



***Neobulgaria* Petr. and *Trichopeziza* Fuckel, Two New Genus Record for Turkish Lachnaceae**

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Abstract: Two inoperculate discomycete genera, *Neobulgaria* Petr. and *Trichopeziza* Fuckel, within the family *Lachnaceae* Raitv., are recorded for the first time from Turkey, based on the collection and determination of *Neobulgaria pura* (Pers.) Petr. and *Trichopeziza subsulphurea* (Svrček) Baral. Short descriptions of the taxa are given together with the photographs related to their macro and micromorphologies.

Key Words: Biodiversity, new records, Lachnaceae, Gaziantep, Turkey

***Neobulgaria* Petr. ve *Trichopeziza* Fuckel, Türkiye Lachnaceae'leri İçin İki Yeni Cins Kaydı**

Öz: *Lachnaceae* Raitv. familyası içinde yer alan iki inoperculate discomycete cinsi, *Neobulgaria* Petr. ve *Trichopeziza* Fuckel, *Neobulgaria pura* (Pers.) Petr. and *Trichopeziza subsulphurea* (Svrček) Baral. türlerinin toplanması ve tanımlanması sonucunda Türkiye'den ilk kez kaydedilmiştir. Türlerin makro ve mikromorfolojilerine ilişkin fotoğrafları ile birlikte kısa betimlemeleri verilmiştir.

Anahtar Kelimeler: Biyoçeşitlilik, yeni kayıtlar, Lachnaceae, Gaziantep, Türkiye

Introduction

Neobulgaria Petr. and *Trichopeziza* Fuckel are two genera of fungi within the family *Lachnaceae* Raitv. (URL1). The genus *Neobulgaria* is characterized by turbinate, wholly gelatinous apothecia (Tewari & Singh, 1975) while *Trichopeziza* contains species with sessile apothecia with a pale disc, white, yellow or brown, multiseptate and warted hairs, and lanceolate paraphyses (Chlebická 2013).

During routine field trips carried out within the framework of an ongoing project aiming to determine the macrofungal diversity of Gaziantep province, two inoperculate discomycete samples were collected. As a result of field and laboratory studies they were identified as *Neobulgaria pura* (Pers.) Petr. and *Trichopeziza subsulphurea* (Svrček) Baral.

According to the current checklists on macromycota of Turkey (Solak et al. 2007; Sesli & Denchev 2008) and the latest records (Akata et al. 2014a,b; Güngör et al., 2014; Keleş et al.,

2014; Acar et al., 2015; Çolak et al., 2015; Karacan et al., 2015; Kaya, 2015; Kaya & Uzun, 2015; Sesli et al., 2015a,b; Türkoğlu et al., 2015; Uzun et al., 2015), no members of the two genera haven't been recorded from Turkey yet. The work aims to make a contribution to the mycobiota of Turkey.

Materials and methods

Materials were collected from İslahiye district of Gaziantep province during field trips in 2014. Necessary morphological and ecological characteristics of the samples were recorded and they were photographed in their natural habitats. Then the specimens were transferred to the fungarium and rephotographed under a trinocular stereomicroscope. Microscopic data and the photographs related to micromorphology were obtained by using a Nikon Eclipse Ci light microscope.



Identification was performed with the help of Breitenbach and Kränzlin (1984), Rollin Geneve & Anthonie (1991), Martin (1994) and Hansen & Knudsen (2000). The specimens are kept at Karamanoğlu Mehmetbey University, Kamil Özdağ Science Faculty, Department of Biology, Karaman, Turkey.

Results

Short descriptions of *Neobulgaria pura* and *Trichopeziza subsulphurea* were given below together with their taxonomic position. The systematics of the taxa are in accordance with Index Fungorum (URL1).

Fungi

Ascomycota Whittaker

Helotiales Nannf.

Lachnaceae Raitv.

Neobulgaria Petr.

