

CATATHELASMA

No. 4

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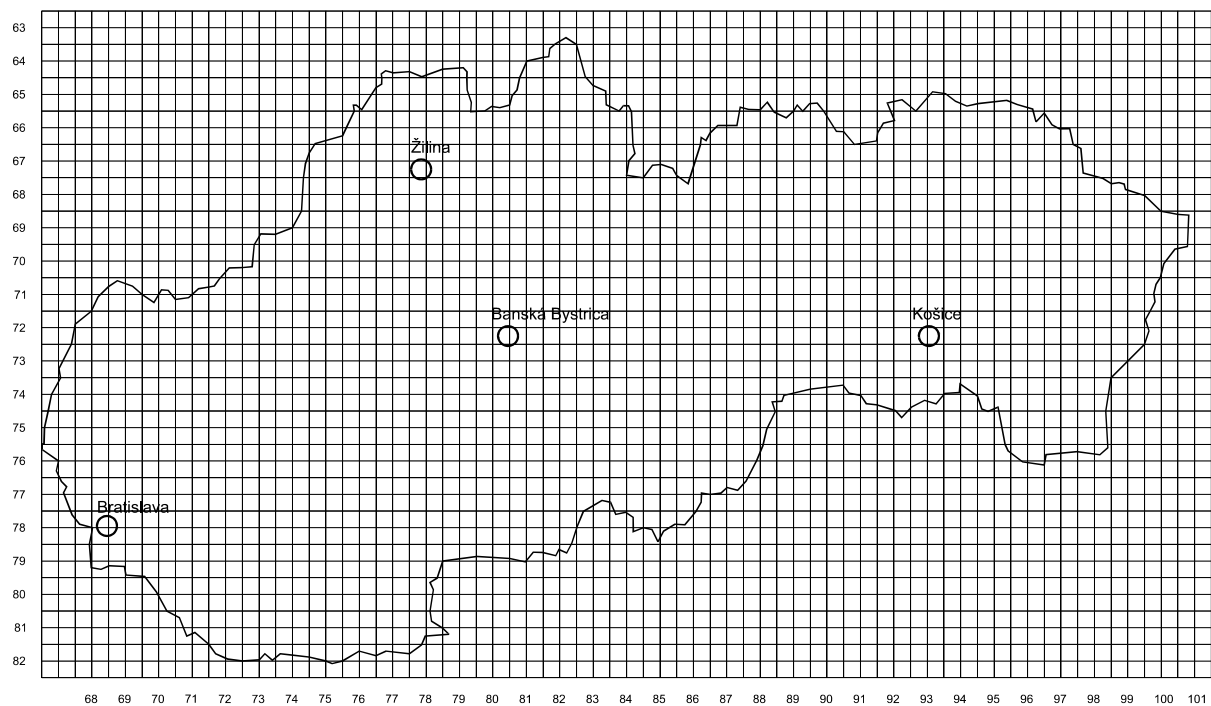
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Grid cells are bounded with geographical coordinates (longitude and latitude). Boundaries of basic grid cells (squares) represent 10' long. (west to east) x 6' lat. (north to south), an area of ca 12 x 11.1 km which covers ca 133 km². The square code consists of four-digit number, a combination of two-digit designator of horizontal line and two-digit designator for vertical row. Each square can be divided (for more detailed mapping) to four quadrants 5' x 3' which are coded by letters a (NW), b (NE), c (SW), d (SE). The quadrant code consists of four-digit number (square code) and the letter of particular quadrant

COPRINUS ATRAMENTARIUS AND C. MICACEUS IN BRAJÁN ČERVENKA¹ & MILAN ZELENAY²**Key words:** collections, Slovak National Museum, taxonomy, misidentifications

Last summer (July/August 2003) we have critically studied all available specimens of two common *Coprinus* species, *C. atramentarius* and *C. micaceus* held in the herbarium of the Slovak National Museum in Bratislava (BRA). Because several specimens collected in 19th and 20th centuries were in bad condition (mouldy) and some of their characters were damaged we have focused on basidiospore morphology and size. Nomenclature follows Slovak checklist of fungi (Lizoň & Bacigálová, 1998).

Coprinus atramentarius (Bull.) Fr.

The species produces large fruit-bodies up to 20 cm tall, with up to 10 cm wide pileus and 1.5 cm thick stipe when mature. Pileus is grey to greyish-brown, with rests of brown veil on the top. Stipe is white, without annulus, only on the base has a ring-like zone. It has ellipsoid, dark-brown, up to 11 µm long spores and hyaline longitudinal element in the veil.

It is often misidentified for *Coprinus alopecia* Lasch that differs by not such bulbous stipe and tuberculate bigger spores. Similar is also *Coprinus acuminatus* which has on the top of the pileus distinctive umbo and lacks a ring-like zone on the base of the stipe. But it has similar microcharacters and some authors accept it only as a variety of *C. atramentarius*. Recently the species is accepted as *Coprinopsis atramentaria* (Bull.) Redhead & al. (Redhead & al., 2001).

Specimens studied - *Coprinus atramentarius*:

[Malé Karpaty Mts.] ad Posonium, 24. Octobris 1875, Bolla; na kraji lesa; [Bratislava-] Rača, 5. sept. 1969, I. Fábry; [Bratislava-] Blava-Krasňany, 24. okt. 1963, I. Fábry; Q 77/68: in fageto in colle „Svätý vrch“ (loc. situ „Na Fuskovom“) 2 km situ sept.-orient. a pago Marianka, distr. Bratislava-vidiek, 300 m, Ján Sand; Q 68/77: In colle „Krásny vrch“, 5 km situ sept.-occid. a statione ferratae Bratislava-Železná studnička (urbis Bratislava), 29. 11. 1987, 340 m, Ján Sand.

[Popradská kotlina basin] Kežmarok, 14. X. 1962, Eva Končeková.

Záhorská nížina: ad terram humosam ad ripam flumin. Rudava e vicinitate urb. Malacky, 16. IV. 1972, J. Hradecký; Bratislava, 2. mája 1965, N. Mészárosová.

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- [Strážovské vrchy Mts.] Trenč. Teplice, horto publico, 15. X. 1973, 350 m, Jan Kuthan.
- [Turzovská vrchovina Mts.] Raková, in fago, humi, ad marginem viae, 500 m, 22. X. 1967, Jan Kuthan; Čadca, in fago, in gramine, 450 m, 26. IV. 1966, Jan Kuthan.
- Malá Fatra: inter gramina in prato montana „Kotliny“ dieto 3 km situ septent. – occid. a pago Bystrička (distr. Martin), 25. 6. 1983, Karol Tolnay; v opadanom bukovom lístí na lesnej ceste v Trusalovej doline, asi 3,8 km severne od obce Turany, 2. XI. 1982, cca 640 m, Ladislav Hagara; at marginem paludis in colle „Hrádok“ (loco „Kotlinky“ dicto) 2,4 km situ occid. a pago Bystrička (distr. Martin), cca 650 m, die 30. X. 1983, Ladislav Hagara; ad marginem viae silvaticae in fageto 3,1 km situ occid. a pago Bystrička (distr. Martin), cca 830 m, 5. X. 1984, Ladislav Hagara.
- montes Štiavnické vrchy: iuxta rivulum silvaticum supra casam venatoriam „Žuhráčka“ dictam cca 4 km situ septent. – occid. a pago Devičany (distr. Levice), 450-500 m, 6. X. 1983, Karol Tolnay.
- Bukovské vrchy, ŠPR Stužica, na lesnej ceste, na holej pôde, 8. 9. 1995, Adamčík; Zbojský potok, v tráve, na pasienku, 19. 10. 1995, Adamčík; ŠPR Riaba skala, v listnatom lese, v detrite, 1. 7. 1995, Adamčík.
- Oktobris 1894 [no collecting site]; 1896, Kalchbrenner [other data unreadable].
- [Czech rep., Ostrava] Halda Hrabůvka – na okraji cesty v březotopolovém háji na uhelné části haldy při úpatí topolu, 12. X. 1968.
- Misidentified specimens:
- [Malé Karpaty Mts.] ad Posonium, 24. Septembris 1875, Bolla. Spores are smooth, 16 x 9 µm, another characters are missing – *Coprinus* sp.
- [Tríbeč Mts.] na zemi, jižná strana Zobora – Pyramída, 5. IX. 1971, Ladislav Opold. Pileus is radially striate – a different species of *Coprinus*.
- Montes Tríbeč ad caudicem putridum *Quercus* sp. In querceto infra arcem „Jelenec“ cca 3 km sept. ab pago Jelenec (distr. Nitra), cca 450 m, 11. VI. 1983, Ladislav Hagara; Nitrianska pahorkatina (distr. Topoľčany): ad caudicem putridum *Quercus* sp. in querceto prope lacum structil. „Duchonka“ dict. cca 1 km occid. ab pago Nemečky, die 12. VI. 1983, cca 320 m, Ladislav Hagara. Spores in both specimens are tuberculate, ca 12 µm long - *Coprinus alopecia* Lasch.
- [Malé Karpaty Mts.] ad lignum nudum, in silvis supra Hajenka montis Koliba par. opp. Bratislava, 1. VII. 1969, Ladislav Opold. Presence of rusty-ochre basal mycelium, hyaline round cells and prolonged yellowish-brown connected elements in vellum is typical for *Coprinus* sect. *Veliformes* subsect. *Domestici*. Terminal cells of hyphae are ovoid and spores are ellipsoid, 12 µm long - *Coprinus radians* (Desm.) Fr.
- [Malé Karpaty Mts.] ad terram sch. humidam, in silvis montis Koliba par. oppo Bratislava, 14. VI. 1969, Ladislav Opold. Specimen clearly differs

macroscopically and has almond-shape spores and caulocystidia on the stipe - *Coprinus micaceus* (Bull.) Fr.

