

**KANAD DAS
PER MARSTAD**



2014

100 WILD MUSHROOMS OF SLOVAKIA

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by

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by Kanad Das & Per Marstad

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Back Cover: *Armillaria tabescens* (Scop.) Emel [= *Clitocybe monadelpha* (Morgan) Sacc.]

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Tricholomopsis rutilans (Schaeff.) Singer

PREFACE

It is increasingly easy to say for most places on the earth that a known assemblage of identified plants or animals occur in a given locale. Or that of all the plants or animals known to occur in a country, a certain percentage occur in a given habitat. Or to document that a given species is endangered. Of course this is especially true in temperate regions that have been well studied, but even for many places in the tropics. This is decidedly not the case for macrofungi. There is no place on the earth for which we can say that we know the complete mushroom biodiversity. We may know something about a small subset of mushrooms likely to occur or that have been observed to occur in a given area. But because of the ephemeral nature of mushrooms, it is highly unlikely that mushrooms have been collected in any area intensively enough or for long enough to say that we know the complete biodiversity. Likewise, because there is not sufficient books or primary literature covering the taxonomy of macrofungi of given area, it is highly unlikely that many mushrooms, even if they have been observed or collected, were able to be adequately identified. So small regional taxonomic treatments of mushrooms, such as this one describing and illustrating 100 species of wild mushrooms from Slovakia, are extremely valuable in helping to correct this situation.

I think it is also important to note that production of this book was not the main focus of the workshop that drew knowledgeable mycologists to the forests of Slovakia. This handy book was actually a side project resulting from participants searching for *Russula* and *Lactarius* spp. collections for the workshop, but being aware that other fungi were also fruiting in the area. The authors then assembled these fortuitous fungal finds into a very nice beginning to the macrofungal biodiversity of Slovakia. This could serve as a model for similar publications resulting whenever and wherever mycologists self assemble.

Steven L. Miller
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Kanad Das & Per Marstad

INTRODUCTION

Mushrooms are the fruits of fungi belonging to the phyla Basidiomycota and Ascomycota. Wild mushrooms evoke excitement and interest both from adoration and fear amongst people around the globe. They feature in different cultures and cuisines since time immemorial and play major roles in nature and in society. They are immensely diverse in terms of morphology, host preference, fruiting period, etc. Whenever rains arrive, mushrooms appear soon after, flourishing on the suitable habitats. They can wilt in the sun or be damaged by heavy rains, ultimately decaying and finally disappearing. Growing on the forest floor, in the grassland, on rich humus, on living or dead tree-trunks or even on other mushrooms, they are wonders which always amaze and inspire us (the authors) to explore them in different habitats irrespective of countries or continents.

Being passionate in hunting wild mushrooms, we accepted the kind invitation from the Slovak Academy of Sciences to attend the International Russulales Workshop held in Slovakia in September 2014. During this visit, we undertook macrofungal forays to some underexplored forests of Slovakia and collected a number of wild mushrooms; through thorough macro- and micromorphological examination we identified 100 species belonging to 41 genera and 24 families. This pictorial manual covers these 100 mushroom species that we collected and studied during the Workshop. This is only a small initiative documenting our involvement in the aforementioned Workshop. We will consider to be immensely rewarded if this manual is helpful to students, amateur mycologists, foresters and future scientists.



Participants of International Russulales Workshop, 2014 held in Areál Zdravia, Slovakia

METHODOLOGY AND PRESENTATION FORMAT

Mushroom collections were made during the forays undertaken in different under-surveyed areas of Slovakia during 7th – 12th of September, 2014. Mushrooms were mainly placed in paper-packets and put in baskets, then carried to base camp for further study. Macromorphological features were observed from the fresh basidiomata in the field or in the base camp. Photographs of the fresh basidiomata in their natural habitats in the field and on the workout table were captured using Nikon D90 and Canon SX 220 cameras. After the macromorphological characterization, the basidiomata were dried using an electric drier. Micromorphological characterization was done by preparing free hand sections of the dry basidiomata either mounted in lactophenol cotton blue and Melzer's reagent separately or treated in a mixture of 5% KOH, phloxin and Congo red and then mounted in 30% glycerol. These sections were observed using Nikon ECLIPSE Ni and Olympus CX 41 compound light microscopes. Micro-photographs were taken using dedicated cameras attached to these microscopes.

Measurements for the macromorphological features are given based only on the specimens gathered during these macrofungal explorations. Measurement of the stem (stipe) includes the measurement of basal bulb in species belonging to Amanitaceae or Cortinariaceae. Spore measurements were made from 15 to 20 randomly chosen basidiospores and exclude the height of any spore-ornamentation. Most of the specimens are deposited at CAL and accession numbers are duly mentioned in page no. 110.

Each species is presented with the currently accepted name (after Index Fungorum) and the name of the family to which they belong. Popularly known name other than the accepted name is considered as synonym and mentioned where needed. Field- and/or worktable-photographs coupled with brief descriptions are given for all 100 species. Micromorphological photographs of features like basidiospores and/or pileipellis are given for some species in the 'Micromorphological plates' placed at the end of the manual.

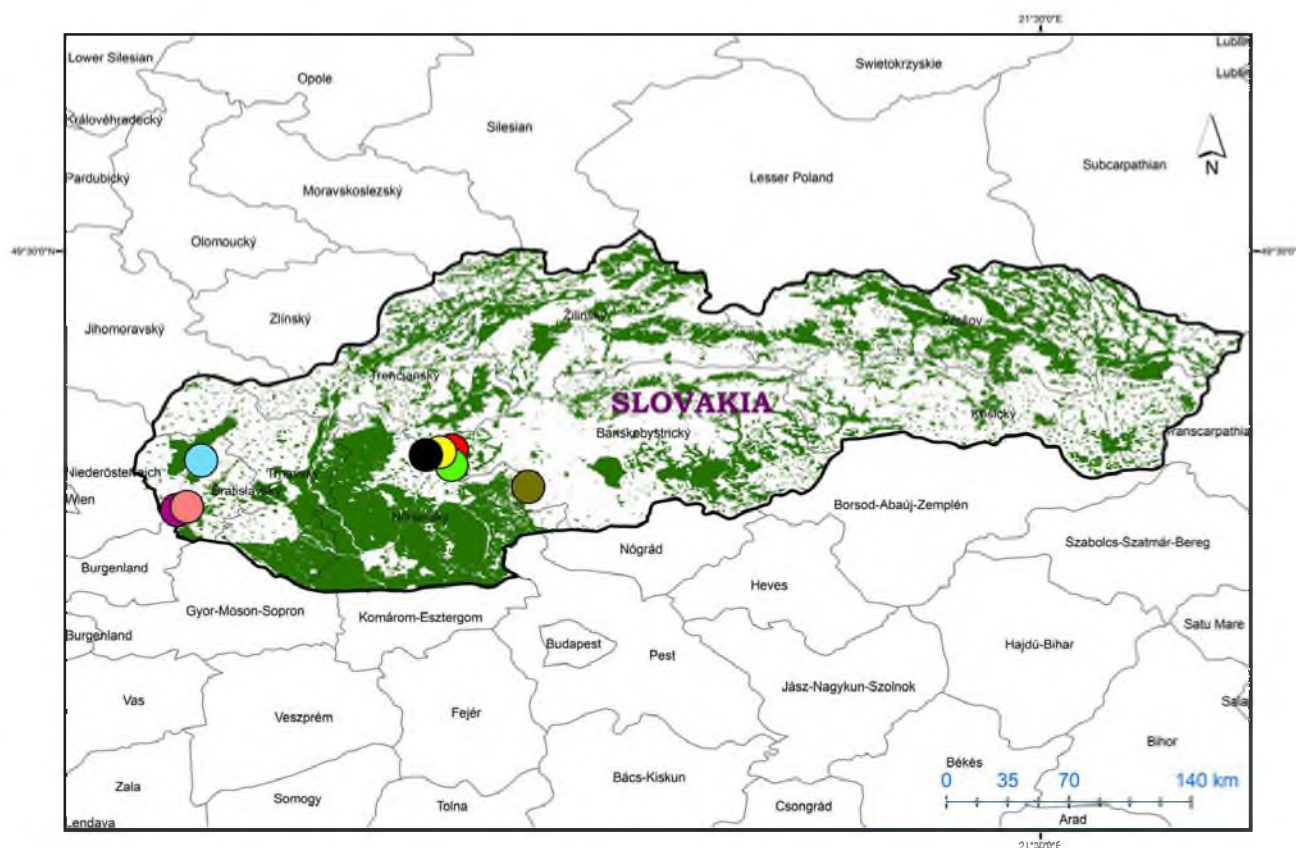
The fungi are presented alphabetically (irrespective of their families) in two sets. The first set covers species for which one or two pages are used for each species. The second set covers two species per page.

Data about the habitat and the association with host plants and the distribution (based on our observation during recent forays) are mentioned for every species. Notes including the separation from the similar looking species are given (when needed) at the end of description. The eight survey sites are located on the map of Slovakia, their coordinates along with the altitudes are given and the dominant genera of wild mushrooms and dominant host-trees for every site are mentioned. A glossary including the technical terms used in the descriptions and an index including the species either described or compared with are also provided at the end of this manual.

Presently the generic taxonomy of the milk-caps is in a state of flux and hence all of the milk-caps described in this pictorial manual are placed under a single genus, '*Lactarius*', for convenience.

SURVEY SITES

Lying between latitudes 47° and 50° N and longitudes 16° and 23° E, Slovakia is a country located in the heart of Europe and covers an area of 49000 sq km. On the occasion of International Russulales Workshop 2014, the authors undertook macrofungal forays mainly to thermophilous oak dominated 8 forests/forested areas in the west part of Slovakia in the rainy season (8th September to 12th September, 2014). During this period a number of wild fleshy mushrooms belonging to 41 genera and 100 species were studied. These genera are enlisted below with their distribution amongst the surveyed areas.



A map of Slovakia showing the sites of macrofungal foray sites with different coloured dots: ● Ladzany, ● Areál Zdravia, ● Obyce, ● Lovce, ● Hostie, ● Bratislava (area of Slovak Academy of Science), ● Rohožník-Vývrať hill, ● Bratislava (Železná studnička-recreation area) forest.

Localities with altitude and coordinates	Dominant genera of host-trees	Genera of mushrooms surveyed and studied at each site
Ladzany (420–470 m) 48°17'15.8"N 18°52'17.5"E	<i>Quercus</i> , <i>Carpinus</i>	<i>Clavariadelphus</i> , <i>Coprinellus</i> , <i>Hydnum</i> , <i>Lactarius</i> , <i>Macrolepiota</i> , <i>Omphalotus</i> , <i>Russula</i> , <i>Tricholoma</i> , <i>Tricholomopsis</i>

Localities with altitude and coordinates	Dominant genera of host-trees	Genera of mushrooms surveyed and studied at each site
Areál Zdravia (366 m) 48°28'23.2"N 18°28'43.4"E	<i>Quercus</i> , <i>Pinus</i> , <i>Larix</i>	<i>Amanita</i> , <i>Calocera</i> , <i>Cantharellus</i> , <i>Cortinarius</i> , <i>Crucibulum</i> , <i>Cuphophyllum</i> , <i>Echinoderma</i> , <i>Geastrum</i> , <i>Hebeloma</i> , <i>Hygrocybe</i> , <i>Hygrophorus</i> , <i>Hypholoma</i> , <i>Lactarius</i> , <i>Lepiota</i> , <i>Panellus</i> , <i>Pholiota</i> , <i>Russula</i> , <i>Scleroderma</i> , <i>Suillus</i> , <i>Tricholoma</i>
Obyce (300–410 m) 48°26'33.4"N 18°28'41.0"E	<i>Quercus</i> , <i>Carpinus</i> , <i>Acer</i>	<i>Craterellus</i> , <i>Hebeloma</i> , <i>Russula</i>
Hostie (260–340 m) 48°27'59.0"N 18°27'34.7"E	<i>Quercus</i> , <i>Carpinus</i>	<i>Amanita</i> , <i>Cantharellus</i> , <i>Cortinarius</i> , <i>Craterellus</i> , <i>Entoloma</i> , <i>Gyroporus</i> , <i>Hygrophorus</i> , <i>Lactarius</i> , <i>Psathyrella</i> , <i>Russula</i>
Area of Slovak Academy of Science, Bratislava (166 m) 48°10'10.2"N 17°04'09.9"E	<i>Betula</i> , <i>Pinus</i>	<i>Chroogomphus</i> , <i>Lactarius</i> , <i>Suillus</i>
Rohožník-Vývrať hill (300 m) 48°25'24.4"N 17°11'37.2"E	<i>Quercus</i>	<i>Amanita</i> , <i>Chlorophyllum</i> , <i>Craterellus</i> , <i>Echinoderma</i> , <i>Entoloma</i> , <i>Lactarius</i> , <i>Macrolepiota</i> , <i>Russula</i>
Železná studnička-recreation area Forest, Bratislava (170 m) 48°10'37.9"N 17°04'30.5"E	<i>Quercus</i> , <i>Carpinus</i> , <i>Betula</i> , <i>Pinus</i>	<i>Agaricus</i> , <i>Amanita</i> , <i>Lepista</i> , <i>Russula</i> , <i>Tricholomopsis</i>
Lovce (300–370 m) 48°27'03.9"N 18°20'49.3"E	<i>Quercus</i> , <i>Carpinus</i>	<i>Amanita</i> , <i>Armillaria</i> , <i>Boletus</i> , <i>Craterellus</i> , <i>Fistulina</i> , <i>Gymnopus</i> , <i>Hypsizygus</i> , <i>Lactarius</i> , <i>Macrolepiota</i> , <i>Mycena</i> , <i>Russula</i> , <i>Scleroderma</i> , <i>Tricholoma</i> , <i>Xerocomellus</i>



Plate 1. Forests: (a) Adjoining to Železná studnička recreation area (b, c & d) Vývrať hill (e & f) Lovce (g) Hostie.

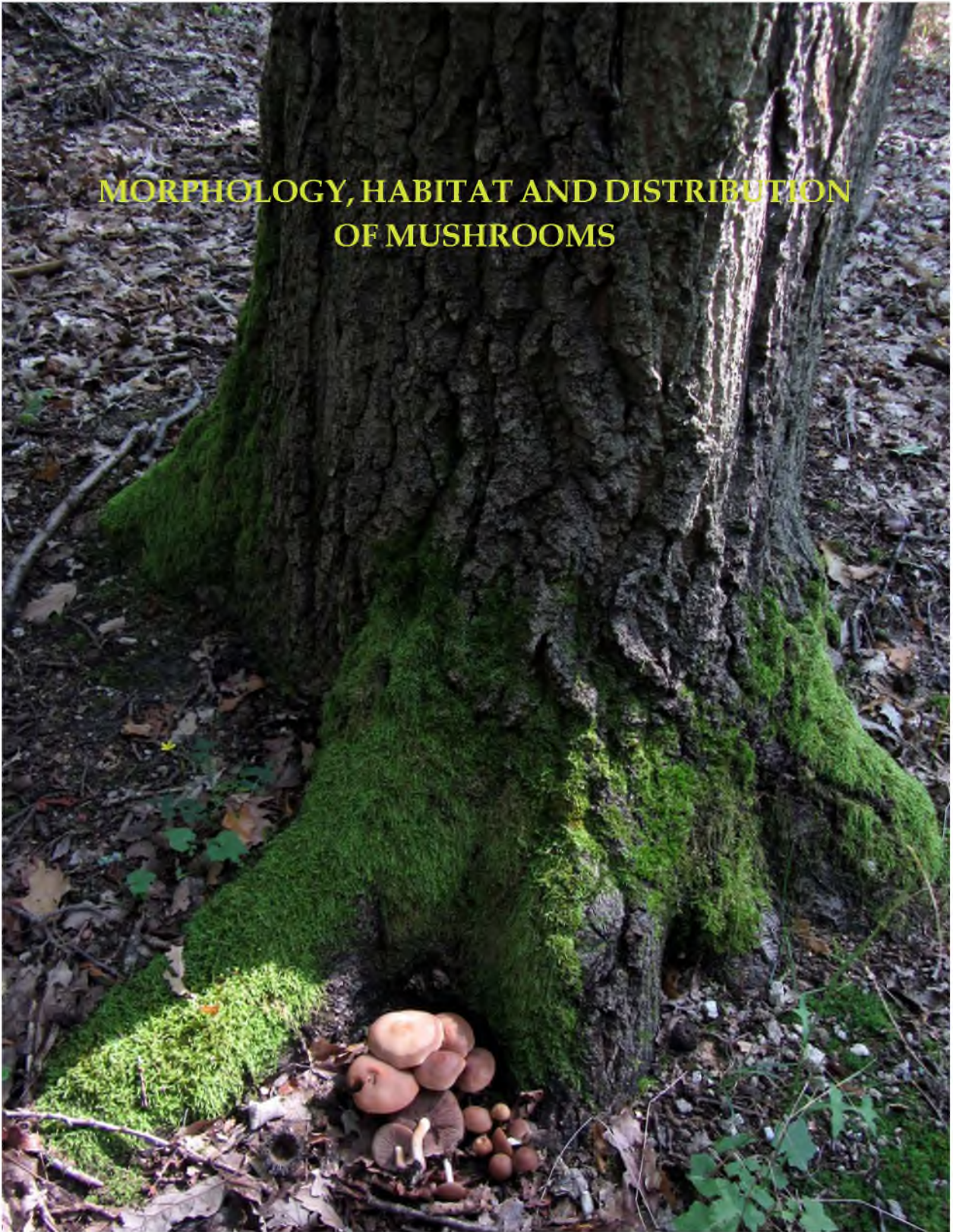


Plate 2. (a) Basket with the booty at the forest adjoining to Železná studnička recreation area (b) Our co-participants at the camp of Areál Zdravia (c) Macromorphological studies at Areál Zdravia (d) Macromorphological studies at the Institute of Botany at Slovak Academy of Sciences, Bratislava (e) In the forest of Lovce (f) Essence of International Russulales Workshop, 2014.



Plate 3. (a) With our host: Slavomir Adamčík of Slovak Academy of Sciences (b) In a survey to Vývrať hill (c) Our huts at workshop complex of Areál Zdravia (d) With lunch- and mushroom-baskets at Hostie (e) Basketful Chanterelles for the kitchen (f) Soupy trumpets on the table for dinner.

**MORPHOLOGY, HABITAT AND DISTRIBUTION
OF MUSHROOMS**



Agaricus xanthodermus Genev.
 =*Psalliota grisea* (A. Pearson) Essette

Agaricaceae



Cap 70–100 mm diam., hemispherical when young, becoming convex with a plane centre and with incurved to decurved margin, white, cream- to orange-yellow when bruised. Gills free, pinkish buff, then purple brown to blackish. Stem 80–140 × 14–18 mm, cylindrical, with a membranous ring on upper half and a distinct bulbous base, white, becoming yellow when bruised, especially at bulbous base. Context pithy in stem, yellow at base when exposed. Odour ink-like. Taste mild. Spore print dark purple-brown. Spores 5.3–6.1 × 3.8–4.5 μm, broadly ellipsoid, smooth. Pileipellis composed of repent parallel septate hyphae. Found in Železná studnička recreation area at Bratislava amongst grasses. Similar looking *A. arvensis* has distinctly larger spores.



Amanita citrina Pers.=*Amanita bulbosa* Pers.

Amanitaceae



Cap 45–70 mm diam., hemispherical when young, becoming planoconvex to plane with maturity, pale yellow to ivory-coloured or slightly greenish, surface covered with yellowish to yellowish-brown persistent patches of veilar remnants. Gills free, rather-crowded, white to pale yellow. Stem 48–70 × 9–30 mm, cylindrical, becoming broader towards base, with a membranous pendant yellowish ring on the upper third and a soft volva encasing bulbous stem-base. Odour like raw potato. Taste not taken. Spore print white. Spores 8.1–10.0 × 7.2–8.4 μm, subglobose, smooth. Pileipellis composed of repent septate hyphae. Cheilocystidia clavate to vesicular. Found in Vývrať hill and Lovce under *Quercus* and *Carpinus*.



Amanita fulva Fr.=*Amanitopsis fulva* (Fr.) W.G. Sm.

Amanitaceae



Cap 45–60 mm diam., hemispherical when young, becoming planoconvex to plane with striate margin and an umbo at maturity, orange-brown with a brown to grey-brown centre. Gills free, subdistant to close, white. Stem 60–100 × 9–13 mm, cylindrical, gradually broader towards base, with a sac-like white volva that becomes brownish after bruising and without any ring, surface white, becoming orange-brown when bruised. Odour mild. Taste not taken. Spore print white. Spores 9.5–14.0 × 9–13 μm, globose to subglobose, smooth (Pl. 4a). Pileipellis composed of repent hyphae. Found in Areál Zdravia under *Quercus*.



