

## Two New *Lachnum* Records for Turkish Mycobiota

Ilgaz AKATA<sup>1</sup>

Abdullah KAYA\*<sup>2</sup>

Yasin UZUN<sup>2</sup>

<sup>1</sup>Department of Biology, Ankara University, Ankara, TURKEY

<sup>2</sup>Department of Biology, Karamanoğlu Mehmetbey University, Karaman, TURKEY

\*Corresponding author:

E-mail: kayaabd@hotmail.com

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### Abstract

Two leotiomycetous macromycete taxa, *Lachnum brevopilosum* Baral and *Lachnum pygmaeum* (Fr.) Bres., belonging to the family Hyaloscyphaceae, are given as new records for the macromycota of Turkey from Gümüşhane and Trabzon provinces. Short descriptions and photographs related to macro and micromorphologies of the taxa are given.

**Keywords:** *Lachnum*, biodiversity, new records, Turkey

## INTRODUCTION

*Lachnum* Retz. is a widely distributed saprophytic genus of the family *Hyaloscyphaceae* Nannf within the order *Helotiales* [1]. Species of the genus are characterized by small, disc shaped apothecia covered with whitish hairs on receptacle surface, eight spored, subcylindrical or cylindrical to clavate asci with a iodine-blue pore, mostly aseptate, hyaline, narrowly ellipsoid, elongate or fusiform ascospores, and lanceolate to subcylindrical paraphyses, generally longer than the asci [2,3,4].

During routine field trips in Trabzon and Gümüşhane, in 2012, two leotiomycetous macrofungi samples were collected and they were identified as *Lachnum brevopilosum* and *Lachnum pygmaeum*. A check of the current literature [5,6] revealed that, neither *Lachnum brevopilosum* nor *Lachnum pygmaeum* have previously been recorded from Turkey.

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

## MATERIALS AND METHODS

Fresh samples were collected from Trabzon and Gümüşhane Provinces in 2012. During field trips, relevant morphological and ecological features of the specimens were recorded, and they were photographed in their natural habitats. Thereafter, the samples were taken to the fungarium. Microstructural data were obtained by light microscope. Microphotographs of asci and ascospores were taken through a Leica DM 1000 trinocular microscope with a Leica DFC 295 camera. Identification was performed with the help of the work reported by Hansen and Knudsen [2], Dimitrova [3], Ye et al. [7] and Jordan [8]. The samples are deposited in the herbarium of Ankara University (ANK) and Karamanoğlu Mehmetbey University, Department of Biology.

## RESULTS

### Fungi

*Ascomycota* R.H. Whittaker

*Leotiomycetes* O.E. Erikss. & Winka

*Hyaloscyphaceae* Nannf.

*Lachnum brevopilosum* Baral

Synonymy: *Dasyscyphus brevipilus* Le Gal (1930), *Lachnum curtipilum* Spooner (1987), *Lachnum legaliae* W.Y. Zhuang & Zheng Wang (1998).

### Macroscopic and microscopic features

Apothecia stipitate, 1-2 mm across, cup shaped. Hymenium white to whitish cream, outer surface the same colour. Hairs 45-60  $\mu\text{m}$ , cylindrical, septate, whitish and thin walled. Stipe 1-2 mm long, covered with whitish hairs. Asci 50-55  $\times$  4-5  $\mu\text{m}$ , eight spored, cylindrical to clavate. Ascospores 6-9  $\times$  1.5-2.5  $\mu\text{m}$ , hyaline, cylindrical to fusoid, irregular biseriate in the ascus. Paraphyses 2.5-3  $\mu\text{m}$  broad, hyaline, narrowly lanceolate, slightly longer than asci.

### Ecology

On rotten wood and woody remnants of deciduous trees, especially *Fagus* and *Fraxinus* [2,3,8].

### Specimen examined

TURKEY— Gümüşhane, Zigana mountain, on beech remnant, 40°41'N - 39°28'E- 1400 m, 23.10.2012, Akata & Uzun 897.

*Lachnum pygmaeum* (Fr.) Bres.

