

New data for Pezizales in Bulgaria

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Abstract. Three species of operculate discomycetes that are new to Bulgaria and three that are rare are reported and illustrated: *Otidea propinquata*, *Peziza depressa*, *Pseudoplectania sphagnophila*, *Helvella ephippium*, *Octospora humosa*, and *Trichophaea hybrida*. New localities of 10 other species are also given.

Key words: ascomycetes, discomycetes, fungi of Bulgaria, Pezizales

Introduction

The present article is a contribution to the study of the species composition and distribution of the operculate discomycetes (Pezizales) in Bulgaria. Data on 16 species are given. Three of them are reported for the first time from the country, viz. *Otidea propinquata*, *Peziza depressa*, and *Pseudoplectania sphagnophila*. New localities are reported for 13 other species. Among them *Helvella ephippium*, *Octospora humosa*, and *Trichophaea hybrida* are rare species (Breitenbach & Kränzlin 1984; Dennis 1978) and are reported for the second time in Bulgaria.

The new species for Bulgaria are presented with concise description and are illustrated. The same is also done for the rare species, which were previously reported with chorological data only (Aleksandrov 1971; Hinkova & Fakirova 1970).

Material and Methods

The investigated specimens were collected from a few floristic regions of Bulgaria in 2000. Macroscopic features of fresh specimens were recorded within several hours of collection. Specimens were air dried and packaged in paper bags. Asci, ascospores, and paraphyses were observed and measured after rehydrating of dried material in tap water. Squash mounts were made in iodized lactophenol. Twenty spores from each specimen were measured.

All the specimens cited in the paper are kept in the Mycological Collection of the Institute of Botany, Bulgarian Academy of Sciences (SOMF). Determination, nomenclature, and taxonomy of the species are in accordance with Breitenbach & Kränzlin (1984), Dennis (1978), and Dissing (2000).

List of species

New species for Bulgaria

Otidea propinquata (P. Karst.) Harmaja, *Karstenia* 15: 32, 1976. (Fig. 4)

Apothecia superficial, gregarious (in groups of 4–5), cup-shaped, 2–2.5 cm in diam, short-stipitate, outside glabrous, ochraceous or brownish; hymenium concolorous; stipe 1.2 cm wide, 0.5 cm high, tomentose, white. **Asci** 220–300 × 15–17.5 µm, cylindrical, apex rounded, not blued by iodine, 8-spored. **Ascospores** (16–) 17.5–20 × 10–11 (–12.5) µm, ellipsoid, unicellular, biguttulate, uniseriate in the ascus, hyaline. **Paraphyses** cylindrical, septate, apices hooked, often forked, 2.5–3 µm wide.

On soil in spruce forests. Western Rhodopi Mts: Beglika reserve, 19 Sep 2002, B. Assyov (BA) & E. Dimitrova (ED) (SOMF 25 321).

Peziza depressa Pers., *Observ. Mycol.* 1: 40, 1796. (Fig. 2)

Apothecia superficial, single or gregarious, sessile, cup-shaped, up to 2.4 cm in diam, outside glabrous, cinnamon-brown, with slightly concave concolorous hymenium and

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thin involute, fine dot-like, cracked rim. **Asci** 300-350 × 15-20 µm, cylindrical, apex rounded, blued by iodine, 8-spored. **Ascospores** 15-20 × 7.5-10 (-12) µm, ellipsoidal, unicellular, biguttulate, tuberculose, uniseriate in the ascus, hyaline. **Paraphyses** cylindrical, septate, 5 µm wide, apex often widened up to 7.5-10 µm.

On soil. Sofia region: the town of Sofia, Severen Park locality, 9 Jun 2002, BA & ED (SOMF 25 322).

