

New data on Ascomycota in Albania

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Abstract. Eight new species are reported for the first time from Albania (*Coccomyces delta*, *Cucurbitaria elongata*, *Dialonectria episphaeria*, *Flammocладиella decora*, *Hypospilina pustula*, *Massaria anomia*, *Nectria cinnabarina*, *Ophiognomonina setacea*). *Trochila craterium* is recorded on a new host in that country.

Key words: Balkan mycota, *Diaporthales*, *Hypocreales*, new records

Introduction

The knowledge on the Albanian mycota is still considered insufficient. According to available information, Petrak's contribution (Petrak 1922) has been regarded as starting point of the mycological investigations. Petrak had studied micromycetes (smut and rust fungi, many ascomycetous fungi – in sexual and predominantly in non-sexual states) from Albania, collected mostly in the vicinities of Rrogozhinë, Shkodër, Durrës, as well as in Bosnia. There are few known works dealing with macrofungi and usually including ascomycetes collected from that country (e.g. Pacioni 1984; Ivančević & Karadelev 2013; Karadelev & al. 2014; Mersinllari & al. 2017; Assyov 2018). The latest study of Assyov (2018) has expanded the species diversity of the larger basidiomycetes in Albania with 45 species.

Material and methods

The studied specimens have been collected during a short trip (21–23 October 2016) in two regions of Albania: Korçë (near Çërravë village and before Grabovicë town) and Sarandë (a coastal town about 14 km eastwards of the northern end of Corfu Island). Some collections from the regions of Korçë and Sa-

randë provided by Dr. Boris Assyov (Institute of Biodiversity and Ecosystem Research, BAS) have been also examined. The microscopic features were studied in tap-water. The color photographs, including microphotographs, were taken *ex situ* with Canon PS A460 and Canon PS A1400 HD digital cameras under Boeco BM-180/T/SP LM and Boeco BOE 3500, or Carl Zeiss dissecting microscopes. The studied specimens were deposited in the Mycological Collection of the Institute of Biodiversity and Ecosystem Research (SOMF). Asci, ascospores and conidia were measured in water under LM. The size of ascospores and conidia is presented below as follows: (min-) mean \pm 1 st.dev. (-max), n; 'n' – denotes the number of measured spores. Identification of fungal taxa generally follows Munk (1957), Booth (1959), Rossman (1983), Fakirova (1991), Hanlin (1998), Hirooka & al. (2011), Gräfenhan & al. (2011), Stoykov (2012a), and Lechat & Fournier (2018).

Results and discussion

After a trip in 2016 and a further visit in 2019, ten ascomycetous species collected from Albania are reported here. Eight of them are new species for the Albanian mycota: *Coccomyces delta* (Kunze : Fr.) Sacc.;

Cucurbitaria elongata (Fr. : Fr.) Grev.; *Dialonectria episphaeria* (Tode : Fr.) Cooke; *Flammocliadiella decora* (Wallr.) Lechat & Fournier; *Hypospilina pustula* (Pers. : Fr.) M. Monod; *Massaria anomia* (Fr. : Fr.) Petrak; *Nectria cinnabarina* (Tode. : Fr.) Fr.; *Ophiognomonina setacea* (Pers. : Fr.) Sogonov. *Trochila craterium* (DC.) Fr. is reported on a new substratum in the country. *Erysiphe alphitoides* (Griff. & Maubl.) U. Braun & S. Takam. was observed in the studied region. The findings are presented below in an alphabetical order. *Dialonectria episphaeria* and *Flammocliadiella decora* (*Hypocreales*) are described concisely in the text, owing to lack of original descriptions in the existing literature based on material from the Balkans.

Coccomyces delta (Kunze : Fr.) Sacc.

Specimens examined: Albania, Sarandë distr., the town of Sarandë, Lëcurësi castle, on dry leaves of *Quercus coccifera* L., 23.10.2016, SOMF 30154; Butrint, 39°44'39.9'N, 19°59'48.6'E, on dry leaves of *Q. coccifera*, leg. B. Assyov, 31.05.2019, SOMF 30155.

Cucurbitaria elongata (Fr. : Fr.) Grev.

Specimen examined: Albania, Korçë distr., along a side road to Çërravë village and before Grabovicë town, 40°90'21.9'N, 20°43'22.4'E, on dry twigs of *Robinia pseudoacacia* L., 21.10.2016, SOMF 29703.

Note. This species has been found on dead twigs of Black Locust as saprobiont (Munk 1957; Stoykov 2012b).

Dialonectria episphaeria (Tode : Fr.) Cooke (Figs 1-2)
Syn. *Cosmospora episphaeria* (Tode : Fr.) Rossman & Samuels

Ascomata subglobose to obpyriform, (180)190–215 (240) μm in diameter, red when dry, glabrous, scattered to gregarious, with short papilla, collapsing cupulate when dry. **Peridium** in cross-section about 25–30 μm in diameter, dark-red or purple in 10% KOH; yellow in lactophenol. **Asci** 65–70(75) \times 7–8.5 μm , cylindrical, 8-spored, with minute apical ring. **Ascospores** (8-)10.5 \pm 1(-11.5) \times (4-)5.1 \pm 0.3(-5.5) μm , length/width ratio (1.6-)2 \pm 0.2(-2.3) μm , n=25, hyaline, broadly-ellipsoid, rounded at the ends, slightly constricted at the septa, guttulate, uniseriate.

