International Russulales Workshop 2014

Areál Zdravia, Jedľové Kostoľany, Slovakia

8 – 13 September 2014

Organization committee

Slavomír Adamčík
Annemieke Verbeken
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Soňa Jančovičová
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Supporting institutions

Institute of Botany of the Slovak Academy of Science
Research group Mycology, Ghent University
Comenius University in Bratislava
State Forests of the Slovak Republic

History of Russulales workshops

2010 – Belgium
2012 – Germany
2014 – Slovakia

Important phone numbers

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Fire brigade 150
Ambulance 112 or 155
Police 158

Content

Russula lepida © Per Marstad

Welcome words

Dear Russulales friends ♥

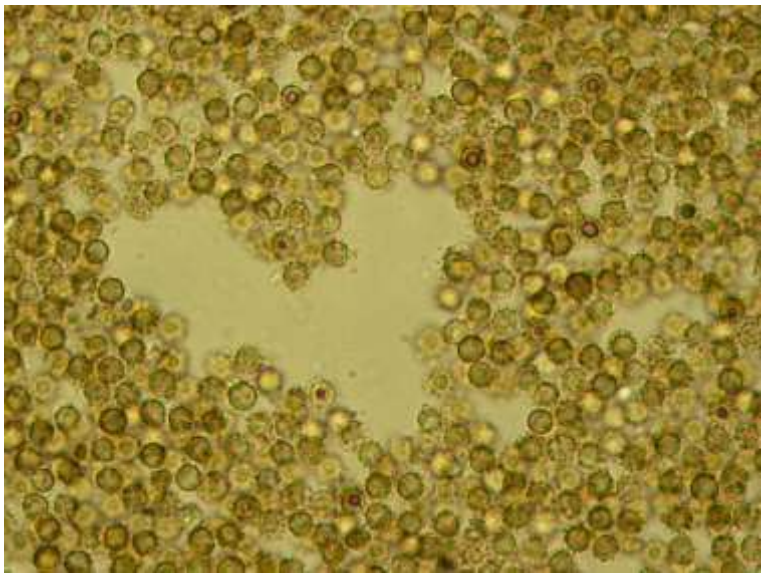
Welcome at the Russulales Workshop 2014 in Slovakia.

The workshop takes place in a small recreation area close to Jedľové Kostoľany, a village distant about 150 km E from the capital Bratislava. It is situated in the area known for thermophilous oak forests on various bedrock types, e.g. limestone, flysch and andesite. In the conference term between 8th to 13th September we have four full days to deal with our intensions:

- ♣ to meet Russulales friends and discuss cooperation,
- ♣ to collect Russulales material,
- ♣ to share Russulales ideas,
- ♣ to look for innovations improving Russulales research,
- ♣ to improve knowledge of Russulales diversity and species distribution globally,
- ♣ to consider implementation of Russulales research in practice.

We cordially wish you a pleasant stay, plenty of interesting Russulales collections in Slovakia, the country which is called the heart of Europe!

Your Organisers



Heart of spores for all participants of the Russulales Workshop 2014 in Slovakia © Soňa Jančovičová

Accommodation

The accommodation of all participants is provided in the recreation area Areál Zdravia – Jedľové Kostoľany (http://arealzdravia.sk). The area comprises the main building and a complex of small cabins. The dining hall for breakfast and dinner, reception desk, working room and room for evening presentations are situated in the main building. There is also a possibility to make descriptions and work outside at the sheltered terrace provided with electricity.

Participants of Russulales workshop 2014 will be the only visitors of the complex during the conference time; this together with its isolated position among forests and meadows gives us a promise for calm, undisturbed atmosphere.

The main building in the recreation area Areál Zdravia – Jedľové Kostoľany

Transport and directions

The conference place "Areál Zdravia – Jedľové Kostoľany" is situated ca. 190 km from Vienna, the international airport Schwechat (Austria) or ca. 130 km from Bratislava (Slovakia), the international airport M. R. Štefánika. GPS coordinates of the main building at the conference place 48°28'23.17"N, 18°28'43.39"E. The access for everybody traveling from different directions is from the route R1 (E58, E571), exit near the Zlaté Moravce city.

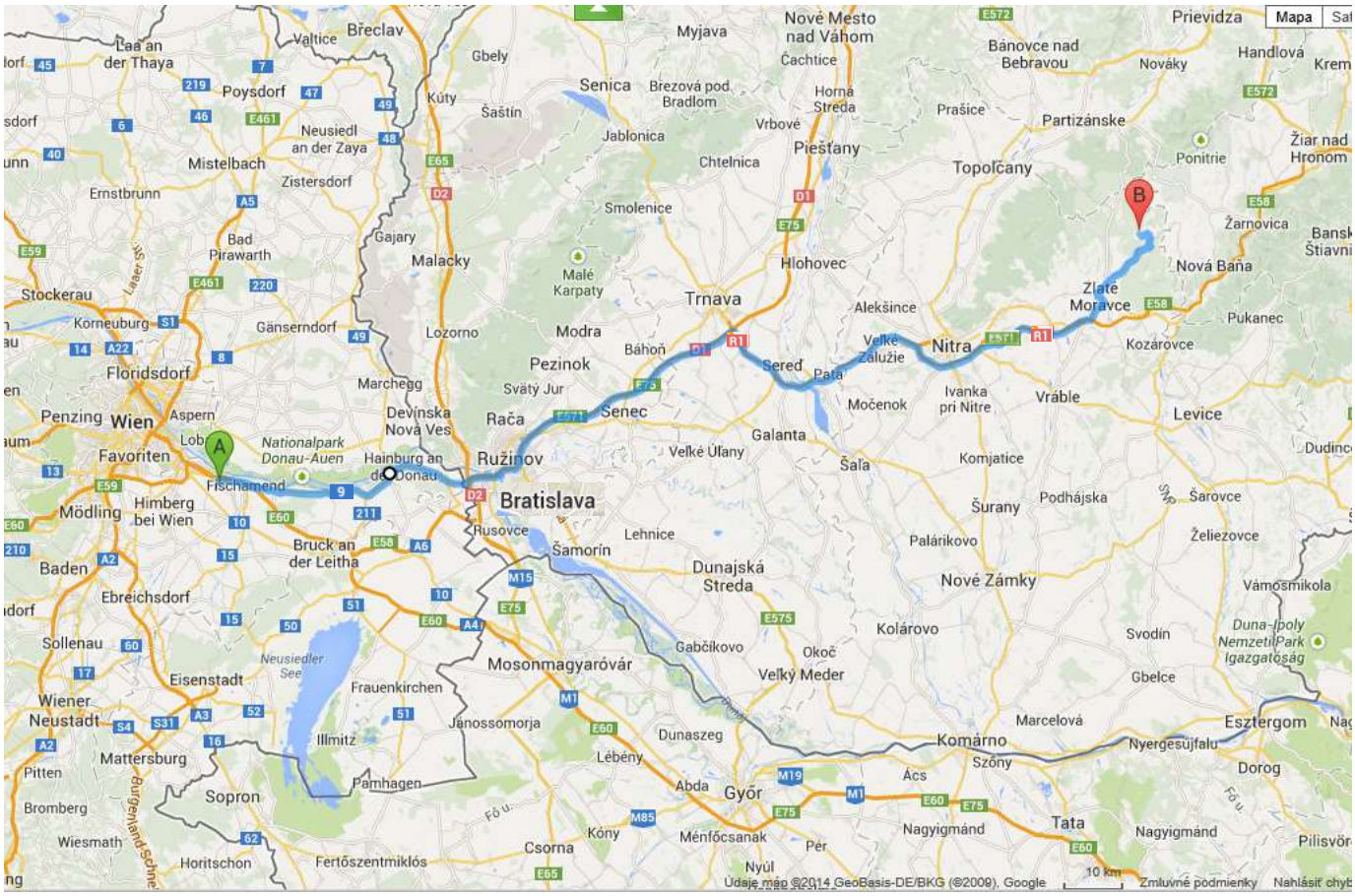
The closest international airport is Bratislava, the airport M.R. Štefánika, driving time ca. 1 h and 20 minutes. For those traveling from longer distances by plane, we recommend to check Vienna airport (Schwechat, Austria) as cheaper alternative for their air tickets (driving time ca. 2 h 15 min).

The driving directions from Vienna and Bratislava to the conference place are labelled on the maps at the next page.

