Geliş(Recevied) :02/05/2018
Kabul(Accepted) :11/05/2018

Research Article
Doi:10.30708/mantar.420517

A new Genus, *Schenella*, Addition to Turkish Mycota from *Geastraceae*

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Abstract: *Schenella pityophila* (Malençon & Riousset) Estrada & Lado was reported from Muğla during field studies in 2017 as a new record for Turkish mycobiota. This species is characterized by a hypogeous basidioma and the difference from the other genera of *Geastraceae* is given by the gleba, constituted of small and black separate peridioles containing the spores.

Key words: Biodiversity, macrofungi, new record, *Schenella*

Türkiye Mikotasına *Geastraceae*'den Yeni Bir Cins, *Schenella*, İlavesi

Öz: 2017 yılında Muğla'da yapılan arazi çalışmaları sırasında *Schenella pityophila* (Malençon & Riousset) Estrada & Lado Türkiye mikobiyotası için yeni bir kayıt olarak bulundu. Bu tür toprak altı bazidyoma ile karakterizedir ve Geastraceae'nin diğer cinslerinden farkı, sporları içeren küçük ve siyah parçalı peridyollerin oluşturduğu glebadır.

Anahtar kelimeler: Biyoçeşitlilik, makromantarlar, yeni kayıt, *Schenella*

Introduction

Schenella genus is represented by four species in the world. First *Schenella* species was published as *Schenella simplex* T.Macbr. by Macbride (1911). Martin (1961) described second species of *Schenella*, *S. microspore* G.W.Martin, then *Pyrenogaster pityophilus* Malençon & Riousset was published by Malençon and Riousset in 1977. Last *Radiigera romana* was published by Quadracia (1996) and this species transferred to *Pyrenogaster* genus as *Pyrenogaster romana* (Quadracia) Calonge by Calonge in 1997. Estrada-Torres et al. (2005) studied taxonomic position of these four species by molecular method and they transferred *Pyrenogaster* genus to *Schnella*, according to their studies *Radiigera* and *Pyrenogaster* genera are synonym of *Schenella* genus and these four species were transferred to *Schenella*. The aim of this study is to contribute to Turkish mycobiota

Material and Methods

Schenella specimens were collected in Muğla-Köyceğiz, Mındar ağaç, a part of 255, under *P. nigra*, 37º03'778"N/28º56'097"E, 1259m, 19.06.2017, HD18442; Muğla-Köyceğiz, Kocaçayır, a part of 120, *P. nigra*, 37º00'594"N/28º56'859"E, 1259m, 19.06.2017, HD18445, 18446. Colour photograph were taken and ecological features were noted at the field. Some chemical reagents (Melzer; KOH in 10%, 5%, 3%, or 2% solutions; cotton blue; IKI; etc.) were used for the macroscopic and microscopic studies. Peridium, spores and body sections were prepared and measured by light microscope (Leica DM 3000). The specimens were identified according to Montecchi and Sarasini (2000), Gori (2005). New recorded species was checked according to Sesli (2014), Akata and Uzun (2017), Akata (2017), Allı et al. (2017).

Results

Basidiomycota

Geastraceae

Schenella pityophila (Malençon & Riousset) Estrada & Lado [as 'pityophilus'], Mycologia 97(1): 147 (2005), Figures (1 and 2)

Description of the species was based from Montecchi and Sarasini (2000).

Fruitbodies globose, 20-25 mm diam. (Fig 1 A), hypogeous at first, then emerging from the soil; surface white to dirty whitish, later slightly brownish, it is enveloped by numerous remnants of the mycelial layer (Fig 2. A), also arranged in rhizomorphs, concolorous.

Exoperidium 2-4 mm thick, constituted of three well distinct layers: the external surface with a mycelial origin (Fig 2. A), an intermediate part, thin and fibrous (Fig 2. B), and last innermost part, thicker and fleshy, whitish in section, with a pseudoparenchymatous structure (Fig 2. C).

Endoperidium whitish, membranous, thin, separable from the exoperidium, containing the gleba (Fig 2 D).

Gleba consisting of a basal roundish pseudocolumella and of many peridioles radially arranged between the columella and the endoperidium; peridioles conical or bottle-shaped, about 3 x 1,5 mm, at first whitish, hollow and lined by a regular hymenium (Fig 1 B), when mature black and containing a powdery mass of spores and capillitium, wrapped by a hard cortex which gradually wears off for spore liberation.

Spores hyaline at first, with a rather thick wall, ellipsoid, apple pip-like or ovoid and smooth at first, then globose, dark brown, verrucose, 5.5-7.5 × 5-6 µm when ripe (Fig 2 E).

Discussion

The peridium of *Schenella* pityophila is in practice equal to that of *Geastrum* species, in number and structure of the various layers; completely peculiar is in contrast the glebal organisation in peridioles, separate and dehiscent when mature. The whole fruitbodies as well are dehiscent at full maturity, so that peridioles just become free (Montecchi and Sarasini 2000).

Until now, Geastraceae family is represented by *Geastrum* (18 species), *Myriostoma* (*M. coliforme*) and *Sphaerobolus* (*S. stellatus*) in Turkey. With this study fourth Genus, *Schenella,* will be added Turkish mycota.

Figure 1. A-Mature basidioma, B-Basidioma and peridiols.

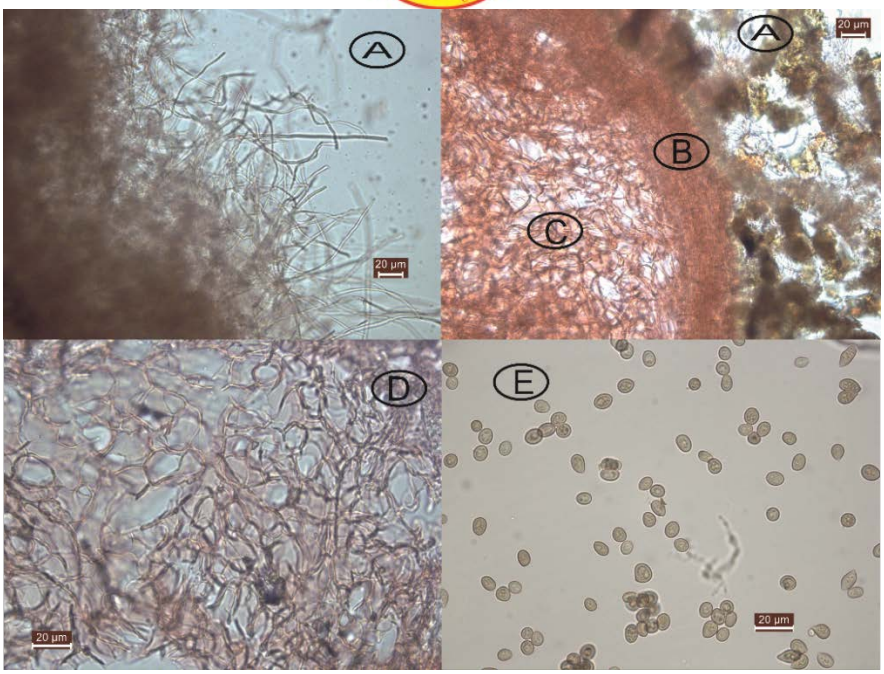

Figure 2. A-Mycelial layer on exoperidium, B-Intermediate part on exoperidium, C- pseudoparenchymatous structure on exoperidium, D-Endoperidium, E-Spores.

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