

CATATHELASMA

a journal on biodiversity, taxonomy and conservation of fungi

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Entoloma conferendum
(Laborecká vrchovina Mts., Osadné; see p.11)



Squamanita schreieri
(Podunajská rovina Lowland, Bratislava; see p. 5)



Agaricus decussatus subsp. *illustris*
(Kalchbrenner, *Icones selectae Hymenomycetum Hungariae*; see p. 28)

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Instructions to Authors

Catathelasma publishes contributions to the better knowledge of fungi preferably in Slovakia and central Europe. Papers should be on bio-diversity (mycofloristics), distribution of selected taxa, taxonomy and nomenclature, conservation of fungi, and book reviews and notices. We accept also announcements on literature for sale and/or exchange (classified) and on events attractive for mycologists. Manuscripts have to be submitted in English with a Slovak or Czech summary.

Elements of an article submitted to Catathelasma

- title: informative and concise
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- text: brief introduction, presented data (design and structure depend on the topic)
- illustrations: line drawings (scanned and "doc" or "tif" formatted)
- list of references
- abstract/summary in Slovak or Czech: max. 10 lines (starting with author's name and the title of the article)

Please follow these standards: for journal abbreviations *Botanico-Periodico-Huntianum* (Lawrence & al., 1968) and *Botanico-Periodico-Huntianum/Supplementum* (Bridson, 1991), for book abbreviations *Stafleu and Cowan's Taxonomic Literature* (2nd ed., vol. 1-7, 1976-1988, & supplements), for abbreviation of author(s) of taxa *Authors of fungal names* (Kirk & Amsell, 1992), *Authors of plant names* (Brummitt & Powell, 1992), all available at the web site of the International Plant Names Index at www.ipni.org/index.html, for current names CABI Funindex (www.indexfungorum.org), and for collection acronyms Index Herbariorum (Holmgren & al, 1990; www.nybg.org/bsci/ih/ih.html).

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RARE RECORD OF *SQUAMANITA SCHREIERI*

JÁN ČERVENKA¹ & IVONA KAUTMANOVÁ²

Key words: *Amanita strobiliformis*, *Amanita solitaria*, Slovakia

In summer 2007 *Squamanita schreieri* was found at two localities in the vicinity of Bratislava city, as a new species of Slovak mycoflora. This parasitic species growing on carpophores of *Amanita strobiliformis* and *A. echinocephala* (Michael & Hennig, 1964) is conspicuous enough not to be overlooked, so we have to agree with Bas (1965) that such a large and magnificent fungus is not likely to escape notice and is undoubtedly very rare. The species is known from North America and Europe, where to it has been occasionally reported from Italy, France, Switzerland and Germany (Kriegelsteiner, 2001). It is red listed in Austria, Germany, Switzerland and Italy. In Hungary it is protected by law, known only from two localities and threatened by extinction (Siller & al., 2005).

Cap 40–100 mm, rounded when young, later hemisphaerical to conical, in maturity convex with broad and low umbo and shaggy margin; yellow with distinct golden to rusty-yellow fibrillose appressed scales and pale yellow fibrillose veil remnants at margin of young carpophores; tough and fleshy, skin dry (see photograph on p. [2]). Gills only 3–5 mm broad, shortly decurrent, whitish to cream, edge finely toothed, colour not changing, lamellulae present. Stem 50–120 mm high, 12–25 mm thick (basal part 18–45 mm), cylindrical, broadening towards the base, pale to golden yellow, upper part finely grooved, bearing hairy remnants of the yellow veil; lower part with golden to rusty yellow fibrillose scales and distinct conical bulb lined with rusty yellow shaggy remnants of the veil. Flesh white, smell and taste mild. Spore print white.

Spores 5–6.25 × 3.75–4.5 µm, broadly ellipsoid to ovate, smooth, hyaline, with one big or numerous small oil drops. Basidia clavate, colorless, 4-spored, 18–30 × 6.5–8.5 µm. Basidioles clavate, 18–30 × 5.5–7 µm. Pileipellis composed of cylindrical to slightly inflated hyphae, sometimes with protrusions or irregular, with clamps, 60–200 × 6–27 µm, hyaline to brownish-yellow, terminal cells spindle shaped to attenuate, often collapsed and distorted. Stipitipellis with cylindrical to slightly inflated hyphae with clamps, 80–250 × 5–25 µm, hyaline to brownish-

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yellow, terminal cells cylindrical, spindle shaped, lanceolate to clavate (Fig. 1).

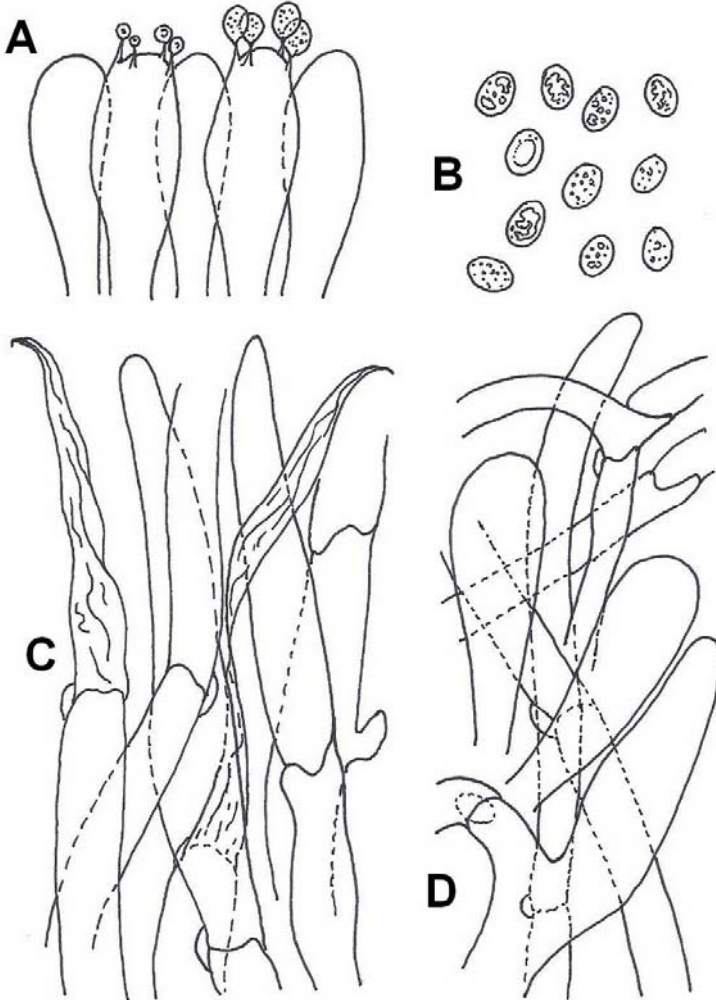


Fig.1. *S. scheieri*. A – basidia, B – basidiospores, C – pileipellis, D – stipitipellis.
Bar 10 μ m.

Basal host part consists of densely interwoven hyphae with acrophysalides (terminal inflated cells) typical for *Amanita* species. Numerous thick-walled resting spores (chlamydospores) $65\text{--}13 \times 6.25\text{--}11.25 \mu\text{m}$ were observed (Fig. 2, 3).

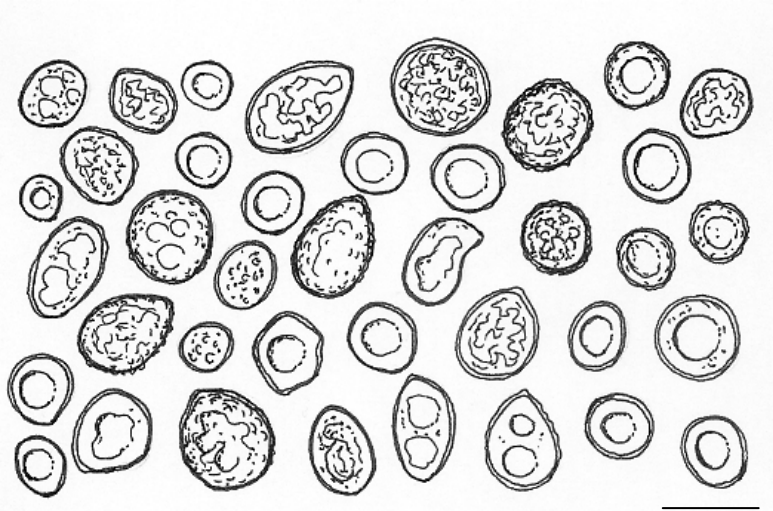


Fig. 2. *S. schreieri*: Chlamydospores observed at the basal part of the stem, belonging to the host. Bar $10 \mu\text{m}$.