Amanita muscaria (L.) Lam.
= *Venenarius muscarius* (L.) Earle ex Murrill

Amanitaceae



Cap 50–110 mm diam., spherical to hemispherical when young, becoming convex to plane with maturity, red, surface covered with conical to irregular wart-like concentric veilar remnants that mostly get washed off in rains. Gills free, crowded, white. Stem 60–110 × 20–32 mm, cylindrical with bulbous base covered by ring like volval remnants and with a membranous ring on the upper half. Odour mild. Taste not taken. Spore print white. Spores 9.2–11.1 × 6.6–9.0 μm, subglobose to broadly ellipsoid, smooth. Pileipellis composed of repent septate hyphae. Found at bison park near Lovce under *Betula*. Slender but close *A. rubrovolvata* has distinctly red volval remnants on stem base.



Amanita pantherina (DC.) Krombh.
= *Venenarius pantherinoides* Murrill

Amanitaceae



Cap 35–75 mm diam., spherical to hemispherical when young, becoming convex to planoconvex with maturity, surface viscid when wet, ochraceous brown to olive-grey or pale grey-brown with wart-like concentric white veilar remnants. Gills free, crowded, white. Stem 45–90 × 25–30 mm, cylindrical with bulbous base encased tightly by a volva with free end and a pendulous ring, surface longitudinally fibrillose, white. Odour indistinct. Taste not taken. Spore print white. Spores 9.0–11.5 × 6.7–7.8 μm, ellipsoid-oval, smooth. Pileipellis composed of repent septate hyphae. Found in Železná studnička recreation area forest and Výchrať hill under *Pinus*.



Amanita phalloides (Vaill. ex Fr.) Link= *Amanita viridis* Pers.

Amanitaceae



Cap 45–70 mm diam., conic to hemispherical when young, becoming convex to planoconvex or plane with maturity, surface radially fibrillose yellow-green to olive or olive-brown, brown even sometimes completely white (*A. phalloides* var. *verna*), with or without white veilar remnants. Gills free, crowded, white to pale yellow. Stem 50–90 × 15–25 mm, cylindrical, becoming broader towards base, with a white membranous ring on the upper half and a soft white volva encasing bulbous stem-base. Odour nut-like. Taste not taken. Spore print white. Spores 7.8–10.4 × 6.5–8.6 μm, ellipsoid, smooth. Pileipellis composed of repent septate hyphae. Found in Vývrať hill, Hostie and Lovce under *Quercus* and *Fagus*.



Amanita phalloides (Vaill. ex Fr.) Link



Amanita rubescens Pers.=*Limacium rubescens* (Pers.) J. Schröt.

Amanitaceae



Cap 40–70 mm diam., hemispherical when young, becoming planoconvex to plane with maturity, ochraceous, then ochre-brown to reddish brown, mostly or partly covered by concentric veilar remnants. Gills free, crowded, white when young becoming pinkish. Stem 60–85 × 18–25 mm, cylindrical, becoming broader and bulbous at base, with a white membranous pendant striate ring on the upper half and without a volva, white, becoming reddish brown towards base after maturity or when bruised. Odour indistinct. Taste not taken. Spore print whitish. Spores 8.4–10.5 × 5.3–6.5 μm, oval, smooth. Pileipellis composed of repent septate hyphae. Found in Vývrať hill under *Fagus*.



Armillaria tabescens (Scop.) Emel= *Clitocybe monadelphica* (Morgan) Sacc.

Physalacriaceae



Cap 30–75 mm diam., convex when young, becoming planoconvex to plane, surface with cottony scales that mostly dense and erect at centre, yellowish then honey coloured to brown or reddish brown or paler. Gills decurrent, crowded, pinkish brown. Stem 50–110 × 6–12 mm, cylindrical, gradually tapering towards base, surface longitudinally fibrillose, whitish near apex, brownish to blackish towards base. Odour pleasant. Taste mild. Spore print cream-coloured. Spores 8.0–9.4 × 5.0–7.0 μm, ellipsoid, smooth. Found in Lovce on cut tree-trunk in clusters. Similar looking *A. mellea* has a ring on stem.



Boletus subtomentosus L.
 = *Xerocomus subtomentosus* (L.) Quél.

Boletaceae



Cap 40–100 mm diam., hemispherical to conic when young, gradually becoming convex with finely tomentose and areolate surface and margin with a sterile narrow flap of tissue, yellow-brown to olivaceous. Pore surface golden-yellow to olive-yellow, turning bluish when bruised, pores angular. Tube adnate, olive-brown. Stem 40–95 × 10–20 mm, cylindrical, sometimes bent and tapering in the lower half, surface with longitudinal ridges, yellow to yellow-brown. Odour fruit-like. Taste mild. Spore print brown to olivaceous brown. Spores 10.2–15.2 × 4.0–5.2 μm, fusiform, smooth. Pileipellis a trichoderm to subcutis, composed mostly of erect septate hyphae (Pl. 8b). Found in Lovce under *Quercus*.



Calocera cornea (Batsch) Fr.
 = *C. aculeiforme* (Bull.) Wallr.

Dacrymycetaceae



Basidiomata 4–8 × 1–1.5 mm, erect, mostly in clusters, cylindrical to subulate, with blunt to pointed tips, sometimes forked, gelatinous, orange-yellow. Spores 7.4–10.0 × 3.0–4.3 μm, subballantoid to cylindric, with one septum, smooth. Hyphae septate, without clamps. Found in broad-leaf forest surrounding Areál Zdravia on dead fallen twigs. Similar looking *C. viscosa* has distinctly larger basidiomata.



Cantharellus cibarius Fr.= *C. pallens* Pilát

Cantharellaceae



Cap 35–80 mm diam., hemispherical when young, becoming plane to sometimes uplifted to funnel-shaped with incurved and irregularly wavy margin, deep yellow to yolk-yellow or golden yellow. Pseudogills ridge-like, decurrent, narrow, irregularly forked, anastomosing, concolourous to cap. Stem 28–60 × 7–17 mm, cylindrical, white or concolourous to cap. Spore print yellowish. Spores 8.0–9.5 × 5.0–5.7 μm, ellipsoid, smooth (Pl. 4b). Cystidia absent. Hyphal system monomitic, hyphae septate, clamped. Found in Hostie and around Areál Zdravia under *Quercus*.



Chlorophyllum brunneum (Farl. & Burt) Vellinga
 = *Macrolepiota rachodes* var. *hortensis* (Pilát) Wasser

Agaricaceae



Cap 80–150 mm diam., spherical to hemispherical when young, becoming convex to plane with an umbo at maturity, initially dark brown to brown, gradually splitting into scales, leaving the centre intact and brown. Gills free, rather crowded, white, then cream-coloured. Stem 120–180 × 15–25 mm, cylindrical, gradually broader towards base with a membranous ring on upper half and a distinct bulbous base, surface longitudinally fibrillose, white, becoming brownish when bruised. Context in stem becoming dark orange-red when exposed. Spore print chalky white. Spores 8.5–11.5 × 5.3–8.2 μm, ellipsoid, thick-walled, smooth. Pileipellis composed of erect septate hyphae, terminal cells clavate to subcapitate. Found in Vývrať hill on ground at the out-skirt of forest.



Chroogomphus rutilus (Schaeff.) O.K. Mill.= *C. britannicus* A.Z.M. Khan & Hora

Gomphidiaceae



Cap 35–80 mm diam., conic to hemispherical when young, becoming convex with a central umbo and incurved acute margin, brick red to yellowish brown or with a combination of copper-red. Gills decurrent, subdistant to close, olivaceous buff, then purplish. Stem 50–100 × 5–13 mm, cylindrical, gradually tapering towards base, typically constricted at apex (under gills), yellow-buff or reddish near apex, chrome yellow towards base, often ring-like veilar remnant at apex. Context solid. Odour indistinct. Taste mild. Spore print olive-brown to blackish. Spores 15–22 × 5.5–7.0 μm, fusiform to ellipsoid, smooth. Pileipellis composed of repent parallel hyphae. Found on ground in and around the area of Slovak Academy of Sciences under *Pinus*.



Clavariadelphus pistillaris (L.) Donk
 = *Clavaria pulvinata* Pers.

Clavariadelphaceae



Basidiomata 70–110 mm high, 17–28 mm wide, cylindrical-clavate with rounded tip, light yellow, ochre, golden yellow, orange brown to yellow brown in combination with white towards base, becoming vinaceous brown when bruised, surface longitudinally grooved. Context spongy, soft, white, becoming pale purple-violet when exposed. Taste bitter. Spores $11.3\text{--}13.5 \times 7.0\text{--}9.5 \mu\text{m}$, ellipsoid, smooth. Hyphal system monomitic with slightly thick-walled hyphae. Found on ground of broad-leaf forest in Ladzany. Similar looking *C. truncatus* always has truncate basidiomata with flat apex.



Cortinarius cotoneus Fr.

Cortinariaceae



Cap 45–85 mm diam., hemispherical when young, becoming convex to planoconvex at maturity with incurved then decurved margin, often wavy towards centre, olive-green to olive-brown or darker. Gills adnate-sinuate, crowded, olive-green, then brownish with maturity. Stem 45–70 × 16–25 mm, cylindrical, with subbulbous base, surface longitudinally fibrillose, white at apex, olive-yellow to olive-brown towards base with darker ring-like zone at upper half. Odour raddish-like. Taste mild. Spore print reddish brown. Spores 7.3–9.3 × 6.0–8.2 μm, globose to subglobose, ornamentation composed of numerous verrucae. Pileipellis composed of repent frequently septate hyphae. Found in Areal Zdravia under *Fagus*.



Cotinarius trivialis J.E. Lange= *Myxacium triviale* (J.E. Lange) M.M. Moser

Cortinariaceae



Cap 30–75 mm diam., hemispherical to conical when young, becoming convex to planoconvex with a central umbo at maturity and incurved to decurved margin that remains attached to stem with white cortina initially, surface slimy and sticky when wet, ochre to yellowish brown with darker centre. Gills adnate to adnexed, subdistant to rather-close, cream-coloured to pale clay-coloured, then brownish yellow and finally rusty brown. Stem 45–65 × 8–12 mm, cylindrical with a ring zone on the upper half, surface glutinous when young and wet, covered with concentric bands of veil-remnants at maturity, white at apex, yellow to yellow-brown towards base. Spore print rusty brown. Spores 11.0–16.2 × 6.6–8.0 μm, almond-shaped, ornamentation composed of numerous densely arranged verrucae (Pl. 4c). Cheilocystidia clavate. Pileipellis composed of repent septate clamped hyphae. Found in the surroundings of Hostie under *Quercus*. Similar looking *C. collinitus* has blue-violet bands on stem.



Cotinarius vulpinus (Velen.) Rob. Henry
 = *Phlegmacium rufoalbum* (Kühner) M.M. Moser

Cortinariaceae



Cap 30–75 mm diam., hemispherical when young, becoming convex to planoconvex at maturity, with incurved margin that remains attached to stem with whitish cortina initially, sometimes with a central umbo, surface viscid when wet, ochre to ochre-brown, often with darker centre. Gills adnate, close, lilac when young, becoming brown-violet with maturity. Stem 50–90 × 10–15 mm, cylindrical with a distinct fibrillose ring zone on the upper half, white above the ring-zone, often with olive-brown areas below. Taste mild. Spore print rusty brown. Spores 11.5–14.0 × 6.7–7.8 μm, almond-shaped, ornamentation composed of numerous verrucae (Pl. 4d). Pileipellis composed of repent to suberect, septate, clamped hyphae. Found in Areál Zdravia under broad-leaf trees.



Craterellus cornucopioides (L.) Pers.=*C. ochrosporus* Burt

Cantharellaceae



Cap 20–60 mm diam., tubular to trumpet-shaped or funnel-shaped with flared mouth and irregularly wavy margin, black-brown to grey-brown. Spore bearing surface (hymenophore) smooth to striate or grooved, ash-grey, greyish white to silvery or dingier. Spore print white. Spores $10.1\text{--}18.2 \times 6.9\text{--}9.0 \mu\text{m}$, ellipsoid (Pl. 4e). Hyphal system monomitic, hyphae frequently septate, without clamps, some pigmented. Found in Vývraf hill, Hostie, Lovce, Obyce under broad-leaf trees.



Crucibulum laeve (Huds.) Kambly
 =*Cyathus crucibulum* Pers.

Agaricaceae



Basidiomata spherical when young, becoming deeply cup-shaped when ruptured with maturity, 5–8 mm broad at mouth and 3–7 mm high. Outer surface brown or dingier, inner surface cream-coloured to yellow containing 10–15 peridioles. Peridioles 1–2 mm diam., lens shaped, attached to the inner surface of basidiomata by a fine cord, whitish. Spores 8.0–10.0 × 6.3–7.2 μm, ellipsoid, smooth. Found near Areál Zdravia on the dead twigs of broad-leaf trees.



Cuphophyllus pratensis (Fr.) Bon
 =*Hygrocybe pratensis* (Fr.) Murrill

Hygrophoraceae



Cap 35–65 mm diam., hemispherical to convex when young, becoming planoconvex with a low umbo at maturity, surface often cracked and margin mostly interrupted, apricot-coloured to pale orange-brown. Gills adnate-decurrent, close, cream-orange. Stem 35–55 × 9–13 mm, cylindrical, tapering towards base, surface longitudinally fibrillose, white to cream-coloured, with orange areas after maturity. Context partly hollow. Spore print white. Spores 5.5–7.3 × 4.4–5.5 μm, broadly ellipsoid, smooth. Pileipellis composed of parallel, mostly repent septate clamped hyphae. Found in surroundings of Areál Zdravia amongst grasses.



Echinoderma asperum (Pers.) Bon
 =*Lepiota aspera* (Pers.) Quél.

Agaricaceae



Cap 70–100 mm diam., conical to convex when young, becoming campanulate-convex or rarely uplifted with maturity, margin incurved to decurved, surface covered with conical to pyramidal dark brown scales on cream-coloured background. Gills free, very crowded, forked near stem, white. Stem 60–85 × 15–22 mm, cylindrical with a bulbous base and a membranous cream-coloured to brownish ring (with scaly margin) on the upper half, brown to dark brown towards base with granular scales. Taste mild. Spore print pinkish white. Spores 6.5–8.1 × 2.5–3.1 μm, cylindrical-ellipsoid, smooth. Pileipellis composed of suberect to erect hyphal elements consisting of chains of short slightly thick-walled cells (Pl. 11a). Found on ground in the surroundings of Areál Zdravia in out-skirt of forest. Similar looking *E. hystrix* has dark brown gill-edge.



Entoloma sinuatum (Bull.) P. Kumm.
= *E. eulivoidum* Noordel.

Entolomataceae



Cap 50–120 mm diam., conic to hemispherical, when young, becoming convex to planoconvex with incurved margin and radially fibrillose surface, white to dingy white or yellowish to greyish ochre. Gills sinuate-free, rather-crowded to crowded, light yellow to pinkish. Stem 45–75 × 18–30 mm, broader towards base or sub-bulbous, hard, white to cream-coloured or brownish. Taste mild. Spore print orange-brown. Spores 8.0–10.5 × 6.5–9.2 μm, pentagonal to hexagonal, smooth. Pileipellis composed of repent septate clamped hyphae. Found in Vývrať hill and Hostie under *Quercus* and *Fagus*.



Fistulina hepatica (Schaeff.) With.
= *F. endoxantha* Speg.

Fistulinaceae



Basidiomata bracket- to tongue-shaped, stemless or with a lateral stalk, 65–210 mm diam., convex to planoconvex or rarely plane, sometimes with concentric zones, pinkish to orange-red when young, becoming vinaceous red with maturity. Pore surface cream-coloured to yellowish, turning reddish brown with maturity or after bruising, pores 2–3 per mm, angular. Stem 45–75 × 25–40 mm, usually concolourous at dorsal side, golden yellow at ventral side, brown-red towards base. Context flesh-like, flesh-pink. Spores 4.8–6.0 × 3.7–4.0 μm, ellipsoid to oval, smooth. Hyphal system monomitic, hyphae septate, clamped. Found in Lovce on dead tree-trunk.



Geastrum fimbriatum Fr.
 =*G. sessile* (Sowerby) Pouzar

Geastraceae



Basidiomata 30–45 mm diam., globose when young, becoming split into 7–9 pointed rays that often bent downwards exposing spore sac. Spore sac 12–17 mm diam., sessile, being opened by a central pore surrounded by fimbriate mouth. Spores 3.0–4.0 μm in diam., globose, ornamentation composed of small verrucae (Pl. 4f). Capillitial hyphae septate, thick-walled. Found in Areál Zdravia under *Larix* and *Pinus*.



Gymnopus fusipes (Bull.) Gray
 = *Collybia fusipes* (Bull.) Quél.

Omphalotaceae



Cap 20–80 mm diam., conic to convex with a broad central umbo and with incurved margin, reddish brown to brown when young, becoming paler gradually from centre towards margin with maturity. Gills adnexed to free, whitish, becoming brownish with maturity. Stem 55–115 × 7–18 mm, cylindrical, wider at middle, with a gradually tapering rooting base, surface distinctly longitudinally grooved, often fused with other basidiomata, white at apex, yellowish brown, then dark brown to blackish towards base. Spore print white. Spores 4.0–6.0 × 4.5–5.5 μm, ellipsoid, smooth. Pileipellis composed of suberect septate hyphae. Found in Lovce in clusters on the tree base of *Quercus*.



Gyroporus castaneus (Bull.) Quél.= *G. ammophilus* (M.L. Castro & L. Freire) M.L. Castro & L. Freire

Gyroporaceae



Cap 30–70 mm diam., hemispherical when young, becoming convex with maturity, yellow-brown to cinnamon brown. Pore surface white when young, becoming lemon yellow, turning brownish after maturity, pores circular. Tube sinuate-free. Stem 40–60 × 8–15 mm, clavate, smooth, slightly paler than cap. Context in stem chambered to partly hollow. Odour pleasant. Taste mild. Spore print pale yellow. Spores 8.5–13.0 × 5.2–7.5 μm, ellipsoid, smooth, thick-walled. Pileipellis a trichoderm, composed of septate, short-celled hyphae (Pl. 10a). Found in Hostie under *Quercus*. Similar looking *G. cyanescens* has context that turns blue when exposed.



Hebeloma radicosum (Bull.) Ricken
 = *Roumeguerites radicosus* (Bull.) Locq.

Cortinariaceae



Cap 40–75 mm diam., hemispherical when young, becoming convex to planoconvex at maturity, surface viscid when wet, yellow-brown to red-brown. Gills adnexed to free, crowded, cream-colored to ochraceous, brownish with maturity. Stem distinctly rooting, 70–95 × 10–15 mm (excluding rooting zone), cylindrical with a ring on the upper half, white above the ring, yellow to yellow-brown below, surface covered with concentric bands of veil remnants. Odour like bitter almonds. Taste sweet. Spore print reddish brown. Spores 7.5–10.0 × 4.5–5.5 μm, ellipsoid to almond-shaped, ornamentation composed of minute verrucae (Pl. 4g). Pileipellis an ixocutis, composed of repent to suberect hyphae under gluten. Found in Obyce under *Quercus*.



Hebeloma sinapizans (Paulet) Gillet
 =*Hylophila sinapizans* (Paulet) Quél.

Cortinariaceae



Cap 35–70 mm diam., hemispherical to convex when young, becoming plane at maturity with an inrolled then decurved margin, sometimes with a broad central umbo, surface viscid when wet, yellow-brown to ochre-brown, paler towards margin. Gills free, rather-crowded, coffee-coloured to clay-buff. Stem 35–70 × 10–25 mm, cylindrical with a bulbous base, surface longitudinally fibrillose, white to brownish with brown scales arranged in bands at base. Odour raddish-like. Spore print brown. Spores 10.0–13.0 × 7.0–8.2 μm, broadly almond-shaped, ornamentation composed of minute verrucae. Pileipellis an ixocutis, composed of subparallel hyphae under gluten (Pl. 10b). Found in Areál Zdravia under broad-leaf trees.



Hydnum repandum L.
= *H. aurantium* Raf.

Hydnaceae



Cap 35–90 mm diam., hemispherical, convex to planoconvex with depressed to irregularly wavy centre and lobed and inrolled to incurved margin, surface smooth, creamy-yellow to pale flesh-coloured or apricot-coloured. Hymenophore spinose, spines decurrent up to 6 mm long, white to cream-coloured or salmon-coloured. Stem 30–55 × 15–25 mm, central to eccentric, white, becoming yellowish after bruising near base. Odour pleasant. Taste slowly bitterish. Spore print white. Spores 6.4–8.3 × 5.5–7.0 μm, subglobose, smooth. Cystidia absent. Hyphae monomitic. Found in Ladzany under *Quercus*.



Hygrocybe chlorophana (Fr.) Wünsche
 =*Hygrophorus chlorophanus* (Fr.) Fr.

