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Research note/Araştırma notu

Ascodesmidaceae J. Schröt. a new family (Ascomycota) record for the Turkish mycota

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Abstract

An interesting family *Ascodesmidaceae* is recorded from Turkey for the first time, by determining the *Lasiobolus papillatus* (Pers.) Sacc. The new record is described and illustrated.

Key words: : new family record, Ascodesmidaceae, Turkey

Ascodesmidaceae J. Schröt. Türkiye mikotası için yeni bir familya kaydı

Özet

İlginç bir familya olan Ascodesmidaceae, Lasiobolus papillatus (Pers.) Sacc.'un belirlenmesiyle Türkiye'den ilk defa kaydedilmiştir. Yeni kaydın tanımı ve fotoğrafları verilmiştir.

Anahtar kelimeler: yeni familya kaydı, Ascodesmidaceae, Türkiye

1. Introduction

Ascodemidaceae is characterized with their small apothecia which develop from paired ascogonia and antheridia like *Pyronemataceae*. The family is phylogenetically closely related to *Pyrenomycetaceae* and distinguished by brown tuberculate, spiney, or reticulate ascospores and almost complete loss of the excipulum (Kristiansen, 2011). *Ascodesmidaceae* comprises three genera; *Ascodesmis* Tiegh., *Lasiobolus* Sacc. and *Eleutherascus* Arx.

Ascodesmis is known one of the smallest genera in *Pezizales*, comprising eleven species in the world-wide, and all are strictly coprophilous. Their size, almost never exceeds 0.5 mm in diameter. It has a rather simple anatomy and consists of a bunch of asci with a limited number of colourless paraphyses, and almost no excipulum. Young spores are hyaline and smooth, then becomes pale to dark brown with ornamentation (Kristiansen, 2011).

Eleutherascus contains four species, all of them are very tiny. *Eleutherascus* is an extremely simple and small organism with under 0.1 mm apothecial size in *Ascodesmidaceae*. The genus is very closely related to *Ascodesmis*, with their ultrastructural shapes. This similarity was confirmed by phylogenetic studies (Hansen and Pfister 2006).

The genus *Lasiobolus* is characterized, by small (usually < 1.0 mm diam.) coprophilous discomycetes. First globose, then turbinate to disc shaped with bristly, usually yellowish, orange or red, setose apothecia, generally aseptate setae, operculate, in-amyloid, eight-spored to multispored asci, and hyaline to yellowish, smooth, unicelled, thin-walled ascospores that contain gas bubbles (Bezerra and Kimbrough, 1975; Yao, 1996; Doveri, 2007). Also it contains 21 species (Index Fungorum, www.speciesfungorum.org, accessed 20 January 2014). Any members of these genera haven't been found yet in Turkey yet (Solak et al., 2007; Gücin et al., 2010; Akata et al., 2011; Sesli and Denchev, 2013; Solak et al., 2014a; Solak et al., 2014b).

Present study aims to make a contribution to the macromycota of Turkey by adding a new family records.

2. Materials and methods

Macrofungi samples were collected during routine field trips in different localities of Aydın Province in spring 2013. Morphological and ecological characteristics of the samples were noted and they were photographed in their

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natural habitats before taken to the fungarium. The identified specimens were deposited at the fungarium of Muğla Sıtkı Koçman University.

3. Results

After laboratory studies *L. papillatus* which is known "Dikenli gübre mantarı" was identified. This taxon is a new record for Turkish mycota, according to current checklists (Solak at al., 2007; Sesli and Denchev, 2013). Also genus *Lasiobolus* and family *Ascodesmidaceae* are new records for Turkey.

Pezizales

Ascodesmidaceae J. Schröt.

Lasiobolus papillatus (Pers.) Sacc. (Figure 1).

Ascomata, 0.5-1.2 mm in diameter, sessile, with hairs like *Scutellinia* (Cooke) Lambotte, orange to yellow coloured. Hairs 300-657 μ m long, aseptat and hyaline. Asci cylindrical, eight spored. Spores 21.7-24.8 × 11.5-12.5 μ m, ellipsoidal, hyaline without guttules, covered by irregular, gelatinous coating. Grows on herbivores dung (Hansen and Knudsen, 2000)

Turkey, Aydın, Söke, Sofular village, on cow dung, 37°661545'N, 27°683952'E, 25.03.2013, H 218.



Figure 1. Lasiobolus papillatus a and b. ascomata, c. ascus, d. ascospores, e. hairs

4. Conclusions

Species of *Ascodesmidaceae* are among the most highly reduced apothecial form and interascal tissue poorly developed. The *Ascodesmidaceae* is considered saprobe and all known species are coprophilous. In some phylogenetic studies family clustered with in the *Pyrenomycetaceae*. But most phylogenetic studies showed that *Pyrenomycetaceae* is parafiletic with *Ascodesmidaceae* and *Glaziellaceae* and accessed as a diverse family (Hansen and Pfister, 2006; Cannon and Kirk 2007; Hansen et al., 2013).

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