



A NEW RECORD OF *OPHIOBOLUS* Riess FOR TURKEY

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ABSTRACT

In this study, *Ophiobolus periclymeni* (P. Crouan & H. Crouan) Sacc. has been reported for the first time in Turkey. Its description, morphological character, and photos were presented.

KEYWORDS: New record, *Ophiobolus*, microfungi, Turkey

1. INTRODUCTION

The flora of Turkey is very diverse (about 10500 species and subspecies belonging to 1223 genera and 173 families) that is the main reason for many studies dealing with higher plants. Rich diversity of plant species indicates that microfungi in close relationship with the plants take place frequently in the Phytocoenose. Though not as much as high plants, the studies about mycobiota of Turkey have been continued extensively. However, most of the researches carried out for mycobiota are related to macrofungi. The limited available studies concerned with microfungi exist for growth on generally agricultural plants and partly wild herb [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]. The microfungi growth on trees and shrubs have been studied intensively in last two decades [12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23].

2. MATERIAL & METHOD

In this study, the material was collected during mycological excursion in trees and shrubs of central district, Kırşehir province, in Autumn, 2013. Host plants were identified referring on the “Flora of Turkey and East Aegean Island” [24]. Standard mycological methods were used in the investigations.

The species of microfungi were determined by using interested identification keys and monographs [25, 26, 27, 28]. Identified species and their author's names were checked by Index fungorum database (accessed March 2016) [29].

3. RESULT & DISCUSSION

Ophiobolus periclymeni (P. Crouan & H. Crouan) Sacc., Syll. fung. (Abellini) 2: 348, 1883. Fig 1 a – d.



Figure 1. *Ophiobolus periclymeni*: a – Pseudothecias, b – Open pseudothecia and asci ($\times 100$), c – Asci and ascospores ($\times 400$), d – Ascospores ($\times 400$).

Pseudothecia immersed, black, ovoid, up to 1 mm diam., with short cylindrical ostiole. Asci cylindrically, 8-spored, 160 – 180 x 9 – 11 µm. Ascospores filiform, up to 120 – 160 x 2,80 – 4,5 µm, guttulate, multiseptate, with one short cell just above the middle distinctly swollen.

Dead thin branches of *Lonicera caucasica* Pall. was gathered from Kırşehir, garden of Kırşehir high school, 940 m a. s. l., 39°08'940''N, 34°09'895''E, 03.06.2014, TG 0190.

Lonicera species is cultivated as ornamental plants in the gardens and parks of this country. *Lonicera* belongs to Caprifoliaceae family, which is common almost everywhere outside Western Anatolia. There are seven species of *Lonicera* in Turkey. Three species related to Ascomycota and one microfungi species related to Basidiomycetes were recorded in previous studies [13]. They are *Lasiobotrys lonicera* (Fr.) Kunze, *Kabatia mirabilis* Bubák, *Ascochyta tenerrima* Sacc. & Roum. and *Puccinia coronata* Corda which were recorded on leaves of *Lonicera caucasica* in Rize province.

Examinations at family level according to contemporary mycology experts and current taxonomy Index fungorum [29] show that *Phaeosphaeriaceae* M.E. Barr is emerging. On the other hand, according to Cannon and Kirk [30]; *Ophiobolus* has been given among important genera of *Leptosphaeriaceae* M.E. Barr, and its features have been provided below.

Leptosphaeriaceae: Ascomata perithecial, often conical, papillate, immersed or erumpent, sometimes aggregated into small stromata, with a well-developed, usually periphysate, ostiole; peridium black, well-developed, sometimes thicker at the base, composed of thick-walled pseudoparenchymatous cells. Interascal tissue of cellular pseudoparaphyses. Asci cylindrical, relatively narrow and thin-walled but fissitunicate, with a distinct ocular chamber. Ascospores hyaline to Brown, transversely septate, sometimes elongated, sometimes with a sheath [30].

Significant genera: *Leptosphaeria* Ces. & De Not., *Ophiobolus* Riess.

Distribution: Cosmopolitan, but especially prominent in temperate regions.

Economic significance: Little is known. A number of species are known as crop pathogens, especially *Leptosphaeria maculans* on crucifers.

Ecology: Saprobic or weakly necrotrophic on stems or leaves [30].

Ophiobolus: Pseudothecia scatteret, semi-flattened, or semi-conical, ostiolar neck papillate or elongated, membranaceous. Asci cylindrical, 8-spored, with paraphyses. Ascospores filiform, elongated, multiseptate.

Type (representative) species: *Ophiobolus disseminans* Riess, Hedwigia 1(6): 27, 1854.

Ophiobolus differ from *Linocarpon* Syd. & P. Syd. and *Gaeumannomyces* Arx & D.L. Olivier with bitunicate of asci and swollen cell of central septum of the ascospores. Their ascus are unitunicate and there are not swollen cell of central septum. On the other hand, *Linocarpon* differs in having a small clypeus around the ostiolar necks and in the consistently upright perithecia with central necks.

O. periclymeni was discovered firstly by Saccardo [26] in dead branches of *Lonicera caprifolium* L. in 1883 in Italy. After the Saccardo, it was discovered on *Lonicera caprifolium* from Spain [31, 32]. Today, its 296 species are known worldwide that two of them were recorded in Turkey, but *O. periclymeni* has not been previously recorded in Turkey

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