Michael & Hennig (1964) as well as Moser (1978) reported this species as growing in lowland flooded forests, the same habitat as in Slovakia. However in Hungary it has been recorded in sand dunes under pines and oaks (Siller & al. 2005), so it is possible that it will be find in similar habitats also in Slovakia.

Carpophores of *Squamanita* species hosts are usually deformed, described as “sclerotial bodies” or “protocarpic tubers” forming basal part of the stem (Bas 1965, Redhead et al. 1994) and are often indeterminable. Mondiet & al. (2007) defined the amorphous host of *S. odorata* as *Hebeloma mesophaeum*, using DNA techniques. *S. schreieri* is reported as growing on *Amanita strobiliformis* and *A. echinocephala*. Both *Amanita* species were observed repeatedly at the locality of its occurrence, so without DNA studies it is probably impossible to determine the host exactly.

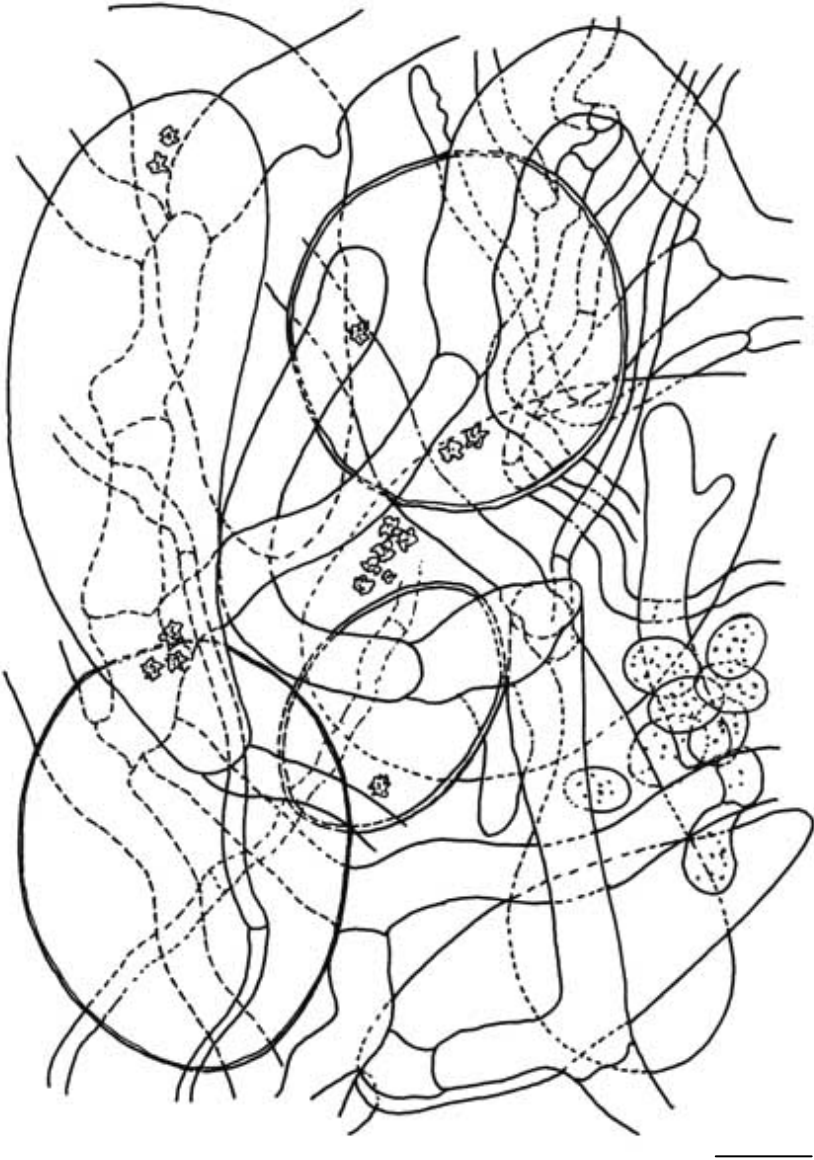


Fig. 3: Elements of host tissue resembling structure of *Amanita* hymenium. Bar 10 μ m.

Host tissue at the basal part of the stem often produces thick walled resting spores – chlamydospores. Redhead & al. (1994) described chlamydospores in *S. contortipes*, *S. pearsonii*, *S. paradoxa* and *S. odorata*. Chlamydospores of *S. schreieri* were never published, so this is probably the first description of their shape and size.

Specimens examined

Slovakia. Podunajská rovina Lowland, Bratislava, part Lieskovec, loc. "Topoľové", deciduous flood plain forest (*Quercus*, *Populus*, *Carpinus*, *Ulmus*, *Tillia*, *Coryllus*), 130 m, N 48°05'01,00", EO 17°11'59,50" on carpophores of *Amanita*, 17 June 2007, leg.: B. Kuzmová, det.: M. Mikšík, BRA CR9146; Podunajská rovina Lowland, Bratislava, part Petržalka, loc. "Zrkadlový háj" ("Draždiak"), deciduous flood plain forest (*Tillia* sp., *Quercus* sp.), 135 m, N 48°05'25,57", EO 17°07'04,25", on carpophores of *Amanita*, 24 June 2007, leg. et det.: J. Červenka, BRA CR9147.

ACKNOWLEDGEMENTS

Our gritudes go to Božena Kuzmová for permission of using her photograph of *S. schreieri* and to Pavel Lizoň for reviewing the text.

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Ján Červenka a Ivona Kautmanová: Vzácný nález *Squamanita schreieri*. *Catathelasma* (9): 5-9, 2007.

V júni 2007 bola nájdená v lužných lesoch pri Bratislave vzácna *Squamanita schreieri* parazitujúca na plodniciach muchotrávky šiškovitej (*Amanita strobiliformis*) alebo muchotrávky ostnatej (*Amanita solitaria*). Ide o prvý nález tohto druhu na území Slovenska. Autori uvádzajú opis druhu a poznámky k jeho ekológii. Po prvý krát podávajú opis chlamydospór v bazálnej časti patriacej hostiteľovi.

BOOK NOTICES

David Pilz, Rebecca McLain, Susan Alexander, Luis Villarreal-Ruiz, Sharonn Berch, Tricia L. Wurtz, Catherine G. Parks, Erika McFarlane, Blaze Baker, Randy Molina, Jane E. Smith 2007. **Ecology and management of morels harvested from the forests of western North America**. Gen. Tech. Rep. PNW-GTR-710: [i-iv], 1-161. (order and/or download from www.fs.fed.us/pnw)

Forest Mycology Team (Randy Molina, Michael Castellano and Jane Smith) of the U.S. Department of Agriculture at the Pacific Northwest Research Station in Corvallis, OR compiled information on members of the genus *Morchella* that grow from Mexico to Alaska and from the Rocky Mountains westward. Species and habitats are described and issues as cultivation, harvesting, regional summaries and management are discussed.

In General Technical Reports of the Pacific Northwest Research Station (Portland, OR) were published also these mycological themes³:

- GTR-309**. 1993. Biology, ecology, and social aspects of wild edible mushrooms in the forests of the Pacific Northwest: a preface to managing commercial harvest (by R. Molina, T. O'Dell, D. Luoma, M. Amaranthus, M. Castellano & K. Russell).
- GTR-371**. 1996. Managing forest ecosystems to conserve fungus diversity and sustain wild mushroom harvests (edited by D. Pilz & R. Molina; presentations at the conference Ecosystem management of forest fungi, May 1994).
- GTR-393**. 1997. Wild edible mushrooms in the Blue Mountains: resource and issues (by C. G. Parks & C. Schmidt) [full text access]
- GTR-412. 1997. Ecology and management of the commercially harvested American matsutake (by D. Hosford, D. Pilz, R. Molina, Randy & M. Amaranthus).
- GTR-476**. 1999. Handbook to strategy 1 fungal species in the Northwest Forest Plan (by M. Castellano, J. E. Smith, T. O'Dell, E. Cazares & S. Nugent).
- GTR-576**. 2003. Ecology and management of commercially harvested chanterelle mushrooms (by D. Pilz, L. Norvell, E. Danell & R. Molina) [full text access]

³ boldfaced reports can be downloaded from www.fs.fed.us/pnw/publications

DIVERSITY OF ENTOLOMA SPECIES IN SLOVAK GRASSLANDS. 1.

