

Lichens of the central part of the Bohemian Karst

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ABSTRACT

Comparative study of lichenized fungi in central part of the Protected Landscape Area Český kras (Bohemian Karst) is presented on the basis of recent and historical research. This study is a detailed survey of lichens in the Berounka river canyon as well as adjacent localities outside the valley belonging to the central part of the Protected Landscape Area.

The Bohemian Karst has already been subject to many studies; however a complete description of lichen flora was missing. Based on previous publications and herbaria specimens, references to more than 250 species of lichens were found during recent investigations; in total more than 290 species were confirmed or newly discovered. Three of these taxa are reported for the first time in the Czech Republic: *Caloplaca albolutescens* (Nyl.) H. Olivier, *Lecanora flotoviana* Spreng. and *Placynthium hungaricum* Gyeln. The number of lichens found in investigated area represents approx. 17% of the known lichen flora of the Czech Republic. The majority of the species shown in available sources were confirmed, many species are new to the Bohemian Karst.

There are a number of saxicolous, mostly calciphilous species, as well as species growing on diabase (proterozoic basalt). Many species that rarely occur elsewhere in the Czech Republic (*Caloplaca marmorata* (Bagl.) Jatta, *Peccania cernohorskyi* (Servít) Czeika et Guttová, *Phaeophyscia hirsuta* (Mereschk.) Essl., *Psora decipiens* (Hedw.) Hoffm., *Mycobilimbia lurida* (Ach.) Hafellner et Türk, *Cladonia convoluta* (Lam.) Anders, *Rinodina aspersa* (Borrer) J. R. Laundon, *R. calcarea* (Arnold) Arnold, etc.) were encountered. In the shady spots of ravines and on north-facing slopes even species more typical for montane areas (*Polyblastia cupularis* A. Massal., *Thelidium papulare* (Fr.) Arnold, *Solorina saccata* (L.) Ach.) were found. The epiphytic lichen flora is developed mostly in the central forested part of the region; besides the common species for example *Pleurosticta acetabulum* (Neck.) Elix et Lumbsch, *Flavoparmelia caperata* (L.) Hale, *Ramalina farinacea* (L.) Ach. or *Rinodina exigua* (Ach.) Gray were noted.

Key words: Bohemian Karst, checklist, Czech Republic, lichenized fungi

INTRODUCTION

The Protected Landscape Area Bohemian Karst – PLA (CHKO Český kras) is located in central Bohemia, south-west of Prague, in a temperate climatic xerothermal zone with low annual precipitation of ca 500 mm/yr. (Fig. 1). The central part of the region is mostly characterized by forested hills (up to 450 m asl) with limestone and basaltic (diabasic) biotops, surrounded by fields and meadows, mainly near settlements. The Berounka river traverses the region, creating a canyon with rocky slopes and lateral ravines in predominant rocks – limestone and diabase.

Geologically, the major part of localities of present interest is created on Silurian and Devonian limestone; the others are on diabase or other rock substrates.

Close to the PLA border next to Rovina village, there is a small outcrop of the picrite (volcanic rock with high magnesium content). Beside the canyon area, the research was pursued in some localities described in Material and Methods. Epiphytic species were recorded in the area restricted by settlements Beroun – Bubovice – Zadní Třebaň – Tobolka.

The main aims of this study are:

- summarization of the historical research in the Bohemian Karst
- detailed study of lichenized fungi in the Berounka river canyon (including several ravines)
- research in several adjacent localities outside the valley belonging to the central part of the Protected Landscape Area.

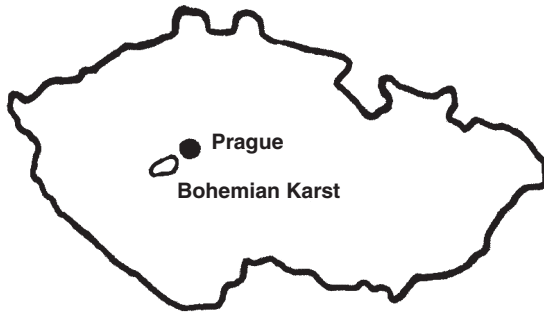


Fig. 1: Bohemian Karst

HISTORICAL SURVEY

The Bohemian Karst has been for centuries a destination for botanical excursion because for its proximity to Prague agglomeration. The first record of lichens from this region is in the collection of “cryptogamic plants”, edited by F. M. Opiz in Prague from 1818 to 1819 (e.g. *Solorina saccata*, from locality “bei Sv. Ivan 10./5.18”). (Bayer, 1922a).

The first published entry was given also by Opiz (1823) – *Solorina saccata* (L.) Ach. and *Diploschistes gypsaceus* auct. Further data was published in W. Mann’s work (Mann, 1825) – on six species including from the locality “the Karlštejn castle wall”. Several herbarium specimens of Mann have been conserved in the PRC herbarium.

At the beginning of the twentieth century, J. Podpěra collected many specimens particularly in Císařská rokle ravine, Koda and in the environs of Srbsko

village. These collections were treated and published by Servít (1911). After foundation of Czechoslovakia in 1918, the main research period began. Scientists like Bayer, Servít, Hilitzer, Klika, Suza, Černohorský and Nádvorník represented this period.

E. Bayer, as a curator of Prague National Museum collections (PRM), published “some interesting discoveries of lichens in the Bohemia” with localities in the Bohemian Karst (Bayer, 1922b). During the years 1922–23 he undertook several excursions to the Radotínské valley and to the valley of Kačák (herbaria specimens in PRM).

The dissertation of A. Hilitzer about the family *Parmeliaceae* in Bohemia (Hilitzer, 1924b) includes several collections from the Bohemian Karst. Hilitzer also published the most important work about epiphytic lichens and cryptogamic associations in Bohemia from that period, where several observations from the environs of Karlštejn were included. Therefore there is a unique possibility to compare contemporary epiphytic lichen flora with the situation of early twenties.

Further records were published by Hilitzer (1924a; 1926a; 1929) and Klika (1928). The Velká hora hill near Karlštejn was explored by Z. Černohorský (1942a, b); unfortunately he was interested in saxicolous species only. Černohorský also published the data on diabasic (basaltic) lichen flora of Prague environs with several notes about Karst diabases (Černohorský, 1940).

J. Suza also devoted some works to the Bohemian Karst (Suza, 1934a; 1936; 1938; 1947). In his exsiccate collection (*Lichenes Bohemoslovakiae exsiccati*) he edited some interesting lichens (e.g. *Leptogium plicatile* (Ach.) Leight.) from the area of interest.

According to the majority of scientists, the region is typical for the occurrence of xerothermic and calciphilous species. Consequently, many authors noted especially these species (e.g. Servít, 1930; Suza, 1942).

After The Second World War, the research activities in the area diminished. M. Servít treated some of his old collections of pyrenolichens also from Karst (Servít, 1948; 1954). The complex survey about *Physciaceae* in Czechoslovakia published J. Nádvorník (Nádvorník, 1947). In this work he also described new species *Physcia cernohorskyi* Nádv. (presently synonyme of *Phaeophyscia hirsuta* (Mereschk.) Esslinger) with type-locality on Velká hora hill.

Some records could be found in theses of student non-lichenologists from Charles University (Sádlo, 1983).

It is not possible to cite all the historical data (especially revised herbaria specimens), therefore, only the literary sources are presented in the list of species, not all revised items. Nevertheless, information about herbaria specimens of non published species is added.

MATERIAL AND METHODS

The presented study includes the results of historical survey and field work. Historical data was taken from the abundance of rich literary sources and also many herbaria specimens were revised. The abbreviations of herbaria are according to *Index Herbariorum* (Holmgren et al., 1990).

Lichens were determined *in situ* or in the laboratory using conventional techniques. Herbaria specimens are deposited in PRC and in the author's private herbarium.

RESULTS

In total, nearly 400 species of lichenized and lichenicolous fungi were found in the selected area. During recent explorations, more than 290 species were found, many of them new to The Bohemian Karst as a whole. The presence of 75 species was not confirmed or they were found as doubtfully or erroneously determined. Two new species of lichenicolous fungi were recorded. The list of all species recently recorded and cited in literature is attached (see below).

Comments to some interesting species

***Aspicilia simoënsis* Räsänen**

Species with small grey to olive green cracked-areolate thallus with scattered isidia. It grows on well-lit siliceous rock. Recently recorded only in České Středohoří (Berger & Bayerová, 2000) and in the Bohemian Karst from the Czech Republic. In the Karst, it occurs on diabasic and picritic rocks.

***Bacidia fuscoviridis* (Anzi) Lettau**

Inconspicuous, grey-green sorediate species occurs on moist, shady limestone rocks and boulders. The first record is from Servít (1930). This species was recently recorded from Southern Bohemia (Palice et al., 2003, Vondrák & Palice, 2004, Vondrák, 2006).

***Caloplaca albolutescens* (Nyl.) H. Olivier**

Thallus of this species is grey like *C. teicholyta*, but covered by clusters of grey soredia. Apothecia are similar to *C. teicholyta*. It grows on moderately basic substrates (J. Vondrák, pers. comm.). In the Karst, it was recorded from diabase.

***Caloplaca alociza* (A. Massal.) Mig.**

Small limestone species with black, semi-immersed apothecia and inconspicuous, sometimes immersed thallus. Some authors (Clauzade & Roux, 1985; Nimis

1993) distinguish taxon *C. agardhiana* (Flot.) Flagey (without hymenial crystals) from *C. alociza* (with small crystals in hymenium among paraphyses). Following this interpretation, species recorded in the Karst belong to *C. agardhiana*. J. Suza noted the species last time in the Czech Republic in 1940ths; during recent survey it was recorded only once, on hard limestone.

***Caloplaca cerinelloides* (Erichsen) Poelt**

It differs from the closely related species *C. cerinella* by 8-spored asci. This nitrophilous species grows especially on elder (*Sambucus nigra*) and on the nutrient rich bark of other broad-leaved trees and shrubs. Lichen was recently recorded only from Šumava (Dětinský, 1995) and Novohradské hory mountains (Peksa et al., 2004); it is probably overlooked.

***Caloplaca marmorata* (Bagl.) Jatta**

Xerothermic species from *C. lactea* group, with immersed thallus and typical carmine red apothecies. It is frequent in Mediterranean (Clauzade & Roux, 1985; Navarro-Rosinés & Hladun, 1996), in Bohemian Karst it occurs sparsely on exposed hard limestone.

***Caloplaca xerica* Poelt & Vězda**

Inconspicuous species characterised by greyish or blackish thallus. Mostly sterile, it grows on diabase, shale, also on anthropogenic substrates.

***Chaenotheca gracilentia* (Ach.) J. Mattsson & Middelb.**

Rare boreal species, characterised by thin, farinose, greyish-green thallus. Apothecia with greyish granular pruina. It was recorded in Císařská rokle ravine from plant debris under limestone boulder.

***Chaenotheca xyloxena* Nádř.**

Montane species, usually distinguished by immersed thallus and slender apothecia with dense pruina on the lower side of the head. It occurs in forests on decaying wood. This record from the Císařská rokle ravine confirms the “montane” character of this site.

***Cladonia convoluta* (Lam.) Anders**

Suza (1942) noted that “this Mediterranean species is never well developed in the Czech Republic and its size is not as a size of Mediterranean or Pannonic records”. Specimens collected in the Bohemian Karst correspond definitely to this characteristic. Species typically occurs on xerothermic rock steppes in the Bohemian Karst.

***Cladonia peziziformis* (With.) J. R. Laundon**

Species with small podetia (up to 1.3 cm) and characteristic rounded to ear-shaped basal squamules. This rare species was confirmed in Suza's historical locality (Suza, 1934a) and recorded from a similar locality near Budňany. It grows on diabasic soil between mosses on specific, readily shaded, weakly disturbed sites.

***Lecania inundata* (Hepp ex Körb.) M. Mayrhofer**

This species is characterised by thin nodulate-areolate thallus with small papillae on the surface of the nodules and areoles. Thallus is yellow-brown to grey and dark-brown. Apothecia are sessile to 0.8 mm diam. It is closely related to *L. rabenhorstii*, but this species has more bullate areoles and not so grouped and numerous apothecia. Nitrophyte species, it occurs on outcrops of limestone rocks.

***Lecanora flotoviana* Spreng.**

Species from the *L. dispersa* group is characterised by grouped bluish pruinose apothecia with elevate, non crenulated margin. It occurs on hard limestone.

***Leptogium gelatinosum* (With.) J. R. Laundon**

Closely related species to the widespread species *L. lichenoides*, it differs by more rounded and undivided lobes. It grows on shaded limestone boulders. Rare species in the Czech Republic (Vězda & Liška, 1999).

***Leptogium plicatile* (Ach.) Leight.**

Complex of *L. plicatile*, *L. schraderi* and *L. turgidum*, morphologically very similar species, is not satisfactorily solved (see Jørgensen, 1994). Species grow on limestone and also on diabasic rocks. In the Bohemian Karst, all three species occur; *L. plicatile* seems to be more frequent than the others.

***Peccania cernohorskyi* (Servít) Czeika & Guttová**

Hilitzer and Černohorský collected new lichen during an excursion in 1931 in Svatý Jan pod Skalou. Servít described this species as *Thyrea cernohorskyi* (Servít & Černohorský, 1935). The three existing herbaria specimens are deposited in PRC, PRM and BRA herbariums. Henssen and Jørgensen (1990) transferred it to *Anema*. More recently, Guttová studied the type material and retransferred it to *Peccania* (cf. Czeika *et al.*, 2004). The only other known collections from Norway and Germany were revised by Guttová as *Anema tumidulum* Henssen. Therefore, the diabasic rocks near Sv. Jan are the only known locality of this taxon and lichen still occurs there.

