

Suillellus amygdalinus, a new species record for Turkey from Hakkari Province

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Suillellus amygdalinus, Hakkari'den Türkiye için yeni bir tür kaydı

Abstract: *Suillellus* genus is represented by 20 species which are generally edible. In the present study, specimens of *Suillellus* genus (*Suillellus amygdalinus*) were collected from Hakkari province, in 2014 and recorded for the first from Turkey. Short depiction and the photographs of the determined species was given and discussed briefly.

Key words: Macrofungus, *Suillellus amygdalinus*, new record, Hakkari

Özet: 20 türle temsil edilen *Suillellus* cinsi genellikle yenilebilir özelliktedir. Bu çalışmada, 2014 yılında Hakkari ilinden *Suillellus* cinsine (*Suillellus amygdalinus*) ait örnekler toplandı ve Türkiye için yeni kayıt olarak kaydedildi. Tespit edilen türün kısa betimlemesi ve fotoğrafları verilerek kısaca tartışıldı.

Anahtar Kelimeler: Makromantar, *Suillellus amygdalinus*, yeni kayıt, Hakkari

1. Introduction

Suillellus Murrill is a genus of bolete fungi in the family *Boletaceae*. The actual name of the genus *Boletus* is divided into 5 different genera as a result of the molecular studies (*Butyriboletus*, *Caloboletus*, *Neoboletus*, *Suillellus* and *Rubroboletus*) (Zhao et al., 2014). The genus *Suillellus* (*Boletaceae*) was firstly identified by Murrill in 1909. Some researchers regarded it as the synonymy of *Boletus*. Based on the results of molecular phylogenetic studies, Vizzini and his colleagues (2014) moved it to *Suillellus*.

In Turkey, many significant studies have been carried on macrofungi especially in last three to four decades. Regarding the diversity of the country, it can easily be understand that there are lots of macrofungi which are waiting to be determined. Some Turkish mycologist have periodically presented the studies which were carried out on Turkish macrofungi as checklists. Latest checklists were prepared by Sesli and Denchev (2014) and Solak et al. (2015).

Some studies were also carried out after the presentation of latest checklist. According to the checklists and the previous studies (Acar and Uzun, 2016; Akata et al., 2016; Demirel and et al., 2016; Kaya, 2016; Sesli et al., 2016; Acar and Uzun, 2017; Allı et al., 2017; Demirel et al., 2017; Uzun et al., 2017a; Uzun et al., 2017b; Acar et al., 2018; Işık and Türkekul, 2018; Kaya and Uzun, 2018; Sesli and Liimatainen, 2018; Uzun and Kaya, 2018; Uzun and Acar, 2018; Uzun et al., 2018a-b) 5 *Suillellus* species have been reported from Turkey.

This study aims to make a contribution to the mycobiota of Turkey.

2. Materials and Method

Mushroom samples were collected from Hakkari (Yüksekova-Şemdinli) province in 2014. Macroscopic and

ecological properties of the samples were recorded and they were photographed with a digital photograph machine (Canon EOS 60D camera). After the samples were transferred to the laboratory, they were dried and prepared as fungarium materials. The identification of the samples were performed with the help of the relevant literature (Thiers, 1965; Bessette and et al., 2000a; Desjardin et al., 2015). The identified samples are kept in the fungarium of Yüzüncü Yıl University, Science Faculty, Department of Biology.

3. Results

Basidiomycota R.T. Moore

Boletales E.-J. Gilbert

Boletaceae Chevall.

Suillellus amygdalinus (Thiers) Vizzini, Simonini & Gelardi

Syn: *Boletus amygdalinus* Thiers, *Boletus puniceus* Thiers.

Macroscopic and microscopic features: Pileus 40-110 mm across, widely convex when mature, margin lobed or wavy, curling downward when young, surface dry, like mountain goat skin when young, then more or less hairy and slightly paler reddish-brown colored. Flesh reddish under cuticula, the other places are yellow and turn blue immediately when cut. Hymenophore with tubes. The tubes are flat near the stipe, and 10 to 15 mm, pores red or rusty-red when young, apricot red when ripened, becomes bluish when it starts to dry or when injured. Stipe 40-100 × 15-35 mm diam., equal or thickens towards the base, solid, surface dry, reddish on a yellowish background, with bluish spots, turn blue near pileus and turns blue when cut. **Spores** 11-16(19) × 5-7.7(9) µm, thick-walled, ellipsoid, somewhat spindle-shaped, smooth, with a large drop or smaller droplets. **Basidia**; 25-38 × 8-12 µm, club-shaped and contains a large number of intercellular spaces. **Cystidia** 40-60 × 9-13 µm (Figure 1).