Pseudoplectania sphagnophila (Pers. : Fr.) Kreisel, Westfäl. Pilzbr. 3(5): 77, 1962. (Fig. 1)

Apothecia superficial, single or gregarious, sessile, cup-shaped, up to 1.5 cm in diam, dark brown to almost black, concolorous, outside tomentose, covered by short (up to 132.5 × 6-10 µm), curved, septate, dark brown hairs. **Asci** 190-320 × 10-15 µm, cylindrical, apex rounded, not blued by iodine, 8-spored. **Ascospores** globose, 10-12.5 µm in diam, unicellular, uniseriate in the ascus, hyaline. **Paraphyses** cylindrical, scanty septate, straight or slightly curved, apex widened up to 2.5-3 µm.

On soil among mosses in spruce forests. Central Rhodopi Mts: Lednitsata cave, 4 May 2002, BA & ED (SOMF 25 323); Smolyanski Ezera lakes, 5 May 2002, BA & ED (SOMF 25 337).

New localities

Aleuria aurantia (Pers. : Fr.) Fuckel

On soil. West Frontier Mts: Mt Osogovo, near the village of Gyueshevo, 7 Sep 2002, BA & ED (SOMF 25 324).

Geopyxis carbonaria (Alb. & Schwein. : Fr.) Sacc.

On soil. Western Rhodopi Mts: Batashki Snezhnik, 20 May 2002, leg. A. Vitkova, det. ED (SOMF 25 351).

Helvella acetabulum (L. : Fr.) Quéf.

On soil. Pirin Mts: in the vicinities of the chalet Bunderitsa above the town of Bansko, 21 Aug 2002, BA & ED (SOMF 25 326). Western Rhodopi Mts: the reserve of Beglika, 19 Sep 2002, BA & ED (SOMF 25 325).

H. atra J. König

On soil. Pirin Mts: above the town of Bansko, 21 Aug 2002, BA & ED (SOMF 25 334).

H. elastica Bull. : Fr.

On soil among mosses. Pirin Mts: near the chalet of Yavorov, 17 Jun 2002, leg. V. Fakirova & C. Denchev, det. ED (SOMF 25 352). Valley of River Strouma: Roupite locality, May 2002, leg. S. Platikanov, det. ED (SOMF 25 362).

H. ephippium Lév., Ann. Sci. Natur. Bot., Ser. 2, 16: 240, 1841. (Fig. 5)

Apothecia superficial, single, stalked; fertile head 5-10 mm broad and 3-4 mm high, saddle-shaped, consisting of

two lobes; hymenium dark grey; outer surface brown, greyish brown, tomentose; stem up to 11 mm long and 2 mm wide, smooth, villose, almost cylindrical, light brown to grayish brown. **Asci** 230-250 × 10-12.5 µm, cylindrical, apex rounded, not blued by iodine, 8-spored. **Ascospores** (15-) 17.5-20 × 10 (-12.5) µm, broadly elliptical, unicellular, with one large oil drop, uniseriate in the ascus, hyaline. **Paraphyses** cylindrical, apex clavate, up to 5 µm wide, brown, with fine-granular content.

On soil. Sofia region: the town of Sofia, Severen Park, 9 Jun 2002, BA & ED (SOMF 25 327).

H. lacunosa Afzel. : Fr.

On soil. West Frontier Mts: Mt Osogovo, near the village of Gyueshevo, 7 Sep 2002, BA & ED (SOMF 25 328). Pirin Mts: above the town of Bansko, 21 Aug 2002, BA & ED (SOMF 25 329).

H. leucomelaena (Pers.) Nannf.

On soil. Western Rhodopi Mts: the reserve of Beglika, 5 Jun 2002, leg. M. Gyosheva, det. ED (SOMF 25 330).

Humaria hemisphaerica (F.H. Wiggers : Fr.) Fuckel

On soil. Vitoshka region: Mt Plana, 25 Aug 2002, BA & ED (SOMF 25 332). Pirin Mts: along the road to the chalet of Banderitsa above the town of Bansko, 20 Aug 2002, BA & ED (SOMF 25 331). Western Rhodopi Mts: the reserve of Beglika, 19 Sep 2002, BA & ED (SOMF 25 333).