SLAVOMÍR ADAMČÍK⁴

Key words: fungi, Slovakia, grasslands, *Entoloma*, biodiversity

INTRODUCTION

The genus *Entoloma* is well defined by agaricoid gilled basidiomata, pink spore print and nodulose spores. It is one of the fungal genera with the richest species diversity. At least 1000-1500 species are members of the genus in worldwide scale and 242 taxa are listed in the last European monograph of the genus (Noordeloos, 2004). Large number of species and large variation of characters make determinations of species uneasy and difficulties with identification caused that there are distinctly few data about knowledge of ecological preferences, distribution and frequency of certain species.

Ecology of *Entoloma* species is very variable, they are terrestrial, lignicolous or inhabit other substrates, they grow in forests, grasslands and also alpine habitats. Grassland species represent an undoubtedly most numerous ecological group. In Slovakia, at least 47 taxa of the genus were reported, but only few data originate from grasslands. Moreover, the situation in taxonomy of *Entoloma* recently proceeded very distinctly thanks to precise publications of Noordeloos (1987, 1988, 1992, 2004) and the previously published data should be verified.

This contribution is meant as the first of the set of short reports about the occurrence and frequency of *Entoloma* species in Slovak grasslands and it is part of our research of grasslands fungi, which it has been done in cooperation with my colleagues S. Ripková and V. Kučera. Any doubts about identifications and any variability of characters not described in literature will be discussed.

MATERIAL AND METHODS

Most of our material was collected in 2001–2006 in Slovak grasslands of Biele Karpaty Mts., and Laborecká vrchovina Mts. Biele Karpaty Mts. are situated in western Slovakia, Laborecká vrchovina Mts are in eastern Slovakia, both in external zone of Western Carpathians formed by tertiary flysh belt. *Entoloma* species presented in this contribution were collected in sites listed in the Tab. 1.

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Tab. 1. List of collecting sites. Position of collecting sites is presented by geographical co-ordinates and quadrant (Q) of the Central European grid mapping system (UTM). All species grew terrestrially among grass and other herbaceous plants.

Blažejová (Natural Monument), Biele Karpaty Mts., meadow ca 1.7 km SEE from Nová Bošáca village, close to the settlement Španie, coord. N 48° 52' 33.3", E 17° 47' 03.4", alt. 380-440 m, Q 7172b.

Grúň (Natural Monument), Biele Karpaty Mts., meadow ca 1.5 km NNE from Nová Bošáca village, close to the settlement Grúň, coord. N 48° 53' 41.4", E 17° 47' 46.7", alt. 420- 480 m, Q 7172b.

Haburské rašelinisko (Nature Reserve), Laborecká vrchovina Mts., the peat-bog, 5 km NNW from Habura village, coord. N 49°22'10", E 21°53'8", alt. 690 m, Q 6697a.

Hostovické lúky (Natural reserve), Laborecká vrchovina Mts., wet meadow ca 3 km NW from Hostovice village, coord. N 49° 07' 42.5", E 22° 06' 47.9", alt. 316 m, Q 6898d.

Jaruchy, Laborecká vrchovina Mts., extensively used pasture ca 3.5 km SEE from Nižný Komárnik village, coord. N 49° 22' 14.4", E 21° 44' 30.0", alt. 486 m, Q 6696d.

Katlina - Hadoše, Javorníky Mts., meadow around the settlement Hadoše, close to Dolná Maríková village, N 49 12' 58.08", E 18 18' 45.86", alt. 430 m, Q 6775d.

Lysá, Biele Karpaty Mts., meadow ca 1.2 km NNW from the ruins of the castle Vršatecký hrad close to Vršatecké Podhradie village, coord. N 49° 04' 19.2", E 18° 08' 37.5", alt. 680-760 m, Q 6974b.

meadow near Haburské rašelinisko (permanent research plot), Laborecká vrchovina Mts., the wet meadow with spots of peat-bogs, 5 km NNW from Habura village, coord. N 49°21'58", E 21°53'22", alt. 690 m, Q6697a.

Mirofská slatina (Natural Reserve), Laborecká vrchovina Mts., ca 1 km S from Mirofa village, coord. N 49° 19' 59.3", E 21° 43' 36.8", alt. 418 m, Q 6696c.

motocross area near Čelkova Lehota village, Strážovské vrchy Mts., meadow around motocross area 1 km W from Čelkova Lehota village, coord. N 49° 0'55.35", E 18°31'11.83", alt. 460 m, Q 6977c.

outdoor museum of 2nd World War – gun area, Laborecká vrchovina Mts., meadow in area of a museum, ca 1.5 km SWW from Vyšný Komárnik village, coord. N 49° 24' 16.2", E 21° 41' 56.3", alt. 463 m, Q 6596c.

outdoor museum of 2nd World War – plane area, Laborecká vrchovina Mts., abandoned pasture in the area of a museum, ca 1 km SW from Vyšný Komárnik village, coord. N 49° 23' 45.0", E 21° 41' 47.3", alt. 418 m, Q 6696a.

pasture near Osadné village, Laborecká vrchovina Mts., extensively used pasture ca 0.5 km S from Osadné village, coord. N 49° 08' 09.6", E 22° 09' 14.3", alt. 382 m, Q 6898d.

pasture near Svetlice village, Laborecká vrchovina Mts., extensively used pasture on riverside ca 1.5 km NNE from Svetlice village, coord. N 49 11' 12.9", E 22 02' 55.8", alt. 390 m, Q 6898a.

pasture near Vyšná Jablonka village, Laborecká vrchovina Mts., extensively used pasture ca 1 km NE from Vyšná Jablonka village, coord. N 49° 09' 31.7", E 22° 16' 17.2", alt. 399 m, Q 6898b.

Soví hrad, Cerová vrchovina Mts., pasture ca 0.5 km S from Šurice village, coord. N 48° 13' 28.5", E 19° 54' 56.6", alt. 255 m, Q 7785c.

Vlčia dolina, Cerová vrchovina Mts., abandoned pastures ca 2.3 km SW from Chrámec village, coord. N 48° 15' 50.8", E 20° 09' 05.7", alt. 205 m, Q 7786b.

The collecting and identifying of *Entoloma* species require special approach. Many of characters used in the keys for identification of *Entoloma* are disappearing in dry condition and some of them are not visible even on photographs. Therefore almost all collections of *Entoloma* were described in fresh conditions and we used description forms for that purpose. All micromorphological characters were observed in Olympus BH-2 microscope with an oil-immersion lens at a magnification of 1500 \times . Spores were scanned by Olympus Artcam camera and measured in Quick Micro Photo (version 2.1) software. All microscopical structures were observed in a solution of Congo Red in ammonia (1 ml of 25% ammonia, dissolved in a filtered solution of 1.5 g of Congo Red and 50 ml of distilled water), objects were kept in the solution for ca. 5 min. References to colours follow Kernerup & Wanscher (1974). For determination of *Entoloma* taxa we used first the older edition of the key published by Noordeloos (1994) and later all identifications were verified by the revised key in most recent monograph by Noordeloos (2004).

All collections are preserved as specimens in herbarium SAV (Slovak Academy of Sciences, Bratislava). Nomenclature follows Checklist of non-vascular and vascular plants of Slovakia (Lizoň & Bacigálová, 1998), Index Fungorum (Kirk, 2005) and Noordeloos (2004).

RESULTS

We collected 34 *Entoloma* taxa during the first three years of our research (2003-2005). The highest species diversity we observed in Laborecká vrchovina Mts.: on pasture near Vyšná Jablonka village (10 species), pasture near Osadné village (7 species) and in Jaruchy (7 species). Relatively rich were also some localities in Biele Karpaty such as Blažejová (6 species), Grúň, Lysá and a meadow under Blažejová (last three with 5 species).

In some cases the collections were not possible to identify on account of two reasons. The first, identifications were difficult when collections were composed of a single basidioma or unrepresentative group of basidiomata, because some characters are developing during maturing (e.g. colour of gills in young stage or presence of umbo). Second reason is that in some cases is variability observed on some collections not reflected in published literature. Re-collecting of such material and comparing with later descriptions should be helpful in the identification of such collections. Moreover additional data should be useful for knowledge of variability of studied taxa as well as for understanding of its ecological preferences and role in the habitat. For that reason I started in this paper with taxa which are considered to be common or which are easily to identify because of some striking characters.

COLLECTIONS OF SELECTED *ENTOLOMA* SPECIES FROM SLOVAK GRASSLANDS***Entoloma bloxamii*** (Berk. & Broome) Sacc.

Laborecká vrchovina Mts., pasture near Vyšná Jablonka village, 8.10.2004, S. Adamčík (SAV 1159); *ibid.* 10.10.2005, S. Adamčík, (SAV 1160); *ibid.* 21.9.2006, V. Kučera (SAV 1271).