Coprinus micaceus (Bull.) Fr.

Member of the section *Veliformes* characterized by spherical cells of veil on the top of pileus and its subsection *Micacei* including taxa with fleshy fruit-bodies having thick-walled cells in the veil. Our species has large, up to 11 cm tall fruit-bodies, ca 4 cm wide pileus and 0.5 cm thick stipe. Pileus is ovoid or conical, pileipellis is pale-ochre to reddish-brown, covered by vanishing sparkling granules. Stipe is white, finely pruinose. The species is characterized also by caulocystidia and spherical cells in the veil. It can be distinguished from the group of *Coprinus domesticus* (Bolton) Gray by amygdaliform spores, max. 10 µm long and lack of yellowish-brown longitudinal element in the veil. Recently the species is accepted as *Coprinellus micaceus* (Bull.) Vilgalys & al. (Redhead & al., 2001).

Specimens studied - *Coprinus micaceus*:

[Štiavnické vrchy Mts.] In radicilus putresc. arborum Prenčow, in horto 4. Juni 1887, A. Kmet'; In radicilus putresc. arborum Prenčow, in horto 4. Juni 1887, A. Kmet'; Prenčow, Oct. 1897, A. Kmet'; Prenčow, v záhradke u ovčiarov, 17. Sept. 1897, A. Kmet'; In trunco emort. Fagi, Prenčow, Hlava, 29. Juli 1895, A. Kmet'; Prenčow, in horto paroch 12. Juni 1896, A. Kmet'; Prenčow, in horto paroch, 15. Juni 1895, A. Kmet'; Prenčow, na Háj, 3. Sept. 1896, A. Kmet'; [Banská Štiavnica] Schemnitzii, in fodina (?), 10. Nov. 1892, A. Kmet'; Ad lignum in terra in area Prenčow ad parochiam, 9. Julii 1896, A. Kmet'; in terra humosa in horto Prenčow ad parochiam, 2. Juni 1891; Ad lignum prope Prenčow, A. Kmet'; in Prenčow, A. Kmet', 1891; in fodina [Banská Štiavnica] Schemnitzii, 10. Nov. 1892, A. Kmet'; Prenčow, in area paroch. Oct. 1893, A. Kmet'; Prenčow, in hortulo, 2. Nov. 1898, A. Kmet'; In radicilus putresci arborum Prenčow, in horto 4. Juni 1887, A. Kmet'; Ad lignum in terra, in area Prenčow ad parochiam 9. Julii 1896, A. Kmet'; Prenčow, in horto paroch. 20. Oct. 1894, A. Kmet'; Prenčow, in parochia. 2. Oct. 1896, A. Kmet'; In terra ad lignum in area Prenčow parochiam, 9. Julii 1896, A. Kmet'; Prenčow, Háj, 26. Aug. 1896, A. Kmet'.

[Malé Karpaty Mts.] in hortis arborum truncos cixtum Posonium, 30. Maii 1874, Bolla; [Bratislava] Blava-Krasňany, 24. máj 1960, I. Fábry; [Bratislava] Blava-Žel. studienka, 2. mája 1963, I. Fábry; [Bratislava] Blava-Koliba, 15. máj 1960, I. Fábry; Q 77/68: In carpineto a solum frondeum, 0,5 km situ septentrionis a pago Marianka, loc. „Starý háj“, (districtus Bratislava-vidiek), 250 m, 1. 4. 1990, leg. Ján Sand; Q 77/68: in fageto in

- colle „Pezinská Baba“, loc. situ „Konské hlavy“, 14 km septent. a pago Pezinok distr. Bratislava-vidiek, 9. 6. 1989, 550 m, Ján Sand.
- Malá Fatra: in ligno putrido cca 2 km situ occid. a pago Bystrička (distr. Martin), 9. X. 1983, cca 500 m, K. Tolnay; in dumeto in proto montano „Valaská“ dicto cca 3 km situ septent. – occid. a pago Bystrička (distr. Martin), cca 600-650 m, 30. X. 1983, K. Tolnay; (collis „Hrádok“): in silva acerna cca 4 km in declivi occid. ab oppido Martin, cca 600 m, 24. IV. 1983, Ladislav Hagara; inter gramina ad iuxta ripam dextram „Prieslopská“ cca 3 km situ occid.-septent.-occid. a pago Bystrička (distr. Martin), cca 680 m, 19. 5. 1984, Karol Tolnay; ad terram viae silvaticae in fageto supra ripam sinistram rivi „Bystrička“ 3,2 km situ occid. a pago Bystrička (distr. Martin), cca 820 m, 9. VI. 1984, Ladislav Hagara;
- Záhorská nížina: Jakubov „Feld“, ad terram in querceto, 30. VII. 1977, D. Dermeková.
- [Podunajská nížina lowland] Svätý Jur, distr. Bratislava-vidiek iuxta codicem arboris frondosae in reservatio „Šúr“ 3,5 km situ merid.-merid.-occid. a pago Svätý Jur, 13. V. 1989, 130 m, Ladislav Hagara; Bratislava, pars. Rusovce, circum codicem arboris frond. (Fraxinus?) in loco „Záhrady“ dicto, 8. V. 1992, 130 m, Ladislav Hagara.
- regio tumulosa Ipeľská pahorkatina: sub Fraxino excelsiore in horto publico ad marginem pagi Santovka (pars Malinovec), distr. Levice, die 4. VII. 1984, 150 m, Ladislav Hagara.
- regio tumulosa Šarišská vrchovina: in ligno emortuo Fagi silvaticae loco „Kvašna voda“ dicto 7 km situ merid.-occid. oppido Prešov, 400m, 24. IV. 1988, leg. Juraj Humeňanský.
- Bukovské vrchy. pr. Stakčín d. Humenné, in clivo collis Vršok versus fluminem Cirocha, ad truncum iac. arbor. frondosi, 24. X. 1991, J. Kuthan et al.; Ruské, na ležiacom rozloženom konári Salix caprea, 6. 7. 1995, Adamčík; Kučalata, na lesnej ceste pri ležiacich vetvách Fagus, 7. 7. 1995, Adamčík; ŠPR Stučica, na ležiacom kmeni Fagus, 17. 9. 1995, Adamčík; ŠPR Udava, na báze ležiaceho kmeňa Fagus, 17. 10. 1995, Adamčík, Terray; nad skladom Patrikusky, pri lesnej ceste, v hrabanke, kríčkovo, 17. 9. 1995, Adamčík, det. Adamčík; ŠPR Stučica, pri kmeni Fagus, 17. 9. 1995, Adamčík, det. Adamčík; Kučalata, na lesnej ceste, v hrabanke a lístí Fagus, 7. 7. 1995, Adamčík.
- [Rimavská kotlina basin] ad truncum putridum Quercus cerri prope viam „Stará košická cesta“ dictam 4,5 km situ orient. A viculo Starňa (para oppidi Šafárikovo, distr. Rimavská Sobota, 29. VI. 1982, 300 m, Ladislav Hagara.
- [Popradská kotlina basin] na pni, Kežmarok, 28. VII. 1964, Eva Končeková; pri starom pni, Kežmarok, 6. IX. 1962, Eva Končeková.
- Juny 1884 [more data unreadable]; In horto meo., 15. Aug. 1864 [no more data]

[Switzerland] Allswill pr. Basel, silva frondosa prope limes gallicus, ad codicem et lignum Quercii, 13. V. 1980, J. Kubička.

Bulgaria: inter pagos Mičurin et Izgrev Montes Strandža, ad codicem marcidum Ulmi, 11. VI. 1976, 90 m, J. Kuthan.

Misidentified specimens:

M. Sitno, 20. Sept. 96 (collected probably by A. Kmeť). Veil composed of branched diverculate hyphae – a member of subsection *Coprinus* subsect. *Alachvani*.

[Štiavnické vrchy Mts.] Prenčow, in hortulo, 2. Nov 1898, A. Kmeť. Habitus of fruit-bodies is different as in *Coprinus*, stipe is rooting and spores are too pale – member of another genus.

Prenčow, in hortulo, 2. Junii 1898, A. Kmeť. Spores more than 11 μm long – a different species of *Coprinus*.

Prenčow, in horto paroch. 4. Sept. 1895, A. Kmeť. Spores are ellipsoid – a different species of *Coprinus*.

Prenčow, za haj., 3. Sept. 1891, A. Kmeť. Spores are hyaline, globose and spiny – probably a member of *Laccaria*.

Prenčow, Hawran, 6. Oct. 1895, legit A. Kmeť. Spores are longitudinal – a different species of *Coprinus*.

In meo (?) graminoso ad fossam humidam, Baďan, 20. Octobri, 1897, A. Kmeť. Spores are much longer than 10 μm – a different species of *Coprinus*.

Prenčow, 21. Sept. 1899, A. Kmeť. – *Laccaria* sp.

Prenčow, 12. Julii 1892, A. Kmeť. Microcharacters different – *Coprinus* sp.

in terre, Prenčow, Sitno, 13. Aug. 1901, A. Kmeť. Specimen is labeled as *Pluteus* but has faceted hyaline spores – a member of *Entoloma*.

