



### Some new additions to Turkish mycobiota from Sakarya region

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#### Abstract

During the field studies occurred between 2012-2013, three macrofungi species identified as new records from Sakarya region, Turkey. They are *Hymenoscyphus serotinus* (Pers.) W.Phillips, *Hypoxylon macrosporum* P.Karst., *Inocybe grammopodia* Malençon. Descriptions of the taxa along with their distinct features are given and discussed in the text.

**Key words:** Sakarya, new records, Turkish Mycobiota

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Türkiye mikobiyotasına Sakarya bölgesinden katkılar

#### Özet

2012-2013 yılları arasında Sakarya'da yapılan arazi çalışmaları sonucunda 3 makromantar türü, Türkiye için yeni kayıt olarak tespit edilmiştir. Bu türler *Hymenoscyphus serotinus* (Pers.) W.Phillips, *Hypoxylon macrosporum* P.Karst. ve *Inocybe grammopodia* Malençon'dır. Bu türlerin belirgin özellikleri metin içerisindeki betimlerde verilmiş ve tartışılmıştır.

**Anahtar kelimeler:** : Sakarya, yeni kayıt, Türkiye Mikobiyotası

#### 1. Introduction

The research localities are placed in Samanlı Mountains located in the north part of Sakarya district. Samanlı Mountains has typically Mediterranean climate and the main tree populations at the region are *Fagus orientalis* Lipsky, *Abies bornmuelleriana* Mattf., *Quercus robur* L. subsp. *robur* and *Castanea sativa* Mill. These vegetation type and climate conditions make the area good location for macrofungal growth and diversity.

According to Sesli and Denchev (2014), 2158 macrofungi species were recorded for Turkish Mycota. With the later studies such as; Sesli and Kobayashi, (2014), Güngör et al., (2014), Solak et. al (2014a-b), Türkoğlu and Castellano, (2014), Sesli, (2014), Uzun et al., (2014) and Akata et al., (2014) the number of macrofungi records were raised to 2191. With this study, it is aimed to make contributions to the Turkish Mycota by adding new species.

#### 2. Materials and methods

The macrofungi specimens were collected at the localities in Göktepe and Keremali districts in Akyazı region (Sakarya), during 2012-2013. Important macroscopical features and ecological statuses of the specimens were noted and digital images were taken in their habitat. Materials were put into dehydrators after collection to dry and subsequently were deposited in the fungarium.

The micro morphological analyzes of the specimens were performed using a Leica DM750 light microscope. The specimens were examined with Melzer's reagent, 5% KOH and distilled water and digital images were taken. At least 20 spores were measured to calculate the dimensions. The specimens identified according to the literatures Kuber

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(1986), Hansen and Knudsen (2000) and Knudsen and Vesterholt (2008). The samples are kept in the Fungarium of Selçuk University, Konya.

**3. Results**

**Ascomycota**

**Helotiales**

**Helotiaceae**

***Hymenoscyphus serotinus* (Pers.) W.Phillips**

Fruit body stipitate, deep yellow, drying brownish, apothecia 1-5 mm broad, cup to disc shaped, stipe 2-10 mm long. Asci 110-140 × 8-12 μm; spores clavate, curved 19-25×8-11 μm, on *Fagus*.

Sakarya: Geyve, Acielma, on *Fagus*, 40°35'49K-030°10'60D, 961 m, 31.10.2013, leg. *H.H. Doğan & Ö. Öztürk*, Coll. No: HHD 11741.



Figure 1. a. Ascocarps of *Hymenoscyphus serotinus*, b. Asci of *H. serotinus*, c. Ascospores of *H. serotinus*.

**Xylariales**

**Xylariaceae**

***Hypoxylon macrosporum* P.Karst.**

Stromata indefinitely effused or occasionally pulvinate when erumpent from bark, reddish purple when young becoming grey purple at maturity, applanate with discrete abrupt margin on decorticated wood, becoming pulvinate, ostioles slightly sunken and punctuate. Asci 130-180 × 11-15 μm, with stalk 45-80 μm; spores 22-37×9.5-14.5 μm, on *Carpinus*.

