



New Ascomycete (*Geoglossum umbratile*, *Peziza lobulata*) records for Turkey

Halil GÜNGÖR ^{*1}, Ömer Faruk ÇOLAK ², Mehrican YARATANAKUL GÜNGÖR ¹, Mehmet Halil SOLAK ³

¹ Department of Biology, Faculty of Science, Muğla Sıtkı Koçman University, Kötekli, Muğla, Turkey

² Köyceğiz Vocational High School, Muğla Sıtkı Koçman University, Köyceğiz, Muğla, Turkey

³ Program of Elementary Science Education, Faculty of Education, Muğla Sıtkı Koçman Univ., Kötekli, Muğla, Turkey

Abstract

In this study, *Geoglossum umbratile* Sacc. and *Peziza lobulata* (Velen.) Svrček were reported for the first time in Turkey. Their descriptions, morphological characteristics, and photographs are presented.

Key words: New records, *Geoglossum*, *Peziza*, Turkey

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Türkiye için yeni Askomiset kayıtları

Özet

Çalışmada *Geoglossum umbratile* Sacc. ve *Peziza lobulata* (Velen.) Svrček Türkiye'den ilk defa kaydedilmiştir. Yeni taksonların tanımı, morfolojik özellikleri ve fotoğrafları verilmiştir.

Anahtar kelimeler: Yeni kayıtlar, *Geoglossum*, *Peziza*, Türkiye

1. Introduction

Aydın and Muğla Provinces are located in south-west part of Turkey and both of them possess Mediterranean climate. *Pinus brutia* Ten., *P. pinea* L., and *Quercus* L. spp. *Olea* L. spp. in particular are very common in the region. Because of the suitable climate and the type of vegetation, Aydın and Muğla have a rich macrofungi.

Turkey is a natural habitat for a number of fungus species because of the suitable climate and the type of vegetation for fungal growth. It is known that studies about Turkish mycota are going on especially last 20 year (Uzun et al., 2010; Akata et al., 2012; Solak et al., 2014a; Solak et al., 2014b). However, there is a lot of study can be conducted on Turkey's fungal biodiversity. Increasing studies on fungi will raise the number of new macrofungal records simultaneously.

The aim of the present study was to add to the knowledge of Turkey's mycota with the new macrofungal records.

2. Materials and methods

In the present study, macrofungi samples were collected during routine field trips in different localities of Aydın and Muğla Provinces in spring 2013. In field studies morphological and ecological characteristics of the specimens were recorded and photographed. Microstructural data was obtained by light microscopy with using the reagent as Melzer's reagent. Microphotographs of samples were taken by Leica DFC 295. Samples were identified with the help of Hansen and Knudsen (2000), Barseghyan and Wasser (2011), Kučera and Lizoň (2012).

The identified specimens are kept at the fungarium of Muğla Sıtkı Koçman University.

* Corresponding author / Haberleşmeden sorumlu yazar: Tel.: +902522111531; Fax.: +902522111531; E-mail: hgng1@gmail.com

3. Results

After laboratory studies *Geoglossum umbratile* and *Peziza lobulata* which is called as “Dil mantarı” and “Mor disk mantarı” respectively were identified. These taxa are new records for Turkish mycota, in the light of the current checklists (Solak et al., 2007; Sesli and Denchev, 2013) and latest literature on Turkish macrofungi (Doğan et al., 2012; Güngör et al., 2013).

3.1 Helotiales

3.1.1 Geoglossaceae Corda

3.1.1.1 *Geoglossum umbratile* Sacc. (Figure 1).

Fruitingbody, needle-like or tongue-like, head compressed, up to 6 cm high, black, not viscid. Stem slender, cylindrical, squamulose to almost smooth. Asci, 8-spored, $150-175 \times 18 \mu\text{m}$. Spores, 7 septate, $58-79 \times 6.3-7.3 \mu\text{m}$, cylindrical to clavate, dark yellow to brown. Paraphyses confined to hymenium, curved, longer than the asci, not agglutinated, light brown, in some of them apex slightly enlarged. On sandy or humus rich soils among grasses and mosses, in forests, along roads and rivers (Hansen and Knudsen 2000; Barseghyan and Wasser 2011; Beug et al., 2014).

Aydın, Koçarlı, Koçarlı-Mersinbeleni way 22. km., on soil, in pine forest, 25.03.2013. N 37.661545, E 27.683952, 850 m, H 223.

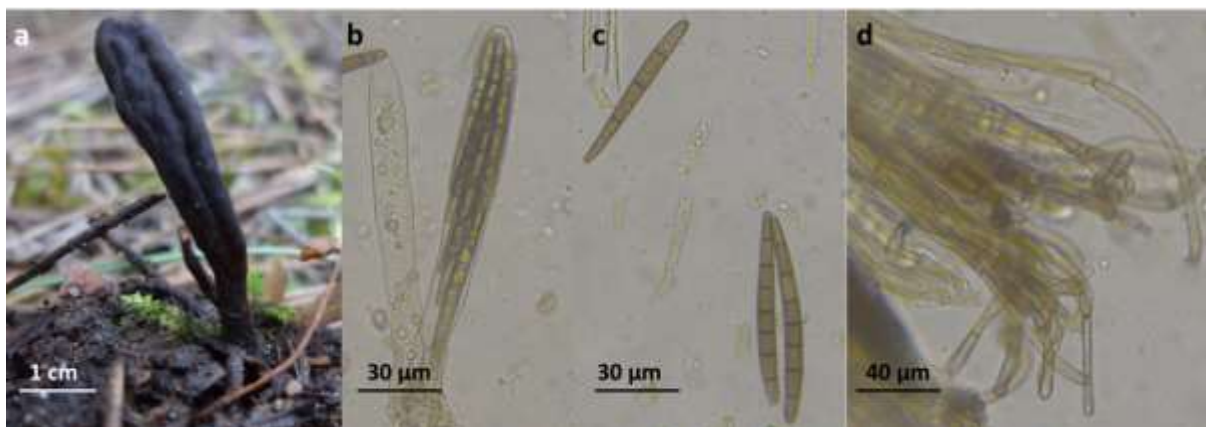


Figure 1. *Geoglossum umbratile*. a. fruitingbody, b. ascus, c. ascospores d. paraphyses