Super ligno querc. In cellaris, Prenčow, in parochia. 9. Aug. 1897, A. Kmeť. Spores are hyaline – probably a member of Tricholomataceae.

Prenčow in horto, 25. Septemb. 1901, A. Kmeť. Spores are ellipsoid, longer than 13 μm – a different species of *Coprinus*.

Podunajská nížina: ad lignum putr. prope urb. Hurbanovo, 19. IV. 1973, E. Futó. Spores are narrowly ellipsoid to reniform, ozonium-like mycelium present – *Coprinus domesticus*.

Slovaca: 18. IX. 1972, horto publico, ad truncum arbor. frondos., 350 m, Jan Kuthan. Spores are wide-ellipsoid – a different species of *Coprinus*.

Slovaca: 9. IX. 1971, ad codicem marcidum (arbor. frond.), 850 m, Jan Kuthan. Spores are reniform to ellipsoid, up to 5.2 μm wide – *Coprinus domesticus*.

Záhorská nížina, lužný les pri kanáli Malina pri obci Jakubov, odumretý peň list. stromu, 16. IV. 1978, Kopecká. Veil composed of spherical hyaline and longitudinal elements – *Coprinus domesticus*.

[Bukovské vrchy Mts.] Ulič, distr. Humenné, in valle rivi Ulička, ad truncum marcidum vel iacentem arbor. frondosi, 240 m, 25. IV. 1990, J. Terray. - *Coprinus domesticus*.

Bulgaria: territorium naturale munitum „Ropotamo“ dictum, loco „Autocamping Arkutino“ in terra et ad radices Fraxini, 14. VI. 1976, 25 m, J. Kuthan. According to numerous pileocystidia and tuberculate spores – *Coprinus silvaticus* Peck.

[Czech rep., Ostrava] Halda Hrabůvka – prohořívající část haldy, trsnatě kolem pařezu topolu černého, 15. XI. 1967 - *Coprinus truncorum* (Scop.) Fr.

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Ján Červenka & Milan Zelenay: *Coprinus atramentarius* a *C. micaceus* v zbierkach Slovenského národného múzea - BRA. *Catathelasma* (4): 3-8, 2004.

V zbierkach BRA je uložených 29 položiek označených ako *C. atramentarius*, z toho 6 položiek predstavuje iné taxóny, ako *C. alopecia*, *C. micaceus*, *C. radians* a *Coprinus* sp. Ako *Coprinus micaceus* je v zbierkach označených 72 položiek, pričom 17 položiek predstavuje iné taxóny – *C. domesticus*, *C. silvaticus*, *C. truncorum*, *Coprinus* sp., *Laccaria* sp., *Entoloma* sp. ai.

MACROFUNGI OF THE ABROD RESERVESLAVOMÍR ADAMČÍK & LADISLAV HAGARA¹**Key words:** western Slovakia, biodiversity

The Abrod National Reserve is located in the Borská (Záhorská) nížina lowland (western Slovakia). Most of its territory is covered by grasslands and small woods are only on the margins and along the Porec stream. Mycological field research was accomplished by Adamčík in 1998-2000 and Hagara in 2000. Among 133 listed taxa are 32 new to Slovakia (marked by *). The project was organized by the Daphne NGO that published a book which includes also results of the mycological research [Adamčík & Hagara, Makroskopické huby/Macrofungi (Macromycetes), In: V. Stanová & A. Viceníková (eds.), Biodiversity of Abrod: state, changes and restoration, p. 49-86. Daphne, Bratislava]. Vaucher specimens are held in herbaria of the Institute of Botany, Bratislava (SAV), of the Moravian Museum, Brno (BRNM), Institute of Botany, Wien (WU) and private herbarium of L. Hagara.

Agaricus altipes (F. H. Møller) Pilát
among grasses, 10.9.1998 (SAV), 6.10.2000 (SAV, herb. Hagara)

Agaricus floccipes (F. H. Møller) Bohus
among grasses, 6.10.2000 (SAV, herb. Hagara)

Agaricus fuscofibrillosus (F. H. Møller) Pilát
among grasses, 6.10.2000 (SAV)

Agaricus macrosporus (F. H. Møller & Jul. Schäff.) Pilát
among grasses, 6.10.2000 (SAV)

Alnicola melinoides (Bull.) Kühner
in assoc. with *Alnus*, 10.9.1998 (SAV)

**Alnicola saliceti* (P. D. Orton) Courtec.
in assoc. with *Salix*, 15.9.1999 (SAV)

Amanita muscaria (L.) Pers.
in assoc. with *Betula*, 6.10.2000, 15.12.2000 (herb. Hagara)

Ascocoryne sarcoides (Jacq.) J. W. Groves & D. E. Wilson
on *Populus*, 15.12.2000 (herb. Hagara)

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- Bjerkandera adusta* (Willd.) P. Karst.
on Populus, 15.12.2000 (herb. Hagara)
- Bolbitius vitellinus* (Pers.) Fr.
on plant remains, 6.10.2000 (WU)
- Bovista plumbea* Pers.
among grasses, 12.8.1998, 6.10.2000 (SAV)
- Calvatia utriformis* (Bull.) Jaap
among grasses, 10.6.2000
- Cerocorticium confluens* (Fr.) Jülich & Stalpers
on wood of deciduous tree, 15.12.2000 (herb. Hagara)
- Chondrostereum purpureum* (Pers.) Pouzar
on Populus, 6.10.2000, 15.12.2000 (herb. Hagara)
- **Clavulinopsis luteonana* (Rea) Corner
on plant remains, 12.8.1998 (SAV), 10.9.1998 (SAV)
- **Clavulinopsis microspora* (Joss.) Corner
among grasses, 10.9.1998 (SAV)
- Clitocybe agrestis* Harmaja
among grasses, 6.10.2000 (SAV)
- Clitocybe albofragrans* (Harmaja) Kuyper
among grasses, 10.9.1998 (SAV), 15.9.1999 (SAV)
- Clitocybe nebularis* (Batsch) P. Kumm.
in woods, 15.12.2000
- Collybia cirrhata* (Pers.) P. Kumm.
in woods, 10.9.1998, 6.10.2000
- **Conocybe pulchella* (Velen.) Hauskn. & Svrček
among grasses, 15.9.1999 (SAV)
- Coprinus atramentarius* (Bull.) Fr.
in woods, 15.12.2000 (herb. Hagara)
- **Coprinus friesii* Quél.
on plant remains, 6.10.2000 (SAV)
- **Coprinus heterosetulosus* Locq. ex Watling
on excrements of animals, 6.10.2000 (herb. Hagara)

Coprinus plicatilis (Curtis) Fr.
on plant remains, 6.10.2000

Corioloopsis trogii (Berk.) Domański
on Populus, 15.12.2000, (herb. Hagara)

**Cortinarius comptulus* M. M. Moser
in assoc. with Salix, 15.9.1999 (SAV)

**Cortinarius helobius* Romagn.
in assoc. with Betula, 6.10.2000 (herb. Hagara),

Crepidotus epibryus (Fr.) Quél.
on plant remains, 12.8.1998, 10.9.1998, 15.9.1999, 6.10.2000 (SAV),
15.12.2000 (herb. Hagara)

Crinipellis scabellus (Alb. & Schwein.) Murrill
on plant remains, 6.10.2000

Cristinia helvetica (Pers.) Parmasto
on wood of deciduous tree, 15.12.2000 (herb. Hagara)

Daedaleopsis confragosa (Bolton) J. Schröt.
on Salix, 15.12.2000 (herb. Hagara)

Dichomitus campestris (Quél.) Domański & Orlicz
on wood of deciduous tree, 6.10.2000

**Entoloma argenteostriatum* Arnolds & Noordel.
among grasses, 10.9.1998 (SAV)

**Entoloma carneogriseum* (Berk. & Broome) Noordel.
among grasses, 10.9.1998 (SAV)

Entoloma cetratum (Fr.) M. M. Moser
among grasses, 15.9.1999 (SAV)

Entoloma conferendum (Britzelm.) Noordel.
among grasses, 12.8.1998, 10.9.1998, 6.10.2000 (SAV)

Entoloma cf. *longistriatum* (Peck) Noordel.
among grasses, 10.9.1998 (SAV)

**Entoloma poliopus* var. *discolor* Noordel.
among grasses, 10.9.1998 (SAV)

**Entoloma pygmaeopapillatum* Arnolds & Winterh.
among grasses, 6.10.2000 (WU, SAV)

Entoloma queletii (Boud.) Noordel.
among grasses, 15.9.1999 (SAV)

Entoloma sericeum (Bull.) Fr.
among grasses, 15.9.1999 (SAV), 6.10.2000 (SAV)

Entoloma serrulatum (Fr.) Hesler
among grasses, 12.8.1998 (SAV), 10.9.1998, 15.9.1999, 6.10.2000 (herb. Hagara)

**Epithele typhae* (Fr.) Pat.
on plant remains, 6.10.2000 (herb. Hagara, WU)

Exidia glandulosa (Bull.) Fr.
on Populus, 15.12.2000 (herb. Hagara)

Flammulina velutipes (Curtis) Singer
on Populus, 15.12.2000 (herb. Hagara)

**Galerina salicicola* P. D. Orton
among grasses, 6.10.2000 (WU)

Gymnopus dryophilus (Bull.) Murrill
in woods, 6.10.2000

Gyrodon lividus (Bull.) Sacc.
in assoc. with Alnus, 6.10.2000 (SAV)

