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First record of *Xerocomellus cisalpinus* for Turkish Mycobiota

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Abstract

Xerocomellus cisalpinus (Simonini, H. Ladurner & Peintner) Klofac is presented as new record for Turkish Mycobiota. This species is the sixth member of the genus *Xerocomellus* Šutara to be determined in Türkiye. A brief description of the species and the photographs, related to its macro and micromorphology are presented.

Key words: Biodiversity, Boletales, New record

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Xerocomellus cisalpinus'un Türkiye Mikobiyotası için ilk kaydı

Özet

Xerocomellus cisalpinus (Simonini, H. Ladurner & Peintner) Klofac, Türkiye Mikobiyotası için yeni kayıt olarak verilmiştir. Bu tür *Xerocomellus* Šutara cinsinin Türkiye'de belirlenen altıncı üyesidir. Türün kısa betimlemesi ile makro ve mikromorfolojisine ilişkin fotoğrafları verilmiştir.

Anahtar kelimeler: Biyoçeşitlilik, Boletales, Yeni kayıt

1. Introduction

Xerocomellus Šutara is a genus of the family Boletaceae. Members of the genus are characterized by small to medium-sized and often vividly coloured fruit bodies, velvety to often rimose-areolate pileus surface, minutely granulose, sometimes longitudinally striate but mostly non-reticulate stipe which is more slender compared to other boletes, initially palisadorem, typically encrusted pileipellis, and smooth to longitudinally striated, and not bacillate spore surface [1,2].

IndexFungorum currently lists 25 confirmed *Xerocomellus* species, five of which, *X. chrysenteron* (Bull.) Šutara, *X. porosporus* (Imler ex Watling) Šutara, *X. redeuilhii* A.F.S. Taylor, U. Eberh., Simonini, Gelardi & Vizzini, *X. truncatus* (Singer, Snell & E.A. Dick) Klofac, *X. zelleri* (Murrill) Klofac, were also reported to exist in Türkiye [3,4]. But the current checklists [4,5] and the latest contributions either as regional lists [6-8] or contributory records [9-13] indicated that *Xerocomellus cisalpinus* (Simonini, H. Ladurner & Peintner) Klofac has not been determined within the boundaries of Türkiye before.

The study aims to make a contribution to the macrofungal biodiversity of Türkiye.

2. Materials and methods

Fruit bodies were collected from Sarıyer (İstanbul) district during a field survey in 2023. Fruit bodies were photographed at their natural habitat, and necessary notes were taken about their ecological and morphological

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properties, and geographic position. Following collection, they were transferred to the fungarium in paper bags, and dried in an airconditioned room.

Investigations related to micromorphology were conducted under a Leica DM 2500 trinocular light microscope, equipped with a camera operating with a Relab Imaginary software. The specimens were mounted in potassium hydroxide, Congo-red, chrystal violet and safranin, and about 20 measurements were made for each micromorphological structure. The background of some photographs were cleaned with point net program without interfering with the cellular structure. With the help of the accumulated data from field and laboratory investigations, a description of the samples was prepared. Then, they were identified by comparing the determined characteristics with those given in literature [14-17]. The samples are kept at Karamanoğlu Mehmetbey University, Science Faculty of, Department of Biology.

3. Results

Boletaceae Chevall.
Xerocomellus cisalpinus (Simonini, H. Ladurner & Peintner) Klofac, Öst. Z. Pilzk. 20: 38 (2011) (Figure 1)

Syn: [*Boletus cisalpinus* (Simonini, H. Ladurner & Peintner) Watling & A.E. Hills, *Xerocomus cisalpinus* Simonini, H. Ladurner & Peintner].

Figure 1. Basidiocarps of *Xerocomellus cisalpinus*

Macroscopic and microscopic features

Pileus 30-50 mm in diameter, at first hemispherical, then convex to almost plane, surface dry, velvety, somewhat areolate in age, blackish to dark brown when young, pale brown to ochraceous at maturity with a reddish tint at marginal zone. Flesh whitish to creamy, soft, slightly blueing when injured. Tubes creamy yellow to pale yellow, slightly blueing when bruised. Pores almost concolorous with the tubes to olivaceous yellow, slightly blueing when injured. Taste and smell not distinctive. Stem 3−6.6(−7) × 5−9 mm, cylindrical without a ring, some slightly tapering towards the base, some slightly curved at the base or bulbose, yellow to olivaceous yellow in the upper half, gradually becoming dull red to ocher brown downwards, white fuzzy at the base, Context fibrillose and brittle, blueing when cut or bruised especially towards the base.

Basidia 32–43 × 10–11.5 µm, clavate, 2-4 spored (mainly 4) (Figure 2). Basidiospores (10.1−)10.4 − 12.5(−14.3) × (3.8−)3.9−4.8(−5) µm, subfusiform, thick walled, 1-3 guttulate (Figure 3).

