



### ***Octospora tuberculata*, a new record for Turkish Mycota**

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#### **Abstract**

The pyronematoid ascomycete taxa, *Octospora tuberculata* (Seaver) Caillet & Moyne, is reported for the first time from Turkey. It is the fifteenth member of the genus *Octospora* Hedw. in Turkey. Brief description and photographs related to macro and micromorphologies of the new record were provided.

**Key words:** Ascomycetes, biodiversity, bryophilic fungi, taxonomy

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#### ***Octospora tuberculata*, Türkiye Mikotası için yeni bir kayıt**

#### **Özet**

Pyronematoid bir askomiset taksonu olan *Octospora tuberculata* (Seaver) Caillet & Moyne, Türkiye'den ilk kez kaydedilmiştir. Bu *Octospora* Hedw. cinsinin Türkiye'deki onbeşinci üyesidir. Yeni kaydın kısa bir betimlemesi, makro ve mikromorfolojilerine ait fotoğrafları ile verilmiştir.

**Anahtar kelimeler:** Askomisetler, biyoçeşitlilik, karayosunu seven mantarlar, taksonomi

#### **1. Introduction**

*Octospora* Hedw. is a genus of the family Pyronemataceae within the order Pezizales (Kirk et al., 2008). Members of the genus generally have a very small moss associated apothecia, and are often overlooked by mycologists due to their miniature appearance. The genus comprises 84 species [1]. The members of the genus have a common distribution in western Europe, and 81 octosporoid fungi were reported to exist in Europe [2,3].

Research on genus *Octospora* has not a long tradition in Türkiye. The first member of it was reported by Uzun et al. [4] five years ago from Gaziantep province. So far 14 (*Octospora areolata* (Seaver) Caillet & Moyne, *O. axillaris* (Nees) M.M. Moser, *O. coccinea* (P. Crouan & H. Crouan) Brumm., *O. excipulata* (Clem.) Benkert, *O. gemmicola* Benkert, *O. grimmiae* Dennis & Itzerott, *O. itzerottii* Benkert., *O. leucoloma* Hedw., *O. lilacina* (Seaver) Svrček & Kubička, *O. musci-muralis* Graddon, *O. neerlandica* Benkert & Brouwer, *O. orthotrichi* (Cooke & Ellis) K.B. Khare & V.P. Tewari, *O. polytrichi* (Schumach.) Caillet & Moyne and *O. rustica* (Velen.) J.Moravec) of them currently exist in Türkiye [5,6].

But the current checklist [5] and the latest studies [7-17] on Turkish macrofungi indicate that *Octospora tuberculata* has not so far been reported from Turkey.

The work aims to make a contribution to the mycobiota of Turkey by adding a new record.

#### **2. Materials and methods**

Fruit bodies were collected from Gaziantep and Giresun Provinces in 2015 and 2017. Descriptive characteristics related to its ecology and morphology were recorded and they were photographed in their natural habitat.

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Further investigations were carried out in fungarium on dry samples. Investigations related to micromorphology were carried out under a Nikon eclipse Ci-S trinocular light microscope and a DS-Fi2 digital camera and a Nikon DS-L3 displaying apparatus were used for microstructural photographing. The samples were identified mainly with the help of Seaver [18], Wang & Kimbrough [19], Eckstein et al [20], Egertova et al [21], Ribollet [22]. The specimens are kept at Karamanoğlu Mehmetbey University, Kamil Özdağ Science Faculty, Department of Biology.

### 3. Results

*Ascomycota* Caval.-Sm.

*Pyronemataceae* Corda

*Octospora tuberculata* (Seaver) Caillet & Moyne, Bull. trimest. Soc. mycol. Fr. 96(2): 185 (1980)

**Syn:** [*Lamprospora tuberculata* Seaver.]

**Macroscopic and microscopic features:** Apothecia 0.5–2 mm in diameter, at first globose, expanding at maturity, buried in substrate, margin not raised, orange to pale orange (Figure 1). Asci 210–230 × 19–22 µm, clavate, eight spored, spores uniseriate (Figure 2a,b). Paraphyses clavate, straight, slightly enlarged towards the apex up to 6 µm (Figure 2a,b). Ascospores 16–18 µm, globose, hyaline, coarsely tuberculate, tubercles 3–4 µm wide and 1.5–3 µm high (Figure 2c).

**Ecology:** *Octospora tuberculata* grows among the moss *Barbula* Hedw., *Ceratodon* Brid., *Funaria* Hedw. and *Pleuroidium* sp. [22, 23].