Neobulgaria pura (Pers.) Petr., Annl. mycol. 19: 45. 1921

Syn: *Bulgaria pura* (Pers.) Fr., *Coryne foliacea* Bres., *Craterocolla pura* (Pers.) Sacc.,

Helotium violascens (Rehm) Boud., *Neobulgaria foliacea* (Bres.) Dennis, *Neobulgaria pura* var. *foliacea* (Bres.) Dennis & Gamundí, *Neobulgaria pura* (Pers.) Petr., var. *pura*, *Ombrophila pura* (Pers.) Quél., *Ombrophila violascens* Rehm, *Peziza pura* Pers., *Tremella saccharina* var. *foliacea* (Bres.) Bref.

Macroscopic and microscopic features: Apothecia 15–25 mm broad, turbinate when young, then plane to convex, sessile. Hymenium smooth, buff to pink ochre, sometimes with lilac grey tinges, outer surface granulate and darker than the hymenium (Figure 1a). Asci 60–90 × 7.5–8.5 µm, clavate, eight-spored (Figure 1b,c), amyloid at the apex. Paraphyses filiform to cylindrical, slightly swollen at the tips, not septate (Figure 1b). Spores 7–9 × 3–4 µm, ellipsoid, hyaline, smooth, usually with two oil drops (Figure 1d).

Specimen examined: Gaziantep –Islahiye, Tandır village, Huzurlu high plateau, mixed forest, on dead branches of *Fagus* sp., 36°58'N, 36°29'E, 1750 m, 01.11.2014, K.10459.

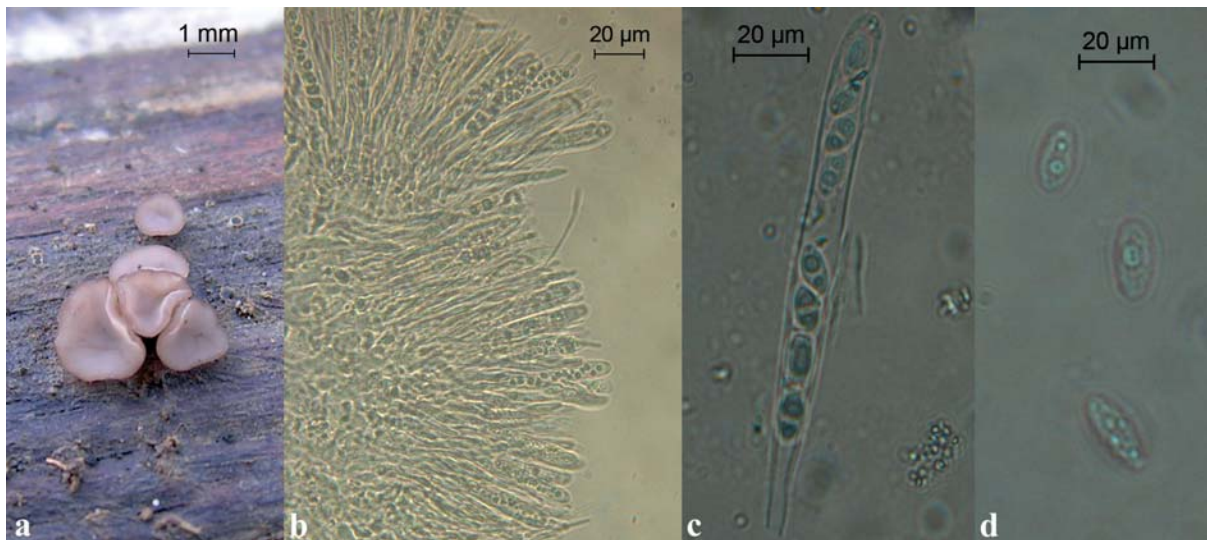


Figure 1. *Neobulgaria pura*: a. apothecia b. asci and paraphyses c. a single ascus d. spores.



***Trichopeziza* Fuckel**

***Trichopeziza subsulphurea* (Svrček)**

Baral

Syn: *Belonidium subsulphureum* Svrček.

