



A new *Peziza* record for Turkish Mycobiota

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Abstract

In the current study, *Peziza ammophila* Durieu & Lév was reported for the first time from Turkey. A short description, ecology, distribution and photographs related to macro and micromorphologies of the taxon are provided.

Key words: *Peziza ammophila*, *Ascomycota*, New record, Turkey

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Türkiye Mikobiyotası için yeni bir *Peziza* kaydı

Özet

Mevcut çalışmada, *Peziza ammophila* Durieu & Lév Türkiye'den ilk defa rapor edilmiştir. Taksonun kısa deskripsiyonu, ekolojisi, yayılışı, makro ve mikromorfolojilerine ait fotoğrafları verilmiştir.

Anahtar kelimeler: *Peziza ammophila*, *Ascomycota*, Yeni kayıt, Türkiye

1. Introduction

Peziza Fr. is the largest genus of the family *Pezizaceae* Dumort with 104 confirmed species (Kirk et al., 2008). The members of the genus produce sessile or stipitate, cup-shaped, cupulate, turbinate, pulvinate, epigeous or semi-hypogeous to hypogeous apothecia in a range of several millimetres to more than 10 centimetres in diameter, cylindrical, operculate and 8 spored asci, elliptical or rounded, smooth or ornamented ascospores. Most of the members are saprotrophs while only a few species are claimed to be ectomycorrhizal (Akata & Kaya 2012; Barseghyan & Wasser, 2011; Hansen & Knudsen, 2000).

During our routine field trips, a deeply cup shaped and brown *Peziza* sp. was collected and identified as *Peziza ammophila* Durieu & Lév. According to current literature on macromycota of Turkey (Solak et al., 2007; Sesli & Denchev, 2008, Akata, 2012; Akata & Kaya, 2012a,b; Akata et al., 2012; Allı et al., 2011; Doğan et al., 2012; Kaya et al., 2012), it has not yet been recorded from Turkey.

This study aims to make a contribution to the macromycota of Turkey.

2. Materials and methods

Peziza samples were collected from Silifke (Mersin) during the field trip on 27 January 2013. Necessary morphological and ecological characteristics of the samples were noted and photographed in their natural habitats. Thereafter the samples were taken to the herbarium for further investigations. Microphotographs were taken under a light microscope (Leica DM 1000). Reagents such as Melzer reagent, 5 % KOH, congo red and cotton blue were used. Identification of the samples were conducted according to their ecologic, macroscopic and microscopic features and performed with the aid of literature (Jordan 2004; Hansen and Knudsen 2000). The identified fungi specimens were deposited at Ankara University Herbarium (ANK).

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3. Results

A short description, ecology and distribution, locality, collection date, photographs of apothecia and microphotographs of asci, ascospores and paraphyses of the taxon were given. The systematics of the taxon is in accordance with Mycobank (<http://www.mycobank.org/>; accessed 1 February 2013).

Ascomycota R.H. Whittaker

Pezizomycetes O.E. Erikss. & Winka

Pezizomycetidae Locq

Pezizales J. Schröt.

Pezizaceae Dumort.

Peziza ammophila Durieu & Lév. (1848)

Syn. *Geopyxis ammophila* Sacc. (1889), *Sarcosphaera ammophila* (Sacc.) Moesz (1912), *Tarzetta ammophila* (Sacc.) Theodor (1936).

Macroscopic and microscopic features:

Apothecia 3-5 cm broad, 4-5 cm tall, stipitate, deeply cup shaped, margin often splitting in to irregular rays, hymenial surface smooth, brownish, yellowish toward the margin, outer surface more pallid, typically covered by sand grains (Figure 1.a,b,c). **Flesh** 2-2.5 mm thick, fragile, brittle and brownish. Stem bulb shaped, dusted with sand grains. **Asci** 170-190 × 13-14 μm, cylindrical, eight spored. **Paraphyses** cylindrical (Figure 1.d,e). **Ascospores** 15-16 × 8-10 μm, hyaline, smooth, ellipsoid, without guttules, uniseriate (Figure 1.f,g).

Ecology: September to October, in small trooping groups in littoral sand dunes, uncommon. (Kutorga & Kataržytė, 2008; Jordan 2004; Hansen & Knudsen 2000).

Specimen examined: TURKEY— Mersin, Silifke, Arkum, in coastal sand dune, sea level, 36°21'33" N, 34°04' 41" E, 27.01.2013, A.E. Yaprak 2013-007.

