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Finds of selected ascomycetes in western Moravia (Czech Republic) in 2013

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ČÁP J. 2016: Finds of selected ascomycetes in western Moravia (Czech Republic) in 2013. *Acta Musei Moraviae, Scientiae biologicae* (Brno) **101(2):** 85–92. – Five ascomycetous species from the author's collection with insufficient or absent data about their occurrence in the Czech Republic are discussed. A sixth taxon is mentioned, found on a new host, previously unpublished. Short descriptions of characteristic features of the collected material are added. A preliminary key to identification of the white-coloured members of the genus *Lachnum* growing on grasses (*Poaceae*) is provided.

Key words. Inoperculate discomycetes, Helotiales, *Lachnum* key, Moravia

Introduction

Six species of inoperculate discomycetes collected in the broader vicinity of Bystřice nad Pernštejnem (Czech-Moravian Highlands, Moravia, Czech Republic) in 2013 are investigated. *Mollisia prunicola*, *Pyrenopeziza pulveracea*, *Lachnum elongatisporum*, *Hyaloscypha strobilicola* and *Phaeohelotium fulvidulum* are insufficiently known from the Czech Republic, or represent first records. *Lachnellula occidentalis* is a common species, but its collection on the wood of a broadleaved tree has not previously been published.

Methods

The fungi were collected from an area located 5–12 km to the south and south-west of the town of Bystřice nad Pernštejnem, phytochorion Českomoravská vrchovina (Czech-Moravian Highlands) (SKALICKÝ 1988), mapping grid 6563 (SLAVÍK 1971).

Descriptions are based on freshly-collected ascocarps examined with a binocular lens and a light microscope at magnifications of 400× and 1200× (immersion). Measurements of asci and ascospores were made in distilled water, their amyloidity in Lugol's solution. Any remaining material was dried and preserved as a herbarium specimen (BRNM or J. Čáp personal herbarium). Study approaches followed BARAL (1987a, 1987b, 1992).

Most of the descriptions published to date contain only diagnostic characters distinguishing each taxon from closely-related taxa and those of similar habit or microscopic detail. They largely contain data from studies of a particular find, but no general description of the taxon. Complete data for macro- and micro-characters appear in the original descriptions and amendments to them. Synonymy follows *Index Fungorum*; only that of *Mollisia prunicola* is mentioned herein, with an expansion of information.

Abbreviations employed in text

IKI . . . . . Lugol's solution (0.8 g KI + 50 ml H2O + 0.2 g I)
OCI (oil content index) . . . . . content of oil vacuoles in living ascospores (scale 0–5; see e.g. Gminder 1996, Čáp 2013)
BRNM . . . . . herbarium of the Dept. of Botany, Moravian Museum, Brno, Czech Republic
MLZ . . . . . Melzer's reagent

Descriptions

***Hyaloscypha strobilicola* Huhtinen**, Karstenia 29(2): 170, 1990 [1989].

Apothecia superficial, sessile, up to 0.3 mm in diam., bowl-shaped at first, spreading to applanate when older, hymenium white to slightly yellowish, outer part concolorous.

Hairs with resinous droplets, to partly covered with resinous matter, non-dextrinoid. Ascospores *c*. 4–6 × 1.5 µm, OCI = 0, not septate, hyaline.

Locality. 67. Českomoravská vrchovina, mapping grid 6563, Střítež u Bukova, forest 1.3 km WNW of the village chapel, 450 m E of Lísek Castle ruins, spruce forest, alt. 530 m, cone of *Picea abies*, 28 June 2013 leg. J. Čápová, det. J. Čáp (herb. J. Čáp).

This species belongs to subgen. *Eupezizella* (Höhn.) Huhtinen, as characterised by Raitviir 2004, p. 70: "Hairs blunt, more or less heavily encrusted with resinous matter. Hairs and ectal excipulum without dextrinoid reactions in MLZ". Moreover, all species of this subgenus grow on the dead wood of conifers, whereas members of the nominate subgenus *Hyaloscypha* grow on various substrates (as well as on the wood of conifers, on the wood of broadleaved trees or on the dead stems of plants and grasses, such as *Secale*.

