DIVERSITY OF MACROMYCETES IN THE AREAS OF 10 ENVIRONMENTAL BURDENS IN SLOVAKIA.

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Abstrakt: *Diverzita makromycétov na lokalitách ovplyvnených ťažbou na Slovensku*. V rokoch 2021 – 2024 prebiehal mykofloristický výskum na desiatich lokalitách Slovenska, ktoré boli ovplyvnené banskou ťažbou v minulosti: Dúbrava, Pernek, Kuchyňa, Pezinok, Bratislava-Vrakuňa, Špania Dolina, Rákoš, Mlynky, Gelnica a Zlatá Idka. Huby sú známe svojou schopnosťou viazať a akumulovať potenciálne toxické prvky z kontaminovanej pôdy. Mnohé druhy jedlých húb obsahujú kritické množstvá týchto prvkov a predstavujú hrozbu pre zdravie ľudí. Mykofloristický výskum na uvedených lokalitách je súčasťou rozsiahleho interdisciplinárneho výskumu zameraného na monitorovanie rizík kontaminácie a možnosti bioremediácie kontaminovaných pôd. Diverzita vyšších húb bola prekvapivo vysoká aj na tých najkontaminovanejších biotoch. Celkovo bolo získaných 782 položiek, ktoré predstavujú približne 445 druhov vyšších húb. Pri určovaní taxonomicky zložitých druhov húb boli okrem metód klasickej taxonómie využité aj metódy DNA barcodingu založené na analýze ITS regiónu DNA.

Key words: fungi, heavy metals, bioremediation

Introduction

Weathering of open adits, dumps and non-isolated tailing impoundments at abandoned ore deposits cause many problems such as water, soil and stream sediments contamination by potentially toxic elements. Soil contamination often results in a local change in biodiversity. Fungi play a crucial role in cleaning up contaminated environments through a process called mycoremediation. These remarkable organisms break down pollutants such as heavy metals, oil spills, and industrial waste, transforming toxic compounds into harmless substances. Beyond detoxification, fungi improve soil health by restoring nutrient cycles and promoting plant growth, making them vital for ecosystem recovery in polluted areas. Their ability to thrive in harsh conditions and their symbiotic relationships with other organisms make them an essential tool for environmental restoration efforts. As research continues, fungi could become a sustainable and cost-effective alternative to traditional remediation techniques. The possibilities of their use in the assessment of pollution levels, whether in biomining or bioremediation are currently the subject of many scientific studies (Musaib et. al 2023; Jones and Bismarck 2024). On the other side, there is a threat to people collecting edible mushrooms from contaminated areas and research also focuses on the impact of consuming high-metal fruitbodies on human health (Bucurica et al. 2024, Nowakowski et. al 2021, Zahorcova et al. 2016, Isildak et al. 2004, Borovička and Řanda, 2007; Svoboda et al., 2006). In the present study, we describe the diversity of fungi in the areas contaminated by mining activities at past.

Mycological research at contaminated sites of Slovakia dates back to 2018 and fungal diversity of Čučma, Dúbrava and Medzibrod has been published by Kautmanova et al. (2020). In this paper we present the results of the following research in the years 2021 –

2024 at ten abandoned mine deposits in Slovakia: Dúbrava, Pernek, Kuchyňa, Pezinok, Bratislava-Vrakuňa, Špania Dolina, Rákoš, Mlynky, Gelnica and Zlatá Idka (Fig. 1). The general characteristics and geological background of all studied localities were published by a number of authors and are summarized in Lalinská-Voleková et al. (2012). The differences between the deposits are in the geology, nature of mineralization and also in the pH values of drainage waters.

Material and method

Fungal fruitbodies collected at individual localities were determined by the means of classical taxonomy as well as by DNA barcoding. To determine taxonomically difficult macromycetes barcode fragments of the ITS region were used. Macromorphological characters were studied on fresh fruitbodies. Micromorphological characters were observed with Nikon Eclipse Ni microscope using an oil-immersion lens. Spores were scanned and measured by NIS-Elements BR 4.40 software. Collected specimens are preserved in the mycological collection of the Slovak National Museum-Natural History Museum in Bratislava (BRA). Altogether 782 samples of estimated 445 fungal species has been recorded.

Abbreviations of collectors and determinators names are as follows: AP – Adam Polhorský, BV – Bronislava Voleková, IK – Ivona Kautmanová, JČ – Ján Červenka, MB – Martin Berger, OB – Ondrej Brachtýr, PŠ – Peter Šottník, TF – Tomáš Faragó, VK – Viktória Krajanová

DNA extraction, amplification and sequencing

Total genomic DNA was extracted from dried sporocarps using a DNeasy Plant MiniKit (Qiagen) according to the manufacturer's protocol, but with prolonged incubation time of up to 3 h after addition of the RNA-lytic enzyme. Target region of the internal transcribed spacer regions of ribosomal DNA (ITS) was amplified using primers ITS5/ITS4 (White et al., 1990). Barcode fragments of ITS region were used to determine biodiversity of macromycetes. The PCR reactions were conducted in 25 μl total volume using a GoTaq Flexi PCR kit (Promega), containing 20 – 25 ng total DNA template, set up as follows: 3 min initial denaturation at 95 °C, 32 cycles (95 °C for 30 s, 55 °C for 30 s, and 72 °C for 1 min + increasing time 2 sec per cycle) 10 min final extension at 72 °C. The PCR products were analyzed on 2% agarose gel. PCR products were purified using a Thermosensitive Alkaline Phosphatase (FastAP) and Exonuclease 1 (Exo 1) (Thermo Fisher Scientific Inc., USA) according to manufacturer's instructions. The partial gene was sequenced in a commercial laboratory (Eurofins Genomics GmbH, Cologne, Germany). Sequences were visualized, edited and aligned in MEGA-X (Kumar et al., 2018). Sequence similarity searches were performed using GenBank BLASTn (http://www.ncbi.nlm.nih.gov/BLAST/) and BOLD Identification System (https://www.boldsystems.org/).

Results

Here we present the list of recorded species along with the brief description of the localities. At each locality several collection sites have been selected and fungi were sampled separately at them.

DÚBRAVA

The Dúbrava deposit is situated in the northern part of the Nízke Tatry Mountains, approximately 7 to 10 km south of the Dúbrava village. Mining activities at the Dúbrava deposit were first reported at the beginning of the 18th century. The most productive period of the Dúbrava deposit started in 1944 when also the oldest tailings pond was established. Mining operations were terminated in 1991. In the most productive period (between 1944 and 1991) the Dúbrava deposit produced ca 1,300,000 tons of ore and 22,000 tons of antimony making the deposit one of the biggest producers of antimony in the world at that time (Arvensis et al. 1994). The waste in the form of flotation sludges was deposited in four tailings ponds situated in the valley of Paludžanka creek 850 m to 900 m above sea level. These tailings ponds are standard raised-embankment storage structures built with no isolating impermeable layer (e.g. clay) at the bottom. The flotation sludges lie directly at the alluvial sediments and are in contact with ground water. After the end of the mining operations in the area, the surface of the tailings ponds was covered with the mixture of soil and rocks, 20 cm to 1.2 m thick, to lessen the contact with meteoric water and atmospheric oxygen (Lalinská-Voleková et al. 2012).

Altitude is from 850 to 1050 m. The climate in the region is cool and mountainous with July being the warmest and January the coldest months. The average temperatures in the last four years were around 15.5 °C in July and around -4.5 °C to -5 °C in January. The average annual precipitation in the area is around 850 – 1000 mm. The area of the deposit is drained by the Paludžanka creek and its tributaries.

The area is outgrown by coniferous forest dominated by spruce (*Picea abies*) with admixture of pine (*Pinus sylvestris*), larch (*Larix decidua*), beech (*Fagus sylvatica*) and white fir (*Abies alba*). River banks and wet sites are outgrown by willows (*Salix alba, S. fragilis, S. caprea*), poplars (*Populus tremula*), hazels (*Corylus avellana*) and alders (*Alnus incana, A. glutinosa*).

Six sites were monitored in this area:

1. Svätopluk adit – mine dump at the adit entrance and the banks of the creek that is draining the adit. The area is outgrown mostly by young spruce forest and shrubs.
2. Small pond and wetland flowing from uppermost and oldest tailing impoundment. Spruce forest with *Vaccinium, Sphagnum* and other mosses.
3. Tailing impoundment 1. Outgrown by young spruce forest ca 10 years old.
4. Tailing impoundment 2. Outgrown by spruce forest, central wet parts also by willows and poplars.
5. Tailing impoundment 3a. The whole area is waterlogged outgrown mostly by willows, and at the margins also by spruce.
6. Tailing pond 3b. Dense coniferous forest with spruce and larch and shrubs in open areas.

Tailing impoundment 1

Agrocybe* sp.**: in grass and mosses, 29. 6. 2023, leg. et det. JČ, BRACR38333; ***Alloclavaria purpurea (O. F. Müll.) Dentinger & D. J. McLaughlin: spruce forest, 29. 6. 2023, leg. et det. JČ, BRACR38364 (Fig.1); ***Amanita gemmata*** (Fr.) Bertill.: spruce forest, 29. 6. 2023, leg. et det. JČ, BRACR38365; ***Amanita* sp.**: spruce forest, 29. 6. 2023, leg. et det. JČ, BRACR38355; ***Catathelasma imperiale*** (P. Karst.) Singer: 20. 10. 2022, leg. et det. IK, JČ, BRACR36677; ***Clitocybe* sp.**: 20. 10. 2022, leg. et det. IK, JČ, BRACR36680;

Cortinarius* sp.**: 20. 10. 2022, leg. et det. IK, JČ, BRACR36686; ***Cystoderma amianthinum (Scop.) Fayod: 20. 10. 2022, leg. et det. IK, JČ, BRACR36682; ***Entoloma* sp.**: 20. 10. 2022, leg. et det. IK, JČ, BRACR36679; ***Hebeloma* sp.**: 20. 10. 2022, leg. et det. IK, JČ, BRACR36683; ***Hygrocybe* aff. *cantharellus*** (Schwein.) Murrill: meadow, 13. 8. 2021, leg. et det. IK, BRACR34538; ***Hygrocybe cantharellus*** (Schwein.) Murrill: in grass, 13. 8. 2021, leg. et det. IK, BRACR34539; ***Hygrophorus* sp.**: 20. 10. 2022, leg. et det. IK, JČ, BRACR36681; ***Infundibulicybe costata*** (Kühner & Romagn.) Harmaja: 29. 6. 2023, leg. et det. JČ, BRACR38358; ***Inocybe* sp.**: 20. 10. 2022, leg. et det. IK, JČ, BRACR36685; ***Inocybe* sp.**: in grass and mosses, 29. 6. 2023, leg. et det. JČ, BRACR38367; ***Laccaria fraterna*** (Sacc.) Pegler: 20. 10. 2022, leg. et det. IK, JČ, BRACR36678; ***Lactarius torminosus*** (Schaeff.) Pers.: under *Betula*, 20. 10. 2022, leg. et det. IK, JČ, BRACR36684; ***Leccinum* cf. *cyaneobasileucum*** Lannoy & Estadès: spruce forest, 13. 8. 2021, leg. et det. JČ, BRACR34546; ***Lentinus substrictus*** (Bolton) Zmitr. & Kovalenko: on wood, 29. 6. 2023, leg. et det. JČ, BRACR38345; ***Mycena galericulata*** (Scop.) Gray: spruce forest, on wood, 29. 6. 2023, leg. et det. JČ, BRACR38343; ***Mycena sp.***: spruce forest, in mosses and needles, 29. 6. 2023, leg. et det. JČ, BRACR38351; ***Mycena galericulata*** (Scop.) Gray: spruce forest, 29. 6. 2023, leg. et det. JČ, BRACR38343; ***Macrocystidia cucumis*** (Pers.) Joss.: 20. 10. 2022, leg. et det. IK, JČ, BRACR36687; ***Neoboletus luridiformis*** (Rostk.) Gelardi, Simonini & Vizzini: spruce forest, 29. 6. 2023, leg. et det. JČ, BRACR38371; ***Postia* sp.**: on fallen trunk of deciduous tree, 29. 6. 2023, leg. et det. JČ, BRACR38360; ***Rhodocollybia fodiens*** (Kalchbr.) Antonín & Noordel.: spruce forest, 29. 6. 2023, leg. et det. JČ; BRACR38337; ***Russula* sp.**: spruce forest, 29. 6. 2023, leg. et det. JČ, BRACR38349; ***Russula* sp.**: under spruce, 29. 6. 2023, leg. et det. JČ, BRACR38331.

Tailing impoundment 2

Agrocybe* sp.** (Pers.) Fayod: 29. 6. 2023, leg. et det. JČ, BRACR38336; ***Cortinarius* sp.**: spruce forest, 13. 8. 2021, leg. et det. JČ, BRACR34536; ***Cortinarius* sp.** (subgen. Dermocybe): under spruce, 29. 6. 2023, leg. et det. JČ, BRACR38369; ***Hebeloma* sp.**: 29. 6. 2023, leg. et det. JČ, BRACR38362; ***Hygrocybe cantharellus (Schwein.) Murrill: spruce forest, 13. 8. 2021, leg. et det. IK, BRACR34539; ***Hygrophorus* sp.**: 20. 10. 2022, leg. et det. IK, JČ, BRACR36688; ***Infundibulicybe costata*** (Kühner & Romagn.) Harmaja: spruce forest, in mosses, 29. 6. 2023, leg. et det. JČ, BRACR38350; ***Leccinum piceinum*** Pilát & Dermek: under spruce, 29. 6. 2023, leg. et det. JČ, BRACR38338; ***Rickenella swartzii*** (Fr.) Kuyper: spruce forest, in mosses, 29. 6. 2023, leg. et det. JČ, BRACR38366; ***Russula* sp.**: spruce forest, 29. 6. 2023, leg. et det. JČ, BRACR38330.

Tailing impoundment 3a

Geopyxis alpina Höhn.: on ground, 29. 6. 2023, leg. et det. JČ, BRACR38329; ***Helvella confusa*** Harmaja: under *Picea*, on ground, 29. 6. 2023, leg. et det. JČ, BRACR38342; ***Hygrocybe conica*** (Schaeff.) P. Kumm.: under *Salix* a *Picea*, leg. JČ, det. IK, BRACR34526 (Fig. 2); ***Inocybe* sp.**: under *Salix*, 29. 6. 2023, leg. et det. JČ, BRACR38344; ***Inocybe* sp.**: spruce forest, 29. 6. 2023, leg. et det. JČ, BRACR38361; ***Laccaria tortilis*** (Bolton) Cooke: under *Salix*, 29. 6. 2023, leg. et det. JČ, BRACR38340; ***Lactarius deterrimus*** Gröger: under *Picea* a *Salix*, leg. et det. JČ, BRACR34537; ***Leucocybe connata*** (Schumach.) Vizzini, P. Alvarado, G. Moreno & Consiglio: pri ceste, 18. 10. 2021, leg. et det. IK, BRACR34953; ***Orbilia phragmotricha*** Baral, E. Weber & L. G. Krieglst.: 29. 6. 2023, leg. JČ, det. AP, BRACR38341; ***Pulvinula* sp.**: 29. 6. 2023, leg. JČ, det. JČ, BRACR38332; ***Ramaria* sp.**: under *Picea abies*, 13. 8. 2021, leg. et det. IK, BRACR34532; ***Russula* sp.**: under *Betula*

a *Salix*, 13. 8. 2021, leg. et det. IK, BRACR34529; ***Russula* sp.**: spruce forest, 29. 6. 2023, leg. et det. JČ, BRACR38356.

Tailing impoundment 3b

Entoloma* sp.**: spruce forest, 29. 6. 2023, leg. et det. JČ, BRACR38357; ***Gymnopus aquosus (Bull.) Antonín & Noordel.: spruce forest, 29. 6. 2023, leg. et det. JČ, BRACR38348; ***Hygrocybe* sp.** (Fr.) P. Kumm.: in grass and mosses, 29. 6. 2023, leg. et det. JČ, BRACR38334 (Fig.3); ***Leccinum piceinum*** Pilát & Dermek: under *Picea*, 29. 6. 2023, leg. et det. JČ, BRACR38339; ***Leccinum* sp.**: under *Picea* a *Betula*, 29. 6. 2023, leg. et det. JČ, BRACR38370; ***Mallocybe dulcamara*** (Pers.) Vizzini, Della Magg., Tolaini & Ercole: spruce forest, 13. 8. 2021, leg. et det. JČ, BRACR34533; ***Melastiza* sp.**: on ground under *Salix*, 13. 8. 2021, leg. et det. JČ, BRACR34548; ***Neoboletus luridiformis*** (Rostk.) Gelardi, Simonini & Vizzini: spruce forest, 29. 6. 2023, leg. et det. JČ, BRACR38346; ***Russula puellaris*** Fr.: 29. 6. 2023, leg. et det. JČ, BRACR38352; ***Russula* sp.**: spruce forest, 29. 6. 2023, leg. et det. JČ, BRACR38354.

