



New additions to Turkish *Hyaloscyphaceae*

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Abstract: Five hyaloscyphaceous macrofungi taxa, *Calycina conorum* (Rehm) Baral, *Discocistella grevillei* (Berk.) Svrček, *Hyalopeziza millepunctata* (Lib.) Raitv., *Lasiobolium variegatum* (Fuckel) Raitv. and *Rodwayella citrinula* (P. Karst.) Spooner, were given as new records for the mycobiota of Turkey. Four of them are the first members of the genera *Calycina* Nees ex Gray, *Discocistella* Svrček, *Hyalopeziza* Fuckel and *Rodwayella* Spooner in Turkey. The taxa are described briefly and the photographs related to their macro and micromorphologies are provided.

Key words: Macrofungi, New records, Gaziantep, Turkey.

Türkiye için *Hyaloscyphaceae*'ye Yeni İlaveler

Öz: Beş hyaloscyphaceous makromantar taksonu, *Calycina conorum* (Rehm) Baral, *Discocistella grevillei* (Berk.) Svrček, *Hyalopeziza millepunctata* (Lib.) Raitv., *Lasiobolium variegatum* (Fuckel) Raitv. and *Rodwayella citrinula* (P. Karst.) Spooner, Türkiye mikobiyotası için yeni kayıt olarak verilmiştir. Bunlardan dört tanesi *Calycina* Nees ex Gray, *Discocistella* Svrček, *Hyalopeziza* Fuckel and *Rodwayella* Spooner cinslerinin Türkiye'deki ilk üyeleridir. Taksonların kısa betimlemesi yapılmış ve türlerin makro ve mikromorfolojilerine ait fotoğrafları verilmiştir.

Anahtar kelimeler: Makromantarlar, Yeni kayıtlar, Gaziantep, Türkiye.

Introduction

Hyaloscyphaceae Nannf. is a fungal family within the order Helotiales (Cannon and Kirk, 2007). The members of the family are mainly characterized by small apothecia covered with well differentiated marginal and lateral hairs. Species in this family are saprobic and generally have a cosmopolitan distribution (Han et al., 2014).

So far 10 taxa of Hyaloscyphaceae belonging to the genera *Cistella* QuéL., *Dasyscyphella* Tranzschel, *Lachnellula* P. Karst., *Lasiobolium* Ellis & Everh., *Neodasyscypha* Suková & Spooner and *Perrotia* Boud. have been recorded from Turkey (Sümer, 1982; Kaşık et al., 2002; Doğan and Öztürk,

2006; Akata et al., 2009a; Akata et al., 2009b; Alkan et al., 2010; Öztürk et al., 2010; Sesli and Denchev, 2014; Kaya et al., 2015; Uzun et al., 2015).

The present paper deals with the hyaloscyphaceous species collected from Gaziantep province and aims to make a contribution to the mycobiota of Turkey.

Materials and methods

Specimens were collected from various localities within the boundaries of Gaziantep province between 2014 and 2015. They were photographed in their natural habitats and ecological and morphological characteristics of them were recorded.



Micromorphological studies were carried out under Nikon Eclipse Ci trinocular light microscope. With the help of the relevant literature (Raitviir, 1980; Breitenbach and Kränzlin, 1984; Raitviir and Galán, 1993; Cheybe, 2004; Hairaud, 2010; Han et al., 2014; Friebe and Wendelin, 2015) they were identified. The collected materials are deposited in Karamanoğlu Mehmetbey University, Kamil Özdağ Science Faculty, Department of Biology.

Results

The systematics of the taxa are given in accordance with Cannon and Kirk (2007), Kirk et al. (2008), and the Index Fungorum (www.indexfungorum.org; accessed 9 December 2016). The taxa are presented in alphabetical order with a brief description, habitat, locality, collection date, and accession numbers.

Leotiomyces O.E. Erikss. & Winka

Helotiales Nannf.

Hyaloscyphaceae Nannf.

Calycina conorum (Rehm) Baral

Syn: [*Cystopezizella conorum* (Rehm) Svrček, *Pezizella conorum* Rehm, *Pezizella conorum* Rehm var. *conorum*]

Macroscopic and microscopic features: Apothecia 0.2-0.6 mm in diameter, disc shaped, sessile, concrescent, ivory white to creamy yellow. Hymenial surface smooth, concolorous with the outside (Figure 1a). Asci 45-50 × 5-9 μm, cylindrical. Paraphyses irregularly cylindrical, often tapering towards the apex (Figure 1b). Ascospores 7-8 × 2,5-3 μm, smooth, hyaline, without guttules (Figure 1c).