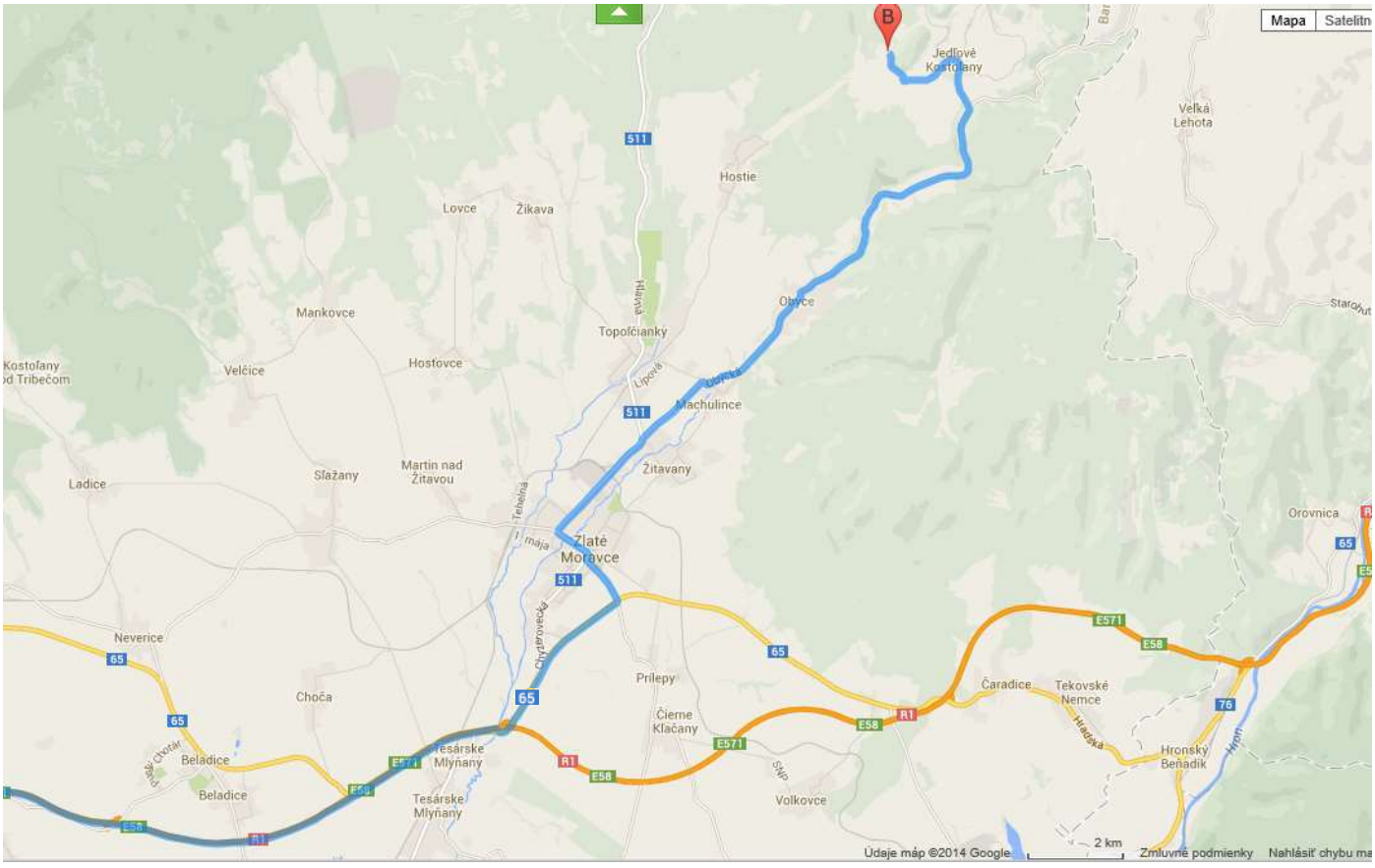
Transport of all participants during the workshop is by individual cars of participants. The only necessary fee for all Slovak highways is a 10 days sticker for 10 EUR (available at all gas stations). The speed limits are: 50 km per hour – town, 90 – out of town, 130 – motor way. Zero tolerance for alcohol during driving is strictly and frequently executed. Police patrols are frequent.

Example o of driving from Vienna, the airport Schwechat, Austria (A) – total time 2 h 15 min, total distance 190 km

- → to Bratislava by the route 9 – this route has not a fee
- → from Bratislava by the highway D1
- → exit near Trnava turn to route R1, direction to Nitra (Zvolen, Banská Bystrica)
- → exit near Zlaté Moravce to route 65
- → pass Zlaté Moravce to Machulince, Obyce, Jedľové Kostoľany



Driving direction from Vienna airport (A) to conference place (B)



The access to the conference place (B) from main route R1

Access to the Areál Zdravia – the conference place (B) from Jedľové Kostoľany village

Programme

8 September	**Monday**
12:00 – 22:00	registration of participants
17:30 – 18:30	dinner
20:00 – 20:30	opening of the Russulales workshop 2014 with introductory presentation, organisation instructions
21:00	social and discussions
9 September	**Tuesday**
08:00 – 09:00	breakfast
09:00 – 14:00	excursions to collecting sites Cerina and Ladzany
14:00 – 18:00	working with Russulales collections and small exhibition of the day, discussions
17:30 – 18:30	dinner
19:00 – 19:30	presentation
20:00	social and discussions
10 September	**Wednesday**
08:00 – 09:00	breakfast
09:00 – 14:00	excursions to collecting sites Žuhračka and Hostie
14:00 – 18:00	working with Russulales collections and small exhibition of the day, discussions
17:30 – 18:30	dinner
19:00 – 19:30	presentation
20:00	social and discussions
11 September	**Thursday**
08:00 – 09:00	breakfast
09:00 – 14:00	excursions to collecting sites Jelenec and Lovce
14:00 – 18:00	working with Russulales collections and small exhibition of the day, discussions
17:30 – 18:30	dinner
19:00 – 19:30	presentation
20:00	social and discussions
12 September	**Friday**
08:00 – 09:00	breakfast
09:00 – 14:00	excursions to collecting sites Obyce and Prostredný vrch
14:00 – 18:00	working with Russulales collections and small exhibition of the day, discussions
17:30 – 18:30	dinner
19:00 – 19:30	presentation
19:30	closing ceremony and grill party
13 September	**Saturday**
08:00 – 09:00	breakfast
09:00	departure

Presentations

8 September
Soňa Jančovičová, Slavomír Adamčík, Miroslav Caboň
"Slovakia: country, nature, people and fungi"

9 September
Jorinde Nuytinck, Komsit Wisitrassameewong, Ursula Eberhardt and Annemieke Verbeken
"Towards a new subgeneric classification in Lactarius"

10 September
Brian Looney, Bart Buyck, Slavomír Adamčík
"Recent initiative to revive concept of russulas described by W.A. Murrill from Eastern US"

11 September
Carlo Ostellari, Sacha Melera
"Analysis of morphological, ecological and molecular characters of Russula pectinatoides Peck and Russula praetervisa Sarnari"

12 September
Felix Hampe, Ursula Eberhardt, Jesko Kleine, Slavomír Adamčík
"Troubles uncovered by ITS phylogeny and perspectives of research on *Russula* species described from Europe"

Russula sp. © Felix Hampe

Collecting sites

- cities
- collecting sites

Important orographic regions

2 Ipeľsko-Rimavská brázda (hills, flysch)
6 Podunajská nížina lowland
12 Tríbeč Mts. (calcareous, siliceous)
14a Pohronský Inovec Mts. (neo-volcanic)
14e Štiavnické vrchy Mts. (neo-volcanic)

The list of collecting sites with dates of the visits

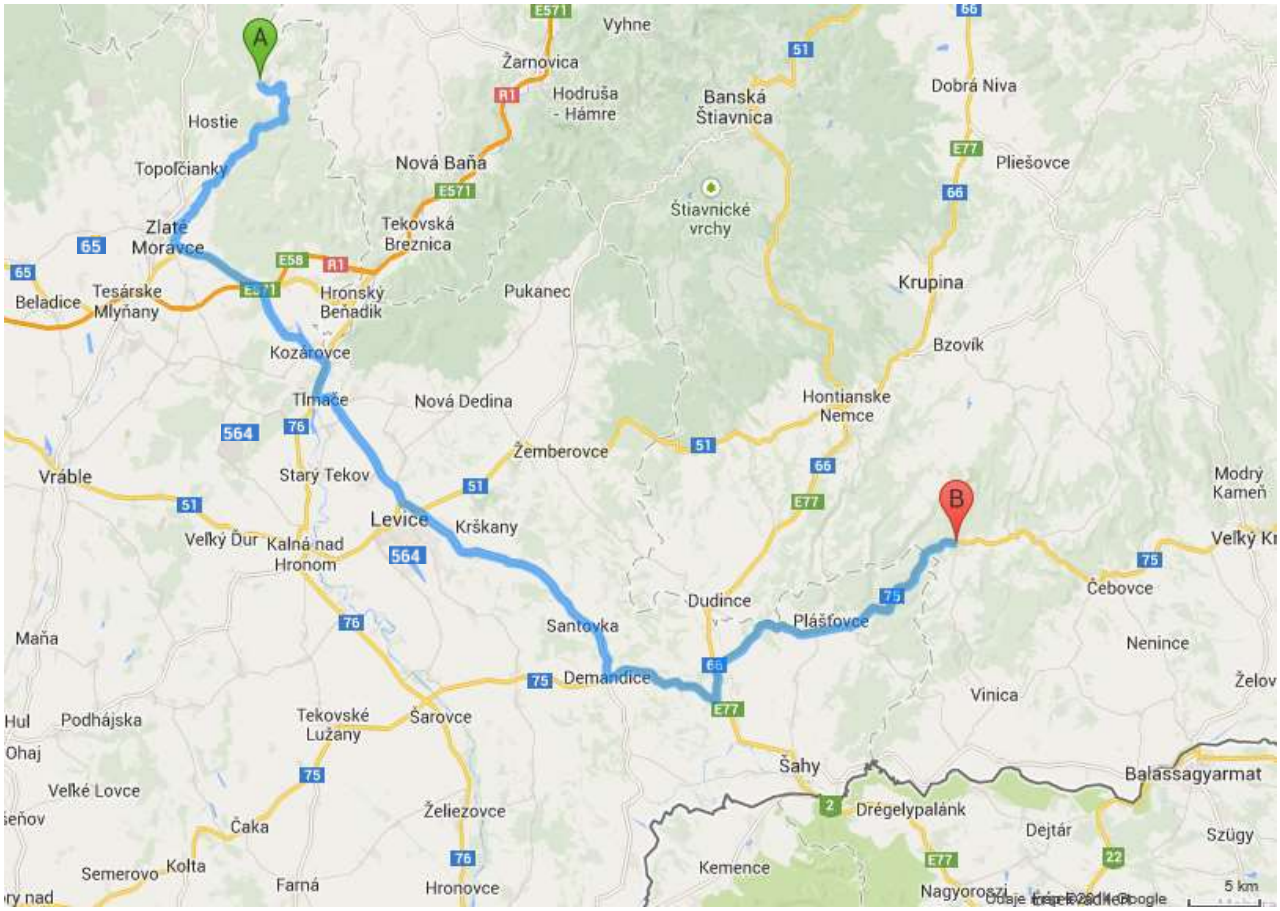
Cerina – Tuesday 9. Sept.
Ladzany – Tuesday 9. Sept.
Žuhračka – Wednesday 10. Sept.
Hostie – Wednesday 10. Sept.
Jelenec – Thursday 11. Sept.
Lovce – Thursday 11. Sept.
Obyce – Friday 12. Sept.
Prostredný vrch – Friday 12. Sept.