Tailing impoundment 3b – background

Alloclavaria purpurea (O. F. Müll.) Dentinger & D. J. McLaughlin: under *Picea abies*, 13. 8. 2021, leg. JČ, det. IK, BRACR34527; ***Amanita muscaria*** (L.) Lam.: 18. 10. 2021, leg. et det. IK, BRACR34821; ***Amanita rubescens*** Pers.: under *Picea abies* a *Betula sp.*, 13. 8. 2021, leg. et det. IK, BRACR34543; ***Boletus edulis*** Bull.: spruce forest, 13. 8. 2021, leg. et det. JČ, BRACR34544; ***Clitopilus prunulus*** (Scop.) P. Kumm.: under *Picea abies*, 13. 8. 2021, leg. et det. IK, BRACR34541; ***Coltricia perennis*** (L.) Murrill: under spruce, 13. 8. 2021, leg. et det. JČ, BRACR34551; ***Cortinarius* cf. *croceus*** (Schaeff.) Gray: grassland, 18. 10. 2021, leg. et det. IK, BRACR34958; ***Cortinarius* sp.**: grassland, 18. 10. 2021, leg. et det. IK, BRACR34816; ***Cortinarius* sp.**: grassland, 18. 10. 2021, leg. et det. IK, BRACR34957; ***Cuphophyllus virgineus*** (Wulfen) Kovalenko: grassland, 18. 10. 2021, leg. et det. IK, BRACR34820; ***Cystoderma* sp.**: grassland, 18. 10. 2021, leg. et det. IK, BRACR34822; ***Gomphidius glutinosus*** (Schaeff.) Fr.: grassland, 18. 10. 2021, leg. et det. IK, BRACR34955; ***Gymnopus* sp.**: grassland, 18. 10. 2021, leg. et det. IK, BRACR34814; ***Hebeloma* cf. *sinapizans*** (Paulet) Gillet: grassland, 18. 10. 2021, leg. et det. IK, BRACR34813; ***Hygrocybe* aff. *cantharellus*** (Schwein.) Murrill: 13. 8. 2021, leg. et det. IK, BRACR34547; ***Hygrophorus agathosmus*** (Fr.) Fr.: grassland, 18. 10. 2021, leg. et det. IK, BRACR34960; ***Imleria badia*** (Fr.) Vizzini: spruce forest, 13. 8. 2021, leg. et det. JČ, BRACR34535; ***Lactarius lignyotus*** Fr.: under *Picea abies*, 13. 8. 2021, leg. et det. IK, BRACR34549; ***Lactarius rufus*** (Scop.) Fr.: under *Picea abies*, 13. 8. 2021, leg. et det. IK, BRACR34545; ***Lactarius torminosus*** (Schaeff.) Pers.: grassland, 18. 10. 2021, leg. et det. IK, BRACR34956; ***Lactarius turpis*** (Weinm.) Fr.: under *Betula*, 13. 8. 2021, leg. IK, det. JČ, BRACR34542; ***Leccinum* cf. *cyaneobasileucum*** Lannoy & Estadès: under *Betula*, 13. 8. 2021, leg. et det. JČ, BRACR34540; ***Leccinum piceinum*** Pilát & Dermek: under *Picea abies*, 13. 8. 2021, leg. et det. JČ, BRACR34531; ***Leccinum scabrum*** (Bull.) Gray: grassland, 18. 10. 2021, leg. et det. IK, BRACR34954; ***Leccinum versipelle*** (Fr.) Snell: young spruce forest, under *Betula*, 13. 8. 2021, leg. et det. JČ, BRACR34528; ***Phaeolepiota aurea*** (Bull.) R. Maire ex Conrad & Maubl.: grassland, 18. 10. 2021, leg. et det. IK, BRACR34959; ***Russula aeruginea*** Linblad ex. Fr.: under *Betula* a *Picea*, 13. 8. 2021, leg. IK, det. JČ, BRACR34552; ***Russula* cf. *ochroleuca*** Fr.: 18. 10. 2021, leg. et det. IK, BRACR34815; ***Russula* sp.**: grassland, 18. 10. 2021, leg. et det. IK, BRACR34823; ***Suillus grevillei*** (Klotzsch) Singer: under *Larix decidua*, 13. 8. 2021, leg. et det. JČ, BRACR34530; grassland, 18. 10. 2021,

leg. IK, det. JČ, BRACR34812; ***Thelephora* cf. *caryophyllea*** (Schaeff.) Pers.: 13. 8. 2021, leg. et det. JČ, BRACR34554; ***Tricholoma argyraceum*** (Bull.) Gillet: grassland, under *Picea abies*, 13. 8. 2021, leg. et det. JČ, BRACR34534; ***Tricholoma* sp.**: grassland, 18. 10. 2021, leg. et det. IK, BRACR34819; ***Tricholoma vaccinum*** (Schaeff.) P. Kumm.: grassland, 18. 10. 2021, leg. et det. IK, BRACR34964; ***Xerocomus ferrugineus*** (Schaeff.) Alessio: spruce forest, 13. 8. 2021, leg. et det. JČ, BRACR34553.

Svätopluk adit

Chrysomphalina chrysophylla (Fr.) Clémençon: on fallen trunk of *Picea*, 29. 6. 2023, leg. et det. JČ, BRACR38368; ***Mycena* sp.**: spruce forest, in mosses, 29. 6. 2023, leg. et det. JČ, BRACR38353; ***Omphalina* sp.**: in burned soil, 29. 6. 2023, leg. et det. JČ, BRACR38347; ***Paragymnopus perforans*** (Hoffm.) J. S. Oliveira: spruce forest, in needles, 29. 6. 2023, leg. et det. JČ, BRACR38335.

PERNEK

The hydrothermal deposit of Sb-ores is situated E to SE of Krížnica (Jahodnisko). This second largest deposit of stibnite in the Small Carpathians Mts. was opened by numerous mining works, which are situated along the so-called "Haviarský jarek" at the end of the Kostolný creek valley. From all, Pavol adit was of the greatest importance. The beginnings of Sb-ore mining date back to the end of the 18th century (1790). Later, the mining activities were connected mainly with the First and Second World Wars. Mining activities ended in 1956. Comprehensive data on the amount of mined raw material is not known, at the beginning of the 19th century, an average of 3 tons of antimony were mined per year.

The same area is also known by mining of pyrite mineralization, with the most intensive period between 1916-1922, when 6000 t of S was mined.

Malé Karpaty Mts., Pernek, tailing impoundments between Pavol and Zubau adits, alt.: 420 m

Auricularia auricula-judae (Bull.) Quél.: 11. 11. 2022, leg. et det. IK, BRACRxxx; on wood of deciduous tree, 23. 6. 2023, leg. et det. JČ, BRACR38649; ***Clitocybe nebularis*** (Batsch) P. Kumm.: 11. 11. 2022, leg. et det. IK, BRACR36764; ***Coprinellus domesticus*** (Bolton) Vilgalys, Hopple & Jacq. Johnson: 11. 11. 2022, leg. et det. IK, BRACR36770; ***Echinoderma asperum*** (Pers.) Bon: 11. 11. 2022, leg. et det. IK, BRACR36761; ***Flammulina velutipes*** (Curtis) Singer: 11. 11. 2022, leg. et det. IK, BRACR36760; ***Hericium coralloides*** (Scop.) Pers.: 11. 11. 2022, leg. et det. IK, BRACR36768; ***Lepista panaeolus*** (Fr.) P. Karst.: 11. 11. 2022, leg. et det. IK, BRACR36763; ***Macrotyphula fistulosa*** (Holmsk.) R. H. Petersen: 11. 11. 2022, leg. et det. IK, BRACR36766; ***Megacollybia platyphylla*** (Pers.) Kotl. & Pouzar: on wood *Fagus sylvatica*, 23. 6. 2023, leg. et det. JČ, BRACR38650; ***Mycena polygramma*** (Bull.) Gray: 11. 11. 2022, leg. et det. IK, BRACR36769; ***Pluteus cervinus*** (Schaeff.) P. Kumm.: 11. 11. 2022, leg. et det. IK, BRACR36765; on fallen trunk of deciduous tree, 23. 6. 2023, leg. et det. JČ, BRACR38647; on fallen branch of *Fagus sylvatica*, 23. 6. 2023, leg. et det. JČ, BRACR38643; ***Russula parazurea*** Jul. Schäff.: under *Fagus sylvatica*, 23. 6. 2023, leg. et det. JČ, BRACR38641; ***Scutellinia crinita*** (Bull.) Lambotte: on ground, on beechmust and fallen branch of *Fagus sylvatica*, 23. 6. 2023, leg. et det. JČ, BRACR38646; ***Stereum insignitum*** Quél.: on wood of deciduous tree, 23. 6. 2023, leg. et det. JČ, BRACR38644; ***Stropharia cyanea*** (Bull.) Tuomik.: 11. 11. 2022, leg. et det. IK, BRACR36762; ***Tarzetta* sp.**: on ground under *Fagus sylvatica*, 23. 6. 2023, leg. et det. JČ,

BRACR38648; ***Xerocomellus chrysenteron*** (Bull.) Šutara: under beech (*Fagus sylvatica*), 23. 6. 2023, leg. et det. JČ, BRACR38653; ***Xylaria* sp.**: on fallen trunk of deciduous tree, 23. 6. 2023, leg. et det. JČ, BRACR38645.

KUCHYŇA

In the territory of Kuchyňa, older pyrite-pyrothite mineralization and younger stibnite mineralization are present. Both are bound to the rocks of the Pezinok-Pernek crystalline formation in the productive zone of Köberling-Skalnatá-Kuchyňa valley.

Pyrite-pyrrhotite mineralization occurs in a wider area of the territory to the E and SE of Kuchyna. Mineralization is mostly found in strongly recrystallized amphibolites, biotite phyllites, biotite-garnet joints and especially in graphitic schists. Of the sulfides, only pyrite and pyrrhotite are described here, which accompany quartz and carbonates. Mineralization was monitored by several exploration adits between Skalnata and Vysoká, but it was not of great importance for mining.

Hydrothermal stibnite mineralization is situated at the Skalnatá locality. It lies on the NE edge of the productive zone in a lens of graphitic schists. In addition to stibnite, Pb-Sb and Fe-Sb minerals (berthierite, gudmundite, jamesonite, kermezite, Sb-ochres) are abundant here. Of the other minerals, pyrite has been described here, and the rare chalcopyrite, galena, sphalerite, pure antimony and vermilion. Mineralization was monitored by several mining operations, the most important of which are the Trojičná and Puklišova adit, but mining did not take place here.

Malé Karpaty Mts., Kuchyňa, Modranská dolina, NW slope of the Skalnatá hill, alt. 420 m

Amanita citrina Pers.: 27. 10. 2023, leg. IK, det. JČ, BRACR38845, BRACR38879; ***Amanita muscaria*** (L.) Lam.: 27. 10. 2023, leg. et det. IK, BRACR38872; ***Armillaria mellea*** (Vahl.) P. Kumm.: 27. 10. 2023, leg. et det. IK, BRACR38876; ***Clitocybe nebularis*** (Batsch) P. Kumm.: 27. 10. 2023, leg. et det. IK, BRACR38871; ***Cortinarius* sp.**: 27. 10. 2023, leg. IK, det. JČ, BRACR38855; ***Cortinarius splendens*** Rob. Henry: 27. 10. 2023, leg. IK, det. JČ, BRACR38847; ***Hebeloma* sp.**: 27. 10. 2023, leg. IK, det. JČ, BRACR38856; ***Hymenopellis radicata*** (Relhan) R. H. Petersen: 27. 10. 2023, leg. et det. IK, BRACR38874; ***Hypholoma fasciculare*** (Huds.) P. Kumm.: 27. 10. 2023, leg. et det. IK, BRACR38878; ***Laccaria amethystina*** Cooke: 27. 10. 2023, leg. IK, det. JČ, BRACR38858; ***Lactarius pallidus*** Pers.: 27. 10. 2023, leg. IK, det. JČ, BRACR38853; ***Lactarius subdulcis*** (Pers.) Gray: 27. 10. 2023, leg. IK, det. JČ, BRACR38849; ***Lycoperdon perlatum*** Pers.: 27. 10. 2023, leg. et det. IK, BRACR38873; ***Mycena crocata*** (Schrad.) P. Kumm.: 27. 10. 2023, leg. et det. IK, BRACR38869; ***Mycena rosea*** Gramberg: 27. 10. 2023, leg. et det. IK, BRACR38880; ***Mycetinis alliaceus*** (Jacq.) Earle ex A.W. Wilson & Desjardin: 27. 10. 2023, leg. IK, det. JČ, BRACR38870; 27. 10. 2023, leg. IK, det. JČ, BRACR38851; ***Pluteus cervinus*** (Schaeff.) P. Kumm.: 27. 10. 2023, leg. et det. IK, BRACR38877; ***Rhodocollybia butyracea*** (Bull.) Lennox: 27. 10. 2023, leg. IK, det. JČ, BRACR38854; ***Russula densifolia*** Secr. ex Gillet: 27. 10. 2023, leg. IK, det. JČ, BRACR38852; ***Russula fellea*** (Fr.) Fr.: 27. 10. 2023, leg. IK, det. JČ, BRACR38846; ***Russula mairei*** Singer: 27. 10. 2023, leg. IK, det. JČ, BRACR38857; ***Russula ochroleuca*** Fr.: 27. 10. 2023, leg. et det. IK, BRACR38850; ***Russula* sp.**: 27. 10. 2023, leg. IK, det. JČ, BRACR38848; ***Scleroderma areolatum*** Ehrenb.: 27. 10. 2023, leg. et det. IK, BRACR38875.

Malé Karpaty Mts., Kuchyňa, S slope of Vysoký Rajd hill, deciduous forest, alt.: 380 m
Amanita citrina Pers.: 27. 10. 2023, leg. et det. IK, BRACR38913; ***Armillaria mellea*** (Vahl) P. Kumm.: 27. 10. 2023, leg. et det. IK, BRACR38901; ***Clitocybe nebularis*** (Batsch) P. Kumm.: 27. 10. 2023, leg. IK, det. JČ, BRACR38835; ***Clitocybe phaeophthalma*** (Pers.) Kuyper: 27. 10. 2023, leg. IK, det. JČ, BRACR38842; ***Coprinopsis atramentaria*** (Bull.) Redhead, Vilgalys & Moncalvo: 27. 10. 2023, leg. IK, det. JČ, BRACR38836; ***Gymnopus dryophilus*** (Bull.) Murrill: 27. 10. 2023, leg. IK, det. JČ, BRACR38831; ***Gymnopus erythropus*** (Pers.) Antonín, Halling & Noordel.: 27. 10. 2023, leg. et det. IK, BRACR38912; ***Hypholoma capnoides*** (Fr.) P. Kumm.: 27. 10. 2023, leg. et det. IK, BRACR38909; ***Inocybe geophylla* var. *lilacina*** (Peck) Gillet: 27. 10. 2023, leg. IK, det. JČ, BRACR38833; ***Inocybe hirtella*** Bres.: 27. 10. 2023, leg. IK, det. JČ, BRACR38829; ***Inocybe margaritispora*** (Berk.) Sacc.: 27. 10. 2023, leg. IK, det. JČ, BRACR38837; ***Inonotus nodulosus*** (Fr.) P. Karst.: 27. 10. 2023, leg. IK, det. JČ, BRACR38839; ***Lactifluus vellereus*** (Fr.) Kuntze: 27. 10. 2023, leg. et det. IK, BRACR38904; ***Lepiota boudieri*** Bres.: 27. 10. 2023, leg. IK, det. JČ, BRACR38840; ***Lepiota clypeolaria*** (Bull.) P. Kumm.: 27. 10. 2023, leg. IK, det. JČ, BRACR38834; ***Lycoperdon perlatum*** Pers.: 27. 10. 2023, leg. et det. IK, BRACR38902; ***Macrolepiota procera*** (Scop.) Singer.: 27. 10. 2023, leg. et det. IK, BRACR38907; ***Melanoleuca* sp.**: 27. 10. 2023, leg. et det. IK, BRACR38900; ***Mycena crocata*** (Schrad.) P. Kumm.: 27. 10. 2023, leg. et det. IK, BRACR38910; ***Mycena galericulata*** (Scop.) Gray: 27. 10. 2023, leg. IK, det. JČ, BRACR38832; ***Mycena pura*** (Pers.) P. Kumm.: 27. 10. 2023, leg. IK, det. JČ, BRACR38830; ***Mycena rosea*** Gramberg: 27. 10. 2023, leg. et det. IK, BRACR38906; ***Mycetinis alliaceus*** (Jacq.) Earle ex A. W. Wilson & Desjardin: 27. 10. 2023, leg. IK, det. JČ, BRACR38841; 27. 10. 2023, leg. et det. IK, BRACR38903; ***Paralepista flaccida*** (Sowerby) Vizzini: 27. 10. 2023, leg. et det. IK, BRACR38914; ***Psathyrella pseudogracilis*** (Romagn.) M. M. Moser: 27. 10. 2023, leg. IK, det. JČ, BRACR38844; ***Rhodocollybia butyracea*** (Bull.) Lennox: 27. 10. 2023, leg. et det. IK, BRACR38908; ***Trametes versicolor*** (L.) Lloyd: 27. 10. 2023, leg. IK, det. JČ, BRACR38843; ***Tricholoma* sp.**: 27. 10. 2023, leg. et det. IK, BRACR38911; ***Tricholoma ustale*** (Fr.) P. Kumm.: 27. 10. 2023, leg. IK, det. JČ, BRACR38838.

Malé Karpaty Mts., Kuchyňa, Modranská dolina valley, Köberling 2 adit, alt.: 380 m
Amanita phalloides Secr.: 27. 10. 2023, leg. et det. IK, BRACR38894; ***Armillaria mellea*** (Vahl) P. Kumm.: 27. 10. 2023, leg. et det. IK, BRACR38889; ***Laccaria laccata*** (Scop.) Cooke: 27. 10. 2023, leg. et det. IK, BRACR38890; ***Lactarius blennius*** (Fr.) Fr.: 27. 10. 2023, leg. et det. IK, BRACR38892; ***Lactarius pallidus*** Pers.: 27. 10. 2023, leg. IK, det. JČ, BRACR38826; ***Lycoperdon perlatum*** Pers.: 27. 10. 2023, leg. et det. IK, BRACR38895; ***Lyophyllum* sp.**: 27. 10. 2023, leg. IK, det. JČ, BRACR38827; ***Mycena pura*** (Pers.) P. Kumm.: 27. 10. 2023, leg. et det. IK, BRACR38893; ***Mycena rosea*** Gramberg: 27. 10. 2023,leg. et det. IK, BRACR38898; ***Mycetinis alliaceus*** (Jacq.) Earle ex A. W. Wilson & Desjardin: 27. 10. 2023, leg. et det. IK, BRACR38897; ***Paralepista flaccida*** (Sowerby) Vizzini: 27. 10. 2023, leg. et det. IK, BRACR38891; ***Russula curtipes*** F. H. Møller & Jul. Schäff.: 27. 10. 2023, leg. IK, det. JČ, BRACR38828; ***Scleroderma citrinum*** Pers.: 27. 10. 2023, leg. et det. IK, BRACR38896. ***Stropharia aeruginosa*** (Curtis) Quél.: 27. 10. 2023, leg. et det. IK, BRACR38899.

