Geliş(Recevied) :21/05/2018
Kabul(Accepted) :12/07/2018

Research Article
Doi:10.30708/mantar.425533

Plectania ericae, a New Record for Turkey from *Sarcosomataceae*

Yasin UZUN[1], Abdullah KAYA*[1]

**Corresponding author:kayaabd@hotmail.com*

[1]Karamanoğlu Mehmetbey University, Science Faculty,
Department of Biology, 70100 Karaman, Turkey

Abstract: *Plectania ericae* (Donadini) Roqué, was recorded for the first time from Turkey. Short description of the species is provided together with its photographs related to its macro and micromorphology.

Key words: Macrofungi, new record, *Plectania,* Turkey

Plectania ericae, *Sarcosomataceae*'den Türkiye İçin Yeni Bir Kayıt

Öz: *Plectania ericae* (Donadini) Roqué, Türkiye'den ilk kez kaydedilmiştir. Türe ait kısa betim, türün makro ve mikromorfolojisine ilişkin fotoğrafları ile birlikte verilmiştir.

Anahtar kelimeler: Makromantarlar, yeni kayıt, *Plectania,* Türkiye

Introduction

Plectania Fuckel is a genus of fungi within the family *Sarcosomataceae (Pezizales).* The genus was circumscribed by Fuckel (1870) and has a widespread distribution with 17 conformed species (Kirk et al., 2008; www.indexfungorum.org; accessed 25 June 2018).

Five members of *Sarcosomataceae, Plectania melastoma* (Sowerby) Fuckel, *Pl. rhytidia* (Berk.) Nannf. & Korf, *Pseudoplectania sphagnophila* (Pers.) Kreisel, *Ps. vogesiaca* Seaver and *Strobiloscypha cupressina* B. Perić & Pfister have so far been reported from Turkey (Allı et al., 2011; Akata et al., 2012; Türkoğlu and Yağız, 2012; Kaya and Uzun, 2018).

During a field trip at Tuzla district (İstanbul), some black and cupulate ascomas were collected under *Erica* sp., Later on they were identified as *Plectania ericae* (Donadini) Roqué. Tracing the current checklists (Sesli and Denchev, 2014; Solak et al., 2015) and the latest contributions (Demirel et al., 2017; Işık and Türkekul, 2017, 2018; Kaşık et al., 2017; Keleş and Oruç, 2017; Öztürk et al., 2017; Sesli and Topcu Sesli, 2017; Türkekul and Işık, 2017; Uzun et al., 2017; Çolak and Kaygusuz, 2018; Sadullahoğlu and Demirel, 2018; Uzun and Acar, 2018; Uzun et al., 2018) it was found that, the taxon has not been reported from Turkey before.

The study aims to make a contribution to Turkish mycobiota.

Materials and Methods

Fungal specimens were collected from Tuzla district of İstanbul province in 2018. The fruit bodies were photographed at their natural habitats and required morphological and ecological characteristics were recorded. Then the collected specimens were transferred to the fungarium within paper bags. The microscopic studies were based on dried specimens. Microscopic investigations were carried out under Nikon Eclipse Ci trinocular light microscope. The specimens were mounted in water and Melzer's reagent. The samples were identified by comparing the obtained data with Donadini (1987), Boccardo et al. (2014) and Carbone et al. (2014). The samples are kept at Karamanoğlu Mehmetbey University, Kamil Özdağ Science Faculty, Department of Biology.

Results

The systematics of the species is given in accordance with Kirk et al. (2008) and the Index Fungorum (www.indexfungorum.org; accessed 15 May 2018). The taxon is presented with a brief description, habitat and locality.

