www.biodicon.com Biological Diversity and Conservation

ISSN 1308-5301 Print; ISSN 1308-8084 Online 3/1 (2010) 83-86

Two new Ascomycetes records from Mediterranean part of Turkey

Hasan Hüseyin DOĞAN [*1], Sinan AKTAŞ [1]

[1] Selçuk University, Science Faculty, Biology Department, Campus, Konya, Turkey

Abstract

Hymenoscyphus lutescens and *Trichophaea hemisphaerioides* were collected in fir forest. *Trichophaea hemisphaerioides* is new record at genus level and the latter species is new record at species level. The map showing collection sites and pictures of macro and micro morphology for fungi have been given.

Key words: *Hymenoscyphus, Trichophaea, New records, Turkey*

---------- * ----------

Türkiye'nin Akdeniz Yöresinden iki yeni Askomiset kaydı

Özet

Hymenoscyphus lutescens ve *Trichophaea hemisphaerioides* göknar ormanından toplandı. *Trichophaea hemisphaerioides* cins seviyesinde ikincisi tür seviyesinde yeni kayıttır. Toplama yerlerini gösteren harita ve mantarların makroskobisi ve mikroskobisine ait fotoğrafları verilmiştir.

Anahtar Kelimeler: *Hymenoscyphus, Trichophaea, Yeni kayıtlar, Türkiye*

1. Introduction

The needle litter and wood debris of *Abies* trees are very suitable for the growth of small macrofungi species, especially cup shaped Ascomycets, by its soft structure. *Abies cilicica* forests are widespread in Mediterranean part of Turkey. There are two subsp. of *Abies cilicica* in Turkey; *Abies cilicica* subsp. *isaurica* Coode & Cullen and *A. cilicica* (Ant. & Kotschy) Carr. subsp. *cilicica*. *A. cilicica* subsp. *isaurica* is an endemic species and grows in the area of West Taurus Mountain and the latter grows in the area of East Taurus Mountain. The fir forests in the Taurus mountain are both pure stands or mixed with *Cedrus libani* A.Rich., *Juniperus excelsa* M. Bieb., *J. foetidissima* Willd. and *Pinus nigra* J.F. Arnold subsp. *nigra* var. *caramanica* (Loudon) R. Businský

Till now, there are three data for *Hymenoscyphus* genus in Turkey. One is *H. calyculus* (Sowerby: Fr.) W. Phillips by Solak et al. (1997), other is *H. fructigenus* (Bull.: Fr.) Fr. by Aktaş et al. (2006) and last species is *Hymenoscyphus scutula* (Pers.) W. Phillips by Uzun et al. (2010). According to the analysis of the appropriate literatures, there is no data for the species of *Trichophaea hemisphaerioides* (Solak et al., 2007; Sesli and Denchev, 2009).

This study will contribute two new ascomycetous fungi to Turkish mycobiota.

2. Materials and methods

The fungal materials were collected from Antalya, Karaman and Adana provinces between 2006 and 2008 (Figure 1). Microscopic study of the fungi was done at × 40 and × 100 magnifications, with applying the conventional reagents; IKI, 5 % KOH and cotton blue. The following literatures were used for the species identification; Breitenbach

* *Corresponding author* / Haberleşmeden sorumlu yazar: hhuseyindogan66@gmail.com

and Kränzlin (1986) and Medardi (2006). The genera are taxonomically arranged according to the Cannon and Kirk (2007).

The materials are deposited in Fungarium of Mushroom Application and Research Centre at Selçuk University in Konya.

3. Results

Ascomycota
Leotiomycetes
Helotiales
Helotiaceae
Hymenoscyphus lutescens (Hedw.) W. Phillips, (1887)

Synonyms: *Calycina lutescens* (Hedw.) Kuntze, (1898)
Helotium lutescens (Hedw.) Fr., (1849)
Basionym*: Octospora lutescens* Hedw., (1789)

Fruitbody substipitate, with a short thick stalk, apothecia 0.5-1.5 mm diam, cup-to disc-shaped; disc and stipe pale yellow; outside paler with brownish base, turning reddish brown when dry (Figure 2).
Spores 10-15 × 3-5 µm, ellipsoid to cylindric, with 0-1 septate. **Asci** 70-90 × 7-8 µm, tips of paraphyses with yellowish oil inclusions (Figure 3).