Malé Karpaty Mts., Kuchyňa, N slope of Mešťanková Hill, Köberling 1 adit, alt.: 420m
Agaricus sylvaticus Schaeff.: 27. 10. 2023, leg. et det. IK, BRACR38885; ***Armillaria mellea*** (Vahl) P. Kumm.: 27. 10. 2023, leg. et det. IK, BRACR38881; ***Clitocybe nebularis*** (Batsch) P. Kumm.: 27. 10. 2023, leg. et det. IK, BRACR38883; ***Hygrophorus poetarum*** R. Heim:

27. 10. 2023, leg. IK, det. JČ, BRACR38825; ***Hypholoma fasciculare*** (Huds.) P. Kumm.: 27. 10. 2023, leg. et det. IK, BRACR38888; ***Mycena arcangeliana*** Bres.: 27. 10. 2023, leg. et det. IK, BRACR38823; ***Mycena crocata*** (Schrad.) P. Kumm.: 27. 10. 2023, leg. et det. IK, BRACR38882; ***Mycena rosea*** Gramberg: 27. 10. 2023, leg. et det. IK, BRACR38884; ***Mycetinis alliaceus*** (Jacq.) Earle ex A.W. Wilson & Desjardin: 27. 10. 2023, leg. IK, det. JČ, BRACR38822; 27. 10. 2023, leg. et det. IK, BRACR38886; ***Paxillus rubicundulus*** P. D. Orton: 27. 10. 2023, leg. et det. IK, BRACR38887; ***Pluteus ephebeus*** (Fr.) Gillet: 27. 10. 2023, leg. IK, det. JČ, BRACR38824.

Malé Karpaty Mts., Kuchyňa, Trojičná štôlňa adit, deciduous forest (*Fagus sylvatica*), alt.: 450 m

Amanita gemmata (Fr.) Bertill.: 23. 6. 2023, leg. et det. JČ, BRACR38636; 14. 6. 2024, leg. IK, det. JČ, BRACR40172; ***Amanita rubescens*** Pers.:, 17. 6. 2025, leg. et det. IK, JČ, BRACR42043, 17. 6. 2025, leg. et det. IK, JČ, BRACR42044, BRACR42050, BRACR42065; ***Amanita vaginata*** (Bull.) Lam.: 17. 6. 2025, leg. et det. IK, JČ, BRACR42059; ***Auricularia auricula-judae*** (Bull.) Quél.: 23. 6. 2023, leg. et det. JČ, BRACR38635; ***Boletus reticulatus*** Schaeff.: 14. 6. 2024, leg. IK, det. JČ, BRACR40168; ***Cyanoboletus pulverulentus*** (Opat.) Gelardi, Vizzini & Simonini: 23. 6. 2023, leg. et det. JČ, BRACR38634; ***Dacrymyces* sp.**: 17. 6. 2025, leg. et det. IK, JČ, BRACR42053; ***Exidia nigricans*** (With.) P. Roberts: 17. 6. 2025, leg. et det. IK, JČ, BRACR42056; ***Gymnopus aquosus*** (Bull.) Antonín & Noordel.: 17. 6. 2025, leg. et det. IK, JČ, BRACR42066; ***Hortiboletus engelii*** (Hlaváček) Biketova & Wasser: 23. 6. 2023, leg. et det. JČ, BRACR38637; ***Hymenopellis radicata*** (Relhan) R. H. Petersen: 17. 6. 2025, leg. et det. IK, JČ, BRACR42048; ***Inocybe* sp.**: 14. 6. 2024, leg. et det. IK, BRACR40169; ***Megacollybia platyphylla*** (Pers.) Kotl. & Pouzar: 23. 6. 2023, leg. et det. JČ, BRACR38651; 14. 6. 2024, leg. IK, det. JČ, BRACR40174; 17. 6. 2025, leg. et det. IK, JČ, BRACR42047, BRACR42060; 17. 6. 2025, leg. et det. IK, JČ, BRACR42057; ***Neoboletus luridiformis*** (Rostk.) Gelardi, Simonini & Vizzini: 23. 6. 2023, leg. et det. JČ, BRACR38640; 14. 6. 2024, leg. IK, det. JČ, BRACR40166; 17. 6. 2025, leg. et det. IK, JČ, BRACR42063; ***Peziza arvernensis*** Roze & Boud.: 23. 6. 2023, leg. et det. JČ, BRACR38639; ***Pleurotus pulmonarius*** (Fr.) Quél.: 17. 6. 2025, leg. et det. IK, JČ, BRACR42045; ***Pluteus cervinus*** (Schaeff.) P. Kumm.: 14. 6. 2024, leg. IK, det. JČ, BRACR40164; ***Polyporus tuberaster*** (Jacq.) Fr.: 17. 6. 2025, leg. et det. IK, JČ, BRACR42067; ***Polyporus varius*** (Pers.) Fr.: 17. 6. 2025, leg. et det. IK, JČ, BRACR42046, BRACR42058; ***Psathyrella* sp.**: 14. 6. 2024, leg. IK, det. JČ, BRACR40171; ***Russula* cf. *atropurpurea*** (Krombh.) Britzelm.: 17. 6. 2025, leg. et det. IK, JČ, BRACR42051; ***Russula cyanoxantha*** (Schaeff.) Fr.: 23. 6. 2023, leg. et det. JČ, BRACR38632; 17. 6. 2025, leg. et det. IK, JČ, BRACR42062; 14. 6. 2024, leg. IK, det. JČ, BRACR40167; ***Russula solaris*** Ferd. & Winge: 14. 6. 2024, leg. IK, det. JČ, BRACR40173; ***Russula* sp.**: 14. 6. 2024, leg. IK, det. JČ, BRACR40170; ***Russula* sp.**: 17. 6. 2025, leg. et det. IK, JČ, BRACR42052; ***Xerocomellus porosporus*** (Imler ex Watling) Šutara: 23. 6. 2023, leg. et det. JČ, BRACR38633.

Malé Karpaty Mts., Kuchyňa, Skalnatá hill, control, deciduous forest (*Fagus sylvatica*), alt.: 450 m

Amanita rubescens Pers.: 17. 6. 2025, leg. et det. IK, JČ, BRACR42064; ***Inocybe* cf. *napipes*** J. E. Lange: 17. 6. 2025, leg. et det. IK, JČ, BRACR42054; ***Megacollybia platyphylla*** (Pers.) Kotl. & Pouzar: 17. 6. 2025, leg. et det. IK, JČ, BRACR42055; ***Neoboletus luridiformis*** (Rostk.) Gelardi, Simonini & Vizzini: 17. 6. 2025, leg. et det. IK, JČ, BRACR42061; ***Russula* sp.**: 17. 6. 2025, leg. et det. IK, JČ, BRACR42049;

PEZINOK

The Pezinok deposit Kolársky vrch is situated in Malé Karpaty mountains; the exploitation of the pyrite–pyrrhotite mineralization dates back to the late 18th century and flourished between 1850 and 1896. Hydrothermal Sb mineralization was mined at Pezinok between 1790 and 1992, with its most prolific period in 1940; in all 15,000 t of Sb was recovered. The ore consists of stratiform pyrite–pyrrhotite mineralization (Chovan et al. 1994) with a later hydrothermal overprint. Hydrothermal Sb mineralization occurs in quartz–carbonate (ferroan dolomite) lenses, veinlets, nests, and impregnations in the host rock. Hydrothermal mineralization led to the deposition of gold-bearing pyrite (FeS2), arsenopyrite (FeAsS) and Sb ores, which comprise stibnite (Sb2S3), but also relatively abundant berthierite (FeSb2O4), gudmundite (FeSbS), native antimony, primary kermesite (Sb2S2O) and valentinite (Sb2O3). A flotation processing plant operated from 1906. The ore was ground to a particle size of 40–90 mm, and Sb sulfides were partially extracted by flotation; as a consequence, a significant fraction of the Sb sulfides and most of the Sb oxides were not recovered and remained in the waste (Grexová 1991). The source of Sb and As is represented by two tailings impoundments, which hold ~380,000 m3 of mining waste, and several outflows from adits.

Malé Karpaty Mts., Pezinok, S from adit Hermína, near Sedláčkov jarok stream, deciduous forest (*Fagus sylvatica*, *Alnus glutinosa*, *Carpinus betulus*), alt.: 330 m.
Amanita rubescens Pers.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40565; ***Armillaria gallica*** Marxm. & Romagn.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40594; ***Artomyces pyxidatus*** (Pers.) Jülich: 18. 10. 2024, leg. et det. IK, JČ, BRACR40563; ***Bisporella citrina*** (Batsch) Korf & S. E. Carp.: on wood, 18. 10. 2024, leg. et det. JČ, BRACR41436; ***Bjerkandera adusta*** (Willd.) P. Karst.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40561; ***Clitocybe nebularis*** (Batsch.) P. Kumm.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40595; ***Clitopilus prunulus*** (Scop.) P. Kumm.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40586; ***Coprinellus micaceus*** (Bull.) Vilgalys, Hopple & Jacq. Johnson: 18. 10. 2024, leg. et det. IK, JČ, BRACR40568; ***Coprinopsis lagopus*** (Fr.) Redhead, Vilgalys & Moncalvo: 18. 10. 2024, leg. VK, det. JČ, BRACR41426; ***Coprinopsis picacea*** (Bull.) Redhead, Vilgalys & Moncalvo: 18. 10. 2024, leg. et det. IK, JČ, BRACR40560; ***Crepidotus applanatus*** (Pers.) P. Kumm.: on wood, 18. 10. 2024, leg. et det. JČ, BRACR41434; ***Crepidotus cesatii*** (Rabenh.) Sacc.: on wood, 18. 10. 2024, leg. IK, det. JČ, BRACR41438; ***Galerina marginata*** (Batsch) Kühner: 18. 10. 2024, leg. et det. IK, JČ, BRACR40596, BRACR40597; ***Geastrum* sp.**: 18. 10. 2024, leg. et det. IK, JČ, BRACR40591; ***Gymnopilus penetrans*** (Fr.) Murrill: 18. 10. 2024, leg. et det. IK, JČ, BRACR40590; ***Flammulaster limulatus*** (Fr.) Watling: 18. 10. 2024, leg. et det. IK, JČ, BRACR40583; ***Hebeloma* sp.**: 18. 10. 2024, leg. et det. IK, JČ, BRACR40578; ***Hericium coralloides*** (Scop.) Pers.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40564; ***Hygrophorus eburneus*** (Bull.) Fr., 18. 10. 2024, leg. et det. JČ, BRACR41425; ***Hypholoma fasciculare*** (Huds.) P. Kumm.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40576, BRACR40592; ***Inocybe geophylla* var. *lilacina*** (Peck) Gillet: 18. 10. 2024, leg. et det. IK, JČ, BRACR40559; ***Inonotus radiatus*** (Sowerby) P. Karst.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40581; ***Kuehneromyces mutabilis*** (Schaeff.) Singer et A. H. Sm.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40573; ***Macrolepiota mastoidea*** (Fr.) Singer: 18. 10. 2024, leg. et det. IK, JČ, BRACR40579; ***Marasmius torquescens*** Quél.: 18. 10. 2024, leg. et det. JČ, BRACR41431; ***Megacollybia platyphylla*** (Pers.) Kotl. & Pouzar: 18. 10. 2024, leg. et det. IK, JČ, BRACR40575; ***Mycena arcangeliana*** Bres.: 18. 10. 2024,

leg. et det. IK, JČ, BRACR40588; ***Mycena crocata*** (Schrad.) P. Kumm.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40584; ***Mycena galericulata*** (Scop.) Gray: 18. 10. 2024, leg. et det. IK, JČ, BRACR40567; ***Mycena haematopus*** (Pers.) P. Kumm.: on wood, 18. 10. 2024, leg. et det. JČ, BRACR41437; ***Mycena pelianthina*** (Fr.) Quél.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40580; ***Mycena rosea*** Gramberg: 18. 10. 2024, leg. et det. IK, JČ, BRACR40571; ***Mycetinis alliaceus*** (Jacq.) Earle ex A. W. Wilson & Desjardin: 18. 10. 2024, leg. et det. IK, JČ, BRACR40554; ***Paralepista flaccida*** (Sowerby) Vizzini: 18. 10. 2024, leg. et det. IK, JČ, BRACR40577; ***Parasola lactea*** (A.H. Sm.) Redhead, Vilgalys & Hopple: 18. 10. 2024, leg. VK, det. JČ, BRACR41428; ***Paxillus rubicundulus*** P. D. Orton: 18. 10. 2024, leg. et det. IK, JČ, BRACR40558; ***Phlebia tremellosa*** (Schrad.) Nakasone & Burds.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40589; ***Picipes badius*** (Pers.) Zmitr. & Kovalenko: 18. 10. 2024, leg. et det. IK, JČ, BRACR40585; ***Pluteus cervinus*** (Schaeff.) P. Kumm.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40593; ***Pluteus nanus*** (Pers.) P. Kumm.: on wood, 18. 10. 2024, leg. et det. JČ, BRACR41427; ***Pluteus romellii*** (Britzelm.) Lapl.: on wood, 18. 10. 2024, leg. et det. JČ, BRACR41435; ***Pluteus salicinus*** (Pers.) P. Kumm.: on wood, 18. 10. 2024, leg. VK, det. JČ, BRACR41439; 18. 10. 2024, leg. et det. IK, JČ, BRACR40569; ***Polyporus brumalis*** (Pers.) Fr.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40570; ***Psathyrella pseudogracilis*** (Romagn.) M. M. Moser: 18. 10. 2024, leg. VK, det. JČ, BRACR41432; ***Psilocybe serbica*** M. M. Moser & E. Horak: 18. 10. 2024, leg. et det. JČ, BRACR41433; ***Ramaria stricta*** (Pers.) Quél.: 18. 10. 2024, leg. et det. JČ, BRACR41440; ***Rhodocollybia butyracea* f. *asema*** (Fr.) Antonín, Halling & Noordel.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40572; ***Sarcomyxa serotina*** (Pers.) P. Karst.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40582; ***Schizophyllum commune*** Fr.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40574; ***Trametes versicolor*** (L.) Lloyd: 18. 10. 2024, leg. et det. IK, JČ, BRACR40562, BRACR587; ***Tubaria furfuracea*** (Pers.) Gillet: 18. 10. 2024, leg. IK, det. JČ, BRACR41430; ***Tulosesus impatiens*** (Fr.) D. Wächt. & A. Melzer: 18. 10. 2024, leg. VK, det. JČ, BRACR41429.

Malé Karpaty Mts., Pezinok, Rudné bane - north, in the valley of Blatina stream, deciduous forest (*Alnus glutinosa*, *Acer campestre*, *Carpinus betulus*, *Fagus sylvatica*), alt.: 220 m

Agaricus moelleri Wasser: 7. 11. 2023, leg. et det. JČ, BRACR38972; ***Armillaria mellea*** (Vahl) P. Kumm.: on roots, 7. 11. 2023, leg. et det. JČ, BRACR38952; 18. 10. 2024, leg. et det. IK, JČ, BRACR40610 (Fig. 4); ***Artomyces pyxidatus*** (Pers.) Jülich: 18. 10. 2024, leg. et det. IK, JČ, BRACR40609; ***Bjerkandera adusta*** (Willd.) P. Karst.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40599; ***Coprinellus disseminatus*** (Pers.) J. E. Lange: 18. 10. 2024, leg. et det. IK, JČ, BRACR40606, BRACR40613; ***Coprinellus micaceus*** (Bull.) Vilgalys, Hopple & Jacq. Johnson: 18. 10. 2024, leg. et det. IK, JČ, BRACR40608; ***Coriolopsis gallica*** (Fr.) Ryvarden: on wood, 7. 11. 2023, leg. et det. JČ, BRACR38968; ***Cortinarius* sp.**: 7. 11. 2023, leg. et det. JČ, BRACR38958; ***Daedaleopsis confragosa*** (Bolton) J. Schröt.: on wood, 7. 11. 2023, leg. et det. JČ, BRACR38971; 18. 10. 2024, leg. et det. IK, JČ, BRACR40615; ***Exidia* sp.**: on wood, 7. 11. 2023, leg. et det. JČ, BRACR38955; ***Galerina marginata*** (Batsch) Kühner: on wood, 7. 11. 2023, leg. et det. JČ, BRACR38967; 18. 10. 2024, leg. et det. IK, JČ, BRACR40598; ***Hypholoma fasciculare*** (Huds.) P. Kumm.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40600; ***Laccaria laccata*** (Scop.) Cooke: 18. 10. 2024, leg. et det. IK, JČ, BRACR40614; ***Lepista sordida*** (Schumach.) Singer: 18. 10. 2024, leg. et det. IK, JČ, BRACR40607; ***Mycena crocata*** (Schrad.) P. Kumm.: on submerged wood, 7. 11. 2023, leg. et det. JČ, BRACR38956; ***Mycena galericulata*** (Scop.) Gray: 18. 10. 2024, leg. et det. IK, JČ, BRACR40557, BRACR40605; ***Mycena* sp.**: on wood, 7. 11. 2023, leg. et

det. JČ, BRACR38954; ***Mycena* sp.**: on wood, 7. 11. 2023, leg. et det. JČ, BRACR38957; ***Mycena* sp.**: on wood, 7. 11. 2023, leg. et det. JČ, BRACR38960; ***Mycetinis alliaceus*** (Jacq.) Earle ex A.W. Wilson & Desjardin: on submerged wood, 7. 11. 2023, leg. et det. JČ, BRACR38964; ***Paxillus rubicundulus*** P. D. Orton: 18. 10. 2024, leg. et det. IK, JČ, BRACR40555, BRACR40612; ***Picipes badius*** (Pers.) Zmitr. & Kovalenko: 18. 10. 2024, leg. et det. IK, JČ, BRACR40601; ***Postia* cf. *alni*** Niemelä & Vampola: on wood, 7. 11. 2023, leg. et det. JČ, BRACR38953; ***Schizophyllum commune*** Fr.: on wood, 7. 11. 2023, leg. et det. JČ, BRACR38963; ***Stereum* sp.**: on wood, 7. 11. 2023, leg. et det. JČ, BRACR38961; ***Stereum hirsutum*** (Willd.) Pers.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40602; ***Trametes hirsuta*** (Wulfen) Lloyd: on wood, 7. 11. 2023, leg. et det. JČ, BRACR38970; 18. 10. 2024, leg. et det. IK, JČ, BRACR40604; ***Trametes versicolor*** (L.) Lloyd: on wood, 7. 11. 2023, leg. et det. JČ, BRACR38959; 18. 10. 2024, leg. et det. IK, JČ, BRACR40603, BRACR40611; ***Trichaptum biforme*** (Fr.) Ryvarden: on wood, 7. 11. 2023, leg. et det. JČ, BRACR38965; ***Xerocomellus chrysenteron*** (Bull.) Šutara: 18. 10. 2024, leg. et det. IK, JČ, BRACR40556; ***Xerocomellus* sp.**: 18. 10. 2024, leg. VK, det. JČ, BRACR41594.

Malé Karpaty Mts., Pezinok, Rudné bane – south, tailing impoundment, deciduous forest, alt.: 240 m.