Two varieties, var. *strobilicola* and var. *parvispora* Huhtinen (Huhtinen 1990), are described. Variety *strobilicola* has asci growing on croziers, 28–48 × 3.8–5.2 µm in size, and ascospores 4.2–8 × 1.6–2.2 µm; variety *parvispora* has asci growing on simple hyphal ends, 19–34 × 3.7–5 µm large, and ascospores 3.2–6 × 1.2–2 µm.

Raitviir (l.c., p. 72) mentioned "on dead cones of *Pinus* spp." as its substrate. The occurrence on *Picea abies* cones has not previously been recorded.

Hyaloscypha strobilicola has not been published from the Czech Republic to date. It has been described from the USA and the author of this taxon (Huhtinen 1990) mentioned one collection in Italy. It has also been found in Switzerland (Senn-Irlet *et al*. 2009).

***Lachnellula occidentalis* (Hahn et Ayers) Dharne**, Phytopath. Z. 53: 129, 1965.

Apothecia sessile, only up to 1.2 mm in diam., hairs white, hymenium pale orange.

Hairs hyaline, granulose, without glabrous top, without crystals and resinous matter. Asci with hemi-amyloid pores in IKI, often with lateral outgrowths at base. Ascospores 14.8–15.5 × 7.6–7.8 µm.

Locality. Meziboří, forest 850 m W of the Moravecké Janovice village chapel, alt. 490 m, dead cherry *Prunus avium* twig , 16 September 2013 leg. J. Čápová, det. J. Čáp (only

a few ascocarps were collected, and some were damaged in the course of microscopic studies, so a herbarium specimen was not kept).

The species commonly grows on *Larix* twigs and has been collected on them at the below-mentioned locality (with larger, apothecia – up to 3 mm in diam. and with larger ascospores – up to 20 µm long). However, the described ascocarps grew on a dead twig of *P. avium*. Members of the genus *Lachnellula* grow of coniferous wood, but the literature appears to make no mention of their occurring on broadleaved trees. Only a few, smaller apothecia were found on the cherry-tree twig, and appear to the author as insufficiently developed in comparison with those from the *Larix* twigs (as if they had "jumped" from a larch to a cherry).

***Lachnum elongatisporum* Baral in Raitviir et Sacconi,** Mycol. Helv. 4(2): 162, 1991.

Apothecia with 0.2 mm long stipe, up to 0.6 mm in diam., white, reddening with age and increasingly tough texture.

Hairs granulose, not becoming broader towards apex, cylindrical, septate, up to 80 µm long, without crystals, turning red after damage (oxidation reaction). Paraphyses with numerous small droplets, protruding 12–20 µm asci. Asci 8-spored, 42–50 × 4–5 µm, porus becoming blue in IKI, ascogenous hyphae ending with hooks. Ascospores (9.0)9.8–12 × 1.1–1.3 µm, OCI = 0, hyaline, smooth, thin-walled, unicellular.

Locality. Rodkov, small forest near the road to Bystřice nad Pernštejnem, close to a railway crossing, mixed forest with dominance of conifers and seedlings of broadleaved trees, alt. 525 m, dry leaves of wood bluegrass *Poa nemoralis*, 4 June 2013 leg. J. Čápová, det. J. Čáp (herb. J. Čáp).

This is one of the smallest white-coloured members of the genus *Lachnum*.

A preliminary key to identification of the white-coloured taxa of the genus *Lachnum* growing on grasses (*Poaceae*) follows:

1 Hosting parts of grass rhizomes (dry apothecia ochraceous with pale vermillion-red hymenium). ..... ***L. rhizophilum* (Fuckel) Velen.**

1* Hosting parts of different grasses (leaves, straw, inflorescences). **2**

2 Asci growing upwards from croziers. **3**

2* Asci growing on simple hyphal ends. **4**

3 Apothecia 0.7–1.5 mm in diam., with 0.2–1.2 mm long stipe, ascospores 5–9 × 1.2–1.7 µm, OCI = 1–1.5. ..... ***L. carneolum* (Sacc.) Rehm**

3* Apothecia 0.2–0.7(0.9) mm in diam., with 0.1–0.8 mm long stipe, ascospores 7–15 × 1.1–1.3 µm, OCI = 0(1). ..... ***L. elongatisporum* Baral**