Hygrophoraceae



Cap 15–35 mm diam., hemispherical when young, becoming convex to planoconvex with an umbo, sometimes slightly uplifted at maturity, surface smooth, somewhat waxy, orange-yellow to sulphur-yellow, sometimes with orange areas. Gills adnate-sinuate, close to rather-crowded, light yellow to lemon-yellow. Stem 30–80 × 3–7 mm, cylindrical, slightly tapering towards base, orange- to sulphur-yellow. Context hollow in stem. Spore print white. Spores 7.0–9.2 × 4.0–5.9 μm, ellipsoid, smooth. Pileipellis composed of loosely interwoven suberect hyphae. Found in surroundings of Areál Zdravia amongst grasses.

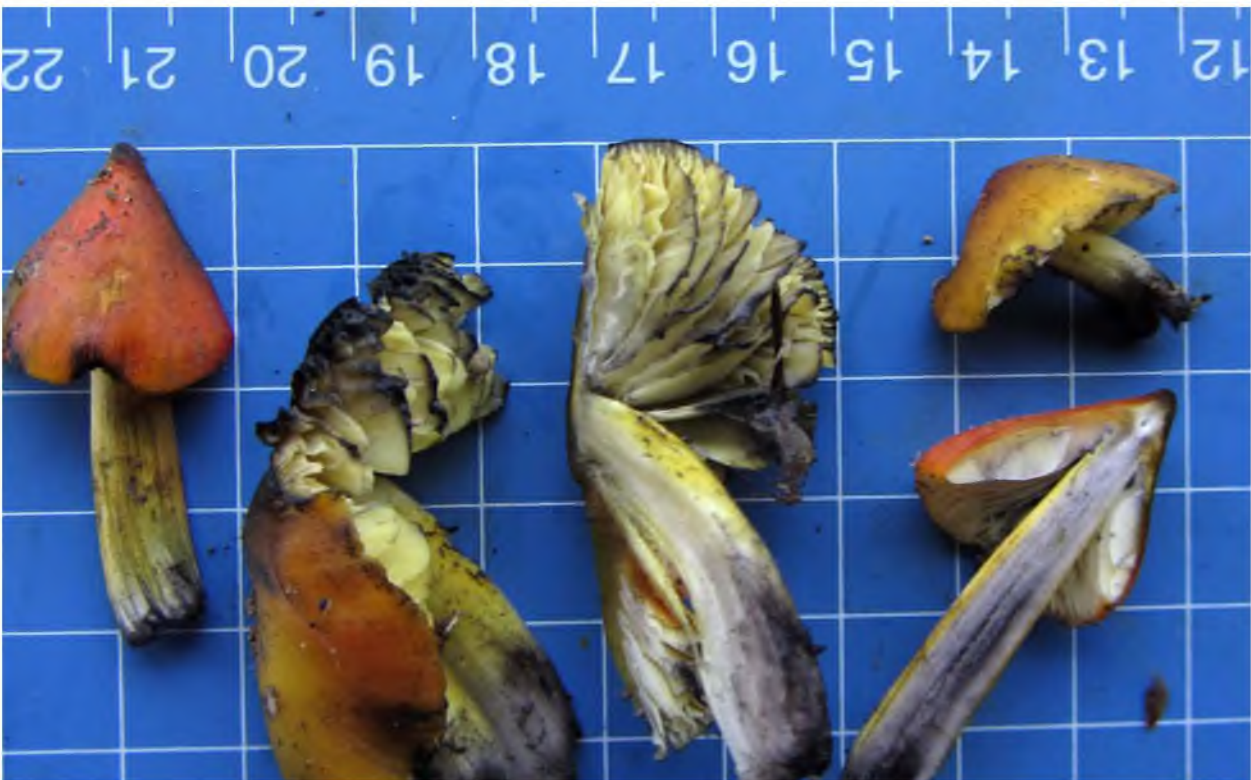


Hygrocybe conica (Schaeff.) P. Kumm.=*H. chloroides* (Malencon) Kovalenko

Hygrophoraceae



Cap 13–50 mm diam., acutely conic when young, becoming broader at maturity, surface somewhat waxy, radially fibrillose, yellow-orange to orange-red, distinctly black after bruising or maturity. Gills almost free, white to sulphur yellow to lemon-yellow, sometimes with red-orange areas near edge, becoming black. Stem 30–90 × 5–10 mm, cylindrical, mostly twisted, surface longitudinally fibrillose, orange-red, then yellowish before blackening finally. Taste somewhat bitter. Spore print white. Spores 8.4–9.5 × 5.2–6.0 μm, ellipsoid, smooth. Pileipellis composed of parallel septate clamped hyphae. Found in surroundings of Areál Zdravia amongst grasses.



Hygrophorus penarioides Jacobsson & E. Larss.

Hygrophoraceae



Cap 56–140 mm diam., convex with a central broad umbo when young, becoming planoconvex at maturity, surface smooth, white initially, then cream-coloured. Gills decurrent, distant, white to pinkish. Stem 55–85 × 12–25 mm, cylindrical, tapering towards base, white above, dingier towards base. Context solid to partly hollow in stem. Odour pleasant. Taste mild. Spore print not observed. Spores 5.3–6.6 × 4.0–4.5 μm, broadly ellipsoid to ellipsoid, smooth. Pileipellis an ixocutis, composed of septate clamped hyphae (Pl. 13 a & b). Found in Hostie under *Quercus*.



Hypholoma fasciculare (Huds.) P. Kumm.
= *H. elaeodes* (Fr.) Gillet

Strophariaceae



Cap 25–70 mm diam., hemispherical to conical when young, becoming convex with a small umbo, margin with yellowish veilar remnants at maturity, sulphur-yellow with yellow-brown centre, finally brownish with age. Gills adnate-sinuate, sulphur-yellow to olive. Stem 50–85 × 3–6 mm, cylindrical, broader towards base, with a ring-zone on upper half, surface longitudinally fibrillose, sulphur-yellow. Context in stem, hollow. Spore print vinaceous brown. Spores 7.4–8.8 × 4.9–5.8 μm, ellipsoid, smooth (Pl. 5a). Pleurocystidia lageniform with protruded apex (Pl. 13 f). Pileipellis composed of repent encrusted hyphae over pseudo-parenchymatous elements (Pl. 11b). Found in Areál Zdravia on buried woods.



Hypsizygus ulmarius (Bull.) Redhead
 =*Lyophyllum ulmarium* (Bull.) Kühner

Lyophyllaceae



Cap 70–85 mm diam., hemispherical when young, becoming almost plane with maturity, sometimes umbonate, margin incurved to decurved, chalky white to cream-coloured. Gills adnate to decurrent, very crowded, white, then yellowish. Stem 60–90 × 10–20 mm, cylindrical, broader towards base, surface longitudinally fibrillose, cream-yellow to ochraceous. Context in stem, hollow. Spore print white. Spores 6.3–7.2 × 4.7–6.0 μm, subglobose, smooth. Pileipellis composed of repent septate clamped hyphae arranged in parallel pattern. Found in Lovce on dead tree-trunk.



Lactarius azonites (Bull.) Fr.=*L. virgineus* (J.E. Lange) J. Blum ex Bon

Russulaceae



Cap 37–75 mm diam., hemispherical to conical when young, becoming planoconvex to uplifted with elevated or depressed centre, surface subvelvety, grey-brown or slightly paler towards margin, sometimes ochraceous with darker centre. Gills subdecurrent, crowded, some forked, ochraceous, turning pinkish when bruised. Stem 40–60 × 8–13 mm, cylindrical, tapering towards base, white when young, grey-spotted with maturity at base. Latex white, unchanging, but, turning context or cut gill orange-pink, mild. Odour fruit-like. Taste mild. Spore print ochre. Spores 7.2–9.2 × 6.5–8.1 μm, subglobose, ornamentation composed mainly of isolated warts and narrow ridges, forming partial reticulum (Pl. 5b). Paracystidia mostly fusoid (Pl. 13g). Pileipellis composed of a layer of repent hyphae with cystidioid terminal cells over another layer of chains of pseudoparenchymatous cells. Found in Hostie under *Quercus*.



Lactarius camphoratus (Bull.) Fr.= *L. cemicarius* (Batsch) Gillet

Russulaceae



Cap 25–50 mm diam., convex to planoconvex with a depressed centre and small umbo, sometimes becoming uplifted to funnel-shaped, orange-brown to brownish red. Gills adnate-subdecurrent, crowded, ochre-orange to pale orange. Stem 25–35 × 5–10 mm, cylindrical, sometimes broader at mid region or base, cream-coloured at apex, brownish towards base. Context hollow in stem. Odour pleasant, spice-like. Taste mild. Spore print cream-coloured. Spores 6.2–8.0 × 5.7–7.1 μm, globose to subglobose, ornamentation composed of numerous acute warts and ridges, mostly connected forming partial reticulum. Pileipellis composed of pseudoparenchymatous cells. Found in Vývrať hill under *Quercus*.



Lactarius chrysorrheus Fr.

Russulaceae



Cap 25–60 mm diam., convex with slightly to moderately and irregularly depressed centre and decurved margin, pale orange to ochraceous with darker concentric zones. Gills broadly adnate to subdecurrent, medium to fairly crowded, pinkish buff. Stem 28–50 × 8–17 mm, cylindrical or gradually widened towards base, white or pinkish tinged towards base to concolorous to pileus. Odour acidic-fruity. Taste mild initially, then bitter and acrid. Latex white, changing lemon- to sulphur yellow with bitter and acrid taste. Spore print yellow. Spores 6.0–8.5 × 5.1–7 μm, subglobose to broadly ellipsoid, ornamentation composed of warts and ridges forming nearly complete reticulum. Pileipellis a cutis, with ascending hyphal tips. Found in Výchvat hill and Hostie under *Quercus*.



Lactarius chrysorrheus Fr.



Lactarius controversus Pers.= *L. lateripes* (Desm.) Fr.

Russulaceae



Cap 80–180 mm diam., with slightly to deeply depressed centre and incurved to decurved margin, dingy white to pale cream with reddish zones. Gills adnate to decurrent, crowded, often forked, yellowish white to pinkish. Stem 30–45 × 15–30 mm, cylindrical or tapering downward, buff to pinkish. Odour slightly acidic. Taste slowly very acrid. Latex white, unchanging, acrid. Spore print pinkish buff. Spores 6.0–7.8 × 4.7–6.0 μm, broadly ellipsoid to ellipsoid, ornamentation composed of warts and ridges forming reticulum. Hymenial macrocystidia subulate to fusoid. Pileipellis an ixocutis. Found in and around the compound of Slovak Academy of Sciences under *Populus* and *Salix*.



Lactarius evosmus Kühner & Romagn.

Russulaceae



Cap 80–175 mm diam., planoconvex with deeply depressed centre and inrolled margin when young, becoming funnel-shaped, surface viscid when wet, faintly zonate, cream-coloured to pale yellow. Gills decurrent, rather-crowded, some forked, white when young, cream-coloured with maturity. Stem 30–45 × 12–25 mm, surface without scrobicules, white to pale cream, becoming ochraceous. Latex watery, white, unchanging, acrid. Odour fruit-like. Taste acrid. Spore print pink-ochre. Spores 6.0–8.8 × 4.5–7.1 μm, broadly ellipsoid to ellipsoid, ornamentation composed of elongated warts and ridges, forming partial reticulum. Pileipellis an ixocutis. Found in Hostie under *Quercus* and *Populus*.



Lactarius pallidus Pers.

Russulaceae



Cap 50–110 mm diam., convex, then plane with slightly depressed centre and sometimes with indistinct zonations, occasionally with a blunt umbo, pinkish buff to clay-buff. Gills broadly adnate to decurrent, subdistant to close, cream to ochraceous. Stem 37–55 × 10–25 mm, cylindric, mostly tapering towards base, cream-coloured to pinkish buff. Odour fruity. Taste mild, then acrid. Latex white, slowly turning ochraceous, slowly becoming acrid in taste. Spore print pale pinkish buff. Spores 6.5–8.7 × 5.3–6.8 μm, broadly ellipsoid, ornamentation composed of warts or ridges arranged partly in zebroid pattern. Pileipellis is an ixotrichoderm (Pl. 9a). Found in Areál Zdravia under *Fagus*.



Lactarius pallidus Pers.



Lactarius pubescens Fr.= *L. betulae* A.H. Sm.

Russulaceae



Cap 45–110 mm diam., convex to planoconvex with depressed centre and inrolled bearded margin, becoming funnel-shaped with maturity, surface radially fibrillose, pale cream to cream. Gills broadly adnate to decurrent, fairly crowded, sometimes forked near stem, white to pink-ochre. Stem 25–45 × 15–25 mm, cylindrical, tapering downward, orange-buff to pale orange-brown. Odour acidic-fruity. Taste acrid. Latex white, unchanging, with acrid taste. Spore print pale cream-coloured. Spores 5.9–7.8 × 4.7–5.7 μm, broadly ellipsoid to ellipsoid, ornamentation with ridges and warts forming incomplete reticulum (Pl. 5c). Pileipellis an ixocutis. Found in the area of Slovak Academy of Sciences under *Betula*. Similar looking species *L. torminosus* and *L. torminosulus* have darker zonate cap and distinctly larger spores.



Lactarius quietus (Fr.) Fr.

Russulaceae



Cap 25–85 mm diam., hemispherical to convex when young, becoming planoconvex with depressed centre, surface dry, pale brown to clay-buff with lilac centre often with few distinct dark zonations. Gills broadly adnate, crowded, pinkish buff. Stem 30–50 × 10–15 mm, cylindrical, tapering towards base, mostly concolourous to cap with paler apex. Taste slowly acrid. Latex pale cream-coloured, mild. Spore print cream-coloured to pale chrome. Spores 6.8–8.8 × 5.5–7 μm, broadly ellipsoid to ellipsoid, ornamentation composed of elongated warts and short ridges aligned or connected to form incomplete reticulum. Pileipellis composed of a layer of cylindrical terminal hyphal elements over a layer of inflated cells. Found in Vývrať hill and Lovce under *Quercus*.



Lactarius vellereus (Fr.) Fr.

Russulaceae



Cap 65–210 mm diam., convex with depressed centre when young, becoming planoconvex or funnel-shaped with maturity, surface subvelvety, sometimes cracked to areolate, white to cream-coloured, sometimes with ochraceous patches that becoming brownish when bruised. Gills decurrent, crowded, white when young, becoming cream-yellow with vinaceous spots. Stem 25–65 × 20–40 mm, sometimes tapering towards base, white to cream-coloured. Taste mild to bitterish. Latex white, unchanging, slightly bitterish. Spore print white. Spores 7.2–9.5 × 6.5–8 μm, globose to ellipsoid, ornamentation composed of warts connected by fine lines forming complete reticulum. Pileipellis a lamprotrichoderm, composed of erect thick-walled hyphal elements (Pl. 9d). Found in Ladzany, Hostie and Lovce under *Quercus*. Similar looking *L. bertillonii* has very acrid latex.



Lactarius vellereus (Fr.) Fr.



Lactarius zonarius (Bull.) Fr.

Russulaceae



Cap 40–100 mm diam., convex to planoconvex with depressed centre when young, becoming funnel-shaped, surface viscid to sticky when young, with many zonations, pale ochre, darker at zonations. Gills adnate to decurrent, rather-crowded, cream-coloured to ochraceous. Stem 28–55 × 12–25 mm, cylindrical, surface distinctly scrobiculate, white to cream-coloured with yellow scrobicules. Odour fruit-like. Taste mild. Latex white, unchanging. Spore print cream-coloured to pale pinkish buff. Spores 7.0–9.0 × 5.4–7.0 μm, subglobose to ellipsoid, ornamentation composed of warts and short ridges, sometimes connected. Pileipellis an ixocutis. Found in Hostie under *Quercus*. Similar looking *L. evosmus* (page 55) has distinctly larger basidiomata.



Lepiota cristata (Bolton) P. Kumm.

Agaricaceae



Cap 15–35 mm diam., conical to hemispherical when young, becoming convex to plane with an umbo at centre, surface with orange-brown to brown or red-brown concentric scales on white background leaving the central umbo brown to red-brown. Gills free, very crowded, white, then cream-coloured at maturity, edge crenate. Stem 30–55 × 2–6 mm, cylindrical with a membranous ring on the upper half, surface fibrillose, white above the ring, dingy pink to vinaceous below the ring. Spore print yellow. Spores 6.2–9.1 × 2.6–3.5 μm, bullet-shaped, smooth. Pileipellis composed of erect, clavate to cylindrical thick-walled cells. Found in the surroundings of Areál Zdravia on ground amongst grasses.



Macrolepiota procera (Scop.) Singer

Agaricaceae



Cap 100–200 mm diam., egg-shaped, then spherical to hemispherical or conical when young, becoming pyramidal to plane with maturity, with a central umbo, surface brown, then splitting into large brown scales. Gills free, rather-crowded to crowded, some forked near stem, white to cream-coloured. Stem 140–300 × 12–20 mm, cylindrical with a membranous movable ring on the upper half and a subbulbous base, surface grey-brown, splitting into snake-like bands, context becoming reddish after exposure. Odour pleasant, mild. Taste mild. Spore print pinkish. Spores 13.0–17.0 × 10.0–12.3 μm, ellipsoid, thick-walled, smooth (Pl. 5d). Pileipellis at centre a trichoderm, composed of multiseptate erect hyphae. Found in Ladzany and Lovce on ground in the forest.



Mycena rosea Gramberg= *M. pura* var. *rosea* (Gramberg) J.E. Lange

Mycenaceae



Cap 23–45 mm diam., conical to campanulate when young, becoming convex to planoconvex or rarely uplifted with maturity, with a central umbo, surface with prominent striations, pink-white to pink-violet or lilac. Gills adnate, subdistant to close, pinkish to lilac, edges white. Stem 45–80 × 5–9 mm, cylindrical, broader towards base, surface longitudinally fibrillose, base tomentose, white or occasionally slightly pinkish. Context in stem mostly hollow at maturity. Odour raddish-like. Taste mild. Spore print white. Spores 6.2–7.6 × 4.0–5.0 μm, broadly ellipsoid, smooth. Pleuro- and cheilocystidia fusiform to clavate. Pileipellis composed of repent septate clamped hyphae. Found near Lovce on ground in broad-leaf forest. Similar looking *M. pura* has grey-violet stipe.



Omphalotus illudens (Schwein.) Bresinsky & Besl
 = *O. olearius* var. *illudens* (Schwein.) A. Ortega & Esteve-Rav.

Omphalotaceae



Cap 60–160 mm diam., planoconvex with depressed to deeply depressed centre, becoming funnel-shaped with maturity, sometimes with a central umbo, surface brown to reddish brown on yellow background. Gills decurrent, crowded, golden yellow at maturity. Stem 50–120 × 10–25 mm, mostly tapering towards base, surface longitudinally fibrillose, yellow to yellow-brown, dingier towards base. Spore print white. Spores 5.0–7.5 × 4.6–6.7 μm, globose to subglobose, smooth (Pl. 5e). Found in Ladzany at base of *Quercus*. *O. olearius* is short-stemmed and found with association of olive trees.



Omphalotus illudens (Schwein.) Bresinsky & Besl



Panellus stipticus (Bull.) P. Karst.
 =*Pleurotus stipticus* (Bull.) P. Kumm.

Mycenaceae



Cap 5–20 mm diam., kidney-shaped, mostly convex to planoconvex, surface finely squamulose and often with zonations, ochre to ochre-brown, margin inrolled when young becoming irregularly wavy with maturity. Gills adnate, crowded, radiating from the rudimentary stem, yellow-brown to brown. Stem 3–10 × 2–5 mm, lateral, tapering towards base, surface squamulose, mostly concolourous to cap, often paler at apex. Odour fruit-like. Taste bitter. Spore print white. Spores 3.4–6.0 × 2.2–2.9 μm, ellipsoid, smooth. Pileipellis composed of irregularly arranged branched septate clamped hyphae. Found in Areál Zdravia on dead twigs.



Psathyrella spadicea (P. Kumm.) Singer
 =*P. surcocephala* (Fr.) Singer

Psathyrellaceae



Cap 30–70 mm diam., conic to convex when young, becoming planoconvex with an umbo, surface smooth, distinctly hygrophanous when wet, red-brown to yellow-brown. Gills narrowly adnate, crowded, light brown when young, reddish brown or darker with maturity. Stem 35–80 × 5–8 mm, cylindrical, white when young, becoming brownish or concolourous to cap towards base, surface longitudinally fibrillose. Odour indistinct. Spore print red-brown. Spores 6.0–9.5 × 4.0–5.2 μm, ellipsoid, smooth. Pleuro- and cheilocystidia lageniform with thick-walled neck and cap of crystals (Pl. 13 d & e). Pileipellis composed of clavate to pyriform cells (Pl. 12 a). Found in Hostie in cluster at the base of *Quercus*. Similar looking *P. piluliformis* has veil remnants on cap and thin-walled cystidia without any cap of crystals in hymenium layer.



Russula amoenolens Romagn.