Coprinellus micaceus (Bull.) Vilgalys, Hopple & Jacq. Johnson: 18. 10. 2024, leg. et det. IK, JČ, BRACR40620; ***Cortinarius* sp.**: 7. 11. 2023, leg. et det. JČ, BRACR38962; ***Flammulaster limulatus*** (Fr.) Watling: 18. 10. 2024, leg. et det. IK, JČ, BRACR40616; ***Lepista sordida*** (Schumach.) Singer: 7. 11. 2023, leg. et det. JČ, BRACR38966; 18. 10. 2024, leg. et det. IK, JČ, BRACR40617; ***Mallocybe dulcamara*** (Pers.) Vizzini, Della Magg., Tolaini & Ercole: 18. 10. 2024, leg. et det. IK, JČ, BRACR40618; ***Pholiota populnea*** (Pers.) Kuyper & Tjall.-Beuk.: on fallen trunk of *Populus*, 7. 11. 2023, leg. et det. JČ, BRACR38969; ***Tricholoma scalpturatum*** (Fr.) Quél.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40619.

Malé Karpaty Mts., Pezinok, Rudné bane –Budúcnosť addit, deciduous forest (*Carpinus*, *Fagus*, *Alnus*, *Betula*), alt.: 220 m

Amanita citrina Pers.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40621; ***Amanita muscaria*** L. Lam.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40631; ***Amanita pantherina*** (DC.) Krombh.: deciduous forest, 9. 8. 2025, leg. VK, det. IK, BRACR42140; ***Amanita phalloides*** (Vaill. ex Fr.) Link: deciduous forest, 9. 8. 2025, leg. VK, det. IK, BRACR42138; ***Amanita rubescens*** Pers.: deciduous forest, 9. 8. 2025, leg. VK, det. IK, BRACR42142; ***Armillaria mellea*** (Vahl) P. Kumm.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40638; ***Bjerkandera adusta*** (Willd.) P. Karst.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40628; ***Cerioporus varius*** (Pers.) Zmitr. & Kovalenko: deciduous forest, on wood, 9. 8. 2025, leg. VK, det. IK, BRACR42231; ***Coprinellus micaceus*** (Bull.) Vilgalys, Hopple & Jacq. Johnson: 18. 10. 2024, leg. et det. IK, JČ, BRACR40635; ***Galerina marginata*** (Batsch) Kühner: 18. 10. 2024, leg. et det. IK, JČ, BRACR40622; ***Gymnopus dryophilus*** (Bull.) Murrill: 18. 10. 2024, leg. et det. IK, JČ, BRACR40632; ***Gymnopus fusipes*** (Bull.) Gray: deciduous forest, 9. 8. 2025, leg. VK, det. IK, BRACR41134; ***Hapalopilus rutilans*** (Pers.) Murrill: deciduous forest, 9. 8. 2025, leg. VK, det. IK, BRACR42133; ***Hericium cirrhatum*** (Pers.) Nikol.: deciduous forest, 9. 8. 2025, leg. VK, det. IK, BRACR42141; ***Homophron spadiceum*** (P. Kumm.) Örstadius & E. Larss.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40676; ***Hymenopellis radicata*** (Relhan) R. H. Petersen: 18. 10. 2024, leg. et det. IK, JČ, BRACR40624, BRACR40627; deciduous forest, 9. 8. 2025, leg. VK, det. IK, BRACR42137; deciduous forest, 9. 8. 2025, leg. VK, det. IK, BRACR42233; ***Hypholoma lateritium*** (Schaeff.) P. Kumm.: 18. 10. 2024, leg. et det.

IK, JČ, BRACR40633; ***Kuehneromyces mutabilis*** (Schaeff.) Singer & A. H. Sm.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40626; ***Leucocoprinus nympharum*** (Kalchbr.) M. Asif, Saba & Vellinga: 18. 10. 2024, leg. et det. IK, JČ, BRACR40634; ***Megacollybia platyphylla*** (Pers.) Kotl. & Pouzar: 17. 6. 2025, leg. et det. IK, JČ, BRACR42068; ***Mycena galericulata*** (Scop.) Gray: 18. 10. 2024, leg. et det. IK, JČ, BRACR40623; 18. 10. 2024, leg. et det. IK, JČ, BRACR40625; ***Mycena pura*** (Pers.) P. Kumm.: 18. 10. 2024, leg. et det. IK, JČ, BRACR40629; ***Mycena rosea*** Gramberg: 18. 10. 2024, leg. et det. IK, JČ, BRACR40636; ***Pluteus salicinus*** (Pers.) P. Kumm.: deciduous forest, on wood, 9. 8. 2025, leg. VK, det. IK, BRACR42229; ***Polyporus tuberaster*** (Jacq. ex Pers.) Fr.: deciduous forest, on wood, 9. 8. 2025, leg. VK, det. IK, BRACR42228, BRACR42232; ***Ramaria stricta*** (Pers.) Quél.: deciduous forest, on wood, 9. 8. 2025, leg. VK, det. IK, BRACR42230; ***Rhodocollybia butyracea*** (Bull.) Lennox: 18. 10. 2024, leg. et det. IK, JČ, BRACR40630; ***Russula cyanoxantha*** (Schaeff.) Fr.: deciduous forest, 9. 8. 2025, leg. VK, det. IK, BRACR42136; ***Russula foetens*** Pers.: deciduous forest, 9. 8. 2025, leg. VK, det. IK, BRACR42135; ***Scleroderma citrinum*** Pers.: deciduous forest, on wood, 9. 8. 2025, leg. VK, det. IK, BRACR42223; ***Trametes hirsuta*** (Wulfen) Lloyd: deciduous forest, on wood, 9. 8. 2025, leg. VK, det. IK, BRACR42225; ***Trametes versicolor*** (L.) Lloyd: deciduous forest, on wood, 9. 8. 2025, leg. VK, det. IK, BRACR42226; ***Trichaptum biforme*** (Fr.) Ryvarden: deciduous forest, on wood, 9. 8. 2025, leg. VK, det. IK, BRACR42227; ***Xerocomellus chrysenteron*** (Bull.) Šutara: 18. 10. 2024, leg. et det. IK, JČ, BRACR40637; ***Xerocomellus porosporus*** (Imler ex Watling) Šutara: deciduous forest, 9. 8. 2025, leg. VK, det. IK, BRACR42132; ***Xerocomellus subtomentosus*** (L.) Quél.: deciduous forest, 9. 8. 2025, leg. VK, det. IK, BRACR42131; ***Xylaria polymorpha*** (Pers.) Grev.: deciduous forest, on wood, 9. 8. 2025, leg. VK, det. IK, BRACR42224.

Malé Karpaty Mts., Pezinok, Rudné Bane, Sirková addit, deciduous forest (*Carpinus*, *Fagus*, *Quercus*, *Acer*), alt.: 250 m.

Agaricus sylvicola (Vittad.) Peck.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40675; ***Aleuria aurantia*** (Pers.) Fuckel: 23. 10. 2024, leg. et det. IK, JČ, BRACR40667; ***Amanita citrina*** Pers.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40651; ***Amanita pantherina*** (DC.) Krombh.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40668; ***Apioperdon pyriforme*** (Schaeff.): 23. 10. 2024, leg. et det. IK, JČ, BRACR40663; ***Armillaria mellea*** (Vahl) P. Kumm.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40669; ***Artomyces pyxidatus*** (Pers.) Jülich: 23. 10. 2024, leg. et det. IK, JČ, BRACR40640; ***Armillaria gallica*** Marxm. & Romagn.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40674; ***Bjerkandera adusta*** (Willd.) P. Karst.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40644; ***Coprinellus micaceus*** (Bull.) Vilgalys, Hopple & Jacq. Johnson: 23. 10. 2024, leg. et det. IK, JČ, BRACR40648; ***Coprinopsis lagopus*** (Fr.) Redhead, Vilgalys & Moncalvo: 23. 10. 2024, leg. et det. IK, JČ, BRACR40654; ***Crepidotus applanatus*** (Pers.) P. Kumm.: 23. 10. 2024, leg. et det. JČ, IK, BRACR41422; ***Echinoderma asperum*** (Pers.) Bon: 23. 10. 2024, leg. et det. IK, JČ, BRACR40646; ***Galerina marginata*** (Batsch) Kühner: 23. 10. 2024, leg. et det. IK, JČ, BRACR40639; ***Geastrum* sp.**: 23. 10. 2024, leg. et det. IK, JČ, BRACR40653; ***Gymnopilus penetrans*** (Fr.) Murrill: 23. 10. 2024, leg. et det. IK, JČ, BRACR40641, BRACR40645; ***Gymnopus erythropus*** (Pers.) Antonín, Halling & Noordel.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40666; ***Hebeloma* cf. *mesophaeum*** (Pers.) Quél.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40657; ***Hymenopellis radicata*** (Relhan) R. H. Petersen: 23. 10. 2024, leg. et det. IK, JČ, BRACR40652, BRACR40665; ***Hypholoma fasciculare*** (Huds.) P. Kumm.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40673; ***Hypholoma lateritium*** (Schaeff.) P. Kumm.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40643 BRACR40677; ***Laccaria laccata*** (Scop.) Cooke: 23. 10. 2024, leg. et det. IK, JČ, BRACR40659; ***Lacrymaria***

lacrymabunda (Bull.) Pat.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40642; ***Lactarius decipiens*** Quél.: 23. 10. 2024, leg. et det. JČ, IK, BRACR41423; ***Lepiota cristata*** (Bolton) P. Kumm.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40661; ***Lepiota fuscovinacea*** F. H. Møller & J. E. Lange: 23. 10. 2024, leg. et det. JČ, IK, BRACR41419; ***Lepista nuda*** (Bull.) Cooke: 23. 10. 2024, leg. et det. IK, JČ, BRACR40662; ***Leucogyrophana mollusca*** (Fr.) Pouzar: on wood, 23. 10. 2024, leg. et det. JČ, IK, BRACR41421; ***Lycoperdon perlatum*** Pers.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40650; ***Meripilus giganteus*** (Pers.) P. Karst.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40664; ***Mycena galericulata*** (Scop.) Gray: 23. 10. 2024, leg. et det. IK, JČ, BRACR40655; ***Mycena inclinata*** (Fr.) Quél.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40649; ***Mycena maculata*** P. Karst.: on wood, 23. 10. 2024, leg. et det. JČ, IK, BRACR41424; ***Mycena pura*** (Pers.) P. Kumm.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40647; ***Mycetinis alliaceus*** (Jacq.) Earle ex A. W. Wilson & Desjardin: 23. 10. 2024, leg. et det. IK, JČ, BRACR40658; ***Picipes badius*** (Pers.) Zmitr. & Kovalenko: 23. 10. 2024, leg. et det. IK, JČ, BRACR40672; ***Pluteus cervinus*** (Schaeff.) P. Kumm: on wood, 23. 10. 2024, leg. et det. IK, JČ, BRACR41418; ***Russula* sp.**: 23. 10. 2024, leg. et det. JČ, IK, BRACR41420; ***Sarcomyxa serotina*** (Pers.) P. Karst.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40660; ***Trametes hirsuta*** (Wulfen) Lloyd: 23. 10. 2024, leg. et det. IK, JČ, BRACR40656; ***Trametes versicolor*** (L.) Lloyd: 23. 10. 2024, leg. et det. IK, JČ, BRACR40671, BRACR40678; ***Xerocomellus chrysenteron*** (Bull.) Šutara: 23. 10. 2024, leg. et det. IK, JČ, BRACR40670.

Malé Karpaty, Pezinok, Rudné Bane, old hospital, deciduous forest (*Carpinus*, *Fagus*, *Quercus*, *Acer*, *Alnus*), alt.: 250 m.

Armillaria gallica Marxm. & Romagn.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40699; ***Armillaria mellea*** (Vahl) P. Kumm.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40698; ***Artomyces pyxidatus*** (Pers.) Jülich: 23. 10. 2024, leg. et det. IK, JČ, BRACR40685; ***Bjerkandera adusta*** (Willd.) P. Karst.: on wood, 23. 10. 2024, leg. et det. JČ, IK, BRACR41453; ***Chondrostereum purpureum*** (Pers.) Pouzar: 23. 10. 2024, leg. et det. IK, JČ, BRACR40687; ***Coprinellus disseminatus*** (Pers.) J. E. Lange: 23. 10. 2024, leg. et det. IK, JČ, BRACR40686; ***Coprinellus micaceus*** (Bull.) Vilgalys, Hopple & Jacq. Johnson: 23. 10. 2024, leg. et det. JČ, IK, BRACR41446; ***Coprinopsis atramentaria*** (Bull.) Redhead, Vilgalys & Moncalvo: 23. 10. 2024, leg. et det. IK, JČ, BRACR40695; ***Cortinarius* sp.** (sect. Hinnulei): 23. 10. 2024, leg. et det. JČ, IK, BRACR41482; ***Crepidotus crocophyllus*** (Berk.) Sacc.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40694; ***Crepidotus mollis*** (Schaeff.) Staude: 23. 10. 2024, leg. et det. IK, JČ, BRACR40684; ***Daedaleopsis confragosa* var. *confragosa*** (Bolton) J. Schröt.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40700; ***Daedaleopsis confragosa* var. *tricolor*** (Bull.) Bondartsev & Singer: 23. 10. 2024, leg. et det. IK, JČ, BRACR40680; ***Entoloma sericatum*** (Britzelm.) Sacc.: 23. 10. 2024, leg. et det. JČ, IK, BRACR41448; ***Entoloma versatile*** (Gillet) M. M. Moser: 23. 10. 2024, leg. et det. JČ, IK, BRACR41442; ***Galerina marginata*** (Batsch) Kühner: 23. 10. 2024, leg. et det. IK, JČ, BRACR40697; ***Hypholoma fasciculare*** (Huds.) P. Kumm.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40682; ***Hypholoma lateritium*** (Schaeff.) P. Kumm.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40677; ***Inocybe asterospora*** Quél.: 23. 10. 2024, leg. et det. JČ, IK, BRACR41445; ***Inocybe* cf. *pelargonium*** Kühner: 23. 10. 2024, leg. et det. JČ, IK, BRACR41484; ***Inonotus radiatus*** (Sowerby) P. Karst.: on wood, 23. 10. 2024, leg. IK, det. JČ, BRACR41449; ***Ischnoderma resinosum*** (Schrad.) P. Karst.: on wood, 23. 10. 2024, leg. et det. JČ, IK, BRACR41485; ***Lacrymaria lacrymabunda*** (Bull.) Pat.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40691; ***Macrolepiota procera*** (Scop.) Singer: 23. 10. 2024, leg. et det. JČ, IK, BRACR41441;

Mycena arcangeliana Bres.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40683; on lying small branch of deciduous tree, 23. 10. 2024, leg. et det. JČ, IK, BRACR41481; ***Mycena crocata*** (Schrad.) P. Kumm.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40689; ***Mycena galericulata*** (Scop.) Gray: 23. 10. 2024, leg. et det. IK, JČ, BRACR40696; ***Mycena pseudocorticola*** Kühner: on fallen trunk of deciduous tree outgrown by mosses, 23. 10. 2024, leg. et det. JČ, IK, BRACR41457; ***Mycena* sp.**: 23. 10. 2024, leg. et det. JČ, IK, BRACR41443; ***Mycena* sp.**: 23. 10. 2024, leg. et det. JČ, IK, BRACR41450; ***Naucoria scolecina*** (Fr.) Quél.: 23. 10. 2024, leg. et det. JČ, IK, BRACR41451; ***Phaeotremella foliacea*** (Pers.) Wedin, J. C. Zamora & Millanes: on wood, 23. 10. 2024, leg. et det. JČ, IK, BRACR41454; ***Phlebia tremellosa*** (Schrad.) Nakasone & Burds.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40690; ***Picipes badius*** (Pers.) Zmitr. & Kovalenko: 23. 10. 2024, leg. et det. IK, JČ, BRACR40692; ***Pleurotus dryinus*** (Pers.) P. Kumm.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40693; ***Pluteus cervinus*** (Schaeff.) P. Kumm.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40679; ***Pluteus salicinus*** (Pers.) P. Kumm.: on wood of deciduous tree, 23. 10. 2024, leg. et det. JČ, IK, BRACR41456; ***Pluteus umbrosus*** (Pers.) P. Kumm.: 23. 10. 2024, leg. et det. JČ, IK, BRACR41452; ***Postia caesia*** (Schrad.) P. Karst.: 23. 10. 2024, leg. et det. IK, JČ, BRACR40681; ***Psathyrella* cf. *corrugis*** (Pers.) Konrad & Maubl.: 23. 10. 2024, leg. et det. JČ, IK, BRACR41447; ***Rickenella fibula*** (Bull.) Raithelh.: in mosses on wood of deciduous tree: 23. 10. 2024, leg. et det. JČ, IK, BRACR41455; ***Russula* sp.**: 23. 10. 2024, leg. et det. JČ, IK, BRACR41444; ***Trametes hirsuta*** (Wulfen) Lloyd: 23. 10. 2024, leg. et det. IK, JČ, BRACR40688; ***Trametes versicolor*** (L.) Lloyd: 23. 10. 2024, leg. et det. IK, JČ, BRACR40678.

BRATISLAVA-VRAKUŇA

The investigated area is a former municipal solid waste (MSW) landfill, which operated from 1967 to 1986. Ashes from the municipal solid waste incineration (MSWI ash) and different construction wastes were also deposited in the landfill. It is very likely that the MSWI ash disposed of in this landfill consists of bottom and fly ash. The area is located in the inner city of Bratislava, in the Vrakuňa district and is surrounded by residential zones. The urban park is located in the southern part of the landfill and widely used by residents. The waste is covered by soil and soil-like material (collectively referred to as landfill soils) but in many places, waste is commonly visible, mainly unsorted municipal solid and construction waste, but also tyres. In some places, the landfill is densely overgrown with invasive vegetation. The landfill body is located in Quaternary fluvial sediments, which consist of sands and gravels (Hiller et al. 2024).