Specimen examined: Albania, Korçë distr., along a side road to Çërravë village and before Grabovicë town, 40°90'21.9'N, 20°43'22.4'E, on stromata of

Diatrype stigma (Hoffm. : Fr.) Fr. in dead oak twigs, 21.10.2016, SOMF 29704.

Note. This species was recorded on twigs of *Fagus sylvatica* L. in Bulgaria (Klika 1926). The lectotype of *Dialonectria episphaeria* was reported on stroma of *Diatrype stigma* on partly decorticated wood (Booth 1959: 76).



Fig. 1. *Dialonectria episphaeria*: ascomata on stroma of *Diatrype stigma*. Scale bar = 200 μm .

Erysiphe alphitoides (Griff. & Maubl.) U. Braun & S. Takam., as *Oidium alphitoides* Griff. & Maubl.

Specimen examined: Albania, Korçë distr., along a side road to Çërravë village and before Grabovicë town, 40°90'21.9'N, 20°43'22.4'E, on living leaves of *Quercus frainetto* Ten., 21.10.2016, SOMF 30030.

Flammocliadiella decora (Wallr.) Lechat & Fournier (Figs 3-4)

Asexual morph from natural environment: **Sporodochia** developed over the stroma of *Massaria anomia*, orange when dry. **Conidia** hyaline, usually curved, long, cylindrical-clavate, mostly 3–5 septate, in fascicles, 65–90 \times 2.5–3(-3.3) μm .

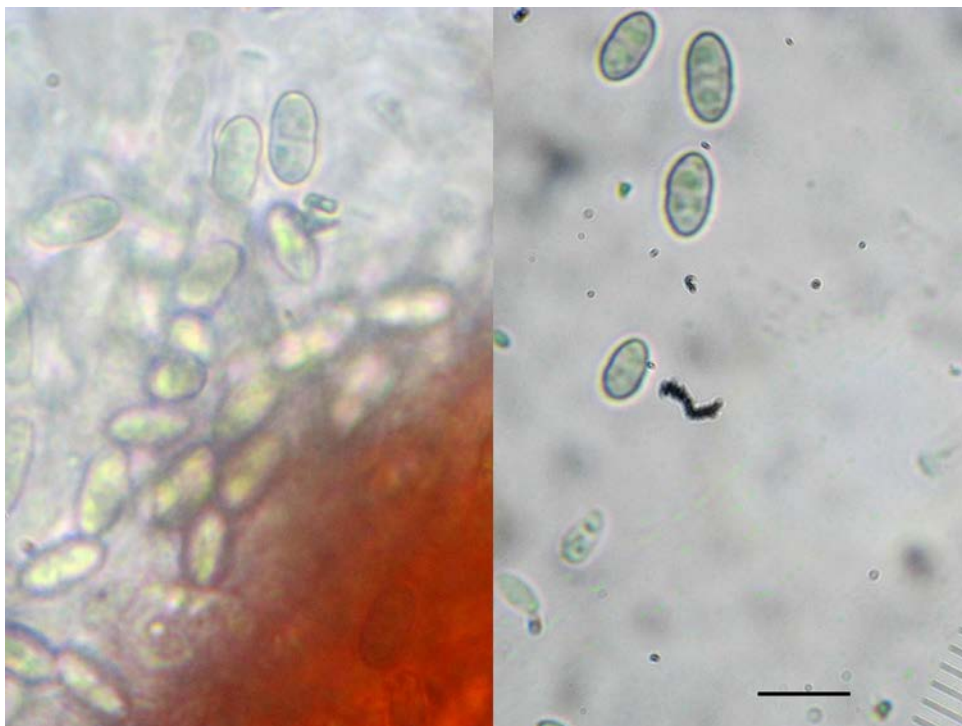


Fig. 2. *Dialonectria episphaeria*: asci and ascospores, in water. Scale bar = 10 μ m.

Specimen examined: Albania, Korçë distr., along a side road to Çërravë village and before Grabovicë town, 40°90'21.9"N, 20°43'22.4'E, on dead stromata of *Massaria anomia* in the dry twigs of *Robinia pseudoacacia* L., 21.10.2016, SOMF 29705.

Note. This fungus has been reported recently from the Balkans as associated with *M. anomia* on the twigs of Black Locust (Stoykov & al. 2018).