Macroscopic and microscopic features: Apothecia 1–3 mm in diameter, cup to saucer shaped, sessile, flesh thin. Hymenium smooth, whitish grey to grey brown, outer surface and margin covered with sulphur yellow to gold yellow hairs (Figure 2a). Asci 55–60 ×

5.5–6 µm, cylindrical, eight-spored, tapering towards the base. Paraphyses lanceolate. Spores 7–11.5 × 2.2–2.8 µm, subfusiform to fusiform. Hairs 100–120 2.5–3.5 µm, cylindrical, septate and granulated.

Specimen examined: Gaziantep–Islahiye, Tandir village, Huzurlu high plateau, mixed forest, on dead branches of *Fagus L. sp.*, 36°58'N, 36°29'E, 1735 m, 12.04.2014, K.8810.

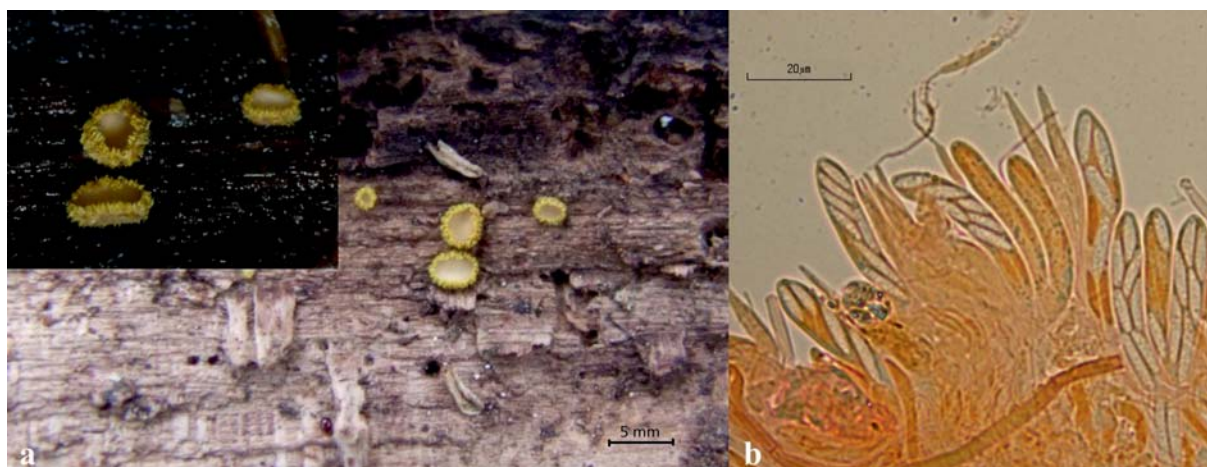


Figure 2. *Trichopeziza subsulphurea*: a. apothecia b. asci, paraphyses and spores in some asci.

Discussion

General characters of our samples of *Neobulgaria pura* and *Trichopeziza subsulphurea* are in agreement with the literature (Breitenbach & Kranzlin 1984; Rollin Genève & Anthoine, 1991; Hansen & Knudsen 2000).

Neobulgaria pura, also known as beech Jellydisc, resembles *Ascotremella faginea* (Peck) Seaver in terms of morphology and ecology. Both taxa are saprobes on dead wood of hardwood trees, and may grow on the same substrate, but the former one has no striation on the spores (Breitenbach & Kränzlin 1984; Hansen & Knudsen 2000).

Trichopeziza subsulphurea resembles

Belonidium mollissimum (Fuckel) Raitv. morphologically. But it differs from the latter taxon with its shorter and larger spores (Martin, 1994). Substrates of the two taxa are also another apparent difference. Though *B. mollissimum* grow on herbaceous stem, especially of the members of Apiaceae, *T. subsulphurea* prefers the remains of woody plants such as poplar and beech (Rollin Genève & Anthoine, 1991).