Russulaceae



Cap 40–70 mm diam., hemispherical when young, becoming convex to planoconvex with slightly depressed centre and sulcate-striate margin, olive-grey to olive-brown, paler towards margin. Gills adnexed, close, white to greyish, often with brown spots. Stem 30–50 × 10–15 mm, cylindrical, surface longitudinally venose, white when young, becoming greyish with maturity, context chambered. Taste acrid. Spore print cream-coloured. Spores 6.5–8.2 × 5.0–6.3 μm, ellipsoid, ornamentation composed of warts, some connected, but never forming a reticulum. Pileipellis composed of cylindrical septate hyphae and subulate pileocystidia. Found in Železná studnička recreation area at Bratislava under *Quercus*.



Russula atropurpurea (Krombh.) Britzelm.= *R. krombholzii* Shaffer

Russulaceae



Cap 45–85 mm diam., hemispherical when young, becoming planoconvex to plane with maturity, highly variable in colour, purple to wine-red or purple-black with darker centre, even entirely yellow to greenish yellow. Gills adnexed, subdistant to close, white, yellowish with maturity. Stem 55–70 × 15–23 mm, cylindrical, white or slightly greyish towards base. Odour pleasant, fruit-like. Taste acrid. Spore print yellowish white to pale yellow. Spores 6.8–8.6 × 5.9–7.0 μm, broadly ellipsoid, ornamentation composed of numerous warts mostly connected by fine lines forming at most a partial reticulum (Pl. 6a). Pileipellis composed of branched septate hyphae and a septate to septate pileocystidia (Pl. 7b). Found in Železná studnička recreation area, Vývrať hill, Ladzany, Hostie, Lovce and Obyce under *Quercus* and *Carpinus*. It is one of the common species in thermophilous oak forest but, the yellow form (page 72) may create confusion in identification in the field.



Russula atropurpurea (Krombh.) Britzelm.



Russula aurea Pers.=*R. aurata* Fr.

Russulaceae



Cap 45–80 mm diam., hemispherical to convex when young, becoming planoconvex, sometimes with depressed centre, dark red to red-orange or blood red with golden yellow in various combinations, especially towards centre, cuticle peeling up to $\frac{1}{2}$. Gills adnexed, rather close, cream-coloured to ochre. Stem 40–80 × 10–22 mm, cylindrical with tapering base, surface longitudinally venose, mostly white or slightly yellowish with maturity. Odour indistinct. Taste mild. Spore print ochre. Spores 7.5–10 × 6.5–8.1 μm , subglobose, ornamentation composed of high warts and ridges forming a partial reticulum (Pl. 6b). Pileipellis composed of branched septate hyphae without pileocystidia. Found in Hostie under *Quercus*.



Russula cyanoxantha (Schaeff.) Fr.= *R. flavoviridis* Romagn.

Russulaceae



Cap 50–110 mm diam., hemispherical when young, becoming convex to planoconvex with slightly depressed centre or finally funnel-shaped with decurved margin, surface viscid when wet, variable in colour, violet to purple or greenish or in combination of all. Gills adnexed to subdecurrent, rather crowded, mostly forked, white when young, cream-coloured when mature. Stem 50–90 × 15–25 mm, cylindrical or broader towards base, surface longitudinally venose, mostly white or sometimes flushed red. Taste mild. Spore print white. Spores 7–8.5 × 6.5–7.5 μm, subglobose, ornamentation composed of numerous small warts, mostly connected by fine lines. Pileipellis composed of branched septate hyphae and pileocystidia. Found in Ladzany and Lovce under *Quercus*.



Russula fragilis Fr.
= *R. fallax* (Schaeff.) Fr.

Russulaceae



Cap 35–60 mm diam., convex to planoconvex, sometimes becoming plane to uplifted with depressed centre, cuticle peeling up to $\frac{1}{2}$ from the margin, purple to purple-black. Gills adnexed-sinuate, rather-crowded, white to cream-coloured. Stem 25–60 \times 5–15 mm, cylindrical, with subclavate or tapering base, white, becoming yellowish with maturity. Odour pleasant, fruity. Taste very acrid. Spore print chalky white. Spores 7.3–9.0 \times 6.2–8.0 μm , subglobose to ellipsoid, ornamentation composed of warts, connected by ridges forming complete reticulum (Pl. 6d). Pileipellis composed of branched septate hyphae and multiseptate pileocystidia. Found in Lovce under *Quercus* and *Fagus*.



Russula fragrans Romagn.= *R. laurocerasi* var. *fragrans* (Romagn.) Kuyper & Vuure

Russulaceae



Cap 40–75 mm diam., spherical to hemispherical when young, becoming planoconvex with slightly depressed centre at maturity, cuticle peeling up to $\frac{1}{4}$ from the margin, with a tuberculately striate margin, surface glutinous, ochraceous to ochre-brown. Gills adnexed, subdistant, white to cream-coloured or ochraceous at maturity. Stem 40–80 × 10–18 mm, cylindrical, surface longitudinally venose, white often with brown tinged or spotted after maturity. Context distinctly chambered. Odour like bitter almond. Taste acrid. Spore print cream-coloured. Spores 7.8–9.7 × 7.8–9.0 μm , subglobose to broadly ellipsoid, composed of high warts and thick ridges, some connected forming winged-reticulum pattern (Pl. 6e). Pileipellis composed of frequently septate hyphae and cylindrical pileocystidia (Pl. 11d). Found in Ladzany under *Quercus*.

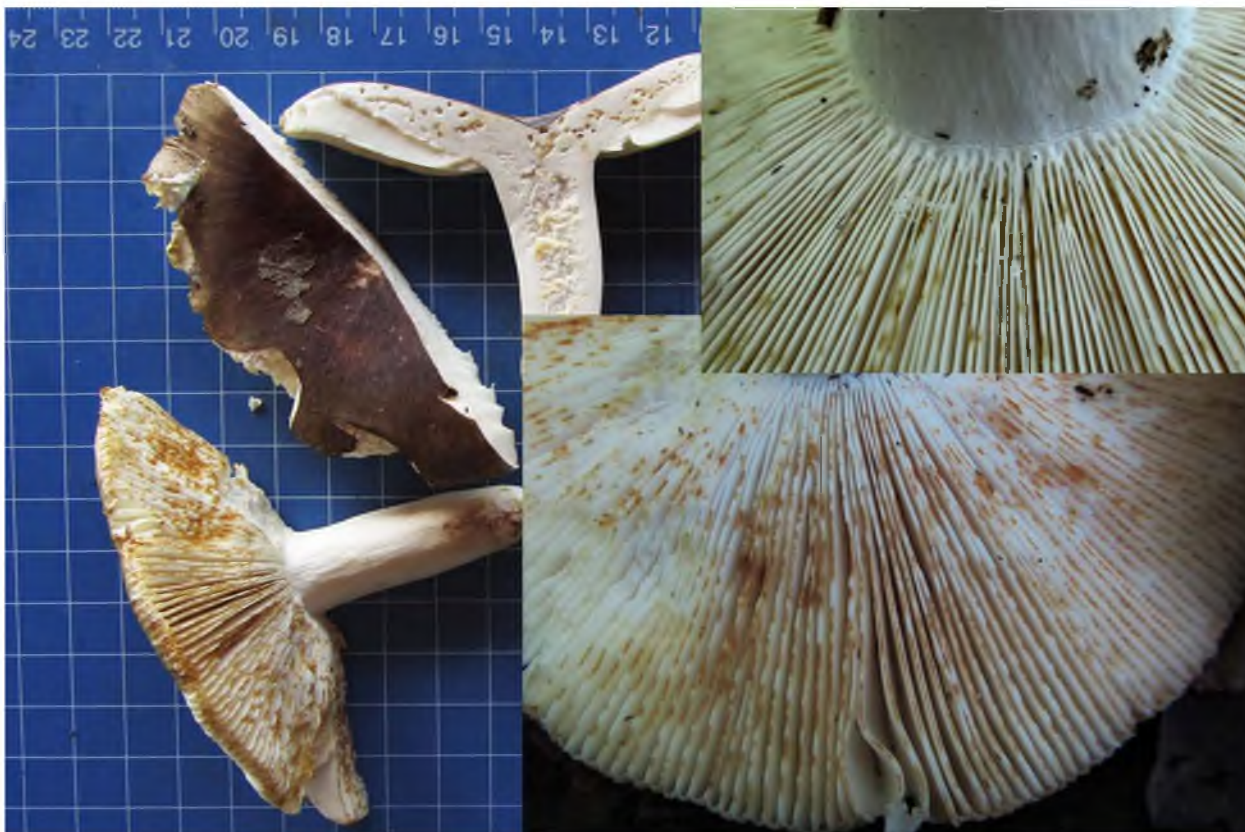


Russula heterophylla (Fr.) Fr.
= *R. livida* (Gillet) J. Schröt

Russulaceae



Cap 70–100 mm diam., convex to planoconvex with depressed centre becoming funnel-shaped with maturity, olive-green in combination with wine red to brown towards centre, cuticle peeling up to $\frac{1}{4}$ from the margin. Gills adnexed or nearly free, close, frequently forked near stem, yellowish white, spotted reddish brown when mature. Stem 40–55 × 12–25 mm, cylindrical or tapering towards base, white. Odour indistinct. Taste mild. Spore print yellowish white. Spores 6.0–8.5 × 4.6–6 μm , ornamentation mostly with minute warts which are occasionally connected. Pileipellis composed of subulate frequently branched and septate hyphae and clavate pileocystidia (Pl. 11c). Found in Hostie and Lovce under *Quercus* and *Fagus*.



Russula illota Romagn.= *R. laurocerasi* var. *illota* (Romagn.) R. Heim

Russulaceae



Cap 80–150 mm diam., spherical to hemispherical when young, becoming convex to planoconvex with maturity, surface glutinous when wet, yellow ochre to ochre-brown, with reddish brown spots. Gills adnexed, rather-close, forked, white when young, cream-coloured, edge brownish with dark brown dots at maturity. Stem 60–95 × 15–30 mm, cylindrical, surface venose, white, brownish to greyish when mature or after bruising, mostly with minute brown dots. Odour like bitter almond. Taste acrid. Spore print cream-coloured. Spores 6.2–8.5 × 5.6–7.8 μm, subglobose, ornamentation composed of warts and ridges forming partial reticulum. Pileipellis composed of branched septate hyphae and cylindrical to subfusoid pileocystidia. Found in Lovce under *Quercus*. Similar looking *R. senecis* has radially cracked and areolate pileus surface.



Russula luteotacta Rea

Russulaceae



Cap 35–80 mm diam., convex when young, becoming planoconvex with slightly depressed centre or sometimes slightly uplifted, red to blood-red, mostly with some faded whitish areas, surface smooth, margin hardly peels off. Gills broadly adnate or decurrent, close, white, distinctly yellowing when bruised or after maturity. Stem 30–50 × 8–18 mm, cylindrical, white, sometimes with pink areas, yellowing when bruised. Odour slightly fruity. Taste acrid. Spore print cream-coloured. Spores 6.5–8.5 × 5.5–7.0 μm, ornamentation mostly with isolated conical warts, some connected. Pileipellis composed of branched septate hyphae and mostly cylindrical aseptate to septate pileocystidia (Pl. 12b). Found in Ladzany under *Quercus* and *Carpinus*.



Russula luteotacta Rea



Russula nigricans Fr.=*R. eccentrica* Peck

Russulaceae



Cap 40–120 mm diam., convex when young, becoming planoconvex with depressed centre or slightly uplifted with incurved to decurved margin, surface viscid when wet, sometimes becoming areolate, white to cream-coloured when young, becoming grey-brown to blackish, red when bruised. Gills adnexed to subdecurrent, distant to subdistant. Stem 60–95 × 15–30 mm, cylindrical, gradually tapering towards base, white, slowly becoming black when bruised with an intermediate reddening. Spore print white. Spores 7.0–8.7 × 5.4–6.8 μm, broadly ellipsoid, ornamentation composed of minute warts and ridges forming a nearly complete reticulum (Pl. 6f). Pileipellis composed of hyphae with frequent septa and brown pigmentation (Pl. 7a). Found in Železná studnička recreation area under *Pinus* and *Carpinus*. Similar looking *R. albonigra* never shows distant to subdistant gills and intermediate reddening of stem or context before final blackening.



Russula olivacea (Schaeff.) Fr.=*R. alutacea* var. *olivacea* (Schaeff.) J.E. Lange

Russulaceae



Cap 90–140 mm diam., hemispherical when young, becoming convex to planoconvex with slightly depressed centre at maturity, peeling up to 1/3 from margin, purplish red to olive-brown, becoming more olive towards margin. Gills adnexed, close, forked, pale yellow to ochraceous. Stem 40–65 × 15–25 mm, cylindrical, surface longitudinally venose, white or flushed pink to red. Taste nut-like. Spore print yellow-orange. Spores 8.0–11.7 × 7.0–10.0 μm, subglobose to ellipsoid, ornamentation composed of high warts, some connected by lines (Pl. 6g). Pileipellis composed of branched septate hyphae with fusoid terminal cells. Found in Hostie and Lovce under *Fagus*.



Russula rhodomelanea Sarnari

Russulaceae



Cap 40–95 mm diam., hemispherical when young, becoming convex to uplifted with maturity, dark red to orange-red, often with darker centre. Gills adnate, subdistant, frequent forked, anastomosing, white, becoming greyish when bruised. Stem 30–50 × 9–14 mm, cylindrical, surface smooth, white, slowly becoming greyish to blackish when bruised. Spore print white. Spores 8.0–9.5 × 6.6–7.6 μm, broadly ellipsoid, ornamentation composed of conical to spinoid warts connected by lines forming nearly complete reticulum. Pileipellis composed of branched septate hyphae and multiseptate pileocystidia with subclavate terminal cells. Found in Ladzany under *Quercus*.



Russula rosea Pers.= *R. lepida* Fr.

Russulaceae



Cap 40–110 mm diam., convex when young, becoming slightly depressed, orange, red or sometimes discoloured with age, surface rough, margin never peels off. Gills adnexed or almost free, rather close, yellowish white, sometimes (towards pileus margin) with reddish edge. Stem 40–70 × 15–30 mm, distinctly hard, often club-shaped, concolourous to cap or discoloured or white. Odour slightly fruity. Taste of cedarwood pencils. Spore print pale cream-coloured. Spores 6.0–8.2 × 5.5–7 μm, ornamentation composed of numerous low warts, mostly connected by lines forming incomplete reticulum (Pl. 6h). Pileipellis composed of branched septate, sometimes encrusted hyphae and pileocystidia (Pl. 10d). Found in Železná studnička recreation area, Vývrať hill, Ladzany, Hostie, Lovce, Obyce under *Fagus*, *Quercus* and *Carpinus*.



Russula torulosa Bres.=*R. fuscorubra* (Bres.) J. Blum

Russulaceae



Cap 40–100 mm diam., convex when young, becoming planoconvex with slightly depressed centre, rarely umbonate, surface shining, reddish purple, purple or violaceous, margin peeling up to $\frac{1}{4}$. Gills adnexed, rather close, few forked, initially white, cream-coloured with maturity. Stem 40–55 × 14–20 mm, cylindrical, hard, surface slightly venose, concolourous to cap or paler. Odour fruit-like. Taste acrid. Spore print cream-orange. Spores 7.1–9.2 × 6.2–7.2 μm , ornamentation composed of warts, some connected to form partial reticulum. Pileipellis composed of branched septate hyphae and cylindrical to clavate pileocystidia (Pl. 8a). Found in Areál Zdravia under *Pinus*.

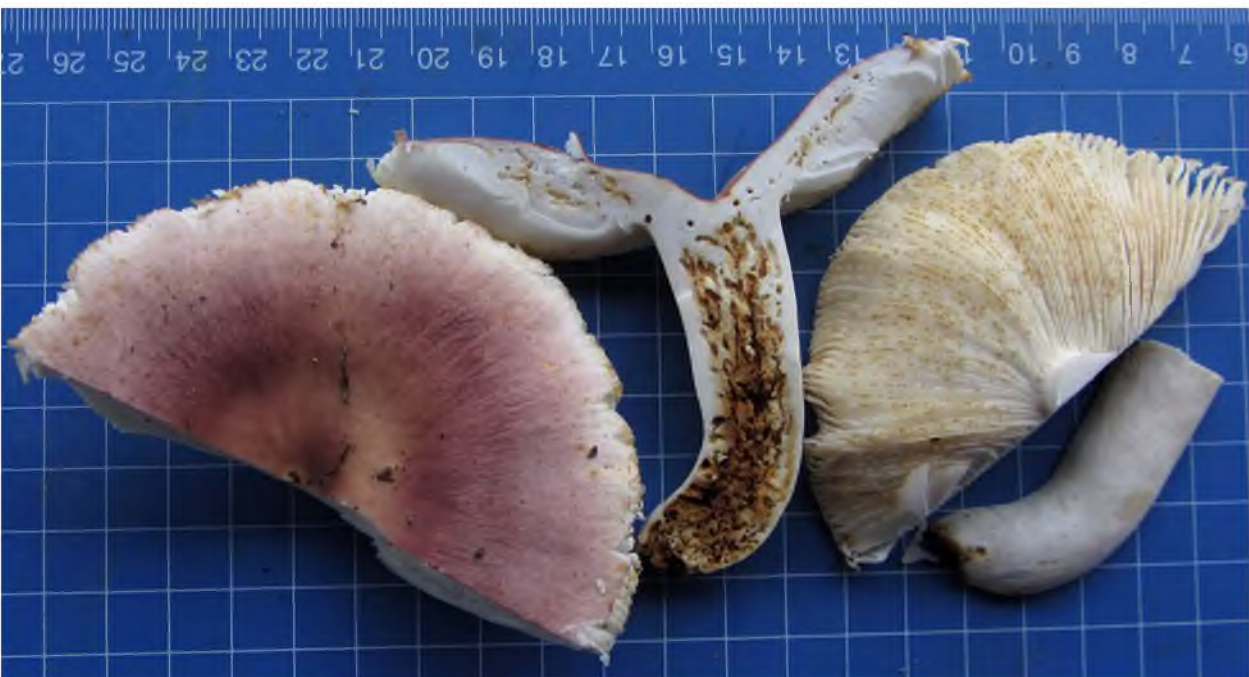


Russula vesca Fr.=*R. mitis* Rea

Russulaceae



Cap 50–100 mm diam., hemispherical when young, becoming planoconvex with depressed centre or funnel-shaped when mature, cuticle usually unreachable and retreats from the margin, peeling up to $\frac{1}{2}$ from margin, variable in colour, vinaceous to buff or brown-violet. Gills adnexed-decurrent, close, forked near stem, white to cream-coloured, often with rusty spots at edge. Stem 40–65 × 15–25 mm, cylindrical, tapering towards base, surface longitudinally venose, white, sometimes with rusty spots. Odour nut-like. Taste mild. Spore print pale yellow. Spores 5.2–8.0 × 4.8–6.0 μm , subglobose to ellipsoid, ornamentation composed of numerous small warts, some connected by lines. Pileipellis composed of branched septate hyphae, thick-walled seta-like hairs and pileocystidia (Pl. 12 c & d). Found in Hostie and Lovce under *Quercus* and *Fagus*.



Russula violeipes Quél.=*R. amoena* var. *violeipes* (Quél.) Singer

Russulaceae



Cap 40–80 mm diam., hemispherical to convex when young, becoming planoconvex with depressed centre and slightly striate margin, variable in colour, lemon yellow to olive or in combination with lilac, vinaceous or purplish areas. Gills adnate to adnexed, close, many forked, white to cream-coloured. Stem 40–70 × 10–20 mm, cylindrical, mostly tapering towards base, white, often flushed yellow, lilac or violaceous or in combination. Odour shrimp-like. Taste mild. Spore print yellowish white. Spores 6.9–9.0 × 6.2–7.8 μm, subglobose to ellipsoid, ornamentation composed of warts, mostly connected by ridges forming nearly complete reticulum. Pileipellis composed distinctly of subulate hyphae (Pl. 7c). Found in Železná studnička recreation area under *Quercus*.



Russula virescens (Schaeffer.) Fr.
 =*R. erythrocephala* Hongo

Russulaceae



Cap 50–100 mm diam., convex when young, becoming planoconvex with slightly depressed centre or uplifted, surface areolate and broken into small pieces, squamose, blue-green to olive-green. Gills adnexed, subdistant to rather close, white to cream-coloured. Stem 38–70 × 20–30 mm, cylindrical, white when young, sometimes with brownish spots with maturity. Odour indistinct. Taste mild. Spore print pale yellow. Spores 6.0–8.8 × 4.9–6.5 μm, ellipsoid, ornamentation composed of small warts, mostly connected by lines and ridges forming partial reticulum. Pileipellis composed of thin layer of pseudoparenchymatous cells bearing hair-like terminal cells (Pl. 9e). Found in Ladzany under *Quercus*.