***Phaeophyscia hirsuta* (Mereschk.) Essl.**

This species is characterised by hyaline fine hairs on the upper surface of the thallus and by production of soredia. The species is treated as *Phaeophyscia cernohorskyi* in the Czech Catalogue of lichens (Vězda & Liška 1999) and only recently was synonymised with *P. hirsuta* (Esslinger 2004). *Physcia cernohorskyi* was described by Nádvořník (1947) from several localities in former Czechoslovakia. After its description, this species was not collected in the Czech Republic. Esslinger (1978) transferred it to the genus *Phaeophyscia* and designated the specimen from Velká hora hill near Karlštejn (BRA) as lectotype. In the herbarium of Z. Černohorský in PRC, there is a duplicate of this collection (2. VII. 1941); it was therefore incorporated as isolectotype (*isolectotype hic desig.*). *Phaeophyscia hirsuta* is a thermophilous species growing on basic rocks; it also could overgrow lower parts of shrubs or trees. During recent survey, the species was collected in Hradiště diabasic outcrop, where it grows below sparse shrubs (*Berberis vulgaris*, *Cotoneaster* sp., etc.) on diabasic and limestone stones, on mosses and also on several branches of shrubs on rock steppe. On direct exposed rock it occurs only sparsely, and on mosses.

***Placidium pilosellum* Breuss**

This species, characterised by pale lower cortex and fine hyaline hairs, grows, though rarely, in fissures of limestone rock.

***Placynthium garovaglii* (A. Massal.) Malme**

Species with thick, at the margins obscurely lobed thallus; prothallus is not visible. The surface of the thallus has violet or bluish pruina. Flotow (1825) noted this (xerothermic) species from Sněžka mountain in the Czech Republic, but as doubtful and very uncertainly. The herbaria specimen is probably missing. A rare species in the central Europe (A. Guttová, pers. comm.), it grows on limestone rocks.

***Placynthium hungaricum* Gyeln.**

This minuscule species, from similar *P. nigrum* differs by lobed margins, lack of bluish prothallus, and also by spore size. It grows very rarely on limestone rock.

***Pleurosticta acetabulum* (Neck.) Elix & Lumbsch**

Due to atmospheric pollution, this species is rare in the Bohemian Karst. It occurs only in relatively clean parts of the Karst (for more comments about anthropogenic pollution in the Bohemian Karst, see Svoboda, 2004) such as on the hills Velká hora, Doutnáč or Králova studně.

***Solorina saccata* (L.) Ach.**

Montane to alpine foliose terricolous species, it is rare in the Czech Republic. It grows only in one site near the mouth of Kačák brook.

***Stereocaulon pileatum* Ach.**

Submontane to montane lichen, one of the small species of the genus. It was recorded in north facing acid rock at Voškov, above the railway.

***Toninia tristis* (Th. Fr.) Th. Fr.**

Species with brown areoles, it occurs in small fissures of diabasic rock. The first collection (in the Czech Republic) of this rare Mediterranean species was after Second World War.

***Toninia tumidula* (Sm.) Zahlbr.**

This rare species occurs especially on vertical, shaded parts of limestone rock.

***Verrucaria polysticta* Borrer**

This species was for a long time combined under the name of *V. glaucina* or *V. fuscella* (Turner) Winch., respectively (cf. Wirth, 1995; Vězda & Liška, 1999). Orange (2004) resurrected the name *V. polysticta* when he studied the group of *V. fuscella*. *V. polysticta* differs from *V. fuscella* by appearance of black prothallus and by the perithecia arising between small units (from surface view). Additionally, mature areoles usually appear much more subdivided by lines than in *V. fuscella* (Orange, 2004). *V. canella*, the third distinct species in this group, differs mainly by spore size; spores are usually longer (17.5–26.5 µm) than in *V. fuscella* and *V. polysticta* (12.5–17 µm). All three species grow on calciferous substrata, *V. fuscella* and *V. polysticta* occur in the Karst.

Comments to some missing or doubtful species

***Acarospora glaucocarpa* (Ach.) Körb.**

Species is probably missing in central Bohemia. It was not confirmed in any place, where it had occurred in the past.

***Caloplaca aractina* (Fr.) Häyrén**

This species was not confirmed. It grows on vertical acid rocks; it was collected by Suza close to Hlásná Třebaň (PRM 697195) in 1933 and also by Servít (Servít, 1930).

***Caloplaca aurantia* (Pers.) Hellb.**

Species does not occur in Bohemian Karst (J. Šoun, pers. comm.). All herbaria specimens belong to *C. flavescens*.

***Caloplaca aurea* (Schaer.) Zahlbr.**

Montane element, herbaria specimen from E. Bayer (1922, near Kačák orifice in shaded vertical limestone rock) is deposited in PRM. This specimen was revised by A. Zahlbruckner. Unfortunately, during 1930's limestone quarries were opened at V Kozle and Alkazar, and the locality was changed. Spores of *C. aurea* have narrow septum (2–3 µm), which differ from *C. saxicola* group (septum 4–7 µm) and also from rhomboidal spores of *C. aurantia* group. Spores of treated specimen have ellipsoidal spores, relatively narrow, but septum of matured spores is about 3 µm. It could be possibly the form of *C. saxicola*.

***Caloplaca obliterans* (Nyl.) Zahlbr.**

It is a montane species which occurs on acid substrates (Nimis, 1993). Servít's specimen (Servít & Černohorský 1935: Svatý Jan pod Skalou, limestone) is probably erroneous. The herbarium specimen was not found.

***Caloplaca scotoplaca* (Nyl.) H. Magn.**

Servít and Černohorský (1935) cited this taxon from diabase close to Karlík (as *C. caesiorufa*). This species grows in boreal zone and does not occur in the Czech Republic (Vondrák, pers. comm.). The herbarium specimen was not found.

***Catapyrenium cinereum* (Pers.) Körb.**

Montane species, its distribution in the Bohemian Karst is doubtful; the herbarium specimen was not found (Servít, 1911: on calcareous soil near Radotín, Srbsko, Sv. Jan pod Skalou).

***Collema multipartitum* Sm.**

All herbaria specimens were revised as *C. cristatum*; apart from Suza's collection (PRM 585746). Rare species elsewhere in the Czech Republic.

***Melanelia olivacea* (L.) Essl.**

Very rare species, recently missing from the Czech Republic. Hilitzer (1925) cited this species from Karlštejn, but herbaria specimen was not found. Other specimen (Kopanina, 1887, leg. O. Nickerl – PRM 834534 sub *Parmelia olivacea* f. *corticola*) is probably correctly determined.

***Parmeliella triptophylla* (Ach.) Müll. Arg.**

Epiphytic species which occurs in *Lobarion* association, montane element. Servít's specimen from diabasic rock from Radotínské valley is probably erroneously determined (Servít, 1930).

***Polyblastia bayeriana* Servít**

Servít described this species in 1946. In his herbarium, there is type collection (Servít 1946: “Karlův Týn – Sv. Ivan, leg. E. Bayer 1892”) and also one specimen from Romania. But this last specimen has different spores and also a different morphology of perithecia than the type collection. The type specimen from Svätý Jan pod Skalou has some characters similar to *P. cupularis*, but it is a very small piece of limestone with old and degraded perithecia, therefore a definite challenge is not possible.

***Squamarina lentigera* (Weber) Poelt**

Rare species growing on limestone rock, it is probably missing in the Karst. It was recorded last time by Suza in 1938 on limestone rock near Srbsko (loc. 16).

***Verrucaria limborioides* (A. Massal.) Clauzade & Roux**

All herbaria specimens were revised by J. Halda and transferred to *V. baldensis*. *V. limborioides* does not occur in the Czech Republic (Halda, 2003).

***Xanthoparmelia sublaevis* (Coutinho) Hale**

Hilitzer (1924b) cited this species (sub *Parmelia conspersa* var. *hypoclista* Nyl.: Radotín); though this species does not occur in the Czech Republic, it is distributed in the Iberian peninsula (Orthová-Slezáková, 2004). All revised specimens belonged to *X. somloënsis*.

The list of species

The list of species is classed in alphabetical order. Species printed in bold were recently recorded in the Karst. Nomenclature follows Santesson *et al.* (2004). If a species is missing from this checklist, the nomenclature follows Vězda and Liška (1999), and eventually Nimis (2003). In a few cases recent taxonomic revisions were used for the nomenclature: Halda (2003) for *Verrucaria* sect. *Bagliettoa*; Orange (2004) for the taxa of *Verrucaria fuscella* group; Wetmore (2003) for *Caloplaca squamosa* group (i.e. *C. subsoluta*) and Esslinger (2004) for genus *Phaeophyscia*.

Together with each species, the literary source is cited, together with species noted in recent survey, I mention also the number of the locality where the species was present (for description of localities see table). Widespread, common species are noted as “widespread species” and only recorded herbaria specimens (not all localities where species occurred) are cited.

There are the following abbreviations in the list of species: + confirmed species by recent survey; (+) confirmed recently by somebody else; – species not confirmed, cited in literature or historical herbaria specimen; * new species to the

Bohemian Karst; ** new to the Czech Republic, unpublished; sxc – saxicolous, limestone (ad saxa calcarea), silic. – acid (quartz) element in limestone rock (ad saxa silicea), sxd – saxicolous, diabase (ad saxa diabasica), sx – saxicolous, undetermined rock, (shale, fine sandstone, etc.), terric. – terricolous

apl – *Acer platanoides*, aps – *Acer pseudoplatanus*, ca – *Carpinus betulus*, fa – *Fagus sylvatica*, fr – *Fraxinus excelsior*, ju – *Juglans regia*, ma – *Malus domestica*, qu – *Quercus* spp., sa – *Sambucus nigra*.

Localities: (letter **a** means lower part of rock in river canyon, letter **b** upper part of rock in river canyon and rock steppes on these upper parties. Other letters have not similar sense.) General locality: Czech Republic, distr. Beroun, The Protected Landscape Area Bohemian Karst (Český kras).

1	Rocks and rock steppes Na Závěrcce close to Srbsko village on the left bank of river Berounka. Locality on relatively homogenous Silurian and Devonian limestone. In upper parts S exposed rock steppes. 220–250 m
1p	The area of former sandpit on fossil river terrace above locality. 1260 m
2	Císařská rokle ravine near Srbsko village, limestone. 220–260 m
3	N exposed limestone slope on right bank of Berounka river from the end of Císařská rokle ravine to former Tomáškův lom quarry near Srbsko village. 220–250 m
4	Doutnác hill, steppe, limestone boulders, <i>Corno-quercetum</i> , <i>Quercetum</i> . 400–437 m
5	Small former shale quarry in the valley of Kačák brook under Loděnice town, near beginning of the valley on the right side close to road. 250 m
6	Nature reserve Voškov near Zadní Třebaň. S exposed steep diabasic and shale slopes and cliffs above the railway. 220–250 m
7	The valley of Kačák brook from Loděnice to Svatý Jan pod Skalou villages. Small limestone or diabasic outcrops near road. 240–250 m
7d	Kozí hřbety diabasic outcrops in valley of Kačák brook. 240–270 m
8	Diabasic rocks and outcrops on the left bank of river Berounka under Beroun town – U Vondráků, U Vitáčka, Židovská rokle. 230–270 m
9	Former quarries Alkazar and V Kozle near orifice of Kačák brook. 230–250 m
10	Limestone rocks with occasional diabasic outcrops from Pšanův kout to Na Skále on the left bank of river Berounka. 230–270 m
10d	Diabasic outcrops above the Hradby rocks (Pšanův kout) bellow field Na Hradišti near Hostim. S exposed. 290 m
11	Tetínské skály limestone rocks with diabasic outcrops including Tetínská rokle ravine. 230–270 m
12	Right bank of Berounka river under Beroun to Tetínské skály rocks. Diabasic and limestone outcrops in forests or shrubs, 230–250 m
13	Former Tomáškův lom limestone quarry near Srbsko village on the right bank of river Berounka. N exposed. 220–330 m
14	Kobyła hill near Koněprusy village, former limestone quarry, forest and steppes on upper part of hill. 420–480 m

15	Diabasic outcrop in Budňany in the bend of Berounka river in the middle of village above the water station. 220–240 m
16	Limestone rocks and rock steppes surrounding the Barrandova jeskyně cave from orifice of Kačák brook to Srbsko village. 220–260 m
17	Left bank of Berounka river from former Petzold quarry to Karlštejn village. Limestone rocks and steppes. 220–260 m
18	Former limestone quarry Homolák near Suchomasty. Locality close to the Čertovy Schody large limestone quarry (pollution). 400–450 m
19	Bubovické vodopády waterfalls near Srbsko village. 330 m
19v	Velká hora hill near Karlštejn. 400–419 m
20	Hřebenec limestone rock (outcrop) above the centre of Svatý Jan pod Skalou village (above rectory). 230–280 m
21	“Černá skála” diabasic and picritic rocks and outcrops between Rovina and Hlásná Třebaň villages. 220–300 m

(+) *Absoconditella lignicola* Vězda & Pišút [Palice, 1999]

– *Acarospora badiofusca* (Nyl.) Th. Fr. [Podzimek, 1927a]

+ *Acarospora cervina* A. Massal. [Černohorský, 1942b], loc. 1, sxc

+ *Acarospora fuscata* (Schr.) Th. Fr. [Černohorský, 1942b], loc. 6, sxd, loc. 15, sx (PRC), loc. 21, sxd, saxa pikritica

– *Acarospora glaucocarpa* (Ach.) Körb. [Černohorský, 1942b]

+ *Acarospora impressula* Th. Fr. [Hilitzer, 1926a], loc. 3b, silic (PRC), loc. 6, sxd, loc. 8, sxd, loc. 10, sxd, loc. 15, sxd, loc. 21, sxd

+ *Acarospora macrospora* (Hepp) A. Massal. ex Bagl. [Hilitzer, 1926a; Klika, 1928; Servít, 1930; Černohorský, 1940, 1942b], loc. 1a (PRC), loc. 2, loc. 4, loc. 10, loc. 11b (PRC), loc. 13b, loc. 16, loc. 17, loc. 20, omne sxc

+ *Acarospora nitrophila* H. Magn. [Černohorský, 1940, 1947 sub *A. praeruptorum*], loc. 6, loc. 8, loc. 8, loc. 15 (PRC) omne sxd

