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Marasmiellus vaillantii (Pers.) Singer (*Omphalotaceae*), a New Record for the Turkish Mycota

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Abstract: The marasmioid macrofungus species, *Marasmiellus vaillantii* (Pers.) Singer, was reported for the first time from Turkey. Short description of the taxon is provided together with its photographs related to macro and micromorphology.

Keywords: Macrofungi, new record, *Marasmiellus,* Turkey

Marasmiellus vaillantii (Pers.) Singer (*Omphalotaceae*), Türkiye Mikotası İçin Yeni Bir Kayıt

Öz: Marasmioid bir makromantar türü olan *Marasmiellus vaillantii* (Pers.) Singer, Türkiye'den ilk kez rapor edilmiştir. Taksona ait kısa betim, türün makro ve mikromorfolojisine ilişkin fotoğrafları ile birlikte verilmiştir.

Anahtar kelimeler: Makromantarlar, yeni kayıt, *Marasmiellus,* Türkiye

Introduction

The genus *Marasmiellus* Murrill which was first established by Murrill (1915) is a widespread genus all over the world especially in tropics and subtropics, and plays important roles in ecosystem as a decomposer (Wilson and Desjardin, 2005; Takehashi et al., 2007). Though Kirk et al. (2008) mentions about the existence of 250 taxa, Wilson and Desjardin (2005) reports that it is currently been represented with more than 400 species. Until Moncalvo et al. (2002), the genus *Marasmiellus* has been positioned in *Tricholomataceae* Lotsy (Singer, 1973) and *Marasmiaceae* Roze ex Kuhner (Kirk et al., 2008) respectively. Members of the genus are mainly characterised by collybioid or omphalioid basidiocarps, white spore print, a cutis consisting of a pileipellis, sometimes with a transition to a trichoderm (Chun-Ying et al., 2011).

During routine field trips, carried out within the scope of a project aiming to determine the macrofungal diversity of Tonya (Trabzon) district, some *Marasmiellus* samples were collected and identified as *Marasmiellus vaillantii* (Pers.) Singer. Current checklists (Sesli and Denchev, 2014; Solak et al., 2015) and the latest contributions (Demirel et al., 2016; Akata and Sesli, 2017; Akata and Uzun, 2017; Allı et al., 2017; Demirel et al., 2017; Işık and Türkekul, 2017; Kaşık et al., 2017; Öztürk et al., 2017; Sesli and Topçu Sesli, 2017; Sesli et al., 2017; Uzun and Demirel, 2017; Uzun and Kaya, 2017; Uzun et al., 2017a,b) indicated that, the taxon has not been reported from Turkey before.

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

Materials and Methods

Marasmiellus specimens used in this research were collected from Tonya district of Trabzon province in 2017. Necessary characteristics related to their morphology and ecology were recorded and they were photographed in their natural habitats. Then the collected specimens were transferred to the fungarium within paper bags. Micromorphologic investigations were carried out under Nikon Eclipse Ci trinocular light microscope. Identification were performed with the help of Noordeloos (1983), Breitenbach and Kränzlin (1991), Courtecuisse and Duhem (1995), Antonin and Noordeloos (2010). The samples are kept at Karamanoğlu Mehmetbey University, Kamil Özdağ Science Faculty, Department of Biology.

Results

The systematics of the taxon is given in accordance with Kirk et al. (2008) and the Index Fungorum (www.indexfungorum.org; accessed 1 October 2017). The taxon is presented with a brief description, habitat and locality.

Omphalotaceae Bresinsky

Marasmiellus Murrill

Marasmiellus vaillantii (Pers.) Singer

Syn: [*Agaricus angulatus* Batsch, *Agaricus ericetorum* ß *vaillantii* Pers., *Agaricus vaillantii* (Pers.) Fr., *Chamaeceras angulatus* (Batsch) Kuntze, *Chamaeceras vaillantii* (Pers.) Kuntze, *Marasmius angulatus* (Batsch) Berk. & Broome, *Marasmius vaillantii* (Pers.) Fr., *Psilocybe angulata* (Batsch) Singer]

Macroscopic features: Pileus 3-19 mm, convex when young, plano-convex or applanate when mature, some depressed at the center, surface dull, smooth to weakly or distinctly radially grooved, slightly wrinkled from margin halfway to the center, white to light or ochraceous-cream with a slightly darker center, margin thinner, acute, some slightly undulating. Flesh thin, taste and odor mushroomy. Lamellae distant, some forked or anastomosing, adnate to decurrent, sometimes adnexed to a pseudocollarium, concolorous with the pileus. Stipe 5-25 × 0.5-1.2 mm, cylindric, slightly tapering towards the base, smooth to pruinose, concolorous with the lamellae at apex, increasingly reddish-brown to dark brown toward the base (Figure 1).