Cerina

Brief site description: Oak forest of planted *Quercus petrea* on flat relief accompanied by *Carpinus betulus* and various shrubs of pioneer trees, i.e. *Corylus avellana* and *Crataegus* spec. div. The oak trees are relatively young, but about 20 m high and with the total cover about 70%. Typical brown forest soil contains many stones of andesite that are covered by mosses on the surface. Several nitrophilous plants, such as *Alliaria petiolata*, *Geranium robertianum* and *Torilis japonica* indicating history of the site as a pasture. Cover of herbal layer is very variable and range from almost none to max. 60%.

No Russulales recorded so far

Cerina: coord. 48°12'51.70"N 19°, 5'32.01"E, alt. 390–475 m



Driving direction to the site **Cerina** (B) from the conference place (A), travel distance: 93 km, 1 h 33 min

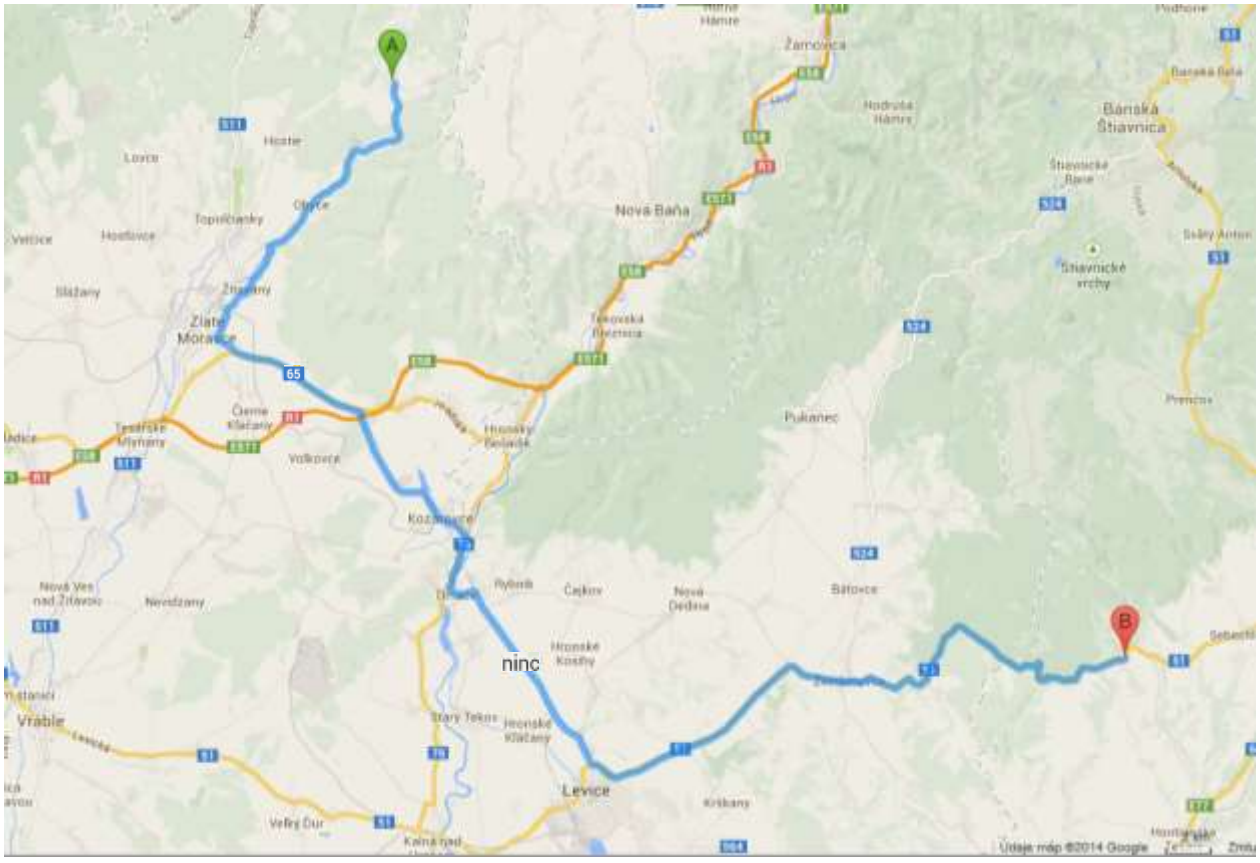
Ladzany

Brief site description: The forest dominated by turkey oak (*Quercus cerris*) on a flat relief with light south exposition. The core of the site is covered by relatively low, but old trees with rich herbal layer and stony soil (andesite). At this part several interesting boletes were reported, e.g. *Boletus legaliae*. Among the herbs dominate grasses *Festuca heterophylla, Brachypodium silvaticum, Melica uniflora*, frequent are also *Trifolium medium, Cruciata glabra* and other plants. Cover of trees is about 70%, but it is denser towards a meadow at the southern margin. Towards to the north-east, there is a rough terrain with eroded sallow or deeper gorges.

Preliminary Russulales list from Ladzany:

Lactifluus *volemus*
Russula *aurora*
R. decipiens
R. lepida
R. globispora
R. graveolens
R. pelargonia
R. persicina
R. pseudointegra
R. risigallina
R. rubra
R. rutila
R. sericatula
R. subfoetens
R. velenovskyi

Ladzany: coord. 48°17'15.83"N 18°52'17.52"E, alt. 425–470 m



Driving direction to the site Ladzany (B) from the conference place (A), Travel distance: 71 km, 1 h 20 min

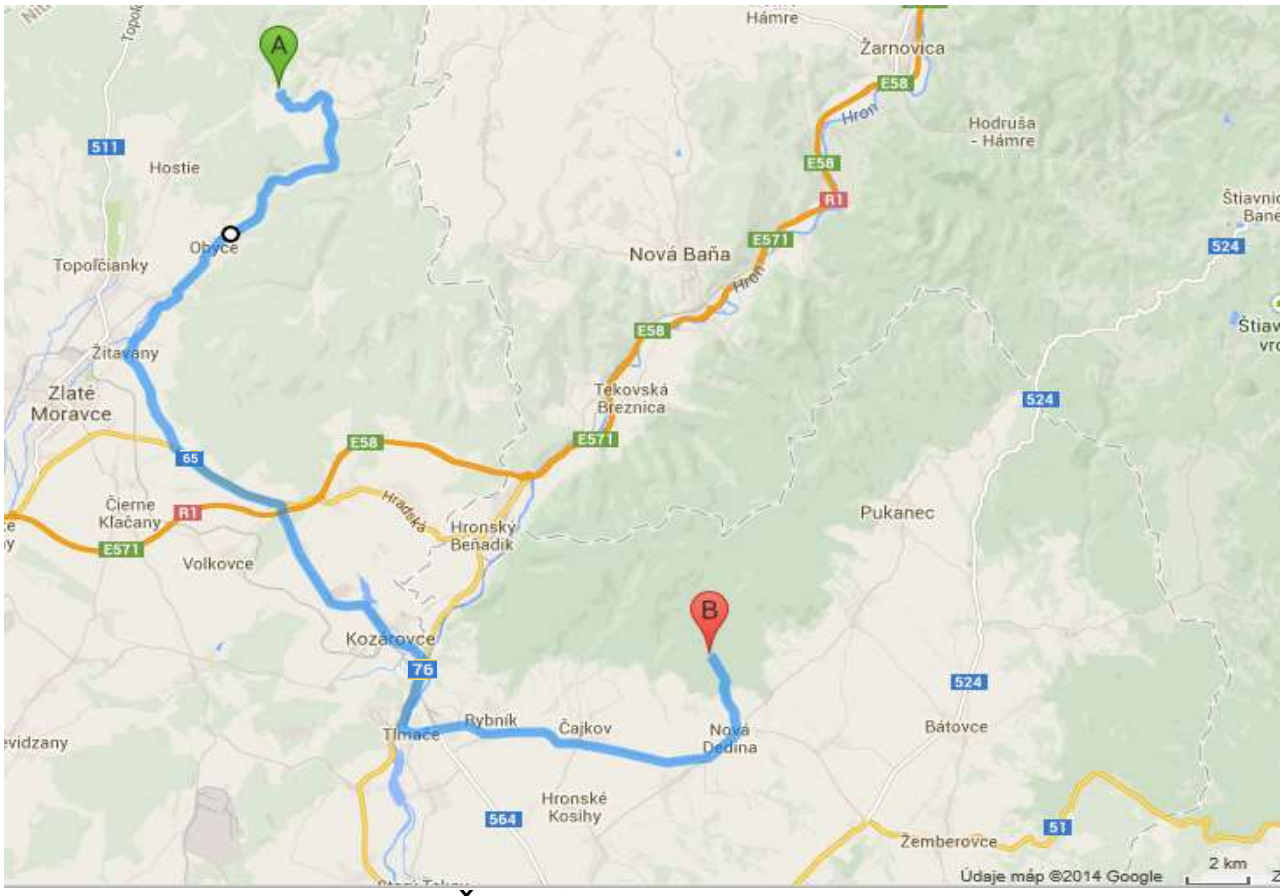
Žuhračka

Brief site description: This site is situated deep in a forested long valley with south-opened mouth, on the right riverbank. The slope at the bottom of the humid valley is light (5–7°), but locally quite steep uphill. The dominance of *Carpinus betulus* in lower part indicates the nitrophilous character of the locality, while *Quercus cerris* is dominating upwards the slope. The soil has high stone component (andesite). The cover of herb layer (40%) is weak; there are numerous species typical for beech forests, such as *Dentaria bulbifera*, *Galium schultesii*, *Mycelis muralis*, *Symphytum tuberosum* and also seedlings of *Fagus sylvatica*. This is the site with the most reach *Russulaceae* diversity that we know in area. The scattered gorges in the slope are refugees for fungi during the dry period.