Scleroderma citrinum Pers.= *S. vulgare* Hornem

Sclerodermataceae



Basidiomata 35–75 mm diam., spherical to hemispherical with plane at apex, attached to the ground by rudimentary cord-like base, surface coarsely scaly, becoming ruptured irregularly at maturity, scales brown on greenish yellow to pale brown or yellow-brown background. Gleba white when young, becoming dark purple, then brown to blackish, powdery after maturity. Spores 9.4–11.2 μm in diam., globose, ornamentation spinose-reticulate. Found in Lovce under *Quercus*.



Scleroderma verrucosum (Bull.) Pers.
 = *S. maculatum* (Peck) Lloyd

Sclerodermataceae



Basidiomata 30–70 mm diam., spherical to distinctly pear-shaped, often plane at apex, attached to the ground by stem-like base, surface covered by numerous scales and becoming ruptured irregularly at maturity, scales brown to dark chocolate-brown on dingy yellow, yellow-brown or pinkish background. Gleba white when young, becoming blackish brown, powdery after maturity. Spores 8.3–11.0 μm in diam., globose, ornamentation composed of isolated spines (Pl. 5f). Found in Areál Zdravia amongst grasses.



Suillus granulatus (L.) Roussel
 = *Boletus campanulatus* (J. Blum) J. Blum

Suillaceae



Cap 40–100 mm diam., conical to hemispherical when young, becoming convex with maturity, surface lubricus, margin with a sterile narrow flap of tissue, yellow-brown to red-brown. Pore surface cream-coloured to light yellow or slightly olivaceous at maturity, with milk like droplets when young. Tube adnate. Stem 40–100 × 8–20 mm, cylindrical, surface with droplets when young, then becoming glandular dotted, cream-coloured. Odour somewhat spicy. Taste mild. Spore print olive-brown. Spores 7.1–10.0 × 3.2–4.3 μm, ellipsoid, smooth (Pl. 5g). Pileipellis an ixotrichoderm to ixocutis (Pl. 7d). Found in the area of Slovak Academy of Sciences under *Pinus*.



Suillus granulatus (L.) Roussel



Suillus viscidus (L.) Roussel
= *S. laricinus* (Berk.) Kuntze

Suillaceae



Cap 40–90 mm diam., hemispherical when young, becoming convex with maturity, surface sticky when wet, margin with a sterile narrow flap of tissue, ochraceous brown to grey-brown or olivaceous with appressed blackish scales. Pore surface whitish to pinkish, brownish when bruised. Tube adnate to decurrent, concolourous to pore surface. Stem 50–100 × 10–20 mm, cylindrical, broader towards base with membranous ring on the upper half, surface reticulate white to yellowish above ring, grey-white to brownish below. Spore print olivaceous yellow. Spores 9.5–12.8 × 4.2–5.4 μm, fusiform to ellipsoid, smooth. Pileipellis an ixotrichoderm. Found in Areál Zdravia under *Larix*.



Tricholoma batschii Gulden
 = *T. subannulatum* (Batsch) Bres.

Tricholomataceae



Cap 50–130 mm diam., hemispherical when young, becoming convex to planoconvex with inrolled, then incurved margin, surface smooth, viscid when wet, radially fibrillose, brown to red-brown. Gills sinuate, close, white to cream-coloured, sometimes becoming pinkish with maturity. Stem 40–80 × 13–25 mm, cylindrical, with a reddish brown ring zone, white at apex, gradually reddish brown mostly up to base. Taste bitter. Spore print white. Spores 5.2–6.5 × 4.3–5.4 μm, subglobose, smooth. Hymenial cystidia absent. Pileipellis an ixotrichoderm. Found in Areál Zdravia under *Pinus*.



Tricholoma sejunctum (Sowerby) Quéf.
 =*T. coryphaeum* (Fr.) Gillet

Tricholomataceae



Cap 50–95 mm diam., hemispherical to conical or planoconvex with an umbo, surface distinctly covered with brown-grey, radially arranged fibrils on yellow-green to olive background and incurved to decurved margin. Gills sinuate, rather-crowded, some forked, white to yellowish. Stem 60–80 × 12–20 mm, cylindrical, sometimes with clavate base, surface longitudinally fibrillose, white, becoming green-yellow with maturity or after bruising. Taste bitter. Spore print white. Spores 5.2–7.2 × 4.5–5.5 μm, subglobose to broadly ellipsoid, smooth. Pileipellis composed of suberect encrusted hyphae (Pl. 9c). Found in Ladzany and Lovce under *Quercus* and *Carpinus*.



Tricholomopsis rutilans (Schaeff.) Singer
 = *T. variegata* (Scop.) Singer

Tricholomataceae



Cap 40–110 mm diam., conical to hemispherical when young, becoming convex to planoconvex with maturity, sometimes with an umbo, surface radially squamulose-floccose, purple to purple-red on yellow to lemon yellow background. Gills adnate to sinuate, crowded, some anastomosing, yolk-yellow, slowly becoming darker to yellow-orange when bruised. Stem 40–100 × 13–26 mm, cylindrical, broader towards base, often curved, surface tomentose-floccose, yellowish at apex, gradually purple on yellow background. Odour nut-like. Taste mild. Spore print white. Spores 5.8–8.2 × 5.0–5.4 μm, subglobose to broadly ellipsoid, smooth (Pl. 5h). Pileipellis composed of repent parallel brown-pigmented septate clamped hyphae. Found in Železná studnička recreation area and Ladzany on dead tree-trunk.



Xerocomellus chrysenteron (Bull.) Šutara
 =*Xerocomus chrysenteron* (Bull.) Quél.

Boletaceae



Cap 30–85 mm diam., hemispherical to convex with subvelvety surface that mostly becomes areolate with maturity and showing reddish areas through cracks and injured areas beneath the cuticle, olive-brown to reddish brown. Pore surface lemon-yellow, turning bluish when bruised, pores angular. Tube sinuate and decurrent, pale yellow, bluish when exposed. Stem 40–80 × 6–20 mm, cylindrical, surface longitudinally fibrillose, red to red-brown with yellow apex, bluish when bruised. Taste mild. Spore print olive-brown. Spores 12.3–16.1 × 4.1–5.6 μm, cylindrical to ellipsoid, smooth. Pileipellis a trichoderm, composed mostly of erect septate hyphae of short inflated cells (Pl. 13 c). Found in Lovce under *Quercus*.



Coprinellus micaceus (Bull.) Vilgalys, Hopple & Jacq. Johnson=*Coprinus micaceus* (Bull.) Fr.

Psathyrellaceae



Cap 15–35 mm diam., spherical to hemispherical when young, becoming convex with maturity, surface distinctly striate to grooved, covered with white powdery mica-like veilar remnant, margin often split and rolled back to deliquescing, ochre with brown centre. Gills adnexed, free, white when young, gradually greyish, finally black. Stem 40–100 × 2.5–5 mm, cylindrical, white, then buff with maturity. Odour indistinct. Taste mild. Spore print dark brown. Spores 7.0–9.4 × 4.5–6.0 μm, mitriform in front view, almond-shaped in side view, smooth. Veilar remnant on pileoellis composed of spherical mostly encrusted cells. Found in Ladzany on buried tree-trunk.

Cortinarius hillieri Rob. Henry=*Phlegmacium hillieri* (Rob. Henry) M.M. Moser

Cortinariaceae



Cap 20–50 mm diam., spherical to conical when young, becoming most convex at maturity, surface dry fibrillose, buff to ochraceous or milk-coffee coloured or in combination of all, then becoming brown with whitish margin that remains attached with the whitish cortina. Gills mostly adnate-sinuate, brown to dark brown. Stem 30–55 × 15–30 mm, cylindrical with a ring zone on the upper half and a bulbous base, surface longitudinally fibrillose, paler than cap or somewhat silvery. Odour fruit-like. Spore print brown. Spores 8.5–9.5 × 6.2–7.0 μm, ellipsoid to almond-shaped, ornamentation composed of densely arranged numerous verrucae. Found in Areal Zdravia under *Pinus*.

Cortinarius rufo-olivaceus (Pers.) Fr.

Cortinariaceae



Cap 45–75 mm diam., hemispherical when young, becoming convex with a low umbo at maturity and incurved margin, lilac to reddish or copper-coloured with pale violet margin. Gills adnate, rather-crowded, greenish yellow to olivaceous, then rusty brown. Stem 55–85 × 18–28 mm, cylindrical with a marginate-bulbous base, white to violaceous, bulb often concolourous to cap or paler. Odour unpleasant. Taste bitter. Spore print rusty brown. Spores 11.0–13.2 × 6.5–7.5 μm, almond-shaped, ornamentation composed of numerous verrucae. Pileipellis composed of repent to suberect hyphae submerged in gluten. Found in the surroundings of Areal Zdravia under broad-leaf trees.

Echinoderma calcicola (Knudsen) Bon=*Lepiota calcicola* Knudsen

Agaricaceae



Cap 35–70 mm diam., spherical to conical when young, becoming hemispherical to convex or planoconvex with maturity, surface covered with grey-brown, erect, pointed or spinoid squamules (on concolourous background), then becoming slightly appressed. Gills free, close, white when young, becoming yellowish. Stem 40–80 × 8–12 mm, cylindrical with a membranous ring-zone, surface covered with erect squamules initially, then longitudinally fibrillose, white at apex, gradually brown to dark brown towards base. Spore print white. Spores 4.3–5.4 × 2.5–3.4 μm, ellipsoid, smooth. Pileipellis composed of erect to suberect hyphae consisting of chains of short cells. Found in Vývrať hill on ground in out-skirt of forest.

Hygrophorus discoxanthus (Fr.) Rea= *H. chrysaspis* Métrod

Hygrophoraceae



Cap 16-55 mm diam., hemispherical when young, becoming convex to plane at maturity, with decurved margin, surface viscid when wet, white to cream-coloured or yellowish. Gills broadly adnate to subdecurrent, close, yellowish white. Stem 80-80 × 7-13 mm, cylindrical, distinctly tapering towards base, surface longitudinally fibrillose, white to cream-coloured. Context in stem partly hollow. Taste mild. Spore print white. Spores 7.4-8.8 × 4.9-5.8 μm, ellipsoid, smooth (Pl. 4h). Pileipellis an ixotrichoderm to ixocutis, composed of branched septate clamped hyphae (Pl. 10c). Found in Areál Zdravia under *Fagus*.

Lactarius acerrimus Britzelm

Russulaceae



Cap 40-100 mm diam., convex with depressed centre when young, becoming funnel-shaped, sometimes irregular with maturity, surface viscid, indistinctly to strongly zonate, more or less yellow ochre, paler towards margin. Gills adnate to decurrent, crowded, forked, anastomosing, cream-coloured to pinkish buff. Stem 18-45 × 12-20 mm, cylindrical, surface smooth to scrobiculate, white when young, becoming cream-coloured or concolourous to cap. Latex white, unchanging, acrid. Odour fruit-like. Taste acrid. Spore print pink-buff. Spores 10.5-13.5 × 9.0-11.2 μm, broadly ellipsoid to ellipsoid, ornamentation composed of short ridges and irregular warts, some connected but never forming reticulum. Pileipellis an cutis. Found in Areál Zdravia under *Quercus*.

Lactarius quieticolor Romagn.= *L. hemicyaneus* Romagn.

Russulaceae



Cap 30-85 mm diam., convex with decurved margin to planoconvex with slightly depressed centre and rather indistinct zonations, colour variable, pale grey buff to blue-grey with zones of darker spots, sometimes pale to dark greenish blue to bluish green with darker zonation. Gills decurrent, rather-distant, sometimes forked near stem, pinkish buff to ochraceous, greenish when bruised. Stem 20-50 × 12-25 mm, tapering towards base, salmon or concolorous to pileus with pale orange areas. Odour indistinct. Taste mild. Latex orange, turning vinaceous brown, slightly bitter in taste. Spore print pale pink-buff. Spores 8.2-9.5 × 6.5-8 μm, broadly ellipsoid to ellipsoid, ornamentation composed of broad ridges forming incomplete to nearly complete reticulum. Pileipellis an ixocutis. Found in Areál Zdravia under *Pinus*.

Lactarius sanguifluus (Paulet) Fr.= *L. vinosus* (Quel.) Bataille

Russulaceae



Cap 40-70 mm diam., convex to planoconvex with depressed centre and decurved margin, often indistinctly zoned, pinkish buff to ochraceous, orange to pale ochre in combination with pale grey-green. Gills adnate to decurrent, crowded, forked, pale vinaceous to grey. Stem 25-35 × 10-20 mm, cylindrical, sometimes tapering towards base, surface smooth, often concolorous to cap or paler with vinaceous spots. Spore print dark cream-coloured. Spores 8.5-9.5 × 6.5-8 μm, subglobose to ellipsoid, ornamentation composed of elongated warts and ridges aligned or connected to form nearly complete reticulum. Pileipellis an ixocutis. Found in Areál Zdravia under *Pinus*.

Lepista nuda (Bull.) Cooke=*Tricholoma nudum* (Bull.) P. Kumm.

Tricholomataceae



Cap 60-95 mm diam., slightly conical to convex when young, becoming planoconvex to uplifted, sometimes umbonate, with inrolled, then decurved margin, surface viscid when wet, bluish-lilac to lilac-grey, brownish or paler. Gills adnexed-sinuate, crowded, lilac or bluish. Stem 40-70 × 12-18 mm, cylindrical, sometimes with clavate to subclavate base, surface longitudinally venose, violet. Odour aromatic. Taste mild. Spore print pale pink. Spores 6.8-8.6 × 4.0-4.8 μm, ellipsoid, ornamentation composed of minute verrucae. Pileipellis composed of subparallel to parallel branched septate clamped hyphae. Found in Železná studnička recreation area in the out-skirt of broad-leaf forest.

Macrolepiota konradii (Huijsman ex P.D. Orton) M.M. Moser=*M. procera* var. *konradii* (Huijsman ex P.D. Orton) Gminder

Agaricaceae



Cap 70-110 mm diam., mostly conical when young becoming planoconvex to plane or uplifted with maturity, with a central umbo, surface grey-brown, then splitting into large grey-brown scales on white to cream-coloured or dingier background leaving the centre intact with grey-brown cuticle. Gills free, close to rather-crowded, white. Stem 110-150 × 10-14 mm, cylindrical with a membranous ring on the upper half and a bulbous base, surface powdery brownish on ochraceous background, context becoming red when exposed. Odour mild. Spore print yellowish white. Spores 12.8-16.3 × 8.5-10.0 μm, ellipsoid, thick-walled, smooth. Pileipellis at centre a trichoderm, composed of multiseptate thick-walled hyphae. Found in Vývrať hill on ground in out-skirt of forest.

Pholiota squarrosoides (Peck) Sacc.

Strophariaceae



Cap 40–85 mm diam., spherical to hemispherical when young, becoming mostly convex with maturity, surface distinctly scaly with pointed to recurved persistent dark brown scales on pale yellow-brown background. Gills adnate to adnexed, white when young, becoming rusty brown with maturity. Stem 50–90 × 12–23 mm, cylindrical, with a descending ring on upper half and curved base, surface longitudinally fibrillose and scaly, scales brown on white or pale brown background. Odour indistinct. Taste mild. Spore print brown. Spores 4.5–6.2 × 3.0–3.5 μm, ellipsoid, thick-walled, smooth. Pileipellis composed of clusters of erect repeatedly septate clamped hyphae. Found in and around Areál Zdravia on dead twigs or tree-trunks.

Russula albonigra (Krombh.) Fr.= *R. adusta* var. *albonigra* (Krombh.) Masee

Russulaceae



Cap 60–120 mm diam., hemispherical to convex when young, becoming plane with slightly depressed centre, brownish black to black with whitish background, becoming black with age or after maturity. Gills subdecurrent, crowded, yellowish white when young, becoming cream-coloured with blackish edge. Stem 35–55 × 15–25 mm, cylindrical, gradually broader towards base, white when young, becoming grey-black to black when bruised, context white, then slowly becoming black without any intermediate reddening. Taste mild. Spore print white. Spores 7.7–9.2 × 6.4–7.6 μm, broadly ellipsoid, ornamentation composed of low warts and ridges forming a nearly complete reticulum. Pileipellis composed of branched septate hyphae with brown pigmentation and pileocystidia. Found in Areál Zdravia under *Pinus*. Context never turns black when exposed in *R. adusta*, a similar looking species.

Russula aurora Bres.=*R. velutipes* Velen.

Russulaceae



Cap 40-85 mm diam., hemispherical when young, becoming convex to planoconvex with a shallow depression at centre, sometimes umbonate, surface viscid when wet, variable in colour, orange-red with yellow centre, sometimes pale red with reddish brown centre, cuticle peeling up to ½ from margin. Gills adnexed, crowded, white when young, cream-coloured with maturity. Stem 40-90 × 10-20 mm, cylindrical with tapering base, surface longitudinally venose, white. Odour indistinct. Taste mild. Spore print pale cream. Spores 6.3-8 × 5.0-6.5 μm, broadly ellipsoid, ornamentation composed of small warts, some connected but never forming reticulum. Pileipellis composed of branched septate hyphae and encrusted primordial hyphae without any pileocystidia (Pl. 9b). Found in Ladzany under *Quercus*.

Russula chloroides (Krombh.) Bres.=*R. delica* var. *chloroides* (Krombh.) Killerm.

Russulaceae



Cap 60-110 mm diam., hemispherical when young, becoming convex with depressed centre to funnel-shaped at maturity, margin incurved to inrolled, cuticle slightly peeling or not, white to cream yellow or yellow-brown patches. Gills decurrent, rather-crowded, white, sometimes with turquoise flushed, few forked. Stem 35-65 × 10-20 mm, cylindrical, sometimes with tapering base, surface longitudinally venose, white to bluish at apex. Odour unpleasant with maturity. Taste acrid. Spore print cream-coloured. Spores 8.5-10.5 × 7.0-9.0 μm, subglobose to broadly ellipsoid, ornamentation composed of high spinoid warts, some connected by fine lines (Pl. 6c). Pileipellis composed of branched, frequently septate hyphae and cylindrical pileocystidia (Pl. 8 c & d). Found in Železná studnička recreation area and Lovce under *Quercus* and *Carpinus*.

Russula cuprea (Krombh.) J.E. Lange= *R. juniperina* Ubaldi

Russulaceae



Cap 60-90 mm diam., hemispherical when young, becoming plane with depressed centre and striate margin, viscid when wet, variable in colour, olive-brown, brown-purple, red, mostly with paler to olive-ochre areas in centre. Gills adnexed, close, pale yellow when young, becoming ochraceous with maturity. Stem 35-70 × 10-16 mm, cylindrical, gradually broader towards base, surface longitudinally venose, white, yellowish when mature. Taste acrid. Spore print yellow-orange. Spores 8-11 × 7-10 μm, subglobose, ornamentation composed of isolated conic to spinoid warts. Pileipellis composed of branched septate diverticulate hyphae and diverticulate pileocystidia. Found in Hostie and Obyce under *Quercus*.

Russula decipiens (Singer) Bon

Russulaceae



Cap 60-90 mm diam., convex when young, becoming planoconvex to plane with slightly depressed centre at maturity, rarely somewhat funnel-shaped, dark red, vinaceous-red, red-brown to orange-red with yellowish to ochre areas in centre and decurved striate margin. Gills adnexed, close, cream-coloured to ochraceous. Stem 40-75 × 10-18 mm, cylindrical, surface longitudinally venose, white when young, sometimes becoming greyish with maturity. Context becoming greyish when exposed. Taste mild initially, then acrid. Spore print ochre to yellow-orange. Spores 7.0-9.5 × 6.5-7.5 μm, subglobose to ellipsoid, ornamentation composed of moderately high warts, some connected but never forming a reticulum. Pileipellis composed of branched septate hyphae and distinctly clavate pileocystidia. Found in Ladzany and Obyce under *Quercus* and *Fagus*.

Russula exalbicans (Pers.) Melzer & Zvára=*R. pulchella* I.G. Borshch.

Russulaceae



Cap 50-75 mm diam., convex when young, becoming planoconvex to slightly uplifted with maturity and striate at margin, surface viscid when wet, red to purple-red, mostly discoloured to paler or yellowish at centre. Gills sinuate, close to rather-crowded, forked, white, cream-coloured when mature. Stem 40-70 × 13-18 mm, cylindrical, tapering at apex, white, slowly becoming greyish when bruised. Context white but, slowly becoming greyish. Taste acrid. Spore print ochre. Spores 6.5-9 × 5.0-7.0 μm, ellipsoid, ornamentation composed of warts, some connected. Pileipellis composed of branched septate hyphae and cylindrical to clavate pileocystidia. Found in Železná studnička recreation area and Lovce under *Quercus* and *Carpinus*.

