



Octospora Hedw., A New Genus Record for Turkish Pyronemataceae

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Octospora Hedw., Türkiye Pyronemataceae'leri İçin Yeni Bir Cins Kaydı

Abstract: The genus *Octospora* Hedw. is given as new record for the macromycota of Turkey, based on the collection and identification of the taxon *Octospora itzerottii* Benkert. Brief description of macroscopic and microscopic characters and photographs related to macro and micro morphology of the taxon are provided.

Key words: Biodiversity, *Octospora*, new record, *Pezizales*, Turkey

Özet: *Octospora* Hedw. cinsi, *Octospora itzerottii* Benkert. taksonunun toplanması ve teşhis edilmesi neticesinde, Türkiye makromikotasi için yeni kayıt olarak verilmiştir. Taksona ait makroskopik ve mikroskopik karakterlerin kısa betimlemesi ve türün makro ve mikromorfolojisine ilişkin fotoğrafları verilmiştir.

Anahtar Kelimeler: Biyoçeşitlilik, *Octospora*, yeni kayıt, *Pezizales*, Turkey

1. Introduction

Octospora Hedw is a genus of operculate ascomycetes within the order *Pezizales* and the family *Pyronemataceae* Corda. The genus has a cosmopolitan distribution and comprises 84 species (Kirk et al., 2008). The members of the genus are characterized by moss associated apothecia and ellipsoid to globose or rounded, sometimes ornamented, guttulate spores. The hyphal structure of the margin of apothecia is another distinguishing character of the members of the genus (Yao and Spooner, 1996).

Itzerott reports (1977) that the members of *Octospora* are relatively common in western Europe. Eighty one octosporoid fungi were reported to exist in Europe (Benkert, 2007). But current checklists (Sesli and Denchev, 2014; Solak et al., 2015) and the studies published after the preparation of the checklists (Akata et al., 2016; Denğiz and Demirel, 2016; Sesli et al., 2016; Taşkın et al., 2016; Uzun and Acar, 2016; Uzun et al., 2017) indicate that any member of the genus *Octospora* have so far been reported from Turkey.

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

2. Materials and Method

Octospora samples were collected from Nurdağı district of Gaziantep Province in 2015. Ecological and morphological characteristics of the samples were recorded and they were photographed in their natural habitat. Then the samples were brought to the fungarium, dried in air conditioned room and prepared as fungarium materials in polyethylene bags. Micromorphological investigations were carried out under a Nikon eclipse Ci 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 Benkert (1998, 2007, 2009). They are kept at Karamanoğlu Mehmetbey University, Science Faculty, Department of Biology.

3. Results

The systematics of the taxon is given in accordance with Kirk et al. (2008), and the Index Fungorum (www.indexfungorum.org; accessed 31 July 2017). A brief description, habitat, locality, collection date, and accession number of the taxon are provided.

Ascomycota Whittaker

Pezizales J. Schröt.

Pyronemataceae Corda

Octospora Hedw.

Octospora itzerottii Benkert, Öst. Z. Pilzk. 7: 53 (1998)

Macroscopic and microscopic features: Apothecia 1-2.5 mm in diameter, surface concave at first, later plane to convex or pulvinate, hymenium orange, margin paler and not membranaceous (Fig. 1). Asci 170-260 × 15-20 µm, cylindrical, tapering below, mostly 4-spored but also 3-, 5- and 6-spored, spores uniseriate. Paraphyses cylindrical, enlarged towards the apex, 5-8 µm wide at the tips (Fig. 2a). Spores 21-26 × 11-13 µm, ellipsoid, smooth, with one or two large and several small oil droplets (Fig. 2b).

Ecology: *Octospora itzerottii* grows on mosses *Pterygoneurum ovatum* and *P. subsessile* (Eckstein, 2017).

Specimen examined: Gaziantep, Nurdağı, Kömürler village, mixed forest, on moss (*Pterygoneurum ovatum* (Hedw.) Dixon), 37°09'N-36°48'E, 535 m, 03.04.2015, K.11588.