Sakarya: Akyazı, Göktepe district, Ahmediye village, on *Carpinus*, 40°35'37K-030°32'26D, 961 m, 02.11.2012, leg. *H.H. Doğan & Ö. Öztürk*, Coll. No: HHD 8534.

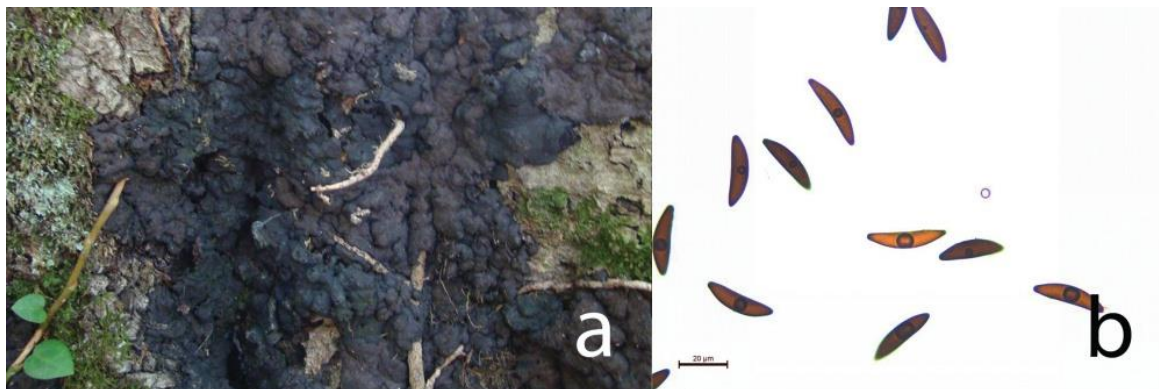


Figure 2. a. Ascocarp of *Hypoxylon macrosporum*, b. Ascospores of *H. macrosporum*.

**Basidiomycota**  
**Agaricales**  
**Inocybaceae**  
***Inocybe grammopodia*** Malençon

Pileus 30-60 mm, campanulate, then broadly umbonate, alutaceous red-brown to red-brown, smooth around center, outwards radially fibrillose. Lamellae moderately crowded, narrowly adnate to almost free, whitish then grayish, finally reddish-brownish with somewhat paler edge. Stipe 30-70×6-10 mm, at base somewhat submarginately bulbous, solid, light brownish at apical part, downwards somewhat paler getting nearly white, pruinose over greater part, under pruina conspicuously longitudinally striate. Cortina not observed. Context whitish in pileus, somewhat brownish in stipe. Smell when cut more or less spermatic, later on more fruit like. Taste farinaceous. Spores 9-10.5 × 4.5-6 μm, smooth, subamygdaliform, dextrinoid. Pleurocystidia cylindrical to fusiform, 55-65×12-20 μm, slightly thick walled, crystals at apex, frequent. Cheliocystidia similar to pleurocystidia.

Sakarya: Akyazı, Dokumacı district, under *Abies*, 40°33'08K-030°34'13D, 1185 m, 02.11.2012, leg. *H.H. Doğan & Ö. Öztürk*, Coll. No: HHD 8554 leg. *H.H. Doğan & Ö. Öztürk*, Coll. No: HHD 8562, leg. *H.H. Doğan & Ö. Öztürk*, Coll. No: HHD 8572.