Preliminary Russulales list from Žuhračka:

Lactarius
L. chrysorrheus
L. circellatus
L. evosmus
L. quietus
Lactifluus
Lf. glaucescens
Lf. piperatus
Lf. vellereus
Lf. volemus
Russula
R. acrifolia
R. atropurpurea
R. aurea
R. aurora
R. cf. *blumiana*
R. carpini
R. chloroides
R. cuprea
R. cyanoxantha
R. decipiens
R. delica
R. densifolia
R. graveolens
R. grisea
R. heterophylla
R. illota
R. laeta
R. laurocerasi
R. lepida
R. lilacea
R. cf. *lividopallescens*
R. luteotacta
R. melliolens
R. cf. *melliolens*
R. nigricans
R. odorata
R. parazurea
R. pectinatoides
R. pelargonia
R. cf. *poikilochroa*
R. rhodomelanea
R. risigallina
R. rutila
R. sericatula
R. solaris
R. sororia
R. tinctipes
R. vesca
R. vinosobrunnea
R. virescens
R. cf. *zonatula*

Žuhračka: coord. 48°19'34.81"N 18°38'54.51"E, alt. 375–410 m



Driving direction to the site **Žuhračka** (B) from the conference place (A), travel distance: 48 km, 1 h 5 min

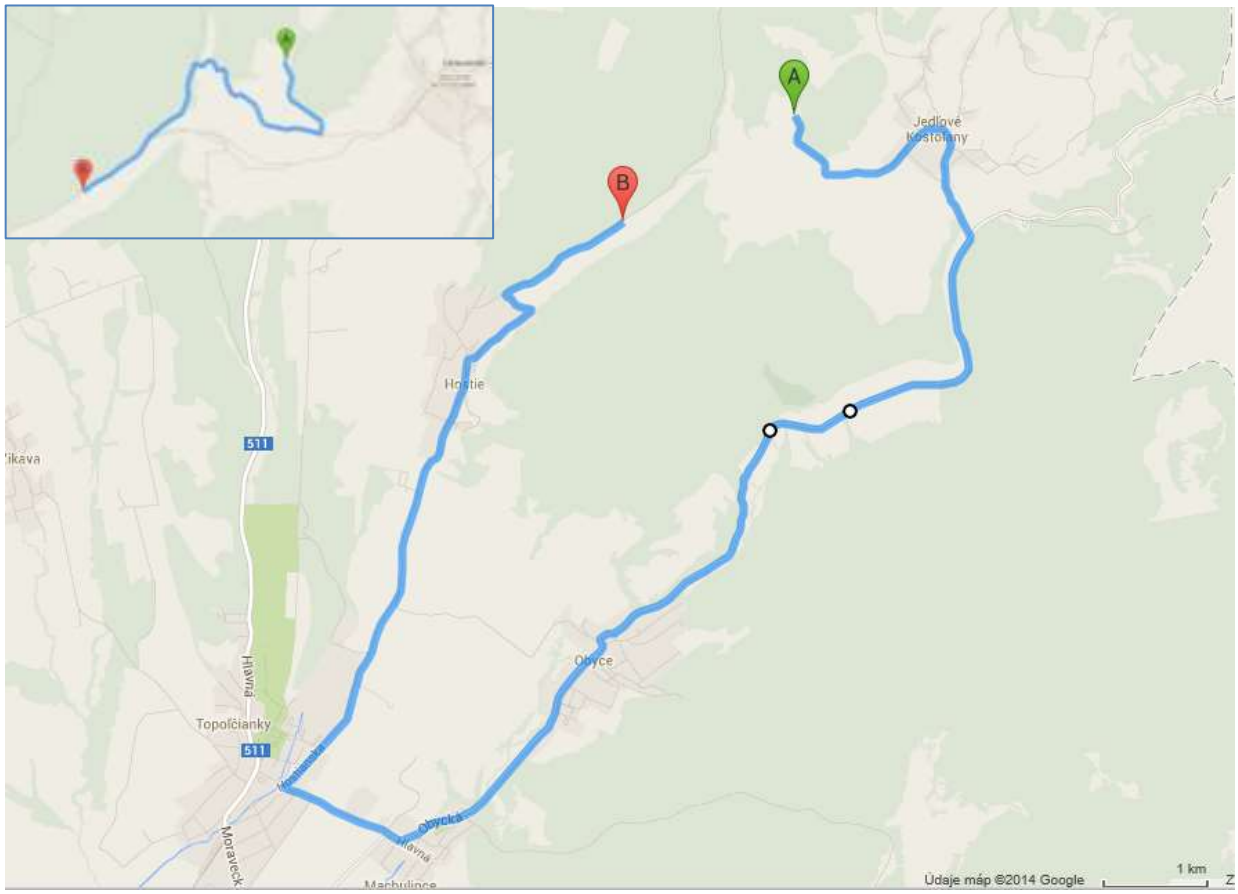
Hostie

Brief site description: South exposed slope covered by open wood of *Quercus cerris* and partly also *Q. petrea* and *Carpinus betulus*. The height of trees is about 20 m. Shrubby layer is missing. The soil is stony (quartzite), influenced by the acidic soil reaction. The litter of decaying leaves is ca. 2–3 cm thick, the stony ground is covered by mosses (5%). Acidophilous taxa, such as *Hieracium lachenalii, H. murorum, Veronica officinalis* occur together with *Melica uniflora*, *Ranunculus ficaria*, *Symphytum tuberosum* and others.

Preliminary Russulales list from Hostie:

Lactarius *chrysorrheus*
L. serifluus
Russula *atropurpurea*
R. cuprea
R. cyanoxantha
R. delica
R. densifolia
R. farinipes
R. fellea
R. fragilis
R. graveolens
R. illota
R. laeta
R. laurocerasi
R. lepida
R. nigricans
R. odorata
R. ochroleuca
R. pelargonia
R. persicina
R. rhodomelanea
R. risigallina
R. romellii
R. roseoaurantia
R. rutila
R. vesca
R. vinosobrunnea
R. virescens

Hostie: coord. 48°27'59.01"N 18°27'34.74"E, alt. 260–340 m



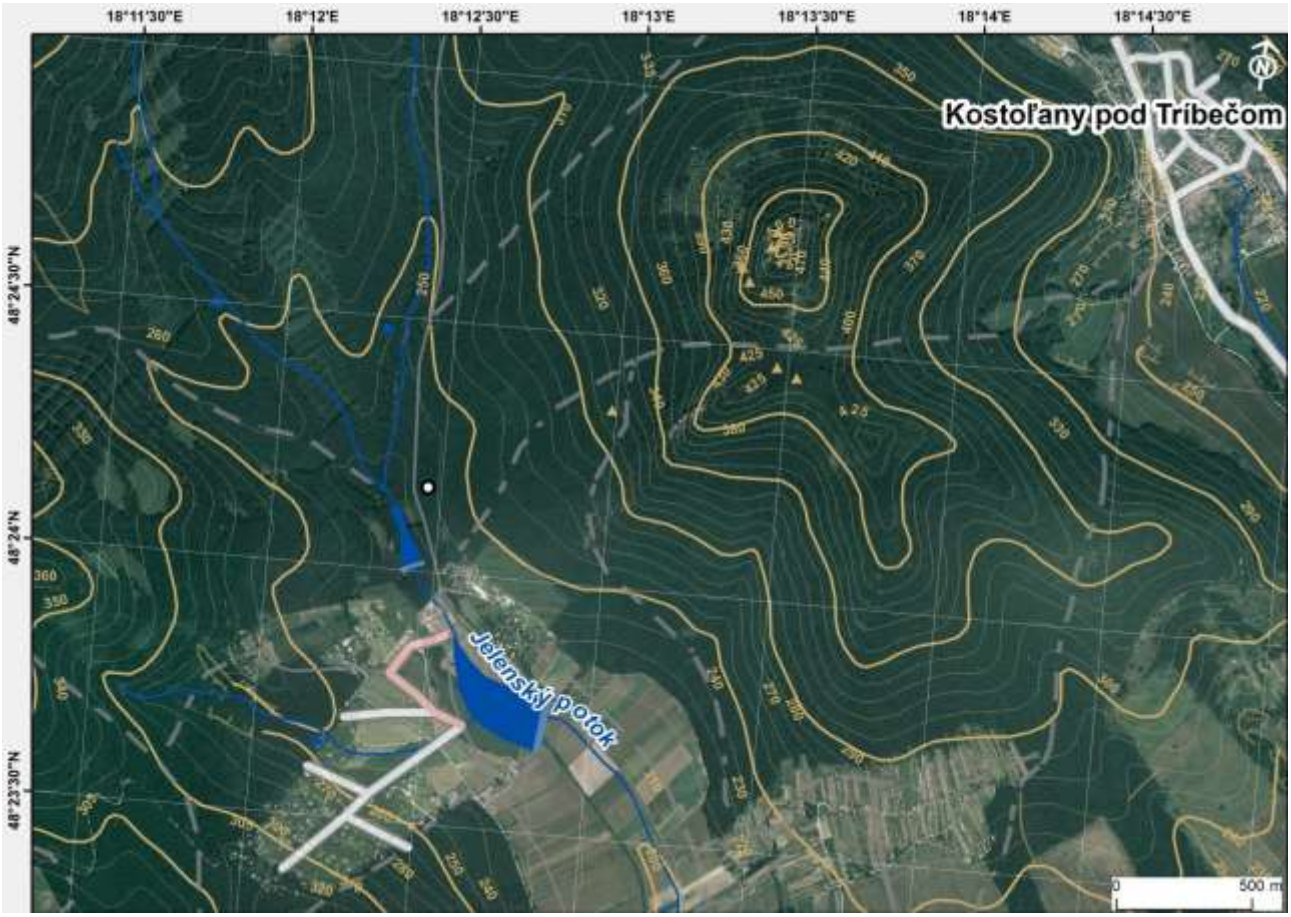
Driving and foot (smaller picture) direction to the site **Hostie** (B) from the conference place (A), travel distance by car: 29 km, 30 min, walk by foot: 3.5 km, 40 min

