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New additions to Turkish *Pyronemataceae*

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Abstract

Two macromycete taxa, *Melastiza chateri* (W.G. Sm.) Boud. and *Scutellinia armatospora* Denison belonging to the family *Pyronemataceae*, are new records for the macromycota of Turkey. Short descriptions and photographs related to macro and micromorphologies of the taxa are given.

Key words: New record, Macrofungi, *Pyronemataceae*, Turkey

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Türkiye'nin *Pyronemataceae* üyelerine yeni ilaveler

Özet

Pyronemataceae familyasına ait iki makromantar taksonu, *Melastiza chateri* (W.G. Sm.) Boud. ve *Scutellinia armatospora* Denison, Türkiye makromantarları için yeni kayıttır. Türlerin kısa deskripsiyonları ve makro ve mikromorfolojilerine ait fotoğrafları verilmiştir.

Anahtar kelimeler: Yeni kayıt, makromantarlar, *Pyronemataceae*, Türkiye

1. Introduction

Pyronemataceae is the largest family of the order *Pezizales*, encompassing 75 genera and representing about half of the known species within the order with about 500 species (Hansen & Pfister, 2006). Members of the family are diverse in ascomatal or cleistothecial form, and lack unifying macroscopic or microscopic characteristics (Eckblad, 1968; Korf, 1972; Kimbrough, 1989). *Melastiza* and *Scutellinia* are the genera within *Pyronemataceae* with five and 33 confirmed taxa, respectively.

So far, one *Melastiza*, *M. cornubiensis* (Berk. & Broome) J. Moravec (Gücin & Öner, 1982), and two *Scutellinia*, *S. scutellata* (L.: Fr.) Lambotte (Doğan & Öztürk, 2006; Kaya, 2009a) and *S. umbrorum* (Fr.) Lambotte (Kaya, 2009b), taxa have been recorded from Turkey.

During our routine field trips two ascomycete samples were collected and they were identified as *Melastiza chateri* (W.G. Sm.) Boud. and *Scutellinia armatospora* Denison. Tracing the current checklists (Solak et al., 2007; Sesli & Denchev, 2010) and the recent contributions (Akata & Çetin, 2009; Akata et al., 2009; Akata & Kaya, 2010; Kaya et al., 2010; Taşkın, 2010; Doğan & Aktaş, 2010; Demirel et al., 2010, Gücin et al., 2010), it is found that they are new for the mycota of Turkey.

The work aims to contribute to the macromycota of Turkey by adding new records.

2. Materials and methods

The study materials were collected from Yomra district of Trabzon province (Turkey) in 2009. Necessary morphological and ecological characteristics of the samples were recorded and they were photographed in their natural

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habitats. Then the samples were taken to the laboratory for further investigations. Microstructural data was obtained by light microscopy. Reagents such as Melzer reagent, 5% KOH, distillate water were used. Light microphotographs of asci and ascospores were taken by Leica DM 1000. The identification of the taxa was carried out using the literature (Phillips, 1981; Breitenbach & Kränzlin, 1984; Hansen & Knudsen, 2000). The identified specimens were deposited at the herbarium of Ankara University (ANK).

3. Results

Short descriptions, photographs of fruit bodies and microphotographs of asci, ascospores and paraphyses of the species are provided. The systematics of the taxa are in accordance with Kirk et al. (2008).

Ascomycota
Pezizomycetes
Pezizomycetidae
Pezizales
Pyronemataceae

Melastiza chateri (W.G. Sm.) Boud. (1907).

Synonym: Humaria chateri (W.G. Sm.) Sacc., *Peziza chateri* W.G. Sm.

Macroscopic and microscopic features: Apothecia 7-10 mm broad, conical to saucer shaped, stalkless on the ground, hymenium bright red, outer surface the same colour (Figure 1a), margin covered by short, dark brownish hairs. Ascospores hyaline, elliptical with irregular reticulate ornamentation (Figure 1c), often with thorny outgrowths and some also with drops at the poles, 17-19 × 8-10 µm, Asci eight spored (Figure 1b), 220-290 µm. Paraphyses cylindrical, tips with clavate. Hairs cylindrical, brownish, smooth, with 2-4 septa (Figure 1d), 105-200 × 14-15 µm.

Ecology: May to September, in forest, forest egde, along the roads and paths, on bare loamy or sandy ground (Breitenbach & Kränzlin, 1984).

Specimen examined*:* Trabzon, Yomra, İkisu Village, path side, on bare ground, 40°56′23″ N - 39°48′36″ E, 135 m, 09.10.2009, Akata 2917.

