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A new genus (*Balsamia*) addition for Turkish mycota

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Abstract: A hypogeous fungus *Balsamia vulgaris* Vittad. was collected from Muğla. This species is well characterised by its peridial warts, long and elliptical spores with three oil drops. *Balsamia* genus grows together with true truffles and they can frequently found in autumn and winter.

Key words: False truffle, *Balsamia*, hypogeous fungi, Turkey.

Türkiye mikotası için yeni bir cins (*Balsamia*)

Öz: Muğla'dan yeraltı mantarı, *Balsamia vulgaris* Vittad. toplandı. Bu tür peridyal siğilleri, üç yağ damlalı uzun ve eliptik sporlarıyla karakterizedir. *Balsamia* cinsi gerçek trüflerle beraber yetişmekte ve çoğunlukla sonbahar ve kış aylarında büyümektedir.

Anahtar kelimeler: Yalancı trüf, *Balsamia*, yeraltı mantarı, Türkiye

Introduction

According to Index Fungorum data base program (2018), *Balsamia* genus are in *Hellvellaceae* family and it has 19 species in the World. Within these 19 species, 7 of them were newly described from Western North America by Southworth et al. (2018). Southworth et al. (2018) extensively studied American *Balsamia* collections by sequenced DNA, assessed relationships by sequence similarity, and identified molecular taxonomic units from the Northwest part of America. According to their results, ITS sequences supported 12 *Balsamia* species in Northwest of America. While Harkness (1899) and Fischer (1907) had originally described five of them, seven are new species.

In recent years, some new species and new records had been added to Turkish macromycota (Sesli and Denchev, 2014; Akata and Gürkanlı, 2018; Akata et al. 2018; Doğan et al., 2018; Sesli et al., 2018a, 2018b; Sesli and Liimatainen, 2018). With these studies, important contributions have been done to the biodiversity of our country. However, there are many species that are not identified in our country. Therefore, studies on macrofungi must continue without interruption.

Material and Methods

From fresh and dried specimens, hand sections were mounted in water and ascospores measured (20 randomly selected spores per collection) at 1000 x with a Leica DM3000 microscope and Leica software. Digital images were captured with a Leica DFC 495 camera. Spore dimensions were reported as mean and range (in parentheses) for length, width, and the ratio of length to width (Q). Terminology for description of ascomata tissues follows Montecchi and Sarasini (2000), Gori (2005) and Southworth et al. (2018). Specimens were deposited at the Fungarium of Muğla Sıtkı Koçman University.

Results

Taxonomy

Ascomycota

Pezizomycetes

Pezizales

Helvellaceae

Balsamia vulgaris Vittad., Monogr. Tuberac.

(Milano): 30 (1831)



Description

Fruiting body: Hypogeous or subepigeous tuberiform and knotted, sometimes lobed, lacking root and branch, 1-3 cm diam., varying in colour from light hazel brown when young to orange-ochre and rusty brown; exterior warty, finely papillate-verrucose with roundish, darker and separable papillae (Fig 1 a).

Peridium: Completely closed, 10-20(30) μm with a pseudoparenchymatous structure formed by polygonal-roundish, yellowish elements (Fig 1 b).

Gleba: Whitish to pale yellow, numerous chambers formed by labyrinthiform tramal plates.

Asci: Not visible due to very thin and hardly colourable wall.

Ascospores: Cylindrical with rounded apex, ellipsoid-cylindrical, with a thin and less than 1 μm , hyaline, smooth, generally with 3 guttules, 25- 30 \times 11-14 μm (Fig 1 c).

Habitat: Under *Quercus robur* L.

Collection examined: Muğla: Yatağan, Doğanköy Village, 23 March 2018, A6866.

Remarks: According to Montecchi and Sarasini (2000), it is considered as a toxic species, but we did not check its edibility. The closest species is *Balsamia polysperma* Vittad.. *B. vulgaris* differs from *B. polysperma* (other European species) by its bigger, more elongate and having three oil droplets of the spores. Asci are sometimes hardly visible on mature specimens due to their very thin and hardly colourable wall.

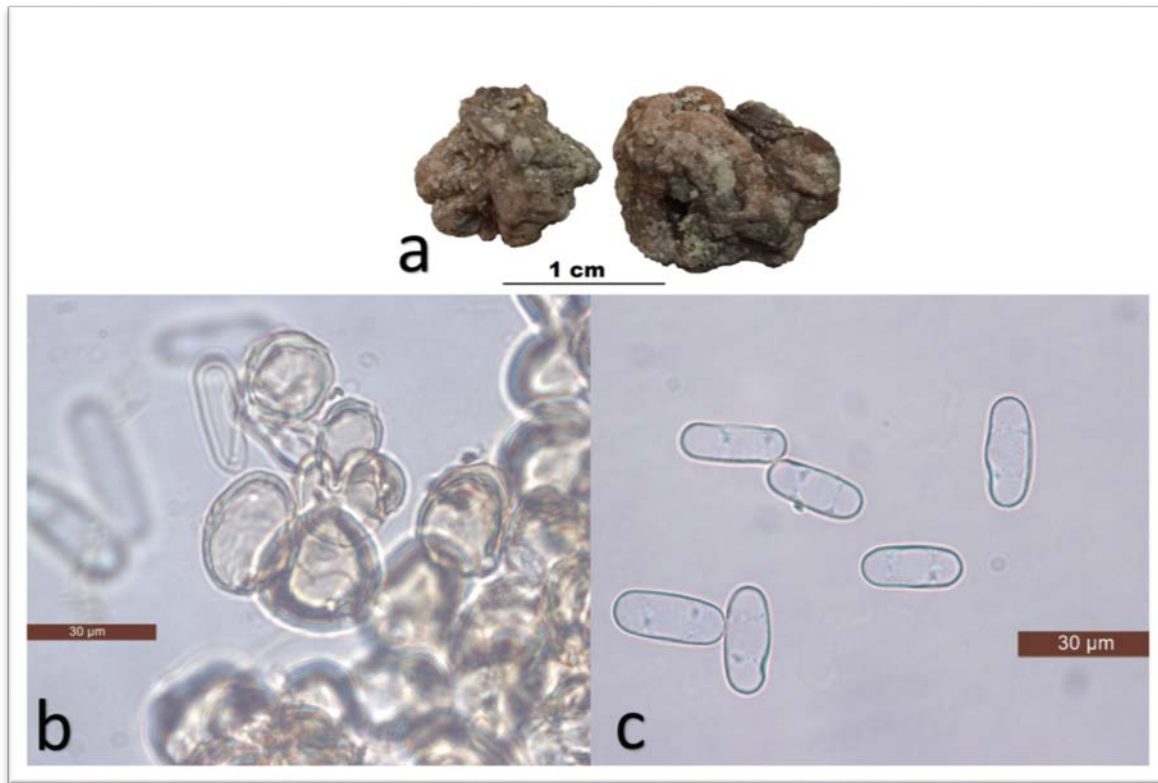


Figure 1: a; Ascocarps, b; Peridial cells, c; Ascospores.

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