+ *Acarospora umbilicata* Bagl. [Suza 1934; Černohorský, 1942b], loc. 8, sxd (PRC), loc. 10b, sxd, loc. 21, sxd

+ *Acrocordia gemmata* (Ach.) A. Massal. [Hilitzer, 1929 sub *Arthrospyrenia alba*], sub cacumine collis Javorka, qu, Kněží hora supra Karlštejn, qu

* *Agonimia allobata* (Stizenb.) P. James Sv. Jan pod Skalou, WGS84: N49°57'59,31" E014°06'18,17" (Skála), on mosses, leg. J. Halda (herb. J. Halda 6261)

+ *Agonimia tristicula* (Nyl.) Zahlbr. [Kocourková, 1998], loc. 1a, loc. 1b (PRC), loc. 16, widespread species

+ *Amandinea punctata* (Hoffm.) Coppins & Scheid. [Hilitzer 1925b sub *Buellia myriocarpa*], loc. 1a, ju (PRC), loc. 3, ma, loc. 15, *Pinus nigra*, loc. 17a, in cacumine montis Kněží hora supra Karlštejn, qu (PRC)

* *Anaptychia ciliaris* (L.) Körb. ex A. Massal. Svatý Jan pod Skalou, SW-facing xerothermic slope with oak, below the view-point, N49°58'11" E014°08'14", 340 m, qu, leg. Z. Palice (herb. Z. Palice 8800)

- (+) *Anema decipiens* (A. Massal.) Forssell [Servít, 1911], loc. 16, sxc, 1999, leg. Z. Palice (herb. Z. Palice 1883, 1906)
- * *Anema notarisii* (A. Massal.) Forssell – loc. 9, supra lapidinae V Kozle, sxc
- * *Anema nummularium* (Duf. ex Dur & Mont.) Nyl. ex Forss. loc. 9, supra lapidinae V Kozle, sxc
- (+) *Anema prodigulum* (Nyl.) Henssen loc. 16, sxc, ibid. leg. Z. Palice (herb. Z. Palice 4180)
- * *Anema tumidulum* Henssen loc. 3, sxc, loc. 8, lapidinae antiquae, sxd, loc. 13 (PRC)
- * *Anisomeridium polypori* (Ellis & Everh.) M. E. Barr loc. 19, sa (PRC)
- * *Arthonia helvola* (Nyl.) Nyl. loc. 19, fr (etiam herb. Z. Palice 4107)
– *Arthonia lapidicola* (Taylor) Branth & Rostr. [Servít, 1930: Srbsko]
- + *Arthonia radiata* (Pers.) Ach. [Hilitzer, 1926a, 1929], loc. 19, ca
- * *Arthonia spadicea* Leight. loc. 19, aps
- + *Aspicilia calcarea* (L.) Mudd [Klika, 1928; Černohorský, 1942b; Šmarda, 1947 sub *Lecanora calcarea*], loc. 1, sxc (PRC), loc. 7d, sxd (PRC), loc. 16b, sxc, widespread species
- + *Aspicilia contorta* (Hoffm.) Kremp.
- ssp. contorta** [Mann, 1825 sub *Lecanora caecula*; Servít, 1911, 1930; Černohorský, 1942b; Šmarda 1947 omne sub *L. contorta*], loc. 1a, sxc (PRC), loc. 2, loc. 4, sxc, loc. 6, sx (PRC), loc. 7d, sxd, loc. 10, sxc, loc. 11a, loc. 16b, loc. 17, sxc (PRC), loc. 20, sxc
- ssp. hoffmanniana** [Hilitzer, 1926a, 1929 sub *Lecanora hoffmannii*], loc. 1a (PRC), loc. 1b, loc. 3, loc. 11a, loc. 14, loc. 16b, loc. 19v, loc. 20, omne sxc
- *Aspicilia dominiana* (Servít) Szatala [Černohorský, 1940 sub *Lecanora dominiana*]
- * *Aspicilia moenium* (Vain.) Thor & Timdal Sv. Jan pod Skalou, WGS84: N49°58.4399' E014°07.8746', on boulder, leg. J. Halda (herb. J. Halda 6233)
- * *Aspicilia simoënsis* Räsänen loc. 21, ad saxa picritica, loc. 15, sxd (etiam herb. Z. Palice 8108)
- + *Bacidia bagliettoana* (A. Massal. & De Not.) Jatta [Servít, 1911, 1930; Domin, 1928; Černohorský, 1942b omne sub *Bacidia muscorum*], loc. 1, terric. (PRC), loc. 3, apud viam publicam Beroun – Hostim, in clivo petroso infra “Na Čihadle”, loc. 16, supra plantas putrescentes
- + *Bacidia fuscoviridis* (Anzi) Lettau [Servít, 1930], loc. 2, sxc, loc. 16, sxc
- + *Bacidia herbarum* (Stizenb.) Arnold loc. 13, terric. ad residuum vegetalium
- * *Bacidia rubella* (Hoffm.) A. Massal. loc. 4, qu, pag. Srbsko, in valle rivi Bubovický potok ca 1 km a pago, apl, in cacumine montis Kněží hora supra Karlštejn, qu
- * *Bacidia subincompta* (Nyl.) Arnold loc. 19, fa (herb. O. Peksa)
- * *Bacidina arnoldiana* (Körb.) V. Wirth & Vězda loc. 16a, sxc

- *Bacidina inundata* (Fr.) Vězda [Hilitzer, 1926a sub *Bacidia inundata*]
- * *Baeomyces rufus* (Huds.) **Rebent.** loc. 3 (PRC), loc. 6, sxd
- * *Bryoria fuscescens* (Gyeln.) **Brodo & D. Hawksw.** apud pagum Karlštejn-Pouč-
ník in Golf Club Karlštejn, fr, loc. 4, qu
- *Buellia badia* (Fr.) A. Massal. [Černohorský, 1940]
- *Buellia disciformis* (Fr.) Mudd [Servít, 1911 sub *B. parasema*]
- * *Buellia griseovirens* (Turner & Borrer ex Sm.) **Almb.** loc. 4, qu (herb.
O. Peksa), loc. 19v, qu
- *Buellia stellulata* (Taylor) Mudd [Servít, 1911]
- ** *Caloplaca albolutescens* (Nyl.) **H. Oliv.** loc. 7, sxd, 10b, sxd
- + *Caloplaca alociza* (A. Massal.) **Mig.** [Servít, 1911 sub *C. agardhiana*], loc. 3,
sxc (PRC depon. sub *Opegrapha rupestris*)
- *Caloplaca aractina* (Fr.) Häyrén [Servít, 1930; Suza, 1934, 1942 omne sub
C. fuscoatra]
- * *Caloplaca arenaria* (Pers.) **Müll. Arg.** loc. 21, ad saxa picritica, sxd (Černá
skála), ibid. herb. Z. Palice (Z. Palice 7971, 7977)
- *Caloplaca aurantia* (Pers.) Hellb. [Servít 1911 sub *C. callopsima*, Servít 1930]
- *Caloplaca aurea* (Schaer.) Zahlbr. (PRM 696959)
- + *Caloplaca cerina* (Ehrh. ex Hedwig) **Th. Fr.** loc. 1a, ju, loc. 16, supra plantas
putrescentes, loc. 18, fr (PRC)
- * *Caloplaca cerinelloides* (Erichsen) **Poelt** loc. 3, sa
- + *Caloplaca chalybaea* (Fr.) **Müll. Arg.** [Servít, 1911; Bayer 1922b], loc. 1b, sxc,
loc. 2, sxc (PRC), loc. 3b, sxc (PRC), loc. 16b, sxc
- * *Caloplaca chrysodeta* (Vain. ex Räsänen) **Dombr.** loc. 1a, sxc, loc. 3, sxc (PRC),
loc. 7d, sxd
- + *Caloplaca cirrochroa* (Ach.) **Th. Fr.** [Servít, 1911; Klika, 1928; Černohorský,
1942b], loc. 2b, sxc (PRC), loc. 3b, loc. 11a, sxc, loc. 13, sxc, loc. 14, in cae-
mento, loc. 16a, sxc, loc. 20, sxc
- + *Caloplaca citrina* (Hoffm.) **Th. Fries.** [Servít, 1911; Hilitzer 1929], loc. 1a, sxc
(PRC), loc. 2, sxc (PRC), loc. 3, sxc, loc. 11a, sxc, loc. 13, in muro vetusto, ibid.
sxc, loc. 14, sxc, loc. 16, sxc, loc. 19v, sxc, loc. 20, sxc, widespread species
- + *Caloplaca coronata* (Kremp. ex Körb.) **J. Steiner** [Servít, 1930; Suza, 1947b],
loc. 1, sxc (PRC), loc. 16b, sxc
- + *Caloplaca crenularia* (With.) **J. R. Laundon** [Černohorský, 1940 sub *C. fer-
ruginea*], loc. 15b, sxd (PRC)
- + *Caloplaca crenulatella* (Nyl.) **H. Olivier** [Servít & Černohorský, 1935 sub *C. fer-
rari* var. *diabasicola*], loc. 1a, sxc (PRC), loc. 10b, sxd, loc. 13, sxc (PRC),
loc. 16b, sxc, loc. 21, sxd
- + *Caloplaca decipiens* (Arnold) **Blomb. & Forssell** [Servít, 1930], loc. 1b, sxc,
loc. 8, sxd (PRC), loc. 16b, sxc (PRC), widespread species

- + *Caloplaca demissa* (Körb.) Arup & Grube. [Suza, 1934, 1936a, 1942, 1947b sub *Lecanora incusa*], loc. 21, sxd, (ibid. herb. Z. Palice 7974), pag. Hlásná Třebaň, sx in clivo collis Políčko
- * *Caloplaca dolomiticola* (Hue) Zahlbr. loc. 1a, sxc (PRC), loc. 13, sxc, loc. 16b, sxc, widespread species
- + *Caloplaca flavescens* (Huds.) J. R. Laundon loc. 3, sxc (PRC), loc. 16a, sxc, widespread species
- + *Caloplaca flavovirescens* (Wulfen) Della Torre & Sarnth. [Servít, 1911 sub *C. aurantiaca*; Servít, 1930; Černohorský, 1942b], loc. 1, sxc (PRC), loc. 16a, sxc (PRC), loc. 20, sxc
- + *Caloplaca grimmiae* (Nyl.) H. Olivier [Suza, 1938b; Suza, 1942; Suza, 1947b omne sub *C. consociata*], loc. 21, sxd
- + *Caloplaca holocarpa* (Hoffm. ex Ach.) A. E. Wade loc. 3b, sxc, loc. 7, *Pinus nigra* (PRC), loc. 14, Červený lom apud Koněprusy, fa (PRC), loc. 16b, sxc (PRC), loc. 18, fr, widespread species
- + *Caloplaca subsoluta* (Nyl.) Zahlbr. [Suza, 1934 sub *C. irrubescens*], loc. 8, sxd, loc. 10b, sxd, sxd, loc. 21, sxd
- + *Caloplaca lactea* (A. Massal.) Zahlbr. [Servít, 1930], loc. 1a, sxc (PRC), loc. 17, sxc, loc. 18, sxc, widespread species
- * *Caloplaca marmorata* (Bagl.) Jatta loc. 1a, b (PRC), loc. 13, loc. 14, loc. 16b, (PRC), loc. 19v, omne sxc
- *Caloplaca obliterans* (Nyl.) Zahlbr. [Servít & Černohorský, 1935]
- * *Caloplaca obscurella* (Körb.) Th. Fr. loc. 1a, ju (PRC), Sv. Jan pod Skalou, SW-facing xerothermic slope with oak, below the view-point, N49°58'11" E014°08'17" (Skála), leg. Z. Palice (herb. Z. Palice 8798)
- * *Caloplaca oxfordensis* Fink ex J. Hedrick loc. 15, sxd (PRC)
- *Caloplaca rubelliana* (Ach.) Lojka [Suza 1934]
- + *Caloplaca saxicola* (Hoffm.) Nordin [Servít, 1930], loc. 1b, sxc (PRC), loc. 3b, sxc, loc. 10, sxc, loc. 11, sxc, loc. 13, sxc, loc. 14, sxc et caementum, loc. 16b, sxc, loc. 17, colle Damil, sxc in lapicidinae antique vs. pag. Tetín sxc, loc. 18, sxc loc. 20, sxc
- *Caloplaca scotoplaca* (Nyl.) H. Magn. [Servít & Černohorský, 1935 sub *C. caesiurufa*]
- + *Caloplaca teicholyta* (Ach.) J. Steiner [Suza, 1938b], loc. 10, sxc, loc. 13, sxc (PRC), widespread species
- + *Caloplaca variabilis* (Pers.) Müll. Arg. [Servít, 1911; Servít, 1930], loc. 3, sxc, loc. 16b (PRC), widespread species
- *Caloplaca vitellinula* auct. [Servít, 1930]
- * *Caloplaca xerica* Poelt & Vězda loc. 7b, sxd, loc. 10d, sxd, loc. 21, sxd
- * *Candelaria concolor* (Dickson) Stein pag. Mořina, inter lapicidinas Velká Amerika et Mexiko, *Salix caprea* (PRC)

