



## Two new records for Turkish Agaricales

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### Abstract

*Entoloma asprellum* (Fr.) Fayod (*Entolomataceae*) and *Rimbachia bryophila* (Pers.) Redhead (*Tricholomataceae*) are recorded for the first time from Turkey. Short descriptions of the taxa are given together with its photographs related to macro and micromorphologies

**Key words:** New records, *Entoloma*, *Rimbachia*, Turkey

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### Agaricales' ten Türkiye için iki yeni kayıt

### Özet

*Entoloma asprellum* (Fr.) Fayod (*Entolomataceae*) and *Rimbachia bryophila* (Pers.) Redhead (*Tricholomataceae*) Türkiye'den ilk kez kaydedilmiştir. Makro ve mikro morfolojilerine ilişkin fotoğrafları ile birlikte türlerin kısa betimlemeleri verilmiştir

**Anahtar kelimeler:** Yeni kayıtlar, *Entoloma*, *Rimbachia*, Türkiye

### 1. Introduction

*Entoloma* (Fr.) P. Kumm is a large genus of the family *Entolomataceae* with about 1000 taxa (Kirk et al., 2008). Although some members of the genus form mycorrhizal relationships, most are saprobic. *Entoloma* species are widespread and found in a wide variety of habitats such as woodlands, grasslands moors, peat-bogs and arctic or alpine conditions. They may form clitocyboid, collybioid, omphalinoid, mycenoid, pleuroid or tricholomaoid basidiocarps, free to adnate, adnate-decurrent or decurrent lamellae, 2-4 spored basidia and angular spores (Hansen and Knudsen 1992; Bas et al., 1988).

*Rimbachia* Pat. is a genus of the family *Tricholomataceae* and represents eleven confirmed taxa with a widespread distribution in tropical regions (Kirk et al., 2008). The members of the genus are characterized by a sessile or short stiped, thin and membranous, white, pleurotooid, cyphelloid, flabelliform or cupulate basidiocarp, smooth, rugose or venose hymenophore, smooth, hyaline, thin walled, inamyloid, subglobose to ellipsoid spores with very prominent hilar appendix (Hansen and Knudsen 1992; Bas et al., 1995).

According to present literature on Turkish macrofungi (Solak et al., 2007; Sesli and Denchev, 2008, Akata et al., 2009; Akata 2012; Kaya et al., 2012; Sesli and Helfer 2013; Akata and Kaya, 2013; Atila and Kaya, 2013), *Entoloma asprellum* and *Rimbachia bryophila* have not previously been reported from Turkey.

The study aims to make a contribution to the macrofungi of Turkey by adding new records.

### 2. Materials and methods

Fruit bodies were collected from Zigana Mountain (Gümüşhane) and Uzungöl Nature Park (Trabzon) in 2011. During field studies, necessary morphological and ecological properties of the samples were noted and they were photographed in their natural habitats. Thereafter they were taken to the laboratory for necessary macroscopic and microscopic investigations. Identification was performed with the help of literature Breitenbach and Kränzlin (1995),

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Bas et al. (1988; 1995) and Hansen and Knudsen (1992). The identified specimens are kept at Karamanoğlu Mehmetbey University, Kamil Özdağ Science Faculty, Department of Biology, Karaman, Turkey.

### 3. Results

The systematics of the taxa is in accordance with Kirk et al. (2008). Short descriptions and ecologies of newly recorded taxa are given together with their localities, collection dates and photographs related to their macro and micromorphologies.

**Agaricales** Underw.

**Entolomataceae** Kotl. & Pouzar

*Entoloma asprellum* (Fr.) Fayod (1889) (Figure 1)

Syn.: *Agaricus asprellus* Fr. (1821), *Leptonia asprella* (Fr.) P. Kumm. (1871), *Rhodophyllus asprellus* (Fr.) Quél. (1886), *Rhodophyllus asprellus* (Fr.) Quél., (1886) var. *asprellus*, *Rhodophyllus asprellus* var. *gracilis* Romagn. (1956).