Entoloma conferendum (Britzelm.) Noordel.

Laborecká vrchovina Mts., Haburské rašelinisko, 7.10.2004, S. Adamčík (SAV 1217); meadow near Haburské rašelinisko, 7.10.2004, S. Adamčík (SAV 1219); Jaruchy, 5.10.2004, S. Adamčík (SAV 1225); pasture near Osadné village, 6.10.2004, V. Kučera (SAV 1218); *ibid.* 11.10.2005, S. Ripková (SAV 1166, SAV 1168); pasture near Vyšná Jablonka village, 10.10.2005, V. Kučera (SAV 1167).

Entoloma incanum (Fr.: Fr.) Hesler

Biele Karpaty Mts., Grúň, 7.7.2002, S. Ripková (SAV 1174); *ibid.* 1.7.2004, S. Ripková, (SAV 1210). – **Strážovské vrchy Mts.**, motocross area near Čelkova Lehota village, 6.10.2005, S. Adamčík (SAV 1175). - **Laborecká vrchovina Mts.**, pasture near Svetlice village, 23.10.2007, V. Kučera (SAV 1275).

Entoloma porphyrophaeum (Fr.) P. Karst.

Laborecká vrchovina Mts., pasture near Osadné village, 6.10.2004, V. Kučera (SAV 1198); pasture near Vyšná Jablonka village, 8.10.2004, E. Jančovičová (SAV 1221); *ibid.* 10.10.2005, S. Adamčík (SAV 1179).

Entoloma prunuloides (Fr.: Fr.) Quél.

Laborecká vrchovina Mts., pasture near Vyšná Jablonka village, 14.6.2004, I. Zubařová (SAV 1226); *ibid.* 10.10.2005, S. Adamčík (SAV 1180); *ibid.* 21.9.2006, V. Kučera (SAV 1272).

Entoloma sericellum (Fr.) P. Kumm.

Biele Karpaty Mts., Blažejová, 27.9.2005, S. Adamčík (SAV 1183); Lysá, 1.10.2002, S. Adamčík (SAV 1200); *ibid.* 26.9.2005, S. Ripková (SAV 1182). - **Laborecká vrchovina Mts.**, Hostovické lúky, 18.9.2006, S. Ripková (SAV 1273); pasture near Osadné village, 11.10.2005, S. Ripková (SAV 1184); outdoor museum of 2nd World War – gun area, 11.10.2005, S. Ripková (SAV 1185); pasture near Vyšná Jablonka village, 21.9.2006, V. Kučera (SAV 1274).

Entoloma sericeum Quél.

Biele Karpaty Mts., Grúň, 27.6.2005, V. Kučera (SAV 1187). - **Cerová vrchovina Mts.**, Soví hrad, 26.10.2004, P. Lizoň (SAV 1201). -

Javorníky Mts., Katlina – Hadoše, 5.10.2005, S. Adamčík (SAV 1186). - **Laborecká vrchovina Mts.**, Hostovické lúky, 14.6.2004, S. Adamčík (SAV 1222); Jaruchy, 5.10.2004, V. Kučera (SAV 1190); Miroľská slatina, 5.10.2004, S. Adamčík (SAV 1189); outdoor museum of 2nd World War – plane area, 12.10.2005, J. Terray (SAV 1191); pasture near Vyšná Jablonka village, 10.10.2005, V. Kučera (SAV 1188).

Entoloma undatum (Fr.) M.M. Moser

Biele Karpaty Mts., Lysá, 26.9.2005, S. Ripková (SAV 1194). - **Cerová vrchovina Mts.**, Vičia dolina, 26.10.2004, S. Adamčík (SAV 1202).

ARE *ENTOLOMA CONFERENDUM* AND *E. SERICEUM* IDENTIFIABLE IN THE FIELD?

Some of the most common taxa of Slovak grasslands are *E. conferendum* (7 collections from 5 sites; see photograph on p. [1]) and *E. sericeum* (7 collections from 6 sites; see photograph on p. [36]). Both species can be found in various natural and intensively managed grasslands and also in forests, on roadsides etc. Moreover, *E. conferendum* is occurring also in alpine and arctic areas and its var. *pusillum* (Velen.) Noordel. is growing also on rotten wood (Noordeloos, 1992). *E. conferendum* has very special cruciform-stellate spores: from one view are visible two triangular parts of the spores arranged crosswise and from other view the spores looks like rectangular constricted on

longer side. Once such spores are observed, the identification of *E. conferendum* is approved. *E. sericeum* has mostly 5-6 angled and isodiametrical spores (with almost equal length and width, i. e. average ratio of length and width is 1.1). Both species are easily identifiable by microscope, but there is not key which allow us to identify them in field. For reason to find some macromorphological differences we provide most of our collections with detailed description.

Both species are very variable but similar in several macromorphological characters: (1) they have inocybeoid to mycenoid habit, (2) they have a hygrophanous, translucently striated, dark brown pileus, which becomes opaque after drying, (3) a smell of flesh is often distinctly farinaceous, (4) a stipe is 1-7 mm thick, pruinose at apex and silvery striate lengthwise and (5) gills are moderately distant and pale. We have found some differences in six observed characters (Tab. 2). Colours of pileus of both species are moderately to dark brown, but in our set of collections we observed more distinctly palescent pilei of *E. sericeum* during drying, which becomes beige or greish beige. Pileus of *E. sericeum* becomes quickly plano-convex to plane and often has a distinct papilla vs. more or less a persistently broadly conical or campanulate pileus without distinct umbo of the second species. The farinaceous smell occurs only in the half of collections of *E. conferendum*. Some authors distinguish *E. conferendum* in the field by the very silvery striate and tall stem and *Pluteus*-like, ventricose stem (Jan Vesterholt, pers. comm.). Our field observations confirm that in some cases also those characters should be used for recognition of both species, but in many cases are those characters very similar. Our observations are corresponding with descriptions of the monographer of the genus (Noordeloos, 1992), but they are more precisely compared here. There are also several other similar rarer *Entoloma* species which are not discussed here. This study does not prove that macromorphological characters should be used for precise identification but they can be useful for a "quick field identification", which should be verified by later microscopical examination.

Tab. 2. Selected macromorphological characters of *Entoloma conferendum* and *E. sericeum*.

	<i>conferendum</i>	<i>sericeum</i>
color of pileus	usually dark brown (6E4-6E6, 6F4, centre almost black sometimes, when drying milk-coffee brown, greish brown to nougat-brown (5D3, 5E4, 6D3)	usually dark brown (5E4, 5F8, 6E3-6F4, 6F8), when drying beige, greish-beige, nougat to milk-coffee-brown (4C2-4C3, 5D3, 6D4)
shape of pileus	conical to broadly conical and only when old almost plane, without or with indistinct umbo	first convex but soon expanding plane, half of collections with papilla
smell	only half of specimens farinaceous	always farinaceous
length of stipe	distinctly or rarely indistinctly longer than pileus diameter	both forms with long and short stipe occur
surface of stipe	usually silvery shining and distinctly longitudinally striate	not silvery, above pruinose, indistinctly longitudinally striate or smooth
connection of gills	adnexed	adnexed, decurrent with tooth or rarely adnate

DISCUSSION

All species listed above are already known from Slovakia, but some of them are known only from single find and were published just recently, e.g. *E. bloxamii* (Škubla 1996) and *E. prunuloides* (Janitor, 1997, Škubla, 1997). Some of the species listed here are considered to be common in literature which agree with our data: *E. conferendum*, *E. sericellum* and *E. sericeum*. Interesting is that probably the first report of *E. sericeum* from Slovakia was published just recently (Kuthan et al. 1999), although according to our research it is one of the most common species in grasslands and we found it as common in all studied areas (Adamčík & Hagara, 2002, Ripková et al., 2007). *Entoloma sericellum* also is one of the most common species of *Entoloma* in Slovakia (e.g. Ripková et al. 2007), it was collected not only in grasslands but also on a roadside or a path in forests. *Entoloma undatum*, which is considered to be fairly common species also grows on similar places (Thompson 2000, McHugh et al. 2001), seems to be rarer in Slovakia: it is known only from Poloniny Mts. (Kuthan et al. 1999) and Podunajská nížina lowland (Lizoň 1977).

