



Geliş(Received) :03/10/2019
Kabul(Accepted) :13/12/2019

Araştırma Makalesi/Research Article
Doi:10.30708.mantar.629098

***Butyriboletus fuscoroseus*; A New Boletoid Macrofungus Record for Turkish Mycota**

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Abstract: In the present study, *Butyriboletus fuscoroseus* (Smotl.) Vizzini & Gelardi was reported as a new record for Turkish mycota from İstanbul. The photographs and description of the new record are given below. Also, the taxonomical position of the taxa was discussed.

Key words: New record, İstanbul, Turkey, mycobiota

***Butyriboletus fuscoroseus*; Türkiye Mikotası için Yeni Bir Boletoid Makrofungus Kaydı**

Öz: Sunulan bu çalışmada, *Butyriboletus fuscoroseus* (Smotl.) Vizzini & Gelardi İstanbul'dan Türkiye mikotası için yeni kayıt olarak rapor edilmiştir. Yeni kaydın fotoğrafları ve deskripsiyonu aşağıda verilmiştir. Ayrıca, taksonun taksonomik pozisyonu tartışılmıştır.

Anahtar kelimeler: Yeni kayıt, İstanbul, Türkiye, mikobiyota

Introduction

The genus *Butyriboletus* is known as “the butter *Boletus*” butter yellow color (Arora and Frank, 2014). Recently, this genus has been described from *Boletus* sect. *Appendiculati* and considered as a separate genus. Four *Butyriboletus* species (*B. appendiculatus* (Schaeff.) D. Arora & J.L. Frank, *B. fechtneri* (Velen.) D. Arora & J.L. Frank, *B. regius* (Krombh.) D. Arora & J.L. Frank and *B. subappendiculatus* (Dermek, Lazebn. & J. Veselský) D. Arora & J.L. Frank) have been reported from Turkey to date (Selik and Sümer, 1982; Sesli and Baydar, 1996; Türkekul and Sesli, 2003; Afyon and Yağız, 2004; Yağız et al., 2007; Uzun, 2010; Acar et al., 2019).

Even though more than 2300 macrofungi species have been reported in Turkey (Sesli and Denchev, 2008), the macrofungi biodiversity of Turkey could not determine fully and some new macrofungi records are added to Turkish mycota by several researchers (Acar and Uzun,

2017; Akata 2017; Acar et al., 2018; Doğan, 2018; Doğan et al., 2018; Şen et al., 2018; Allı and Doğan, 2019; Sesli and Bandini, 2019; Şen and Allı, 2019). Besides recent studies, The aim of the study is to contribute to Turkish mycota.

Material and Method

The specimens were collected during the routine field studies in 2018 at Fatih Natural Park in İstanbul. The morphological and habitat features of specimens were recorded and they were photographed in daylight. The microscopic characters of the samples were observed by mounting the samples in 3% KOH and 1% Congo red solutions and analyzed with a light microscope (Leica DM750). The specimens were identified by evaluating the macroscopic, microscopic and habitat features in accordance with the current literature (Assyov, 2012; Arora and Frank, 2014; Satura 2014; Kibby, 2016).



The specimen was deposited as a fungarium material in Biology Department of Muğla Sıtkı Koçman University.

Results

Taxonomy

Basidiomycota

Agaricomycetes

Boletales

Boletaceae

Butyriboletus fuscroseus (Smotl.) Vizzini &

Gelardi (Figure 1)

Macroscopic and microscopic features

Cap 5 – 20 cm, convex, then plane to pulvinate, smooth, dry, pinkish brown to rose pink, reddish-brown or purplish brown, slowly darkened when bruised. Tubes light yellow at first, later bright yellow and yellow olivaceous tinge when mature, decurrent, bluing when cut. Pores concolorous with tubes. Stipe cylindrical-clavate, sometimes tapered at the base, yellow with a tint of red or pink in the lower half, and with reticulum in the upper half. Flesh white to pale yellow, bruising blue in the pileus and upper part of the stem, and slightly red in the stem base. Smell and taste pleasant.

Spores 10 – 14 × 4 - 5 µm, fusoid-ellipsoid, olive-brown. Basidia 30 – 40 × 10 – 12 µm, 4 spored. Cheilocystidia 30 – 45 × 8 – 10 µm, subcylindrical, subclavate or fusiform.

Butyriboletus fuscroseus grows in deciduous forest, mainly *Quercus*.

Specimen examined: Fatih Natural Park, İstanbul, 21.09.2018, *Quercus* sp., *Fagus orientalis* and *Carpinus betulus* mixed forest, A6870.

Discussion

In this study, *Butyriboletus fuscroseus* (Smotl.) Vizzini & Gelardi was reported as a new record for Turkish mycota. This species is characterized by its pinkish-brown to brown, rose-pink cap, bright yellow bruising blue pores, yellow reticulate stipe with a tint of red or pink in the lower part (Satura, 2014; Kibby, 2016). *Butyriboletus fuscroseus* is close to *Boletus regius* (Krombh.) D. Arora & J.L. Frank and *B. aereus* Bull. It is distinguished from these species by its swollen stipe and decurrent pores (Satura, 2014; Satura et al., 2014). The bluing context of *B. fuscroseus* occurs at pores, tubes and upper parts of stipe with slightly red at the base, while *B. regius* and *B. aereus* blueing at all parts.

