



## A new record for the Mycota of Turkey

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### Türkiye Mikotası için yeni bir kayıt

**Abstract:** The marasmioid species, *Marasmius collinus* (Scop.) Singer, belonging to the family *Marasmiaceae*, is given as new record for the mycobiota of Turkey from Sarıkamış Allahukeber Mountains National Park (Kars/Erzurum). A brief description of the taxon is given together with its photographs related to macro and micromorphologies.

**Key words:** *Marasmius collinus*, *Marasmiaceae*, new record, Sarıkamış Allahukeber Mountains National Park, Turkey

**Özet:** *Marasmiaceae* familyasına ait bir marasmioid tür olan *Marasmius collinus* (Scop.) Singer Sarıkamış Allahuekber Dağları Milli Parkı'ndan (Kars/Erzurum) Türkiye mikobiyotası için yeni kayıt olarak verilmiştir. Taksonun kısa betimlemesi makro ve mikromorfolojisine ait fotoğraflarla birlikte verilmiştir.

**Anahtar Kelimeler:** *Marasmius collinus*, *Marasmiaceae*, yeni kayıt, Sarıkamış Allahuekber Dağları Milli Parkı, Türkiye

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## 1. Introduction

The genus *Marasmius* Fr. is morphologically characterized by small convex caps, gills on adnate hymenium, usually thin and bare stipes, hyaline and not amyloid spores, and saprotrophic ecology. The most important distinguishing feature is: *Marasmius* species are tough types which dry-up but later revive when moistened. Several of the species are known to grow in the characteristic «fairy ring» pattern. (Moser, 1983; Knudsen and Vesterholt, 2008; Antonin and Noordeloos, 2010).

*Marasmius* genus contains about 500 species in the family *Marasmiaceae* (*Agaricales*, *Agaricomycetes*, *Basidiomycota*) and according to presented checklists and the recent studies in Turkey, 12 species have so far been identified belonging to this genus (Kirk et al., 2008; Sesli and Denchev, 2014; Solak et al., 2015; Uzun et al., Akçay et al., 2018; Bozok et al., 2018; Keleş, 2018a; Keleş, 2018b; Sadullahoğlu and Demirel, 2018; Sesli et al., 2018a; Sesli et al., 2018b; Uzun and Kaya, 2018; Altuntaş et al., 2019; Akçay, 2019; Çağlı et al., 2019; Sesli and Bandini, 2019; Acar et al., 2020).

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

## 2. Materials and Method

Specimens were collected from Gürbüzler village of Selim (Kars-Turkey) district at Allahuekber Mountains National Park in 2016. Morphological and ecological characteristics of the samples were recorded during the field study and they were photographed in their natural habitats. Then, they were taken to the laboratory and microscopic investigations were carried out on them. Microscopic investigation of the samples were done by using a Leica DM500 light microscope mounted with a Leica ICC50 HD camera. Reagents such as 5 % KOH and Congo red were used investigation media. Identification was performed with the aid of the relevant literature (Moser, 1983; Breitenbach and Kränzlin, 1991; Antonin and Noordeloos, 2010).

## 3. Results

*Basidiomycota* R.T. Moore

*Agaricales* Underw.

*Marasmiaceae* Roze ex Kühner

*Marasmius* Fr.

*Marasmius collinus* (Scop.) Singer

**Macroscopic features:** Pileus, 15-40 mm broad, first conical, soon convex-applanate, with involute margin, reddish-brown when young and fresh, then ochraceous or yellow-brown, smooth. Flesh, thin, cream or yellowish at margin, almost white at centre of pileus, smell and taste indistinct. Lamellae, moderately crowded, distant, adnate to almost free, white to cream coloured, with irregularly serrate and concolorous edges. Stipe, 25-60 × 3-6 mm, cylindrical, fistulose, straight, slightly broadened at base, smooth, pale beige, cream-coloured, darker at base (Fig. 1a).

**Microscopic features:** Spores 7-11 × 4-5.5 µm, hyaline, ellipsoid, oblong or cylindrical, slightly attenuated at apex (Fig. 1b). Spore print whitish. Basidia 30-40 × 7-8 µm, clavate, 4- spored (Fig. 1c). Basidioles 15-40 × 3-9 µm, clavate, cylindrical or fusiform (difficult to distinguish between basidia and basidiols under microscope, because the sterigmata are not very prominent and their sizes are close to each other). Cystidia absent.

**Specimen examined:** Turkey, Kars, Selim district, Southwest of Gürbüzler village, grassy area, 40° 27.253'N, 42° 34.097'E, 2077 m, 29.05.2016, MEA. 956.

## 4. Discussions

*Marasmius collinus* is very similar to *M. oreades* (Bolton) Fr., and is found in comparable habitats. These two species can be distinguished from each other by the differences listed in the Table 1 (Moser, 1983; Breitenbach and Kränzlin, 1991; Antonin and Noordeloos, 2010; Jossierand, 1955).



**Figure 1.** *Marasmius collinus*: **a**-basidiomata; **b**-basidiospores; **c**-basidia and basidiols (bars= 10 µm).

**Table 1.** Differences between *Marasmius collinus* and *M. oreades*

	<i>Marasmius collinus</i>	<i>Marasmius oreades</i>
<b>Stipe</b>	hollow at first, soft and easily compressible	stuffed for a long time, tough
<b>Spores</b>	up to 11 µm in length and somewhat narrower	rarely reaches to 10 µm in length
<b>Basidia</b>	30-40 µm in length	up to 50 µm in length

As a result of the study, the number of species belonging to the genus *Marasmius* has increased from 12 to 13 in Turkey (Sesli and Denchev, 2014; Solak et al., 2015).

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It is very important to continue to the macrofungal studies in order to increase the number of determined macrofungi to the expected levels in our country.

Also, in order to benefit sufficiently from edible and medicinal mushrooms and to avoid poisonous mushrooms, they must first be recognized.

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