We found also several collections of *E. exile* (Fr.: Fr.) Noordel. or related taxa, which looks to be a common grassland species, but this species was not included in the list here because of difficulties in identification and delimitation from related species. Some collections were composed only of adult basidiomata and the greenish color in a lower part of stem, which is the basic identification character, was disappeared. Such collections should be confused with *E. longistriatum* (Peck) Noordel. Among species which are considered to be a common in grasslands (McHugh et al. 2001, Vesterholt 2002) we have not found *E. serrulatum* (Fr.) Hesler, although it was found in other grasslands in Slovakia (e.g. Adamčík & Hagara, 2002) and it is probably common in our country in certain types of grasslands. Thus our contribution prove that some species are common in grasslands, but the selection of sites, visiting period and area of research were insufficient to generalize distribution of other species.

This contribution contain also data on some species which were not common but can be easily identified in field because of striking combination of color and shape of basidiomata and other macromorphological characters. *Entoloma bloxamii* is typical by its thick-fleshed tricholomatoid basidiomata and grey-blue colours. *Entoloma prunuloides* is similar in sturdy habit of basidiomata to previous, but has a grey colour and a shining greasy pileus. *Entoloma incanum* is characterized by a bright yellow-green colour of stipe and that turns to blue-green on base when bruised. *Entoloma porphyrophaeum* also has thick-fleshed basidiomata, a conical pileus with an acute umbo and a purple-brown color.

Entoloma species are considered as indicators of naturalness of grasslands (McHugh et al., 2001, Vesterholt, 2002). McHugh et al. (2001) and Thompson (2000) consider *E. bloxamii* and *E. incanum* as the best indicators and *E. porphyrophaeum* and *E. prunuloides* as the second class ones. Vesterholt (2002) do not consider *E. incanum* as a good indicator.

Entoloma bloxamii (see photograph on p. [36]) is included in the red list of threatened fungi of Slovakia (Lizoň, 2001) and it is red-listed in most neighboring countries: Austria, Czech Republic, Germany, Poland (Ronikier, 2005, Holec & Beran, 2006). All three collections reported here originate from three visits of the pasture near Vyšná Jablonka village and the species was associated with *E. porphyrophaeum* and *E. prunuloides*. In accordance to our suggestion published in contribution on grassland

Hygrocybe species, the *Entoloma* species reported from the pasture near Vyšná Jablonka village indicate exceptional importance of that locality.

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Slavomír Adamčík: Druhová diverzita rodu hodvábnica v travinných spoločenstvách na Slovensku. 1. *Catathelasma* (9): 11-20, 2007.

Prvý zo série príspevkov k poznaniu druhovej diverzity rodu hodvábnica, *Entoloma*, prináša poznatky o bežných a ľahko rozlíšiteľných druhoch. Medzi najbežnejšie druhy patria *Entoloma conferendum*, *E. sericellum* a *E. sericeum*. Štúdium variability makromorfologických znakov dvoch podobných druhov *E. conferendum* a *E. sericeum* nepotvrdilo, že tieto dva druhy je možné spoľahlivo odlíšiť bez mikroskopovania. Medzi nápadné a ľahko určiteľné druhy patria predovšetkým *E. bloxamii*, *E. prunuloides*, *E. porphyrophaeum* a *E. incanum*. Tieto štyri druhy sú považované za indikátory prirodzenej hodnoty travinných spoločenstiev. Prítomnosť troch z nich na pasienku pri Vyšnej Jablonke poukazuje na osobitnú hodnotu tejto lokality.

VESICULOMYCES CITRINUS IN SLOVAKIA

LADISLAV HAGARA⁵

Key words: corticioid fungi, ecology, habitat, decomposition, distribution

Six species are accepted in the genus *Vesiculomyces*, including two European members – rare *V. leucoxanthus* (Bres.) Boidin, Lanquetin & Gilles and rather common *V. citrinus* (Pers.) E. Hagstr.

Vesiculomyces citrinus (treated in *Gliodon* by Ginns & Freeman, 1994) is distributed mainly in Europe and North America. Fungus significantly participate in the decomposition of dead wood of conifers, particularly of *Picea*, *Pinus* and *Abies*. It is associated with white rot and the fruitbodies are produced from 2nd to 4th stage of wood decay (stage classification following Sippola & Renvall, 1999).

Fruitbodies are initially whitish to cream-colored, divided into small isolated „islands“, that later grow together covering sometimes large surface. Mature hymenium is lemon-yellow to ochre-yellow (see photographs on p. [35]). Globose amyloid spores with distinctive, usually excentric apiculus and numerous thin-walled gloeocystidia (variable in their form – fusiform, lageniform, subulate, cylindrical to claviform) are the most important micro-characters. Slovak specimens have spores (3.5–) 4–6(–7) × (3.5–) 3.7–5.5 µm, up to 8.2 × 7.5 µm and gloeocystidia (20–) 30–150 × (8–) 12–25 µm.

First record from Slovakia, a collection by A. Kmeť from the hill Sitno, was published by Bresadola (1897). There have been located 41 specimens from Slovakia collected in 1924–2007 in Slovak and Czech institutional herbaria and private (covering 21 geographic units). The lowest collecting site at 130 m a. s. l. was Bratislava – Rusovce, the highest at 1750 m was Kopské sedlo in the Belianske Tatry Mts. The species is distributed equally in lowlands, uplands and mountains.

Majority of collections (90 %) was associated with conifers (18 *Picea*, 11 *Abies*, 6 *Pinus*, 2 *Juniperus*), only few with broad-leaved trees (2 *Fagus*, 1 *Carpinus*, 1 „broad-leaved tree“). Norway Spruce is the most common host also in other European countries. Less important hosts are *Pinus* and *Abies*, rare hosts include species of *Juniperus*, *Taxus*, *Larix*, *Pseudotsuga*, *Cedrus* and *Cryptomeria*. In North America it grows also on *Tsuga* and *Thuja*. The list of broad-leaved European hosts include species

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of *Acer*, *Alnus*, *Betula*, *Carpinus*, *Castanea*, *Cerasus*, *Corylus*, *Fagus*, *Fraxinus*, *Populus*, *Quercus*, *Salix*, *Sorbus* and *Syringa*; *Athyrium*, *Brachythecium*, *Phytolacca*, *Pseudosasa* and *Ulex* were recorded only few times.

COLLECTIONS STUDIED⁶

Podunajská rovina Lowland. Bratislava - Rusovce, 130 m: on *Abies alba*, 15. X. 1995, 26. IX. 2005; on *Picea abies*, 15. X. 1995, 1. XII. 1997, 15. IV. 2000, 30. X. 2000, 10. XI. 2003, 26. IX. 2005; on *Pinus sylvestris*, 13. XII. 1997.

Trnavská pahorkatina Upland. Budmerice, 220 m: on *Pinus nigra*, 2. VI. 1999, on *Pinus sylvestris*, 12. X. 2000.

Malé Karpaty Mts. Bratislava - Kamzík, 350 m: on *Abies alba*, 2. XI. 2007.

Považský Inovec Mts. Tesáre, ca 300 m: on *Pinus sylvestris*, Aug. 1926, coll. J. Hruby, det. L. Hagara, PRM 679933.

Strážovské vrchy Mts. Nitrica, 420–450 m: on *Juniperus communis*, 4. X. 1996; on *Pinus sylvestris*, 2. X. 1995.

Malá Fatra Mts. Kľačno, 970 m: on *Picea abies*, 29. IX. 2002.

Veľká Fatra Mts. Turčianske Jaseno, 640 m: on *Picea abies*, 21. IX. 2001.

Kysucká vrchovina Mts. Horný Vadičov, ca 800 m: on *Juniperus communis*, 28. IX. 1972, coll. F. Kotlaba, det. Z. Pouzar, PRM 718408; Nová Bystrica, ca 900 m: on *Picea abies*, 29. IX. 1983, coll. F. Kotlaba, det. Z. Pouzar, PRM 831979.

Chočské vrchy Mts. Veľké Borové, 970 m: on *Picea abies*, 1. X. 2003.

Štiavnické vrchy Mts. Banská Štiavnica, 730 m: on *Abies alba*, 7. IX. 1996; Ilija, 770 m: on *Carpinus betulus*, 8. IX. 1996; Ilija, 890 m: on *Abies alba*, 8. IX. 1996.

Veporské vrchy Mts. Čierny Balog, 700–1000 m: on *Abies alba*, 31. VIII. 1961, coll. F. Kotlaba & Z. Pouzar, det. Z. Pouzar, PRM 871607; 13. IX. 1995; Čierny Balog, 840 m: on *Picea abies*; Drábsko, 1020 m: on *Picea abies*, 26. IX. 2000.

Zvolenská kotlina Basin. Sliač, ca 400 m: on broad-leaved trees, 1. XII. 1958, coll. K. Kříž, det. L. Hagara, PRM 516297

Liptovská kotlina Basin. Likavka, 650 m: on *Picea abies*, 23. IX. 1971, coll. and det. V. Holubová-Jechová, PRM 822687.