4 Ascocarps turning red, refractive vacuoles or droplets in paraphyses present. **5**

4* Ascocarps never turning red, refractive vacuoles or droplets in paraphyses absent, ascospores with OCI = 0, paraphyses 2–4 µm broad. .... ***L. sesleriae*** **(Svrček) Baral**

5 Hairs apically strongly capitate, hymenium white, ascospores 6.0–11.0 × 1.2–1.7 µm. ..... ***L. tenuissimum*** **(Quél.) Korf et W. Y. Zhuang**

5* Hairs apically never capitate, cylindrical, hymenium white (or also yellowish, probably variable in colour), ascospores 6–10 × 1.8–2 µm. .... ***L. controversum*** **(Cooke) Rehm**

Remarks. Two other taxa, not validly described to date, also belong under point 3 (sec. Baral 2005):

- *L. longipilosum* Baral et Grauwinkler, nom. prov. – apothecia 0.5–0.9 mm in diam., with 0.3–0.5 mm long stipe, ascospores 9–14 × 1.7–2.2 µm, OCI = 2.
- *L. rifferswillii* Baral, nom. prov. – apothecia 0.8–1.8 mm in diam., with stipe of the same length as thecium diameters, ascospores 9.0–18.0 × 4.5–6 µm, OCI = 0.

The above-mentioned species may also be distinguished by differences in hair morphology (length, cell number, apical endings of hairs); further studies are required for accurate discrimination of these taxa.

Lachnum winteri (Cooke) Rehm also grows on *Phragmites* reeds. It usually has a yellow, rarely very pale to whitish, hymenium, and a very short, stem, up to 0.1 mm . The other white-coloured *Lachnum* species occur on sedges (*Cyperaceae*, *Juncaceae*).

Since the synonymy is partially confused, it is not possible to consider finds mentioned in the neighbouring countries as belonging to *L. elongatisporum*. It certainly occurs in Germany and Great Britain (e.g. Baral & Krieglsteiner 1985, https://data.nbn.org.uk/NHNSYS0001485930).

Mollisia prunicola **(Fuckel) Baral, Gminder et Weber,** Z. Mykol. 62(2): 190, 1996. Fig. 1

= *Tapesia rosae* var. *prunicola* (Fuckel) W. Phillips, Man. Brit. Discom. (London): 279, 1887.
non *Tapesia prunicola* ss. Rehm (1896, p. 579 [pro syn.] et p. 582 [pro var.]), nec Saccardo (1889, p. 383), nec Velenovský (1934, p. 132).

Apothecia growing on subiculum, sessile, 1.5–2 mm in diam., initially bowl-shaped and close, later opening widely and disc-shaped, outside with distinct tomentum consisting of brown hairs reaching to hymenium at margin; whitish there and extending 38–46(50) µm beyond margin. Hymenium watery greyish and pallescent at centre in older ascocarps.

Outer excipulum consisting of textura globulosa-angularis cells. Paraphyses with large vacuole(s): mostly with one large vacuole, some of them with one large and one (very rarely two) smaller. Becoming yellow in 3% KOH. Asci with basal croziers; pore becoming blue in IKI, ascal basis with croziers. Ascospores 12.2 × 2.7 µm; 13.7 × 2.3 µm; 11.3 × 2.2 µm (three measurements); OCI = 2–3 of small droplets.

Locality. Věžná na Moravě, a meadow dividing-ridge near a forest margin 600 m SW of the Pernštejnské Janovice settlement, alt. 525 m, dead branch of *Prunus spinosa*, 4 May 2013 leg. et det. J. Čáp (BRNM 751685).

Macro- and microscopically similar species *M. rosae* (Pers.) P. Karst. differs from *M. prunicola* in the absence of crosiers; its asci grow at the ends of simple hyphae. Ascospores also smaller, 6–9 × 2–2.8 µm. The other characters – a lower OCI content in ascospores and a strict relation to its host (*Rosa*) – still require verification. Another similar species, *Haglundia perelegans* Nannf., grows on *Quercus* wood; its ascospores [6–10(12.5) × 1.8–2.5 µm] have a lower number of lipid bodies (OCI = 0–0.5). A comparison of *M. rosae* with *M. prunicola*, including drawings of microcharacters, has been published by Gminder (1996).