Octospora humosa (Fr. : Fr.) Dennis, British Cup-Fungi, p. 33, 1960. (Fig. 3)

Apothecia superficial, single, sessile, cup-shaped, up to 0.9 cm in diam, bright orange, with flat concolorous hymenium and smooth, wavy, slightly divided rim. **Asci** 240-260 × 15-20 µm, cylindrical, apex rounded, not blued by iodine, 8-spored. **Ascospores** 17.5-20 × 10-12.5 µm, broadly elliptical, unicellular, with two large oil guttules, uniseriate in the ascus, hyaline. **Paraphyses** cylindrical, clavate, apices curved, up to 5 µm wide.

On soil among mosses. Western Rhodopi Mts: Distr. Blagoevgrad, above the village of Zhizhevo, 17 Oct 2002, leg. C. Denchev, det. ED (SOMF 25 335).

Otidea onotica (Pers. : Fr.) Fuckel

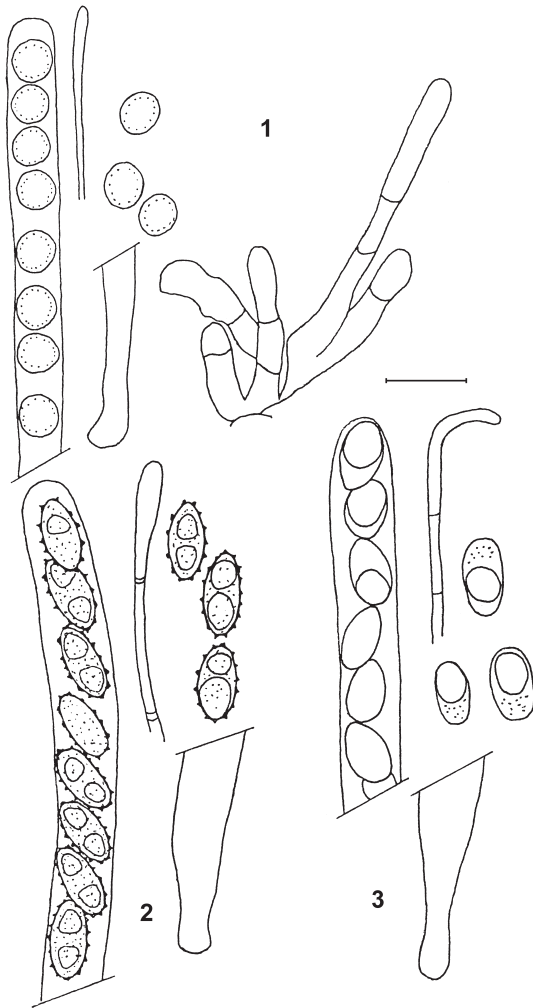
On soil. West Frontier Mts: Mt Ossogovo, near the village of Gyueshevo, 7 Sep 2002, BA & ED (SOMF 25 336).

A rare species included in the Red list of the Bulgarian macromycetes (Gyosheva *et al.* 2000).