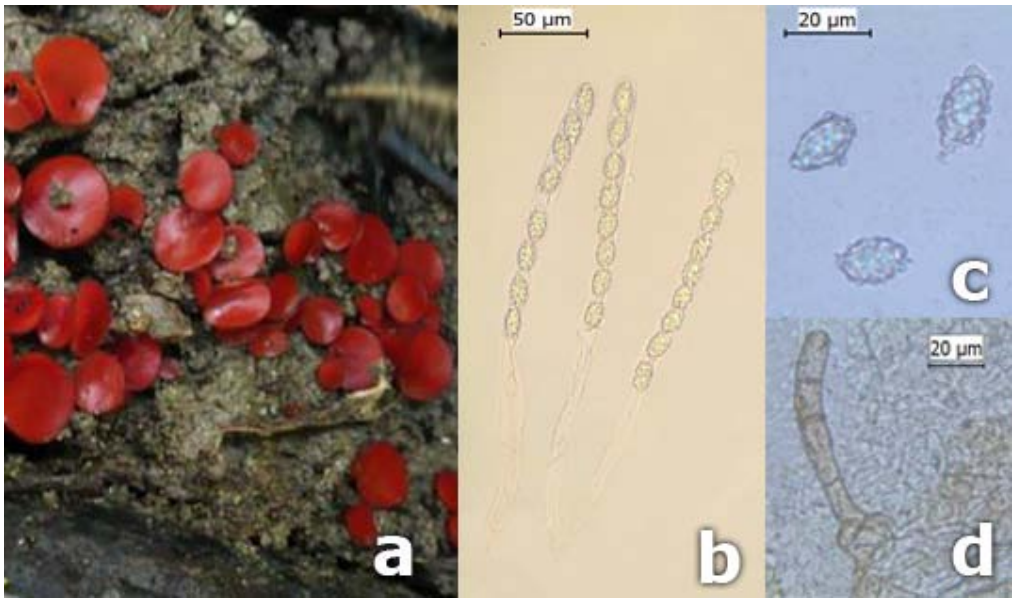

Figure 1. *Melastiza chateri,* a. Fruit bodies, b. Asci, c. Ascospores, d. Hair

Scutellinia armatospora Denison

Macroscopic and microscopic features: Apothecia 2-7 mm, circular, cup shaped when young, flattens in age and become disc-shaped, stalkless on the ground, hymenium bright orange to red, outer surface and margin covered with dark-brown bristlelike hairs (Figure 2a). Ascospores hyaline, round, ornamented with blunt cylindrical to conical spines, 16-17µm (Figure 2c). Asci eight spored (Figure 2b), 280-300 × 20-22 µm. Paraphyses cylindrical, tips with clavate thickenings. Hairs up to 1000 × 40 µm, dark brown, thick walled, multiply septate and ending in a sharp point (Figure 2d).

Ecology: June to October, in broadleaved and coniferous forests, on roads and pathsides, on bare sandy ground (Breitenbach & Kränzlin, 1984).

Specimen examined: Trabzon, Yomra, Kaşüstü Village, path side, on bare ground, 40°57′08″ N - 39º49′37″ E, 200 m, 10.10.2009, Akata 2944.

4. Conclusions and discussions

As a result of this study, *Melastiza chateri* (W.G. Sm.) Boud. and *Scutellinia armatospora* Denison belonging to the family *Pyronemataceae*, were added as new records for the macromycota of Turkey.

Melastiza chateri could be confused with some *Scutellinia* and *Cheilymenia* members due to their similar morphology. But blunt hyphae-like hairs and coarsely ornamented spores makes it easily distinguishable. (Breitenbach & Kränzlin, 1984). Likewise, *Scutellinia armatospora* and *S. trechispora* (Berk. & Broome) Lambotte are easily distinguished from all other *Scutellinia* members by the globose ascospores with blunt, cylindrical to conical spines. *S. armatospora* differs from *S. trechispora* with its smaller ascospores and apothecia.