Podunajská rovina, citypark Vrakuňa („Vrakunský les"), alt.: 130 m.
Agaricus bitorquis (Quél.) Sacc.: 11. 10. 2022, leg. OB, det. JČ, BRACR36560; on ground in grass, 18. 4. 2024, leg. et det. JČ, BRACR39801(Fig.5); on ground in grass, 18. 4. 2024, leg. IK, det. JČ, BRACR39800; ***Agaricus bohusii*** Bon: on ground, 30. 10. 2023, leg. IK, det. JČ, BRACR38817; ***Agaricus pilatianus*** (Bohus) Bohus: on ground, 30. 10. 2023, leg. IK, det. JČ, BRACR38816; 15. 10. 2024, leg. IK, det. JČ, BRACR40553; 11. 6. 2025, leg. IK, det. JČ, BRACR42070, BRACR42074; ***Agaricus* cf. *subperonatus*** (J. E. Lange) Singer: 11. 10. 2022, leg. OB, det. JČ, BRACR36564, BRACR36570, BRACR36572; ***Agrocybe* sp.**: 11. 6. 2025, leg. JČ, det. IK, BRACR42072; ***Armillaria gallica*** Marxm. & Romagn.: 11. 10. 2022, leg. OB, det. JČ, BRACR36563; ***Auricularia auricula-judae*** (Bull.) Quél.: on fallen trunk of deciduous tree, 18. 4. 2024, leg. JČ, det. JČ, BRACR39798; ***Auricularia mesenterica***

(Dicks.) Pers.: on wood of deciduous tree, 30. 10. 2023, leg. IK, det. JČ, BRACR38819; on fallen trunk of deciduous tree, 18. 4. 2024, leg. et det. IK, BRACR39802; ***Candolleomyces candolleanus*** (Fr.) D. Wächt. & A. Melzer: 11. 6. 2025, leg. IK, det. JČ, BRACR42069; ***Coprinellus domesticus*** (Bolton) Vilgalys, Hopple & Jacq. Johnson: on ground, 30. 10. 2023, leg. IK, det. JČ, BRACR38821; ***Coprinellus truncorum*** (Bolton) Vilgalys, Hopple & Jacq. Johnson: 15. 10. 2024, leg. IK, det. JČ, BRACR40551; 11. 6. 2025, leg. IK, det. JČ, BRACR42073; ***Leucoagaricus leucothites*** (Vittad.) Wasser: on ground, 30. 10. 2023, leg. IK, det. JČ, BRACR38818; ***Lyophyllum decastes*** (Fr.) Singer: 11. 10. 2022, leg. OB, det. JČ, BRACR36568, BRACR36571; ***Lyophyllum* sp.**: on ground in grass, 18. 4. 2024, leg. IK, det. JČ, BRACR39799; ***Marasmiellus candidus*** (Fr.) Singer: 15. 10. 2024, leg. IK, det. JČ, BRACR40550; ***Melanoleuca* sp.**: 15. 10. 2024, leg. IK, det. JČ, BRACR40552; ***Parasola conopila*** (Fr.) Örstadius & E. Larss.: on ground, 30. 10. 2023, leg. IK, det. JČ, BRACR38820; ***Stropharia coronilla*** (Bull.) Quél.: 11. 6. 2025, leg. IK, det. JČ, BRACR42071.

ŠPANIA DOLINA

Ore processing in the former ore flotation plant:

Tailing impoundment 1, also called the old one, was founded at an altitude of 595 m above sea level and the dam reached a height of 646 m above sea level. Approximately 556,000 tons of flotation sand were deposited there and it was in use until the mid-1970s. Currently, it is partially overgrown with vegetation and partially filled with tailings from the Ivan exploration adit. The tailings pond contains a variety of material after the processing of Cu ores from the Piesky site, probably also slag and dross material from metallurgical production in Banská Štiavnica. The tailings pond is reclaimed and seepage water is led under the tailings pond 2 dam.

Tailing impoundment 2, also called the new one, was built in 1977, approximately 120 m from the foot of tailing impoundment 1. The dam is built at an altitude of 542 m above sea level and reached a height of approximately 580 m. The tailings pond was used to deposit various materials after the treatment of Cu ores, waste after the processing of Hg ores from the Malachov deposit, slag material from metallurgical production in Banská Štiavnica, as well as waste after the flotation treatment of talc from the Hnúšťa deposit. The tailings pond is reclaimed and seepage waters are led under the dam of tailings pond 2.

Starohorské vrchy, Špania Dolina, upper tailing impoundment, mixed forest (*Picea*, *Larix*, *Betula*, *Populus*), alt.: 600 m.

Cortinarius* sp.**: 21. 10. 2022, leg. et det. JČ, IK, BRACR36632; ***Cortinarius* sp.**: 21. 10. 2022, leg. et det. JČ, IK, BRACR36633; ***Cortinarius* sp.**: 21. 10. 2022, leg. et det. JČ, IK, BRACR36637; ***Cortinarius* sp.** (subgen. Telamonia): 13. 10. 2023, leg. BV, det. JČ, BRACR38701; ***Cystoderma* sp.**: 21. 10. 2022, leg. et det. JČ, IK, BRACR36636; ***Galerina* sp.**: 21. 10. 2022, leg. et det. JČ, IK, BRACR36635; ***Hebeloma* sp.**: 21. 10. 2022, leg. et det. JČ, IK, BRACR36634; ***Hebeloma* sp.**: 13. 10. 2023, leg. BV, det. JČ, BRACR38705; ***Hygrophorus agathosmus (Fr.) Fr.: 21. 10. 2022, leg. et det. JČ, IK, BRACR36644; ***Lactarius sp.***: 21. 10. 2022, leg. et det. JČ, IK, BRACR36639; ***Lactarius vellereus*** (Fr.) Fr.: 13. 10. 2023, leg. BV, det. IK, BRACR38702; ***Leccinum scabrum*** (Bull.) Gray: 13. 10. 2023, leg. BV, det. IK, BRACR38704; ***Lyophyllum decastes*** (Fr.) Singer: 13. 10. 2023, leg. BV, det. IK, BRACR38703; ***Mycena* aff. *pura***: on ground, 29. 6. 2023, leg. et det. JČ, BRACR38328; ***Paxillus rubicundulus*** P. D. Orton: 13. 10. 2023, leg. BV, det. IK, BRACR38699; ***Picipes badius*** Zmitr. & Kovalenko: on fallen trunk, 29. 6. 2023, leg. et det.

JČ, BRACR38327; ***Russula* sp.**: 21. 10. 2022, leg. et det. JČ, IK, BRACR36640; ***Russula* sp.**: 13. 10. 2023, leg. BV, det. JČ, BRACR38700; ***Russula* sp.**: 13. 10. 2023, leg. BV, det. JČ, BRACR38698; ***Suillus cavipes*** (Klotzsch) A.H. Sm. & Thiers: 21. 10. 2022, leg. et det. JČ, IK, BRACR36646, BRACR36669; ***Suillus grevillei*** (Klotzsch) Singer: 21. 10. 2022, leg. et det. JČ, IK, BRACR36638; ***Tricholoma argyraceum*** (Bull.) Gillet: 21. 10. 2022, leg. et det. JČ, IK, BRACR36663; ***Tricholoma scalpturatum*** (Fr.) Quél.: 21. 10. 2022, leg. et det. JČ, IK, BRACR36645.

Starohorské vrchy, Špania Dolina, lower impoundment, mixed forest (*Picea*, *Larix*, *Betula*, *Populus*), alt.: 600 m.
Armillaria* sp.**: 21. 10. 2022, leg. et det. IK, JČ, BRACR36674; ***Conocybe* sp.**: 21. 10. 2022, leg. et det. IK, JČ, BRACR36657; ***Coprinopsis atramentaria (Bull.) Redhead, Vilgalys & Moncalvo: 21. 10. 2022, leg. et det. IK, JČ, BRACR36676; ***Echinoderma asperum*** (Pers.) Bon: 21. 10. 2022, leg. et det. IK, JČ, BRACR36671; ***Hebeloma* sp.**: 21. 10. 2022, leg. et det. IK, JČ, BRACR36661; ***Hemimycena candida*** (Bres.) Singer: on *Symphytum*, 21. 10. 2022, leg. et det. IK, JČ, BRACR36660; ***Lactarius pubescens*** Fr.: 21. 10. 2022, leg. et det. IK, JČ, BRACR36662; ***Lacrymaria lacrymabunda*** (Bull.) Pat.: 21. 10. 2022, leg. et det. IK, JČ, BRACR36675; ***Leucocybe connata*** (Schumach.) Vizzini, P. Alvarado, G. Moreno & Consiglio: 21. 10. 2022, leg. et det. IK, JČ, BRACR36672; ***Psathyrella* sp.**: 21. 10. 2022, leg. et det. IK, JČ, BRACR36659; ***Psathyrella* sp.**: 21. 10. 2022, leg. et det. IK, JČ, BRACR36673.

Starohorské vrchy, Špania Dolina, tailing impoundment Maximilián
Suillus bovinus (L.) Roussel: 13. 10. 2023, leg. JČ, det. JČ, BRACR38728.

RÁKOŠ

The deposit is located 0.5 – 1 km NE of the village Rákoš. It was discovered in 1956 and is formed by vein-impregnation mineralization tied to a massive thrust tectonic line between clayey-sandy shales of the Lower Triassic in the overburden and Permian siliceous-sericite and calcareous phyllites, conglomerates and sandstones in the basement.
The deposit is formed by a very irregular vein-impregnation zone following a tectonic line and consists of older small veins of carbonates or quartz and younger impregnations, or veins of vermilion.
The veins also contain barite, chalcopyrite, chalcosine, vermilion, calcite, pyrite and hematite (specularite). The impregnations contain hematite, pyrite, magnetite, vermilion, siderite, quartz and rare barite (Szakáll 2002).
The average thickness of the more ore-rich parts is 1.6 m (0.1 to 2.5 m), the average metal content is 0.1% Hg, while sections with 0.2% Hg constitute half of the reserves. The total direction length of the deposit is 1000m, three ore-rich sections with a total length of 150 m have been verified. Mining of Hg ores in the Rákoš district was completed in 1967.
The mine liquidation took place in the years 1986 – 1988.

Revúcka vrchovina, Rákoš, Géza addit, deciduous forest, alt.: 350 m.
Amanita phalloides (Vaill. ex Fr.) Link: 20. 10. 2022, leg. BV et TF, det. JČ, BRACR36611; ***Armillaria* sp.**: 20. 10. 2022, leg. BV et TF, det. JČ, BRACR36610; ***Armillaria* sp.**: 20. 10. 2022, leg. BV et TF, det. JČ, BRACR36612; ***Clitocybe nebularis*** (Batsch) P. Kumm.: 20. 10. 2022, leg. BV et TF, det. JČ, BRACR36647; ***Entoloma* sp.**: 20. 10. 2022, leg. BV et TF, det. JČ, BRACR36609.

Revúcka vrchovina, Rákoš, tailing impoundment in the village, grassand shrubs, alt.: 330 m

Agrocybe* sp.**: 7. 6. 2024, leg. et det. IK, BRACR40146; ***Auriscalpium vulgare Gray: 20. 10. 2023, leg. et det. JČ, BRACR38992; ***Conocybe* sp.**: 7. 6. 2024, leg. et det. JČ, BRACR40161; ***Crinipellis scabella*** (Alb. & Schwein.) Murrill.: 20. 10. 2023, leg. et det. JČ, BRACR38993; 7. 6. 2024, leg. IK, det. JČ, BRACR40154; ***Hypholoma fasciculare*** (Huds.) P. Kumm.: 20. 10. 2023, leg. et det. JČ, BRACR38997; 7. 6. 2024, leg. VK, det. JČ, BRACR40156; ***Inocybe* sp.**: 7. 6. 2024, leg. et det. JČ, BRACR40162; ***Lentinus arcularius*** (Batsch) Zmitr.: 7. 6. 2024, leg. VK, det. JČ, BRACR40149; ***Mallocybe dulcamara*** (Pers.) Vizzini, Della Magg., Tolaini & Ercole: 7. 6. 2024, leg. VK, det. JČ, BRACR40145; ***Marasmius oreades*** (Bolton) Fr.: 20. 10. 2023, leg. et det. JČ, BRACR38996; 7. 6. 2024, leg. et det. IK, BRACR40144 (Fig.6); ***Paxillus involutus*** (Batsch) Fr.: 20. 10. 2023, leg. et det. JČ, BRACR38757; ***Rheubarbariboletus armeniacus*** (Quél.) Vizzini, Simonini & Gelardi: under *Pinus*, *Quercus*, *Carpinus*, *Fagus*, *Betula*, 6. 9. 2022, leg. et det. JČ, BRACR36491; ***Russula* cf. *aeruginea*** Lindblad ex Fr.: 7. 6. 2024, leg. et det. JČ, BRACR40151; ***Russula* sp.**: under *Betula*, *Pinus*, *Quercus*, *Carpinus*, 6. 9. 2022, leg. et det. IK, BRACR36499; ***Scleroderma bovista*** Fr.: in grass v blízkosti listnatého lesa (*Betula*, *Pinus*, *Carpinus*, *Fagus*), 6. 9. 2022, leg. IK, det. JČ, BRACR36492; ***Scleroderma citrinum*** Pers.: 20. 10. 2023, leg. et det. JČ, BRACR36498; ***Stereum* sp.**: on the trunk of deciduous tree, 7. 6. 2024, leg. et det. JČ, BRACR40148; ***Suillus granulatus*** (L.) Roussel: under *Pinus*, *Betula*, *Carpinus*, *Quercus*, 6. 9. 2022, leg. et det. IK, BRACR36497; ***Suillus luteus*** (L.) Roussel: 20. 10. 2023, leg. et det. JČ, BRACR38758; ***Tricholoma fulvum*** (DC.) Bigeard & H. Guill.: 20. 10. 2023, leg. et det. JČ, BRACR38994; ***Xerocomellus chrysenteron*** (Bull.) Šutara: under *Fagus*, *Carpinus*, 6. 9. 2022, leg. et det. JČ, BRACR36498.

Revúcka vrchovina, Rákoš, Petrlín (tailing impoundment Peterlína), alt.: 350 m, mixed forest.

Amanita muscaria (L.) Lam.: 20. 10. 2022, leg. BV et TF, det. IK, BRACR36614, BRACR36624, BRACR36651; ***Amanita rubescens*** Pers.: 20. 10. 2022, leg. BV et TF, det. IK, BRACR36615; ***Gymnopus dryophilus*** (Bull.) Murrill.: 20. 10. 2023, leg. et det. JČ, BRACR41601; ***Gymnopus* sp.**: 20. 10. 2023, leg. et det. JČ, BRACR41595; ***Hebeloma* sp.**: 20. 10. 2023, leg. et det. JČ, BRACR41602; ***Hygrophoropsis aurantiaca*** (Wulfen) Maire: mixed forest, 20. 10. 2023, leg. et det. JČ, BRACR38988; ***Hygrophorus hypothejus*** (Fr.) Fr.: 20. 10. 2022, leg. BV et TF, det. IK, BRACR36642; ***Imleria badia*** (Fr.) Vizzini: 20. 10. 2022, leg. BV et TF, det. IK, BRACR36621; ***Laccaria* sp.**: 20. 10. 2023, leg. et det. JČ, BRACR41597; ***Laccaria* sp.**: 20. 10. 2023, leg. et det. JČ, BRACR41600; ***Lactarius deliciosus*** (L.) Gray: 20. 10. 2022, leg. BV et TF, det. IK, BRACR36626, BRACR36641; ***Lactarius deterrimus*** Gröger: 20. 10. 2022, leg. BV et TF, det. IK, BRACR36653; ***Lactarius rufus*** (Scop.) Fr.: 20. 10. 2022, leg. BV et TF, det. IK, BRACR36650; mixed forest, 20. 10. 2023, leg. JČ, det. IK, BRACR38991; ***Lactarius turpis*** (Weinm.) Fr.: 20. 10. 2022, leg. BV et TF, det. IK, BRACR36667; ***Leccinum* cf. *scabrum*** (Bull.) Gray: 20. 10. 2022, leg. BV et TF, det. IK, BRACR36623; ***Macrolepiota procera*** (Scop.) Singer: in mixed forest under tailing impoundment, 6. 9. 2022, leg. et det. IK, BRACR36556; ***Paxillus* cf. *rubicundulus*** P. D. Orton: 20. 10. 2022, leg. BV et TF, det. IK, BRACR36649; ***Russula* sp.**: 20. 10. 2023, leg. et det. JČ, BRACR41596; ***Russula* sp.**: 20. 10. 2023, leg. et det. JČ, BRACR41598; ***Russula* sp.**: 20. 10. 2023, leg. et det. JČ, BRACR41599; ***Scleroderma bovista*** Fr.: in mixed forest under tailing impoundment, 6. 9. 2022, leg. IK, det. IK, JČ, BRACR36558; ***Scleroderma citrinum*** Pers.: 20. 10. 2022, leg. BV et TF, det. IK, BRACR36648; mixed forest, 20. 10. 2023, leg.

et det. JČ, BRACR38990; ***Suillus granulatus*** (L.) Roussel: in mixed forest on tailing impoundment, 6. 9. 2022, leg. et det. JČ, BRACR36493; ***Suillus luteus*** (L.) Gray: 20. 10. 2022, leg. BV et TF, det. IK, BRACR36622; ***Tricholoma portentosum*** (Fr.) Quél.: 20. 10. 2022, leg. BV et TF, det. IK, BRACR36643, BRACR36654; ***Tricholomopsis rutilans*** (Schaeff.) Singer: mixed forest, 20. 10. 2023, leg. JČ, det. JČ, BRACR38989; ***Xerocomellus chrysenteron*** (Bull.) Šutara: in forest on tailing impoundment, 6. 9. 2022, leg. et det. JČ, BRACR36557.

Revúcka vrchovina, Rákoš, deciduous forest (*Quercus*, *Carpinus*), alt.: 330 m
Cantharellus pallens Pilát: 7. 6. 2024, leg. IK, det. JČ, BRACR40147; ***Cortinarius orellanus*** Fr.: 7. 6. 2024, leg. et det. IK, BRACR40157; ***Entoloma* sp.**: 7. 6. 2024, leg. VK, det. JČ, BRACR40160; ***Leccinum pseudoscabrum*** (Kallenb.) Šutara: 7. 6. 2024, leg. et det. IK, BRACR40143; ***Marasmius rotula*** (Scop.) Fr.: on fallen branches of deciduous trees, 7. 6. 2024, leg. VK, det. JČ, BRACR40158; on acorn of *Quercus ruber*, 7. 6. 2024, leg. et det. JČ, BRACR40150; ***Mycena* sp.**: 7. 6. 2024, leg. VK, det. JČ, BRACR40159; ***Pluteus salicinus*** (Pers.) P. Kumm.: on wood of deciduous tree, 7. 6. 2024, leg. VK, det. JČ, BRACR40155; ***Russula* sp.**: 7. 6. 2024, leg. et det. IK, BRACR40142.