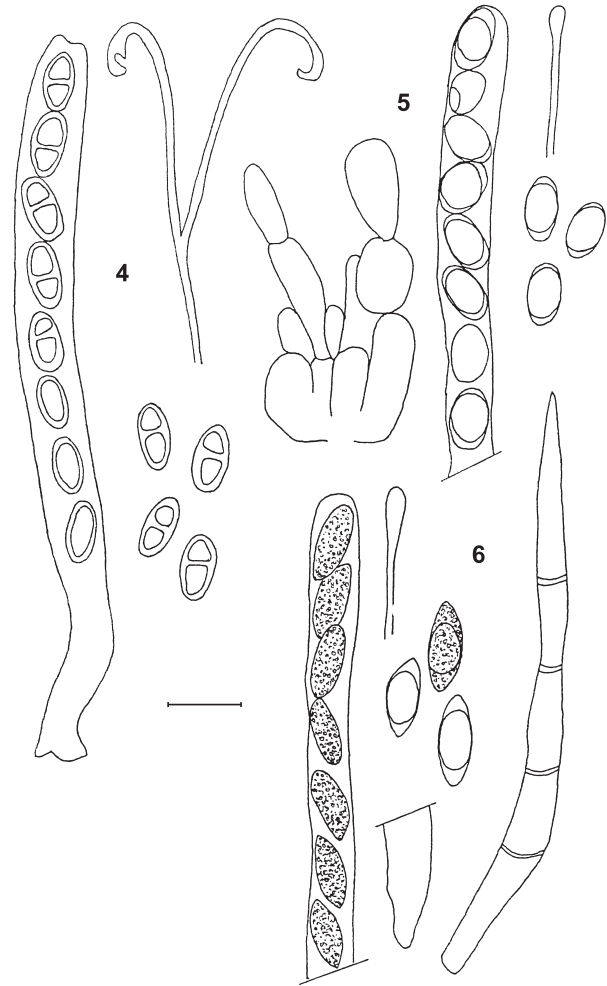
Peziza subviolacea Svrček

On burnt soil. Western Rhodopi Mts: Batashki Snezhnik, 20 May 2002, leg. A. Vitkova, det. ED (SOMF 25 357).

Trichophaea hybrida (Sowerby) T. Schumach., Mycotaxon 33: 166, 1988. (Fig. 6)



Figs 1-3. Asci, ascospores, and paraphyses of: 1. *Pseudoplectania sphagnophila* (and hairs); 2. *Peziza depressa*; 3. *Octospora humosa*. Scale bar = 20 μ m



Figs 4-6. Asci, ascospores, and paraphyses of: 4. *Otidea propinquata*; 5. *Helvella ephippium* (and ectal excipulum); 6. *Trichophaea hybrida* (and hairs). Scale bar = 20 μ m

Apothecia superficial, gregarious, shallow cup-shaped, 3-4 mm in diam, with grey hymenium; outside dark brown to almost black, covered with bundles of stiff, septate, thick-walled hairs, 130-470 \times 10-15 μ m. **Asci** 250-280 \times 12.5-15 μ m, cylindrical, apex rounded, not blued by iodine, 8-spored. **Ascospores** 20-25 (-32.5) \times 10 (-12.5) μ m, fusiform, unicellular, with one large oil drop, fine verruculose, uniseriate in the ascus, hyaline. **Paraphyses** cylindrical, slightly widened at the top up to 5 μ m.

On sandy soil. Rila Mts: the locality of Kyorovi Kolibi above the village of Yakorouda, 27 Jul 2002, BA & ED (SOMF 25 339).

References

- Aleksandrov, B. 1971. [Investigations on the discomycetous flora of Vitosha Mountain. II]. – *Izvestiya na Botanicheskiya Institut (Sofia)* 21: 231-235. (In Bulgarian)
- Breitenbach, J. & Kränzlin, F. 1984. *Pilze der Schweiz. Vol. 1, Ascomyceten (Schlauchpilze)*. Verlag Mykologia, Luzern.
- Dennis R.W.G. 1978. *British Ascomycetes*. 2nd edn. J. Cramer, Vaduz.
- Dissing, H. 2000. *Pezizales*. – In: L. Hansen & H. Knudsen [eds]. *Nordic Macromycetes. Vol. 1, Ascomycetes*. Helsinki University Printing House, Helsinki.
- Gyosheva, M., Fakirova, V. & Denchev, C. 2000. Red list and threat status of Bulgarian macromycetes. – *Historia Naturalis Bulgarica* 11: 139-145.
- Hinkova, Ts. & Fakirova, V. 1970. [Materials on the fungous flora of the Lozenska Planina Mountain]. – *Izvestiya na Botanicheskiya Institut (Sofia)* 20: 165-183. (In Bulgarian)