Ascomycota Caval.-Sm.
Pezizales J. Schröt.
Sarcosomataceae Kobayasi
Plectania Fuckel
Plectania ericae (Donadini) Roqué (Figure 1)
Syn: [*Pseudoplectania ericae* Donadini]

Macroscopic and microscopic features:

Ascomata 4-11 mm in diameter, cupulate to spreading in age, sessile to short stalked, hymenial surface smooth, black, margin smooth, thinner, outer surface concolorous, finely tomentose to pubescent, hairs cylindrical and dark brownish black to dark brown. Flesh blackish. Excipular cells are globose to prismatic and thick walled. Asci 250-300 x 12-14 µm, cylindrical, operculate and eight spored. Paraphyses, filiform, sometimes anastomosing, 2 or 3 times bifurcated, some trifurcated, slightly enlarged at the apex and generally exceeding asci. Ascospores 11.5-12 (-13) µm, spherical, smooth, with a large guttule at maturity.

Ecology: *Plectania ericae* was reported to grow on roots of *Erica arborea* L. (Boccardo et al., 2014), on bare soil in the presence of lichens where *Cistus monspeliensis* L., *C. salviifolius* L. and *Erica arborea* L. exist (Donadini, 1987).

Specimen examined: İstanbul, Tuzla, around İstanbul Park, on soil with *Erica* sp. roots, 40°57′N-29°25′E, 175 m, 07.03.2018, Yuzun 6297.

Discussions

Plectania ericae was reported for the first time from Turkey and the existing taxa number of *Plectania* and *Sarcosomataceae* increased to three and six respectively. General morphology of the identified sample is in aggreement with the descriptions of Donadini (1987) and Boccardo et al. (2014).