MLYNKY

Geologically, the area of the Mlynky site consists mainly of phyllites, then of Carboniferous rock complexes (metavulcanites and metasandstones) and, in the northern part, of polymictic basal conglomerates and breccias of Permian age. The ore region of Mlynky was one of the richest centers of copper ore mining in Spiš. The deposits themselves have been known since the end of the 18th century, and since the 1840s, copper ore and then siderite were intensively mined. Mining ceased in the 1970s (Varček 1973). The deposit is divided into two main parts: a vein with several paragenetic types formed by the Filip vein, further divided by transverse tectonics into three zones Filip (West) - Mária (Center) - Cecília (East) and a metasomatic siderite-ankerite formed by the Zuzana and Leopold lenses (Bartalský and Hudáček 1999).

There are slight mineralogical differences within the veins, with albite, ankerite, arsenopyrite, barite, bismuthinite, bournonite, Fe-dolomite, galena, hematite, chalcopyrite, chloantite, chlorite, calcite, quartz, magnetite, muscovite-sericite, fuchsite, pyrite, cinnabar, rutile, sphalerite, siderite, scoryl, tetrahedrite and titanite occurring in the siderite-sulfide paragenesis. Tennantite and enargite were in the ankerite-quartz-chalcopyrite paragenesis, and the metasomatic phase has pyrrhotite and pyrite as another phase, which is in the form of globular aggregates of the bacterial mineralization type. Secondary phases consist of aragonite, azurite, barite, bornite, covellite, chalcosine, calcite, limonite, malachite, pure copper and gypsum (Bartalský a Hudáček 1999).

Volovské vrchy, Mlynky, Alexander addit, mixed forest, alt.: 800 m
Amanita muscaria (L.) Lam.: SE slope of the Viničiar hill, 20. 10. 2022, leg. BV, TF, det. IK, BRACR36625; ***Armillaria ostoyae*** (Romagn.) Herink SE slope of the Viničiar hill, 20. 10. 2022, leg. BV, TF, det. IK, BRACR36630; ***Armillaria* sp.**: SE slope of the Viničiar hill, 20. 10. 2022, leg. BV, TF, det. IK, BRACR36665; ***Athelia* sp.**: na ležiacom kmeni listnáča, 5. 9. 2022, leg. et det. JČ, BRACR36552; ***Chalciporus piperatus*** (Bull.) Bataille: SE slope of the Viničiar hill, 20. 10. 2022, leg. BV, TF, det. IK, BRACR36627; ***Clitocybe nebularis*** (Batsch) P. Kumm.: SE slope of the Viničiar hill, 20. 10. 2022, leg. BV, TF, det. IK, BRACR36668; ***Cortinarius cinnamomeus*** (L.) Gray: SE slope of the Viničiar hill, 20. 10. 2022,

leg. BV, TF, det. IK, BRACR36666; ***Cortinarius* sp.**: SE slope of the Viničiar hill, 20. 10. 2022, leg. BV, TF, det. IK, BRACR36629; ***Entoloma* sp.**: SE slope of the Viničiar hill, 20. 10. 2022, leg. BV, TF, det. IK, BRACR36613; ***Hebeloma mesophaeum*** (Pers.) Quél.: SE slope of the Viničiar hill, 20. 10. 2022, leg. BV, TF, det. IK, BRACR36628; ***Helvella* cf. *lacunosa*** Afzel.: fallen trunk of deciduous tree, 5. 9. 2022, leg. et det. JČ, BRACR36541; ***Lactarius mitissimus*** (Fr.) Fr.: SE slope of the Viničiar hill, 20. 10. 2022, leg. BV, TF, det. IK, BRACR36631; ***Lactarius* sp.**: under *Picea*, *Alnus*, *Betula*, 5. 9. 2022, leg. JČ, det. JČ, BRACR36540; ***Leccinum* aff. *scabrum*** (Bull.) Gray: mixed forest (*Picea*, *Salix*, *Betula*), 5. 9. 2022, leg. et det. JČ, BRACR36550; ***Leccinum scabrum*** (Bull.) Gray: under *Picea*, *Salix*, *Betula*, 5. 9. 2022, leg. et det. JČ, BRACR36551; ***Lepiota cristata*** (Bolton) P. Kumm.: in mosses at the road, 5. 9. 2022, leg. et det. JČ, BRACR36539; ***Mycena renati*** Quél.: fallen trunk of deciduous tree, 5. 9. 2022, leg. et det. JČ, BRACR36553; ***Naucoria* sp.**: under *Picea*, *Alnus*, *Betula*, 5. 9. 2022, leg. et det. JČ, BRACR36543; ***Porphyrellus porphyrosporus*** (Fr.) E.-J. Gilbert: SE slope of the Viničiar hill, 20. 10. 2022, leg. BV, TF, det. IK, BRACR36658; ***Scutellinia crinita*** (Bull.) Lambotte: fallen trunk of deciduous tree, 5. 9. 2022, leg. et det. JČ, BRACR36542; ***Stereum ochraceoflavum*** (Schwein.) Sacc.: on fallen trunk of deciduous tree, 5. 9. 2022, leg. et det. JČ, BRACR36547; ***Trametes versicolor*** (L.) Lloyd: on fallen trunk of *Salix caprea*, 5. 9. 2022, leg. et det. JČ, BRACR36545; ***Tomentella* sp.**: on fallen trunk of deciduous tree, 5. 9. 2022, leg. et det. JČ, BRACR36546; ***Trechispora microspora*** (P. Karst.) Liberta: on fallen trunk of deciduous tree, 5. 9. 2022, leg. et det. JČ, BRACR36548.

Volovské vrchy, Mlynky, Františka addit, mixed forest (*Picea*, *Betula*), alt.: 800 m
Armillaria* sp.**: 20. 10. 2022, leg. BV, TF, det. JČ, BRACR36616; ***Armillaria* sp.**: 20. 10. 2022, leg. BV, TF, det. JČ, BRACR36655; ***Armillaria* sp.**: 20. 10. 2022, leg. BV, TF, det. JČ, BRACR36656; ***Chalciporus piperatus (Bull.) Bataille: 20. 10. 2022, leg. BV, TF, det. JČ, BRACR36617; ***Imleria badia*** (Fr.) Vizzini: 20. 10. 2022, leg. BV, TF, det. JČ, BRACR36618; ***Paxillus* sp.**: 20. 10. 2022, leg. BV, TF, det. JČ; BRACR36620; ***Xerocomellus chrysenteron*** (Bull.) Šutara: 20. 10. 2022, leg. BV, TF, det. JČ, BRACR36619.

Volovské vrchy, Mlynky, Žigmunda adit, spruce forest, alt.: 850 m
Imleria badia (Fr.) Vizzini: 20. 10. 2022, leg. BV, TF, det. JČ, BRACR36652, BRACR36664.

Volovské vrchy, Mlynky, Filip adit, mixed forest, alt.: 800 m
Conocybe* sp.**: tailing impoundment, in grass, 5. 9. 2022, leg. et det. JČ, BRACR36581; ***Conocybe* sp.**: tailing impoundment, in grass, 5. 9. 2022, leg. et det. JČ, BRACR36589; ***Cystolepiota seminuda (Lasch) Bon: tailing impoundment, 5. 9. 2022, leg. JČ, det. JČ, BRACR36580; ***Inocybe* cf. *sindonia*** (Fr.) P. Karst.: tailing impoundment, in grass, 5. 9. 2022, leg. IK, det. JČ, BRACR36583; ***Inocybe* sp.**: at the stream, under *Salix*, 5. 9. 2022, leg. et det. JČ, BRACR36588; ***Inocybe* sp.**: under *Abies*, 5. 9. 2022, leg. et det. IK, BRACR36582; ***Leccinum* aff. *scabrum*** (Bull.) Gray: tailing impoundment, at the forest road 5. 9. 2022, leg. IK, det. JČ, BRACR36590; ***Lepiota cristata*** (Bolton) P. Kumm.: tailing impoundment, at the forest road, 5. 9. 2022, leg. IK, det. JČ, BRACR36593; at the stream, under *Salix*, 5. 9. 2022, leg. et det. JČ, BRACR36585; ***Pholiotina arrhenii*** (Fr.) S. Imai: tailing impoundment, in grass, 5. 9. 2022, leg. et det. JČ, BRACR36586; ***Russula integra*** (L.) Fr.: tailing impoundment, under *Pinus*, *Picea*, 5. 9. 2022, leg. PŠ, det. JČ, BRACR36594; ***Suillus americanus*** (Peck) Snell: in garden, under *Pinus cembra*, 5. 9. 2022, leg. et det. IK et JČ, BRACR36500; ***Xerocomellus chrysenteron*** (Bull.) Šutara: tailing impoundment, 5. 9. 2022, leg. PŠ, det. JČ, BRACR36584.

Volovské vrchy, Mlynky, Filip adit, tailing impoundment, alt.: 850 m
Chroogomphus rutilus (Schaeff.) O. K. Mill.: at the forest road, 5. 9. 2022, leg. IK, det. JČ, BRACR36496; ***Suillus granulatus*** (L.) Roussel: at the forest road, 5. 9. 2022, leg. IK et JČ, det. IK, BRACR36494; tailing impoundment, 5. 9. 2022, leg. PŠ, det. IK, BRACR36576; ***Lycoperdon perlatum*** Pers.: at the forest road, 5. 9. 2022, leg. et det. IK, BRACR36495.
Volovské vrchy, Mlynky, Sokolí potok stream, spruce forest, alt.: 900 m
Amanita submembranacea (Bon) Gröger: above the road in coniferous forest, 5. 9. 2022, leg. BV, det. JČ, BRACR36591; ***Boletus edulis*** Bull.: above road, 5. 9. 2022, leg. BV, det. IK, BRACR36592; ***Cortinarius sanguineus*** (Wulfen) Gray: above the road in coniferous forest, 5. 9. 2022, leg. BV, det. IK, BRACR36587; ***Echinoderma asperum*** (Pers.) Bon: at the road in weed, 5. 9. 2022, leg. et det. JČ, BRACR36591; ***Laccaria fraterna*** (Sacc.) Pegler: under *Picea abies*, 5. 9. 2022, leg. et det. JČ, BRACR36573; ***Neoboletus luridiformis*** (Rostk.) Gelardi, Simonini & Vizzini: in spruce forest, 5. 9. 2022, leg. et det. IK, BRACR36597; above the road in coniferous forest, 5. 9. 2022, leg. BV, det. IK, BRACR36577; ***Suillus grevillei*** (Klotzsch) Singer: under *Picea abies*, 5. 9. 2022, leg. et det. IK, BRACR36575; ***Xerocomellus chrysenteron*** (Bull.) Šutara: above the road in coniferous forest, 5. 9. 2022, leg. BV, det. IK, BRACR36596; under *Picea abies*, 5. 9. 2022, leg. et det. JČ, BRACR36574.

GELNICA

The ancient mining town of Gelnica is located in the northeastern part of the Slovak Ore Mountains, approximately 30 km NW of Košice, in the basin of the Hnilec River. In the past, Gelnica, together with Slovinky, was the most important copper ore vein district in the Slovak Ore Mountains. Since the 13th century, Gelnica has been a free mining town. In addition to the aforementioned copper ores, silver, mercury and later iron ores were also mined.

In the 16th century, mercury was mined in the area of the Zenderling mountain. From about 1895, siderite ore began to be exploited. In 1903, Hg ore was mined in the Gabe Gottes (Boží dar) and Zuversicht mining fields. In the years 1918 - 1921, 520 kg of Hg were obtained.

In the Gelnica area there are several ore veins, the most important of which are the Krížová vein with a length of 3.5 km and a maximum thickness of 10 m, the Gelnická vein with a length of 3.6 km and a thickness of up to 6 m, then the Overlying Gelnická vein, Boží dar, Zenderling vein and a number of smaller veins in the Perlova valley.

The main mineral of the veins is quartz, to a lesser extent siderite, chalcopyrite, pyrite, tetrahedrite, various sulfosalts, small admixtures of gold, barite and in the area of Zenderling and Gabe Gottes cinnabar and gelnicaite (Háber et al., 2004), which is essentially a mixture of galena, cinnabar and stibnite. Sejkora et al. (2011) described marrucciite as the youngest primary mineral in the siderite/dolomite-quartz-sulfide veins. The upper parts of the veins are formed by limonite with a diverse range of secondary Cu minerals formed mainly by malachite, azurite, olivenite, antlerite, cornwallite and others. The rarest ones include atacamite (Koděra et al. 1986).

Volovské vrchy, Gelnica, mixed forest (*Corylus*, *Abies*, *Betula*, *Fagus*, *Larix*), alt.: 430 m
Candolleomyces candolleanus (Fr.) D. Wächt. & A. Melzer: 11. 7. 2023, leg. et det. JČ, BRACR38401; ***Inocybe* sp.**: 11. 7. 2023, leg. et det. JČ, BRACR38400; ***Russula* sp.**: 11. 7. 2023, leg. et det. JČ, BRACR38408.

Volovské vrchy, Gelnica – Turzov, near the lake, mixed forest, alt.: 450 m.
Amanita rubescens Pers.: 6. 6. 2024, leg. IK, det. JČ, BRACR41406; ***Amanita rubescens*** Pers.: coniferous forest (*Abies alba*, *Larix decidua*), 11. 7. 2023, leg. et det. JČ, BRACR38404; ***Coprinus comatus*** (O. F. Müll.) Pers.: on ground, 6. 6. 2024, leg. VK, det. JČ, BRACR41409. ***Fomitopsis pinicola*** (Sw.) P. Karst.: on dead wood of *Abies alba*, 11. 7. 2023, leg. et det. JČ, BRACR38406; ***Russula* cf. *foetens*** Pers.: fir forest (*Abies alba*), 11. 7. 2023, leg. et det. JČ, BRACR38403; ***Suillellus luridus*** (Schaeff.) Murrill: 6. 6. 2024, leg. IK, det. JČ, BRACR41407; ***Xerocomellus chrysenteron*** (Bull.) Šutara: 6. 6. 2024, leg. IK, det. JČ, BRACR41405.

Volovské vrchy, Gelnica-Turzov Turzovské kúpele, Milošov, alt.: 490 m., mixed forest (*Picea*, *Abies*, *Fagus*)
Amanita citrina Pers.: mixed forest, 19. 10. 2023, leg. et det. JČ, IK, BRACR39015; ***Amanita muscaria*** (L.) Lam.: mixed forest, 19. 10. 2023, leg. et det. JČ, IK, BRACR39020; ***Cantharellus tubaeformis*** Fr.: mixed forest, 19. 10. 2023, leg. et det. JČ, IK, BRACR39022; ***Clavulina* sp.**: 19. 10. 2023, leg. et det. JČ, BRACR41585; ***Clavulina* sp.**: 19. 10. 2023, leg. et det. JČ, BRACR41574; ***Clavulina* sp.**: 19. 10. 2023, leg. VK, det. JČ, BRACR41580; ***Cortinarius* cf. *acutus*** (Pers.) Fr.: 19. 10. 2023, leg. et det. JČ, BRACR41583; ***Cortinarius* sp.**: 19. 10. 2023, leg. et det. JČ, BRACR41577; ***Cortinarius* sp.**: 19. 10. 2023, leg. et det. JČ, BRACR41582; ***Cortinarius* sp. (sect. Dermocybe)**: 19. 10. 2023, leg. et det. JČ, BRACR41575; ***Hebeloma* sp.**: 19. 10. 2023, leg. et det. JČ, IK, BRACR41586; ***Imleria badia*** (Fr.) Vizzini: mixed forest, 19. 10. 2023, leg. et det. JČ, IK, BRACR38756; ***Inocybe geophylla*** P. Kumm.: mixed forest, 19. 10. 2023, leg. et det. JČ, IK, BRACR39019; ***Inocybe* sp.**: 19. 10. 2023, leg. et det. JČ, BRACR41578; ***Laccaria amethystina*** Cooke: mixed forest, 19. 10. 2023, leg. et det. JČ, IK, BRACR39014; ***Laccaria* sp.**: 19. 10. 2023, leg. et det. JČ, BRACR41579; ***Lactarius helvus*** (Fr.) Fr.: mixed forest, 19. 10. 2023, leg. et det. JČ, IK, BRACR39017; ***Lactarius salmonicolor*** R. Heim & Leclair: mixed forest, 19. 10. 2023, leg. et det. JČ, IK, BRACR38755; ***Melanoleuca* sp.**: 19. 10. 2023, leg. et det. JČ, BRACR41581; ***Mycena epipterygia*** (Scop.) Gray: mixed forest, 19. 10. 2023, leg. et det. JČ, IK, BRACR39018; ***Paxillus* cf. *involutus*** (Batsch) Fr.: mixed forest, 19. 10. 2023, leg. et det. JČ, IK, BRACR39021; ***Russula aff. ochroleuca,*** 19. 10. 2023, leg. et det. JČ, BRACR41584; ***Russula* sp.**: 19. 10. 2023, leg. et det. JČ, BRACR41576; ***Tricholoma sulphureum*** (Bull.) P. Kumm.: mixed forest, 19. 10. 2023, leg. et det. JČ, IK, BRACR39016; ***Xerocomellus chrysenteron*** (Bull.) Šutara: mixed forest, 19. 10. 2023, leg. et det. JČ, IK, BRACR38752; ***Xerocomellus pruinatus*** (Fr.) Šutara: mixed forest, 19. 10. 2023, leg. et det. JČ, IK, BRACR38743.

Volovské vrchy, Gelnica, Perši jarek, mixed forest, alt.:430 m.
Amanita* cf. *excelsa (Fr.) Bertill.: under *Abies alba*, 11. 7. 2023, leg. et det. JČ, BRACR38405; ***Russula* sp.**: under *Abies alba*, 11. 7. 2023, leg. et det. JČ, BRACR38407.

Volovské vrchy, Gelnica, Kňazský vrch Hill, Krížová adit, mixed forest, alt.: 500 m
Amanita pantherina (DC.) Krombh.: 19. 10. 2023, leg. et det. JČ, IK, BRACR38998; ***Amanita rubescens*** Pers.: 19. 10. 2023, leg. et det. JČ, IK, BRACR38744; ***Lactarius turpis*** (Weinm.) Fr.: 19. 10. 2023, leg. et det. JČ, IK, BRACR39003; ***Russula cyanoxantha*** (Schaeff.) Fr.: 19. 10. 2023, leg. et det. JČ, IK, BRACR39002.

Volovské vrchy, Gelnica city, alt 350 m
***Bovista* sp.**: in grass, 11. 7. 2023, leg. et det. JČ, BRACR38402.