Synonymy: *Peziza pygmaea* Fr. (1822), *Helotium luteolum* Curr.(1863), *Helotium rhizophilum* Fuckel (1865), *Peziza prolifera* Berk. (1866), *Helotium pygmaeum* (Fr.) P. Karst. (1871), *Helotium tuba* var. *ochracea* Berk. & Broome (1875), *Peziza nuda* W. Phillips (1881), *Erinella pygmaea*

(Fr.) Quél. (1886), *Helotium pygmaeum* var. *pygmaeum* (Fr.) P. Karst. (1871), *Hymenoscyphus hedwigii* W. Phillips (1887), *Hymenoscyphus tuba* var. *ochraceus* (Berk. & Broome) W. Phillips (1887), *Lachnella luteola* (Curr.) W. Phillips (1887), *Lachnella nuda* (W. Phillips) W. Phillips (1887), *Lachnella pygmaeum* W. Phillips (1887), (*Dasyscyphus luteolus* (Curr.) Sacc. (1889), *Dasyscyphus pygmaeus* (Fr.) Sacc. (1889), *Dasyscyphus pygmaeus* f. *proliferus* (Berk.) Sacc. (1889), *Dasyscyphus pygmaeus* (Fr.) Sacc. f. *pygmaeus* (1889), *Helotium phillipsii* Sacc.(1889), *Phialea hedwigii* (W. Phillips) Sacc. (1889), *Ciboria pygmaea* (Fr.) Rehm (1893), *Ciboria ochracea* Masee (1895), *Helotium hedwigii* (W. Phillips) Masee (1895), *Atractobolus luteolus* (Curr.) Kuntze (1898), *Atractobolus pygmaeus* (Fr.) Kuntze (1898), *Calycina nuda* (W. Phillips) Kuntze (1898), *Lachnum hedwigii* (W. Phillips) Bres (1903), *Helotium pygmaeum* var. *proliferum* (Berk.) Boud. (1907), *Hyphoscypha nuda* (W. Phillips) Boud. (1907).

### Macroscopic and microscopic features

Apothecia stipitate, 2-4 mm across, disc to cup shaped. Hymenium whitish to yellowish, outside whitish to yellowish cream. Hairs 25-40  $\mu\text{m}$ , clavate, whitish and thin walled. Stipe 4-6 mm long, the same colour as outside. Asci 60-70  $\times$  5-6  $\mu\text{m}$ , eight spored, narrowly cylindrical to clavate. Ascospores 7-11  $\times$  2-2.5  $\mu\text{m}$ , hyaline, subcylindric to fusoid, biseriate in the ascus. Paraphyses 4-5  $\mu\text{m}$  broad, hyaline, lanceolate, exceeding the asci by 15-20  $\mu\text{m}$ .

### Ecology

On buried branches and dead roots and rhizomes [2].

### Specimen examined

TURKEY— Trabzon, Yomra, Yeşilyurt village, in common hazel orchard, on dead branch, 40°49'N - 40°01'E, 290 m, 29.10.2012, Akata & Uzun 1024.