4. Discussions

Generally the members of the genera *Inermisia*, *Lamprospora*, *Neottiella* and *Octospora* within the family *Pyronemataceae* have tiny, disc-shaped apothecia coloured in shades of orange to red. Due to their small size morphological similarities, they can easily be overlooked and it is very hard to separate their species from each other (Itzerott, 1977).

Octospora itzerottii is a 4-spore taxon and has similarities in terms of morphology, ecology and even micromorphology with *Octospora crosslandii* (Dennis & Itzerott) Benkert. But the latter species have 8-spore asci while *O. itzerottii* generally have 4-spore asci. Medium spore size of *O. crosslandii* (17-21 × 10-12) is also smaller than that of *O. itzerottii*.

The current checklists (Sesli and Denchev, 2014; Solak et al., 2015) compiled 34 pyrenomatous macrofungi existing in Turkey. After the latest versions of the checklists 28

members of Pyronemataceae have also been added to these lists and the total taxa number reached to 62 (Keleş et al., 2014; Türkoğlu and Castellano, 2014; Demirel et al., 2015; Karacan et al., 2015; Kaya and Uzun, 2015; Kaya et al., 2016; Kaya, 2016). As a result of this study, the number of pyrenomatoid species known from Turkey has increased from 62 to 63.

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Figure 1. Ascocarps of *Octospora itzerottii*.

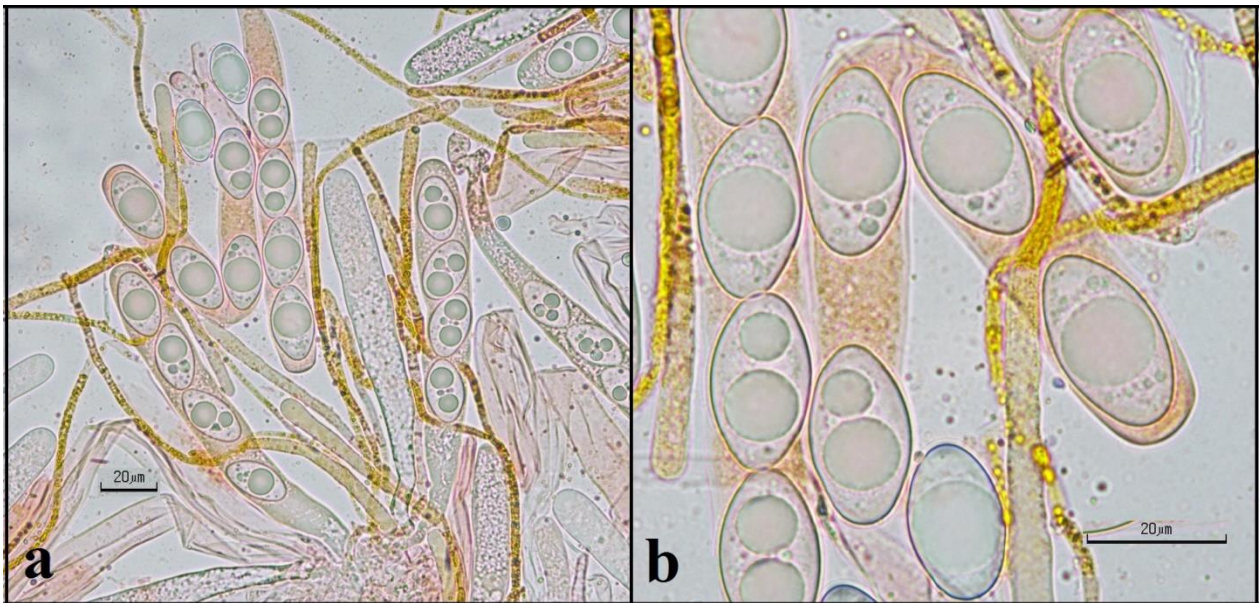


Figure 2. Asci, paraphyses (a) and ascospores (b) of *Octospora itzerottii*.

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