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Two New Additions to Turkish Ascomycota

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Abstract: *Ciboria coryli* (Schellenb.) N.F. Buchw. (Sclerotiniaceae) and *Peziza saniosa* Schrad. (Pezizaceae) are new records for the macromycota of Turkey. Short descriptions and photographs of macro and micromorphologies of the taxa are given.

Key words: Macrofungi, new records, Turkey

INTRODUCTION

The genus *Ciboria* Fuckel, a genus in the family *Sclerotiniaceae*, was circumscribed by the German botanist Karl Fuckel in 1870 (Fuckel, 1870) and is characterized by the excipular tissue comprising globose to angular cells arranged in elements oriented at a high angle to the surface of the receptacle (Johnston, 2002).

Peziza Dill. ex Fr., the type genus of the family Pezizaceae (Norman and Egger, 1999), is generally characterized by epigeous, sessile or stipitate, cup-shaped, cupulate, turbinate, pulvinate or sparassoid apothecia which range in size from a few millimeters to more than 10 centimeters in diameter (Barseghyan and Wasser, 2010). The genus has a history of almost 300 years since it was first erected by Dillenius in 1719, and the interpretations made on this genus during this period were summarized by Rifai (1968).

Ciboria and *Peziza* are widespread genera with 21 and 104 confirmed taxa, respectively (Kirk *et al*., 2008) and both of *C. coryli* and *P. saniosa* currently exist in many countries (Dimitrova, 2002; Barseghyan and Wasser, 2010). Compared to such diversity, only one member of *Ciboria, C. rufofusca* (O. Weberb.) Sacc., (Kaya, 2009) and 20 members of *Peziza* have so far been recorded from Turkey (Sesli and Denchev, 2009).

During field studies in Trabzon province some ascomycetous macrofungi samples were collected. After laboratory studies, two of them were identified as *Ciboria coryli* (Schellenb.) N.F. Buchw. (Sclerotiniaceae) and *Peziza saniosa* Schrad. (Pezizaceae.) According to the literature on Turkish macrofungi (Turkekul, 2003; Solak *et al*., 2007; Turkoglu *et al*., 2008; Uzun *et al*., 2009; Aktas *et al*., 2009; Keles and Demirel, 2010; Akata and Kaya, 2010; Sesli and Denchev, 2009; Akata *et al*., 2011), both of them are new records for the macromycota of Turkey.

The study was aimed to make a contribution to Turkish mycobiota.

MATERIALS AND METHODS

Fruit bodies of the specimens were collected from Uzungöl and Yomra districts of Trabzon province (Turkey) between 2010 and 2011. During field studies, necessary data related to morphology and ecology of the samples were recorded and they were photographed in their natural habitats. Then the samples were taken to the fungarium for further investigations. To obtain microscopic data, a Leica DM 1000 trinocular light microscope with ocular micrometer, distillate water, 5% KOH and Melzer's reagent were used. Identification of the species was performed with the help of Breitenbach and Kranzlin (1984), Hansen and Knudsen (2000) and Medardi (2006). The identified specimens are deposited at the herbarium of Ankara University (ANK).

RESULTS

***Ciboria coryli* taxonomy:**
Kingdom: Fungi
Division: Ascomycota
Class: Leotiomycetes
Sub-class: Leotiomycetidae
Order: Helotiales
Family: Sclerotiniaceae
Species name: *Ciboria coryli* (Schellenb.) N.F. (Buchw, 1943)
Syn: *Sclerotinia coryli* Schellenb (1906)

Macroscopic and microscopic features: Apotecia 10-35 mm broad, cupuliform, pale brown, stem 10-25×0.5-1 mm, hymenium smooth brownish to pale brown, outer surface the same color (Fig. 1a). Asci 8 spored, 140-170×7-10 μm

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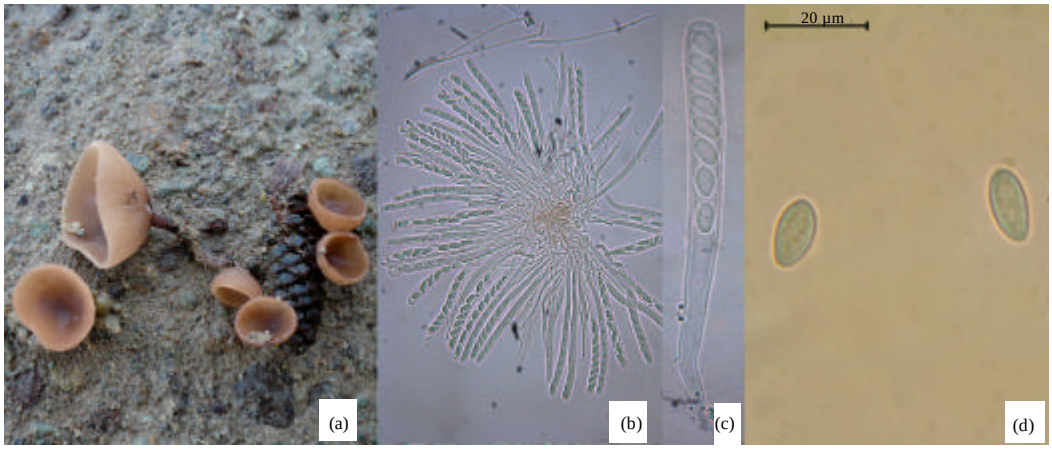