Popradská kotlina Basin. Štrba - Tatranská Štrba, 900 m: on *Pinus abies*, 14. IX. 1995; Starý Smokovec, 920 m: on *Picea abies*, 1. X. 2002.

Nízke Tatry Mts. Liptovský Ján, ca 1200 m: on *Abies alba*, 16. IX. 1988, coll. P. Vampola, det. Z. Pouzar, PRM 865099.

Západné Tatry Mts. Podbanské, ca 1450 m: on *Picea abies*, 26. VII. 1963, coll. and det. Z. Pouzar, PRM 803364.

Belianske Tatry Mts. Tatranská Kotlina, 1750 m: on *Pinus mugo*, July 1924, coll. & det. A. Pilát, PRM 662822; Tatranská Kotlina, 760 m: on *Abies alba*, 8. X. 2002.

Levočské vrchy Mts. Ihľany, 1270 m: on *Picea abies*, 21. IX. 1972, coll. F. Kotlaba, det. Z. Pouzar, PRM 718424; Ihľany, 1150 m: on *Abies alba*, 25. IX. 1972, coll. F. Kotlaba, det. Z. Pouzar, PRM 718423.

⁶ All specimens, if not noted, were collected and identified by the author and are held in his herbarium.

- Branisko Mts. Vyšný Slavkov, ca 800 m: on *Abies alba*, 23. IX. 1972, coll. F. Kotlaba, det. Z. Pouzar, PRM 718449.
- Slovenský kras Mts. Zádiel, ca 400 m: on *Fagus sylvatica* (PRM 662903) + *Picea abies* (PRM 167295), 8.–14. X. 1934, coll. A. Pilát, det. J. Eriksson; Zádiel, ca 400 m: on *Fagus sylvatica*, 14. X. 1934, coll. F. Šmarda, det. A. Pilát, BRNM 234767.
- Bukovské vrchy *Mts. Nová Sedlica, ca 1000 m: on *Abies alba*, 28. IX. 1988, coll. J. Kuthan, det. Z. Pouzar and F. Kotlaba, BRA; Osadné, 690 m: on *Abies alba*, 20. IX. 1996.

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Ladislav Hagara: Mechúrnicica citrónovožltá na Slovensku. *Catathelasma* (9): 21-23, 2007.

Výskyt a rozšírenie mechúrnicice citrónovožltej, *Vesiculomyces citrinus* na Slovensku sú doložené 41 nálezmi v 21 orografických celkoch. Druh rastie predovšetkým na ihličnanoch (hlavne na *Picea excelsa* a *Abies alba*, menej na druhoch *Pinus* a *Juniperus*), jeho výstyt na listnáčoch je zriedkavý. Najnižšie položené nálezisko je v Bratislave – Rusovciach (130 m n. m.), najvyššie v Kopskom sedle v Belianskych Tatrách (1750 m).

BOOK NOTICES

Ain Raitviir. 2004. **Revised synopsis of the Hyaloscyphaceae.** [Scripta mycologica, no. 20]. [1]-133 (incl. 55 line-drawings), Estonian Agricultural University, Institute of Zoology and Botany, Tartu. ISBN 9985-9293-3-0. Price: not indicated.

This is a significantly updated edition of a world monograph of Hyaloscyphaceae that was published originally as the first volume of Scripta mycologica. The book has descriptions of 29 genera and 234 species (1970 edition: 15 genera and 182 species), including keys to genera and species. The author Ain Raitviir (1938 – 2006) was one of the world authorities on Discomycetes.

Scripta mycologica is a series of monographic works and proceedings on fungi and lichens published by the Institute of Zoology and Botany (www.zbi.ee) of the Estonian Agricultural University in Tartu (until 1997 the Institute was part of the Academy of Sciences of the Estonian SSR). Till now these issues have been released:

1. 1970. A. Raitviir, A synopsis of the Hyaloscyphaceae. Pp. 115.
2. 1970. E. Parmasto, Lachnokladevyje griby Sovetskogo Sojuza. Pp. 168 + 35 [in Russian, The Lachnocladiaceae of the Soviet Union].
3. 1971. L. Järva, Fütopatogeensed seened köögiviljadel Eestis Pp. 12 [in Estonian, Phytopathogenic fungi parasitic on vegetables in Estonia].
4. 1972. A. Sõmermaa, Ecology of epiphytic lichens in main Estonian forest types. Pp. 117.
5. 1974. A. Raitviir (ed.), Sovremennyje uspechi mikologii i lichenologii v Sovetskoy Pribaltike. Pp. 230 [in Russian, Advances in mycology and lichenology in Soviet Pribaltics].
6. 1974. T. Möls & A. Raitviir, Morfometrija i sistematika gribov. Pp. 159 [in Russian, Morphometrics and the taxonomy of fungi].
7. 1980. L. Järva & E. Parmasto, List of Estonian fungi. With host index and bibliography. Eesti seente koondnimestik. Pp. 331 [in English and Estonian].
8. 1978. L. Järva, Taxonomy and distribution of fungi (Agaricales, Erysiphales, Helotiales). Pp. 144 [in English and Russian].
9. 1980. A. Kollom (ed.), Ecology and distribution of fungi (Agaricales, Helotiales, Erysiphales, Gasteromycetes). Pp. 144.
10. 1982. B. Kullman, A revision of the genus Scutellinia (Pezizales) in Soviet Union. Pp. 158.

11. 1983. A. Raitviir, Mikologičeskije issledovanija: Matematičeskije metody v sistematike gribov. Pp. 56 [in Russian, Mathematical methods in the taxonomy of fungi].
12. 1998. L. Järva, E. Parmasto & M. Vaaasma, List of Estonian fungi. With host index and bibliography. Supplement 1 (1975-1990). Eesti seente koondnimestik. Peremeestaimede nimestiku ja bibliograafiaga. 1. Täiendusköide (1975-1990). Pp. 183 [in English and Estonian].
13. 1986. Macrofungi of the Caucasian State Nature Reserve. Pp. 106.
14. 1986. E. Parmasto, Danh muc buoc dau cac nam Aphyllophorales va Polyporaceae s. str. Viet Nam. Preliminary list of Vietnamese Aphyllophorales and Polyporaceae s. str. Pp.88 [in Vietnamese and English].
15. 1986. E. Parmasto (ed.), Mikologičeskije issledovanija: Problemy vida i roda u gribov. Pp. 194 [in Russian, Problems of species and genus in fungi].
16. 1988. E. Parmasto (ed.), Tezisy dokladov 11 simpoziuma mikologov i lichenologov Pribaltijskich respublik i Belorusii. Pp. 186 [in Russian, 11th symposium of the mycologists and lichenologists of the Baltic republics and Belarus, Abstracts].
17. 1989. E. Parmasto & al. (eds.), Tenth Congress of European Mycologists. Tallin, Estonian SSR, August 1989. Abstracts. Pp. 141.
18. 2004. K. Kalamees, Palearctic Lyophyllaceae (Tricholomatales) in the Northern and Eastern Europe and Asia. Pp. 135.⁷
19. 2004. E. Parmasto, Distribution maps of Estonian Fungi. Eesti seente levikuatlas. 3. Pore fungi. Torikseened. Pp. 224 [in English and Estonian].
20. 2004. A. Raitviir, Revised synopsis of the Hyaloscyphaceae. Pp. 133.

People from the Institute of Zoology and Botany are involved also in the production of **Folia Cryptogamica Estonica** (head of mycology Urmas Kõljalg is the Editor-in-Chief of the journal). Folia started in 1972 and are published by the Estonian Naturalists' Society (Eesti Looduseuurijate Seltsi, www.elus.ee) now. The journal has papers on fungi, lichens, bryophytes and algae. Last volumes (full text) are available at www.ut.ee/ial5/fce/fo lia.html.

⁷ reviewed in Catathelasma 7: 33, 2006

Maria Alicja Chmiel. 2006. **Checklist of Polish larger Ascomycetes.** *Biodiversity of Poland*, vol. 8⁸, [1]-152, W. Szafer Institute of Botany, Polish Academy of Sciences, Kraków (www.ib-pan.krakow.pl). ISBN 83-89648-46-6 & 978-83-89648-46-6. Price (softbound) PLN 45.00.

The list covers 785 species of Discomycetes (cup-fungi) – the macro-Ascomycota currently treated in Helotiales, Rhytismatales and Thelephorales (Leotiomycetidae) and Pezizales (Pezizomycetidae) that have been reported from Poland.