Specimen examined: Gaziantep –İslahiye, Kozdere village, pine forest, on *Pinus brutia* Ten. cones, 37°06'N-36°39'E, 560 m, 15.03.2014, K.8617.



Figure 1. *Calycina conorum*: a. ascocarps, b. asci and paraphyses, c. ascospores in an ascus



***Discocistella grevillei* (Berk.) Svrček**

Syn: [*Calloria conii* Cooke & W. Phillips, *Cistella grevillei* (Berk.) Raitv., *Clavidisculum grevillei* (Berk.) Raitv., *Dasyscyphus berkeleyi* (A. Bloxam) Masee, *Dasyscyphus grevillei* (Berk.) Masee, *Lachnella berkeleyi* (A. Bloxam) W. Phillips, *Lachnum grevillei* (Berk.) Nannf., *Mollisia grevillei* (Berk.) W. Phillips, *Peziza berkeleyi* A. Bloxam, *Peziza grevillei* Berk., *Trichopeziza berkeleyi* (A. Bloxam) Sacc., *Trichopeziza grevillei* (Berk.) Sacc., *Urceolella berkeleyi* (A. Bloxam) Boud.]

Macroscopic and microscopic features: Apothecia 0.3-0.6 mm in diameter, cup to soucer shaped, sessile, margin hairy, white,

creamy white to light pinkish. Hymenial surface smooth, concolorous with the outside (Figure 2a). Asci 40-55 × 4,5-7 μm, cylindrical. Paraphyses lanceolate (Figure 2b). Ascospores 7-9 × 1-2 μm, cylindrical, smooth (Figure 2c).

Specimen examined:

Gaziantep–Yavuzeli, Halilbaşlı village, stream side, on dead *Conium maculatum* L. stem, 37°16'N-37°31'E, 560 m, 09.03.2014, K.8588; Sarıbuğdaylı village, stream side, on herbaceous stem, 37°17'N-37°31'E, 560 m, 16.03.2014, K.8675.

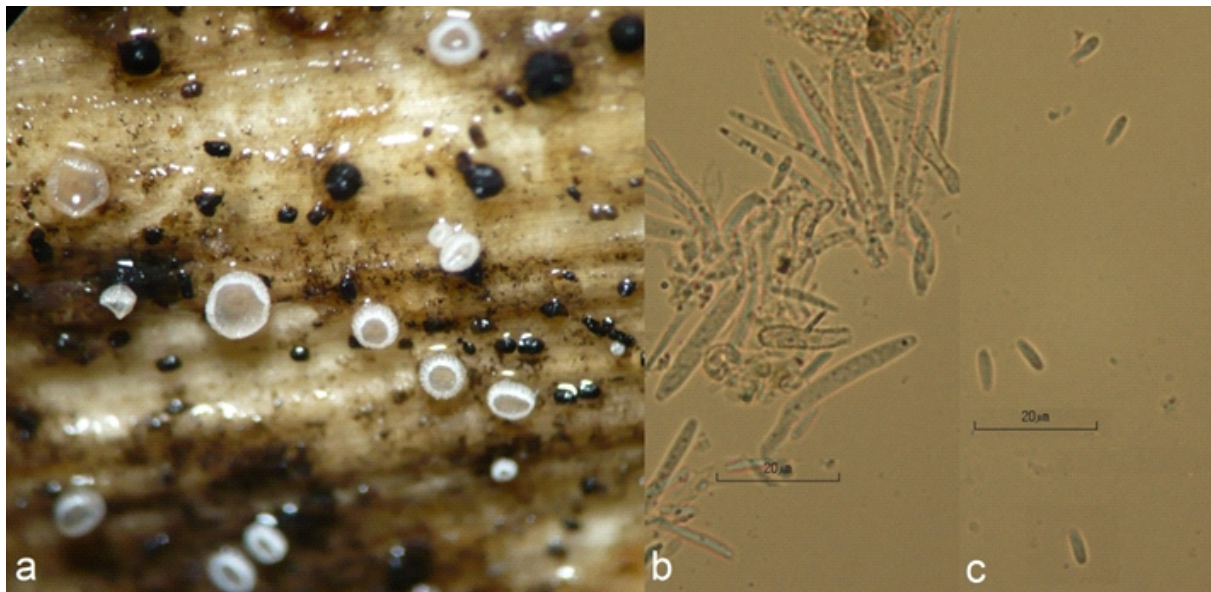


Figure 2. *Discocistella grevillei*: a. ascarps, b. asci and paraphyses, c. ascospores