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References

- Acar İ., Uzun, Y., Demirel, K., Keleş, A., *Macrofungual diversity of Hani (Diyarbakır/Turkey) district*. Biological Diversity and Conservation 8/1: 28-34 (2015).
- Akata I., Kaya A., Uzun Y., *Two New Lachnum Records for Turkish Mycobiota*. Journal of Applied Biological Sciences 8(1): 28-30 (2014a).
- Akata I., Uzun Y., Kaya A., *Macromycetes from Yomra (Trabzon) district*. Turkish Journal of Botany 38: 999-1012 (2014b).
- Breitenbach J., Kränzlin F., *Fungi of Switzerland, vol. 1*. Verlag Mykologia, Lucerne (1984).
- Chlebická M., A revision of *Trichopeziza lizonii*, *T. sulphurea* and *T. violascens* (Ascomycota, Helotiales) from the herbarium PRM with notes on type material of *Peziza sulphurea*. Acta Mus. Nat. Pragae, Ser. B, Hist. Nat., 69 (1-2): 93-100 (2013).
- Çolak Ö.F., Şen İ., Alkan N., Işıloğlu M., *A New and Interesting Peziza Record from Sweet Gum Forest in Turkey*. The Journal of Fungus 6(1): 10-12 (2015).
- Güngör H., Solak H.M., Allı H., Işıloğlu M., Kalmış E., *New macrofungi records to the Turkish mycobiota*. Biological Diversity and Conservation 7/3: 126-129 (2014).
- Hansen L., Knudsen H., *Nordic macromycetes (ascomycetes), vol. 1*. Nordsvamp Copenhagen (2000).
- Karacan I.H., Uzun Y., Kaya A., Yakar S., *Pulvinula Boud., a new genus and three pulvinuloid macrofungi taxa new for Turkey*. Biological Diversity and Conservation 8(2): (2015) (in print).
- Kaya A., *Contributions to the Macrofungual Diversity of Atatürk Dam Lake Basin*. Turkish Journal of Botany 39: 62-72 (2015).
- Kaya A., Uzun Y., *Six new genus records for Turkish Pezizales from Gaziantep province*. Turkish Journal of Botany 39: 506-511 (2015).
- Keleş A., Demirel K., Uzun Y., Kaya A., *Macrofungi of Ayder (Rize/Turkey) high plateau*. Biological Diversity and Conservation 7(3): 177-183 (2014).
- Martin P.J.M., *Dasyscyphus mollissimus (Lash) Dennis*. Bull. Féd. Mye. Dauphiné-Savoie 132: 9-10 (1994).
- Rollin Genève O., Anthoine A., *Belonidium subsulphureum Svrcek Et Brunnipila Calyculiformis (Schum.) Baral*. Bull. Féd. Mye. Dauphiné-Savoie, 122: 29-31 (1991).
- Sesli E., Denchev C.M., *Checklists of the myxomycetes, larger ascomycetes, and larger basidiomycetes in Turkey*. Mycotaxon 106: 65-67 (2008). up-dated online version (February 2014): 1-136. <http://www.mycotaxon.com/resources/checklists/sesli-v106-checklist.pdf>
- Sesli E., Contu M., Vila J., Moreau P.E., Battistin E., *Taxonomic studies on some agaricoid and boletoid fungi of Turkey*. Turkish Journal of Botany 39: 134-146 (2015a).
- Sesli E., Moreau, P.E., *Taxonomic studies on some new fungal records from Trabzon, Turkey*. Turkish Journal of Botany 39: (2015) (in print).
- Solak M.H., Işıloğlu M., Kalmış E., Allı H., *Macrofungi of Turkey. Checklist Vol I*. Üniversiteler Ofset. İzmir (2007).
- Tewari V.P., Singh R.N., *Two new species of Neobulgaria from India*. Mycologia 67(5): 1052-1058 (1975).
- Türkoğlu A., Castellano M.A., Trappe J.M., Yaratankul Güngör M., *Turkish truffles I: 18 new records for Turkey*. Turkish Journal of Botany 39: 359-376 (2015).
- URL1. <http://www.indexfungorum.org>: access date:15.08.2015
- Uzun Y. Kaya A., Akata I., Keleş A., Yakar S., *Notes on Turkish Hypocrea*. Biological Diversity and Conservation 8(2): 117-121 (2015).