**Specimen examined:** TÜRKİYE - Gaziantep, İslahiye, Hanağzı village, on moss, 37°03'N-36°36'E, 535 m, 28.03.2015, K.11543; Giresun, Dereli, Kümbet plateau, roadside, on sandy soil with *Pleuroidium* sp., 40°37'N-38°26'E, 1190 m, 18.10.2017, Yuzun 5914.



Figure 1. Ascocarps of *Octospora tuberculata*.

### 4. Conclusions and discussion

*Octospora tuberculata* was given as new record for the mycobiota of Turkey as the 15<sup>th</sup> member of the genus *Octospora*. General characteristics of the Turkish collections are in agreement with those given in Seaver [18], Wang & Kimbrough [19], Eckstein et al [20], Egertova et al [21], Ribollet [22]. Though many researches regard this species as *Lamprospora tuberculata* Seaver, the current name of it is listed as *Octospora tuberculata* in IndexFungorum (Accessed on 12 May 2022) [23]. This species is currently known from Australia, Austria, Czech Republic, France, Germany, Netherlands, Norway, Slovakia, Spain, Switzerland, United States [21].

Spore ornamentation is the most prominent characteristic of this species. Within the genus, another taxon, *O. tuberculatella* (Seaver) Caillet & Moyne, is known to have warty spore ornamentation. But it differs microscopically from *O. tuberculata* with spores ornamented with small tubercles. *Lamprospora rehmi* Benkert and *L. esterlechnerae* Benkert ex F. Hampe & Kleine are also two other members of bryoparasitic Pezizales with large tubercles as spore

ornament. *Lamprospora rehmi* have much larger spores of 19–24  $\mu\text{m}$ , and the woody habitat of the latter species differs it from *O. tuberculata* which is considered to be a terrestrial species [21,24].

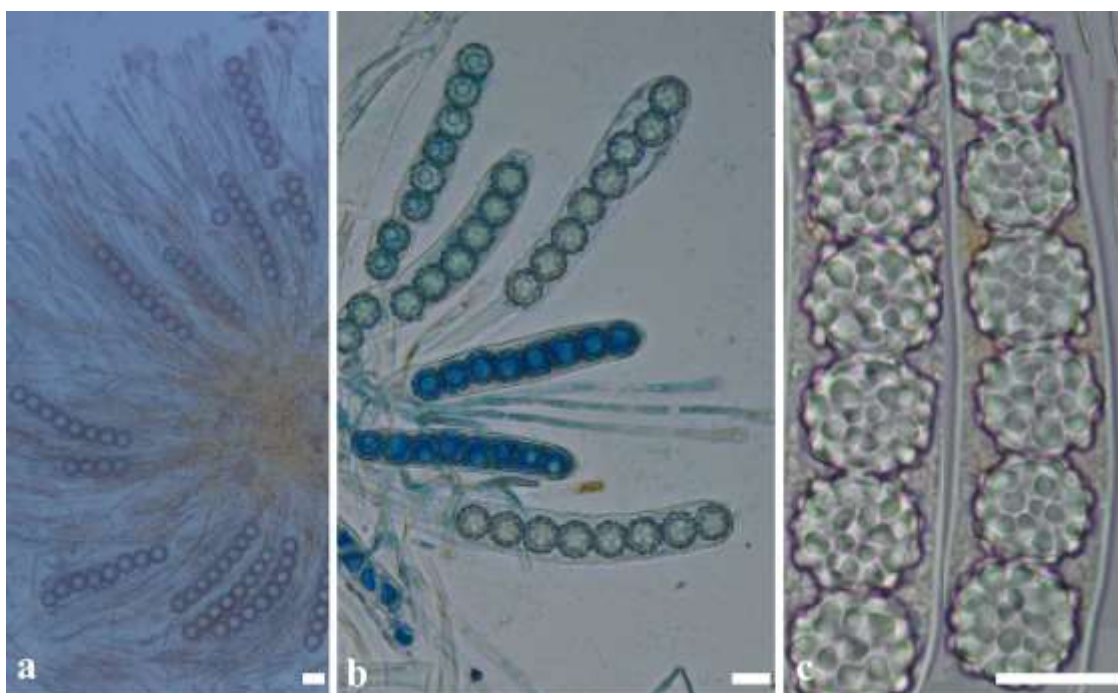


Figure 2. Asci and paraphyses (a,b) and ascospores (c) of *Octospora tuberculata* (bars: 15  $\mu\text{m}$ ) (b-c: Lactophenol Cotton Blue)

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