***Hyalopeziza millepunctata* (Lib.) Raitv.**

Syn: [*Dasyscyphus carmichaelii* Masee, *Dasyscyphus elaphines* (Berk. & Broome) Masee, *Dasyscyphus scrupulosus* (P. Karst.) Velen., *Dasyscyphus scrupulosus* var. *melampyri* Velen., *Dasyscyphus scrupulosus* (P. Karst.) Velen., var. *scrupulosus*, *Dumontinia ulmariae* (Velen.) Holst-Jensen, *Helotium carmichaelii* (Berk.) Masee, *Helotium*

scrupulosum P. Karst., *Hyalopeziza scrupulosa* (P. Karst.) Raitv., *Hyaloscypha millepunctata* (Lib.) Boud., *Hymenoscyphus carmichaelii* Berk., *Lachnella grisella* Cooke & W. Phillips, *Lachnella scrupulosa* (P. Karst.) W. Phillips, *Mollisia elaphines* (Berk. & Broome) Gillet, *Mollisia millepunctata* (Lib.) Sacc.,



Olla millepunctata (Lib.) Svrček, *Olla scrupulosa* (P. Karst.) Svrček, *Olla scrupulosa* var. *obscura* Svrček, *Olla scrupulosa* (P. Karst.) Svrček, var. *scrupulosa*, *Peziza carmichaelii* W. Phillips, *Peziza cirrhata* P. Crouan & H. Crouan, *Peziza elaphines* Berk. & Broome, *Peziza millepunctata* Lib., in Roumeguère, *Peziza scrupulosa* (P. Karst.) P. Karst., *Pezizella dematiicola* Feltgen, *Pezizella millepunctata* (Lib.) Rehm, *Pezizella scrupulosa* (P. Karst.) Rehm, *Phialea carmichaelii* (Berk.) Sacc., *Pseudohelotium elaphines* (Berk. & Broome) Sacc., *Pseudohelotium millepunctatum* (Lib.) Sacc., *Pseudohelotium scrupulosum* (P. Karst.) Sacc., *Pseudohelotium scrupulosum* var. *carpini* Sacc., *seudohelotium scrupulosum* var. *caulium* Sacc., *Pseudohelotium scrupulosum* (P. Karst.) Sacc., var. *scrupulosum*, *Pyrenopeziza grisella* (Cooke & W. Phillips) Boud., *Pyrenopeziza grisella* (Cooke & W. Phillips) Boud., var. *grisella*, *Pyrenopeziza grisella* var. *ilicis* (Feltgen) Boud., *Sclerotinia ulmariae* Velen., *Tapesia dematiicola* (Feltgen) Boud., *Trichopeziza cirrhata* (P. Crouan & H. Crouan) Sacc., *Trichopeziza grisella* (Cooke & W. Phillips) Sacc., *Trichopeziza grisella* (Cooke & W. Phillips) Sacc., f. *grisella*, *Trichopeziza grisella* f. *ilicis*

(Feltgen) Sacc. & D. Sacc., *Unguicularia cirrhata* (P. Crouan & H. Crouan) Le Gal, *Unguicularia millepunctata* (Lib.) Dennis, *Unguicularia scrupulosa* (P. Karst.) Höhn., *Unguicularia ulmariae* (Velen.) Dennis, *Urceola elaphines* (Berk. & Broome) Quél., *Urceolella cirrhata* (P. Crouan & H. Crouan) Boud., *Urceolella elaphines* (Berk. & Broome) Boud., *Urceolella scrupulosa* (P. Karst.) Boud., *Urceolella scrupulosa* var. *carpini* (Sacc.) Boud., *Urceolella scrupulosa* var. *caulia* (Sacc.) Boud., *Urceolella scrupulosa* (P. Karst.) Boud., var. *scrupulosa*]

Macroscopic and microscopic features: Apothecia 0.1-0.3 mm in diameter, urceolate, sessile, whitish to pale greyish when fresh, whitish gray to pale olivaceous gray when dry. Hymenial surface smooth, gray-whitish to ocher (Figure 3a). Asci 30-40 × 4-7 μm, clavate, eight spored. Paraphyses filiform, sometimes branched in basal part (Figure 3b). Ascospores 5-7,5 × 1-1,8 μm, ellipsoid, sometimes clavate-ellipsoid, smooth, hyaline (Figure 3c).