Haplotrichum capitatum (Pers.) Link
on Alnus, 6.10.2000 (herb. Hagara)

Hebeloma cf. *leucosarx* P. D. Orton
in assoc. with Salix, 15.9.1999 (SAV)

Hebeloma pussilum J. E. Lange
in assoc. with Salix, 15.9.1999 (SAV),

**Hemimycena candida* (Bres.) Singer
on plant remains, 6.10.2000 (BRNM)

Hygrocybe aurantioviscida Arnolds
among grasses, 15.9.1999 (SAV)

Hygrocybe conica (Schaeff.) P. Kumm. var. *conica*
among grasses, 15.9.1999 (SAV), 6.10.2000

Hygrocybe conica var. *conicopalustris* R. Haller ex Arnolds
among grasses, 10.9.1998 (SAV)

Hygrocybe conica var. *pseudoconica* (J. E. Lange) Kühner
among grasses, 15.9.1999 (SAV)

**Hygrocybe insipida* (Lange ex S. Lundell) M. M. Moser
among grasses, 12.8.1998 (SAV), 10.9.1998 (SAV)

Hygrocybe virginea (Wulfen) P. D. Orton
among grasses, 15.9.1999 (SAV)

Hyphoderma setigerum (Fr.) Donk
on Betula, 6.10.2000 (herb. Hagara), 15.12.2000 (herb. Hagara)

Hyphodontia sambuci (Pers.) J. Erikss.
on wood of deciduous tree, 15.12.2000 (herb. Hagara)

Hypholoma fasciculare (Huds.) P. Kumm.
on wood of deciduous tree, 6.10.2000

**Hypholoma subericaceum* (Fr.) Kühner
among grasses, 6.10.2000 (SAV, WU)

Hypholoma sublateritium (Schaeff.) Quél.
on Betula, 15.12.2000 (herb. Hagara)

Inocybe rimosa (Bull.) P. Kumm.
in assoc. with Salix, 6.10.2000

Laccaria pumila Fayod
in assoc. with Populus, 15.9.1999 (SAV), in assoc. with Salix & Populus,
6.10.2000 (SAV)

Laccaria proxima (Boud.) Pat.
in assoc. with Alnus, Populus, 15.12.2000 (herb. Hagara)

Lactarius necator (J. F. Gmel.) P. Karst.
in assoc. with Betula, 15.9.1999

Lactarius vietus (Fr.) Fr.
in assoc. with Betula, 15.9.1999 (SAV)

Lactarius controversus (Pers.) Fr.
in assoc. with Populus, 6.10.2000

Leccinum scabrum (Bull.) Gray
in assoc. with Betula, 15.9.1999, 6.10.2000

**Leccinum brunneogriseolum* Lannoy & Estadès
in assoc. with Betula, 6.10.2000

Lentinus tigrinus (Bull.) Fr.
on wood of deciduous tree, 6.10.2000

**Lepiota alba* (Bres.) Sacc.
among grasses, 15.9.1999

Lepista sordida (Fr.) Singer
in woods, 10.9.1998

Lepista panaeolus (Fr.) P. Karst.
among grasses, 6.10.2000

Lepista inversa (Scop.) Pat.
in woods, 6.10.2000, 15.12.2000 (herb. Hagara)

Lycoperdon perlatum Pers.
among grasses, 6.10.2000

Macrotyphula contorta R. H. Petersen
on *Alnus*, 6.10.2000 (BRNM, SAV, herb. Hagara)

Marasmiellus vaillantii (Pers.) Singer
on plant remains, 15.9.1999 (SAV)

Marasmius limosus Quél.
on plant remains, 10.9.1998, 6.10.2000 (SAV)

**Marasmius anomalus* Lasch
on plant remains, 6.10.2000 (SAV)

Marasmius oreades Bolton
among grasses, 6.10.2000

Mycena aetites (Fr.) Quél.
among grasses, 15.9.1999 (SAV)

Mycena leptocephala (Pers.) Gillet
among grasses, 12.8.1998, 10.9.1998 (SAV)

Mycena olivaceomarginata (Masse) Masee
on plant remains, 6.10.2000 (SAV)

Mycena pura (Pers.) P. Kumm.
in woods, 6.10.2000

Panaeolus foenisecii (Pers.) J. Schröt.
among grasses, 10.9.1998, 6.10.2000 (SAV)

**Panaeolus fimicola* (Fr.) Quél.
among grasses, 6.10.2000 (SAV, WU)

Paxillus filamentosus (Scop.) Fr.
in assoc. with *Salix*, 6.10.2000

Paxillus involutus (Batsch) Fr.
in assoc. with *Betula*, 6.10.2000

Peziza echinospora P. Karst.
burnt place, 6.10.2000 (herb. Hagara)

Phanerochaete sordida (P. Karst.) J. Erikss. & Ryvarden
on *Betula*, 6.10.2000 (herb. Hagara)

Phlebia rufa (Pers.) M. P. Christ.
on wood of deciduous tree, 6.10.2000

**Pholiota graminis* (Quél.) Singer
on plant remains, 15.9.1999 (SAV), 6.10.2000 (SAV, herb. Hagara)

Pholiota gummosa (Lasch) Singer
on wood of deciduous tree, 15.12.2000 (herb. Hagara)

**Pholiotina brunnea* (J. E. Lange & Kühner) Singer
among grasses, 10.9.1998 (SAV)

Phytoconis (Lichenomphalina) ericetorum (Pers.) Redhead & Kuyper
among grasses, 12.8.1998 (SAV)

Pleurotus ostreatus (Jacq.) P. Kumm.
on wood of deciduous tree, 6.10.2000, on *Salix*, 15.12.2000 (herb. Hagara)

Pluteus cervinus (Schaeff.) P. Kumm.
on *Alnus*, 6.10.2000

Pluteus podospileus Sacc. et Cub.
among grasses, 12.8.1998 (SAV)

Pluteus romellii (Britzelm.) Sacc.
on wood of deciduous tree, 6.10.2000 (SAV)

Pluteus thomsonii (Berk. & Broome) Dennis
on *Salix*, 6.10.2000

Polyporus brumalis (Pers.) Fr.
on *Betula*, 15.12.2000 (herb. Hagara)

Psathyrella conopilus (Fr.) A. Pearson et Dennis
in woods, 6.10.2000 (SAV)

**Psathyrella pseudocorrugis* (Romagn.) Bon
in woods, 6.10.2000 (WU)

**Pseudobaeospora mutabilis* Bas & Adamčík
among grasses, 12.8.1998 (SAV), 10.9.1998 (SAV), 15.9.1999 (SAV)

**Ramariopsis crocea* (Pers.) Corner
among grasses, 10.9.1998 (SAV), 15.9.1999 (SAV)

Ramariopsis kunzei (Fr.) Corner
among grasses, 10.9.1998 (SAV), 15.9.1999 (SAV)

**Ramariopsis tenuicula* (Bourdot & Galzin) R. H. Petersen
among grasses, 10.9.1998 (SAV)

Rhodocollybia butyracea (Bull.) Lennox
in woods, 15.12.2000 (herb. Hagara)

Rickenella fibula (Bull.) Raitelh.
among grasses, 15.9.1999

Russula aeruginea Lindblad
in assoc. with *Betula*, 6.10.2000 (SAV)

Russula font-queri Singer
in assoc. with *Betula*, 6.10.2000 (SAV, herb. Hagara),

Schizophyllum commune Fr.
on wood of deciduous tree, 6.10.2000, on *Alnus*, 15.12.2000 (herb. Hagara)

**Simocybe laevigata* (J. Favre) P. D. Orton
on plant remains, 6.10.2000 (WU)

Sistotrema brinkmannii (Bres.) J. Erikss.
on *Populus*, 6.4.2000 (herb. Hagara)

Stereum subtomentosum Pouzar
on *Alnus*, 6.10.2000

Stropharia coronilla (Bull.) Quéf.
among grasses, 6.10.2000

Thelephora terrestris Ehrh.
on plant remains, 15.9.1998 (SAV)

Trametes suaveolens (L.) Fr.
on Populus, 15.12.2000 (herb. Hagara)

Trametes versicolor (L.) Pilát
on Populus, 15.12.2000 (herb. Hagara)

Trechispora microspora (P. Karst.) Liberta
on wood of deciduous tree, 6.10.2000 (herb. Hagara)

Trichoglossum hirsutum (Pers.) Boud.
among grasses, 12.8.1998 (SAV), 10.9.1998, 15.9.1999 (SAV, BRNM)

Tricholoma fulvum (Bull.) Sacc.
in assoc. with Betula, 15.9.1999

**Tricholoma stiparophyllum* (Lund.) P. Karst.
in assoc. with Betula, 6.10.2000 (herb. Hagara),

Tubaria conspersa (Pers.) Fayod
on plant remains, 6.10.2000 (SAV)

Tubaria hiemalis Romagn. ex Bon
on plant remains, 15.12.2000 (herb. Hagara)

Tulasnella pruinosa Bourdot & Galzin
on Salix, 15.12.2000 (herb. Hagara)

Typhula erythropus (Pers.) Fr.
in woods, 6.10.2000

**Vararia ochroleuca* (Bourdot et Galzin) G. Cunn.
on Alnus, 6.4.2000 (herb. Hagara)

**Xerocomus ripariellus* Redeuilh
in assoc. with Populus, 6.10.2000 (herb. Hagara, BRNM)

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Slavomír Adamčík & Ladislav Hagara: Makromycéty prírodnej rezervácie Abrod. *Catathelasma* (4): 9-17, 2003.