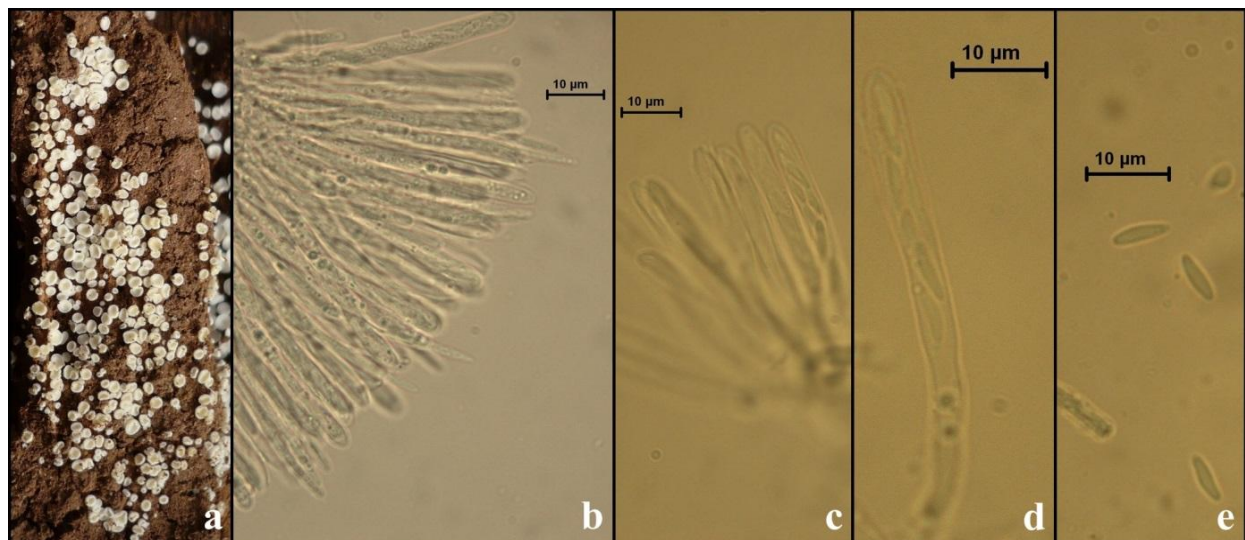
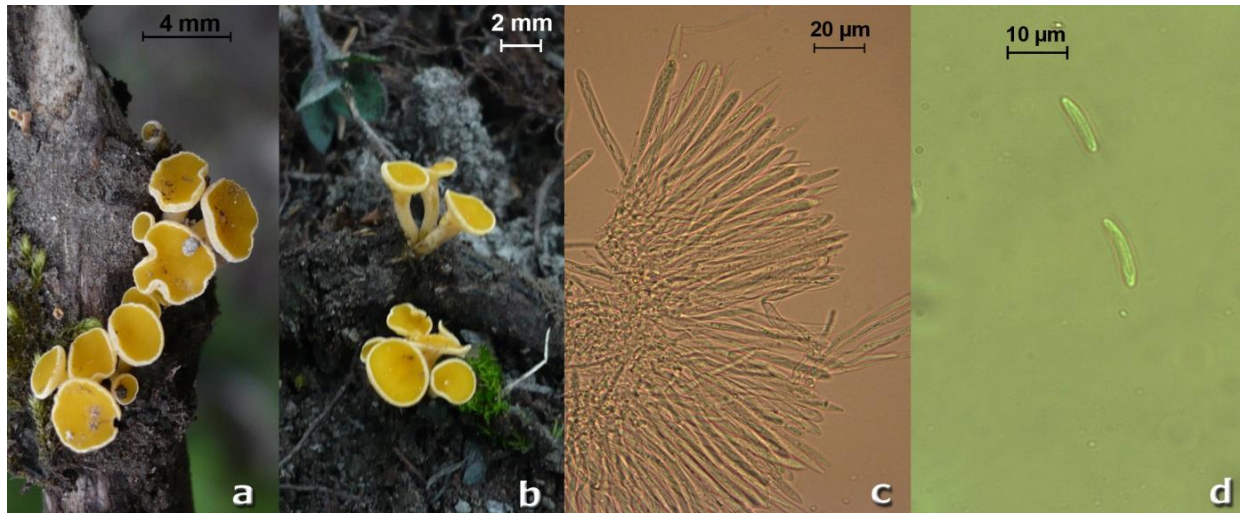


Figure 1. *Lachnum brevopilosum*: a. ascocarps, b,c. asci and paraphyses, d. ascus, e. spores.



**Figure 2.** *Lachnum pygmaeum*: a,b. ascocarps, c. asci and paraphyses, d. spores.

## DISCUSSION

*Lachnum brevipilosum* is macroscopically very close to *Lachnum virgineum* (Batsch) P. Karst. due to their white to cream coloured hymenium and similar hair wall ultrastructure. But it is separated from the latter species by stipitate apothecia while the former is substipitate. Likewise, *Lachnum pygmaeum* macroscopically resembles several yellowish orange *Lachnum* species but it is easily distinguished from others by its longer stipe.

More than 250 members of the genus *Lachnum* have been reported from diverse regions of the world [1,7]. But only two members, *L. bicolor* (Bull.) P. Karst. var. *bicolor* and *L. virgineum* (Batsch) P. Karst., are currently known to exist in Turkey [5,6,9,10]. Here, new distributions of *Lachnum brevipilosum* and *Lachnum pygmaeum* were given and they are presented as new records for the mycobiota of Turkey.

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