Specimen examined: Gaziantep–Nurdağı, Gökçedere village, roadside, on dead *Rubus* L. sp. stem, 37°09'N-36°42'E, 485 m, 07.03.2014, K.8500.

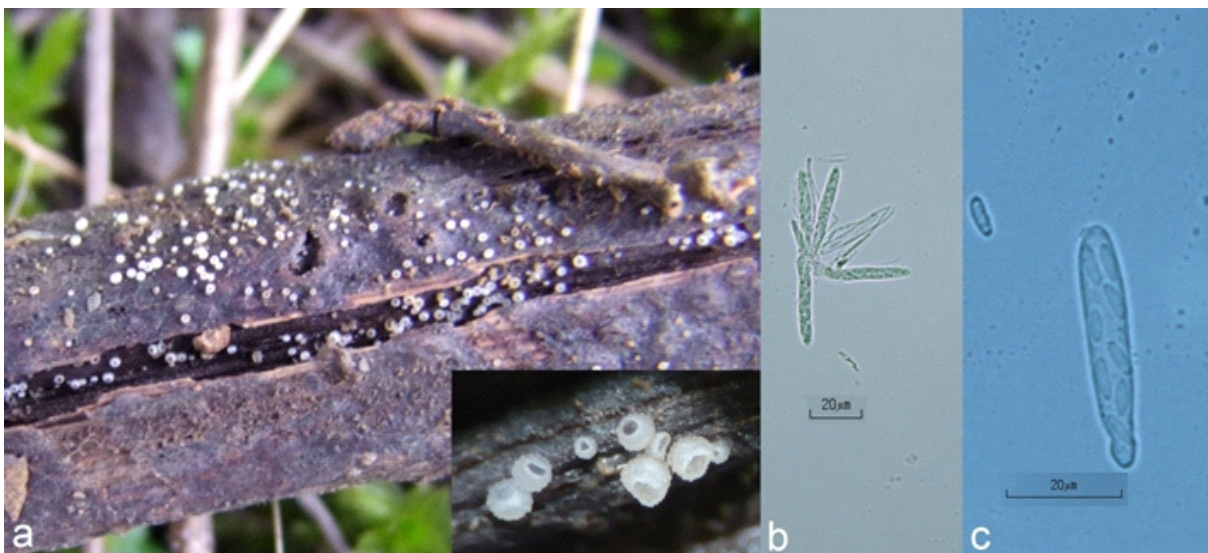


Figure 3. *Hyalopeziza millepunctata*: a. ascocarps, b. asci and paraphyses, c. ascospores in an ascus



Lasiobelonium variegatum (Fuckel) Raitv.

Syn: [*Atractobolus variegatus* (Fuckel) Kuntze, *Dasyscyphus variegatus* Fuckel, *Lachnum variegatum* (Fuckel) Rehm, *Lachnum variegatum* (Fuckel) Rehm f. *variegatum*]

Macroscopic and microscopic features: Apothecia 0.5-1.5 mm in diameter, sessile, cupulate, external surface clearly hairy, hairs are dense towards the margin and loose towards the base. Hymenial surface smooth,

cream to gray (Figure 4a). Asci 60-70 × 6-7 μm, cylindrical, eight spored. Paraphyses 60-90 × 2-4 μm, somehow longer than asci, cylindrical with attenuated top (Figure 4b). Ascospores 10-16 × 2-2,5 μm, oblong, slightly curved, some with small guttules towards the ends (Figure 4c).

Specimen examined: Gaziantep –Yavuzeli, Halilbaşı village, on *Populus* L. sp. stump, 37°16'N- 37°31'E, 560 m, 02.10.2014, K.10489; Sarıbuğdaylı village, 37°17'N- 37°31'E, 560 m, 16.03.2014, K. 8676.