Zoznam obsahuje 133 taxónov zaznamenaných a dokladovaných počas výskumu v rokoch 1998-2000; 32 taxónov je nových pre územie Slovenska.

BOOK NOTICES

S. B. Pointing & K. D. Hyde. 2001. **Bio-exploitation of filamentous fungi**. [i]-ix, 1-367, Fungal Diversity Press, Honk Kong. ISBN 962-85677-2-1. (orders: Fungal Diversity Press, Dept. of Ecology & Biodiversity, The University of Hong Kong, Pokfulam Rd., Hong Kong, China; kdhyde@hkucc.hku.hk)

The focus of this exciting new book is on identifying existing and potential applications for filamentous fungi. Selected topics at the forefront of current fungal biotechnology research, namely bioactive compounds and agricultural applications, are covered in depth by acknowledged experts in their field. Other emerging fungal technologies such as bioremediation are also reviewed, together with associated subjects such as the ownership of genetic resources.

PAVEL LIZOŇ

T. W. May, J. Milne, S. Shingles & R. H. Jones. 2003. **Fungi of Australia, Volume 2B. Catalogue and Bibliography of Australian Fungi 2. Basidiomycota p. p. & Myxomycota p. p** ABRS & CSIRO Publishing, Melbourne (available from: CSIRO Publishing, P. O. Box 1139, Collingwood, VIC 3066, Australia; publishing.sales@csiro.au). [i]-xxxii, 1- 452 (incl. 232 col. photographs). ISBN 0643069070. Price (hardcover): AU\$99.00

A project team, based at the Royal Botanic Gardens Melbourne, compiled recently published volume in the series Fungi of Australia. This important work includes entries for more than 1700 accepted names of larger fungi in the Basidiomycota, along with the larger Myxomycota. For each name the catalogue lists place and date of publication, taxonomic synonyms, cross references to misidentifications and a comprehensive list of all works in which the name has been used in an Australian context. The extensive bibliography contains over 1800 entries and includes not only taxonomic publications relevant to species described from Australia, but also publications on fungi in relation to forestry, agriculture, ecology, medicine, chemistry and general biology.

Previously published volumes:

Grgurinovic, C. & K. Mallett (eds.).1996. Fungi of Australia, volume 1A. Introduction - classification. Pp. 435.

Grgurinovic, C. & K. Mallett (eds.).1996. Fungi of Australia, volume 1B. Introduction - fungi in the environment. Pp. 405.

May, T. W. & A. E. Wood. 1997. Fungi of Australia, volume 2A. Catalogue and bibliography of Australian macrofungi 1. Basidiomycota p.p. Pp. 358.

PAVEL LIZOŇ

GALEROPSIS LATERITIA¹LADISLAV HAGARA²**Key words:** Slovakia, Bratislava, first record, fruit-body production

Galeropsis lateritia (Watling) Moreno, Heykoop & Illana was originally described by Watling in 1968 as *Gastrocybe lateritia* and later transferred to *Galeropsis* (Moreno & al., 1989). According to nucleotic data the taxon should be placed in *Conocybe* sect. *Candidae* (Hallen & al., 2003). This secotiid fungus was reported only from the USA, Canada, Tunesia (Kreisel, 2001) and Europe. It is extremely rare in Europe, known only from few collecting sites in Hungary (Babos, 1987: recorded in 1972), Italy (Grilli, 1992: recorded in 1984), and Spain (Ortega & al., 1998, Horak & al., 2002: first recorded in 1984). Its possible occurrence in former Czechoslovakia was discussed by Kuthan (1987).

The first collection in Slovakia was made August 26, 2000. Author of this contribution „discovered“ the fungus growing on a moved lawn in his 2 ha garden. The garden is situated on the slope of the hill Slavin in the capital Bratislava. Garden was heavily watered and the fruit-bodies appeared next day after a very warm night (23°C and up). The lawn was started on soil transported from Podunajska nizina lowland in 2000.

Fruit-bodies were observed when the lawn was watered also next years always early in the morning. Usually before noon all of them either autolysed or dried out and disappeared by the next day. Few times fruit-bodies appeared after a quite cold night (temperature dropped to 10°C). Sometimes when rain came around midnight, even days without rain or watering and fructification, fruit-bodies have grown up in the morning, in 5-7 hours after the rain started. Fresh fruit-bodies have never been collected around noon or in the afternoon. They always grow in the night and stopped their growth at 7-9 am depending on moisture and temperature.

Collecting site in Bratislava, on the slope of the hill Slavin (lat. 48° 09' 06", long. 17° 06' 06") represents the northernmost locality of *G. lateritia* in Europe. In 2000-2003 96 collections covering 1524 fruit-bodies were made. Andrea Krajná, author's daughter, later collected the fungus in Bratislava – Čunovo, 16 km SE from the collecting site Slavin. All specimens are kept in authors herbarium.

¹ Presented at the workshop Biodiversity of fungi in Slovakia 1 (Bratislava, June 9, 2001)

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Occurrence of *Galeropsis lateritia* in Bratislava – Slavín
(A= number of collections, B= number of recorded fruit-bodies)

Year	May		June		July		August		Sept	
	A	B	A	B	A	B	A	B	A	B
2000	0	0	0	0	0	0	1	3	1	3
2001	0	0	3	16	7	60	17	190	4	45
2002	2	15	7	57	12	341	14	291	0	0
2003	0	0	7	81	12	88	9	334	0	0
Total	2	15	17	154	31	489	41	818	5	48

ACKNOWLEDGEMENTS

Help by Pavel Lizoň and review by Scot Redhead are acknowledged.
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- Horak, E. & al. 2002. *Bolbitius elegans*, a striking new species from southern Spain. *Persoonia* 17: 615-623.
- Kreisel, H. 2001. Checklist of the gasteral and secotiid Basidiomycetes of Europe, Africa and the Middle East. *Österr. Z. Pilzk.* 10: 213-313.
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Ladislav Hagara: *Galeropsis lateritia* – nový druh pre Slovensko. *Catathelasma* (4): 19-20, 2003.

Druh sa našiel na zalievanom trávniku v Bratislave, kde opakovane tvoril plodnice.

HYPHODONTIA TUBERCULATA¹LADISLAV HAGARA²**Key words:** Slovakia, Biele Karpaty Mts., first record, gloeocystidia

Among 40 European members of the genus *Hyphodontia* 31 taxa have been recorded in Slovakia: *H. abieticola* var. *abieticola*, *H. abieticola* var. *alienata*, *H. alutacea*, *H. alutaria*, *H. arguta*, *H. aspera*, *H. barbajovis*, *H. breviseta*, *H. cineracea*, *H. crustosa* var. *crustosa*, *H. crustosa* var. *juniperi*, *H. efibulata*, *H. erastii*, *H. flavipora*, *H. gossypina*, *H. hastata*, *H. latitans*, *H. microspora*, *H. nespori*, *H. pallidula*, *H. paradoxa*, *H. pilicystidiata*, *H. pruni*, *H. quercina*, *H. radula*, *H. rimosissima*, *H. sambuci*, *H. spathulata*, *H. subalutacea* var. *subalutacea*, *H. subalutacea* var. *floccosa* and *H. tuberculata* (Hagara, 2003). Another species, such as *H. borealis*, *H. curvispora*, *H. detritica* and *H. halonata* are expected in Slovakia.

Hyphodontia tuberculata Kotiranta & Saarenoksa, described from Sweden (on *Populus tremula*, 8 September 1985), is the latest contribution to the Slovak mycoflora. The species extremely rare in Europe: only tree collections were reported from Norway (all on *Quercus robur*, in August and September), one from Switzerland (on *Tilia cordata*, December 1991) and one from Germany (unkown host, January 1988). Fruit-bodies have grown always on barkless rotten wood of deciduous trees.

Specime studied: Western Slovakia, Biele Karpaty Mts., village Drietoma – Liešna (7073b), W slope, kalk, on old wood of *Quercus* sp., 370 m, 21 June 2002, leg. L. Hagara (herb. Hagara).

The species has at first smooth, later papillose or tuberculate, hypochnoid, reticulate porose hymenium and cylindrical to narrowly fusiform, strongly cyanophilous gloeocystidia, and also capitate cystidia (typical for the genus), hyphoid cystidia and narrowly fusiform acyanophil cystidia.

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¹ Presented at the workshop Biodiversity of fungi in Slovakia 3 (Bratislava, December 9, 2003

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Ladislav Hagara: Hyphodontia tuberculata. *Catathelasma* (4): 21-22, 2003.

Zo 40 európskych taxónov rodu *Hyphodontia* je 31 taxónov potvrdených aj zo Slovenska. Jedným zo slovenským prvonálezov je aj *H. tuberculata*. Autor ju zbieral 21. 6. 2002 v Drietome (osada Liešna).

BOOK NOTICES

V. Stanová & A. Viceníková (eds.). 2003. **Biodiverzita Abrodu – stav, zmeny a obnova. Biodiversity of Abrod – state, changes and restoration.** [I-vi], 1-270, Daphne, Bratislava, ISBN 80-89133-0-0.

Sk 290 + postage (orders: Daphne, Podunajská 24, SK-821 06 Bratislava, Slovakia; daphne@changenet.sk).