Russula maculata QuéL.=*R. globispora* (J. Blum) Bon

Russulaceae



Cap 40-80 mm diam., convex when young, becoming planoconvex to plane with slightly depressed centre and decurved margin, yellow-orange to orange-red or flesh-colored with yellowish patches and sometimes with rusty spots. Gills adnexed to free, close, forked, pale yellow or ochraceous. Stem 40-68 × 10-18 mm, cylindrical, surface longitudinally venose, white, sometimes forked, pink, becoming brownish towards base. Odour fruit-like. Taste acrid. Spore print deep ochre. Spores 8.5-10.5 × 7.5-9.0 μm, subglobose, ornamentation composed mostly of isolated warts, connected sometimes by lines. Pileipellis composed of branched septate hyphae with fusoid tips and clavate pleurocystidia. Found in Lovce under *Quercus*.

Russula ochroleuca Fr.= *R. granulosa* Cooke

Russulaceae



Cap 50–90 mm diam., hemispherical when young, becoming convex to planoconvex with slightly depressed centre, or somewhat uplifted after maturity, with incurved to decurved margin, surface viscid when wet, ochre to orange-yellow or greenish yellow. Gills adnexed, close, white when young, then cream-coloured. Stem 40–70 × 13–20 mm, cylindrical, gradually broader towards base, white when young, becoming slightly greyish after maturity. Odour somewhat spicy. Taste acrid. Spore print yellowish white. Spores 7.5–9.0 × 6.4–7.5 μm, subglobose to broadly ellipsoid, ornamentation composed of warts, mostly connected by ridges forming an incomplete to nearly complete reticulum. Pileipellis composed of branched septate hyphae, hyphal cell sometimes encrusted or yellow pigmented. Found in Hostie under *Quercus* and *Carpinus*. Similar looking *R. chloroflava* has darker spore print.

Russula pectinatoides Peck= *R. consobrina* var. *pectinatoides* (Peck) Singer

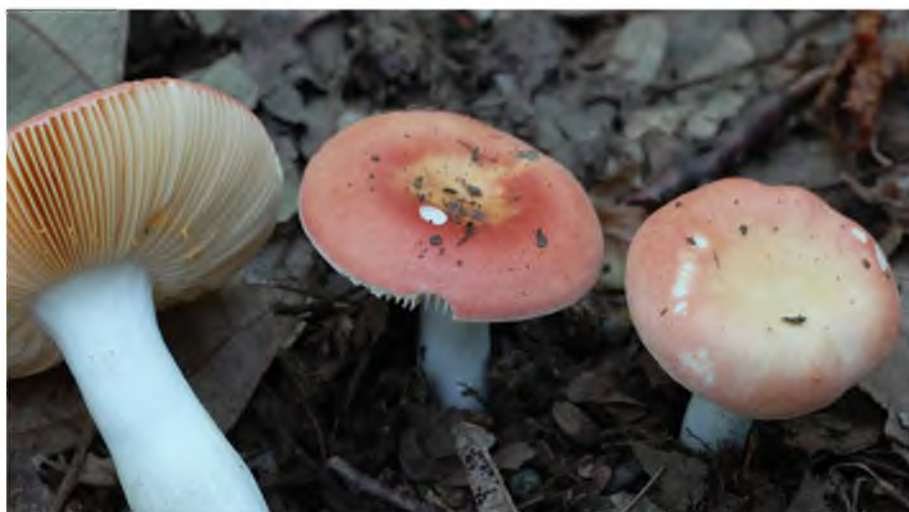
Russulaceae



Cap 38–65 mm diam., hemispherical when young, becoming planoconvex with depressed centre and incurved to decurved tuberculately striate margin, ochre to ochre-brown or greyish with darker centre often with rusty spots. Gills adnexed to free, close, white to pale cream-coloured, often with rusty spots. Stem 35–50 × 10–15 mm, cylindrical, surface longitudinally venose, white, often with rusty spots. Context in stipe chambered. Spore print cream-coloured. Spores 6.5–8.5 × 5.0–6.6 μm, broadly ellipsoid to ellipsoid, ornamentation composed of warts, some connected. Pileipellis composed of branched septate hyphae with cylindrical terminal cells and subfusoid pileocystidia. Found in Železná studníčka recreation area and Lovce under *Quercus*.

Russula risigallina (Batsch) Sacc.=*R. lutea* (Huds.) Gray

Russulaceae



Cap 35–70 mm diam., hemispherical to convex when young, becoming planoconvex to plane with slightly depressed centre, variable in colour, orange-red to red with yellow at centre or pale ochre-orange. Gills adnexed, close, yellowish white to saffron. Stem 35–60 × 7–13 mm, cylindrical, gradually broader towards base, surface longitudinally venose, white. Taste mild. Spore print yellow-orange. Spores 67.0–8.5 × 6.0–7.2 μm, broadly ellipsoid, ornamentation composed of numerous warts, some connected by lines. Pileipellis composed of branched septate hyphae with capitate terminal cells and encrusted primordial hyphae without pileocystidia. Found in Ladzany and Hostie under *Quercus*.

Russula rutila Romagn.

Russulaceae



Cap 35–75 mm diam., convex when young, becoming planoconvex with depressed centre and tuberculately sulcate margin, peeling up to ½ from margin, red to orange red, often paler at centre. Gills adnate-sinuate, rather close, yellowish. Stem 30–70 × 10–25 mm, cylindrical, white, yellowish brown with maturity. Odour fruit-like. Taste acrid. Spore print yellow. Spores 8–9.5 × 6.5–8.2 μm, broadly ellipsoid, ornamentation composed of isolated conical warts, some connected but never forming a reticulum. Pileipellis composed of branched septate hyphae and encrusted multiseptate pileocystidia with cylindrical to subclavate terminal cells. Found in Ladzany and Hostie under *Quercus*.

Russula sanguinea Fr.

Russulaceae



Cap 40-90 mm diam., hemispherical when young, becoming planoconvex to plane with maturity, surface viscid when wet, blood-red to pink-red, sometimes in combination of white areas, rarely almost white. Gills adnate to decurrent, forked, anastomosing, white when young, then cream-coloured to ochraceous. Stem 37-70 × 10-28 mm, cylindrical, tapering towards base, flushed pink to red on white background or sometimes completely white. Odour fruit-like. Taste acrid. Spore print pale cream-coloured. Spores 7.4-9.0 × 6.0-7.0 μm, broadly ellipsoid to ellipsoid, ornamentation composed mostly of isolated warts, some connected. Pileipellis composed of branched septate hyphae and aseptate to septate pileocystidia. Found in Areal Zdravia under *Pinus*.

Russula subfoetens W.G. Sm.= *R. foetens* var. *subfoetens* (W.G. Sm.) Masee

Russulaceae



Cap 50-100 mm diam., spherical to hemispherical when young, becoming convex to planoconvex with maturity, margin incurved then decurved, surface glutinous when wet, ochre to ochre-brown or brown with darker centre. Gills sinuate, subdistant to rather-close, cream-coloured, with brownish spots with maturity. Stem 50-105 × 18-25 mm, tapering towards base, surface longitudinally venose, white, often with brownish patches with maturity. Odour fruit-like. Taste acrid. Spore print cream-coloured. Spores 7.2-9.5 × 5.9-7.2 μm, subglobose to ellipsoid, ornamentation composed mostly of isolated warts, some connected. Pileipellis composed of branched septate hyphae and pileocystidia with cylindrical tips. Found in Ladzany and Lovce under *Quercus*.

Tricholoma bresadolanium Cléménçon

Tricholomataceae



Cap 40–80 mm diam., mostly conical when young, becoming convex to planoconvex with maturity, surface squamulose, silvery white with blackish grey centre, becoming dingy at maturity. Gills adnexed-free, sinuate, close, buff, edges with black spots. Stem 40–85 × 16–25 mm, cylindrical, mostly tapering, sometimes even broader to subbulbous at base, concolourous to cap with distinct bands of blackish scales, especially towards base. Context pithy in stem. Spores 7.0–8.5 × 5.3–6.5 μm, broadly ellipsoid to ellipsoid, smooth. Pileipellis composed of repent septate interwoven hyphae. Found in Areál Zdravia under *Quercus*.

Accession no. of mushrooms deposited in CAL

Name	Accession No.	Name	Accession No.
<i>Agaricus xanthodermus</i>	CAL 1189	<i>Lactarius chrysorrheus</i>	CAL 1169
<i>Amanita citrina</i>	CAL 1197	<i>Lactarius pallidus</i>	CAL 1224
<i>Amanita fulva</i>	CAL 1227	<i>Lactarius pubescens</i>	CAL 1183
<i>Amanita muscaria</i>	CAL 1210	<i>Lactarius quietus</i>	CAL 1191
<i>Amanita pantherina</i>	CAL 1212	<i>Lactarius vellereus</i>	CAL 1203
<i>Amanita phalloides</i>	CAL 1172	<i>Lactarius zonarius</i>	CAL 1202
<i>Amanita rubescens</i>	CAL 1177	<i>Lepiota cristata</i>	CAL 1221
<i>Armillaria tabescens</i>	CAL 1204	<i>Macrolepiota procera</i>	CAL 1194
<i>Boletus subtomentosus</i>	CAL 1201	<i>Mycena rosea</i>	CAL 1205
<i>Calocera cornea</i>	CAL 1228	<i>Omphalotus illudens</i>	CAL 1207
<i>Cantharellus cibarius</i>	CAL 1166	<i>Panellus stipticus</i>	CAL 1165
<i>Chroogomphus rutilus</i>	CAL 1220	<i>Psathyrella spadicea</i>	CAL 1167
<i>Clavariadelphus pistillaris</i>	CAL 1226	<i>Russula amoenolens</i>	CAL 1181
<i>Cortinarius cotoneus</i>	CAL 1170	<i>Russula atropurpurea</i>	CAL 1229
<i>Cortinarius trivialis</i>	CAL 1187	<i>Russula aurea</i>	CAL 1214
<i>Cortinarius vulpinus</i>	CAL 1211	<i>Russula chloroides</i>	CAL 1168
<i>Craterellus cornucopioides</i>	CAL 1215	<i>Russula fragilis</i>	CAL 1180
<i>Crucibulum laeve</i>	CAL 1213	<i>Russula fragrans</i>	CAL 1199
<i>Cuphophyllus pratensis</i>	CAL 1176	<i>Russula heterophylla</i>	CAL 1182
<i>Echinoderma asperum</i>	CAL 1200	<i>Russula illota</i>	CAL 1186
<i>Entoloma sinuatum</i>	CAL 1234	<i>Russula luteotacta</i>	CAL 1164
<i>Fistulina hepatica</i>	CAL 1218	<i>Russula nigricans</i>	CAL 1179
<i>Geastrum fimbriatum</i>	CAL 1219	<i>Russula olivacea</i>	CAL 1196
<i>Gymnopus fusipes</i>	CAL 1163	<i>Russula pectinatoides</i>	CAL 1184
<i>Gyroporus castaneus</i>	CAL 1208	<i>Russula rosea</i>	CAL 1209
<i>Hebeloma radicosum</i>	CAL 1232	<i>Russula torulosa</i>	CAL 1190
<i>Hebeloma sinapizans</i>	CAL 1178	<i>Russula vesca</i>	CAL 1195
<i>Hydnum repandum</i>	CAL 1188	<i>Russula violeipes</i>	CAL 1174
<i>Hygrocybe chlorophana</i>	CAL 1171	<i>Russula virescens</i>	CAL 1173
<i>Hygrocybe conica</i>	CAL 1223	<i>Scleroderma citrinum</i>	CAL 1235
<i>Hygrophorus discoxanthus</i>	CAL 1217	<i>Scleroderma verrucosum</i>	CAL 1231
<i>Hygrophorus penarioides</i>	CAL 1192	<i>Suillus granulatus</i>	CAL 1175
<i>Hypholoma fasciculare</i>	CAL 1222	<i>Suillus viscidus</i>	CAL 1216
<i>Hypsizygus ulmarius</i>	CAL 1230	<i>Tricholoma sejunctum</i>	CAL 1225
<i>Lactarius azonites</i>	CAL 1185	<i>Tricholomopsis rutilans</i>	CAL 1206
<i>Lactarius canthoratus</i>	CAL 1193		

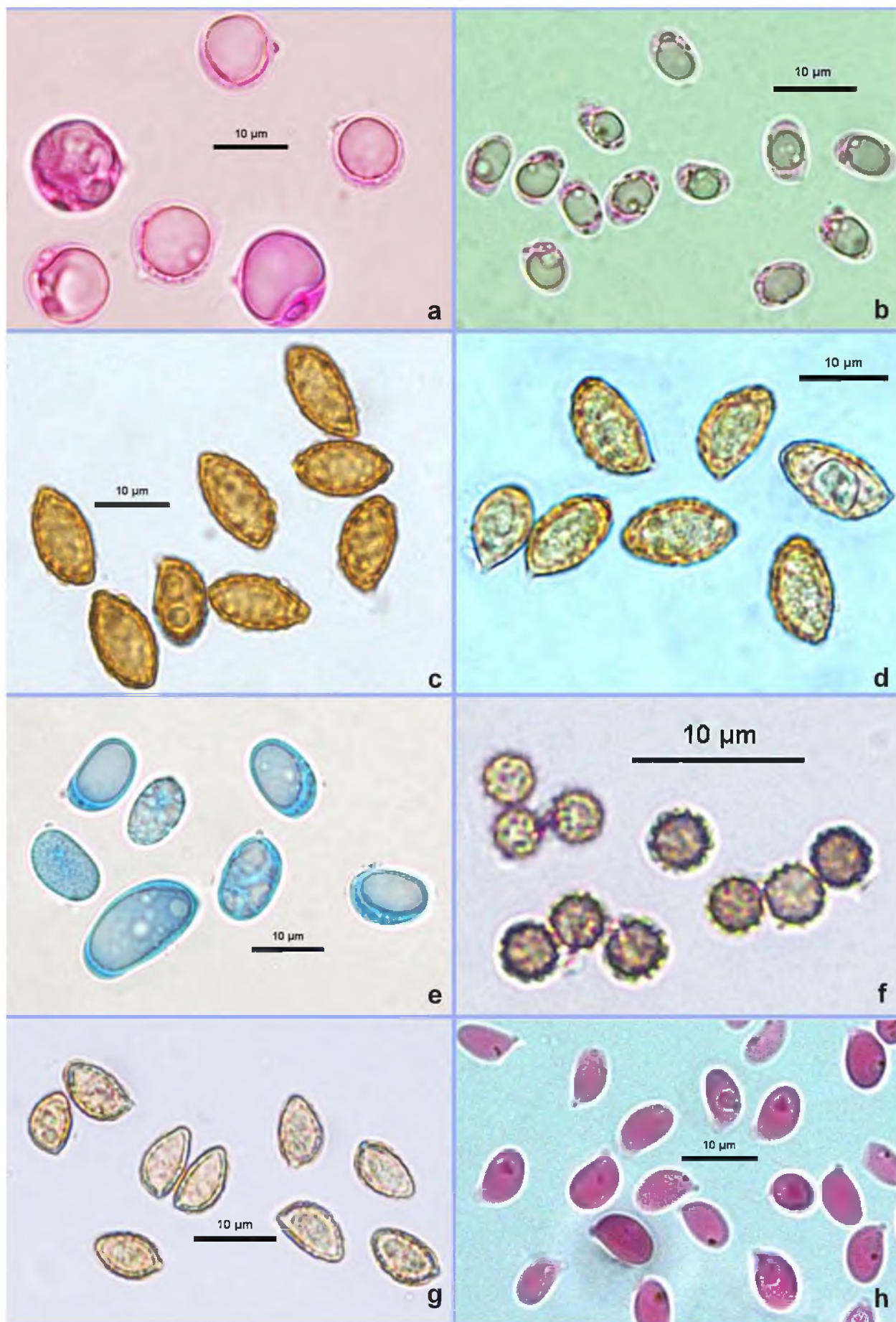


Plate 4. Basidiospores: (a) *Amanita fulva* (b) *Cantharellus cibarius* (c) *Cortinarius trivialis* (d) *Cortinarius vulpinus* (e) *Craterellus cornucopioides* (f) *Geastrum fimbriatum* (g) *Hebeloma radicosum* (h) *Hygrophorus discoxanthus*.

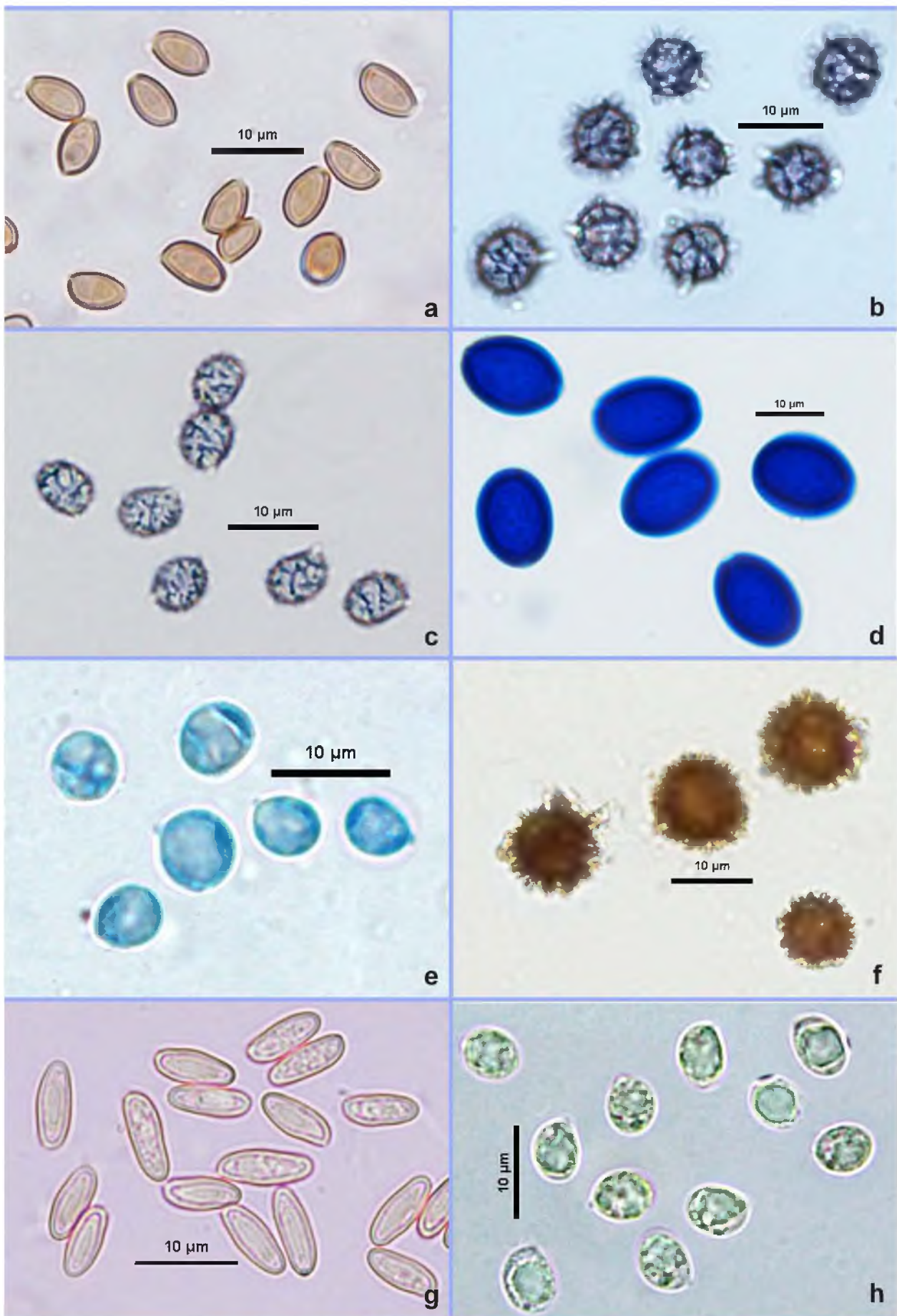


Plate 5. Basidiospores: (a) *Hypholoma fasciculare* (b) *Lactarius azonites* (c) *Lactarius pubescens* (d) *Macrolepiota procera* (e) *Omphalotus illudens* (f) *Scleroderma verrucosum* (g) *Suillus granulatus* (h) *Tricholomopsis rutilans*.

