

***Leucopaxillus lepistoides*: A New Record for Turkish Mycota from Yozgat Province**

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Abstract: In this study, *Leucopaxillus lepistoides* is reported for the first time for the Turkish mycota from Çamlık National Park of Yozgat. The new record are provided with a short description and discussion, illustrations of macro and microscopic features.

***Leucopaxillus lepistoides*: Yozgat Yöresinden Türkiye Mikotası için Bir Yeni Kayıt**

Anahtar Kelimeler

Biyçeşitlilik,
Leucopaxillus lepistoides,
Yeni kayıt,
Yozgat,
Türkiye

Özet: Bu çalışmada, *Leucopaxillus lepistoides* Yozgat Çamlık Milli Parkından Türkiye mikotası için ilk defa rapor edildi. Yeni kayıt kısa bir açıklama, tartışma, makroskopik ve mikroskopik özelliklerinin fotoğrafları ile birlikte verildi.

1. Introduction

Macrofungi have important in issues such as: source of food, economic income, medicine, symbiotic relationships (mycorrhizas) with plants, decomposition of organic residues [1, 2].

Genus *Leucopaxillus* is characterized by whitish to brown colour, convex to slightly depressed pileus; adnate to decurrent lamellae; white to pale yellowish spore print; hyaline, smooth to warty basidiospores, plentiful clamp connections and involute cap margin [3, 4, 5].

Turkey has a rich fungal diversity. With recent studies such as; [6-19] the number of fungi has been increasing continuously. During field trips in Çamlık National Park of Yozgat, macrofungi samples identified as *Leucopaxillus lepistoides* were collected. Çamlık National Park is the first national park of Turkey and is located in the south of Yozgat province. In forest vegetation, *Pinus nigra* J.F. Arnold is dominated and include also some *Quercus* and *Juniperus* species (20).

2. Material and Method

Fungal samples were collected in Çamlık National Park of Yozgat in spring 2014. Samples were photographed in their natural habitats. Ecological and macroscopic features such as: sizes of cap and stipe, colours, odor, color change upon handle or bruising are noted in the field. Then, specimens were gathered and wrapped in aluminum foil, kept in a box and returned to the laboratory for chemical tests and microscopic examinations. Microscopic descriptions were carried out predominantly on dried specimens using a light microscope. Some chemical reagents (5% KOH solution, congo red; cotton blue, Melzer's reagent etc.) were used for the examination of macroscopic and microscopic structures. The taxon was identified with following literature: [4, 21, 22, 23, 24]. The dried and identified specimens were deposited in Fungarium of Biology Department of Gaziosmanpaşa University.

3. Results

Short description of newly reported species, macroscopic illustrations of basidioma and microscopic illustrations of basidiospores, elements of pileipellis and basidia are provided below.