3.2 Pezizales

3.2.1 Pezizaceae Dumort.

3.2.1.1 *Peziza lobulata* (Velen.) Svrček (Figure 2).

Fruitingbody, disc to cup-shaped, 0.5-1cm in diameter. Hymenium smooth, deep violet or brown violet. Outer part of the surface bluish grey to white. Asci cylindrical, $215-280 \times 12-13 \mu\text{m}$, 8-spored, reacting positively with Melzer's reagent, turned blue at the apex. Spores ellipsoidal, uniseriate, hyaline, $14.4-16.5 \times 7-9 \mu\text{m}$, most of them without guttules, smooth. Paraphyses curved, somewhat enlarged toward the apex, with violaceous brown contents. Grows on burnt ground, in pine forest, spring (Hansen and Knudsen 2000; Kučera and Lizoň 2012; Medardi 2012).

Muğla, Fethiye, Fethiye-Babadağ way 10. km., in pine forest, 29.03.2013. H 226.

4. Conclusions

The genus *Geoglossum* Pers. is easily recognized with clavate, black or dark brown fruiting bodies with a wide compressed head in the field. Also spores are very distinctive with their hyalin to dark brown, septate or not, clavate, cylindrical, or subfusoid shapes (Hansen and Knudsen, 2000). In Turkey there is only one species; *G. lineare* Hakeliev reported by Güngör et al., (2013). This is the second record for genus *Geoglossum* from Turkey.

The genus *Peziza* Dill. ex Fr. is the largest genus within *Pezizales* (*Pezizomycetes*, *Ascomycota*), with approximately 100 currently accepted species. It is one of the interesting genus of the family *Pezizaceae*. The genus *Peziza* includes taxa that produce epigeous, sessile or stipitate, cup-shaped, cupulate, turbinate, pulvinate or sparassoid apothecia. The apothecia range in size from a few millimeters to more than 10 centimeters in diameter, and are often fleshy, soft and brittle. Most taxa are separated from each other mainly on the basis of their microstructural and biochemical characters such as spore shape, color, ornamentation, and guttulation; amyloid reaction of the ascus; pigmentation of the paraphyses and excipulum structure (Barseghyan and Wasser, 2011). According to the present checklists (Solak et al., 2007; Sesli and Denchev, 2013) and the recent data on Turkish macromycota there are twenty

five species of the genus *Peziza* found in Turkey (Akata and Yaprak, 2013). With *P. lobulata* the number of the members of genus reached twenty six species in Turkey.

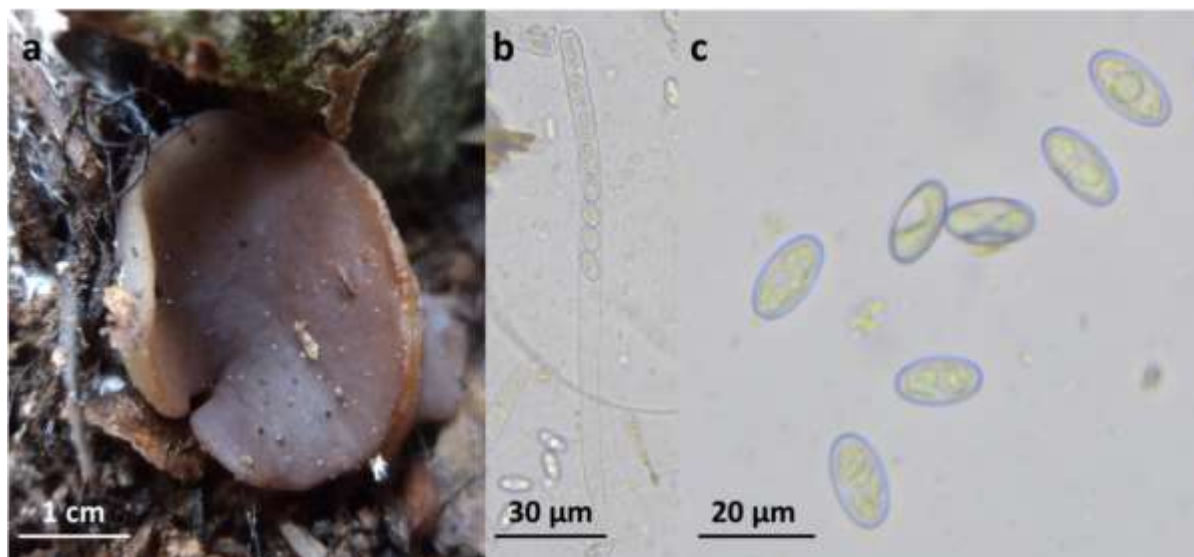


Figure 2. *Peziza lobulata*. a. fruitingbody, b. ascus c. ascospores

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