Volovské vrchy, Gelnica, Perlová dolina, mixed forest, alt.: 450 m
Amanita crocea (Quél.) Singer: under *Abies* a *Picea*, 12. 7. 2023, leg. et det. JČ, BRACR38373; ***Amanita rubescens*** Pers.: 12. 7. 2023, leg. et det. JČ, BRACR38379; ***Hymenopellis radicata*** (Relhan) R. H. Petersen: mixed forest (*Abies*, *Picea*, *Fagus*, *Carpinus*), 12. 7. 2023, leg. VK, det. JČ, BRACR38377; ***Schizophyllum commune*** Fr.: on fallen branch of deciduous tree, 12. 7. 2023, leg. et det. JČ, BRACR38382.

Volovské vrchy, Gelnica, mixed forest (*Abies*, *Pinus*, *Corylus*, *Larix*), alt.: 480 m
Boletus edulis Bull.: 12. 7. 2023, leg. et det. JČ, BRACR38398; ***Cantharellus cibarius*** Fr.: 12. 7. 2023, leg. et det. JČ, BRACR38397; ***Elaphomyces granulatus*** Fr.: 12. 7. 2023, leg. et det. JČ, BRACR38398; ***Russula* sp.**: 12. 7. 2023, leg. TF, det. IK, BRACR38392; ***Xerocomellus* cf. *chrysenteron*** (Bull.) Šutara: 12. 7. 2023, leg. VK, det. IK, BRACR38381.

Volovské vrchy, Gelnica-Žakarovce, control, mixed forest, alt.:410 m
Amanita excelsa (Fr.) Opiz: 6. 6. 2024, leg. et det. JČ, BRACR41416; ***Clitocybe nebularis*** (Batsch) P. Kumm.: 8. 10. 2024, leg. BV, det. JČ, BRACR41326; ***Coprinellus xanthothrix*** (Romagn.) Vilgalys, Hopple & Jacq. Johnson: deciduous forest, 6. 6. 2024, leg. et det. JČ, BRACR41590; ***Daedaleopsis confragosa*** var. ***confragosa*** (Bolton) J. Schröt.: on wood, 8. 10. 2024, leg. et det. JČ, BRACR41303; ***Exidia nigricans*** Donk: on fallen trunk of *Betula*, 6. 6. 2024, leg. VK, det. JČ, BRACR41415; ***Hymenopellis radicata*** (Relhan) R. H. Petersen: on submerged wood, 8. 10. 2024, IK, det. JČ, BRACR41312; ***Imleria badia*** (Fr.) Vizzini: 8. 10. 2024, leg. MB, det. JČ, BRACR41323; ***Inonotus radiatus*** (Sowerby) P. Karst.: on wood of deciduous tree, 8. 10. 2024, leg. et det. JČ, BRACR41589; ***Lepista nuda*** (Bull.) Cooke: 8. 10. 2024, leg. BV, det. JČ, BRACR41329; ***Lycoperdon perlatum*** Pers.: 8. 10. 2024, leg. et det. IK, BRACR41327; ***Macrolepiota procera*** (Scop.) Singer: 8. 10. 2024, leg. MB, det. JČ, BRACR41328; ***Mallocybe dulcamara*** (Pers.) Vizzini, Della Magg., Tolaini & Ercole: 8. 10. 2024, leg. et det. JČ, BRACR41300, BRACR41303; ***Megacollybia platyphylla*** (Pers.) Kotl. & Pouzar: 8. 10. 2024, leg. et. det. JČ, BRACR41315; ***Mycena haematopus*** (Pers.) P. Kumm.: on wood, 8. 10. 2024, leg. et det. JČ, BRACR41313; ***Mycena pelianthina*** (Fr.) Quél.: 8. 10. 2024, leg. IK, det. JČ, BRACR41311; ***Mycena pura*** (Pers.) P. Kumm.: 8. 10. 2024, leg. VK, det. JČ, BRACR41319; ***Mycena renati*** Quél.: 8. 10. 2024, leg. et det. JČ, BRACR41314; ***Mycena rosea*** Gramberg: in soil debris, 6. 6. 2024, leg. et det. JČ; 8. 10. 2024, leg. et det. JČ, BRACR41322; ***Panellus stipticus*** (Bull.) P. Karst.: on wood, 8. 10. 2024, leg. et det. JČ, BRACR41317; ***Paralepista flaccida*** (Sowerby) Vizzini: 8. 10. 2024, leg. et det. JČ, BRACR41321; ***Pholiota lenta*** (Pers.) Singer: 8. 10. 2024, leg. BV, det. JČ, BRACR41325; ***Pluteus cervinus*** (Schaeff.) P. Kumm.: 6. 6. 2024, leg. et det. JČ, BRACR41413; on wood, 8. 10. 2024, leg. et det. JČ; ***Piptoporus betulinus*** (Bull.) P. Karst.: 8. 10. 2024, on wood *Betula*, leg. et det. JČ, BRACR41318; ***Rhodocollybia butyracea*** (Bull.) Lennox: 8. 10. 2024, leg. VK, det. JČ, BRACR41316; ***Stereum hirsutum*** (Willd.) Pers.: on wood of deciduous tree, 8. 10. 2024, leg. et det. JČ, BRACR41591; ***Tephrocybe rancida*** (Fr.) Donk: 8. 10. 2024, leg. VK, det. JČ, BRACR41320; ***Trichaptum biforme*** (Fr.) Ryvarden: on wood of deciduous tree, 6. 6. 2024, leg. JČ et IK, det. JČ, BRACR41417; 8. 10. 2024, leg. et det. JČ, BRACR41412.

Volovské vrchy, Žakarovce, Žakarovský vrch Hill, mixed forest (*Picea*, *Fagus*, *Corylus*), alt.: 430 m
Amanita rubescens Pers.: 12. 7. 2023, leg. et det. JČ, BRACR38383; ***Cyanoboletus pulverulentus*** (Opat.) Gelardi, Vizzini & Simonini: 12. 7. 2023, leg. PŠ, det. JČ, BRACR38387; ***Fomitopsis pinicola*** (Sw.) P. Karst.: na ležiacom kmeni *Picea abies*, 12. 7. 2023, leg. et det. JČ, BRACR38390; ***Hymenopellis radicata*** (Relhan) R. H. Petersen: 12. 7. 2023, leg. TF, det. JČ, BRACR38380; ***Mycetinis scorodonius*** (Fr.) A.W. Wilson & Desjardin: on roots of *Picea abies*, 12. 7. 2023, leg. et det. JČ, BRACR38376; ***Russula* sp.**: 12. 7. 2023, leg. PŠ, det. JČ, BRACR38391; ***Russula violeipes*** Quél.: 12. 7. 2023, leg. et det. JČ, BRACR38385; ***Stereum* sp.**: on trunk of *Corylus avellana*, 12. 7. 2023, leg. et det. JČ, BRACR38389.

Volovské vrchy, Žakarovce, Žakarovský vrch, štôlňa Vilém II, mixed forest, alt.: 440 m
Cantharellus amethysteus (Quél.) Sacc.: 19. 10. 2023, leg. et det. JČ, IK, BRACR38751; ***Chlorophyllum olivieri*** (Barla) Vellinga: 19. 10. 2023, leg. et det. JČ, IK, BRACR39007; ***Clitocybe nebularis*** (Batsch) P. Kumm.: 19. 10. 2023, leg. et det. JČ, IK, BRACR38750; ***Echinoderma asperum*** (Pers.) Bon: 19. 10. 2023, leg. et det. JČ, IK, BRACR38749; ***Inocybe geophylla*** P. Kumm.: 19. 10. 2023, leg. et det. JČ, IK, BRACR39005; ***Lactarius blennius*** (Fr.) Fr.: 19. 10. 2023, leg. et det. JČ, IK, BRACR39006; ***Lactarius porninsis*** Rolland: 19. 10. 2023, leg. et det. JČ, IK, BRACR39010; ***Lactarius* cf. *rufus*** (Scop.) Fr.: 19. 10. 2023, leg. et det. JČ, BRACR41587; ***Mycena pura*** (Pers.) P. Kumm.: 19. 10. 2023, leg. et det. JČ, BRACR41588; ***Mycena rosea*** Gramberg: 19. 10. 2023, leg. et det. JČ, IK, BRACR39009, BRACR39011; ***Paxillus* cf. *involutus*** (Batsch) Fr.: 19. 10. 2023, leg. et det. JČ, IK, BRACR38746; ***Xerocomellus chrysenteron*** (Bull.) Šutara: 19. 10. 2023, leg. et det. JČ, IK, BRACR38754; ***Xerocomellus pruinatus*** (Fr.) Šutara: 19. 10. 2023, leg. et det. JČ, IK, BRACR38747.

Volovské vrchy, Žakarovce, mixed forest (*Fagus*, *Alnus*, *Picea*, *Abies*, *Larix*), alt.: 550 m
Aleuria aurantia (Pers.) Fuckel: in bare soil, 8. 10. 2024, leg. et det. JČ, BRACR41387; ***Amanita muscaria*** (L.) Lam.: 19. 10. 2023, leg. et det. JČ, IK, BRACR38742; ***Boletus edulis*** Bull.: 8. 10. 2024, leg. IK, det. JČ, BRACR41395; ***Clavulina cinerea*** (Bull.) J. Schröt.: 8. 10. 2024, leg. et det. JČ, BRACR41305; ***Clitopilus prunulus*** (Scop.) P. Kumm.: 8. 10. 2024, leg. et det. JČ, BRACR41381; ***Cyanoboletus pulverulentus*** (Opat.) Gelardi, Vizzini & Simonini: 19. 10. 2023, leg. et det. JČ, IK, BRACR38748; ***Fomitopsis pinicola*** (Sw.) P. Karst.: on wood, 8. 10. 2024, leg. IK, det. JČ, BRACR41375; ***Gomphidius glutinosus*** (Schaeff.) Fr.: 8. 10. 2024, leg. VK, det. JČ, BRACR41399; ***Hebeloma radicosum*** (Bull.) Ricken: 8. 10. 2024, leg. VK, det. JČ, BRACR41302; ***Hydropus subalpinus*** (Höhn.) Singer: 8. 10. 2024, leg. et det. JČ, BRACR41385; ***Hygrophoropsis aurantiaca*** (Wulfen) Maire: on wood of coniferous tree, 8. 10. 2024, leg. IK, det. JČ, BRACR41384; ***Hypholoma fasciculare*** (Huds.) P. Kumm.: on wood, 8. 10. 2024, leg. IK, det. JČ, BRACR41380; ***Hypholoma lateritium*** (Schaeff.) P. Kumm.: on wood, 8. 10. 2024, leg. IK, det. JČ, BRACR41379; ***Imleria badia*** (Fr.) Vizzini: 19. 10. 2023, leg. et det. JČ, IK, BRACR38741; 8. 10. 2024, leg. IK, det. JČ, BRACR41400; ***Laccaria amethystina*** Cooke: 8. 10. 2024, leg. IK, det. JČ, BRACR41391; ***Laccaria laccata*** (Scop.) Cooke: 8. 10. 2024, leg. et det. IK, BRACR41304; ***Lactarius blennius*** (Fr.) Fr.: 8. 10. 2024, leg. IK, det. JČ, BRACR41374; ***Lactarius subdulcis*** (Pers.) Gray: 19. 10. 2023, leg. et det. JČ, IK, BRACR39004; ***Lentinus brumalis*** (Pers.) Zmitr.: on wood, 8. 10. 2024, leg. et det. JČ, BRACR41306; ***Lepista nuda*** (Bull.) Cooke: 19. 10. 2023, leg. et det. JČ, IK, BRACR38740; ***Leucocoprinus nympharum***

(Kalchbr.) M. Asif, Saba & Vellinga: 19. 10. 2023, leg. et det. JČ, IK, BRACR38745; 8. 10. 2024, leg. MB, det. JČ, BRACR41398; ***Leucocortinarius bulbiger*** (Alb. & Schwein.) Singer: 8. 10. 2024, leg. IK, det. JČ, BRACR41386; ***Lycoperdon perlatum*** Pers.: 8. 10. 2024, leg. IK, det. JČ, BRACR41378; ***Macrolepiota procera*** (Scop.) Singer: 19. 10. 2023, leg. et det. JČ, IK, BRACR38739; ***Mycena crocata*** (Schrad.) P. Kumm.: on submerged wood, 8. 10. 2024, leg. et det. JČ, BRACR41382; ***Mycena epipterygia*** (Scop.) Gray: on submerged wood, 8. 10. 2024, leg. et det. JČ, BRACR41390; ***Mycena pelianthina*** (Fr.) Quél.: 19. 10. 2023, leg. et det. JČ, IK, BRACR39008; ***Mycena pura*** (Pers.) P. Kumm.: 8. 10. 2024, leg. IK, det. JČ, BRACR41392; ***Mycena rosea*** Gramberg: on ground, 8. 10. 2024, leg. IK, det. JČ, BRACR41389; ***Mycetinis alliaceus*** (Jacq.) Earle ex A.W. Wilson & Desjardin: on submerged wood *Fagus*, 8. 10. 2024, leg. et det. JČ, BRACR41394; ***Paralepista flaccida*** (Sowerby) Vizzini: 8. 10. 2024, leg. IK, det. JČ, BRACR41388; ***Paxillus* cf. *involutus*** (Batsch) Fr.: 19. 10. 2023, leg. et det. JČ, IK, BRACR38732; ***Pluteus cervinus*** (Schaeff.) P. Kumm.: on wood, 8. 10. 2024, leg. IK, det. JČ, BRACR41393; ***Pluteus luctuosus*** Boud.: 8. 10. 2024, leg. IK, det. JČ, BRACR41376; ***Rhodocollybia butyracea*** (Bull.) Lennox: 8. 10. 2024, leg. IK, det. JČ, BRACR41377; ***Russula fellea*** (Fr.) Fr.: 19. 10. 2023, leg. et det. JČ, IK, BRACR39012; 8. 10. 2024, leg. IK, det. JČ, BRACR41396; ***Russula integra*** (L.) Fr.: 8. 10. 2024, leg. MB, det. JČ, BRACR41308; ***Russula ochroleuca*** Fr.: 19. 10. 2023, leg. et det. JČ, IK, BRACR39013; ***Schizophyllum commune*** Fr.: na odumretom dreve, 8. 10. 2024, leg. et det. JČ, BRACR41383; ***Suillus grevillei*** (Klotzsch) Singer: under *Larix*, 8. 10. 2024, leg. IK, det. JČ, BRACR41397; ***Xerocomellus pruinatus*** (Fr.) Šutara: 19. 10. 2023, leg. et det. JČ, IK, BRACR38753; 8. 10. 2024, leg. IK, det. JČ, BRACR41401.

Volovské vrchy, Žakarovce, Mária adit, mixed forest, alt 380 m
Ganoderma applanatum (Pers.) Pat.: on wood of deciduous tree, 6. 6. 2024, leg. VK, det. JČ, BRACR41307; ***Ganoderma applanatum*** (Pers.) Pat.: on wood of deciduous tree, 6. 6. 2024, leg. BV, det. JČ, BRACR41408; ***Pluteus cervinus*** (Schaeff.) P. Kumm.: on trunk of *Carpinus betulus*, 6. 6. 2024, leg. et det. JČ, BRACR41309.

Volovské vrchy, Žakarovce village, alt 450 m
Hygrocybe quieta (Kühner) Singer, in grass in pasture, 8.10.2024, leg. et det. IK, BRACR41312 (Fig.7).

ZLATÁ IDKA

There are several opinions on the spatial location of the Sb deposit Zlatá Idka (Rozložník and Slavkovský 1980). Grecula et al. (1995) identified a central belt with deposits from Betliar through the Bystrý potok valley, Tinesova valley and Poproč to Zlatá Idka and a northern belt with occurrences near Helcmanovce.

Zlatá Idka was an important producer of silver, gold and, in wartime, also antimony. The first knowledge about mining in the area comes from the first half of the 14th century, but it was only about smelting gold from the surrounding streams (Semrád 2004). Until the first half of the 19th century the veins in Zlatá Idka were mined with varying success. In the years 1822–1882, there was a rapid development of erary mining, when geologist Svaiczer had surface facilities built, a smelter in Réka for compacting Ag concentrates and new processing plants for all mining areas. Ag mining and production was profitable until 1896 (Semrád, 2004), later, until the liquidation of the mining plant in 1925, it was loss-making.

In 1939, some mining works were made accessible, but without significant success. This ended mining activities at the Zlatá Idka deposit (Semrád 2004). Data on the amount of ore extracted are not accurate. Lázár and Magula (1973) state that the total mining in the period from the beginning of the 19th to the beginning of the 20th century amounted to around 120,000 kg of silver and 335 kg of gold. In addition to these metals, copper, iron and lead were also extracted.

The ore veins emerge in the overlying Permian granite intrusion and are developed in rocks of the metamorphosed volcano-sedimentary complex of the older Paleozoic. The ore veins are mostly quartz veins only a few hundred meters long, but the longest of them, Bertalan, is up to 2,300 m long. The length of the entire ore field is approximately 9 km and the width is 1 km.

Pršek and Lauko (2009) identified a diverse mineral paragenesis at the Zlatá Idka site and based on it classified it as an atypical, Pb-Sb, Ag-Zn mineralization, partially developed on veins with siderite. The stibnite stage of mineralization later crystallized on the same vein structures. They list jamesonite and tetrahedrite as the dominant ore minerals of ineralization, with tetrahedrite being the main silver carrier. All rarer minerals (aurostibite, andorite, freibergite, Au-Ag-Sb-S phase, etc.) occur as closures or hole fillings in tetrahedrite. They do not occur in other minerals and indicate the influence of younger solutions rich in Sb. Gold is of low purity and occurs in tetrahedrite or in chalcopyrite. High-purity gold of the stibnite stage was not detected.

