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***Helvella phlebophora*, A New Ascomycete Record for Turkey**

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Abstract: *Helvella phlebophora* Pat. & Doass. is an Ascomycete species and, was given as new record for Turkey. A brief description of the species is provided together with its photographs related to its macro and micromorphology.

Key words: Biodiversity, New record, *Helvellaceae*, Taxonomy, Turkey

***Helvella phlebophora*, Türkiye İçin Yeni Bir Askomiset Kaydı**

Öz: Bir askomiset türü olan *Helvella phlebophora* Pat. & Doass., Türkiye için yeni kayıt olarak verilmiştir. Türün kısa deskripsiyonu, makro ve mikromorfolojisine ilişkin fotoğrafları ile birlikte verilmiştir.

Anahtar kelimeler: Biyoçeşitlilik, Yeni kayıt, *Helvellaceae*, Taksonomi, Türkiye

Introduction

Helvella L. is a genus of the family *Helvellaceae* within the order *Pezizales* (Kirk et al., 2008). The genus contains many of the larger species of the order *Pezizales* and includes operculate discomycetes having sessile to stipitate apothecia with discoid, cupulate, saddle-shaped or connivent pilei (Wang and, Chen, 2002; Skrede et al., 2017). Members of the genus are widely distributed, especially in the temperate regions of the northern hemisphere (Landeros and Guzman-Davalos, 2013).

Though Kirk et al. (2008) reports the existence of about 52 *Helvella* species worldwide, Index Fungorum (accessed 19 August 2019) contains 501 records, 128 of which seems to be confirmed taxa. Twenty two members of the genus have so far been reported from Turkey (Gücin and Öner, 1982a,b; Gücin, 1987; Sesli, 1993; Öztürk and Kaşık, 1996; Afyon, 1997; Solak, 1998; Kaşık and Öztürk, 2000; Kaşık et al., 2000; Türkeul, 2003; Kaya et al., 2004; Allı and İşiloğlu, 2007; Türkoğlu et al., 2007; Kaya, 2009; Keleş and Demirel, 2010; Akata and Kaya, 2012; Uzun et al., 2015; Güngör et al., 2015; Allı et al., 2017), But the current checklists (Sesli and Denchev, 2014; Solak et al., 2015) and the latest contributions to the Pezizales of Turkey (Kaya and Uzun, 2018; Uzun and Kaya, 2018, 2019; Kaya et al., 2016; Uzun et al., 2018a,b; Karacan et al., 2015; Acar and Uzun, 2016; Keleş, 2019;

Allı and Doğan, 2019) indicate that *Helvella phlebophora* Pat. & Doass. hasn't been reported from Turkey before.

The study aims to make a contribution to Turkish mycobiota.

Materials and methods

The fruit bodies of *H. phlebophora* were collected from Tonya district of Trabzon province in 2015 and 2017. During field study the necessary morphological and ecological characteristics were recorded and samples were photographed at their natural habitat. Then the specimens were brought to the fungarium within paper bags and further investigations were carried out in the fungarium. A Nikon Eclipse Ci trinocular light microscope by mounting the specimen in water or Melzer reagent. The samples were identified with the help of Dissing, (1966), Billekens (1984), Breitenbach and Kränzlin (1984), Häffner (1987) Baiano et al. (1993) and Skrede et al. (2017). The specimens are kept at Karamanoğlu Mehmetbey University, Kamil Özdağ Science Faculty, Department of Biology.

Results

Ascomycota Caval.-Sm.

Pezizales J. Schröt.

Helvellaceae Fr.



Helvella phlebophora Pat. & Doass., in Patouillard, Tab. analyt. Fung. (Paris)(5): 208 (1886)

Syn: [*Globopilea phlebophora* (Pat. & Doass.) Beauseign.]

Macroscopic and microscopic features:

Ascomata composed of a head and a stalk. Head 12-22 mm in diam, globose when young, semiglobose to convex or irregularly wavy when mature, generally curved like an umbrella, hymenial surface dirty white, greyish, dark grey to smoky gray, undersurface lighter gray to whitish, with anastomosing ribs in full length as the continuations of the ribs of stalk. Stalk 18-28 × 3-6 mm, furrowed longitudinally, almost concolorous with the undersurface of the head (Figure 1a). Asci 220-280 × 12-17 μm, cylindrical, 8-spored. Paraphyses cylindrical, thickened

up to 7 μm toward the apex (Figure 1b), septate. Ascospores 14.5-18 × 10-12.5 μm, ellipsoid, hyaline, smooth, with a large central guttule, uniseriate (Figure 1c).

Ecology: *Helvella phlebophora* grows on bare sandy ground or between leaves under deciduous or coniferous trees such as *Castanea*, *Quercus*, *Corylus* and *Picea* (Breitenbach and Kränzlin, 1984; Häffner, 1987; Baiano et al, 1993).

Specimen examined: Trabzon, Tonya, Zere high plateau, on soil among leaves in mixed forest, 40°54'N-39°21'E, 1510 m, 22.07.2015, Yuzun 4262; Kösecik village, on soil among grasses under *Corylus* sp., 40°57'N-39°17'E, 600 m, 22.06.2017, Yuzun 5612.



Figure 1. Ascocarps (a), asci and paraphyses (b) and ascospores of *H. phlebophora* (bars, b: 50 μm, c:10 μm) (b: in Melzer, c: in water)



Discussions

Helvella phlebophora was given as new record for the mycobiota of Turkey as the 23th member of the genus *Helvella*. This species characteristics with its umbrella-like cap and the distinct ribs running radially from the stalk to the margin of the cap. It is reported to be a rare species in Switzerland (Breitenbach and Kränzlin, 1984). The sulcate stem of this species is somewhat similar with some other *Helvella* species such as *H. lacunosa* Afzel. and *H. crispa* (Scop.) Fr., but the hemispherical cap shape easily differentiates it from the latter species.

General characteristics of the Turkish collection, are in agreement with those given in Billekens (1984), Breitenbach and Kränzlin (1984), Häffner (1987) Baiano et al. (1993) and Skrede et al. (2017).

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