A comprehensive report on research results on a wetland reserve Abrod situated in Borská nížina lowland, western Slovakia. Macrofungi (p. 49-86) were authored by S. Adamčík and L. Hagara. See annotated list of fungal taxa recorded in the reserve in this issue of *Catathelasma* (p. 9).

PAVEL LIZOŇ

G. de Notaris. 2001. **Sferiacei Italici. Centuria II. Transcrizione commentata della bozza autografa inedita.** In: *Scritti e documenti 27 of the Accademia Nazionale delle Scienze detta dei XL*; edited by A. Graniti, L. Zucconi & C. Ciccarone. [1]-114 and CD-ROM, Mycotaxon, Ithaca. ISBN 0-930845-12-9. € 65 + postage (orders: Accademia Nazionale delle Scienze detta dei XL, Via L. Spallanzani 7, IT-00161 Roma, Italy; biblioteca@accademiaxl.it; fax +39-06-44250871).

Includes 104 fungal species, whose names are brought up to date. Most of the original specimens were traced and many types were identified, some of which were examined microscopically. Enclosed CD-ROM is showing (in JPG format) reproductions of the original manuscript and drawings.

PAVEL LIZOŇ

**WAXCAPS, HYGROCYBE
OMITTED IN THE CHECKLIST OF SLOVAK FUNGI
IN THE COLLECTIONS OF THE SLOVAK NATIONAL MUSEUM**
IVONA KAUTMANOVÁ¹

Key-words: Slovakia, new records, BRA

Checklist of vascular and non-vascular plants of Slovakia (Lizoň & Bacigálová, 1998) lists 28 waxcap species. As a results of our continuous research on Hygrophoraceae and revision of the collections of the Natural History Museum (Slovak National Museum), Bratislava (BRA), 18 previously not reported taxa are presented here.

Published data on *Hygrocybe* are not always correct because its taxonomy is quite difficult and proper determination expects some experience. Several authors dealt with this genus and some monographies were published, (Kovalenko, 1989, Arnolds, 1990 Bon, 1992, Boertman, 1996, Candusso, 1997), however taxonomy of some groups e.g. *H. conica*, *H. psittacina* is still to be solved. In description of following species we followed mainly Boertman (1996), synonyms are presented only in the relevant cases, otherwise we use only valid names of the species according to Boertman (2002).

Presented spore dimensions are of measured specimens from BRA.

IK – Ivona Kautmanová

Hygrocybe aurantiosplendens R. Haller Aar.

Large, fleshy species, orange-yellow, with viscid cap and smooth or at least finely fibrillose stipe. Very difficult to distinguish from discoloured yellow or orange specimens of *H. punicea*, which has a coarsely fibrillose stipe and slightly, but not significantly larger spores. Exact determination of dried specimen is always doubtful, because colours of dried *H. punicea* specimens are faded and structure of the stipe is not clearly visible. Identification in the field is facilitated by the fact, that usually these two species are not present at the same place and the same time. *H. aurantiosplendes* occurs approximately a month earlier than *H. punicea*. Spores: (5) 7–9 (10) x 5,5–7 µm.

Specimens studied: Oravská vrchovina, Oravský Podzámok, 12.8.1959, leg. et det. I.Fábry; Turzovská vrchovina, Čadca, Raková, in grass, in submontane meadow, 700 m, 31.8.1966, leg. et det. J. Kuthan; Vysoké Tatry, Kežmarské Žľaby, in the valley Biela Voda, in grass in meadow,

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cca 900 m, 16.9.1984, leg. et det. J. Kuthan; Nízke Tatry, Malužiná, Michalovo valley, in old pasture, 760 m, 24.8.2002, leg. et det. IK., Nízke Tatry, Malužiná, Michalovo valley, in old pasture, 760 m, 27.8.2002, leg. et det. IK.

***Hygrocybe calciphila* Arnolds**

Small orange to red waxcap with dry cap and broadly adnate gills. Macroscopically resembles *H. miniata* but it is smaller and restricted to limestone subsoil. Easily recognizable by the shape of spores, which are according to Boertman (1996) broadly ellipsoid to subglobose, but never constricted or widened at the base, mainly binucleate, and smaller. Spores: 4-6.5 (-8) x 5-8.5 (-11) μm .

Specimens studied: Nízke Tatry, Važec, in the vicinity of Važecká jaskyňa Cave, in pasture on limestone, 730m, 4.9.1988, leg. et det. J. Kuthan; Nízke Tatry, Malužiná, Michalovo valley, in grazed meadow on limestone, 760 m, 14. 8. 2000, leg. et det. IK; Nízke Tatry, Malužiná, Michalovo valley, in graminis, 670 m, 5.10.2001, leg. et det. IK; Nízke Tatry, Liptovská Teplička, mowed and grazed meadow at N end of the village, under the ski lift, 1 100 m, 27.8.2002, leg. et det. IK.

***Hygrocybe ceracea* (Fr.) P. Kumm.**

Small, yellow species with lubricous cap, dry stem and adnate to decurrent gills. Long and narrow spores distinguish this species from otherwise very similar *H. insipia*. Spores: 3-4.7 x (6-) 7.5-9 μm .

Specimens studied: Strážovské vrchy, Trenčianske Teplice, Baračka - Omšenie, in mosses, 4.11.1989, leg. et det. P. Škubla; Strážovské vrchy, Trenčianske Teplice, Baračka - Omšenie, in mosses on slope, 18.10.1990, leg. et det. P. Škubla; Strážovské vrchy, Trenčianske Teplice, Baračka - Omšenie, in meadow on slope, 22.10.1991, leg. et det. P. Škubla; Nízke Tatry, Malužiná, Michalovo valley, 750 m, 24.8.2002, leg. et det. IK.

***Hygrocybe glutinipes* (J. E. Lange) R. Haller Aar.**

[*Hygrocybe aurantioviscida* Arnolds]

Arnolds (1982) treated specimens with very long (500-600 μm) elements of hymenophoral trama as a separate species *H. aurantioviscida*. Because Boertman (1996, 2002) did not take this difference into account and none of specimens at BRA had elements longer than 300 μm , I have decided to treat them as *H. glutinipes*. Spores 3-5 x (5-) 7-9 (-11) μm .

Specimens studied: Bukovské vrchy, Ruské, in grass in mowed meadow, cca 510 m, 19.9.1996, leg. et det. IK, labeled as *H. aurantioviscida*.

Štiavnické vrchy, Ladzany, Veľký Gregor, in grass, in meadow, 550 m, 11.10.1998, leg. et det. IK, labeled as *H. aurantioviscida*; Nízke Tatry, Kráľova Lehota, at the edge of the Nat. Res. "Ohnište", Michalovo valley, in meadow, in mosses, 8.10.1994, leg. et det. P. Škubla; Bukovské vrchy, Ruské, at the edge of old forest road in lichens, 630 m, 19.9.1996, leg. et det. IK; Biele Karpaty, Vršatec mountain, loc. "Lysá", in tall unmowed grass, 17.9.2002, leg. K. Devánová, det. IK; Muránska planina, Revúca, old churchyard, in grass, 20.10.2002, leg. D. Blanár, det. IK.

Hygrocybe ingrata J. P. Jensen & F. H. Møller

Large species, characterized by dry, cream to dull brown carpophores, nitrous smell and reddening flesh. Very rare in Slovakia and due to its size and other characters probably not overlooked. Spores (4–) 4.5–6 x (5–) 6–8 µm.

Specimens studied: Nízke Tatry, Liptovský Hrádok, Borová Sihot', in Kameničná valley, in mountain pasture (+ *Picea*), 800 m, 14.7.1985, leg. et det. J. Kuthan; Biele Karpaty, Nová Bošáca, Nat. Res. "Blažejová", in mowed and grazed meadow under apple tree (*Malus*), 16.9.2002, leg. V. Kučera, det. IK.

Hygrocybe insipida (J. E. Lange) M. M. Moser

Boertman (1996) proposed a neotype for this species, because Lange did not leave any material of described species and we follow his interpretation of small, orange or yellow waxcap, with greasy cap, moist stem and broadly adnate to decurrent gills. Variable species, without microscopical observation sometimes not easy recognizable from other yellow and orange waxcaps e.g. *H. ceracea*, *H. coccinea* and *H. subminutula*, especially in the case of dried specimens. Probably more common but misidentified. Spores 3–5 x (5–) 6–8.5 µm.

Specimens studied: Nízke Tatry, Važec, above Važecká jaskyňa Cave, meadow near pine forest, 27.7.1989, leg. et det. P. Škubla; Považský Inovec, Lipovník, on the path in grass at the forest edge, 4.8.1991, leg. et det. P. Škubla; Strážovské vrchy, Trenčianske Teplice, in meadow under ski-lift vlekom, in grass and moss, 14.10.1992, leg. et det. P. Škubla; Strážovské vrchy, Trenčianske Teplice, loc. Baračka, in slope meadow, 23.10.1993, leg. et det. P. Škubla; Trnavská pahorkatina, Budmerice, castle park, in grass, 21.5.1994, leg. et det. P. Škubla.

Hygrocybe nitrata (Pers.) Wünsche

Hygrocybe murinacea (Bull.: Fr.) P. Kumm.

Widespread, common species, characterized by lubricous cap and stem and nitrous smell. Spores 4.5– 6 x 8–9 (–10) µm.