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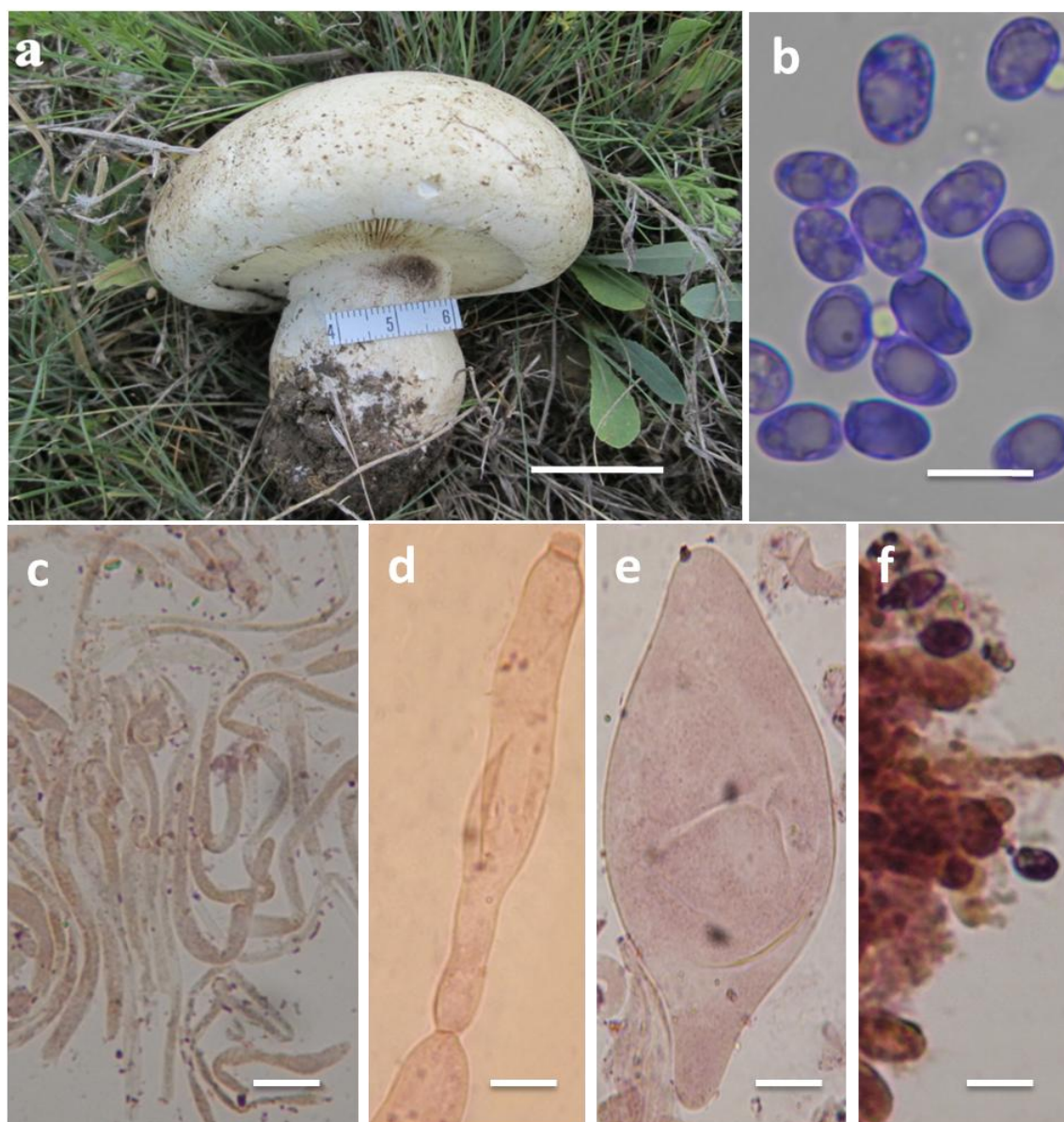


Figure 1. *Leucopaxillus lepistoides*; a-basidioma; b- basidiospores (in lactophenol cotton blue); c- tramal hyphae (KOH); d, e- elements of pileipellis (KOH); f- basidium (KOH) (scale bars: a= 20 mm; b, c, d, e and f= 10 µm).

The systematic of newly reported species is in accordance with Index Fungorum (www.indexfungorum.org; accessed 27 November 2017).

Leucopaxillus lepistoides (Maire) Singer [as 'lepistoides'], Schweiz. Z. Pilzk. 17: 57 (1939)
Tricholoma lepistoides Maire, Bull. trimest. Soc. mycol. Fr. 40(4): 301 (1926)
Aspropaxillus lepistoides (Maire) Kühner & Maire, Bull. trimest. Soc. mycol. Fr. 50: 13 (1934)
Leucopaxillus lepistoides (Maire) Singer, Schweiz. Z. Pilzk. 17: 57 (1939) var. *lepistoides*
Clitocybe lepistoides (Maire) Konrad & Maubl., Encyclop. Mycol. 14: 395 (1949)
Leucopaxillus lepistoides var. *pannonicus* Bohus, Fragm. Bot. Mus. Hist.-Nat. Hung. 4: 35 (1966)
Tricholoma pannonicum Bohus, Bot. Köz. 48(3-4): 232 (1960)