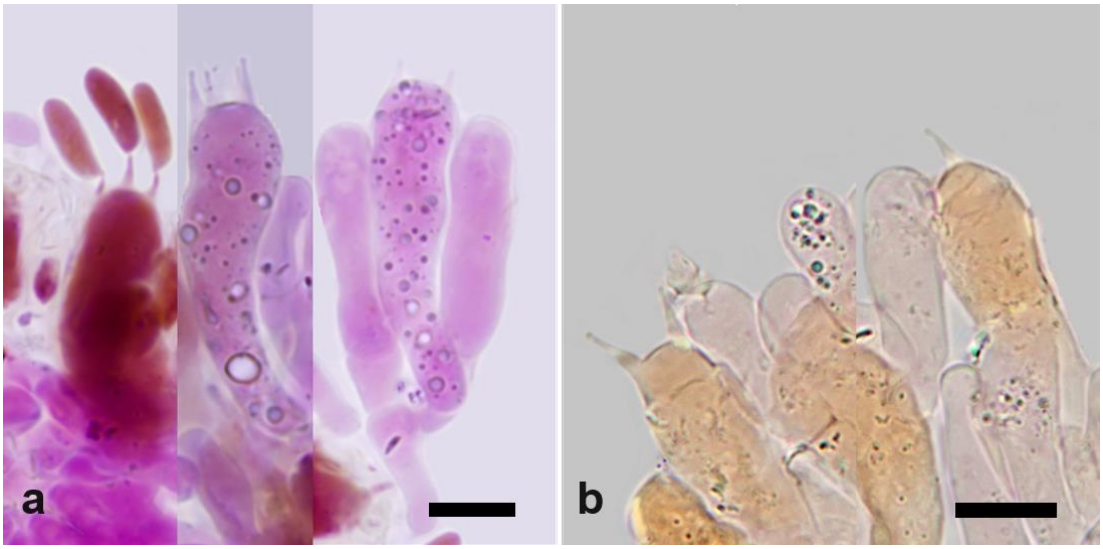

Figure 2. Basidia (a,b) of *Xerocomellus cisalpinus* (bars-10 µm) (a in crystal violet; b in Congo-red)

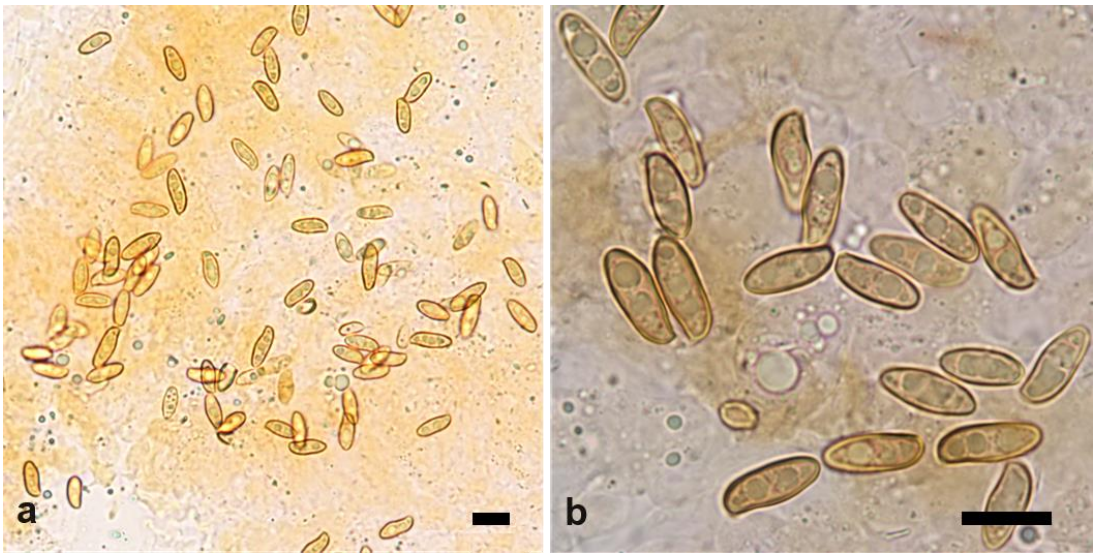

Figure 3. Basiospores (a,b) of *Xerocomellus cisalpinus* (bars-10 µm) (a,b in Congo-red)

Xerocomellus cisalpinus was reported to grow mainly under broad-leaved trees (*Quercus, Fagus, Populus, Betula*) as well as under conifers (*Pinus, Abies, Cedrus, Picea*) [14-18].

Specimen examined: İstanbul, Sarıyer, Belgrad Forest, Neşet Suyu Nature Park, under *Picea orientalis* and *Abies* sp., in mixed forest of *Picea*, *Abies*, *Carpinus* and *Fagus* spp., 41.190177N, 28.968502E, 150 m, 22.10.2023, YKaraduman 013.

Suggested Turkish name for the presented species is “Morcalı pöslen”.

4. Conclusions and discussion

Xerocomellus cisalpinus is added as a new record for Turkish Mycobiota. This species is the sixth member of the genus *Xerocomellus* in Türkiye. In general, the characteristics of the sample are in agreement with Peintner et al. [14], Læssøe and Petersen [15] and Assyov [16]. This species may have similar morphological appearance with *X. chrysenteron*, but the smooth spore surface of *X. chrysenteron* differs it from this species [15,16]. *Xerocomellus pruinatus* also have similar spore ornamentation with *X. cisalpinus*. But it lacks the ability of blueing [15].

Though *Xerocomellus cisalpinus* is mainly associated with broad-leaved trees such as Quercus, Fagus, Betula, Populus especially of *Quercus* spp. [14-18]. Association with some coniferous trees such as Pinus and Juniperus were also presented [14,18]. Turkish samples were collected under *Picea* and *Abies* spp., along with *Carpinus* and *Fagus* species.

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