**Macroscopic and microscopic features:**

**Pileus** 15-25 mm across, conical to convex when young, then expanding to plano-convex, with slightly depressed umbonate centre, weakly hygrophanous, surface dull, radially fibrillose to deeply striate up to half the radius, chestnut brown when moist, light gray brown when dry, paler at margin, dark brown to blackish in the centre, margin densely radially fibrillose to squamulose (Figure 1a). **Flesh** gray-brown, thin in the centre, smell slightly farinaceous, taste slightly rancid. **Lamellae** grey at first, then dingy pink or pinkish, crowded, narrowly adnate, edge smooth. **Stipe** 40-50 × 2-3 mm, cylindrical, surface smooth, gray blue, base white tomentose (Figure 1a). **Basidia** 35-40 × 10-13 µm, clavate, 4 spored (Figure 1b). **Cystidia** absent. **Basidiospores** 9-13 × 6-9 µm, 5-8 angled (Figure 1b), brown pink.

**Ecology:** Autumn, usually gregarious, rarely solitary, in moist grasslands, subalpine meadows among grasses, and herbs on soil or plant debris, preferably basic or neutral soil, primarily at montane to subalpine elevations, widespread (Breitenbach and Kränzlin, 1995).

**Specimen examined:** TURKEY—Trabzon: Uzungöl, near spruce (*Picea orientalis* L.), 40°37'N-40°17'E, 1520 m, 28.08.2011, Akata 4111.

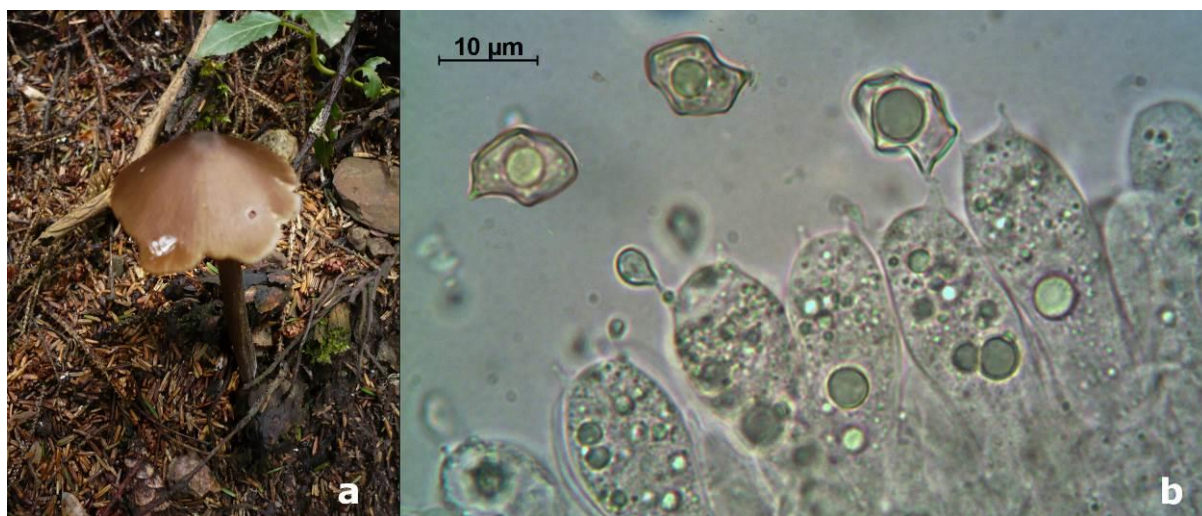


Figure 1. *Entoloma asprellum*, a. Basidiocarp, b. Basidia and basidiospores

**Tricholomataceae** R. Heim

*Rimbachia bryophila* (Pers.) Redhead (1984) (Figure 2).

Syn.: *Agaricus bryophilus* Pers. (1796), *Cantharellus bryophilus* (Pers.) Fr. (1821), *Dictyolus bryophilus* (Pers.) Quél. (1886), *Leptoglossum bryophilum* (Pers.) Ricken (1915), *Leptotus bryophilus* (Pers.) P. Karst. (1879), *Merulius bryophilus* (Pers.) Pers. (1801), *Mniopetalum bryophilum* (Pers.) Donk (1962).