Specimens collected: Antalya-Gazipaşa, Akçal plateau, kuyu yanı district, in mixed *Cedrus libani, A. cilicica* subsp. *isaurica* and *Pinus nigra* forest, on cone scales of *Pinus nigra,* 1700m, 08.12.2006, *HD2477*; Karaman-Ermenek, Koçaş forest, in mixed *C. libani* and *A. cilicica* subsp. *isaurica* forest, on cone scales of *A. cilicica* subsp. *isaurica*, 36470361D-404159K, 1750m, 14.11.2008, *HD4397.*

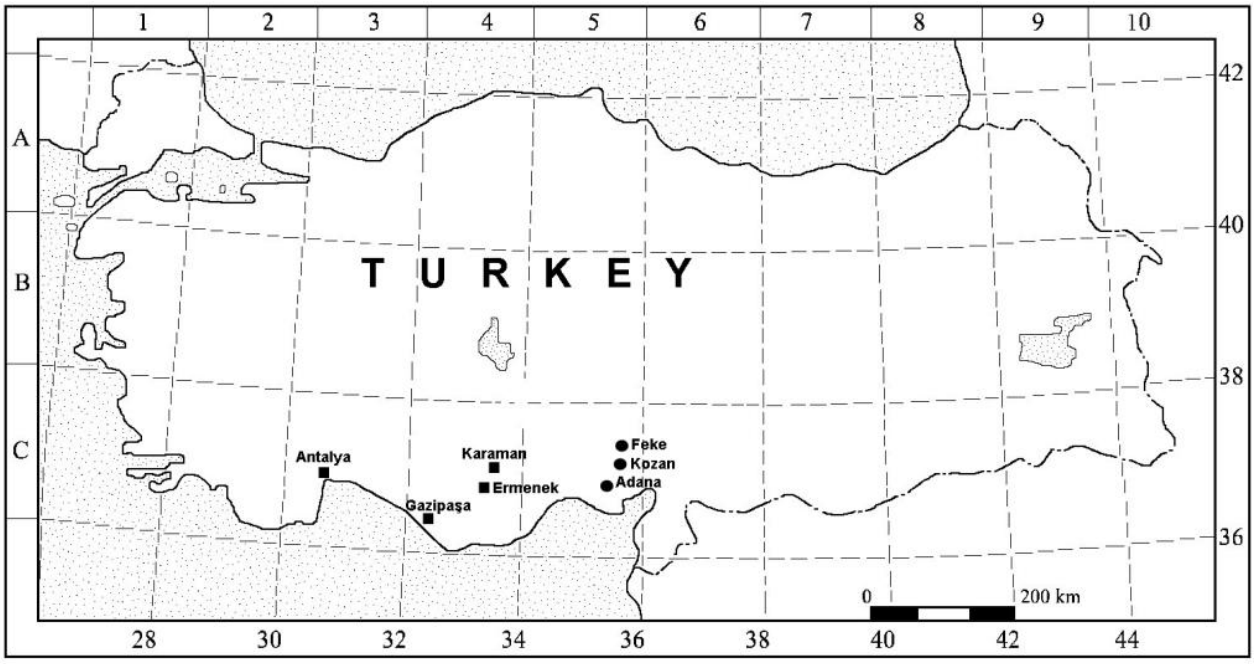

Figure 1. The collection areas for the species (■ *H. lutescens*, • *T. hemisphaerioides*)

Figure 2. Ascocarps of *H. lutescens.*

Figure 3. Ascospores and ascus of *H. lutescens.*

Pezizomycetes
Pezizales
Pyronemataceae
Trichophaea hemisphaerioides (Mouton) Graddon, (1960)

Synonym: *Humaria hemisphaerioides* (Mouton) Eckblad, (1968)
Basionym: *Lachnea hemisphaerioides* Mouton, (1897)

Apothecia 5-10 (15) mm diam, hemisphaerical-bladderlike at first, then remaining cup-shaped for a long time and later becoming flat, the ciliated margin always remaining turned upward, resting stalkless on the substrate (Figure 4). **Hymenium** white to gray-whitish, sometimes with bluish tint. Margin and underside with brown hairs. **Hairs** 200-400 × 5-15 µm, dark brown, thick walled, tapering to a point, multiple septate. Growing singly to gregariously.