Pileus 15-35 cm, at first convex with involuted margin, when old flattened, white, greyish. The cuticle of the pileus is entirely glabrous at the margin. In young specimens plaster-white, slightly greasy-lustrous, in moderately aged carpophores cracked in the centre into small, pale grey-brown small areolate, otherwise with a smooth, white margin; old specimens have a dull cuticle, with the centre areolate, whitish with greenishtints which pass from the margin of the pileus to the gills. **Stipe** 5-9 × 4.3-6 cm, cylindrical, very short and thick, with an obconic base, white, old with grey-blue-greenish tone, when rubbed or damaged changing to intensive blue-greenish colour. Context of the stem is solid, with watery-greenish spots, and wholly watery-greenish at the base. **Lamellae** are 14-23 mm broad, usually indentedly adnate or only slightly decurrent, not oblique, at first ivory whitish, then watery-yellowish-white to creamy-white, with uneven edges. Hyphae of

the gill trama are thin walled, hyaline, with clamps. **Basidiospores** 7.8-10.5 × 4.5-6.5 µm, entirely smooth, ellipsoid, hyaline and amyloid. Spore powder cream. **Basidia** are clavate, tetrasterigmatic, 37-39 × 8-10 µm (Figure 1) . Edible. Grassy stepe-type land. Season spring and autumn.

Yozgat center, Çamlık National Park, among grasses in *Pinus nigra* J.F. Arnold forest, 39° 48' 040" N, 034° 48' 580" E, 18.05.2014, 1566 m, ISIK 548.

4. Discussion and Conclusion

With the present study, *Leucopaxillus lepistoides* (Maire) Singer was reported for the first time from Turkey for the Turkish mycota. Although nine species from *Leucopaxillus* genus (*Leucopaxillus albissimus* (Peck) Singer, *L. amarus* (Alb. & Schwein. : Fr.) Kühner, *L. candidus* (Bres.) Singer, *L. gentianeus* (Quél.) Kotl. , *L. giganteus* (Sowerby) Singer, *L. lentus* (H. Post) Singer, *L. mirabilis* (Bres.) Konrad & Maubl.; *L. paradoxus* (Costantin & L.M. Dufour) Boursier, *L. tricolor* (Peck) Kühner) have been recorded in Turkey [25], the number of them decreased from nine to six, for reasons such as some of them transferred to another group, and some of them becoming synonymous [26].

Leucopaxillus lepistoides is not common species. It can be with mixed *Leucopaxillus giganteus* (Sowerby) Singer, *Leucopaxillus albissimus* (Peck) Singer, *Clitocybe candida* Bres., *Entoloma sinuatum* (Bull.) P. Kumm., *Calocybe gambosa* (Fr.) Donk, *Macrocybe titans* (H.E. Bigelow & Kimbr.) Pegler especially in young period. *Leucopaxillus giganteus* has clearly decurrent lamellae, funnel-like cap and smaller spores (6-8 × 4-5.5 µm) [4]. *Clitocybe candida* grows in coniferous forests on needle litter, in open area, also in meadows and pastures, gregarious or in groups, rarely solitary. It has smaller basidiospores (6.5-8.5 × 4-5 µm) [5]. *Leucopaxillus albissimus* has spiny or warty spores and spore print is white [27]. *Entoloma sinuatum* has angularly subglobose and pink spore print. It also grow rich soil in open deciduous woodland or field edges. Pileus of *Calocybe gambosa* is smaller (5-15 cm) than *Leucopaxillus lepistoides* [28]. Pileus of *Macrocybe titans* is clay to golden brown when young, grayish beige to beige when old. It has pleurocystidia, caulocystidia and inamyloid spores [29]. *Leucopaxillus lepistoides* has economic importance in Hungary because of excellent edible fungus. Dried fungi are exported [24].

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