Jelenec

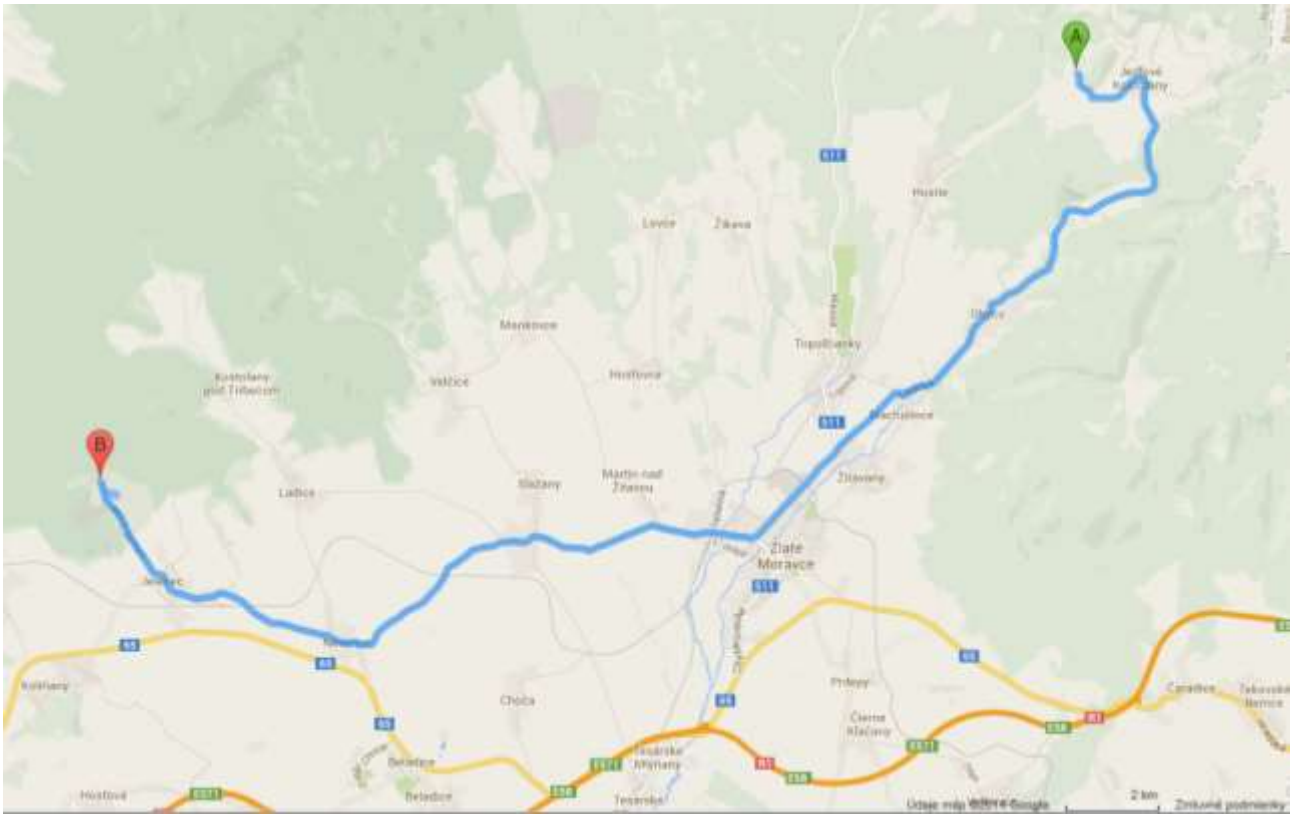
Brief site description: East site of the valley with south-western orientation, at the bottom of the valley with light slope that becomes gradually steeper upwards. The bottom has thicker cover of mixed oak and *Carpinus betulus* trees with poorly developed herbal layer. The upper and steeper part of the site is dominated by oaks (*Quercus petraea* agg.) and species-rich herbal and scrub layer. The latter is composed of *Ligustrum vulgare*, *Pyrus communis*, *Acer campestre*, *Cerasus avium*, etc. The speeper part of the site has beside of a common and well represented herbal species, such as *Melica uniflora*, *Festuca heterophylla*, *Poa nemoralis*, *Stellaria holostea*, *Galium schultesii* a floristically interesting taxa like *Viola alba*, *Epipactis pontica*, *Cephalanthera damassonium*. The bedrock is quartzite but the effect of its acidic reaction is probably eliminated by a thick oak litter and is not distinctly reflected in composition of plant communities.

Preliminary Russulales list from Jelenec:

Lactarius *azonites*
L. camphoratus
L. circellatus
L. chrysorrheus
L. serifluus
Lactifluus *bertillonii*
Lf. glaucescens
Lf. piperatus
Lf. volemus
Russula *amoenolens*
R. atropurpurea
R. aurora
R. cyanoxantha
R. decipiens
R. graveolens
R. illota
R. laeta
R. laurocerasi
R. lepida
R. melliolens
R. nigricans
R. odorata
R. ochroleuca
R. pectinatoides
R. pseudointegra
R. risigallina
R. romellii
R. sericatula
R. vesca
R. virescens



Jelenec: coord. 48°24'8.44"N 18°12'22.24"E, alt. 225–350 m

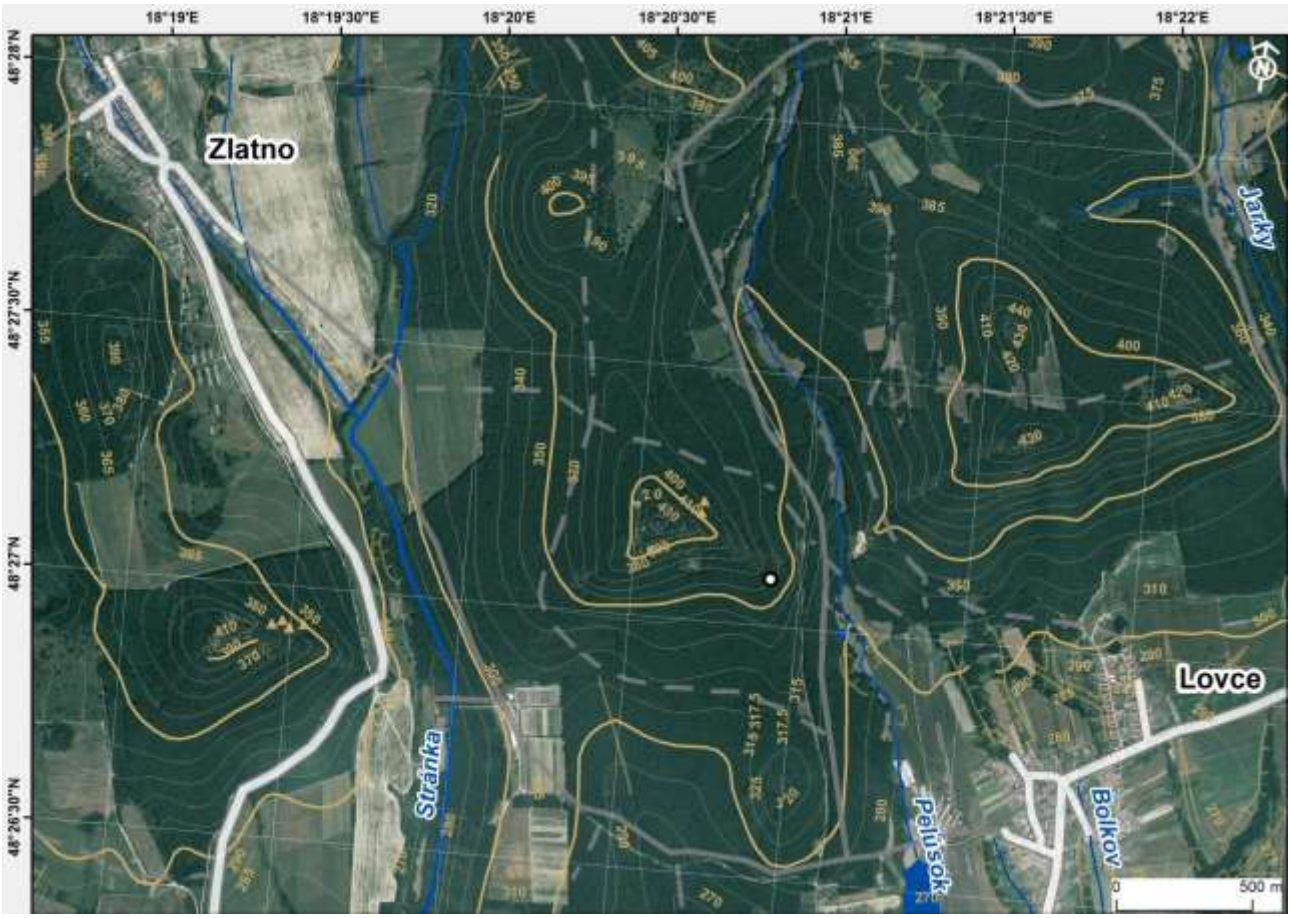


Driving direction to the site **Jelenec** (B) from the conference place (A), travel distance: 38 km, 45 min