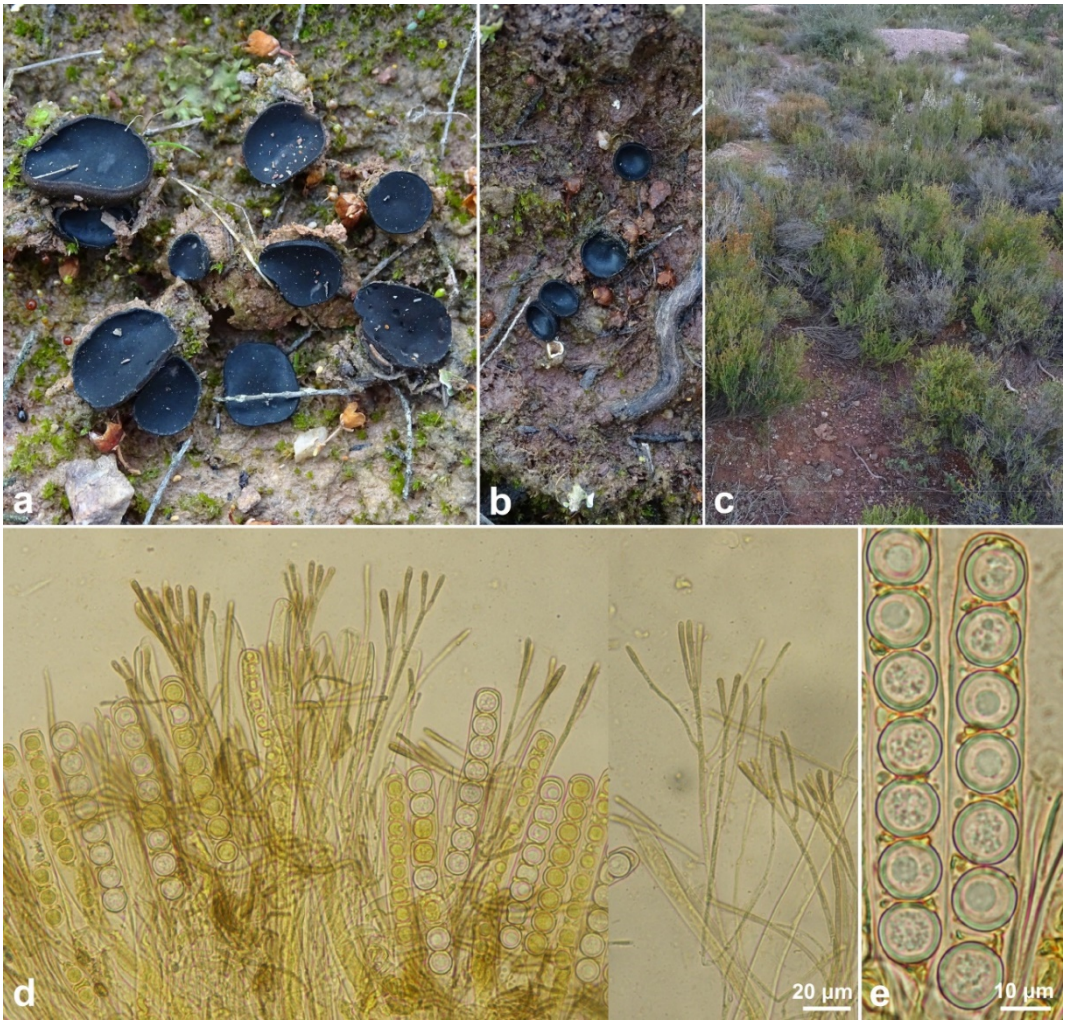

Figure 1. *Plectania ericae*: a,b- ascocarps, c- habitat, d- asci and paraphyses (Melzer), e- ascospores (Melzer)

Plectania ericae is similar to *Pseudoplectania affinis* M. Carbone, Agnello & P. Alvarado, *Ps. nigrella* (Pers.) Fuckel and *Ps. tasmanica* M. Carbone, Agnello & P. Alvarado. The larger apothecia, more diverticulate paraphyses tips and straighter external hairs differs *Ps. affinis* from *Pl. ericae*. *Ps. nigrella* can easily be differentiated from *Pl. ericae* by the forked paraphyses and non coniferous habitat of the *Pl. ericae. Ps. tasmanica* differs from *Pl. ericae* mainly by its larger size, and the straighter and numerous external hairs (Carbone et al., 2014). *P. ericae* also have some similarities with *Pl. melaena* in terms of micromorphology, but the black content of the paraphyses and the coniferous habitat of *Pl. melaena* differs it from *Pl. ericae* (Medardi, 2006; Iturriaga et al., 2012; Van Vooren et al., 2013).

Acknowledgement

The authors would like to thank Ömer UZUN for his kind help during field study, and Alfredo Vizzini, Matteo Carbone and Nicolas Van Vooren for providing literature.

References

Akata I., Kaya A., Uzun Y. *New Ascomycete records for Turkish macromycota.* Turkish Journal of Botany, 36(4): 420-424 (2012).

Allı H., Işıloğlu M., Solak, M.H. *New ascomycete records for the macrofungi of Turkey.* Turkish Journal of Botany, 35(3): 315-318 (2011).

Boccardo F., Carbone M., Vizzini A. *Pseudoplectania ericae, una rara specie rinvenuta in Liguria (Italia).* Bollettino AMER, 92: 3-9 (2014).

Carbone M., Agnello C., Alvarado P. *Phylogenetic and morphological studies in the genus Pseudoplectania (Ascomycota, Pezizales).* Ascomycete.org, 6 (1): 17-33 (2014).

Çolak Ö.F., Kaygusuz O. *First record of Scutellinia legaliae (Ascomycota, Pyronemataceae) from relict endemic Liquidambar orientalis forest in Turkey.* Czech Mycology 70(1): 57-65 (2018).

Demirel K., Uzun Y., Keleş A., Akçay M.E., Acar İ. *Macrofungi of Karagöl–Sahara National Park (Şavşat-Artvin/Turkey)*. Biological Diversity and Conservation, 10(2): 32-40 (2017).

Donadini J.C. Etude des Sarcoscyphaceae ss. Le Gal (1). *Sarcosomataceae et Sarcoscyphaceae ss. Korf. Le genre Pseudoplectania emend. nov.* Mycologia Helvetica, 2 (2): 217-246 (1987).

Fuckel L. *Symbolae mycologicae. Beiträge zur Kenntnis der rheinischen Pilze.* Jahrbücher des Nassauischen Vereins für Naturkunde, 23(4): 323 (1870).