Volovské vrchy, Zlatá Idka, Brenner (Breuner), beech forest (*Fagus sylvatica*), alt.: 650 m

Amanita citrina Pers.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38929; ***Amanita muscaria*** (L.) Lam.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38944; ***Amanita pantherina*** (DC.) Krombh.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38923; ***Amanita rubescens*** Pers.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38733; ***Boletus edulis*** Bull.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38731; ***Cortinarius alboviolaceus*** (Pers.) Zawadzki: 9. 10. 2024, leg. et det. JČ, BRACR41292; ***Cortinarius* sp.**: 18. 10. 2023, leg. et det. IK, JČ, BRACR41569; ***Fomes fomentarius*** (L.) Fr.: on dead trunk, 5. 6. 2024, leg. et det. JČ, BRACR41410; ***Hygrophorus eburneus*** (Bull.) Fr.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38933; ***Hygrophorus poetarum*** R. Heim: 18. 10. 2023, leg. et det. IK, JČ, BRACR41565; ***Hypholoma fasciculare*** (Huds.) P. Kumm.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38939; on wood, 9. 10. 2024, leg. et det. JČ, BRACR41331; ***Hypholoma lateritium*** (Schaeff.) P. Kumm.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38916; on wood, 9. 10. 2024, leg. et det. JČ, BRACR41333; ***Laccaria laccata*** (Scop.) Cooke: 18. 10. 2023, leg. et det. IK, JČ, BRACR38926; ***Lactarius blennius*** (Fr.) Fr.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38950; ***Lactarius* cf. *vellereus***18. 10. 2023, leg. et det. IK, JČ, BRACR41571; ***Lactarius* sp.**: 18. 10. 2023, leg. et det. IK, JČ, BRACR41567; ***Lactarius subdulcis*** (Pers.) Gray: 18. 10. 2023, leg. et det. IK, JČ, BRACR38925; ***Lepiota clypeolaria*** (Bull.) P. Kumm.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38924; 9. 10. 2024, leg. et det. JČ, BRACR41330; ***Lepista nuda*** (Bull.) Cooke: 18. 10. 2023, leg. et det. IK, JČ, BRACR38921, BRA CR38946; ***Lycoperdon perlatum*** Pers.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38917, BRACR38951; ***Mycena arcangeliana*** Bres.: 18. 10. 2023, leg. et det. IK, JČ, BRACR41566; ***Mycena pura*** (Pers.) P. Kumm.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38934; 9. 10. 2024, leg. JČ et BV, det. JČ, BRACR41297; ***Mycena rosea*** Gramberg: 18. 10. 2023, leg. et det. IK, JČ, BRACR38943; ***Mycetinis alliaceus*** (Jacq.) Earle ex A.W. Wilson & Desjardin: 18. 10. 2023, leg. et det. IK, JČ, BRACR38945; on submerged wood, 6. 6. 2024, 9. 10. 2024, leg. VK, det. JČ, BRACR41332, BRACR41441; ***Paxillus rubicundulus***

P. D. Orton: 18. 10. 2023, leg. et det. IK, JČ, BRACR38734; ***Pluteus cervinus*** (Schaeff.) P. Kumm.: on trunk, 5. 6. 2024, leg. et det. JČ, BRACR41299; ***Psathyrella* sp.**: 18. 10. 2023, leg. et det. IK, JČ, BRACR41568; ***Russula cyanoxantha*** (Schaeff.) Fr.: 5. 6. 2024, leg. et det. JČ, BRACR41294; ***Russula fellea*** (Fr.) Fr.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38928 (Fig.8); ***Russula lepida*** Fr.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38930; ***Russula nigricans*** Fr.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38920, BRACR38935; ***Russula* cf. *nobilis***: 18. 10. 2023, leg. et det. IK, JČ, BRACR41564; ***Russula ochroleuca*** Fr.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38936; ***Scleroderma citrinum*** Pers.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38949; ***Tricholoma saponaceum*** (Fr.) P. Kumm.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38948; ***Tricholoma* cf. *sciodes*** (Pers.) C. Martín: 18. 10. 2023, leg. et det. IK, JČ, BRACR41570; ***Xerocomellus pruinatus*** (Fr.) Šutara: 18. 10. 2023, leg. et det. IK, JČ, BRACR38735, BRACR38738.

Volovské vrchy, Zlatá Idka, Brenner (Breuner), control site, mixed forest (*Fagus*, *Abies*, *Picea*), alt.: 610 m

Agaricus sylvicola (Vittad.) Peck: 18. 10. 2023, leg. et det. IK, JČ, BRACR38937; ***Amanita citrina*** Pers.: 9. 10. 2024, leg. et det. IK, BRACR41344; ***Amanita rubescens*** Pers.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38927; ***Ampulloclitocybe clavipes*** (Pers.) Redhead, Lutzoni, Moncalvo & Vilgalys: 9. 10. 2024, leg. BV, det. JČ, BRACR41335; ***Clitocybe odora*** (Bull.) P. Kumm.: 9. 10. 2024, leg. IK, det. JČ, BRACR41341; ***Collybia cirrhata*** (Pers.) Quél.: 9. 10. 2024, leg. IK, det. JČ, BRACR41290; ***Collybiopsis confluens*** (Pers.) Antonín, Hailing & Noordel.: 9. 10. 2024, leg. IK, det. JČ, BRACR41289; ***Collybiopsis peronata*** (Bolton) R. H. Petersen: 9. 10. 2024, leg. BV, det. JČ, BRACR41350; ***Daedaleopsis confragosa*** var. ***confragosa*** (Bolton) J. Schröt.: on wood, 9. 10. 2024, leg. IK, det. JČ, BRACR41349; ***Echinoderma asperum*** (Pers.) Bon: 18. 10. 2023, leg. et det. IK, JČ, BRACR38947; ***Fomitopsis pinicola*** (Sw.) P. Karst.: on trunk of deciduous tree, 5. 6. 2024, leg. VK, det. JČ, BRACR41402; ***Hydropus subalpinus*** (Höhn.) Singer: in soil debris, 5. 6. 2024, leg. et det. JČ, BRACR41404; ***Hygrophoropsis aurantiaca*** (Wulfen) Maire: 9. 10. 2024, leg. et det. IK, BRACR41338; ***Hypholoma lateritium*** (Schaeff.) P. Kumm.: on wood, 9. 10. 2024, leg. IK, det. JČ, BRACR41346; ***Imleria badia*** (Fr.) Vizzini: 18. 10. 2023, leg. et det. IK, JČ, BRACR38940; ***Inocybe geophylla*** var. ***geophylla*** P. Kumm.: 9. 10. 2024, leg. IK, det. JČ, BRACR41288; 18. 10. 2023, leg. et det. IK, JČ, BRACR41560; ***Laccaria amethystina*** Cooke: 18. 10. 2023, leg. et det. IK, JČ, BRACR38932; 9. 10. 2024, leg. et det. IK, BRACR41347; ***Lactarius blennius*** (Fr.) Fr.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38938; 9. 10. 2024, leg. BV, det. JČ, BRACR41348; ***Lactarius pallidus*** Pers.: 9. 10. 2024, leg. IK, det. JČ, BRACR41282; ***Lactarius subdulcis*** (Pers.) Gray: 18. 10. 2023, leg. et det. IK, JČ, BRACR38922; ***Lycoperdon perlatum*** Pers.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38931; 9. 10. 2024, leg. et det. IK, BRACR41345; ***Mycena galericulata*** (Scop.) Gray: 9. 10. 2024, leg. IK, det. JČ, BRACR41287; ***Mycena pelianthina*** (Fr.) Quél.: 9. 10. 2024, leg. IK, det. JČ, BRACR41334; ***Mycena pura*** (Pers.) P. Kumm.: 18. 10. 2023, leg. et det. IK, JČ, BRACR41558; BRACR41559; ***Mycena rosea*** Gramberg: 9. 10. 2024, leg. BV, det. JČ, BRACR41339; ***Mycetinis alliaceus*** (Jacq.) Earle ex A.W. Wilson & Desjardin: on submerged wood *Fagus*, 9. 10. 2024, leg. et det. IK, BRACR41342; ***Mucidula mucida*** (Schrad.) Pat.: on wood *Fagus*, 9. 10. 2024, leg. et det. IK, BRACR41340; ***Pluteus cervinus*** (Schaeff.) P. Kumm.: 18. 10. 2023, leg. et det. IK, JČ, BRACR41563; ***Psathyrella piluliformis*** (Bull.) P. D. Orton: 18. 10. 2023, leg. et det. IK, JČ, BRACR38942; ***Pseudohydnum gelatinosum*** (Scop.) P. Karst.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38915; ***Rhodocollybia butyracea*** (Bull.) Lennox: 9. 10. 2024, leg. IK, det. JČ, BRACR41336; ***Russula cyanoxantha*** (Schaeff.) Fr.: 18. 10. 2023, leg.

et det. IK, JČ, BRACR38729; 5. 6. 2024, leg. et det. JČ, BRACR41403; ***Russula fellea*** (Fr.) Fr.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38919; ***Russula ochroleuca*** Fr.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38941; 9. 10. 2024, leg. BV, det. JČ, BRACR41337; ***Russula* sp.**: 18. 10. 2023, leg. et det. IK, JČ, BRACR41556; ***Stereum hirsutum*** (Willd.) Pers.: na pni listnatého stromu, 5. 6. 2024, leg. VK, det. JČ, BRACR41592; ***Stropharia cyanea*** (Bull.) Tuomik.: 9. 10. 2024, leg. IK. det. JČ, BRACR41283; ***Tricholoma sciodes*** (Pers.) C. Martín: 18. 10. 2023, leg. et det. IK, JČ, BRACR41562; ***Tricholoma sulphureum*** (Bull.) P. Kumm.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38918; ***Tricholoma ustale*** (Fr.) P. Kumm.: 18. 10. 2023, leg. et det. IK, JČ, BRACR41561; ***Xerocomellus pruinatus*** (Fr.) Šutara: 18. 10. 2023, leg. et det. IK, JČ, BRACR38737; 9. 10. 2024, leg. BV, det. JČ, BRACR41343.

Volovské vrchy, Zlatá Idka, štôlňa Szerencze, mixed forest (*Fagus*, *Alnus*), alt.: 550 m
Coprinus comatus (O. F. Müll.) Pers.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38984; ***Lactarius subdulcis*** (Pers.) Gray: 18. 10. 2023, leg. et det. IK, JČ, BRACR38985; ***Leucocybe connata*** (Schumach.) Vizzini, P. Alvarado, G. Moreno & Consiglio: 18. 10. 2023, leg. et det. IK, JČ, BRACR38986; ***Mycena pelianthina*** (Fr.) Quél.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38983; ***Mycena* sp.**: 18. 10. 2023, leg. et det. IK, JČ, BRACR41572; ***Rhodocollybia butyracea*** (Bull.) Lennox: 18. 10. 2023, leg. et det. IK, JČ, BRACR41573; ***Xerocomellus pruinatus*** (Fr.) Šutara: 18. 10. 2023, leg. et det. IK, JČ, BRACR38736.

Volovské vrchy, Zlatá Idka – štôlňa Michal, mixed forest, alt.: 600 m
Amanita citrina Pers.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38978; ***Cortinarius* sp.**: 18. 10. 2023, leg. et det. IK, JČ, BRACR41552; ***Echinoderma asperum*** (Pers.) Bon: 18. 10. 2023, leg. et det. IK, JČ, BRACR41553; ***Lactarius subdulcis*** (Pers.) Gray: 18. 10. 2023, leg. et det. IK, JČ, BRACR41555; ***Lepiota clypeolaria*** (Bull.) P. Kumm.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38979; ***Mycena pelianthina*** (Fr.) Quél.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38976; ***Mycena pura*** (Pers.) P. Kumm.: 18. 10. 2023, leg. et det. IK, JČ, BRACR41551, BRACR41554; ***Mycetinis alliaceus*** (Jacq.) Earle ex A.W. Wilson & Desjardin: 18. 10. 2023, leg. et det. IK, JČ, BRACR38974; ***Russula fellea*** (Fr.) Fr.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38977; ***Russula* cf *nobilis***: 18. 10. 2023, leg. et det. IK, JČ, BRACR41550; ***Russula nigricans*** Fr.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38980; ***Scleroderma citrinum*** Pers.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38981; ***Tulosesus impatiens*** (Fr.) D. Wächt. & A. Melzer: 18. 10. 2023, leg. et det. IK, JČ, BRACR38982; ***Xerocomellus pruinatus*** (Fr.) Šutara: 18. 10. 2023, leg. et det. IK, JČ, BRACR38730, BRACR38975.

Volovské vrchy, Zlatá Idka, Michal adit, beech forest, alt.: 610 m
Agaricus comtulus Fr.: 9. 10. 2024, leg. et det. JČ, BRACR41298; ***Amanita citrina*** Pers.: 9. 10. 2024, leg. BV, det. JČ, BRACR41371; ***Apioperdon pyriforme*** Schaeff.: on wood, 9. 10. 2024, leg. et det. JČ, BRACR41353; ***Bisporella citrina*** (Batsch) Korf & S. E. Carp.: on wood, 9. 10. 2024, leg. et det. JČ, BRACR41285; ***Clitocybe nebularis*** (Batsch) P. Kumm.: 9. 10. 2024, leg. et det. IK, BRACR41361; ***Clitocybe odora*** (Bull.) P. Kumm.: 9. 10. 2024, leg. MB, det. JČ, BRACR41369; ***Daedaleopsis confragosa*** var. ***tricolor*** (Bull.) Bondartsev & Singer: na ležiacom kmeni, 9. 10. 2024, leg. et det. JČ, BRACR41357; ***Exidia nigricans*** (With.) P. Roberts: na ležiacom kmeni, 9. 10. 2024, leg. et det. JČ, BRACR41356; ***Hypholoma fasciculare*** (Huds.) P. Kumm.: on wood, 9. 10. 2024, leg. et det. IK, BRACR41367; ***Hypholoma lateritium*** (Schaeff.) P. Kumm.: on wood, 9. 10. 2024, leg. BV, det. JČ, BRACR41362; ***Lepiota clypeolaria*** (Bull.) P. Kumm.: 9. 10. 2024, leg. VK,

det. JČ, BRACR41358; ***Lepiota cristata*** (Bolton) P. Kumm.: 9. 10. 2024, leg. et det. JČ, BRACR41355; ***Lepiota magnispora*** Murrill: 9. 10. 2024, leg. et det. JČ, BRACR41295; ***Lycoperdon perlatum*** Pers.: 9. 10. 2024, leg. VK, det. JČ, BRACR41370; ***Macrolepiota procera*** (Scop.) Singer: 9. 10. 2024, leg. BV, det. JČ, BRACR41372; ***Megacollybia platyphylla*** (Pers.) Kotl. & Pouzar: 5. 6. 2024, leg. IK, det. JČ, BRACR41293; on submerged wood, 9. 10. 2024, leg. et det. IK, BRACR41366; ***Mycena crocata*** (Schrad.) P. Kumm.: on wood, 9. 10. 2024, leg. et det. JČ, BRACR41352; ***Mycena galericulata*** (Scop.) Gray: on wood, 9. 10. 2024, leg. VK, det. JČ, BRACR41368; ***Mycena pura*** (Pers.) P. Kumm.: 9. 10. 2024, leg. BV, det. JČ, BRACR41367; ***Mycena renati*** Quél.: na hnijúcom dreve, 5. 6. 2024, leg. IK, det. JČ, BRACR41291; on wood, 9. 10. 2024, leg. BV, det. JČ, BRACR41351; ***Mycena rosea*** Gramberg: 9. 10. 2024, leg. BV, det. JČ, BRACR41364; ***Mycetinis alliaceus*** (Jacq.) Earle ex A.W. Wilson & Desjardin: on submerged wood, 5. 6. 2024, leg. VK, det. JČ, BRACR41296; on submerged wood, 9. 10. 2024, leg. et det. JČ, BRACR41373; ***Mucidula mucida*** (Schrad.) Pat.: on fallen trunk, 9. 10. 2024, leg. et det. JČ, BRACR41363; ***Pluteus cervinus*** (Schaeff.) P. Kumm.: on falllen trunk, 5. 6. 2024, leg. et det. JČ, BRACR41593; ***Rhodocollybia butyracea*** (Bull.) Lennox: 9. 10. 2024, leg. MB, det. JČ, BRACR41359; ***Schizophyllum commune*** Fr.: on wood, 9. 10. 2024, leg. et det. JČ, BRACR41360; ***Stereum reflexulum*** Lloyd: on wood, 9. 10. 2024, leg. et det. JČ, BRACR41286; ***Stropharia cyanea*** (Bull.) Tuomik.: 9. 10. 2024, leg. et det. JČ, BRACR41284; ***Trichaptum biforme*** (Fr.) Ryvarden: on wood, 9. 10. 2024, leg. et det. JČ, BRACR41356.

Volovské vrchy, Zlatá Idka, Hauser adit, mixed forest, alt.: 600 m
Boletus edulis Bull.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38731; ***Trametes gibbosa*** (Pers.) Fr.: 18. 10. 2023, leg. et det. IK, JČ, BRACR38987.

Conclusions

Altogether 782 samples of 445 fungal species have been recorded in the years 2021 – 2024 at 10 monitored sites influenced by mining at past, in different parts of Slovakia. Fungal diversity recorded at all of the localities was relatively high, similar to the diversity of adjacent habitats. Analysis of heavy metals contents in fungi and in soil will be subject of further publications.

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Fig. 1: *Alloclavaria purpurea,* Dúbrava, spruce forest, 29. 6. 2023, photo by J. Červenka.
Obr. 1.: *Alloclavaria purpurea,* Dúbrava, smrekový les, 29. 6. 2023, foto: J. Červenka.

Fig. 2: *Hygrocybe conica,* Dúbrava, under *Salix* and *Picea*, photo by J. Červenka.
Obr. 2.: *Hygrocybe conica,* Dúbrava, pod *Salix* a *Picea,* foto: J. Červenka.

Fig. 3: *Hygrocybe* sp., Dúbrava, in grass and mosses, 29. 6. 2023, photo by J. Červenka.
Obr. 3.: *Hygrocybe* sp., Dúbrava, v tráve a machu, 29. 6. 2023, foto: J. Červenka.

Fig. 4: *Armillaria mellea*, Pezinok, Rudné Bane, on roots, 7. 11. 2023, photo by J. Červenka.
Obr. 4.: *Armillaria mellea*, Pezinok, Rudné Bane, on roots, 7. 11. 2023, foto: J. Červenka.

Fig. 5: *Agaricus bitorquis,* Vrakuňa, on ground in grass, 18. 4. 2024, photo by J. Červenka.
Obr. 5.: *Agaricus bitorquis,* Vrakuňa, na zemi v tráve, 18. 4. 2024, foto: J. Červenka.

Fig. 6: *Marasmius oreades,*Rákoš, tailing impoundment in the village, grassand shrubs, 7. 6. 2024, photo by J. Červenka.
Obr. 6.: *Marasmius oreades,*Rákoš, halda v obci, v tráve a krovinách, 7. 6. 2024, foto: J. Červenka.

Fig. 7: *Hygrocybe quieta*, Žakarovce village, in grass in pasture, 8.10.2024, photo by J. Červenka.
Obr. 7.: *Hygrocybe quieta*, Žakarovce obec, v tráve na pasienku, 8.10.2024, foto: J. Červenka.

Fig. 8: *Russula fellea*, Zlatá Idka, Brenner, in beech forest, 18. 10. 2023, photo by J.Červenka.
Obr. 8.: *Russula fellea*, Zlatá Idka, Brenner, v bučine, 18. 10. 2023, foto: J. Červenka.