Butyriboletus fuscroseus was reported as a synonym of the *B. pseudoregius* (Heinr. Huber) D. Arora & J.L. Frank by several researchers, although these species are considered as separate species in mycological databases such as Index Fungorum and Mycobank (Satura, 2014; Satura et al., 2014; Kibby, 2016). Besides this, the taxonomical status of these species have also been discussed by Assyov (2012), and *B. fuscroseus* was reported as the valid name of the type specimen. In the present study, *B. fuscroseus* and *B. pseudoregius* considered as a synonym in accordance with the previous studies.



Figure 1. *Butyriboletus fuscroseus*; a – d. basidiocarp, e. basidiospores, f. basidium, g. cheilocystidia



References

- Acar, İ and Uzun, Y. (2017). An Interesting Half-Free Morel Record for Turkish Mycobiota (*Morchella populiphila* M. Kuo, M.C. Carter & J.D. Moore). *Mantar Dergisi*, 8 (2): 125 – 128.
- Acar, İ., Kalmer, A., Uzun, Y and Dizkırırcı Tekpınar, A. (2018). Morphology and Phylogeny Reveal a New Record *Gyromitra* for Turkish Mycobiota. *Mantar Dergisi*, 9 (2): 176 – 181.
- Acar, İ., Uzun, Y., Keleş, A and Dizkırırcı Tekpınar, A. (2019). *Suilellus amygdalinus*, a new species record for Turkey from Hakkari Province. *Anatolian Journal of Botany* 3 (1): 25 – 27.
- Afyon, A. and Yağız, D. (2004). Macrofungi of Sinop Province. *Turk J Bot.* 28: 351-360.
- Akata, I. (2017). Macrofungal Diversity of Belgrad Forest (Istanbul). *Kastamonu Üniversitesi Orman Fakültesi Dergisi*, 17 (1): 150 – 164.
- Arora, D. and Frank, J.L. (2014). Clarifying the Butter *Boletes*: A New Genus, *Butyriboletus*, Is Established to Accommodate *Boletus* sect. *Appendiculati*, and Six New Species are Described. *Mycologia*, 106 (3): 464 – 480.
- Assyov, B. (2012). Revision of *Boletus* section *Appendiculati* (*Boletaceae*) in Bulgaria with a Key to the Balkan Species. *Turk J Bot*, 36: 408 – 419.
- Allı, H. and Doğan, H.H. (2019). A New Genus (*Balsamia*) Addition for Turkish Mycota. *Mantar Dergisi*, 10 (1): 23 – 25.
- Doğan, H.H. (2018). A new Genus, *Schenella*, Addition to Turkish Mycota from Geastraceae. *Mantar Dergisi*, 9 (2): 92 – 94.
- Doğan, H.H., Bozok, F. and Taşkın, H. (2018). A New Species of *Barssia* (*Ascomycota, Helvellaceae*) from Turkey. *Turk J Bot* 42: 636 – 643.
- Index Fungorum (2019). www.indexfungorum.org. Access date: 25.07.2019.
- Kibby, G. (2016). *British Boletes with keys to species*. Edinburgh: Privately Published.
- Mycobank (2019). www.mycobank.org. Access date: 25.07.2019.
- Satura, J. (2014). Anatomical Structure of Pores in European Species of Genera *Boletus* S.Str. and *Butyriboletus* (*Boletaceae*). *Czech Mycology*, 66 (2): 157 -170.
- Satura J., Janda V., Kriz M., Graca M. and Kolarik M. (2014). Contribution to the Study of Genus *Boletus*, Section *Appendiculati*: *Boletus Roseogriseus* sp. nov. and Neotypification of *Boletus fuscroseus* Smotl., *Czech Mycology*, 66 (1): 1 – 37.
- Selik, M. and Sümer, S. (1982). Some New Additions to Turkey Fungus Flora. *İstanbul Üniversitesi Orman Fakültesi Dergisi*. 32 (2): 22 – 27.
- Sesli, E. and Baydar, S. (1996). A Preliminary Checklist of Agaricales of Turkey. *Mycotaxon* 60: 213 – 224.
- Sesli E. and Denchev C.M. (2008). Checklists of the Myxomycetes, Larger Ascomycetes, and Larger Basidiomycetes in Turkey. *Mycotaxon*, 106: 65 – 67.
- Sesli, E. and Bandini, D. (2019). *Inocybe sphagnophila* Bandini & B. Oertel (Agaricales, Inocybaceae): A New Record for the Turkish Mycota. *Mantar Dergisi*, 10 (1): 44 – 47.
- Şen, İ., Allı, H. and Çöl, B. (2018). *Tricholoma bonii*, A New Record for Turkish Mycota and Notes on its Taxonomic Status Based on Morphological and Molecular Evidence. *Turk J Life Sci*, 3 (1): 200 – 204.
- Şen, İ. and Allı, H. (2019). *Tricholoma* (Fr.) Staude in the Aegean Region of Turkey. *Turk J Bot.* 43: 817 – 830.
- Türkekul, İ. and Sesli, E. (2003). Macrofungi of Gümenek Picnic Area of Tokat Province. *BioScience Research Bulletin* 19 (2): 117 – 120.
- Uzun, Y. (2010). Macrofungal Diversity of Ardahan and Iğdır Province (Turkey). *Int J Bot.* 6 (1): 11 – 20.
- Yağız, D., Afyon, A., Konuk, M. and Helfer, S. (2007). Contributions to the Macrofungi of Kastamonu Province, Turkey. *Mycotaxon*, 98: 177 – 180.