Specimens studied: Oravská vrchovina, Dolný Kubín, 1.8.1966, leg. et det. I. Fábry; Malá Fatra, Bystrička, northern slopes of Dubový diel mountain, in pasture "Trstie", in grass, 570 m, 3.10.1981, leg. et det. L. Hagara; Ondavská vrchovina, Beloveža, distr. Bardejov, Q 66/94, loc. "Gačalov", in gragras at the margin of birch grove, 400 m, 4.7.1985, leg. et det. L. Hagara; Ondavská vrchovina, Kvakovce, distr. Vranov nad Topľou, Kvakovce, cca 500 m sto the south, under fruit trees, in grass, 5.9.1993, leg. et det. S. Adamčík (labeled as *H. murinacea*); Veporské vrchy, Vrchdobroč, Vrchdobroč, permanent plot, 1.7.1997, leg. et det. IK; Slovenský raj, Kláštorisko, Kláštorisko, in meadow between grass, 25.6.1999, leg. et det. IK; Biele Karpaty, Nová Bošáca, nature reserve Grúň, in mowed meadow, 420 m, 7.7.2002, leg. S. Ripková, det. IK; Nízke Tatry, Malužiná, Michalovo valley, in grazed meadow, 760 m, 26.8.2002, leg. et det. IK.

Hygrocybe ovina (Bull.) Kühner

[*Hygrocybe nitiosa* (A. Blytt) M. M. Moser]

Very conspicuous and easily identified species with large, dark-grey to dark-brown carpophores, dry cap and stem, reddening when bruised. Extremely rare in Slovakia. Spores 6–7 x 8–9.5 (–11) μm .

Specimens studied: Turzovská vrchovina, Raková near Čadca, in grass under young spruces, 550 m, 24.7.1965, leg. et det. J. Kuthan (labeled as *H. nitiosa*); Vysoké Tatry, Východná, Važec, between villages Východná and Važec, in submontane pasture, on wet soil, 850 m, 29.8.1970, leg. et det. J. Kuthan (labeled as *H. nitiosa*); Nízke Tatry, Malužiná, Michalovo valley, in grazed meadow, near spruce (*Picea*) forest, 750 m, 20.8.2000, leg. et det. IK.

Hygrocybe psittacina* var. *perplexa (A. H. Smith & Hesler) Boertm.

[*H. perplexa* (A. H. Smith & Hesler) Arnolds, *Hygrocybe sciophana* (Fr.) P. Karst.]

Small waxcap with greasy cap and stem. Boertman (1996) proposed to treat *H. perplexa* not at species level, but only as a variety of *H. psittacina*, as he found no significant difference except for the colors. Var. *perplexa* lacks green colours and has a cap of typical brick-red color. Spores (4–) 5–6 x (6–) 7–8.5 (9) μm .

Specimens studied: Turzovská vrchovina, Raková near Čadca, in mosses, at the margin of the coniferous forest /*Pinus*, *Abies*/, 650 m, 24.9.1967, leg. et det. J. Kuthan (labeled as *H. sciophana*); Pieniny, Červený Kláštor, in pasture under *Juniperus*, on calcareous soil, 600 m,

17.7.1971, leg. et det. J. Kuthan (labeled as *H. sciophana*); Štiavnické vrchy, Štiavnické Bane, on the slope of the Kalvaria hill, in meadow, 750 m, 19.9.1984, leg. et det. J. Kuthan (labeled as *H. sciophana*); Nízke Tatry, Liptovská Teplička, in mowed and grazed meadow at NW side of the village, cca 800 m, 27.8.2002, leg. et det. IK.

***Hygrocybe reidii* Kühner**

Medium size carpophores with dry, orange cap and stem. Relatively common species, but often confused with *H. marchii* and some other orange waxcap species. Sweet honey-like smell is the most distinctive character. Spores (2.5–) 3.5–5 x (5–) 6.5–7.5 (–9.5) μm .

Specimens studied: Veporské vrchy, Vrchdobroč, U Júdov, in open spruce forest, 5.7.1991, leg. D. Mlynarčík, det. P. Škubla; Nízke Tatry, Malužiná, Michalovo valley, in pasture, 760 m, 19.8.1999, leg. et det. IK; Biele Karpaty, Nová Bošáca, PP Blažejová, in grass, 500 m, 19.10.2001, leg. et det. IK; Nízke Tatry, Malužiná, Michalovo valley, in grass, 760 m, 24.8.2002, leg. et det. IK.

***Hygrocybe spadicea* (Scop.) P. Karst.**

Large waxcap with brown, radially fibrillose cap and yellow gills and stem. Easily recognizable but extremely rare species, following specimens may be only recorded from the territory of Slovakia. Interesting is especially the collection by V. Ignatčenko near Bratislava, at very warm and dry (perhaps limestone) locality, southernmost in Slovakia. Spores 5–7(–9) x 9–11 (–12,5) μm .

Specimens studied: Malé Karpaty, Bratislava, Bratislava-Dúbravka, 10.10.1976, leg. V. Ignatčenko, det. I. Fábry; Vysoké Tatry, Važec, in grass under *Larix* + *Picea*, 820 m, 13.9.1988, leg. et det. J. Kuthan; Liptovská kotlina, Pribylina, in Račková valley, in submontane pasture, 600 m, 28.8.1976, leg. et det. J. Kuthan.

***Hygrocybe subpapillata* Kühner**

Small orange-red species with sticky, umbonate cap and dry stem. Distribution of this species is insufficiently known throughout the Europe, probably due to difficult determination and confusion with several other small orange species. Spores (6–) 7–8 x (6–) 11–14 μm .

Specimen studied: Volovské vrchy, Úhorná, Pipitka, in pasture, 950 m, 23.6.1988, leg. et det. J. Kuthan.

Hygrocybe substrangulata (P. D. Orton) P. D. Orton & Watling

Medium-sized orange species, with dry, squamulose cap and dry smooth stem. Resembles *H. miniata* but has significantly larger spores. Typical also by its habitat, as it prefers to grow right in *Sphagnum* bogs. Spores 12.6–9.5 x 9.5–6.3 µm.

Specimens studied: Podbeskydská brázda, Rabča, loc. Rabčické bory, in sphagnum, 840 m, 28.9.2000, IK; Podbeskydská brázda, Rabča, loc. Rabčické bory, in sphagnum, 850 m, 15.9.2003, leg. V.Kabát, det. IK.

Hygrocybe conica group

H. conica is characterized by a conical orange to red, dry cap, yellow, later grey to almost black gills and dry fibrillose stem. Extremely variable species, variability present also in the size and shape of spores which can be ellipsoid, ovoid, to phaseoliform and sometimes constricted, 4.5–8.5 x 7–13 µm.

Boertman (1996, 2002) doubted all described forms and varieties of *H. conica*, arguing that these are only end points of clines regarding colour and size, without any differences in microscopical features, except var. *conicoides* which has significantly longer, narrow spores. However he did not study *H. cinereifolia* and *H. veselskyi* and therefore we've decided to treat them as separate taxa, together with widely accepted var. *conicopalustris*, at least until the thorough revision of the whole „conica“ group.

Hygrocybe cinereifolia Courtec. & Priou

Differs from typical *H. conica* by conspicuous grey lamellae also on very young specimens. Microscopically similar to *H. conica* s. l. Spores ellipsoid or oblong, very rarely constricted. Spores (5–) 6.3–7.5 x (6–) 7.5–11.6 (–12.6) µm.

Specimens studied: Laborecká vrchovina, Vihorlat, Snina, recreation area "Sninské Rybníky", in meadow, 17.9.1996, leg. et det. IK; Laborecká vrchovina, Poloniny, Stakčín, Starina dam, in wet meadow at the bank of the lake, 400 m, 19.9.1996, leg. et det. IK.

Hygrocybe conicoides (P. D. Orton) P. D. Orton & Watling

[*Hygrocybe conica* var. *conicoides* (P. D. Orton) Boertm.]

Macroscopically very similar to red colored *H. conica* specimens, characterized by habitat (dry, sandy areas) and long and narrow spores 5.2–7 x 10–12.1 µm.

Specimen studied: Malé Karpaty, Bratislava, Devínska Kobyla, loc. "Weitov lom", in grass, 300 m, 14.11.1999, leg. V. Kabát, det. IK.

Hygrocybe conica* var. *conicopalustris (R. Haller Aar.) ex Arnolds
Small, red specimens of *H. conica* from wet habitats are usually described as var. *conicopalustris*. Microscopically there are no significant differences. Spores 7.5–9 x 6.2–9 µm.

Specimen studied: Malá Fatra, Bystrička, in Veľká dolina valley, in sphagnum in spruce forest, 600 m, 21.8.1981, leg. et det. J. Kuthan.

Hygrocybe veselskyi Singer & Kuthan

According to the original description (Singer & Kuthan, 1976) it differs from bisporical *H. conica* by the absence of clamps and slightly smaller spores. Specimen preserved at BRA has no clamps and spores, though many aborted, of the size 7.5-10 x 5-7.5 µm.

Specimen studied: Strážovské vrchy, Máčov, distr. Prievidza, in burned old deciduous forest, in grass, 330 m, 13.7.1984, leg. et det. J. Kuthan.

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Ivona Kautmanová: Lúčnice neuvedené v zozname húb Slovenska zo zbierok Slovenského národného múzea (BRA). *Catathelasma* (4): 23-30, 2003.

Štúdiom a revíziou zbierok Slovenského národného múzea (BRA) sa identifikovalo 18 taxónov rodu *Hygrocybe* neuvedených v zozname húb Slovenska.