Velenovský (1934, p. 132) mentioned the name *Tapesia prunicola* Fuckel as synonymous with *T. fusca* Pers. He accepted the concept of this taxon in the sense of Rehm (1896, p. 582) and Saccardo (1889, p.383), not according to the original description by Fuckel (Symb. Myc.: 302, 1869). *Prunus* wood, as well as *Rosa* wood, are mentioned as its hosts.

No record of an *M. prunicola* find from the Czech Republic is available to the author. This species is known in the neighbouring countries, e.g. Germany, Poland, Switzerland, Northern Ireland and France (Gminder 1996, http://zipcodezoo.com/index.php?title=Tapesia_rosae_prunicola&redirect=no, http://www.mollisia.de/Arten/prunicola.html). It was published as a new record for Sweden in 2006 (www.8.umu.se/myconet/asco/newNotes).

***Phaeohelotium fulvidulum* (Boud.) Baral et Declercq, in Baral, Galán, Platas et Tena,** Mycosystema 32(3): 420, 2013. Fig. 2

Apothecia turbinate (up to with a short stipe), 1–4 mm in diam., aggregated, yellow when young, later orange-ish to brownish, reddening after injury.

Outer excipulum partly composed of angular (isodiametrical) hyaline cells, some cells slightly elongated (transient to textura prismatica), sometimes slightly brownish. Paraphyses with numerous droplets along the whole length of paraphyses, 2–4 µm wide. Asci 95–125 × 8–11 µm, porus becoming blue in IKI, ascogenous hyphae with simple endings without hooks. Ascospores 20.2 × 5.2 µm, 26.3 × 4.9 µm, OCI = 4.

Locality. 67. Českomoravská vrchovina, mapping grid 6563, Věžná na Moravě, forest on slopes of the Nedvědička valley near a small stream (a left-sided tributary of the Nedvědička rivulet) 2 km SE of the village church, fallen twigs of a broadleaved tree (aff. *Fagus sylvatica*), alt. 420 m, 3 September 2013 leg. J. Čápová, det. J. Čáp (herb. J. Čáp).

The collected ascocarps macro- and microscopially agree with both species diagnoses and drawings at e.g. http://www.bio-forum.pl/messages/33/18108.html.

Lesser-known and collected species sometimes published under the generic name *Pachydisca* (see *Index Fungorum*).

Fig. 1–2. 1 – *Mollisia prunicola*: Věžná na Moravě, 4. V. 2013. 2 – *Phaeohelotium fulvidulum*: Věžná na Moravě, 3. IX. 2013. Photo J. Čáp.

***Pyrenopeziza pulveracea* (Fuckel) Gremmen**, Fungus, Wageningen 28: 42, 1958.

Apothecia erumpent from substrate, soon superficial, bowl-shaped, sessile, up to 0.5 mm in diam., greyish, finely furfuraceous outside, becoming finely hairy and paler towards margin.

Marginal hairs brownish, septate, obtusely acute, up to 32 µm long, often several of them glued together. Outer excipulum textura globosa-angularis, cells dark. Asci 43–48(51) × 5 µm, with 4, rarely 8 ascospores, porus turning blue in IKI. Ascospores fusoid-clavate, 8.7–10.6 × 2 µm, OCI = 1(1.5), not septate, hyaline. Paraphyses clavate, sometimes branched, becoming broader at apex.

Locality. Rožná, Nedvědička valley, a shore stand 500 m NE of the centre of the Dvořiště settlement, alt. 475 m, dead stem of *Filipendula ulmaria*, 11 May 2013 leg. J. Čápová, det. J. Čáp (herb. J. Čáp).

Some species of the genus *Hyphodiscus* may be macroscopically similar. They differ especially in the textura of the outer excipulum, never formed of globose or isodiametriccells, but elongate. *P. millegrana* Fuckel is similar but it has larger ascospores (13.5–22 µm long) and higher contents of lipid bodies (OCI = *c*. 4).

No published records from the Czech Republic are known to the author. This species is known e.g. from Austria, Germany and Denmark (https://www.sites.google.com/site/funghiparadise/system/app/pages/search?scope=search-site&q=pulveracea, http://www.gbif.org/species/2583738).

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