Fig. 1: *Ciboria coryli* (a) Ascocarps, (b) Asci and paraphyses, (c) Ascus and (d) Spores

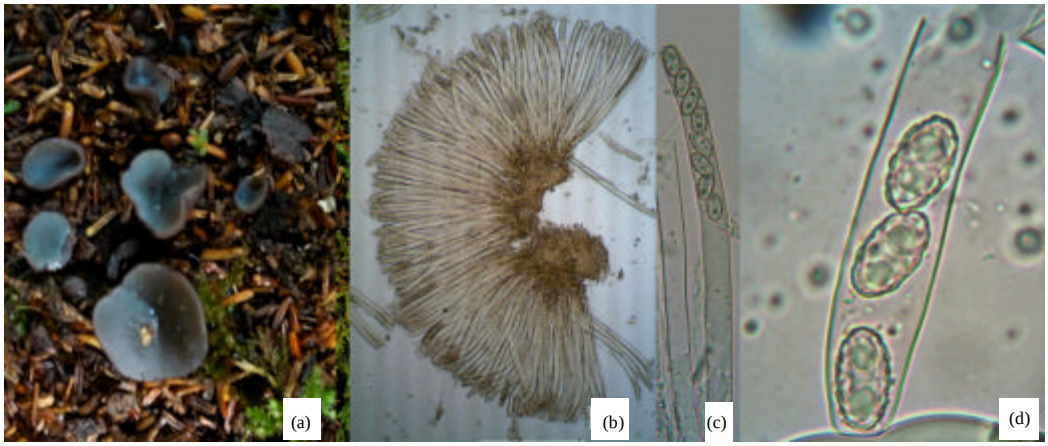

Fig. 2: *Peziza saniosa* (a) Ascocarps, (b) Asci and paraphyses, (c) Ascus and (d) Spores

(Fig. 1b, c), paraphyses cylindrical, Ascospores 15-16×6-8 µm (Fig. 1d), smooth, hyaline.

Ecology: male catkins of *Corylus avellana* L.

Specimen examined: Trabzon, Yomra, Ikisu Village, on male catkins of *Corylus avellana* L., 40°55' N - 39°47' E, 170 m, 25. 05. 2010, Akata 3106.

***Peziza saniosa* taxonomy:**
Class: Pezizomycetes
Sub-class: Pezizomycetidae
Order: Pezizales
Family: Pezizaceae
Species name: *Peziza saniosa* (Schrad, 1799)
Syn: *Aleuria saniosa* (Schrad.) Gillet (1879); *Galactinia saniosa* (Schrad.) Sacc. (1889); *Plicaria saniosa* (Schrad.) Rehm (1896).

Macroscopic and microscopic features: Apotecia 15-30 mm broad, disc to cup shaped, hymenium smooth, light blue-violet, outer surface dingy brown to brownish, resting stalkless on the substrate (Fig. 2a), excluding bluish violet juice when injured. Asci 260-270×13 µm, eight spored (Fig. 2c). Paraphyses, cylindrical, septate, slightly clavate at the tips (Fig. 2b). Ascospores 15-16×7-8 µm, elliptical, hyaline, with irregular coarse warts, with two drops (Fig. 2d).

Ecology: Rare, summer to autumn, singly to gregarious, broad-leaved and coniferous forests among mossy, grassy and bare ground.

Specimen examined: Trabzon: Uzungöl Nature Protect Area, under *Picea orientalis* (L.) Link, on soil, 40°36' N-40°17' E, 1475 m, 24. 08. 2011, Akata 4007.

DISCUSSION

The genus *Ciboria* was restricted by most authors to species occurring on fruits or catkins of amentiferous trees and shrubs (Johnston, 2002). *Ciboria caucus* (Rebent.: Fr.) Fuckel, type species of the genus, for example, grows on catkins of *Populus* L., *Salix* L. and *Corlyus*. *C. coryli* is similar to *C. caucus* in many ways, but it grows only on male catkins of *Corylus avellana*. Spore size is another distinguishing character between two species, where *C. caucus* has spores up to 10 μm while the spores of *C. coryli* are much more longer (Medardi, 2006).

Since *Peziza* Dill. ex Fr. is a large and a broadly defined genus, sometimes it is not possible to find clear diagnostic characteristics for defining the taxa. That's why many *Peziza* species have a rich synonymy due to placement of some species in different genera by different authors (Barseghyan and Wasser, 2010). One reason of this inaccuracy is the lack of certain critical characters, such as hymenial color and production of colored juice, due to inadequate study of fresh materials (Pfister *et al*., 2007). Even studying the fresh samples, some characters, such as color, may also be problematic. Probably it is also the case *P. saniosa*. Dennis (1978) and Moser (1963) state the color of the outer surface as being dark grayish brown, as it is the case for our samples, but Breitenbach and Kranzlin (1984) and Barseghyan and Wasser (2010) have recorded their fresh samples to have distinctly dark purple color. For this fungus, yield of bluish juice, which is exuded when the fresh material injured, overcomes this problem (Breitenbach and Kranzlin, 1984; Barseghyan and Wasser, 2010).

With this study new distributions of *Ciboria coryli* (Schellenb.) N. F. Buchw. (*Sclerotiniaceae)* and *Peziza saniosa* Schrad. (*Pezizaceae)* were given and a contribution was made to Turkish mycobiota by adding new records.

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