Hypospilina pustula (Pers. : Fr.) M. Monod

Specimens and material examined: Albania, Korçë distr., along a side road to Çërravë village and before Grabovicë town, 40°90'21.9"N, 20°43'22.4'E,

on overwintered leaves of *Quercus dalechampii* Ten., 21.10.2016, SOMF 29709; Sarandë distr., Butrint, 39°44'39.9'N, 19°59'48.64'E, on overwintered leaves of *Quercus* cf. *pubescens* Willd., 31.05.2019, leg. B. Assyov, SOMF 30153; idem., Sarandë, the Blue Eye, 01.06.2019, leg. B. Assyov, on overwintered leaves of *Q. frainetto*.

Note. In the Balkans, *H. pustula* was recorded in Bulgaria on overwintered leaves of *Quercus cerris* L., *Q. dalechampii*, *Q. frainetto*, *Q. hartwissiana* Stev., *Q. pedunculiflora* C. Koch, *Q. polycarpa* Schur., *Q. pubescens*, *Q. rubra* L., and *Q. virgiliana* Ten. (Stoykov 2012a). In Romania, *H. pustula* was recorded on leaves



Fig. 3. *Flammocladiella decora*: sporodochia.



Fig. 4. *Flammocladiella decora*: conidia, in water.

of *Quercus pedunculiflora* (Stoykov 2004). Stoykov & Denchev (2007) reported *H. pustula* from Turkey (Strandzha Mts) on leaves of *Quercus dalechampii*, *Q. rubra* and *Q. polycarpa*.

Massaria anomia (Fr. : Fr.) Petrak (Fig. 5)

Specimen examined: Albania, Korçë distr., along a side road to Çërravë village and before Grabovicë town, 40°90'21.9"N, 20°43'22.4'E, on dry twigs of Black Locust, 21.10.2016, SOMF 29710.

Note. Saprobiont on twigs (Stoykov 2012b). It is known as a host-fungus of *Nectria decora* (Wallr.) Fuckel (Stoykov & al. 2018).



Fig. 5. *Massaria anomia*: ascospores, in water.

Nectria cinnabarina (Tode. : Fr.) Fr., as *Tubercularia vulgaris* Tode : Fr.

Specimen examined: Albania, Korçë distr., along a side road to Çërravë village and before Grabovicë town, 40°90'21.9'N, 20°43'22.4'E, on dry twigs of Black Locust, 21.10.2016, SOMF 30029.

Additional specimen examined: Bulgaria: Sofia region, the city of Sofia, in the garden of Vrana Park, on dead twigs of *Acer* sp., as *T. vulgaris*, 04.04.2018, SOMF 30158.

Note. The specimen from Sofia region on a twig of maple had hyaline oblong cylindrical conidia about $(3.5\text{-})5.14 \pm 1.1(-8.0) \times (1.2\text{-})1.64 \pm 0.3(-2.3) \mu\text{m}$, $n=15$. The Albanian material had ellipsoid-cylindrical hyaline conidia about $(5.5\text{-})7.31 \pm 0.9(-9) \times (1.4\text{-})2.27 \pm 0.3(-2.6) \mu\text{m}$, $n=16$. Irrespective of the slightly higher mean values of the Albanian specimen, when compared to the Bulgarian material, both specimens conform well to the data in Hirooka & al. (2011: 46). The

differences could result from studying dead conidia (SOMF 30029), as compared to conidia measured in a living state (SOMF 30158), or just from the presence of two morphotypes of *Tubercularia vulgaris* on different host plants.

Ophiognomonium setacea (Pers. : Fr.) Sogonov

Specimens examined: Albania, Korçë distr., southwards of Barmash village, along the road between Ersekë and Leskovik villages, 40°15'13.9'N, 20°37'07.9'E, on overwintered leaves of *Quercus trojana* Webb, 04.06.2019, leg. B. Assyov, SOMF 30156; idem., on overwintered leaves of *Q. dalechampii* Ten., leg. B. Assyov, SOMF 30157.

Note. In the Balkans, *O. setacea* has been studied in Greece on overwintered leaves of *Q. trojana* (Stoykov 2016). *O. setacea* was reported on leaves of *Castanea sativa* and *Quercus petraea* (Matt.) Liebl. in Romania (Bontea 1985). Stoykov & Denchev (2007) recorded *O. setacea* in Turkey (Strandzha Mts) on leaves of *Quercus cerris* L. and *Q. polycarpa*. *O. setacea* is known also from Bulgaria on leaves of *Castanea sativa* Mill., *Q. cerris*, *Q. dalechampii*, *Q. pedunculiflora*, *Q. pubescens*, *Q. rubra*, and *Q. thracica* Stef. & Ned. (Stoykov 2012a).

Trochila craterium (DC.) Fr.

Specimen examined: Albania, Sarandë distr., the town of Sarandë, along the central alley near the port, on dry leaves of *Hedera canariensis* Willd., 23.10.2016, SOMF 29708.

Note. In Albania, *T. craterium* was reported by Petrak (1922) from the region of Shkodër, on leaves of *Hedera helix* L. *T. craterium* is known also from Romania (Bontea 1985) and Bulgaria (Stoykov & Assyov 2009), exclusively on dead leaves of *Hedera helix*. *H. canariensis* appears as a new host of *T. craterium* for Albania.

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