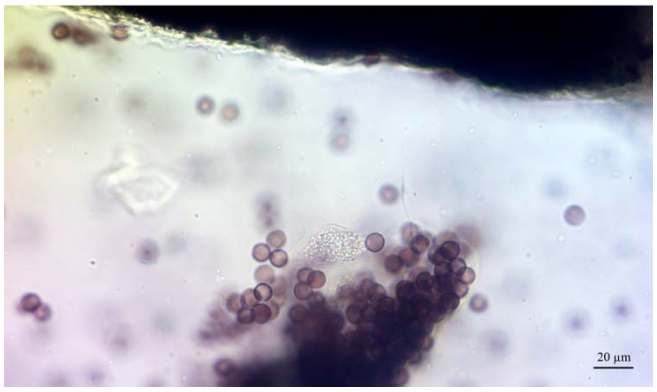


**Fig 2:** A view of capillitium and spores of *P. melleum.*

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