Anna Lakovičová, Anna Guttová, Eva Lisická & Pavel Lizoň (eds.). 2006. **Central European lichens – diversity and threat.** [1]-364 (incl. B/W photographs, distribution maps), Mycotaxon, Ithaca (www.mycotaxon.com) & Institute of Botany, Slovak Academy of Sciences, Bratislava (ibot.sav.sk). ISBN 0-930845-14-5 (hardbound ed.), 0-930845-145-3 (softbound ed.). Available for exchange from the Institute of Botany (contact the librarian eva.zaletova@savba.sk).

This book as well as the conference Diversity of lichens – knowledge, changes and trends (held in March 2005) have been dedicated to lichenologist Ivan Pišút. Colleagues from all over the Europe (Austria, Czech Republic, Estonia, Germany, Poland, Slovakia, Slovenia) contributed to the book 22 papers. It has also biographical column on I. Pišút and index to lichens and lichenicolous fungi mentioned in the text.

⁸ previous volumes reviewed in *Catathelasma* 6: 38-39, 2005

NON-LICHENIZED FUNGAL TAXA DESCRIBED FROM SLOVAKIA. Part 2.

PAVEL LIZOŇ⁹

Key words: Ascomycota, Basidiomycota, list, new taxa

The first part of this commented list was published by Lizoň and Jančovičová (2000).

Accepted names and/or names in current use are boldfaced. Collections sites are cited the same way as they were originally published. Bracketed inserts are explanation and/or current geographical and administrative names. Standards for authorities of taxa, herbaria, journal and book titles were followed as listed in the 1st part of the list.

ASCOMYCOTA

Galactinia polaripapulata J. Moravec (Česká Mykol. 23: 33, 1969)

"Slovakia, montes Vysoké Tatry, prope Lysá Poľana ad ripam rivi Biely potok, in piceto sub dumetis ad terram humidam nudam ad destructionis calicatum, 19.IX.1967." Holotype in PRM. Current name: ***Peziza polaripapulata*** (J. Moravec) K. Hansen (Hansen, Sandal & Dissing, 1998).

Lojkania hungarica Rehm (Növényt. Közl. 4: 2, 1905)

[town Svätý Jur near the city Bratislava] "Ad lignum in balnaeo saepe inundam, P.-Szentgyörgy, 9/1903, leg. Dr. Zahlbruckner." Holotype in S (F7196), isotype in UPS. Current name: ***Lojkania melasperma*** (Cooke) Barr (Barr, 1984).

Lophiostoma glaciale Rehm (Ber. Naturhist. Ver. Augsburg 26: 47, 1881)

[hill Dzuřová, S to the village Liptovská Teplička, region Liptovä "Ad caules Aconiti Napelli in alpe Dzuřowa (Liptau) Hungariae. leg. Lojka." Type: Rehm, Ascomyceten no. 183 as *Lophiostoma sedi* Fr. (S, BPI; lectotype not designated). The name is in current use (Takana & Harada, 2003).

Ombrohila baumleri Rehm (Hedwigia 24: 228, 1885)

[next to the city Bratislava] "Ad strobilos putridos Alni prope Pressburg (Hungaria) leg. Bäumlér." Type: Rehm, Ascomyceten no. 806 (S, lectotype not designated). Dixon annotated the specimens in S (1972, 1979)

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Ciboria viridifusca (Fuckel) Höhn. Current name: ***Rutstroemia baeumleri*** (Rehm) Berthet (Berthet, 1964).

Peziza hazslinszkia Cooke (Mycographia 1: 238, pl. 401, 1879)
 "Peziza brunnea, Hazslinszky, in Herb. On the ground, Hungary."
 Hazslinszky (1886) reported the species as collected in the region Šariš, northeastern Slovakia: "Nö Pyronemák társaságban, szénégetők tűzhelyein, a salgói erdőkben, Sárosban." Schumacher (1988) excluded the species from *Scutellinia* and Svrček (1981) has reported it in *Humaria* as dubious. Original material or type might be in K.

BASIDIOMYCOTA

Agaricus decussatus * *illustris* Kalchbr. (Icon. Select. Hymenom. Hung. 2: 26–27, pl. 15/1, 1874) see pict. on p. [2]
 [mountains of the region Spiš] "In silvis montanis Scepusii, ad truncos Pinuum et in vicinia eorum, sed etiam procul ab iis, locis udis, graminosis, ad terram, haud frequens. Octob." Lectotype: Kalchbrenner's plate, epitype in SAV (1225): Slovakia, Galmuská planina plateau (designated by Adamčík & al., 2006). Accepted name: ***Pholiota lubrica*** (Pers.) Singer (Adamčík & al., 2005).

Agaricus filamentosus subsp. *lepturus* Kalchbr. (Math. Természettud. Közlem. 5[1867]: 232, pl. 1/3, 1868)
 ≡ *Pholiota filamentosa* var. *leptura* (Kalchbr.) Sacc. & Traverso
 [region Spiš] "Fenyőtuskókon, verőfényes helyiségeken." According to the original description taxon is similar to *Pholiota adiposa*. Type or original material not located. Not commented by Holec (2001).

Agaricus filamentosus subsp. *lampas* Kalchbr. (Math. Természettud. Közlem. 5[1867]: 232, pl. 1/4, 1868)
 ≡ *Pholiota filamentosa* var. *lampas* (Kalchbr. & Sacc. & Traverso
 [region Spiš] "Igen árnyas fenyvesek sajátja." According to original description taxon is similar to *Pholiota heteroclita*. Type or original material not located. Not commented by Holec (2001).

Agaricus paradoxus Kalchbr. (Icon. Select. Hymenom. Hung. 2: 27, pl. 16/1, 1874) [non *Agaricus paradoxus* Sorokin 1890]
 [village Helpa] "In graminosis, muscosis, ad margines Pinetorum Hungariae borealis perraro; hucdum modo ad pagum Hámor comitatus Abauj et ad Helpa comit. Gömör, sub alpe Wapenicza parce lectus. Jul. Aug." Type or original material not located. Current name: ***Phylloporus rhodoxanthus*** (Schwein.) Bres. (Kirk, 2007)

Agaricus piceus Kalchbr. (Math. Természettud. Közlem. 5[1867]: 229, 1868)

[next to the village Spišské Vlachy] "Ad Olaszinum, locis silvarum udis, graminosis, praesertim in viis cavis, derelictis et fossis per fonticulos irrigatis cespiteque tectis. Frequentem et pulchre evolutum legi in viis silvaticis humosis, umbrosis ad pagum Helpa [village of Hel'pa] comitatus Gömör. Schulzer ad Lalázsvölgy comitatus Saros locis similibus, sub alni reperit. Sept. Oct." Type or original material not located.

Current name: ***Macrocyttidia cucumis*** (Pers.) R. Heim (Kirk, 2007).

Agaricus plumipes Kalchbr. (Icon. Select. Hymenom. Hung. 1:15, pl. 6/3, 1873)

[region Spiš] "Ad conos pinuum, in silvis campestribus Scepusii. Jam ieunte Majo, in Ag. esculenti consortio, a quo tamen jam primo obtutu discernendus." Type or original material not located. Accepted as *Collybia plumipes* by Saccardo (1887). Probably a member of *Strobilurus* (Antonín & Nordeloos, 1997).

Agaricus sainsonii Lév. (Demidoff, Voyage dans la Russie méridionale et la Crimée, par la Hongrie, le Valacie et la Moldavie 2: 85, 1842)

≡ *Panus sainsonii* (Lév.) Heufl., *Panus rudis* f. *sainsonii* (Lév.) Malk.

[village Devín] „Theben en Hongrie, sur un tronc de chêne.“ Type or original material not located. Current name: ***Lentinus lecomtei*** (Schwein.) Fr. (Pegler, 1983).

Boletus splendidus subsp. *moseri* Singer & Kuthan (Česká Mykol. 30: 151, 1976)

Czechoslovakia: Slovakia, Raková, near Čadca, 31 Aug 1975, J. Kuthan. Holotype in F (75/S 141). Current name: ***Boletus rubrosanguineus*** Cheyde

Corticium laetum var. *tatrense* Pilát (Bull. Soc. Mycol. France 42: 113, 1926)

[Vysoké Tatry Mts.] "Aestate ad ligna putrida Pini montanae ad Sedlo Kopy (1.800 m.). Tatra Magna Carpathorum Centralium, 8, VI, 1924, ipse legi." Holotype in PRM. Current name: ***Phanaerochaete sanguinea*** (Fr.) Pouzar (Pouzar, 1973).