Microscopic features: Basidia 20-27 × 6-8 µm, clavate, four spored. Cheilocystidia 25-40 × 6-15 µm, clavate or coralloid with one or more finger or bladder like outgrowths (Figure 2a). Basidiospores 8-10 × 3.5-4.5 µm, cylindric-elliptic to elliptic, smooth, hyaline, with one or two drops (Figure 2b).

Ecology: in moist or damp situations, on living and dead herbaceous plants especially monocotyledons, but also on leaves and woody litter of decidious and coniferous trees (Breitenbach and Kranzlin, 1991; Courtecuisse and Duhem, 1995; Antonin and Noordeloos, 2010).

Specimen examined: Trabzon-Tonya, Kayacan village, mixed forest, on decaying *Rhododendron ponticum* L. twigs, 40°56′N-39°16′E, 870 m, 21.06.2017, Yuzun 5587.

Discussions

There isn't an independent study concerning the genus *Marasmiellus* in Turkey. So far four species have been recorded from Turkey. The first record, *Marasmiellus ramealis* (Bull.) Singer, was given by Sümer (1982) from western Black Sea Region. Pekşen et al. (2000) reported the second taxon, *Marasmiellus candidus* (Fr.) Singer, from Samsun province. The third and fourth *Marasmiellus* species to exist in Turkey were recorded from İzmir and İstanbul provinces by Solak et al. (1999) and Sesli et al. (2017) respectively.

Here we present *Marasmiellus vaillantii* (Pers.) Singer as the fifth member of the genus *Marasmiellus* in Turkey.

This species is well-characterized by its wrinkled pileus, usually with minute papilla, and pruinose stipe (Antonin and Noordeloos, 2010). It sometimes may occurs in similar habitats with *M. ramealis*, but the above mentioned characters easily distinguish it from the latter species. Especially in terms of morphological characters, *M. radicicola* has similarities to *M. vaillantii*. However, *M. radicicola* has a non sulcate and non umbonate pileus, crowded and narrow lamellae, longer stipe, and grows on roots of *Picea* A.Dietrich. *M. vaillantii* also reminds *M. mesosporus*, but it clearly differs from *M. mesosporus* by the radial grooved, furrowed, or wrinkled pileus, somewhat smaller basidiospores (Takehashi et al., 2007; Breitenbach and Kranzlin, 1991; Antonin and Noordeloos, 1993).

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Figure 1. Basidiocarps of *Marasmiellus vaillantii*

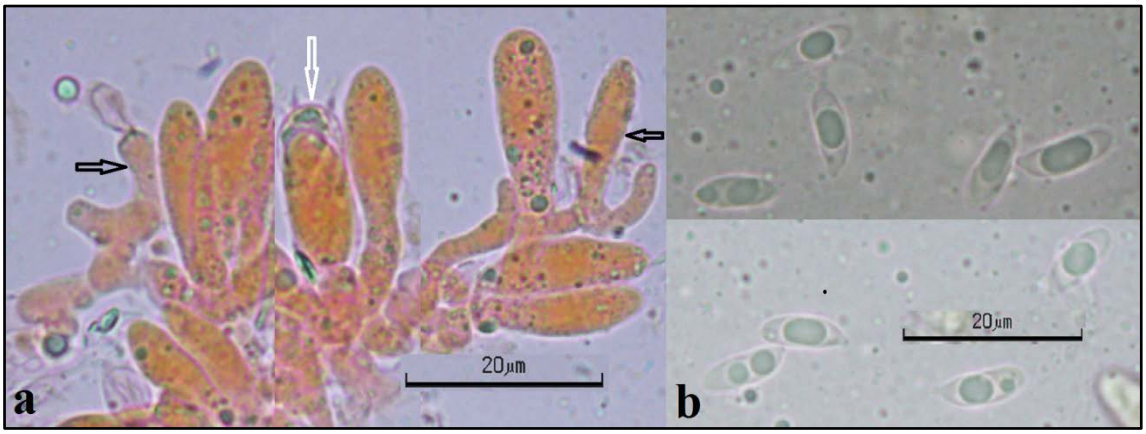

Figure 2. Basidia and cheilocystidia (a) and basidiospores (b) of *Marasmiellus vaillantii*

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