21st EUROPEAN CORTINARIUS FORAY

„Journéé du Cortinaires“ was held at Podbanské, northern Slovakia, September 28 - October 4, 2003 and participants enjoyed facilities and services of the Grand hotel Permon (and its dependance Kriváň).

Interesting collecting sites were visited in Liptovská kotlina basin and on foothills of Západné Tatry Mts., in Chočské vrchy Mts, and in Vysoké and Západné Tatry Mts. Although previous extremely dry weather badly influenced fruit-body production of most fungi, significant contribution to the knowledge of Slovak mycoflora was made. List of collected taxa will be published in *Catathelasma* later.

Afternoon and evening program included collections identification, specimens presentation, discussions and lectures (Fungi, mycology and mycologists in Slovakia by P. Lizoň, European species of the genus *Xeromphalina* by V. Antonín, Species and infraspecific taxa of *Cortinarius* subg. *Dermocybe* in southern Bohemia by M. Beran).

Altogether 140 professional and amateur mycologists attended the event (Austria: 1, Czech republic: 5, Finland: 8, France: 25, Germany: 30, Hungary: 2, Italy: 10, Moldova: 1, the Netherlands: 6, Philippines: 1, Poland: 3, Slovakia: 20, Sweden: 7, Switzerland: 21).

The foray was organized by the Slovak Mycological Society in co-operation with the association Journées Européennes des Cortinaires and with support by the Slovak National Museum, Natural History Museum and the Institute of Botany of the Slovak Academy of Sciences.

briefly reported by PAVEL LIZOŇ

BOLETOPSIS GRISEASLAVOMÍR ADAMČÍK¹ AND SOŇA RIPKOVÁ²**Key-words:** Thelephorales, occurrence, threat, Slovakia, Europe

In 2002 we have collected *Boletopsis grisea* (Peck) Bondartsev & Singer (*Bankeraceae*, Thelephorales), rather a large terrestrial polypore with boletoid habitus. Until the re-examination of *Boletopsis* specimens held in the herbarium of the Slovak National Museum (BRA) we believed that our collection was the first in Slovakia. However the first, who collected the fungus in Slovakia, was Š. Fodor in 1975 (BRA).

DESCRIPTION

Macroscopic characters: Pileus 5–15 cm broad, initially hemispherical and submerged by soil, detritus, or lichens, later plano-convex, involuted at the margin, sometimes depressed in the center. Surface smooth, viscid at the margin, in adult often cracked into indistinct scales. Cuticle almost completely separable, whitish to grayish, often brownish gray in the center. Stipe 3–7 × 1–3 cm, cylindrical, bulbous or rarely tapering, centric or sometimes eccentric, pale gray to grayish brown, smooth or squamulose, solid. Tubes 1–3 mm long, decurrent. Pores 2–4 per mm, initially whitish to pale grayish white, in adult or when bruised pale grayish brown with pink hue. Pileus and stipe trama white, turning to pale lilac gray when cut or broken, tough fleshy, without distinct odor, mild.

Microscopic characters: Hyphal system monomitic – hyphae thin-walled, hyaline or nearly so, with clamp connections. Basidia 4-spored. Spores 5–6 × 4.5 µm, thin-walled, hyaline tubercular. Pileipellis cutis – hyphae 8–11 µm thick, hyaline or with a faint olivaceous hue, straight and often in bundles, loosely intermixed in a polygonal pattern.

Habitat: *B. grisea* is mycorrhizal with *Pinus sylvestris* producing annual basidiocarps on poor acid soils in pine forests from August to November. Niemelä and Saarenoksa (1989) distinguished two types of habitats of the species – *Calluna* type and *Vaccinum vitis-idaea* type. Our basidiocarps were associated with dense cover of terrestrial lichens (*Cladonia*) and with sparse vegetation of *Calluna vulgaris*, *Calamagrostis epigejos* and *Melampyrum pratense* – this habitat perfectly fits with *Calluna* type.

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GENUS BOLETOPSIS

The genus *Boletopsis* Fayod includes two species, *B. grisea* and *B. leucomelaena* (Pers.) Fayod that were confused in the past. Niemelä and Saarenoksa (1989) discussed differences between those species very precisely (distinguishing characters are summarized in the table below).

character	<i>B. grisea</i>	<i>B. leucomelaena</i>
color of fresh basidiocarps	grayish, small contrast between pores and pileus surface	blackish, strong contrast between pores and pileus surface
color of well-dried basidiocarps	grayish or pale brownish gray	dark greenish gray or almost black
trama	tough fleshy, easily split if torn in radial direction	soft fleshy, easily breaking in all direction
height/width ratio of basidiocarps	1:3 tends to be much wider than tall	1:1 about as tall as wide
habitat	on poor sandy soil in pine forest	on mull or raw humus soil in grassy spruce forest

According to Lizoň (1995), Lizoň and Bacigálová (1998), and Lizoň (2001) two species were reported from Slovakia: *B. leucomelaena* (= *Boletus leucomelas* Pers.) and *B. subsquamosa* (Fr.) Kotl. & Pouzar. However the name of *B. subsquamosa* has been widely used to cover the present species complex (Niemelä & Saarenoksa 1989). Donk (1969) strongly urged that the name should be abandoned in this context and can only mean a taxon in the *Scutigera ovinus* (Schaeff.) Murrill complex.

Occurrence in Slovakia: Both species *B. grisea* and *B. leucomelaena* have been recorded in Slovakia. *B. grisea* is known from 2 localities in the Záhorská nížina lowland, and *B. leucomelaena* from six localities: one in the Malá Fatra Mts. (Krivánska Fatra Mts.), one in the Veľká Fatra Mts., two in the Belianske Tatry Mts., one in the Spišské vrchy Mts. and one in the Západné Beskydy Mts.

Occurrence in other European countries: *B. grisea* is known from the Denmark, Finland, France, Germany, Greece, Italy, Spain, Sweden, the Czech Republic, Estonia, Malta, Norway, Poland, Slovenia, and Switzerland (Dahlberg & Croneborg, 2003).

Threat: *B. grisea* is one of the 33 fungal candidates for listing in Appendix I of the Bern Convention by the European Council for Conservation of Fungi (ECCP), and is included in red lists of 5 countries: France (EN), Germany (EN), Spain (VU), Sweden (NT), and Norway (Cd) (Dahlberg & Croneborg, 2003).

Specimens examined³:

Boletopsis grisea:

The Záhorská nížina lowland: Záhorská nížina, ad terram in pineto inter pag. Závod et Veľké Leváre, 26. 10. 1975, leg. Š. Fodor, det. A. Dermek (BRA, as *B. leucomelas*; reported by Lizoň, 1977); Veľ. Leváre [the village of Veľké Leváre], 26. 10. 1975, leg. Š. Fodor, det. I. Fábry (BRA, as *B. leucomelas*); Záhorská nížina lowland, pine forest near route from the town of Šaštín to the village of Borský Mikuláš, ca. 300 m SE of railway crossing in the town of Šaštín, 180 m s. a. l., on soil among lichens (*Cladonia*) under *Pinus sylvastris*, 20 Sept. 2002, leg. S. Adamčík, V. Kučera, S. Ripková (SAV).

B. leucomelaena:

The Malá Fatra Mts.: Štefanová, pod Rozsutcom, 12. 9. 1972, leg. & det. I. Fábry (BRA; reported by Kotlaba, 1984); *the Veľká Fatra Mts.:* Montes Veľká Fatra, sub Piceis supra ripam dextram rivi „Vôdky“ in valle „Jasenská dolina“, 2,5 km situ merid.-orient. a pago Turčianske Jaseno (distr. Martin), ad calcem, 49°01', 19°02', 600 m, 6. 9. 1986, leg. & det. L. Hagara (BRA); *the Spišské vrchy Mts.:* Leutschau [town of Levoča], in terra uda silvatica ad Oellberg [locality „Olivová“], 8. [August] 1927, leg. & det. V. Greschik (BRA; reported by Kotlaba, 1984); *the Belianske Tatry Mts.:* Belanské Tatry, v ihličnatom lese, 11. 7. 1963, leg. & det. E. Končeková (BRA; reported by Kotlaba, 1984); Mont. Belanské Tatry, inter Tatr. Kotlina [the village of Tatranská Kotlina] et Šumivý pram. [spring?], haud procul casam venatorio, humi sub Pinibus, 900 m, 1. 10. 1986, leg. & det. J. Kuthan (BRA).

Collections reported (specimens not studied):

B. leucomelaena: *the Veľká Fatra Mts.:* Veľká Fatra, Q 6980, v smrečine 2,5 km JV od obce Turčianske Jaseno, okr. Martin (chotárna časť Biely potok), na vápencovom podklade, 650 m n. m., 23. 8. 1985 (Hagara 1991); *the Západné Beskydy Mts.:* Korcháň [the locality of Korchanovci] apud Čadca, sub „Vel. Polom“ [the Veľký Polom hill], 550 m, silva mixta (*Picea abies*, *Pinus sylvestris*, *Abies alba*), 9. [September] 1974, leg. J. Kuthan, det. Z. Pouzar (PRM) (Kotlaba 1984).

³ exact transcript of texts on labels; bracketed inserts = explanatory notes

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Slavomír Adamčík a Soňa Ripková: Hrboľnačka sivá, *Boletopsis grisea*. *Catathelasma* (4): 31-34, 2003.

Boletopsis grisea, v minulosti zamieňaný s *B. leucomelaena*, je doložený zo Slovenska tromi nálezmi na Záhorskej (Borskej) nížine.

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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.

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