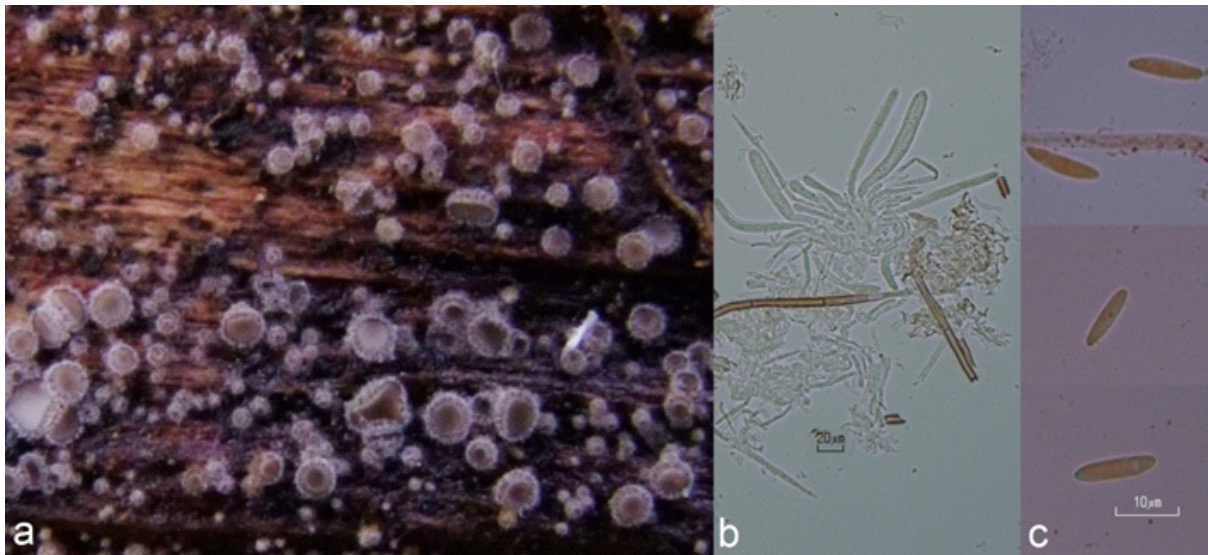


Figure 4. *Lasiobelonium variegatum*: a. ascocarps, b. asci and paraphyses, c. ascospores

Rodwayella citrinula (P. Karst.) Spooner

Syn: [*Calycina flexuosa* (Masse) Kuntze, *Helotium citrinulum* P. Karst., *Helotium citrinulum* P. Karst. var. *citrinulum*, *Helotium citrinulum* var. *seaveri* Rehm, *Helotium flexuosum* Masse, *Hymenoscyphus citrinulus* (P. Karst.) J. Schröt., *Mollisiella citrinula* (P. Karst.) Boud., *Pezizella citrinula* (P. Karst.) Sacc.]

Macroscopic and microscopic features: Apothecia 0.5-3 mm in diameter, slightly convex to flat or disc shaped, sessile, smooth or somehow pruinose, pale ochre yellow, lighter at receptacle, hymenium smooth

or finely puberulent, lemon to yellowish white (Figure 5a). Asci 40-60 × 4.5-6 μm, cylindrical to cylindrical-clavate, eight spored. Paraphyses cylindrical with slightly swollen apex (Figure 5b). Ascospores 7.5-12 × 1.5-2.5 μm elliptic-fusoid, elliptic-clavate, straight or slightly bent, hyaline, smooth, sometimes constricted at the centre (Figure 5c).

Specimen examined: Gaziantep –Nurdağı, Olucak village, mixed forest, roadside, on dead herbs, 37°10'N-36°40'E, 950 m, 10.04.2015, K.11682.



Figure 5. *Rodwayella citrinula*: a. ascocarps, b. asci and paraphyses, c. ascospores

Discussion

New contributions were made to the mycobiota of Turkey with the addition of five members of Hyaloscyphaceae. Among them *Calycina conorum* (Rehm) Baral, *Discocistella grevillei* (Berk.) Svrček, *Hyalopeziza millepunctata* (Lib.) Raitv. and *Rodwayella citrinula* (P. Karst.) Spooner are the first members of the genera *Calycina* Nees ex Gray, *Discocistella* Svrček, *Hyalopeziza* Fuckel and *Rodwayella* Spooner respectively, while

Lasiobelonium variegatum (Fuckel) Raitv. is the second member of the genus *Lasiobelonium* Ellis & Everh. in Turkey (Kaya et al., 2015). As a result, the genera and the total taxa number of Hyaloscyphaceae in Turkey increased to 10 and 15 respectively.

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