- + *Candelariella aurella* (Hoffm.) Zahlbr. [Servít, 1930], loc. 1a, sxc, ibid. ju (PRC), loc. 3 sxc, loc. 15, sxd, widespread species
- * *Candelariella coralliza* (Nyl.) H. Magn. loc. 8, Beroun, sxd, loc. 10, sxd (PRC), loc. 15, sxd
- * *Candelariella reflexa* (Nyl.) Lettau loc. 1a, ju (PRC), widespread species
- + *Candelariella vitellina* (Hoffm.) Müll. Arg. [Hilitzer, 1925b; Klika, 1928; Servít, 1930; Suza, 1938b; Černohorský, 1940; Černohorský, 1942b; Šmarda, 1947; Černohorský, 1949], loc. 2b, silic, loc. 3b, silic, loc. 6, sx (PRC), loc. 8, sxd, loc. 10b, sxd, loc. 21, sxd
- * *Candelariella xanthostigma* (Ach.) Lettau Hostim, Vysoká stráň, qu (PRC), widespread species
- + *Catillaria lenticularis* (Ach.) Th. Fr. [Servít, 1911; Hilitzer, 1924a; Černohorský, 1942b], loc. 1a, b, loc. 2, loc. 3, loc. 11a (PRC), loc. 14, loc. 19v, omne sxc.
- * *Catillaria nigroclavata* (Nyl.) Schuler pag. Mořina, apud lapicidinae parvae antiquae Motlitébna in silva, qu
- + *Cetraria aculeata* (Schreb.) Fr. [Hilitzer, 1924b sub *Cornicularia aculeata*; Domin, 1928 sub *Cornicularia spadicea*], loc. 15b, terric
- + *Cetraria ericetorum* Opiz [Servít, 1930 sub *Cetraria islandica* var. *tenuifolia*], loc. 14
- + *Cetraria islandica* (L.) Ach. [Domin, 1928], loc. 14
- + *Chaenotheca furfuracea* (L.) Tibell [Servít, 1911 sub *Coniocybe furfuracea*], loc. 2, apl, ibid. ad residuum vegetalium
- * *Chaenotheca gracilentia* (Ach.) J. Mattsson & Middelb. loc. 2, ad residuum vegetalium sub saxum (PRC)
- *Chaenotheca trichialis* (Ach.) Th. Fr. [Hilitzer, 1926a]
- * *Chaenotheca xyloxena* Nádvl. loc. 2, ad lignum putridum
- (+) *Cladonia arbuscula* (Wallr.) Flot. [Domin, 1928], pag. Hlásná Třebaň, in clivo collis Políčko (not. Z. Palice 2003)
- *Cladonia cariosa* (Ach.) Spreng. [Servít, 1911; Domin, 1928]
- + *Cladonia cervicornis* (Ach.) Flot. s.s. loc. 14 (PRC), loc. 16b, widespread species
- + *Cladonia chlorophaea* (Flörke ex Sommerf.) Spreng. [Servít, 1930 sub *Cladonia pyxidata* f. *pachyphylla*], loc. 1p, loc. 6
- * *Cladonia coniocraea* (Flörke) Spreng. loc. 3, ad lignum putridum, loc. 4 (PRC), loc. 6, qu, pag. Bubovice, in monte Paní hora, fr, pag. Mořina, apud lapicidinae Motlitébna, qu, pag. Tetín, *Pyrus*, pag. Srbsko, qu, pag. Karlštejn, in monte Javorka, qu
- + *Cladonia convoluta* (Lam.) Anders [Servít, 1930 et Suza, 1934 sub *Cladonia foliacea* var. *convoluta*; Suza, 1939 sub *Cladonia convoluta*], loc. 1b (PRC), loc. 14, widespread species in rock steppes

- * *Cladonia cornuta* (L.) Hoffm. loc. 1p (PRC), loc. 4, loc. 13 (PRC), loc. 14, loc. 15, loc. 17, omne terric.
- + *Cladonia fimbriata* (L.) Fr. [Domin, 1928; Černohorský, 1942b], loc. 13
- + *Cladonia foliacea* (Huds.) Willd. [Domin, 1928 et Hadač & Šmarda, 1944 sub *C. alpicornis*; Sádlo, 1983], loc. 6, loc. 15 (PRC), loc. 16b
- + *Cladonia furcata* (Huds.) Schrad. [Domin, 1928; Klika, 1928; Černohorský, 1942b], loc. 1b (PRC), loc. 1p, loc. 16b, widespread species
- * *Cladonia glauca* Flörke loc. 1p, terric.
- + *Cladonia peziziformis* (With.) J. R. Laundon [Suza, 1934 sub *C. leptophylla*], loc. 15, sxd inter muscos (PRC), loc. 21, omne terric.
- + *Cladonia pocillum* (Ach.) Grognot [Servít, 1930; Černohorský, 1942b; Hadač & Šmarda, 1944 omne sub *C. pyxidata* var. *pocillum*], loc. 1b (PRC), loc. 4 (PRC), widespread species
- *Cladonia polycarpoides* Nyl. [Suza, 1934, 1947b omne sub *C. subcariosa*]
- + *Cladonia pyxidata* (L.) Hoffm. [Domin, 1928; Klika, 1928; Sádlo, 1983], loc. 1a (PRC), loc. 3, loc. 16b, widespread species
- + *Cladonia rangiformis* Hoffm. [Domin, 1928; Klika, 1928; Servít, 1930; Černohorský, 1942b; Hadač & Šmarda, 1944 sub *Cladonia pungens*], loc. 1a, loc. 3 (PRC), loc. 6, loc. 16, widespread species
- * *Cladonia rei* Schaer. loc. 1p
- *Cladonia strepsilis* (Ach.) Grognot [Suza, 1947b]
- + *Cladonia subrangiformis* Sandst. [Černohorský, 1950], loc. 2, loc. 3
- * *Cladonia subulata* (L.) Weber ex F. H. Wigg. loc. 13
- + *Cladonia symphycarpia* (Flörke) Fr. [Suza, 1934, 1947b; Černohorský, 1942b], loc. 1a (PRC), loc. 3 (PRC), loc. 4, loc. 14, widespread species
- * *Clauzadea metzleri* (Körb.) Clauzade & Roux ex D. Hawksw. loc. 1a, sxc (PRC), loc. 16b
- + *Clauzadea monticola* (Schaer.) Hafellner & Bellem. [Hilitzer, 1929 sub *Lecidea fuscorubens*], loc. 1 sxc (PRC), loc. 2b, loc. 11, loc. 16, omne sxc
- + *Collema auriforme* (With.) Coppins & J. R. Laundon loc. 1a, loc. 9, Alkazar, loc. 15, sxd (PRC), loc. 20, Propadlé vody
- + *Collema crispum* (Huds.) Weber ex F. H. Wigg. [Mann, 1825], loc. 1 (PRC), loc. 2b, sxc, loc. 3, sxc, loc. 4, sxc, loc. 7d, sxd, loc. 10b, sxd, loc. 11a, sxc (PRC), loc. 13, terric., loc. 16a (PRC), loc. 17, pag. Tobolka, area stepposa apud pagum vs. Tobolský vrch
- + *Collema cristatum* (L.) Weber ex F. H. Wigg. [Servít, 1911; Klika, 1928; Černohorský, 1942b; Šmarda, 1947 omne sub *C. multifidum*; Servít, 1930 sub *C. granuliferum*, Servít, 1930; Suza, 1938b; Černohorský, 1942b omne sub *C. multifidum* var. *jacobaeefolium*], loc. 3, loc. 4, sxc, loc. 7d, sxd (PRC), loc. 16b, widespread species

- + *Collema fuscovirens* (With.) J. R. Laundon [Servít 1911; Klika, 1928; Hilitzer, 1926a; Servít, 1930; Servít & Černohorský, 1935 omne sub *C. furvum*], loc. 1b, sxc (PRC), loc. 3b, sxc, loc. 5, sx, loc. 13 (PRC)
- *Collema multipartitum* Sm. [Suza 1934]
- + *Collema polycarpon* Hoffm. [Servít, 1911; Hilitzer, 1926a; Klika, 1928; Černohorský, 1942b], loc 1a, sxc, loc. 1b, sxc (PRC), loc 2b, sxc, loc. 3 (PRC), loc. 4, sxc, loc. 5, loc 16b, sxc, loc 17, sxc
- + *Collema tenax* (Sw.) Ach. em. Degel. [Klika, 1928; Hilitzer, 1926a et Servít, 1930 sub *C. pulposum*], loc. 1a (PRC), loc. 1b, terric. (PRC), loc. 2, loc. 3, loc. 7d (PRC), loc. 8, loc. 13, loc. 16, loc. 17, loc. 20, pag. Mořina, lapicidinae Mexiko, in fundo ad terram, widespread species
- *Collema undulatum* Laurer ex Flot. [Servít, 1911 sub *C. laureri*]
- + *Dermatocarpon miniatum* (L.) W. Mann [Servít, 1911; Hilitzer, 1929; Šmarda, 1947], loc 2b, (var. *complicatum*), loc. 3, (var. *complicatum*)
- *Dibaeis baeomyces* (L. fil.) Rambold & Hertel [Kindermann & Baar, 1905 sub *Baeomyces roseus*]
- *Dimelaena oreina* (Ach.) Norman [Černohorský, 1931 et Suza 1936a sub *Rinodina oreina*]
- + *Dimerella pineti* (Schrad. ex Ach.) Vězda [Servít, 1911 sub *Microphiale diluta*], loc. 2, apl, ca, loc. 19, ca, apl
- *Diploschistes gypsaceus* auct. [Opiz, 1823a sub *Urceolaria gypsacea*; Servít, 1930 et Černohorský, 1942b sub *D. albissimus*]
- + *Diploschistes muscorum* (Scop.) R. Sant. [Černohorský, 1942b sub *D. bryophilus* et sub *D. scruposus* var. *parasiticus*; Hadač & Šmarda, 1944 sub *D. parasiticus*], loc. 1b, ad *Cladoniam* (PRC), ibid. terric. (PRC), loc. 3, supra muscos, widespread species
- + *Diploschistes scruposus* (Schreb.) Norman [Domin, 1928 sub *Urceolaria scruposa*; Servít, 1930; Černohorský, 1940, 1942b, 1954], loc. 6, sxd, loc. 15, sxd (PRC)
- + *Diplotomma alboatrum* (Hoffm.) Flot. [Hilitzer, 1924a; Servít, 1930 sub *Buellia epipolia*; Černohorský, 1942b sub *Buellia epipolia*], loc. 1a, b, sxc (PRC), loc. 2, sxc (PRC), loc. 17, sxc, widespread species
- *Diplotomma chlorophaeum* (Leight.) Szatala [Servít, 1930 sub *Buellia porphyrica*]
- + *Diplotomma venustum* Körb [Servít, 1930; Černohorský, 1942b sub *Buellia epipolia* var. *venusta*; Šmarda, 1947], loc. 3b (PRC), loc. 16b, loc. 17 omne sxc
- *Endocarpon adscendens* (Anzi) Müll. Arg. [Suza 1947b]
- + *Endocarpon pusillum* Hedw. [Servít, 1930; Černohorský, 1942b; Hadač & Šmarda, 1944], loc. 1, sxc (PRC), loc. 7d, terric sub sxd (PRC), loc. 8, terric. (PRC), loc. 17, widespread species

- + *Evernia prunastri* (L.) Ach. [Hilitzer, 1925b], loc 1a, *Salix*, loc. 4, qu, loc. 19v, qu, pag. Tetín, in clivo collis Damil, *Cerasus*, *Pyrus*, pag. Koledník apud Beroun, secundum viam publicam vs. Tetín ad Bílý lom, *Prunus*, pag. Mořina, inter lapicidinas Velká Amerika et Mexiko, *Salix*
- *Fellhanera bouteillei* (Desm.) Vězda [Suza, 1934 sub *Catillaria bouteillei*]
- + *Flavoparmelia caperata* (L.) Hale [Hilitzer, 1925b; Černohorský, 1942b omne sub *Parmelia caperata*], loc. 4, qu, loc. 19v, qu, pag. Srbsko, inter Za Borovím et Králova studně, qu, pag. Karlštejn, in colle Kněží hora supra Karlštejn, qu
- + *Fulgensia fulgens* (Sw.) Elenk. [Servít, 1911; Suza, 1938b, 1942 omne sub *Caloplaca fulgens*], loc. 1b (PRC), loc. 5, loc. 8, loc. 16b, loc. 20, pag. Hostim, ad terram in rupes supra pagum, omne terric.
- * *Gonohymenia nigritella* (Lettau) Henssen loc. 1a, b sxc, loc. 17, sxc (PRC)
- + *Graphis scripta* (L.) Ach. [Hilitzer, 1926a; Hilitzer, 1929], loc. 19, ca
- + *Gyalecta jenensis* (Batsch.) Zahlbr. [Servít, 1911 sub *Gyalecta cupularis*, 1930], loc. 2, sxc (PRC), loc. 16 apud ostium rivi Kačák, sxc
- *Hymenelia melanocarpa* (Kremp.) Arnold [Servít, 1911 sub *Jonaspis melanocarpa*]
- * *Hypocenomyce scalaris* (Lilj. ex Ach.) M. Choisy loc. 14, pag. Hlánská Třebaň, loc. 7 (PRC) omne *Pinus nigra*, pag. Korno, secundum viam publicam vs. Krupná, ma
- + *Hypogymnia physodes* (L.) Nyl. [Hilitzer, 1925b et Domin, 1928 sub *Parmelia physodes*], loc. 3, ma (PRC), loc. 1p, terric., widespread species
- + *Hypogymnia tubulosa* (Schaer.) Hav. [Hilitzer, 1925b sub *Parmelia tubulosa*], loc. 1, *Pyrus*, widespread species
- * *Lecania cyrtella* (Ach.) Th. Fr. loc. 1a, ju, loc. 3, sa (PRC), ibid. ma (PRC), loc. 18, fr., loc. 19, fr (PRC), Tetín, ju, widespread species
- + *Lecania erysibe* (Ach.) Mudd [Hilitzer, 1926a; Klika, 1928; Černohorský, 1942], loc. 16b, sxc (PRC)
- * *Lecania hyalina* (Fr.) R. Sant. Hostim, *Salix*
- * *Lecania inundata* (Hepp ex Körb.) M. Mayrhofer loc. 1b sxc, loc. 13, sxc (PRC)
- * *Lecania naegelii* (Hepp) Diederich & van den Boom – pag. Srbsko, apud Kruhový lom lapicidinae ad ripam dextram fluminis Berounka, *Salix*, Tetín, ju (PRC-DS 430), loc. 3, *Cornus sang.*
- + *Lecania rabenhorstii* (Hepp) Arnold [Servít, 1930 sub *Lecania erysibe* var. *rabenhorstii*], loc. 1b, sxc, loc. 13, sxc (PRC), loc. 16b, widespread species
- * *Lecania turicensis* (Hepp) Müll. Arg. loc. 1a, ad reliquia plantarum, loc. 11a, sxc (PRC), loc. 16, sxc (PRC)
- *Lecanora albella* (Pers.) Ach. [Hilitzer, 1925b]
- + *Lecanora albescens* (Hoffm.) Branth & Rostr. [Servít, 1930], loc. 1a, ju, loc. 3, sxc, loc. 11a, sxd (PRC), loc 13, in muro vetusto et sxc
- *Lecanora allophana* Nyl. [Hilitzer, 1925b sub *L. subfusca*]