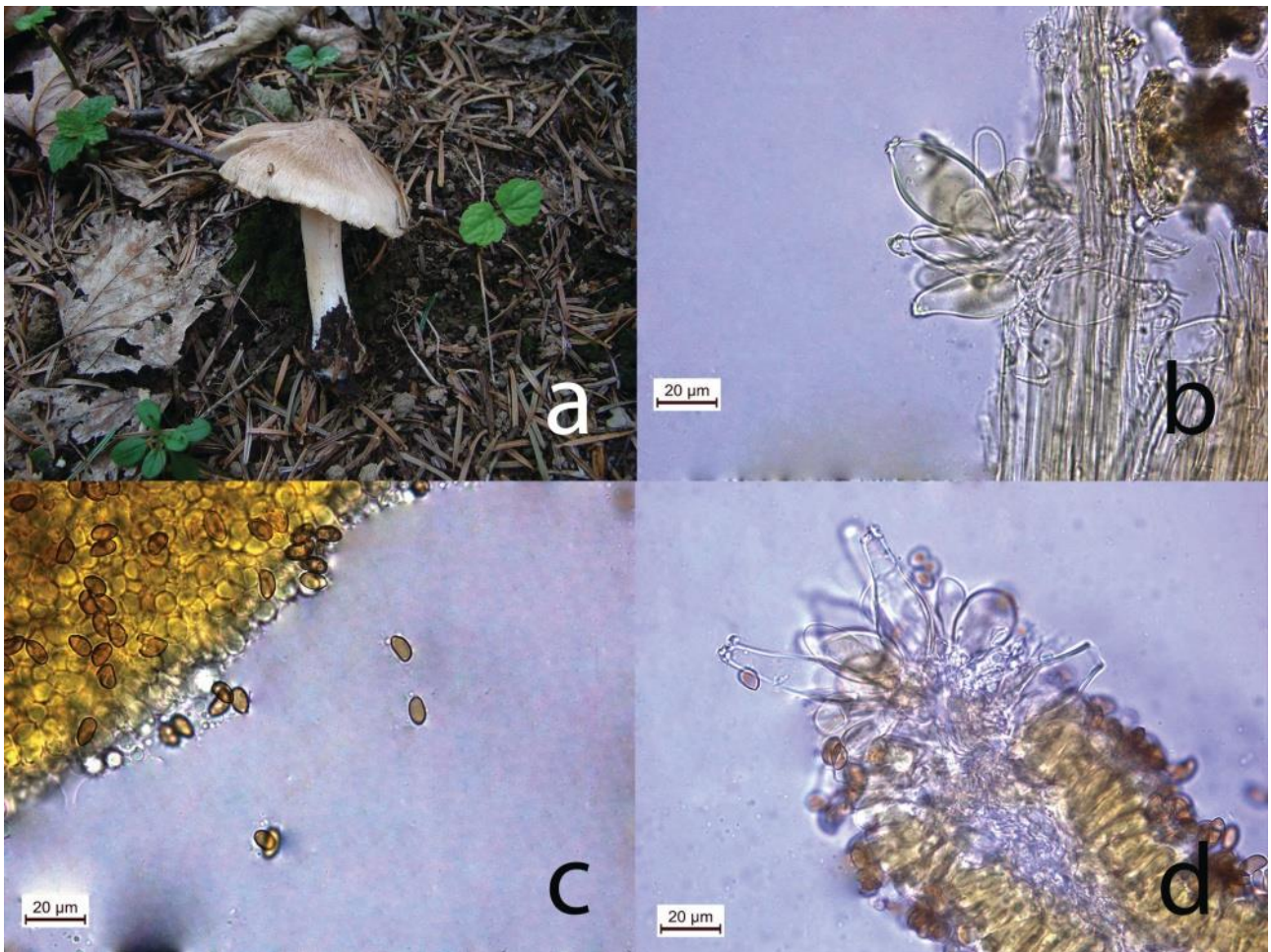


Figure 3. a. Basidiocarp of *Inocybe grammopodia*, b. Caulocystidia of *I. grammopodia*, c. Basidiospores of *I. grammopodia*, d. Cheliocystidia of *I. grammopodia*..

**4. Conclusions and discussion**

According to Sesli and Denchev, (2014) there were 7 species belonging to *Hymenoscyphus*, 79 taxa belonging to *Inocybe*, 4 species belonging to both *Hypoxylon* genera recorded in Turkey before this research. In terms of macro-microscopical features, there are no important differences between present species and literature. However some differences were observed for the habitat and substrate of the species according to literature. *I. grammopodia* grows in both coniferous and broadleaved forests such as *Cedrus* or *Quercus* (Kuber, 1986), it is also collected from coniferous forest but under *Abies* instead of *Cedrus* and it differs from *I. roseipes* with its longitudinally striate stipe. *H. serotinus* differs from *H. salicellus* with its longer sitpe and curved spores, it lives on dead branches of *Fagus* (Hansen and