Spores narrowly elliptical, hyaline, some finely punctuate and rough, with 2 drops, 13-18 × 5-7 µm. Asci eight spored, 175-200 × 7-8 µm (Figure 5). **Paraphyses** slender, forked at the base, septate, tips slightly thickened.

Specimens collected: Adana-Kozan, Görbiyes, Kuyunun gedik district, in *A. cilicica* subsp. *cilicica* forest on needle litter of *A. cilicica* subsp. *cilicica*, 36728229D-4185068K, 1341m, 27.10.2008, *HD4021*; Adana-Feke, Tapan, in mixed *C. libani* and *A. cilicica* subsp. *cilicica* forest on needle litter of *A. cilicica* subsp. *cilicica*, 37243075D-41864495K, 1596m, 27.10.2008, *HD4156.*

Figure 4. Ascocarps of *T. hemisphaerioides*

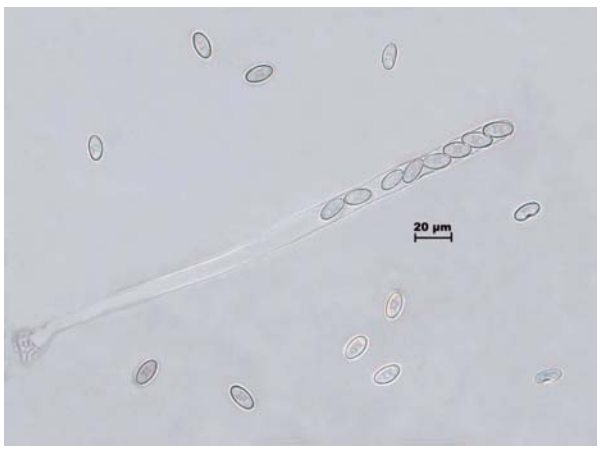

Figure 5. Ascospores and ascus of *T. hemisphaerioides.*

4. Conclusion and discussion

Although *H. lutescens* is similar to *H. calyculus*, *H. fructigenus* and *H. scutula* by its macroscopic features. There are several respectable discrepancies between them. *H. lutescens* has small ascospores than other three species and it has also short stalk while other species have long stalks.

T. hemisphaerioides is similar to *Humaria hemisphaerica* (F.H. Wigg.) Fuckel for its macroscopic features. But it is easy to separate them by their microscopic characters. The spores of the *T. hemisphaerioides* are smaller than *H. hemisphaerica* and there are no warts on the spores. The hairs of *T. hemisphaerioides* are thinner and smaller than *H. hemisphaerica.*

Acknowledgements

Tübitak (Tübitak TOVAG 106O496) and Selçuk University, Scientific Research Project (SÜ-BAP- 06401046) supported this work. We would like to thanks for their financial aids.

References

Aktaş, S., Kaşık, G., Doğan, H.H., Öztürk, C. 2006. Two new taxa records for the macrofungi of Turkey. Turk J Bot. 30. 209-212.

Breitenbach, J., Kränzlin, F. 1986. Fungi of Switzerland. Volume 2, Verlag Mykologia, Luzern.

Cannon, P.F., Kirk, P.M. 2007. Fungal families of the world. Cabi Publishing, United Kingdom.

Medardi, G. 2006. Ascomiceti d'Italia. A.M.B., Vicensa, Italy.

Sesli, E., Denchev, C.M. 2009. Checklists of the myxomycetes, larger ascomycetes, and larger basidiomycetes in Turkey. Mycotaxon 106 [2008]: 65-67 + on-line version: 1-102 (http://www.mycotaxon.com/resources/checklists/sesli-v106-checklist.pdf).

Solak, M.H., Işıloğlu, M., Kalmış, E., Allı, H. 2007. Macrofungi of Turkey. Checklist, Volume-1, Üniversiteliler Ofset, İzmir.

Solak, M.H., Gücin, F., Işıloğlu, M., Kalmış, E. 1997. Wood-decaying fungi which were found in some provinces and their surroundings in the Northwest Anatolia. XI.World Forestry Congress, Antalya, 199.

Uzun, Y., Kaya, A., Akçay, M.E., Demirel, K., 2010. New additions to the Turkish macromycota from Bingöl province (Turkey). Turk J Bot. 34. 63-66.

(Received for publication 29 October 2009; The date of publication 01 April 2010)