- + *Lecanora argopholis* (Ach.) Ach. [Suza, 1936a], loc. 7d, sxd (PRC), loc. 8, sxd, loc. 10b, sxd, loc. 15, sxd, loc. 21, sxd
- + *Lecanora campestris* (Schaer.) Hue [Servít, 1911 et 1930 sub *L. subfusca* var. *campestris*; Černohorský, 1940, 1942b, 1956], loc. 3b, sxc (PRC), loc. 7d, sxd, widespread species
- + *Lecanora carpinea* (L.) Vain. [Hilitzer, 1925b sub *L. angulosa*], loc. 4, qu, loc 18, fr, loc 19, ca, loc. 19v, qu, prope “Parking” apud Koda prope pagum Tobolka, qu, pag. Srbsko, in clivo collis vs. arenaria, qu, pag. Srbsko, *Cerasus*, pag. Tobolka, qu
- * *Lecanora chlarotera* Nyl. loc 18, fr, loc. 19v, qu, ibid. fr, prope “Parking” apud Koda, fr (PRC), pag. Karlštejn, in cacumine collis Kněží hora, qu, pag. Tobolka, secundum viam publicam vs. Koledník, apud Tobolský vrch, fr, apud pagum Karlštejn-Poučník in Golf Club Karlštejn, fr
- * *Lecanora conizaeiodes* Nyl. ex Cromb. loc. 1a, *Rosa* sp. (PRC), loc. 3, sa (PRC), ibid. *Prunus*, loc. 14, Červený lom apud Koněprusy, fa, widespread species
- + *Lecanora crenulata* Hook. [Hilitzer, 1924a; Servít, 1930; Černohorský, 1942b], loc. 1a, sxc (PRC), loc. 2b, loc. 3, loc. 16b, widespread species
- + *Lecanora dispersa* (Pers.) Sommerf. [Servít, 1911, 1930; Černohorský, 1942b], loc. 1a (PRC), loc. 3 (PRC), loc. 16b, widespread species
- * *Lecanora epanora* (Ach.) Ach. loc. 6, silic. (PRC)
- * *Lecanora expallens* Ach. – Bubovice, in colle Paní hora, qu (PRC), widespread species
- ** *Lecanora flotoviana* Spreng. loc. 1a, sxc
- + *Lecanora garovaglii* (Körb.) Zahlbr. [Suza, 1934, 1936a, 1947b; Černohorský, 1940], loc. 10b, loc. 15, sxd (PRC), loc. 21, sxd
- * *Lecanora hagenii* (Ach.) Ach. loc. 7, *Pinus nigra*, loc. 18, fr
- * *Lecanora persimilis* (Th. Fr.) Nyl. loc. 1a, ju, pag. Tobolka, qu, pag. Tobolka – apud Koda villam rusticam, qu (PRC)
- + *Lecanora polytropa* (Ehrh. ex Hoffm.) Rabenh. [Černohorský, 1940, 1959], loc. 6, sxd (PRC), loc. 15, sxd
- + *Lecanora rupicola* (L.) Zahlbr. [Servít, 1930; Černohorský, 1940 sub *L. sordida*], loc. 15, sxd (PRC), ibid. var. *efflorens*
- + *Lecanora saligna* (Schrad.) Zahlbr. [Servít, 1911 sub *L. sarcopsis*; Hilitzer, 1924a, 1925b, 1926a], loc. 2a, ad lignum putridum, loc. 3a, *Cornus*, loc 18, fr, loc. 19, pag. Mořina, “Mexiko” lapidinae antiquae, in pariete lapidinae, *Rosa* sp., prope pagum Tetín, ju
- * *Lecanora sambuci* (Pers.) Nyl. loc. 3, sa
- *Lecanora spodophaeroides* Nyl. [Servít, 1911]
- *Lecanora sulphurea* (Hoffm.) Ach. [Hilitzer, 1929; Servít, 1930; Černohorský, 1943]

- + *Lecanora symmicta* (Ach.) Ach. [Servít, 1911], loc. 2b, qu, loc. 19, ad lignum putridum
- *Lecanora varia* (Hoffm.) Ach. [Hilitzer, 1925b; Servít, 1911]
- + *Lecideia fuscoatra* (L.) Ach. (incl. *L. grisella*) [Servít, 1930; Servít & Černohorský, 1934; Černohorský, 1944], loc. 15, sxd (PRC), widespread species (especially on diabase)
- *Lecideia subdiffracta* (Arnold ex Lojka) Lettau [Servít, 1930]
- * *Lecideia tessellata* Flörke loc. 10b, sxd
- + *Lecidella carpathica* Körb. [Hilitzer, 1926a sub *L. latypea*; Servít, 1930 sub *L. latypizoides* et sub *L. latypiza*; Černohorský, 1940, 1951 sub *L. latypiza*], loc. 2b, sxc, loc. 3 (PRC), loc. 3b, sxc (PRC), loc. 7, silic. (PRC), widespread species
- + *Lecidella elaeochroma* (Ach.) M. Choisy [Hilitzer, 1925b sub *L. parasema*; Servít 1930], loc. 4, qu, fr, loc. 19v, qu, prope pagum Tobolka prope “Parking” apud Koda, qu (PRC), loc. 19, ca, pag. Srbsko, inter Za Borovím et Králova studně, qu, in cacumine collis Kněží hora supra Karlštejn, qu
- + *Lecidella stigmatea* (Ach.) Hertel & Leuckert [Servít, 1930 et Šmarda, 1947 sub *L. vulgata*], loc. 1p, sx, loc. 1a, sxc (PRC), loc. 7d, sxd (PRC)
- + *Lempholemma botryosum* (A. Massal) Zahlbr. loc. 16, sxc (PRC), 1999, Z. Palice (herb. Z. Palice 1885), loc. 3, sxc, loc. 16, sxc (PRC)
- * *Lempholemma polyanthes* (Bernh.) Malme loc. 17, sxc
- (+) *Lepraria borealis* Lohtander & Tønsberg [Slavíková-Bayerová 2006]
- * *Lepraria diffusa* (J. R. Laundon) Kukwa [Slavíková-Bayerová 2006], loc. 13, terric. (PRC)
- * *Lepraria incana* (L.) Ach. loc. 6, qu, widespread species
- + *Lepraria membranacea* (Dicks.) Vain. [Hilitzer, 1925b sub *Crocynia lanuginosa*], loc. 20, sxc (PRC), widespread species
- * *Lepraria nylanderiana* Kümmerl. & Leuckert [Slavíková-Bayerová 2006], loc. 6, sxd
- + *Leprocaulon microscopicum* (Vill.) Gams [Hilitzer, 1929 sub *Stereocaulon quisquiliare*; Suza, 1934, 1936a, 1947b sub *Stereocaulon nanum*], loc. 6, sxd (PRC), loc. 15, sxd, Svatý Jan pod Skalou, SW-facing xerothermic slope with oak, below the view-point, N49°58'11" E014°08'17", on bark of oak (herb. Z. Palice 8796)
- *Leptogium byssinum* (Hoffm.) Zwackh ex Nyl. [Servít, 1930]
- * *Leptogium gelatinosum* (With.) J. R. Laundon loc. 19, sxc supra muscos
- + *Leptogium lichenoides* (L.) Zahlbr. [Servít, 1911 sub *L. lacerum*; Servít, 1930; Klika, 1928 sub *L. pulvinatum*], loc. 1 (PRC), loc. 2b (PRC), loc. 3 (PRC), loc. 4 (PRC), loc. 16, widespread species
- + *Leptogium plicatile* (Ach.) Leight. [Servít, 1930; Suza, 1936a], loc. 2, sxc (PRC), loc. 3, loc. 11a (PRC), loc. 13, loc. 16a (PRC), loc. 16b (PRC), loc. 20 (PRC), loc. 20, Sv. J., Propadlé vody faucis (PRC) omne terric.

- + *Leptogium schraderi* (Bernh.) Nyl. loc. 11a, loc. 13, terric., loc. 16a, sxc (PRC)
 – *Leptogium tenuissimum* (Dicks.) Körb. [Servít, 1930]
- * *Leptogium turgidum* (Ach.) Leight. loc. 2a, sxc, loc. 11a, loc. 13, terric., loc. 16 (PRC), loc. 16b, sxc
- * *Leucocarpia dictyospora* (Orange) R. Sant. along red-marked trail between Svätý Jan pod Skalou and Beroun, young deciduous forest, N49°57'59" E014°06'18", on plant debris at trail-cutting, leg. Z. Palice (herb. Z. Palice 8825 sub *Macentina dictyospora*)
- + *Lobothallia alphoplaca* (Wahlenb.) Hafellner [Servít, 1911, 1930; Suza, 1938b; Suza, 1947b omne sub *Lecanora alphoplaca*], loc. 15, sxd
- * *Lobothallia praeradiosa* (Nyl.) Hafellner loc. 10b, sxd (PRC)
- + *Lobothallia radiosa* (Hoffm.) Hafellner [Servít, 1911 sub *Lecanora circinata* et *L. subcircinata*; Servít, 1930 et Černohorský, 1942b sub *Lecanora radiosa*], loc. 20, sxc (PRC), widespread species
- * *Melanelia exasperatula* (Nyl.) Essl. loc. 3, ma (PRC), pag. Hostim, ma, pag. Mořina, inter lapicidinas Velká Amerika et Mexiko, *Salix caprea*, pag. Karlštejn, in colle Kněží hora supra Karlštejn, qu, pag. Tobolka, ma
- + *Melanelia fuliginosa* (Fr. ex Duby) Essl. [Servít, 1911; Hilitzer, 1925b, omne sub *P. laetevirens*], loc. 14, Kobyla, qu (PRC), loc. 19v, qu (PRC), widespread species
 – *Melanelia olivacea* (L.) Essl. [Hilitzer, 1924b sub *Parmelia olivacea*]
- * *Melanelia subargentifera* (Nyl.) Essl. loc. 4, qu, loc. 19v, qu (PRC), pag. Karlštejn, in cacumine collis Kněží hora supra Karlštejn, qu (PRC)
- + *Melanelia subaurifera* (Nyl.) Essl. [Hilitzer, 1925b sub *Parmelia subaurifera*], pag. Mořina, inter lapicidinas Velká Amerika et Mexiko, *Salix caprea*
- * *Micarea denigrata* (Fr.) Hedl. loc. 3, ad lignum putridum
- * *Micarea prasina* Fr. loc. 2, fr, 7d, fa, leg. Z. Palice (herb. Z. Palice 8755)
 – *Moelleropsis nebulosa* (Hoffm.) Gyeln. [Hilitzer, 1929 et Suza, 1934 sub *Pannaria nebulosa*]
- * *Mycobilimbia lobulata* (Sommerf.) Hafellner loc. 13, terric.
- + *Mycobilimbia lurida* (Ach.) Hafellner & Türk [Servít, 1911, 1930; Černohorský, 1942b; Klika, 1928 sub *Psora lurida*], loc. 1b, loc. 2b (PRC), loc. 3, loc. 16b, loc. 20
- + *Myxobilimbia sabuletorum* (Schreb.) Hafellner [Servít, 1911, 1930; Hilitzer, 1926a omne sub *Bacidia sabuletorum*], loc. 1a, b (PRC), loc. 3 (PRC), loc. 11a (PRC), loc. 13, widespread species
 – *Naetrocymbe punctiformis* (Pers.) R. C. Harris [Hilitzer, 1929 sub *Arthopyrenia analepta*]
- + *Neofuscelia pulla* (Ach.) Essl. [Domin, 1928 sub *Parmelia pokornyi*; Bayer, 1922b; Hilitzer, 1924a; Servít, 1930; Černohorský, 1940; Černohorský, 1942b; Suza, 1942 omne sub *Parmelia prolixa*], loc. 2b, silic. (PRC), loc. 15, sxd (PRC)