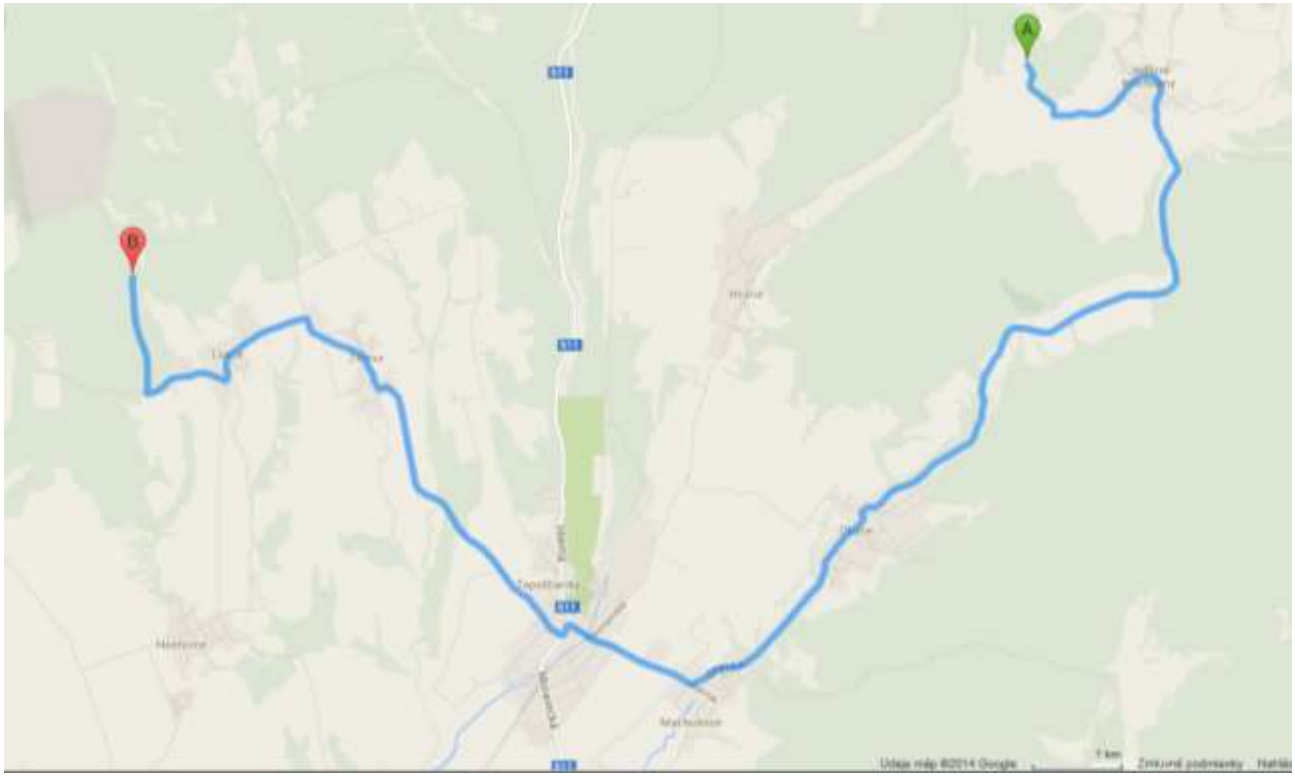
Lovce

Brief site description: Coppice oak forest (*Quercus cerris* and *Q. petrea* agg.) growing on deeper brown soils. Light slopes are exposed to SE-E. The height of trees is about 20 m, the diameter in breast hight of oaks 20–40 cm. Young trees, such as *Carpinus betulus, Prunus spinosa* and *Q. petrea*, represent shrub layer. The herbal layer is moderately rich of species, its cover reach about 40%; the most frequent are *Avenella flexuosa*, *Melica uniflora* and *Poa nemoralis*. Mosses like *Polytrichum* sp. div. and *Hypnum cupressiforme*, are scattered. The site is situated on left side of a road to public-accessible area of wisent (European bison) enclosure (entrance fee 2 euro).

No Russulales recorded so far



Lovce: coord. 48°27'3.91"N 18°20'49.26 "E, alt. 300–370 m



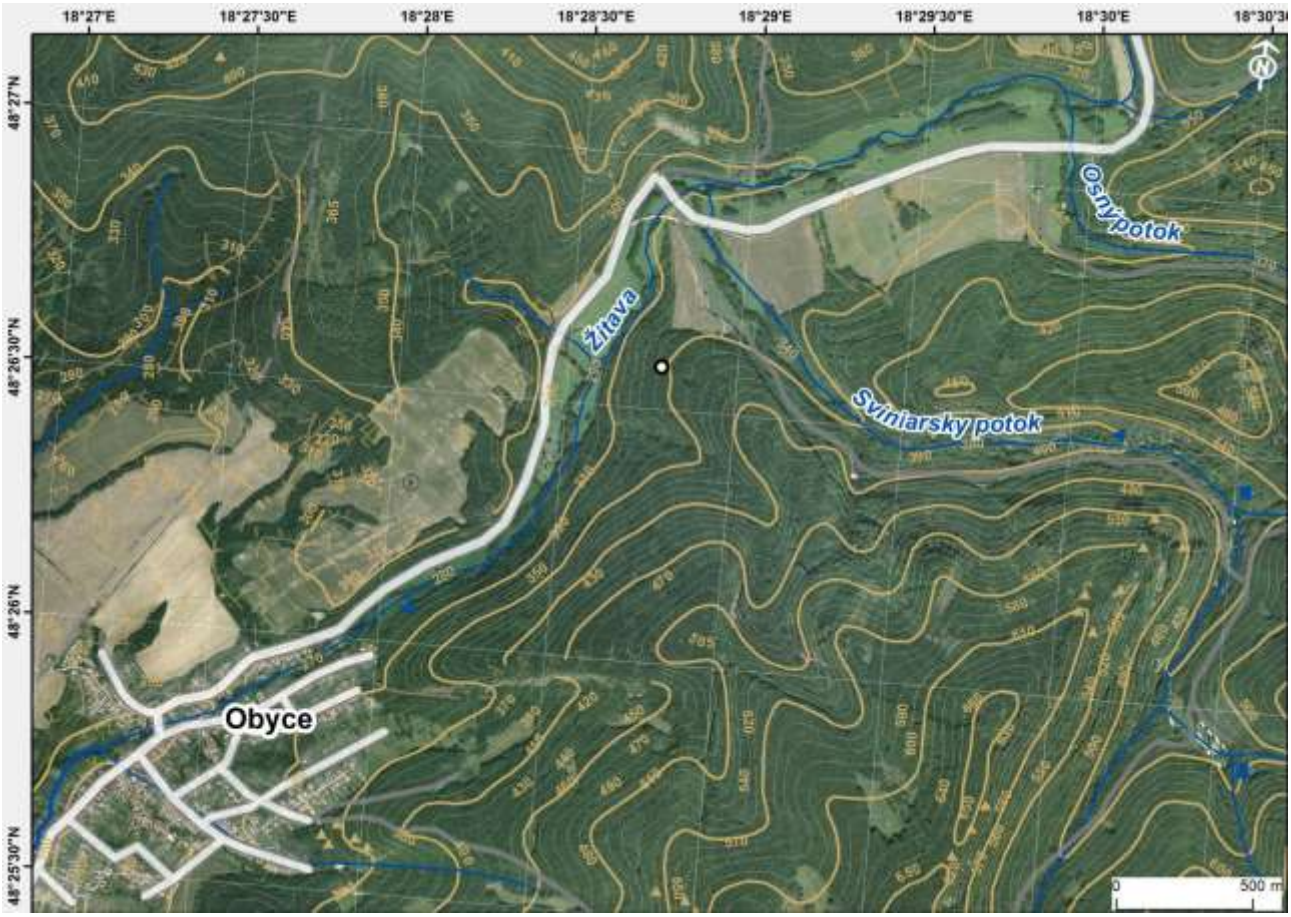
Driving direction to the site **Lovce** (B) from the conference place (A), Travel distance: 22 km, 40 min