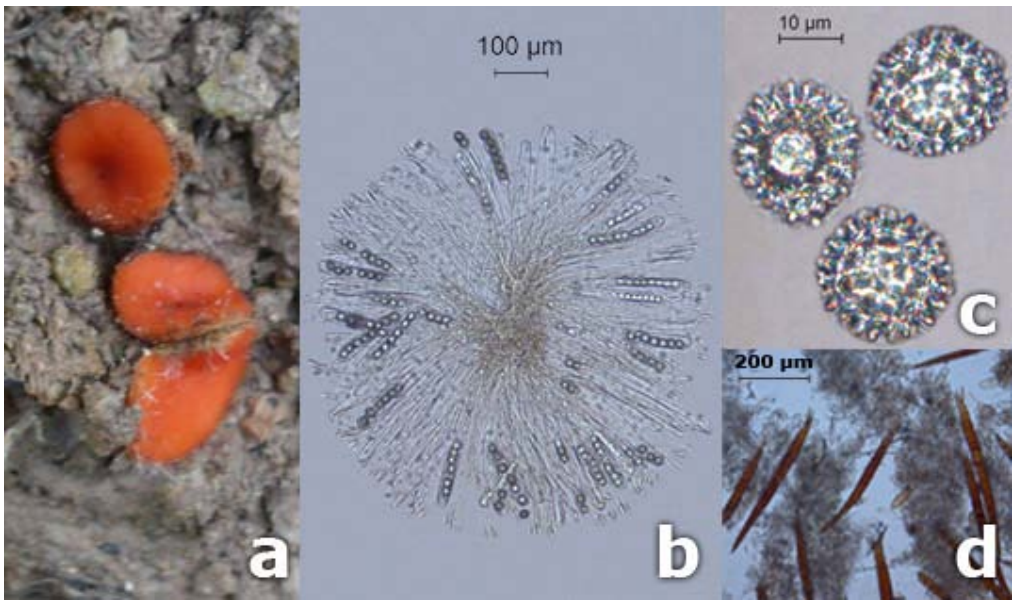

Figure 2. *Scutellinia armatospora,* a. Fruit bodies, b. Asci, c. Ascospores, d. Hairs.

References

Akata, I., Çetin, B. 2009. Ilgaz Dağlarından Türkiye mikotası için yeni bir kayıt. Ot Sistematik Botanik Dergisi. 16: 159-164.

Akata, I., Doğan, H.H., Çetin, B. 2009. A New Record for Otidea Genus From Turkey. Kafkas Üniversitesi Fen Bilimleri Enstitüsü Dergisi. 2/1: 21-24.

Akata, I., Kaya, A. 2010. A New Jelly Ascomycetous Genus Record for Turkish Mycobiota, SDÜ Journal of Science. 5/1: 1-4.

Breitenbach, J., Kränzlin, F., 1981. Fungi of Switzerland. Volume 1. Ascomycetes. Verlag Mycologia, Luzern.

Demirel, K., Erdem, Ö., Uzun, Y., Kaya, A., 2010. Macrofungi of Hatila Valley National Park (Artvin-Turkey). Turk J Bot. 34/5: 457-465.

Doğan, H.H., Aktaş, S. 2010. Two new Ascomycetes records from Mediterranean part of Turkey. Biological Diversity and Conservation. 3/1: 83-86.

Doğan, H.H., Öztürk, C., 2006. Macrofungi and their distribution in Karaman province, Turkey. Turk J Bot. 30: 193-207.

Eckblad, F.E. 1968. The genera of operculate Discomycetes. A re-evaluation of their taxonomy, phylogeny and nomenclature. Norwegian Journal of Botany. 15: 1-191.

Gücin, F., Kaya, A., Soylu, M.K., Uzun, Y. 2010. Picoa Vittad., a new truffle genus record for Turkey. Biological Diversity and Conservation. 3/3: 23-25.

Gücin, F., Öner, M., 1982. New ascomycetes for Turkish mycoflora. Fırat Üniversitesi Fen Fakültesi Dergisi. 2: 107-110.

Hansen, K., Pfister, D.H. 2006. Systematics of the Pezizomycetes-the operculate discomycetes. Mycologia. 98: 1029-1040.

Hansen, L., Knudsen, H. 2000. Nordic Macromycetes (Ascomycetes). Vol.1. Copehagen: Nordsvamp.

Kaya, A. 2009a. Macrofungal diversity of Adıyaman Province (Turkey). Mycotaxon. 110: 43-46.

Kaya, A. 2009b. Macrofungi of Huzurlu High Plateau (Gaziantep-Turkey), Turk J Bot. 33/6: 429-437.
Kaya, A., Uzun, Y., Keleş, A., Demirel, K. 2010. Three coprinoid macrofungi taxa, new to Turkey. Turk J Bot. 34/4: 351-354.
Kimbrough, J.W. 1989. Arguments towards restricting the limits of the Pyronemataceae (Ascomycetes, Pezizales). Memoirs of the New York Botanic Garden. 49: 326–335.
Kirk, P.F., Cannon, P.F., Minter, D.W., Stalpers, J.A. 2008. Dictionary of the fungi, 10th ed. CAB International, Wallingford.
Korf, R.P. 1972. Synoptic key to the genera of Pezizales. Mycologia, 64: 937-94.
Phillips, R. 1981. Mushrooms and other fungi of Great Britain and Europe. Pan books Ltd, London.
Sesli, E., Denchev, C.M. 2010. Checklists of the Myxomycetes, larger Ascomycetes and larger Basidiomycetes in Turkey. Mycotaxon 106 [2008], 65–67 + on-line version: 1–133 (http://www.mycotaxon.com /resources/checklists/sesli-v106-checklist.pdf).
Solak, M.H., Işıloğlu, M., Kalmış, E. Allı, H. 2007. Macrofungi of Turkey, Checklist. Volume-I. Üniversiteliler Ofset, Bornova-İzmir.
Taşkın, H. 2010. A new record for Turkish Mycota: Serpula lacrymans (Wulfen) J.Schröt. Biological Diversity and Conservation. 3/1: 66-69.

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