Cortinarius atrovirens Kalchbr. (Icon. Select. Hymenom. Hung. 2: 32, pl. 19/2, 1874)

[region Spiš] "In pinetis montanis Carpatorum Scepusii, locis umbrosis, muscosis, rorodis, passim frequens. Sero autumnno." Type or original material not located. The name is in current use.

Hygrophorus hypothejus var. *mendax* Kalchbr. (Icon. Select. Hymenom. Hung. 3: 43, pl. 17/3, 1875)

[hill Verpuš, next to the village Spišské Vlachy] "In colle pinifero Werpusch, prope Olaszinum, ad margines graminosos lucorum. Oct." Lectotype: Kalchbrenner's plate, epitype in SAV: Slovakia, Hnilecké vrchy Mts. (designated by Adamčík & al., 2005). Accepted name: ***Hygrophorus hypothejus*** (Fr.) Fr.

Naucoria intertrunca Pilát (Sborn. Nár. Mus. Praha, řada B, 9(2): 55, 1953)

[Poľana Mts., next to the town Detva] „...ad ligna Abietis albae putridissima in rimis ligni in trunco ad terram iacentem in silvis virgineis montis Polana prope Detva, Slovakiae centralis, solo andesitico, 26. VIII. 1951, A. Pilát...“ Holotype in PRM (717775). According to Holec (2007) the specimen represents ***Gymnopilus bellulus*** (Peck) Murill.

Pluteus favrei Antonín & Škubla (Fungi non delineati 11: 35, 2000)

„Montes Belianske Tatry, Tatranská Kotlina (distr. Kežmarok), 28. VIII. 1998 leg. P. Škubla, V. Antonín 98.84 et V. Kabát.“ Holotype in BRNM (isotype in herb. Škubla). Based on *Pluteus luteomarginatus* sensu J. Favre 1960.

Poria greschikii Bres. (Ann. Mycol. 18: 38, 1920)

[town Levoča] "ad truncos Quercus sessiliflorae, Lócse, Greschik no. 111 (1897)" Accepted by Trotter (1925). Holotype in S (F6743). Current name: ***Antrodia xantha*** (Fr.) Ryvarden (Lowe, 1966).

Radulum kmetii Bres. (Atti. R. Acc. Sc. Lett. Arti Agiati, ser. 3, 3(1–2): 102, 1897)

[Štiavnické vrchy Mts., hill Sitno, next to the village Prenčöv] "in cortice Populi tremulae in Monte Sytno pr. Prenčöv." Accepted by Saccardo and Trotter (1912) as *Hirneolina kmetii*. (Holo)type in BRA. Current name: ***Eichleriella deglubens*** (Berk. et Broome) Lloyd (Chamuris, 1988).

Stereum trapplianum Velen. (Čes. Houby 4–5: 759, 1922)

[Nízke Tatry Mts., close to the city Banská Bystrica] "na starých bucích v pralesích Tatry u Banské Bystrice na Slovensku sbíral můj dobrý a věrný žák p. prof. S. Trapl v březnu 1920." Holotype in PRM (169457). Current name: ***Stereum insignitum*** Quéél. (Reid, 1969).

Hypochnus atrovirens Bres. (Atti. R. Acc. Sc. Lett. Arti Agiati, ser. 3, 3(1–2): 116, 1897) [non *Hypochnus atrovirens* (Fr.) Donk 1932] [next to the village Prenčov] "ad ligna mucida arborum frondosarum pr. Prenčov." Type or original material not located. Current name: ***Tomentella atrovirens*** (Bres.) Höhnel & Litschauer (Stalpers, 2007).

Tomentella fatrensis Svrček (Česká Mykol. 12: 77, 1958)
"Slovakia: montes Velká Fatra, in valle "Dedošova dolina" dicta, solo calcareo, ad paginam infer. trunci iacentis putridi Abietis albae, ... 2.VII.1953. leg. Svrček." Holotype in PRM. Current name: ***Tomentella coerulea*** (Bres.) Höhn. & Litsch. (Stalpers, 2007). According to Larsen (1974) taxonomic status is unknown.

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Pavel Lizoň: Taxóny nelichenizovaných húb opísané zo Slovenska. 2. časť. *Catathelasma* (9): 27–32, 2007.

Druhá časť zoznamu húb opísaných z územia Slovenska. Pri každom taxóne je uvedené v súčasnosti používané meno, príp. aj údaje o type a taxonómii.

BOOK NOTICES

M. Halil Solak, Mustafa İşiloğlu, Erbil Kalmış & Hakan Alli. 2007.

Macrofungi of Turkey. Checklist (Volume I). [i–v], 1–254. Üniversteliler Ofset, İzmir. no ISBN #. [corresponding author: doc. dr. M. Halil Solak, Muğla University, halilsolak@yahoo.com]

Recently several checklists of fungi related to particular provinces of Turkey and selected taxonomic groups were published (Turk. J. Bot. 28: 247–251, 2004; 2007: Mycotaxon 99: 71–74, 2007; Gazi Univ. J. Sci. 18:183–185, 2005) and posted (www.mycotaxon.com).

Checklist of Turkish macrofungi is based on 322 published papers and reports and lists 2388 taxa mostly of Basidiomycota (there are less than 20 species of Ascomycota in the list). Province of occurrence/record and reference to the literary source is given for each included taxon. Attached is, of course, also the complete list of references, list of important synonyms and list of genera.

Thomas Læssøe & Jens H. Petersen. 2006. **MycoKey 2.1.** 1x DVD. MycoKey, Aarhus. ISBN: 87-984481-5-3. Price: € 49. [order from www.mycoskey.com]

Mycokey web-site was opened by Danish mycologists Tom Læssøe and Jens Petersen in 1999 and the 1st version of this interactive key for macrofungi on CD-ROM was released in 2003. Version 2.1 (DVD) has synoptic key for 532 genera of Basidiomycota and Discomycetes, about 15 000 references to literature. All included genera are described and 2200 taxa are illustrated on 3600 pictures. Besides scientific names also Danish, Dutch, English, French, German, Norwegian and Swedish common names are included. Upgrade to the version 2.5 with more genera and illustration is available on home page of the key.

Soňa Ripková, Slavomír Adamčík, Viktor Kučera & Ladislav Palko. 2007. **Fungi of the Protected landscape area of Vihorlat. Huby Chránenej krajinej oblasti Vihorlat.** [1]–149. Institute of Botany of the Slovak Academy of Sciences, Bratislava (ibot.sav.sk). ISBN 978-80-969721-3-5 (softbound). Available for exchange from the Institute of Botany (contact the librarian eva.zaletova@savba.sk).

Eight years after the publication of fungal flora of the Bukovské vrchy Mts. and the National park Poloniny (Kuthan & al., 1999), a another valuable treatment on macrofungi of eastern Slovakia was released. Under editorship of Pavel Lizoň mycologists from the Komenský University (Ripková) and the Slovak Academy of Sciences (Adamčík, Kučera) in collaboration with the management of the national park released an annotated list of macrofungi of the National park Vihorlat. Results are based on field research realized in 2001-2003 that was part of APVT and VEGA projects. Publication of the book was supported by the the Society of authors of scientific and professional literature, the Slovak mycological society and the Studio Opona.

Fungi were studied on 18 selected localities in the Vihorlat Mountains. Authors recognized 77 taxa of Ascomycetes and 440 taxa of Basidiomycetes, about 200 specimens are still not identified. Previously collected 262 taxa by other authors are also commented. Altogether 632 taxa are reported (91 Asco- and 542 Basidiomycetes) from the study area.

The book is an important contribution to the knowledge of the diversity and ecology of Slovak macrofungi. There is a hope that it will stimulate similar treatments of another relatively well known regions and areas of Slovakia (such as Malé Karpaty Mts., Strážovské vrchy Mts., Biele Karpaty Mts. and Popradská kotlina Basin).

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Kuthan, J., S. Adamčík, J. Terray & V. Antonín. 1999. Huby Národného parku Poloniny. [1]–197. Správa národných parkov SR, Liptovský Mikuláš & Správa Národného parku Poloniny, Snina.

LADISLAV HAGARA



Vesiculomyces citrinus
(Podunajská rovina Lowland, Bratislava – Rusovce; see p. 21)



Vesiculomyces citrinus, younger fruitbody
(Belianske Tatry Mts., Tatranská kotlina; see p. 21)



Entoloma bloxami
(Laborecká vrchovina Mts., Vyšná Jablonka; see p. 11)



Entoloma sericeum
(Laborecká vrchovina Mts., Vyšná Jablonka; see p. 11)