Obyce

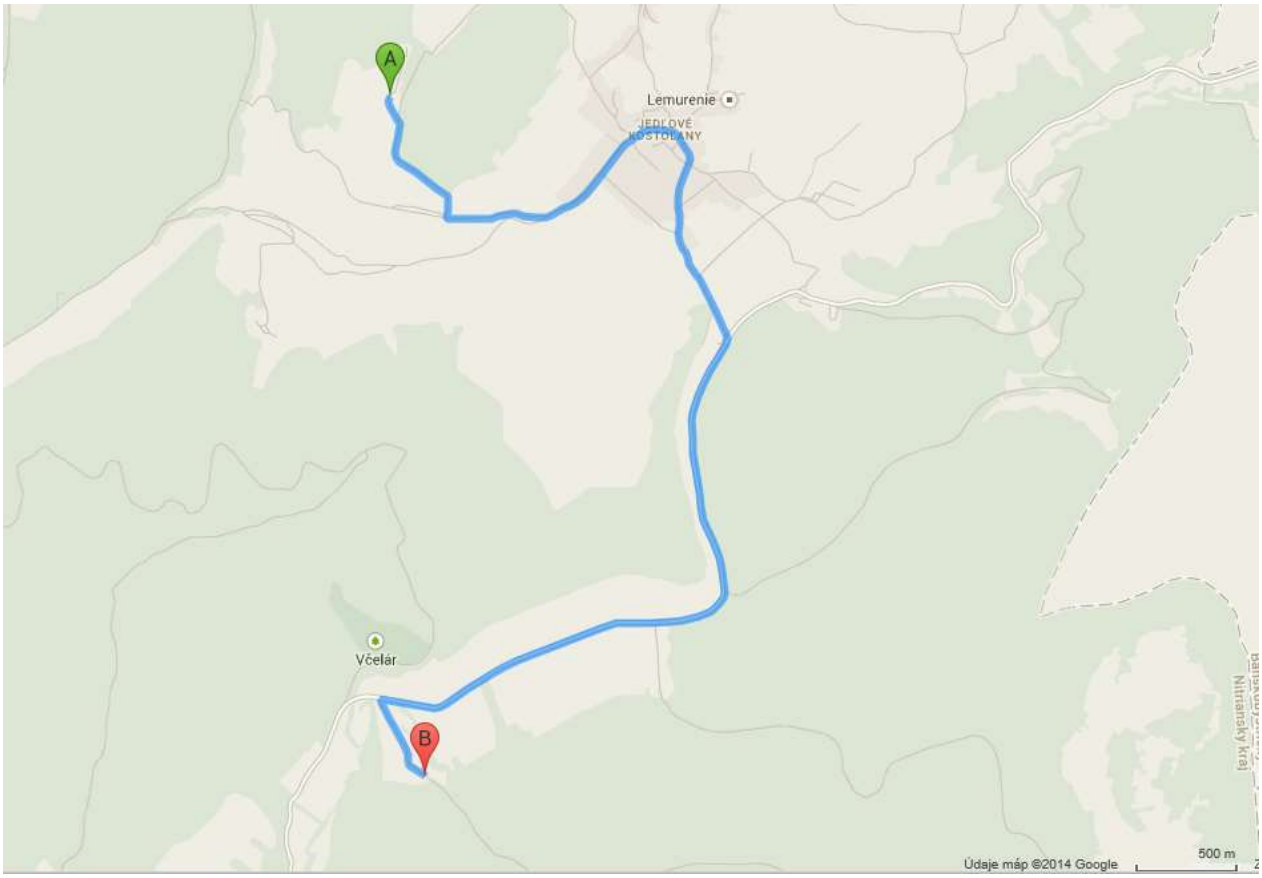
Brief site description: Thermophilous oak forest (*Quercus cerris* and *Q. petraea* agg.) on well-developed soils. Slightly exposed slopes (5–7°) oriented SW-W provide optimal conditions for oak trees. The height of the trees is about 25 m. The herbaceous layer is rich in species and covers around 80% of the surface. The shrub layer is poor; represented by young trees of *Acer campestre*, *Carpinus betulus* and *Prunus avium*, and several shrubs, e.g. *Euonymus europaeus*, *Rhamnus cathartica* and *Rosa canina* agg. Thermophilous species, e.g. *Astragalus glycyphyllos*, *Clinopodium vulgare*, *Fragaria viridis*, *Lychnis viscaria* and *Viola mirabilis* dominate the herb layer, but some mesophilous and nitrophilous taxa also occur, e.g. *Cruciata laevipes*, *Galium aparine* and *Torilis japonica*. The litter layer is thick; terrestrial mosses scattered.

Preliminary Russulales list from Obyce:

Lactarius *azonites*
L. chrysorrheus
L. circellatus
L. evosmus
L. fuliginosus
L. quietus
L. zonarius
Lactifluus *bertillonii*
Lf. piperatus
Lf. vellereus
Lf. volemus
Russula *acrifolia*
R. albonigra
R. amoenolens
R. anthracina
R. atropurpurea
R. aurea
R. borealis
R. carpini
R. cuprea
R. cyanoxantha
R. decipiens
R. delica
R. globispora
R. graveolens
R. heterophylla
R. illota
R. laeta
R. laurocerasi
R. lepida
R. cf. *lividopallescens*
R. minutula Velen.
R. nigricans
R. odorata
R. olivacea
R. cf. *poikilochroa*
R. risigallina
R. romellii
R. rutila
R. cf. *sororia*
R. cf. *tinctipes*
R. vesca
R. vinosobrunnea
R. cf. *vinosopurpurea*
R. virescens



Obyce: coord. 48°26'33.39"N 18°28'40.97 "E, alt. 300–410 m



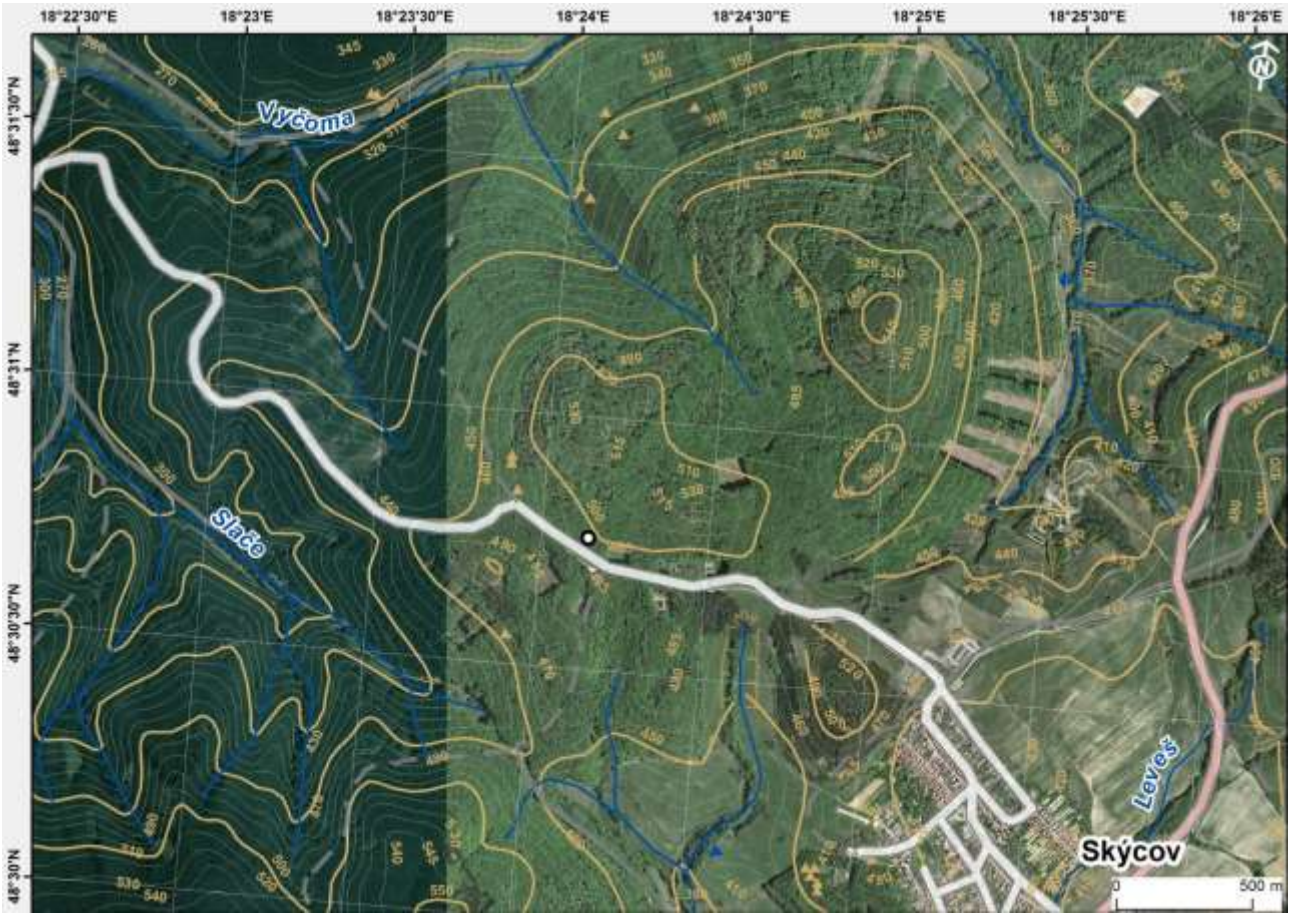
Driving direction to the site **Obyce** (B) from the conference place (A), travel distance: 6.6 km, 15 min

Prostredný vrch

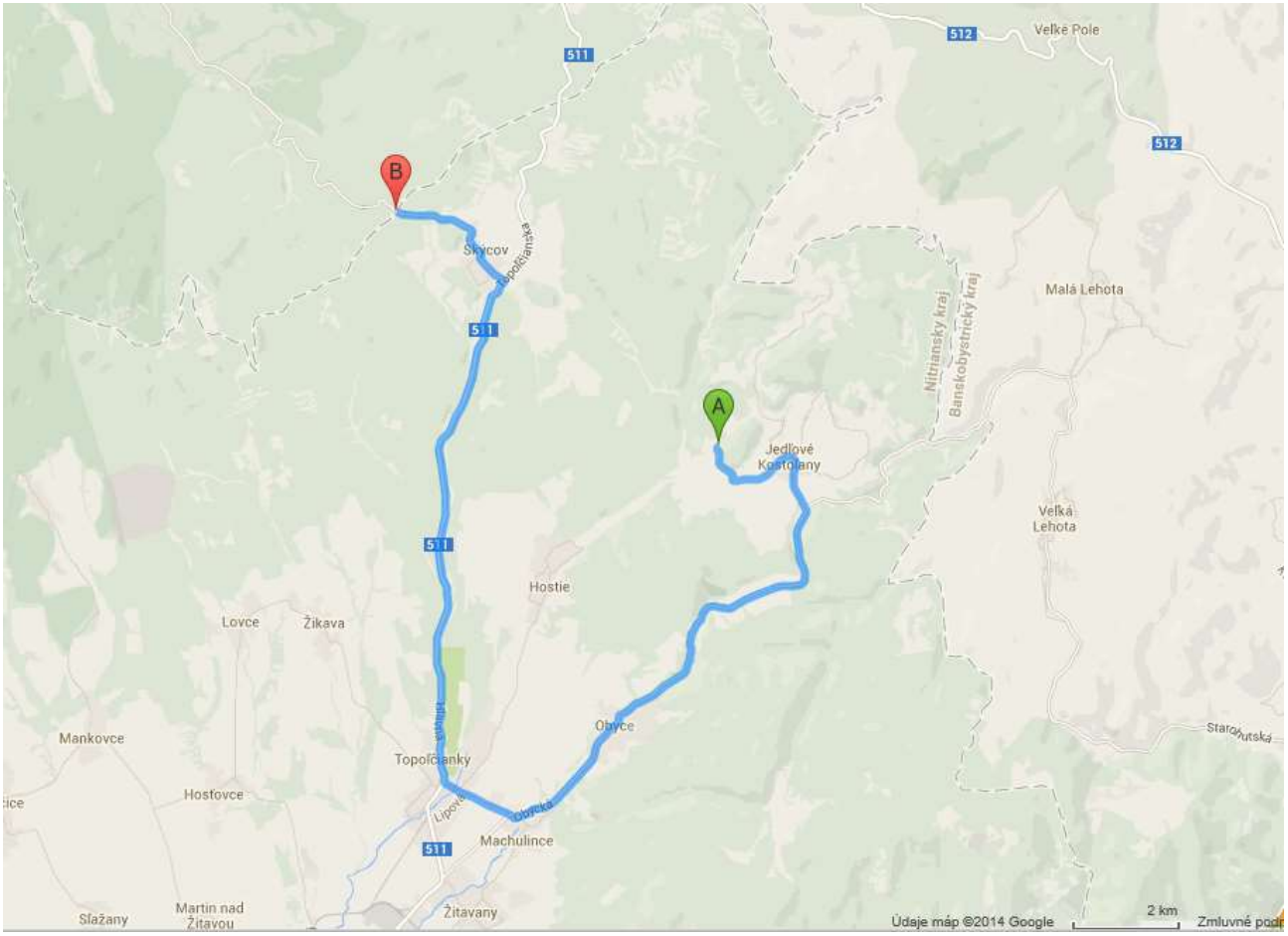
Brief site description: Undulate terrain with small hills with shallow soils inhabited by oak trees and deeper depressions with often humid soils inhabited by beech trees (*Fagus sylvatica*). Stones (quartzite) cover the 5–10% of the plots. Hills are overgrowth by old gnarled and often scattered oaks. Cover of herb layer is poor (5–7%), represented e.g. by *Avenella flexuosa*, *Cardaminopsis arenosa*, *Mycelis muralis* and seedlings of *Fagus sylvatica, Quercus petrea, Sorbus aria* and *S. aucuparia.* On some exposed parts of hills, there are rich moss and lichen synusia.