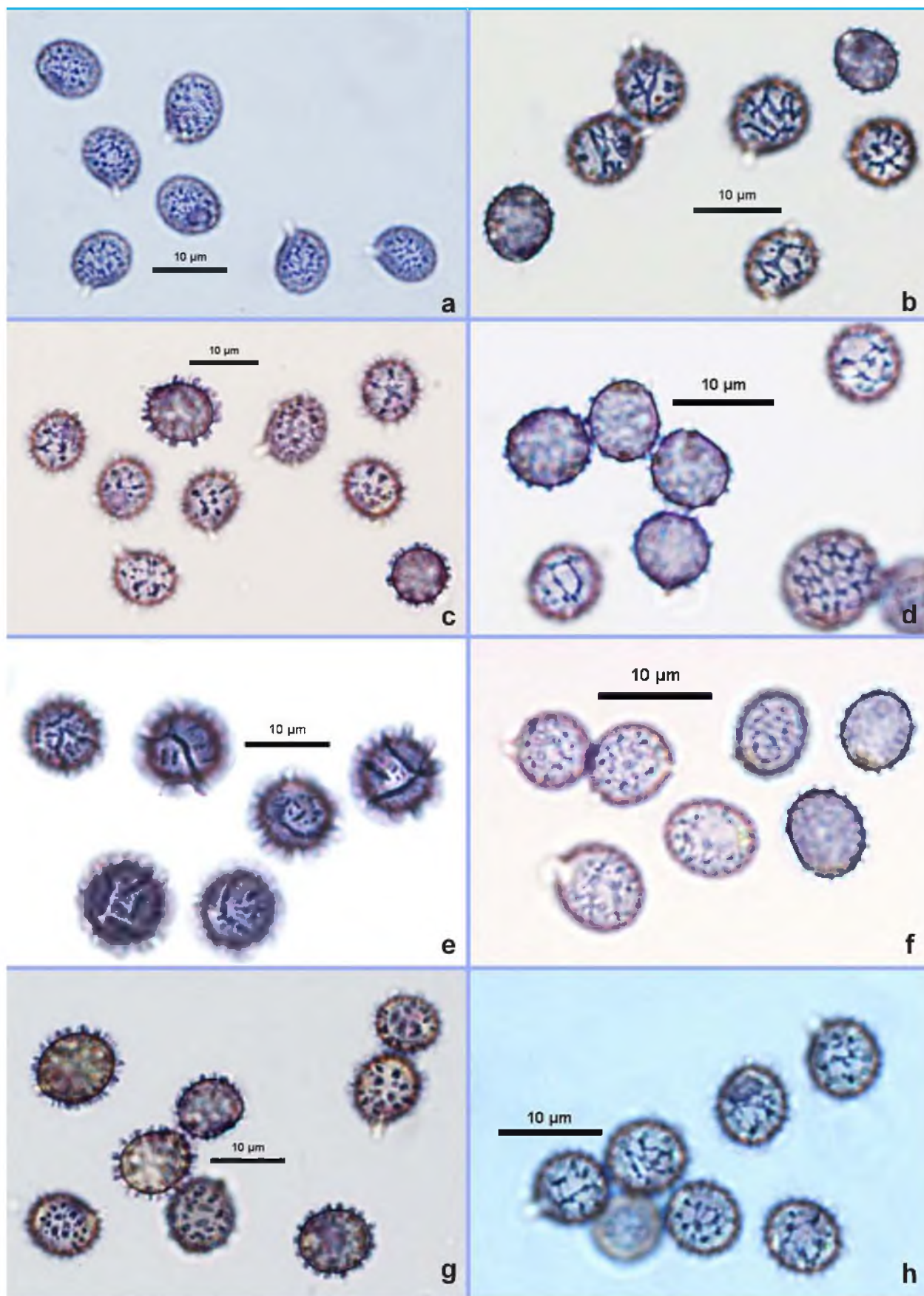


Plate 6. Basidiospores: (a) *Russula atropurpurea* (b) *Russula aurea* (c) *Russula chloroides* (d) *Russula fragilis* (e) *Russula fragrans* (f) *Russula nigricans* (g) *Russula olivacea* (h) *Russula rosea*.

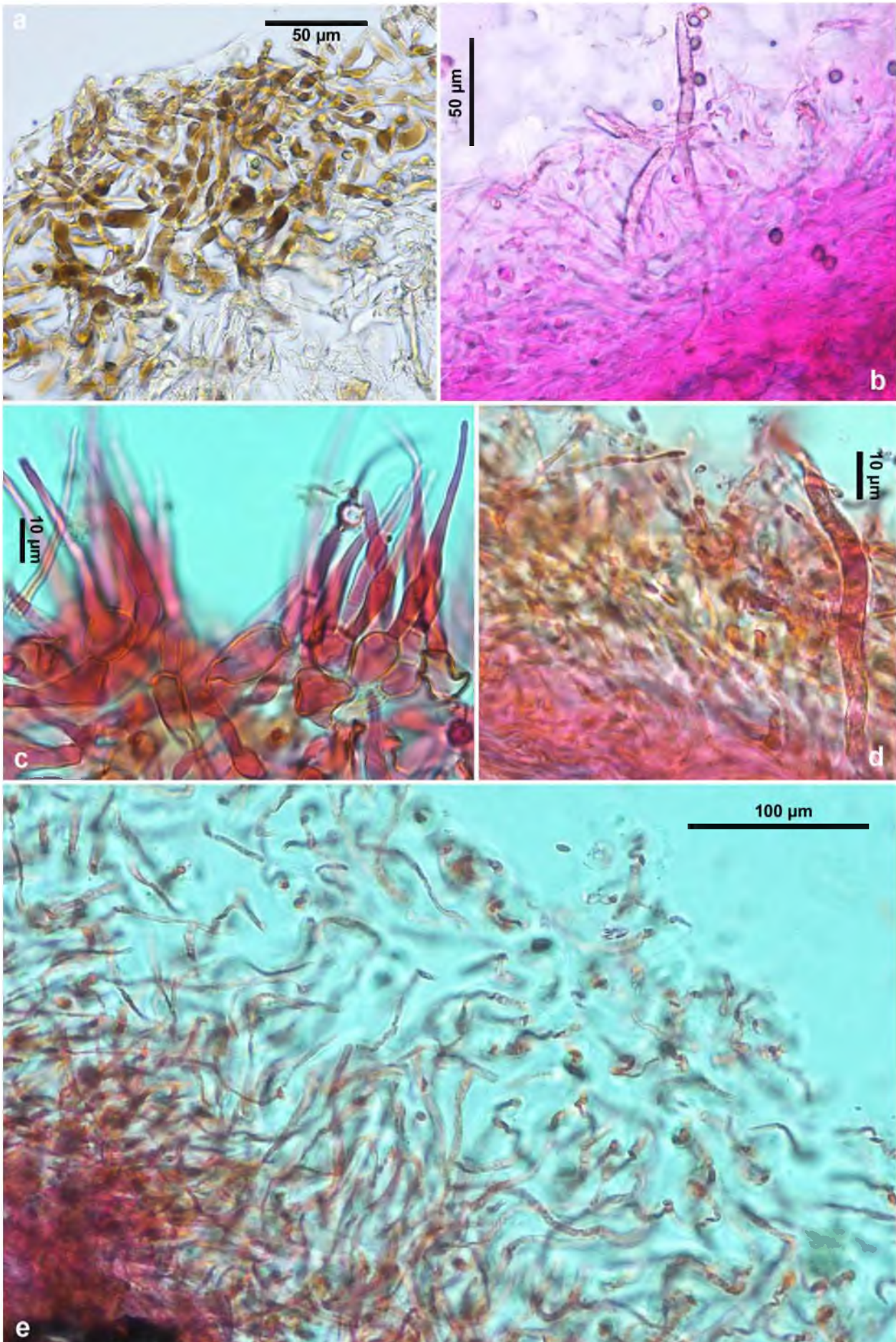


Plate 7. Radial section of pileipellis: (a) *Russula nigricans* (b) *Russula atropurpurea* (c) *Russula violeipes* (d) *Suillus granulatus*.

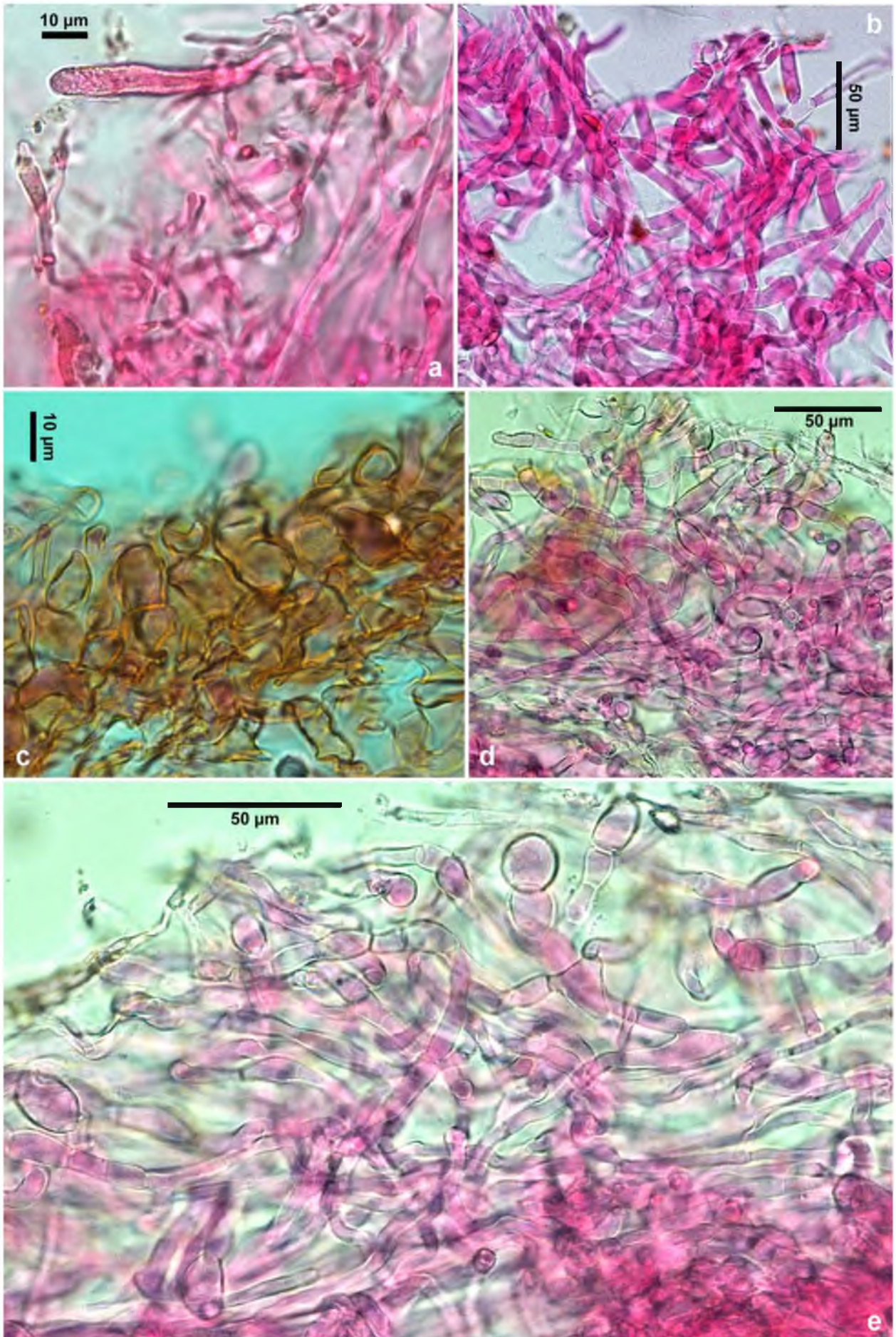


Plate 8. Radial section of pileipellis: (a) *Russula torulosa* (b) *Boletus subtomentosus* (c & d) *Russula chloroides*.

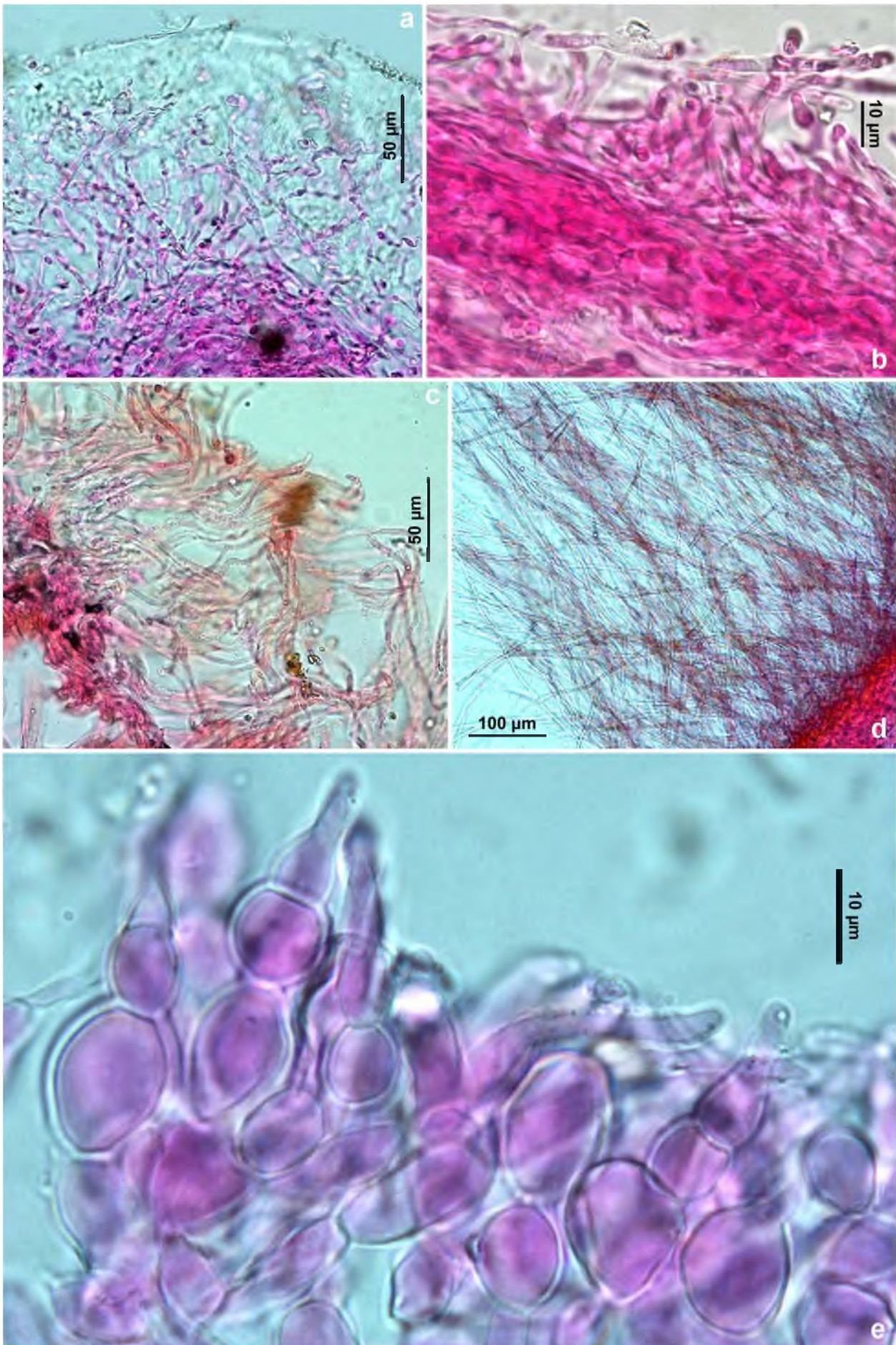


Plate 9. Radial section of pileipellis: (a) *Lactarius pallidus* (b) *Russula aurora* (c) *Tricholoma sejunctum* (d) *Lactarius vellereus* (e) *Russula virescens*.

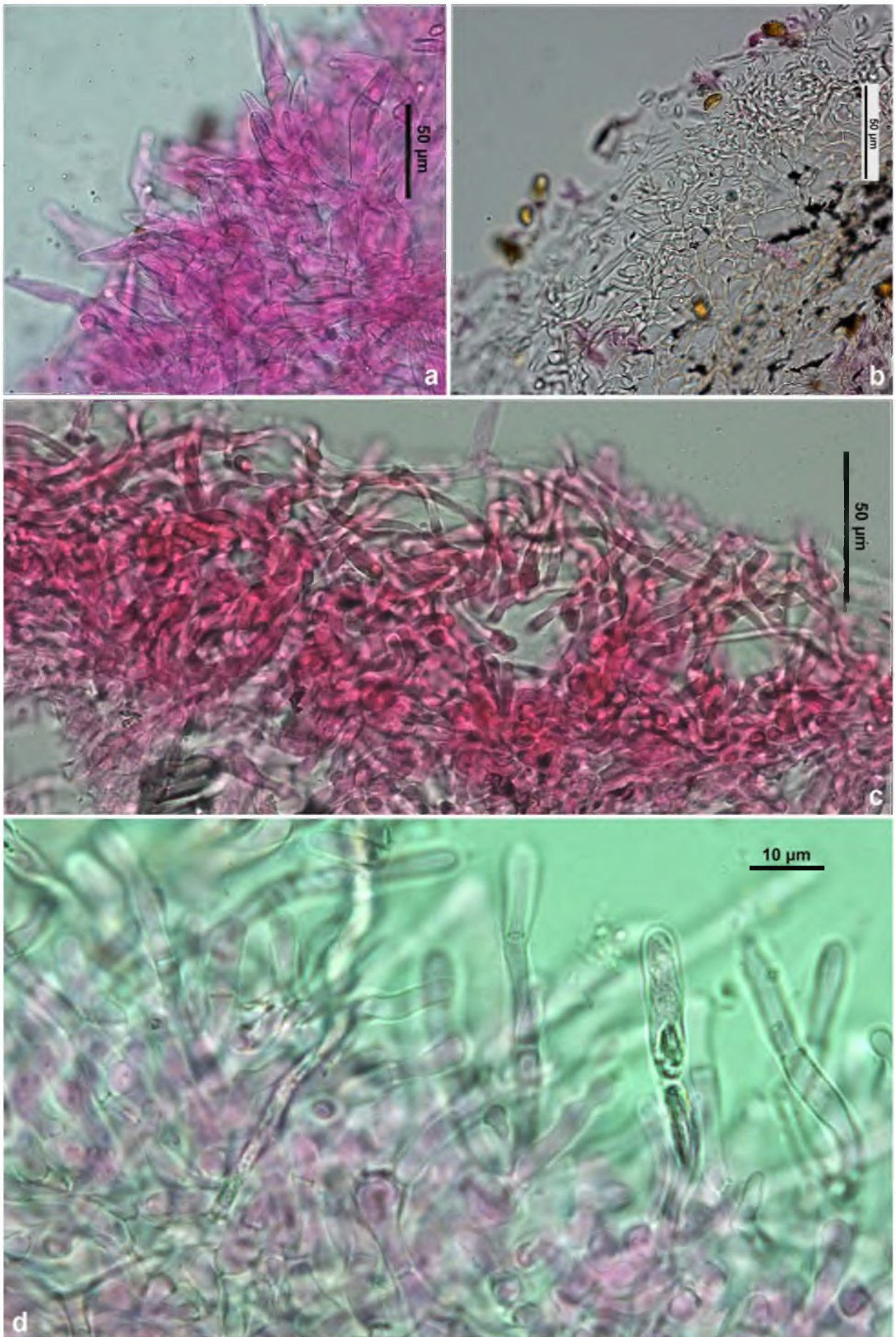


Plate 10. Radial section of pileipellis: (a) *Gyroporus castaneus* (b) *Hebeloma sinapizans* (c) *Hygrophorus discoxanthus* (d) *Russula rosea*.