- * *Neofuscelia loxodes* (Nyl.) Essl. loc. 10d, sxd
- + *Neofuscelia verruculifera* (Nyl.) Essl. [Hilitzer, 1924b, 1929; Servít, 1930; Černohorský, 1940, 1952 omne sub *Parmelia glomellifera*], loc. 2b, silic, loc. 3b, silic., loc. 10b, sxd, loc. 15, sxd (PRC)
- * *Ochrolechia turneri* (Sm.) Hasselrot loc. 19v, qu
- + *Opegrapha rupestris* Pers. loc. 1a, sxc supra *Verrucaria calciseda* (PRC), loc. 2a, sxc, loc. 3, sxc
- * *Opegrapha varia* Pers. loc. 19, ca
- + *Parmelia saxatilis* (L.) Ach. [Hilitzer, 1925b], loc. 4, qu, loc. 15, sxd, loc. 19v, qu (PRC)
- + *Parmelia sulcata* Taylor [Hilitzer, 1925b], loc. 1a, *Salix*, loc. 3, ma (PRC), loc. 7, *Prunus spinosa* (PRC), widespread species
- *Parmeliella triptophylla* (Ach.) Müll. Arg. [Servít, 1911]
- *Parmelina quercina* (Willd.) Hale [Hilitzer, 1924a sub *Parmelia quercina*]
- *Parmelina tiliacea* (Hoffm.) Hale [Hilitzer, 1926a sub *Parmelia tiliacea*]
- + *Parmeliopsis ambigua* (Wulfen.) Nyl. [Hilitzer, 1924a, 1925b], loc. 19, *Salix* (PRC)
- (+) *Peccania cernohorskyi* (Servít) Czeika & Guttová [Servít & Černohorský, 1935 sub *Thyrea cernohorskyi*; Czeika *et al.* 2004], Svatý Jan pod Skalou, WGS84: N49°58'25.15 E014°08'17.70" on diabasic rock, leg. J. Halda et Z. Palice (herb. J. Halda 6284, herb. Z. Palice 8770)
- + *Peccania coralloides* (A. Massal.) A. Massal. loc. 9, supra lapicidinae V Kozle (non Alkazar), sxc
- *Peltigera apthosa* (L.) Willd. [Hilitzer, 1926a; Domin, 1928]
- + *Peltigera canina* (L.) Willd. [Domin, 1928; Černohorský, 1942b], loc. 19v
- *Peltigera degenii* Gyeln. [Servít, 1930]
- + *Peltigera didactyla* (With.) J. R. Laundon [Hilitzer, 1924a sub *P. erumpens*], loc. 1p, terric. (PRC), loc. 3, loc. 13, terric. (PRC)
- + *Peltigera horizontalis* (Huds.) Baumg. [Servít, 1911], in clivo collis ad par-tia sinistra apud Bubovické vodopády, in silva, sxc, Svatý Jan pod Skalou, WGS84: N49°58.6738' E014°07.7338', on humus along a footpath leading to a former limestone quarry, leg. J. Halda et Z. Palice (herb. J. Halda 6235, herb. Z. Palice 9132)
- *Peltigera malacea* (Ach.) Funck [Domin, 1928; Suza, 1947b]
- *Peltigera neckeri* Hepp ex Müll. Arg. [Kocourková, 2000]
- + *Peltigera praetextata* (Flörke ex Sommerf.) Zopf [Servít, 1930], loc. 4 (PRC), loc. 19v (PRC), widespread species
- + *Peltigera rufescens* (Weiss) Humbold [Domin, 1928; Servít, 1930; Černohorský, 1942b; Sádlo 1983], loc. 1b, loc. 1p, loc. 3 (PRC), loc. 6 (PRC), loc. 14 (PRC), loc. 19v, widespread species

- *Peltula euploca* (Ach.) Poelt ex Pišút [Suza, 1942 sub *Heppia queppini*]
- + *Pertusaria albescens* (Huds.) M. Choisy & Werner [Hilitzer, 1926a sub *P. globulifera*], loc. 4, qu, loc. 19v, qu, fr, pag. Srbsko, inter Za Borovím et Králova studně, qu
- + *Pertusaria amara* (Ach.) Nyl. [Hilitzer, 1924a sub *P. faginea*; Hilitzer, 1925b; Černohorský, 1945], loc. 4, qu, loc. 19v, qu, fr, pag. Srbsko, inter Za Borovím et Králova studně, qu, pag. Karlštejn, in colle Kněží hora supra Karlštejn, qu
- *Pertusaria lactea* (L.) Arnold [Hilitzer, 1924a]
- (+) *Petractis clausa* (Hoffm.) Kremp. loc. 16, sxc, 2000, leg Z. Palice (herb. Z. Palice 4162)
- * *Phaeophyscia chloantha* (Ach.) Moberg Svatý Jan pod Skalou, SW-facing xerothermic slope with oak, below the view-point, N49°58'11" E014°08'17" (Skála), on bark of oak, leg. Z. Palice (herb. Z. Palice 8773)
- *Phaeophyscia endophoenicea* (Harm.) Moberg [Nádvořník, 1947 sub *Physcia endophoenicea*]
- + *Phaeophyscia hirsuta* (Mereschk.) Essl. [Nádvořník, 1947 sub *Physcia cernohorskyi*], loc. 10b, sxd, ibid. sxd supra muscos (PRC)
- + *Phaeophyscia nigricans* (Harm.) Moberg [Servít, 1930 sub *Physcia nigricans*], loc. 1a, ju (PRC), loc. 3, sa (PRC), loc. 18, fr, widespread species
- + *Phaeophyscia orbicularis* (Neck.) Moberg [Servít 1930, sub *Physcia virella*; Černohorský, 1942b sub *Physcia orbicularis*], loc. 1a, ju, loc. 1b, supra muscos, loc. 3, sa (PRC), loc. 7, sx, ma (PRC), pag. Mořina, lapicidinae antique Mexiko, qu, widespread species
- + *Phaeophyscia sciastra* (Ach.) Moberg [Nádvořník, 1947 sub *Physcia sciastra*], loc. 3, sxc, loc. 6, sxd (PRC), loc. 15, sxd (PRC), widespread species
- * *Phlyctis argena* (Spreng.) Flot. loc. 4, qu, loc. 19, fr, loc. 19v, qu, fr (PRC), pag. Srbsko, inter Za Borovím et Králova studně, qu, fr, pag. Karlštejn, in colle Kněží hora supra Karlštejn, qu, pag. Karlštejn, in clivo collis Javorka, qu
- + *Physcia adscendens* H. Olivier [Černohorský, 1942b], loc. 1a, ju (PRC), loc. 7, ma (PRC), widespread species
- + *Physcia caesia* (Hoffm.) Fürnr. [Servít, 1930], loc. 6, sx (PRC), loc. 10, sxd, loc. 10b, sxd, widespread species
- + *Physcia dimidiata* (Arnold) Nyl. [Nádvořník, 1947; Suza, 1947b], loc. 21 sxd, ad terram diabasicam inter muscos, f. *ornata* Nádvoř. ad basis arboris apud saxa picritica
- * *Physcia dubia* (Hoffm.) Lettau (incl. *P. teretiuscula* (Ach.) Lyngé) [Suza, 1934, 1936a; Černohorský, 1940, 1958; Nádvořník, 1947 sub *P. teretiuscula*], loc. 2b, sxc (PRC), loc. 6, sx, sxc, loc. 8, sxd, loc. 10, sxd, loc. 10d, sxd, loc. 13, sxc, loc. 15, sxd (PRC)

- + *Physcia stellaris* (L.) Nyl. – ad viam publicam de Tobolka in Korno apud collis Hřib, *Prunus*, pag. Mořina, “Mexiko” lapacidinae antiquae, in pariete lapacidinae *Rosa* sp., pag. Mořina, inter lapacidinas Velká Amerika et Mexiko, *Salix caprea*, ibid. fr, inter pagos Korno et Tobolka, secundum viam publicam, fr, ibid. *Prunus*
- * *Physcia tenella* (Scop.) DC. loc. 1a, ju (PRC), loc. 3, ma, ibid. sa (PRC), loc. 7, ma (PRC), widespread species
- + *Physcia wainioi* Räsänen [Suza, 1934, 1936a, 1947 omne sub *P. caesiella*], inter pagos Bubovice et Mořina, sub colle Kamenný vrch secundum viam publicam, ad corticem arboris impregnantis (*Prunus*), inter pagos Korno et Tobolka, fr, ibid. ma
- * *Physconia enteroxantha* (Nyl.) Poelt loc. 1a, ju, loc. 3, sa, loc. 4, qu, loc. 14, qu (PRC), widespread species
- + *Physconia grisea* (Lam.) Poelt [Servít, 1911, 1930; Nádvořník, 1947 omne sub *Physcia grisea*], 19v, qu (PRC), pag. Hostim, in cacumine collis Vysoká stráň, qu, pag. Hostim, Na Hradišti, fr, pag. Mořina, inter lapacidinas Velká Amerika et Mexiko, *Salix*, ibid. qu, pag. Srbsko, inter Za Borovím et Králova studně, qu, fr, pag. Karlštejn, in colle Kněží hora supra Karlštejn, qu, pag. Karlštejn, in clivo collis Javorka, qu
- *Physconia muscigena* (Ach.) Poelt [Nádvořník, 1947 sub *Physcia bayeri*]
- + *Physconia perisidiosa* (Erichsen) Moberg [Nádvořník, 1947 sub *Physcia farrea*], loc. 4, qu, loc. 19v, qu, fr, pag. Karlštejn, in cacumine collis Kněží hora supra Karlštejn, qu (PRC), pag. Srbsko, inter Za Borovím et Králova studně, qu, fr, pag. Korno, Na Čihadle, *Salix*
- * *Placidium pilosellum* (Breuss) Breuss loc. 13, terric., loc. 20, sxc (PRC)
- + *Placidium rufescens* (Ach.) A. Massal. [Servít, 1911; Servít, 1911; Klika, 1928; Servít, 1930; Černošský, 1942b omne sub *Dermatocarpon rufescens*], loc. 1a (PRC), loc. 1b, loc. 20, widespread species
- + *Placidium squamulosum* (Ach.) Breuss [Domin, 1928; Suza, 1938b omne sub *Dermatocarpon hepaticum*], loc 1a, b (PRC), loc. 2, loc. 3, loc. 16, loc. 20, omne terric.
- * *Placynthiella icmalea* (Ach.) Coppins & P. James loc. 20, ad lignum putridum (PRC)
- * *Placynthium garovaglii* (A. Massal.) Malme – loc. 1a, sxc
- ** *Placynthium hungaricum* Gyeln. loc. 1a, sxc, loc. 11a, sxc
- + *Placynthium nigrum* (Huds.) Gray [Servít, 1911, 1930; Klika, 1928; Černošský, 1942b], loc. 1a, sxc (PRC), loc. 2a, sxc, loc. 13, sxc, widespread species
- * *Pleurosticta acetabulum* (Neck.) Elix & Lumbsch loc. 4, qu, loc. 14, qu, loc. 19v, qu
- *Polyblastia bayeriana* Servít [Servít, 1946]

- * *Polyblastia cupularis* **A. Massal.** loc. 2a, sxc, (PRC), loc. 3, sxc, loc. 11a, sxc, loc. 16, apud ostium rivi Kačák, sxc
- * *Polysporina lapponica* (**Ach. ex Schaer.**) **Degel.** – loc. 21, ad saxa pikritica
- + *Polysporina simplex* (**Davies**) **Vězda** [Servít, 1930], loc. 1p, sx, loc. 6, sxd (PRC), loc. 15, sxd
- *Porpidia crustulata* (**Ach.**) Hertel & Knoph [Servít, 1930 sub *Lecidea crustulata*]
- + *Protoblastenia calva* (**Dicks.**) **Zahlbr.** [Servít, 1911, 1930 sub *Blastenia rupestris* var. *calva*], loc. 2, sxc, loc. 3, sxc (PRC), loc. 11a, sxc, loc. 16, sxc
- + *Protoblastenia incrustans* (**DC.**) **J. Steiner** loc. 16, sxc, 1999, leg. Z. Palice (herb. Z. Palice 1915), loc. 2a, sxc (PRC), loc. 3, sxc, loc. 16
- + *Protoblastenia rupestris* (**Scop.**) **J. Steiner** [Mann, 1825 sub *Biatora rupestris*; Klika 1928 sub *Blastenia rupestris*], loc. 1a, terric., loc. 2a, sxc, loc. 3, sxc (PRC), widespread species
- *Protoblastenia siebenhaariana* (**Körb.**) **J. Steiner** [Servít, 1930 sub *Blastenia siebenhaariana*]
- + *Protoparmeliopsis muralis* (**Schreb.**) **M. Choisy** [Servít, 1930; Černohorský, 1942b omne sub *Lecanora muralis* et *L. albomarginata*], loc. 10b, sxd, loc. 16b, sxc (PRC), widespread species
- + *Pseudevernia furfuracea* (**L.**) **Zopf** [Hilitzer, 1929 sub *Parmelia furfuracea*], pag. Tetín, in clivo collis Damil, *Pyrus*, pag. Tetín, secundum viam publicam vs. Koledník, *Prunus*, inter pagos Korno et Tobolka, secundum viam publicam, *Prunus*, pag. Karlštejn-Poučnick, in area de Golf Club, qu, pag. Běleč, *Prunus*
- * *Pseudosagedia aenea* (**Wallr.**) **Hafellner & Kalb.** loc. 2, apl, loc. 19, apl (PRC), pag. Srbsko, in valle rivi Bubovický potok supra pag. Srbsko, fr, pag. Mořina, inter lapacidinas Modlitebna et Pušťák, ca
- + *Psilolechia lucida* (**Ach.**) **M. Choisy** [Servít, 1930 et Suza, 1947b sub *Lecidea lucida*], loc. 6, sxd, sx
- + *Psora decipiens* (**Hedw.**) **Hoffm.** [Servít, 1911; Hilitzer, 1929; Suza, 1938b, 1947b; Černohorský, 1942b omne sub *Lecidea decipiens*; Klika, 1928; Hadač & Šmarda, 1944], loc. 8 (PRC), loc. 16b, loc. 20 (PRC)
- + *Psora testacea* **Hoffm.** [Servít, 1911; Hilitzer, 1929; Suza, 1938b; Černohorský, 1942b omne sub *Lecidea testacea*], loc. 1a, sxc, loc. 3b, loc. 10b, sxd, loc. 13, sxc (PRC), loc. 16, sxc
- + *Psoroglaena abscondita* (**Coppins & Vězda**) **Hafellner & Türk** [Palice, 1999 sub *Macentina abscondita*], loc. 19, sa (PRC), widespread species
- *Psorotichia lugubris* (**A. Massal.**) **Arnold** [Bayer, 1922d]
- + *Psorotichia murorum* **A. Massal.** [Servít, 1930], loc. 1a, sxc
- + *Psororichia schaeereri* (**A. Massal.**) **Arnold** loc. 1 sxc (PRC), loc. 16, sxc, 1999, leg. Z. Palice (herb. Z. Palice 1890)