Index Fungorum (2018). http://www.indexfungorum.org/Names/Names.asp. Accessed 15 May 2018.

Işık H., Türkekul İ. *A new record for Turkish mycota from Akdağmadeni (Yozgat) province: Russula decolorans (Fr.) Fr.* Anatolian Journal of Botany, 1(1): 1-3 (2017).

Işık H., Türkekul İ. *A New Record for Turkish Mycota from Tokat Province: Arachnopeziza aurelia (Pers.) Fuckel*. The Journal of Fungus, 9(1): 54-57 (2018).

Iturriaga T, Mardones M, Urbina H. *A new species of Pseudoplectania (Sarcosomataceae, Pezizales) from Venezuela.* Tomo 37(1): 73-78 (2012).

Kaşık G., Aktaş S., Alkan S., Öztürk C. *Additions to the Macrofungi of Selçuk University Alaeddin Keykubat Campus (Konya)*. The Journal of Fungus, 8(2): 129-136 (2017).

Kaya A., Uzun Y. *New Contributions to the Turkish Ascomycota.* Turkish Journal of Botany, 42(5)644-652(2018).

Keleş A., Oruç Y. *Leucocoprinus brebissonii (Godey) Locq, A New Record for Turkish Mycobiota.* Anatolian Journal of Botany, 1(2): 49-51 (2017).

Kirk P.M., Cannon P.F., Minter D.W., Stalpers J.A. *Dictionary of the Fungi,* 10th ed., CAB International Wallingford (2008).

Medardi G. *Atlante Fotografico degli Ascomiceti d'Italia*. Centro Studi Micologici, Vicenza (2006).

Öztürk C., Pamukçu D., Aktaş S. *Macrofungi of Nallıhan (Ankara) District.* The Journal of Fungus, 8(1): 60-67 (2017).

Sadullahoğlu C., Demirel K. *Flammulina fennae Bas, A new record from Karz Mountain (Bitlis).* Anatolian Journal of Botany 2(1): 19-21 (2018).

Sesli E., Denchev C.M. *Checklists of the myxomycetes, larger ascomycetes, and larger basidiomycetes in Turkey*. 6th edn. Mycotaxon Checklists Online (http://www.mycotaxon.com/resources/checklists/sesli-v106-checklist.pdf): 1-136 (2014).

Sesli E., Topçu Sesli A. *Entoloma majaloides (Entolomataceae): A New Record for the Turkish Mycota*. The Journal of Fungus, 8(2): 85-89 (2017).

Solak M.H., Işıloğlu M., Kalmış E., Allı H. *Macrofungi of Turkey, Checklist, Volume- II*. Üniversiteliler Ofset, Bornova, İzmir (2015).

Türkekul İ., Işık H. *Bozatalan (Tokat) Yöresi Makrofungusları.* Kafkas University Institute of Natural and Apllied Science Journal, 9(1): 5-11 (2017).

Türkoğlu A., Yağız D. *Contributions to the macrofungal diversity of Uşak Province.* Turkish Journal of Botany, 36(5): 580-589 (2012).

Uzun Y., Acar İ. *A New Inocybe (Fr.) Fr. Record for Turkish Macrofungi.* Anatolian Journal of Botany, 2(1): 10-12 (2018).

Uzun Y., Acar İ., Akçay M.E., Kaya A. *Contributions to the macrofungi of Bingöl, Turkey*. Turkish Journal of Botany, 41(5): 516-534 (2017).

Uzun Y., Karacan İ.H., Yakar S., Kaya A. *New bryophillic Pyronemataceae records for Turkish Pezizales from Gaziantep province.* Anatolian Journal of Botany, 2(1): 28-38 (2018).

Van Vooren N, Moyne G, Carbone M, Moingeon JM. *Pseudoplectania melaena (Pezizales): taxonomical and nomenclatural note.* Ascomycete.org, 5(1): 47-52 (2013).