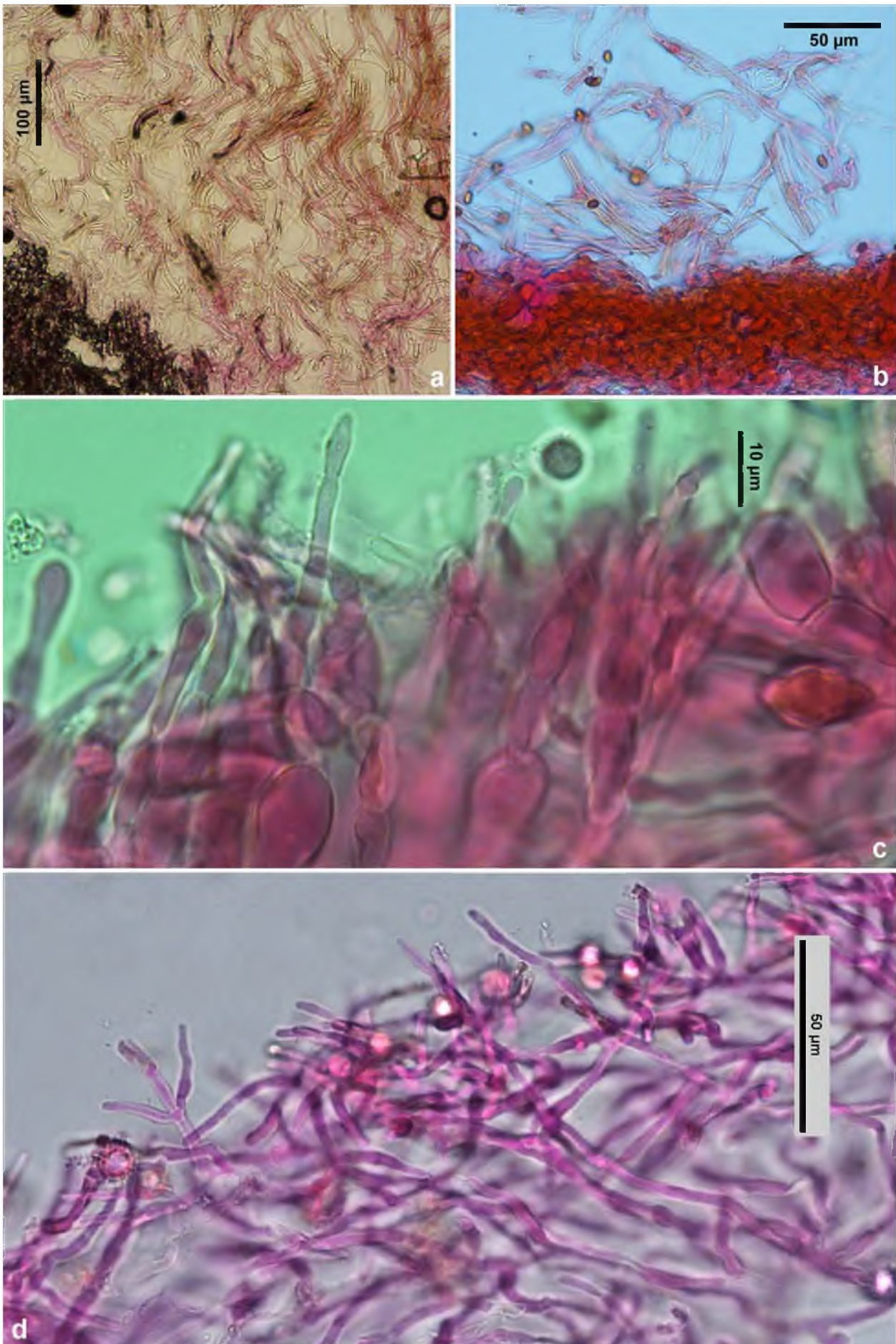


Plate 11. Radial section of pileipellis: (a) *Echinoderma asperum* (b) *Hypholoma fasciculare* (c) *Russula heterophylla* (d) *Russula fragrans*.

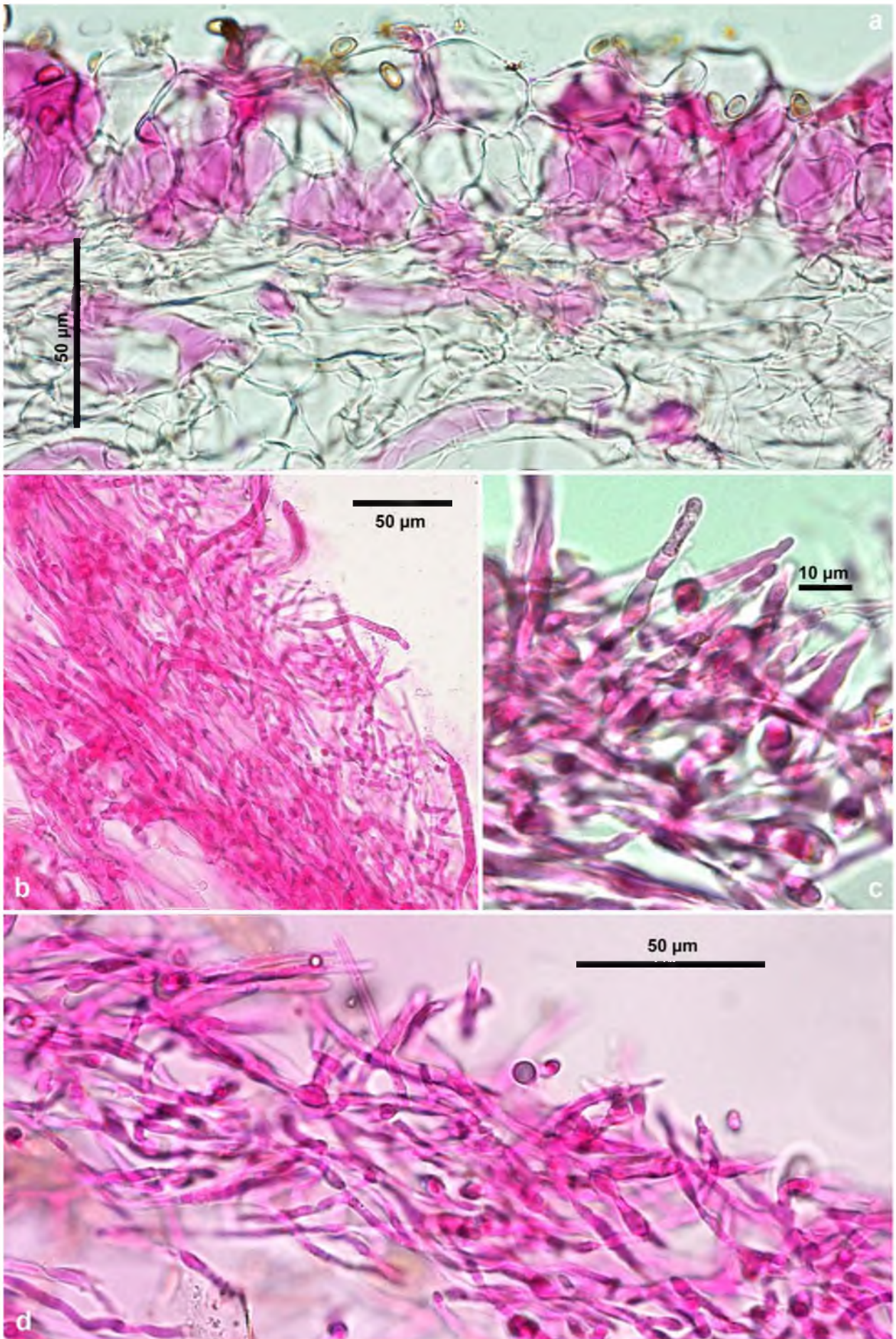


Plate 12. Radial section of pileipellis: (a) *Psathyrella spadicea* (b) *Russula luteotacta* (c & d) *Russula vesca*.

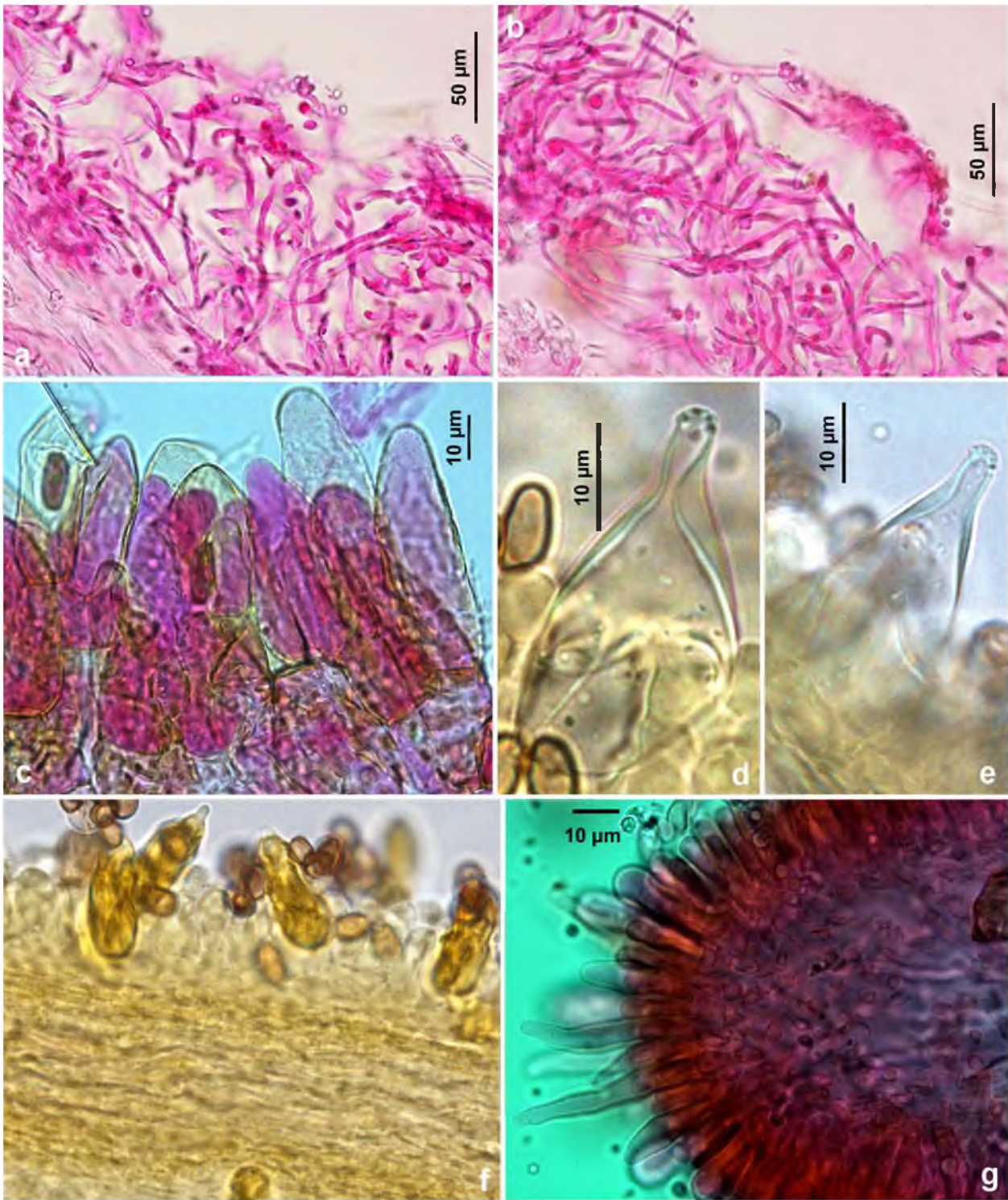


Plate 13. (a & b) Pileipellis of *Hygrophorus penarioides* (c) Pileipellis of *Xerocomellus chrysenteron* (d & e) Pleurocystidia of *Psathyrella spadicea* (f) Pleurocystidia of *Hypholoma fasciculare* (g) Paracystidia of *Lactarius azonites*.

Tabular representation of the 41 genera belonging to 24 mushroom families

No.	Name of the family and no. of representing genera and spp.	Name of the genera	No. of spp.
1.	Agaricaceae (6; 8)	1. <i>Agaricus</i>	1
		2. <i>Chlorophyllum</i>	1
		3. <i>Crucibulum</i>	1
		4. <i>Echinoderma</i>	2
		5. <i>Lepiota</i>	1
		6. <i>Macrolepiota</i>	2
2.	Amanitaceae (1; 6)	1. <i>Amanita</i>	6
3.	Boletaceae (2; 2)	1. <i>Boletus</i>	1
		2. <i>Xerocomellus</i>	1
4.	Cantharellaceae (2; 2)	1. <i>Cantharellus</i>	1
		2. <i>Craterellus</i>	1
5.	Clavariadelphaceae (1; 1)	1. <i>Clavariadelphus</i>	1
6.	Cortinariaceae (2; 7)	1. <i>Cortinarius</i>	5
		2. <i>Hebeloma</i>	2
7.	Dacrymycetaceae (1; 1)	1. <i>Calocera</i>	1
8.	Entolomataceae (1; 1)	1. <i>Entoloma</i>	1
9.	Fistulinaceae (1; 1)	1. <i>Fistulina</i>	1
10.	Geastraceae (1; 1)	1. <i>Geastrum</i>	1
11.	Gomphidiaceae (1; 1)	1. <i>Chroogomphus</i>	1
12.	Gyroporaceae (1; 1)	1. <i>Gyroporus</i>	1
13.	Hydnaceae (1; 1)	1. <i>Hydnum</i>	1
14.	Hygrophoraceae (3; 5)	1. <i>Cuphophyllum</i>	1
		2. <i>Hygrocybe</i>	2
		3. <i>Hygrophorus</i>	2
15.	Lyophyllaceae (1; 1)	1. <i>Hypsizygyus</i>	1
16.	Mycenaceae (2; 2)	1. <i>Mycena</i>	1
		2. <i>Panellus</i>	1
17.	Omphalotaceae (2; 2)	1. <i>Gymnopus</i>	1
		2. <i>Omphalotus</i>	1
18.	Physalacriaceae (1; 1)	1. <i>Armillaria</i>	1
19.	Psathyrellaceae (2; 2)	1. <i>Coprinellus</i>	1
		2. <i>Psathyrella</i>	1
20.	Russulaceae (2; 43)	1. <i>Lactarius</i>	13
		2. <i>Russula</i>	30
21.	Sclerodermataceae (1; 2)	1. <i>Scleroderma</i>	2
22.	Strophariaceae (2; 2)	1. <i>Hypholoma</i>	1
		2. <i>Pholiota</i>	1
23.	Suillaceae (1; 2)	1. <i>Suillus</i>	2
24.	Tricholomataceae (3; 5)	1. <i>Lepista</i>	1
		2. <i>Tricholoma</i>	3
		3. <i>Tricholomopsis</i>	1

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GLOSSARY

- Acrid:** taste of burning or pepper
- Adnate:** (gills/tubes) broadly attached to the stem (Pl. 14 f)
- Adnexed:** (gills/tubes) narrowly (or only with a point) attached to the stem (Pl. 14 a, b & j)
- Anastomosing:** connected irregularly to give vein like network
- Areolate:** (cap surface) with divisions of small areas after cracking
- Appressed:** (scales/squamules) flattened down onto cap-/stem-surface
- Campanulate:** (cap) bell-shaped
- Close:** (gills) narrowly spaced (9-12/mm near cap-margin)
- Cortina:** cobweb-like partial veil connecting cap margin and stem
- Crenate:** gill-edge toothed with rounded teeth
- Crowded:** (gills) densely spaced or congested (more than 12/mm near cap-margin)
- Cutis:** arrangement (cap-surface) with repent to suberect parallel hyphae
- Decurrent:** (gills/tubes) running down the stem (Pl. 14 c, h & k)
- Decurved:** (cap-margin) bent downwards
- Deliquescing:** dissolving into inky mass
- Diverticulate:** (hyphae) with pocket-like or peg-like side branches
- Distant:** (gills) well spaced (3-5/mm near cap-margin)
- Excentric:** (stem) not being attached to cap, i.e. off centre
- Fibrillose:** with small thread-like fibrils running mostly in parallel pattern
- Fimbriate:** finely toothed
- Floccose:** (cap-/stem-surface) with loose and cottony material
- Free:** (gills/tubes) not being attached to stem (Pl. 14 d)
- Gill:** (lamella) flat radiating structure on underside of cap on which the reproductive tissues are borne
- Fusoid:** somewhat fusiform, i.e. tapering towards end
- Incurved:** (cap-margin) bent towards stem
- Inrolled:** (cap-margin) bent and rolled back towards gills
- Ixocutis:** cutis embedded in gelatinous layer
- Ixotrichoderm:** trichoderm embedded in gelatinous layer
- Lamprotrichoderm:** Like trichoderm but, consisting of thick-walled hyphae
- Lubricus:** (cap/stem surface) slippery
- Mitriform:** (cap) having a peak, miter-like in form
- Mycorrhiza:** ('fungus-root') symbiotic association between fungi and green plants
- Repent:** arranged horizontally
- Ring:** membranous tissue attached encircling the stem
- Scrobiculate:** (stem-surface) with shallow grooves or depressions
- Sinuate:** (gills/tubes) suddenly curved upwards near point of attachment to stem apex (Pl. 14 g)
- Spinoid:** (cap-/stem-/spore-surface) with spine-like structures
- Squamulose:** (cap/stem surface) with small scales
- Striate:** (cap-/stem-surface) with thin lines or furrows
- Subcapitate:** with somewhat head-like structure
- Subdecurrent:** (gills) somewhat decurrent (Pl. 14 e & i)
- Subdistant:** (gills) moderately spaced (6-8/mm near cap-margin)
- Subulate:** (hyphae) gradually tapering to a point
- Tomentose:** (cap-/stem-surface) densely matted or wooly
- Trichoderm:** arrangement (cap-surface) with erect/ascending hyphae
- Tuberculate:** (cap-surface) with small projecting warts
- Umbonate:** (cap) with a knob or abruptly elevated area in the center
- Veil:** protective covering of a developing fruiting body of the mushroom
- Venose:** (stem-surface) with fine nerves or veins
- Viscid:** sticky to touch
- Verrucae:** wart-like protuberances
- Volva:** part of universal veil located at or surrounding stem-base

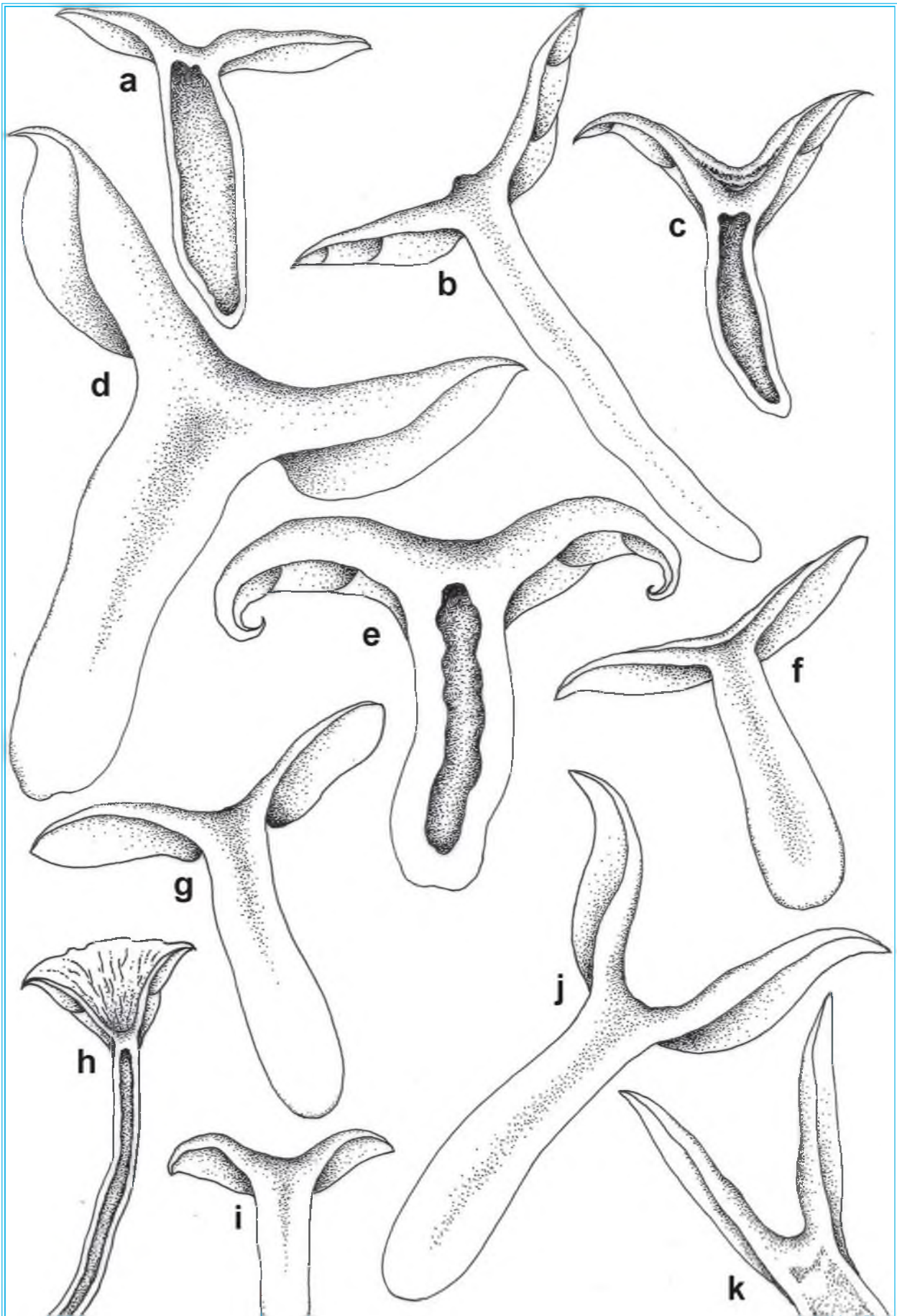


Plate 14. Gill-attachments: (a, b & j) Adnexed (c, h & k) Decurrent (d) Free (e & i) Subdecurrent (f) Adnate (g) Sinuate.

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'100 Wild Mushrooms of Slovakia' is a maiden initiative to prepare a documentation of the forays and studies on wild mushrooms in Slovakia by the authors Kanad Das (India) and Per Marstad (Norway) during recently held 'International Russulales Workshop 2014'. Randomly chosen, all the 100 species are lavishly illustrated herein with macro- and/or micromorphological photographs, brief description, habitat details and distribution in the area explored by the authors. The essence of the aforementioned workshop is also reflected in this pictorial manual.