- + *Punctelia subrudecta* (Nyl.) Krog [Hilitzer, 1926a, 1929 sub *Parmelia dubia*, Suza 1934 sub *Parmelia borrieri*], loc. 4, qu (PRC), loc. 19v, qu (PRC), pag. Karlštejn, in cacumine collis Kněží hora supra Karlštejn, qu, pag. Srbsko, inter Za Borovím et Králova studně, qu, pag. Tetín, secundum viam publicam vs. Koledník, *Prunus*, pag. Karlštejn, in clivo collis Javorka, qu
- *Pycnothelia papillaria* (Ehrh.) Dufour [Kindermann & Baar, 1905; Suza, 1934 sub *Cladonia papillaria*]
- *Pyrenula nitida* (Weigel) Ach. [Hilitzer, 1929]
- + *Ramalina farinacea* (L.) Ach. [Hilitzer, 1925b], loc. 19v, qu, pag. Srbsko, inter Za Borovím et Králova studně, qu, pag. Mořina, lapicidinae Mexiko, qu
- + *Ramalina pollinaria* (Westr.) Ach. [Servít, 1911; Černohorský, 1942b, 1946], loc. 4, qu, loc. 19v, qu (PRC), *ibid.* fr, pag. Srbsko, inter Za Borovím et Králova studně, ad marginem silvae, qu
- + *Rhizocarpon disporum* (Nägeli ex Hepp) Müll. Arg. [Servít 1930 Černohorský 1940, 1953], loc. 15, sxd (PRC)
- + *Rhizocarpon distinctum* Th. Fr. [Servít, 1930; Černohorský, 1942b], loc. 6, sxd
- + *Rhizocarpon geographicum* (L.) DC. [Servít, 1930; Černohorský, 1940, 1948], loc. 2b, silic. (PRC), loc. 3b (PRC), loc. 6, sxd, loc. 15, sxd
- *Rhizocarpon petraeum* (Wulfen) A. Massal. [Servít, 1911; Hilitzer, 1929]
- *Rhizocarpon umbilicatum* (Ramond) Flagey (PRC-herb. Z. Černohorský n. 733 sub *R. calcareum* f. *subconcentricum*)
- *Rhizocarpon viridiatrum* (Wulfen) Körb. [Černohorský, 1966]
- * *Rinodina aspersa* (Borrer) J. R. Laundon [Vondrák *et al.*, 2006], loc. 6, sxd (PRC) (etiam herb. Z. Palice 7936)
- + *Rinodina bischoffii* (Hepp) A. Massal. [Servít, 1911, 1930; Hilitzer, 1926a; Servít & Černohorský, 1934], loc. 1a, sxc (PRC), loc. 16b, sxc, widespread species
- + *Rinodina calcarea* (Arnold) Arnold [Černohorský, 1942b, Vondrák *et al.*, 2006], loc. 1b (PRC), loc. 2b, loc. 16b, sxc, loc. 17, sxc
- + *Rinodina exigua* (Ach.) Gray [Hilitzer, 1926a; Servít, 1930], loc. 19v, qu
- + *Rinodina immersa* (Körb.) Zahlbr. [Servít, 1930 et Černohorský, 1942b sub *Rinodina bischoffii* var. *immersa*], loc. 3, sxc, loc. 13, sxc (PRC), loc. 16b, sxc, loc. 17, sxc (PRC), widespread species
- + *Rinodina lecanorina* (A. Massal.) A. Massal. [Servít, 1911, 1930; Suza, 1947b], loc. 1a, sxc, loc. 2b, sxc (PRC), loc. 3, sxc
- * *Rinodina sophodes* (Ach.) A. Massal. loc. 19v, qu
- * *Ropalospora viridis* (Tønsberg) Tønsberg loc. 19, ca (etiam herb. Z. Palice 4103)
- * *Sarcogyne privigna* (Ach.) A. Massal. loc. 1b, ad saxa arenacea

- + *Sarcogyne regularis* **Körb.** [Hilitzer, 1926a; Klika, 1928; Servít, 1930; Černohorský, 1942b omne sub *Sarcogine pruinoso*], loc. 1a, sxc (PRC), loc. 1b, loc. 11a, sxc (PRC), loc. 18, sxc, widespread species
- * *Scoliosporum chlorococcum* (**Graewe ex Stenh.**) **Vězda** loc. 1a, ju, loc. 2, qu, loc. 3, sa, loc. 3, ma (PRC), widespread species
- * *Scoliosporum sarothamni* (**Vain.**) **Vězda** loc. 2, *Cornus*
- + *Scoliosporum umbrinum* (**Ach.**) **Arnold** [Hilitzer, 1929 et Servít, 1930 sub *Bacidia umbrina*], loc. 6, sx, loc. 7, sx, loc. 8, Beroun, sxd, loc. 10, sxd, loc. 13, sxc, loc. 15, sxd (PRC)
- + *Solorina saccata* (**L.**) **Ach.** [Opiz, 1823a; Mann, 1825; Servít, 1911, 1930; Hilitzer, 1926b; Domin, 1928], loc. 16, apud ostium rivi Kačák, in partia sinistra in clivo petroso in parte media, in fissura rupis
- *Squamarina lentigera* (Weber) Poelt [Suza, 1938b sub *Lecanora lentigera*]
- * *Staurothele frustulenta* **Vain.** loc. 11a, Tetínská rokle, sxc
- * *Staurothele hymenogonia* (**Nyl.**) **Th. Fr.** loc. 17, sxc
- * *Staurothele succedens* (**Rehm ex Arnold**) **Arnold** loc. 11, Tetínská rokle, sxc
- * *Stereocaulon pileatum* **Ach.** loc. 6, sxd (PRC)
- + *Synalissa symphorea* (**Ach.**) **Nyl.** [Servít, 1911 sub *S. ramulosa*], loc. 16, 1999, leg. Z. Palice (herb. Z. Palice 1894), loc. 1a, loc. 2, loc. 16 (PRC), widespread species
- *Tephromela atra* (Huds.) Hafellner [Černohorský, 1942 sub *Lecanora atra*]
- + *Thelidium decipiens* (**Nyl.**) **Kremp.** [Servít 1911], loc. 2a, sxc, loc. 3, sxc (PRC)
- *Thelidium minimum* (A. Massal. ex Körb.) **Arnold** [Servít, 1930]
- + *Thelidium papulare* (**Fr.**) **Arnold** [Servít 1911], loc. 2a, sxc (PRC)
- * *Thelocarpon epibolum* **Nyl.** Sv. Jan pod Skalou, WGS84: N49°57'59,31" E014°06'18,17", on plant debris at trail-cutting, leg. J. Halda et Z. Palice (herb. J. Halda 6263, herb. Z. Palice 8816)
- (+) *Thelocarpon intermediellum* **Nyl.** [Kocourková, 1998]
- *Thrombium epigaeum* (Pers.) Wallr. [Suza, 1934]
- + *Thyrea confusa* **Henssen** [Servít, 1930; Černohorský, 1942b sub *T. pulvinata*], loc. 9, supra lapidinae V Kozle, sxc
- *Toninia aromatica* (Sm.) A. Massal. [Servít, 1911]
- *Toninia athallina* (Hepp) Timdal [Servít, 1911, 1930 sub *Catillaria athalina*]
- + *Toninia candida* (**Weber**) **Th. Fr.** [Servít, 1911, 1930; Domin, 1928; Klika, 1928; Černohorský, 1942b], loc. 1, sxc (PRC), loc. 3, sxc (PRC), loc. 7d, sxd, widespread species
- * *Toninia opuntioides* (**Vill.**) **Timdal** loc. 1a, terric. (PRC)
- + *Toninia sedifolia* (**Scop.**) **Timdal** [Domin, 1928; Klika, 1928; Servít, 1930; Servít & Černohorský, 1934; Černohorský, 1942b; Hadač & Šmarda, 1944; Sádlo, 1983 omne sub *T. coeruleonigricans*], loc. 1a, terric. (PRC), loc. 3, loc. 7d, sxd (PRC), loc. 8, Beroun, sxd, loc. 20, widespread species

- + *Toninia tristis* (Th. Fr.) Th. Fr. [Suza 1938b et Černohorský 1942b sub *T. tabacina*], loc. 10b, terric.
- + *Toninia tumidula* (Sm.) Zahlbr. loc 1, sxc, loc. 2b, sxc (PRC), loc. 16, sxc
- + *Trapelia coarctata* (Sm.) M. Choisy [Servít, 1930 sub *Lecanora coarctata*], loc. 1p, sx, loc. 6, sxd (PRC)
- * *Trapeliopsis flexuosa* (Fr.) Coppins & P. James loc. 2, ad lignum putridum (PRC)
- * *Trapeliopsis granulosa* (Hoffm.) Lumbsch loc. 19, ad basis arboris abscisa *Piceae*, (PRC)
- *Tuckermanopsis chlorophylla* (Willd.) Hale [Hilitzer, 1925b sub *Cetraria chlorophylla*]
- *Umbilicaria polyphylla* (L.) Baumg. [Lisická, 1980]
- + *Usnea hirta* (L.) Weber ex F. H. Wigg. [Hilitzer, 1925b], loc. 1a, *Cornus*, pag. Te-tín, secundum viam publicam vs. Koledník, *Prunus*, pag. Karlštejn-Poučnick, in area de Golf Club, qu apud Za dvorem, pag. Hlásná Třeň, *Cerasus*, pag. Bě-leč, *Prunus*
- * *Usnea filipendula* Stirt. ad marginem silvae ad *Rosa* sp. super Bubovické vodo-pády
- + *Verrucaria baldensis* A. Massal. [Černohorský, 1942b sub *V. subconcentrica* f. *punctatissima*], loc. 1 (PRC), loc. 2 (PRC), loc. 3, loc. 10, loc. 11, loc. 13, loc. 16a, b (PRC), loc. 20, Sv. J., apud viam trans monasterii in silva, omne sxc
- + *Verrucaria caerulea* DC. [Klika, 1928 sub *V. glaucina*; Servít, 1930], loc. 3, sxc
- + *Verrucaria calciseda* DC. [Servít, 1930, 1948; Černohorský, 1942b et Šmarda, 1947 sub *V. interrupta*], loc. 2, sxc, loc. 13, sxc, loc. 16b, sxc (PRC), wide-spread species
- *Verrucaria crassa* (A. Massal.) Eschw. [Servít, 1954 sub *Amphoridium crassum*]
- + *Verrucaria dufourii* DC. [Servít, 1911], loc. 1a, sxc, loc. 2, sxc
- * *Verrucaria funckii* (Sprengel) Zahlbr. Svatý Jan pod Skalou, WGS84: N49°58.4399' E014°07.8746', on non calcareous boulder, leg. J. Halda (herb. J. Halda 6239)
- + *Verrucaria fuscella* (Turner) Winch [Servít, 1911, 1930, 1936, 1954; Černohorský, 1942b], loc. 11b, sxc, loc. 16, sxc
- * *Verrucaria glaucovirens* Grumann loc. 2b, sxc
- + *Verrucaria hochstetteri* Fr. [Servít, 1911 sub *V. dolomitica* et *V. mastoidea*; Servít, 1911; Klika, 1928; Hilitzer, 1929], loc. 2b, sxc, loc. 3, sxc
- * *Verrucaria lecideoides* Trevis. loc. 1a, sxc (PRC), loc. 2b, sxc, loc. 16b
- *Verrucaria minuta* (Hepp) Zschacke [Servít, 1930 sub *V. lecideoides* var. *minuta*]
- + *Verrucaria muralis* Ach. [Mann, 1825; Klika, 1928 et Servít, 1930 sub *V. rupes-tris*], loc. 1a, sxc (PRC), loc. 2a, sxc, loc. 10, sxc, loc. 18, sxc (PRC), widespread species

- + *Verrucaria nigrescens* Pers. [Klika, 1928; Servít, 1930; Černohorský, 1942b; Šmarda, 1947], loc. 3, sxc, loc. 4, sxc (PRC), loc. 13, sxc (PRC), widespread species
- (+) *Verrucaria parmigerella* Zahlbr. [Halda, 2003], Sv. Jan pod Skalou, WGS84: N49°58'11.13 E014°08'12.46", on limestone, leg. J. Halda (herb. J. Halda 6290)
- + *Verrucaria polysticta* Borrer – [Černohorský *et al.*, 1956 sub *Dermatocarpon subfuscillum*], loc. 3, sxc
- *Verrucaria serpentini* (Servít) [Černohorský *et al.*, 1956 sub *Dermatocarpon serpentini*]
- * *Verrucaria sphaerospora* Anzi – loc. 21, ad saxa picritica (etiam herb. Z. Palice 7935)
- *Verrucaria subpruinosa* (Servít) [Servít, 1946 sub *Dermatocarpon subpruinsum*]
- *Verrucaria viridula* (Schrad.) Ach. [Servít, 1911]
- * *Verrucaria xyloxena* Norman loc. 11a, terric.
- * *Veizdaea retigera* Poelt & Döbbeler loc. 3, supra muscos
- * *Veizdaea rheocarpa* Poelt & Döbbeler loc. 7d, leg. Z. Palice (herb. Z. Palice 8844)
- + *Vulpicida pinastri* (Scop.) Mattsson & M. J. Lai [Hilitzer, 1925b sub *Cetraria pinastri*], loc. 4, qu (herb. O. Peksa)
- + *Xanthoparmelia conspersa* (Ehrh. ex Ach.) Hale [Hilitzer, 1924b; Servít, 1930; Černohorský, 1942b omne sub *Parmelia conspersa*], loc. 13b, silic (PRC), loc. 15, sxd (PRC), loc. 21, sxd
- *Xanthoparmelia mougeotii* (Schaer. ex D. Dietr.) Hale [Hilitzer, 1929 sub *Parmelia mougeotii*]
- + *Xanthoparmelia protomatrae* (Gyeln.) Hale loc. 15, sxd (PRC), loc. 21, sxd
- + *Xanthoparmelia somloënsis* (Gyeln.) Hale [Servít, 1930; Černohorský, 1940, 1957 omne sub *P. molliuscula*], loc. 1b, terric., loc. 2b, silic, loc. 3b, silic. (PRC), loc. 15, sxd (PRC), loc 17b, silic., loc. 21, sxd
- + *Xanthoria candelaria* (L.) Th. Fr. [Hilitzer, 1924a], pag. Tobolka, prope viam ad Koda, qu (PRC), pag. Srbsko, inter Za Borovím et Králova studně, ad marginem silvae, qu, fr
- * *Xanthoria elegans* (Link) Th. Fr. loc. 10b, sxd, loc. 13, sxc, loc. 14, sxc
- *Xanthoria fallax* (Hepp) Arnold [Hilitzer, 1926a, Servít, 1930, Suza, 1947b]
- + *Xanthoria parietina* (L.) Th. Fr. [Servít, 1911, 1930], loc. 1a, ju (PRC), loc. 3, (PRC), loc. 18, fr, pag. Hostim, *Salix*, widespread species
- * *Xanthoria polycarpa* (Hoffm.) Th. Fr. ex Rieber – prope Karlštejn-Poučník in Golf Club Karlštejn, qu, loc. 13, ad ramos arbores, (PRC), inter pagos Bubovice et Mořina, sub colle Kamenný vrch secundum viam publicam, *Cerasus*, pag. Hostim, Na Hradišti, fr secundum viam publicam, pag. Mořina, inter lapi-

cidinas Velká Amerika et Mexiko, *Salix caprea*, pag. Tetín, secundum viam publicam vs. Koledník, *Prunus*, ma, colle Voškov, fr, pag. Hlásná Třebaň, fr

