



***Lactifluus rugatus* (Kühner & Romagn.) Verbeken, a new record for Turkish Mycota**

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Abstract

In this study, *Lactifluus rugatus* (Kühner & Romagn.) Verbeken, a member of Russulaceae family, is reported for the first time from Turkey. A description and macro and microphotographs are presented.

Key words: macrofungi, biodiversity, *Lactifluus*, new record, Turkey

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***Lactifluus rugatus* (Kühner & Romagn.) Verbeken, Türkiye mikotası için yeni bir kayıt**

Özet

Bu çalışma ile, Russulaceae familyasının bir üyesi olan *Lactifluus rugatus* (Kühner & Romagn.) Verbeken “Pürüzlü çintar” Türkiye’den ilk kez rapor edilmiştir. Türün deskripsiyonu, makro ve mikro fotoğrafları verilmiştir.

Anahtar kelimeler: makromantarlar, biyoçeşitlilik, *Lactifluus*, yeni kayıt, Türkiye

1. Introduction

Lactifluus (Pers.) Roussel was first placed as a section of *Lactarius* Pers. genus, however, according to recent molecular phylogenetic studies, it has been placed as a new genus of Russulaceae family (Bhatt et al., 1999; Verbeken et al., 2011; Stubbe et al., 2012; Verbeken et al., 2012). Their common name of milkcaps, usually referred to as latex, which will ooze out of their broken flesh and particularly their gills when damaged (Kibby, 2014). Also, this new genus has been characterized by their bright coloured carpophores with dry, velutinous to unpolished surface and the pileus cuticle consisting of a basal cellular layer (Bhatt et al., 1999). On the other hand, all members of the genus are mycorrhizal with different kinds of trees or shrubs (Kibby, 2014).

It has been recorded that nearly 2400 macrofungi are present in Turkey (Sesli and Denchev 2008; Solak et al., 2015). However, new macrofungi have been recorded by several researchers for Turkish mycota, as a consequence of routine field and laboratory studies (Kaya et al., 2013; Akata et al., 2014; Güngör et al., 2014; Kaya, 2015; Sesli et al., 2015). The aim of the present study was to add to the knowledge of Turkish Mycota by a new macrofungus record.

2. Materials and methods

The specimens were collected from İzmir between the years 2013 and 2014. The area located in Mediterranean phytogeographical region, which has a fertile soil and forest mixed (Sesli and Denchev, 2008). Morphological and ecological characteristics of the samples were noted and photographed in their natural habitats. After field studies, specimens were taken to the laboratory. The using Melzer’s reagent, congo red and distillate water, micromorphological characters were observed by light microscopy. The identification of the taxa was carried out by using the literature (Hesler and Smith, 1979; Dähncke, 2006; Roux, 2006; Bessette et al., 2007; Kibby, 2014). The specimens has been kept at the Fungarium of Muğla Sıtkı Koçman University.

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3. Results

After the laboratory studies, *Lactifluus rugatus* was identified. Examination of the checklists and current literature it is new record for Turkish mycota (Sesli and Denchev, 2008; Solak et al. 2015). The systematic status of the taxon is given by Mycobank (URL 1).

Russulales Kreisel ex P.M. Kirk, P.F. Cannon & J.C. David

Russulaceae Lotsy

Lactifluus (Pers.) Roussel

Lactifluus rugatus (Kühner & Romagn.) Verbeken (2012)

Syn. *Lactarius rugatus* Kühner & Romagn. (1954). *Lactarius hygrophoroides* var. *rugatus* (Kühner & Romagn.) Hesler and A.H. Smith (1979).



Figure 1. *Lactifluus rugatus*; a. fruiting body, b-c. spores in optical section and surface view (in Melzer's reagent, X1000), d-g. epicutis (in congo red, X1000).

3.1. Macroscopic and microscopic features

Cap: 4.5-9 cm broad, convex to plane, often irregular with margin curved and wavy, brownish-red, rusty orange-brown, darker on the center, paler toward the margin, surface dull, dry, as felt, slightly wrinkled (Figure 1a). **Flesh:** whitish-cream, moderately thick, dry, rather fragile.

Gills: subdecurrent, distant, lamellulae present, edge entire, creamy white at first, becoming more ochraceous, consists of brown staining when injured, width expands towards the stem. **Latex:** abundant, white and unchanging, taste: mild.

Stem: 3.5-6 x 1-2 cm, cylindrical to fusiform, solid, slightly paler than the cap, surface dull and short tomentose. **Odour:** pleasant. **Taste:** nutty.

Spores: 7.5-11 x 5-7.5 μm , ellipsoid, hyaline, ornamented with a partial reticulum and isolated warts and short ridges, prominences $\pm 0.5 \mu\text{m}$ high (Figure 1b-c). **Spore print color:** white. **Cystidia:** absent or poorly developed. **Epicutis:** 30-80 x 5-8 μm , cylindrical to fusiform, septate and obtuse or acute (Figure 1d-g.) **Edibility:** edible.

Habitat: warm-loving, mainly on calcareous soils, solitary or in groups on the ground under broadleaf trees (Hesler and Smith, 1979; Dähncke, 2006; Roux, 2006; Bessette et al., 2007; Kibby, 2014).

Material examined: Turkey: İzmir, Bergama, Kozak plateau. *Quercus* spp., *Cistus* spp. and *Pinus* spp. mixed forest. 03 Nov. 2013 (ÖFÇ 287) and 08 Nov. 2014 (ÖFÇ 1086)..

4. Conclusions

According to current checklists (Sesli and Denchev, 2008; Solak et al., 2015) two *Lactifluus* species have been reported from different localities of Turkey and these species are *L. bertillonii* (Neuhoff ex Z. Schaef.) Verbeken (collected from Erzincan, Gümüşhane and Trabzon) and *L. luteolus* (Peck) Verbeken (Giresun and Trabzon). As a result of this study, we reported *Lactifluus rugatus* as third member of Turkish *Lactifluus*. We can separate *L. luteolus* and others easily. *L. rugatus* and *L. luteolus* has a mild latex while *L. bertillonii* has a acrid latex. *L. rugatus* has a white and unchanging latex while *L. luteolus* has a white and turning brown after 10-20 minutes latex (Kränzlin, 2005; Dähncke, 2006).

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