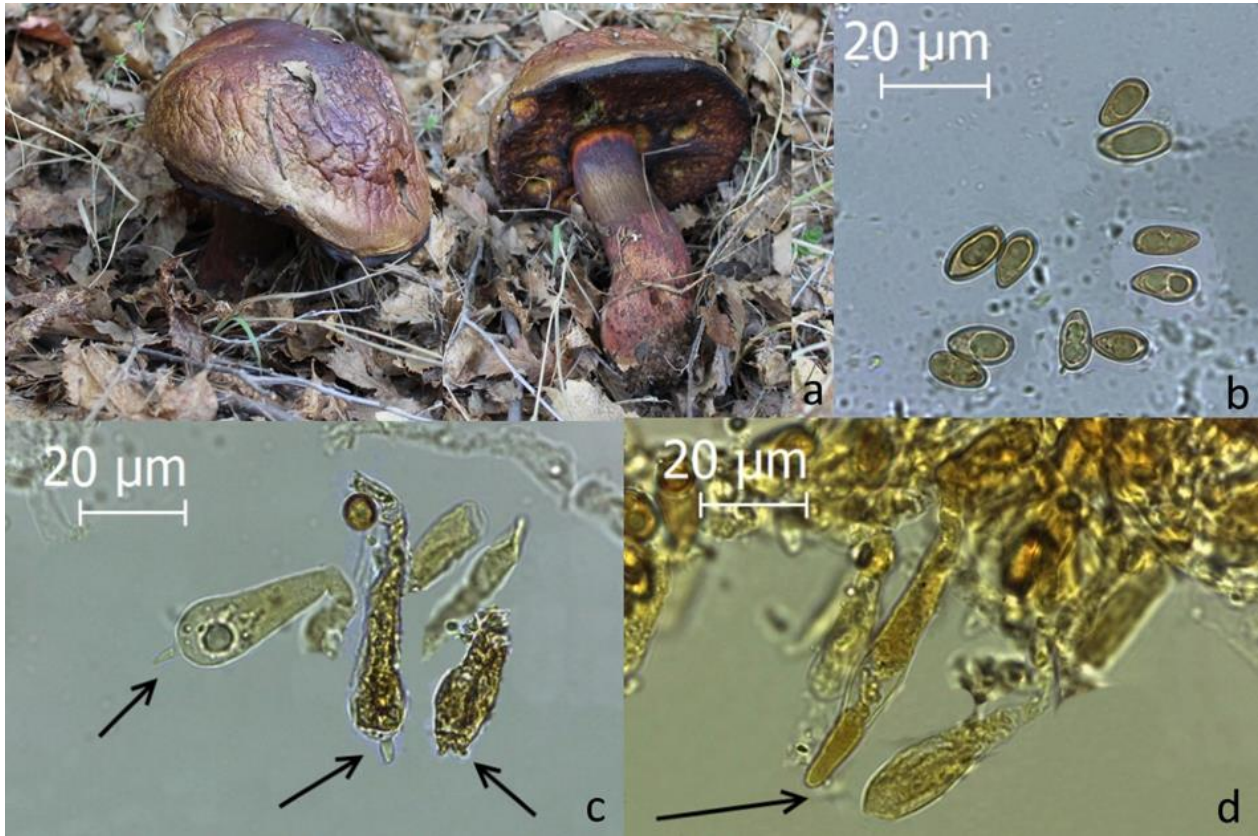


Figure 1. *Suillellus amygdalinus*: a. Basidiocarps b. Spores c. Basidia d. Cystidia (in KOH)

Specimen examined: Hakkari, Şemdinli, Öveç village, under *Quercus* sp., 37°22'322"N-44°28'495"E, 01.11.2014, Acar 761.

4. Discussions

With this study, *Suillellus amygdalinus* was added to the macrofungi of Turkey as the 6th member of the genus *Suillellus*. Five of them were compiled within the checklists prepared by Sesli and Denchev (2014) and Solak et al. (2015).

Suillellus amygdalinus is similar to *Rubroboletus satanas* (Lenz) Kuan Zhao & Zhu L. Yang, *R. eastwoodiae* (Murrill) Vasquez, Simonini, Svetash., Mikšik & Vizzini, *R. pulcherrimus* (Thiers & Halling) D. Arora, N. Siegel & J.L. Frank, *Boletus subvelutipes* Peck and *Sutorius luridiformis* (Rostk.) G. Wu & Zhu L. Yang. But all the similar taxa have larger fruit bodies. The pileus of *Rubroboletus satanas* is up to 300 mm, pale yellow or greenish yellow when young, stipe 50-300 × 40-120 mm, often very bulbous, spores 9-16 × 4.5-7 µm (Breitenbach and Kränzlin, 1991; Knudsen and Vesterholt, 2008; Šutara

et al., 2009). The pileus of *Rubroboletus eastwoodiae* is up to 220 mm, pale grey to pale olive-buff, stipe 70-140 × 60-130 mm, base abruptly bulbous, spores 11-15 × 3.5-6 µm (Ammirati et al., 1985; Breitenbach and Kränzlin, 1991; Desjardin et al., 2015). The pileus of *Rubroboletus pulcherrimus* is 90-170 mm broad, dull-brown to cream-brown, stipe 70-140 × 40-80 mm, clavate, upper large parts of stipe covered with vinaceous-red reticulations over a pallid background, spores 13-15.5 × 5-6 µm (Ammirati et al., 1985; Desjardin et al., 2015). *Boletus subvelutipes* have a pileus of 60-130 mm broad, cinnamon-brown, reddish brown or reddish orange to orange-yellow, stipe 40-100 × 9-20 mm, usually equal, sometimes slightly wide to base, spores 12-18 × 4.5-6.5 µm (Bessette et al., 2000b; Kuo, 2013). The pileus of *Sutorius luridiformis* is up to 200 mm, brownish orange when young, rust brown, olivaceous yellow or dark brown, stipe 40-120 × 10-35 mm, slightly club-shaped when young, without a network pattern, spores 10-14.5 × 4.5-7 µm (Breitenbach and Kränzlin, 1991; Muñoz, 2005; Phillips, 2006; Šutara et al., 2009).

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