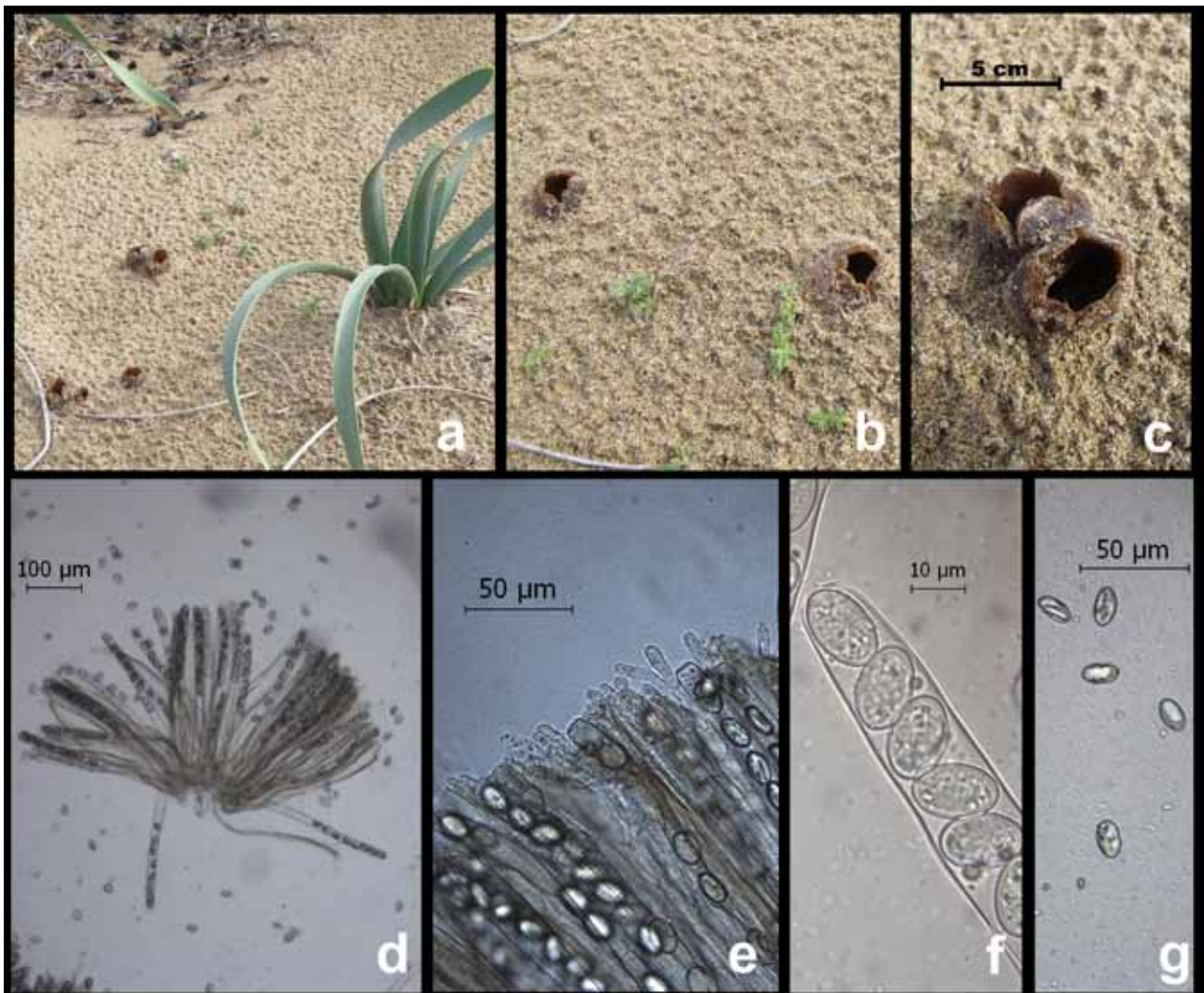


Figure 1. *Peziza ammophila*: **a,b,c.** apothecia, **d,e.** asci and paraphyses, **f,g.** ascospores

4. Conclusions

Peziza is an interesting and complicated systematic group. Sometimes it could be very difficult to find clear diagnostic characteristics to define species. Therefore, many *Peziza* members have a rich synonymy because different authors placed some species in different genera. The members of the genus can be separated from each other mainly on the basis of their micromorphology such as ascospore shape, ornamentation, colour, and guttulation; biochemical reaction of the asci; pigmentation of the paraphyses (Akata & Kaya 2012; Barseghyan & Wasser 2011).

Peziza ammophila resembles *Sarcosphaera coronaria* (Jacq.) J. Schröt. macroscopically but the latter species has pinkish, lilac or brown violet hymenium and larger apothecia which grow on soil, under broadleaved and coniferous trees (Arora, 1986; Breitenbach & Kränzlin, 1984). Although it is not easy to identify it in the field due to its hypogeous apothecia, it can easily be distinguished from other *Peziza* species by its brownish, deeply cup shaped apothecia developing underground with only the mouth at ground level and growing in sand, sandy soil or sand dunes (Arora, 1986).

According to the present checklists (Solak et al., 2007; Sesli & Denchev, 2008) and the recent data on Turkish macromycota (Akata, 2012; Akata & Kaya, 2012a,b; Akata et al., 2012; Allı et al., 2011; Doğan et al., 2012; Kaya et al., 2012) 21 *Peziza* species (*P. ampelina* Pass., *P. amphora* Quéél., *P. applanata* (Hedw.) Fr., *P. arenaria* Osbeck, *P. arvernensis* Roze & Boud., *P. badia* Pers., *P. cerea* Sowerby : Fr., *P. depressa* Pers., *P. domiciliana* Cooke, *P. erucaeformis* Batsch, *P. granulosa* Schumach., *P. michelii* (Boud.) Dennis, *P. micropus* Pers., *P. moravecii* (Svrček) Svrček, *P. phyllogena* Cooke, *P. repanda* Wahlenb., *P. saniosa* Schrad., *P. succosa* Berk., *P. varia* (Hedw.) Alb. & Schwein., *P. vesiculosa* Bull., *P. violacea* Pers.) have so far been reported from Turkey.

With the current study, *Peziza ammophila* Durieu & Lév. is reported for the first time from Turkey and it will be the twenty second species of Turkish *Peziza*.

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