Fungi lichenicoli (nomenclature follows Kocourková (2000))

* *Arthrorhaphis aeruginosa* R. Sant. & Tønsberg loc. 15, sxd, substr. *Cladonia foliacea*

* *Bispora christiansenii* D. Hawksw. [Kocourková, 2000]

(+) *Capronia peltigerae* (Fuckel) D. Hawksw. [Kocourková, 2000]

(+) *Cercidospora macrospora* (Uloth) Hafellner & Nav.-Ros. [Kocourková, 2000]

* *Lichenocodium lecanorae* (Jaap) D. Hawksw. loc. 3, substr. *Lecanora conizaeoides*

+ *Lichenochora obscuroides* (Linds.) Triebel & Rambold loc. 1a, substr. *Phaeophyscia orbicularis*, loc. 18, substr. *Phaeophyscia orbicularis*

+ *Lichenostigma cosmopolites* Hafellner & Calatayud loc. 15, sxd, substr. *Xanthoparmelia somloënsis*

+ *Muellerella pygmaea* (Körb.) D. Hawksw. var. *pygmaea* loc. 3, in tecto domus “Vechtrovna Korno”, substr. *Lecidella carpathica* et *Lecidea fuscoatra*

– *Sarcopyrenia gibba* (Nyl.) Nyl. [Servít, 1926; Kocourková, 2000]

+ *Stigmidium xanthoparmeliarum* Hafellner loc. 15, substr. *Xanthoparmelia somloënsis*, loc. 10d, substr. *Xanthoparmelia protomatrae*

DISCUSSION

The present situation of lichen flora of the Bohemian Karst could be evaluated from several points of view.

Since lichens were the subject of interest over a period of time, it is possible to compare the recent situation with the first half of the twentieth century, when the most intensive explorations were pursued. By literary excerption and revision of herbariums, notes of 255 species were collected. Saxicolous species comprise the main part of these, especially limestone and diabase-growing species. The most intimately explored localities were the diabasic rocks near Budňany (loc. 15) (Černohorský, 1940) and limestone in environs of Srbsko village (records of several authors). Velká hora near Karlštejn was also explored systematically (Černohorský, 1942a, b). Hilitzer especially cited epiphytic species (1925). The common species both saxicolous and terricolous were probably not noted by authors of this period.

Missing/extinct species

The recent distribution of calcareous or, more generally, saxicolous species is comparable to historical data; missing species belong to small species for example

Psorotichia lugubris or *Verrucaria viridula*, species easily overlooked in the field (evidently with exceptions). The next group is constituted by diabase-growing species; many historical collections do not belong to the area of present interest, because the principal diabasic localities (Karlík, Řevnice or Solopysky) are away from central part of Bohemian Karst (species *Buellia badia*, *B. porphyrica*, *Caloplaca aractina*, *Dimelaena oreina*).

Among terricolous species higher differentiation could be found; the retreat of rare species during the last century is evident – for example *Peltigera aphthosa*, *P. malacea* or *Squamarina lentigera* are probably extinct.

The most striking is the comparison of epiphytic species. These species are very sensitive to changes of environment and especially to atmospheric pollution. Among missing species which occurred in the past in the region are e.g. *Fellhanera bouteillei*, *Lecanora allophana*, *Parmelia quercina*, *P. olivacea*, *Pyrenula nitida*.

Rare species

The next group comprises saxicolous and terricolous species occasionally recorded – for example lichens of xerothermic rock steppes (*Fulgensia fulgens*, *Psora decipiens*, *Cladonia peziziformis*) that are endangered by damage to the localities. The montane and boreal species are also among rare species because there are few possible sites for their development. Some species have poorly developed thallus, for example richly fertile thalli of *Verrucaria baldensis* occur only on close, preserve sites, especially in ravines.

Curiously, *Acarospora cervina*, widespread in the past, is now very rare (one record) in the Karst, but there are many well developed thalli in Prague-Zlíchov close to Barrandův bridge.

Many cyanolichens from families *Lichinaceae* and *Collemaceae* belong to rare species, for example *Gonohymenia nigritella*, *Thyrea confusa*, *Peccania coraloides*, *Anema notarisii* occur on several localities only.

Among rare species we can also class some epiphytic macrolichens, e. g. *Flavoparmelia caperata*, *Melanelia subargentifera*, *M. subaurifera*, *Parmelia saxatilis* (as epiphyte), *Pleurosticta acetabulum*.

Widespread species

Many species of the genus *Caloplaca* dominate on the limestone rocks, the most widespread for example are *Caloplaca holocarpa*, *C. coronata*, *C. decipiens*, *C. dolomiticola*, *C. flavescens* or *C. variabilis*. Also *Agonimia tristicula* (detritus), *Aspicilia calcarea*, *Candelariella aurella*, *Diplotomma alboatrum*, *Placidium rufescens*, *Lecania rabenhorstii*, *Protoparmeliopsis muralis* or *Verrucaria baldensis* are very common.

Candelariella vitellina, *Lecidea fuscoatra*, *Lecidella carpathica*, *Xanthoparmelia somloënsis*, *X. protomatrae*, *Rhizocarpon geographicum* or easily overlooked *Polysporina simplex* are common on diabasic rocks.

Thanks to Černohorský's observations of diabasic rocks (1940), we can intimately compare the lichen flora of the diabasic outcrop in Budňany. Černohorský found there 12 species of lichens, so together with Suza's records (2 species) there are 14 species. All these species were recorded during our recent survey. There is a similar situation in Velká hora hill, where the majority of the species cited by Černohorský (1942a, b) was found.

Between widespread epiphytic species there are two main groups – toxitolerant, acidophilous species, e.g. *Lecanora conizaeoides*, *Scoliciosporum chlorococcum*, and nitrophilous (or nitrophyte) species, especially *Amandinea punctata*, *Parmelia sulcata*, *Phaeophyscia orbicularis*, *Physcia adscendens*, *P. tenella*.

In conclusion, we can say that diversity of saxicolous species is relatively constant, there is a certain decrease of several terricolous species and there is evident decrease of epiphytic lichen flora. However, during the last decade, with the diminution of pollution, we can observe return of some species – small thalli of *Vulpicida pinastri*, *Usnea hirta* or *Bryoria fuscescens* now occur in the region.

The other possibility of comparison of results is that according to the demands of environment, exposition or plant associations.

According to exposition it is possible to class lichens to several groups: species of north facing, often humid sites, species without special determination and species of exposed, xerothermic sites. The first group comprises the majority of major part of montane species or species with boreal distribution occurring in the Karst (e.g. *Chaenotheca gracilentia*, *Ch. xyloxena*, *Thelidium papulare*, *Polyblastia cupularis*, *Protoblastenia calva*, *Lecidea confluens*, *Stereocaulon pileatum*, *Solorina saccata*).

The second group of non determined species consist mainly of widespread species, for example limestone species *Acarospora macrospora*, *Aspicilia calcarea*, *Collema fuscovirens*, *Diplotomma alboatrum*, *Caloplaca decipiens*, *C. cirrochroa*, *C. citrina*, *Protoblastenia rupestris* or *Verrucaria baldensis* and *V. nigrescens*. On diabasic rocks *Polysporina simplex*, *Lecanora polytropa*, *Collema tenax*, *Myxobilimbia sabuletorum*, *Leptogium lichenoides*, *Peltigera rufescens*, *Cladonia furcata*, *C. rangiformis* or *C. pyxidata* are widespread species on soil on both diabasic and limestone ground.

The last important group is formed by lichens of xerothermic associations, occurring especially on exposed rocks and boulders on rock steppes on limestone and diabasic rocks. There is a subgroup of nitrophyte, ornitocoprophilous species and subgroup non-reliant on nitrogen content. On exposed and eutrophicated sites occur *Aspicilia contorta* ssp. *hoffmannii*, *Caloplaca coronata*, *C. chalybaea*, *C. dolomiticola*, *C. variabilis*, *Lecania rabenhorstii*, *Protoparmeliopsis muralis*,

Lobothallia radiosa, *Rinodina calcarea* on limestone; *Acarospora umbilicata*, *A. nitrophila*, *Caloplaca crenulatella*, *Phaeophyscia sciastra* on diabasic rocks.

Among non nitrophyte species we can find lichens of genus *Placidium* and *Endocarpon*, *Toninia sedifolia*, *T. candida* which occur on fissures of rocks and partially also on soil. Species such as *Aspicilia contorta*, *Caloplaca lactea*, *C. marmorata*, *Collema cristatum*, *Lecanora dispersa*, *Rinodina bischoffii*, *Verrucaria baldensis*, *V. calciseda* grow directly on exposed limestone rock; on diabasic rock *Xanthoparmelia somloënsis*, *X. conspersa*, *Neofuscelia pulla*, *N. verruculifera*, also species of the genus *Rhizocarpon*, *Lecanora garovaglii*, *L. argopholis* were found.

Important localities

Especially for the purposes of nature protection, it is useful to characterise the most important localities from the “lichenological” point of view – and possibly to mention also the appropriate conservation management. I do not want to widely define all the localities, but just come up with a general evaluation of chosen sites. **Císařská rokle ravine** – is one of the most valuable parts of the Karst, and as noted above, several rare species (*Chaenotheca gracilenta*, *Ch. xyloxena*, *Thelidium papulare*, *Gyalecta jenensis*, etc.) occur there. On the slopes of the ravine, are well developed saxicolous associations (for example *Aspicilietum calcareae*) with many interesting species – *Toninia tumidula*, *Rinodina calcarea*, *R. lecanorina*, *Psora testacea*, *Verrucaria lecideoides*). There are also many rare terricolous species (e.g. *Cladonia convoluta*, *Leptogium turgidum*, *Mycobilimbia lurida*). In conclusion, Císařská rokle is unique by its character as well as by distribution of rare species of well developed cryptogamic and phanerogamic associations.

Diabasic slope Na Hradišti near Hostim – This locality is situated on dibasic outcrop above the Hradby rocks. There are also parts of diabasic rock steppes. In this relatively small locality (200 × 60 m), there are many interesting xerothermic species, e.g. *Neofuscelia pulla*, *Xanthoparmelia somloënsis*, *Lecanora argopholis*, *L. garovaglii*, *Caloplaca crenulatella*, *C. subsoluta*, *Acarospora nitrophila*, *A. umbilicata*. Species *Lobothallia prae-radiosa*, *Phaeophyscia hirsuta*, *Toninia tristis* were only recorded here; the last two cited are presently known only from this site in the Czech Republic. This locality also needs the protection, especially prevention from the possible succession of *Robinia pseudoacacia* or other destructive influences.

Localities Na Závěrcé as far as to Petzold quarry and rock and rock steppes between orifice of Kačák brook and Srbsko village belong to the most important limestone localities in the Karst. There are well preserved xerothermic associations with distribution of many species, e.g. *Fulgensia fulgens*, *Mycobilimbia lurida*, *Psora testacea*, *Toninia tumidula*.

Diabasic outcrop in Budňany – This is an interesting locality with the association *Parmelion conspersae*, as there are also species such as *Caloplaca crenularia*, *Cetraria aculeata*, *Polysporina simplex* or *Cladonia peziziformis*.

The north-faced slope of Voškov above the railway is an important site for acidophilous and/or montane elements (*Stereocaulon pileatum*, *Lecanora epanora*, *Rinodina aspersa*).

Velká hora and Doutnáč hills are characterised by well-developed associations on rock steppes and sessile oak forests (*Quercetum pubescentis*, *Corno-quercetum*) on S exposed slopes. Here are the most developed communities of epiphytic lichens which are missing in many other parts of the Karst (*Acrocordia gemmata*, *Pleurosticta acetabulum*, *Flavoparmelia caperata*, *Melanelia subargentifera*, *Punctelia subrudecta*, *Physconia perisidiosa*, *Ramalina farinacea*, *R. pollinaria*, *Rinodina exigua*).

Bubovické waterfalls create a very interesting, protected part of the forest ecosystem, where many species occur (*Arthonia helvola*, *A. radiata*, *Bacidia subincompta*, *Graphis scripta*, *Opegrapha varia*, *Ropalospora viridis*).

The majority of localities are protected appropriately (especially sites belonging to national nature reserves), but a very serious problem is the abundance of wild boars, which are important destroyers of ecosystems (especially steppes) and also the continual invasion of *Robinia pseudoacacia* (Čísařská rokle, Tomáškův lom, Na Hradišti, Alkazar...).

CONCLUSION

In the course of lichenological survey in the central area of the Bohemian Karst 296 species were confirmed or newly recorded. Some of them are reported for the first time in the Czech Republic (*Caloplaca albolutescens*, *Lecanora flo-toviana* and *Placynthium hungaricum*). It was possible to confirm the majority of species shown in available sources, more than 100 are new to the Bohemian Karst.

During the recent survey interest was mainly devoted to saxicolous and terricolous species growing on limestone and diabasic rock and also to epiphytes and lignicolous species. It is evident that the presented number of species is not final; The Bohemian Karst is a large and indented area.

In general, it is possible to characterise the area of Bohemian Karst as an important refuge for limestone and diabase-growing species, unique in the context of the Czech Republic.

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