**Macroscopic and microscopic features:**

**Pileus** 4-5 mm broad, sessile or with a short, lateral stipe, cupulate, pleurotoid to flabelliform in age, hygrophanous, smooth, sometimes silky to glabrous, margin incurved at first, then decurved (Figure 2a). **Hymenophore** white, smooth with very shallow veins. **Flesh** very thin and white. **Basidia** 20-25 × 7-8 µm, 4 spored (Figure 2b). **Cystidia** not seen. **Basidiospores** 6-8 × 5-7 µm, subglobose to dacryoid, hyaline, inamyloid, smooth with very prominent apiculus (Figure 2c).

**Ecology:** Parasitic on mosses in shady forests (Hansen and Knudsen 1992; Bas et al., 1995).

**Specimen examined:** TURKEY—Gümüşhane: Zigana mountain, on moss, 40°42'N- 39°27'E, 1400 m, 04.09.2011, Akata and Uzun 1019.

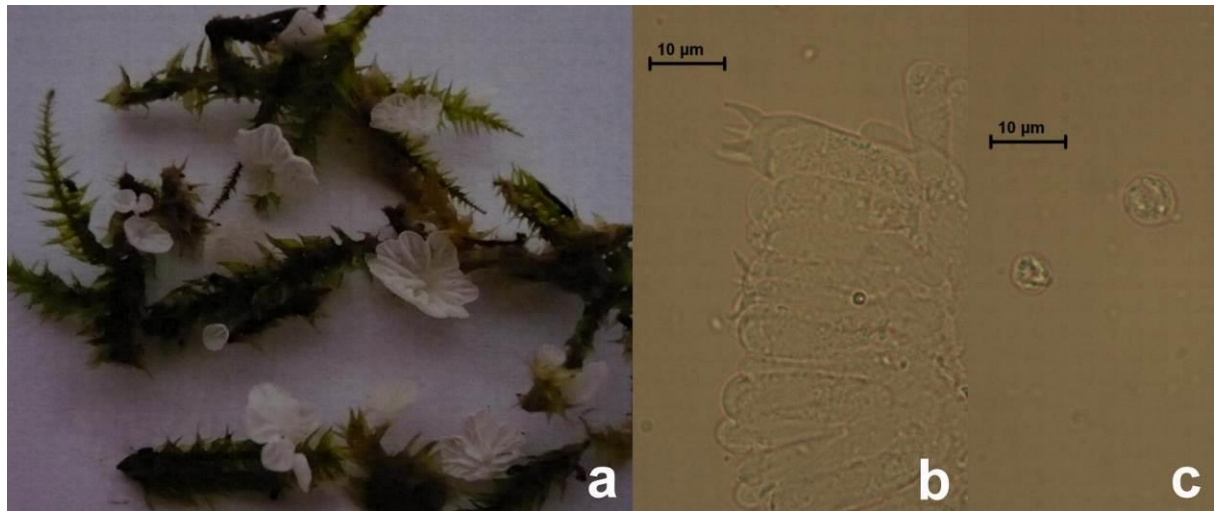


Figure 2. *Rimbachia bryophila*, a. Basidiocarps, b. Basidia, c. Basidiospores

#### 4. Discussion

Though many *Entoloma* species seems to be similar to each other, they have so many characteristics to be differentiated from each other. Likewise, *Entoloma asprellum* is rather similar to *Entoloma fulvoviolaceum* Noordel. & Vauras by its macromorphology but it differs from the latter species by the less pronounced squamulose pileus and absence of cystidia.

*Rimbachia bryophila* could also be confused with *Rimbachia arachnoidea* (Peck) Redhead due to their morphology and ecology. Both species are parasitic on mosses. *Rimbachia bryophila* differs from the latter with its venose hymenophore.

According to the current checklists (Solak et al., 2007; Sesli and Denchev, 2008) and recent contributions (Akata et al., 2009; Akata 2012; Kaya et al., 2012; Sesli and Helfer 2013; Akata and Kaya, 2013; Atila and Kaya, 2013), 41 members of the genus *Entoloma* (Fr.) P. Kumm. currently exist in Turkey, while any member of *Rimbachia* Pat. have so far been given from Turkey. With this study, *Entoloma asprellum* is presented as new record as the 42<sup>nd</sup> member of Turkish *Entoloma*, and a contribution was also made with the introduction of the genus *Rimbachia* to the tricholomataceous macrofungi of Turkey.

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