Preliminary Russulales list from Prostredný vrch:

Russula *atropurpurea*
R. cf. delica
R. cf. fragilis
R. melliolens
R. rutila
R. violeipes



Prostredný vrch: coord. 48°30'43.93"S 18°24'2.99 "E, alt. 495-530 m



Driving direction to the site **Prostredný vrch** (B) from the conference place (A), travel distance: 25 km, 33 min

Slovakia: country, nature, people and fungi

Practical information: The official language is Slovak. Young people can usually speak English as the second language. Older people can speak Russian. In case of emergency call 112, but if possible, we recommend calling first organisers because of possible language barrier. The currency is Euro. Most shops owned by big companies accept Visa/Master cards. Smoking in restaurants is prohibited if not indicated the opposite. Alcohol is accessible at any time of a day and possible to drink at any place except of car driving seat and people in an official service. Shops are mostly open from 9:00 to 16:00 in working days, but malls, supermarkets and food stores can be opened longer and/or during weekends.

An independent Slovak republic was established in 1993. Since 2004 it is the member of the EU; since 2009 the member of euro area. With total area of 49 036 km², Slovakia has 5.43 millions of inhabitants (www.sk.wikipedia.org/wiki/Slovensko).

Rugged terrain of Slovak country caused high variability in dialects, food and beverages. The most known traditional Slovak food are bryndzové halušky (dumplings with sheep chees; on the picture), a favourable non-alcoholic drink is kofola and very popular are – as a digestive – strong fruit spirits such as slivovica (made of plums) or hruškovica (made of pear), etc.

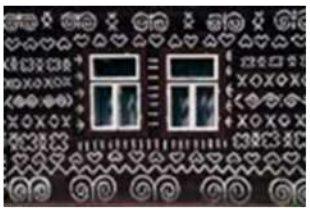
Inhabitants of Slovakia, because of its position in middle of Europe, encountered many of turbulences in history and numerous wars. Heritages from this period are many castles or ruins all over the country. The economic, technical and cultural centres of medieval period had been often mining cities like Banská Štiavnica – in germ. Schemnitz, in hungar. Selmecbánya.

Despite relatively small area, Slovakia is very variable in climate and vegetation types. In the south, it has lowlands with pannonian flora of dry and warm climate. With increasing altitude, the vegetation is changing to oak, beech or spruce dominated forests and the highest mountains of the county (Tatry Mts.) have also alpine belt. The most frequent type of forests are Carpathian beech forests; some of the Slovak natural beech-forest reserves are listed as UNESCO heritage.

Slovaks are passionate mushroom-hunters. They collect various species of *Boletus*, *Leccinum*, *Suillus*, *Cantharellus*, *Xerocomus*, *Morchella*, *Polyporus*, *Armillaria*, *Calocybe* and others. The most popular edible fungi are boletes with white flesh – called dubáky in Slovak. Out of Russulaceae, frequently collected are *Lactarius deliciosus*, *Lactifluus volemus*, *Russula virescens* and *Russula cyanoxantha*.

In Slovakia, more than 2500 of macrofungi have been reported; among them more than 200 are Russulaceae taxa. Overview of Russulaceae diversity in the oak forests of the collecting area of Russulales workshop 2014 was presented in Russulales workshop 2010 (S. Adamčík, S. Jančovičová & M. Valachovič, Scripta Botanica Belgica 51(5-6): 60-72, 2013).

The decorative pattern outlining pages of this booklet is inspired by paintings on the traditional wooden houses of the village of Čičmany. This pattern was used also for decoration of clothing of Slovak representation at Olympic Games Sochi 2014.




beech forest, Čičmany decoration, Slovak flag, bryndzové halušky, *Russula illota*, entrance of the Bartolomej's mine in Banská Štiavnica, Russula art, mushroom-hunter

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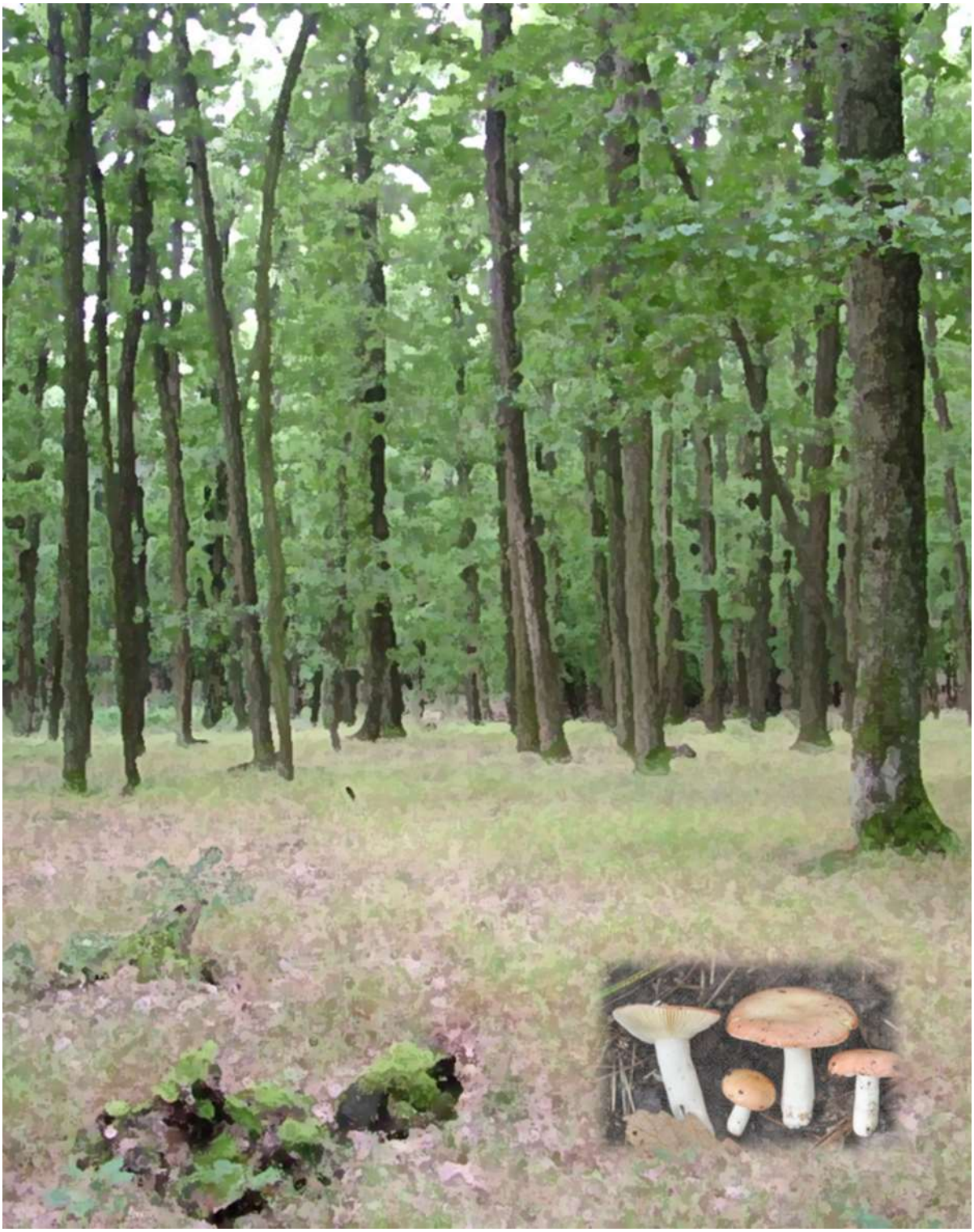

♣ **Text:** Slavomír Adamčík, Soňa Jančovičová, Milan Valachovič, Mieke Verbeken
♣ **Photos of fungi and habitats:** Per Marstad
♣ **Maps:** Dušan Senko, Slavomír Adamčík