# LICHENS RECORDED DURING THE BRYOLOGICAL AND LICHENOLOGICAL MEETING IN MOHELNO (TŘEBÍČ REGION, SOUTHWESTERN MORAVIA) IN SPRING 2016

## Lišejníky zaznamenané během bryologicko-lichenologického setkání v Mohelně na Třebíčsku na jaře 2016

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**Abstract:**
We present a list of 405 lichenized, lichenicolous and lichen-allied fungi recorded on the famous rocky steppe with a serpentinite bedrock called Mohelenská hadcová step and at other localities in the Třebíč region. The steppe was visited regularly by lichenologists during the last 100 years. We confirmed many valuable historical records (e.g. *Caloplaca conversa*, *Harpidium rutilans*, *Lecanora laatokkaënsis*, *Lichinella stipatula*, *Spilonema paradoxum*, *Toninia cinereovirens*) and added several new ones (e.g. *Catillaria atomarioides*, *Lemmopsis arnoldiana*, *Peccania cernohorskyi* and *Phaeophyscia pusilloides*). A smaller serpentinite site in the surroundings, called Dukovanský mlýn, is also valuable due to the occurrence of a few rare species (*Belonia russula*, *Porpidia nadvornikiana* and *Rinodina rinodinoides*). Other surveyed sites included castle ruins Templštejn with neighbouring granulite rocks and natural oak forests, and Levnov, the type locality of the cyanolichen *Pterygiopsis umbilicata* occurring on Ca-enriched granulite rocks below the ruin.

Our list also includes epiphytic lichens recorded during a detailed survey in a lowland forest at the Lamberk castle ruin in the valley of the river Oslava. One day of research by four lichenologists

in a one-hectare plot resulted in findings of 153 epiphytic and epixylic species. Numerous rare and rarely collected crustose lichens were recorded, for example *Arthonia endlicheri*, *Bacidia incompta*, *B. laurocerasi*, *Biatora pontica*, *Buellia violaceofusca*, *Chaenotheca hispidula*, *Dendrographa decolorans* and *Enterographa hutchinsiae*.

**Key words:**
castle ruins, granulite, Mohelenská hadcová step, scree forest, serpentinite.

## INTRODUCTION

The 23rd spring meeting of the Bryological-lichenological section of the Czech Botanical Society took place in the Třebíč region, at the Mohelno mill. The participants visited various localities in the surroundings – serpentinite rocky slopes in the Mohelenská hadcová step and Dukovanský mlýn reserves, the castle ruins Lamberk, Levnov and Templštejn and natural deciduous forests in the valleys of the rivers Oslava, Jihlava and Chvojnice. We also included additional floristic data from the region, mainly from J. Halda 's inventory of the Mohelenská hadcová step reserve (Halda 2013) and earlier records from Lamberk by J. Šoun and J. Vondrák that were not published in Šoun et al. (2015).

Mohelenská hadcová step National Nature Reserve (150 ha) is situated in the deep valley of the river Jihlava, at the southern border of the village of Mohelno, within the elevational range of 260 to 384 m. The locality is protected by law since 1933 for its unique xerothermic grasslands, rocks and pine forests on serpentinite bedrock with many rare plants and animals (Mackovčin et al. 2002). The absence of the traditional grazing management supported an expansion of shrubs and trees, especially pines, which currently cover a substantial part of the area.

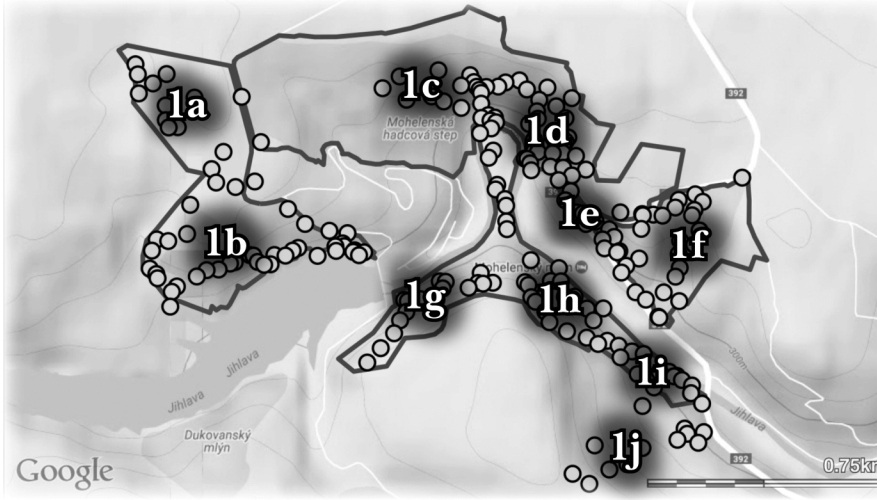
In the first half of the twentieth century, the locality was intensively explored by the famous Czech lichenologists Filip Kovář, Miroslav Servít, Jindřich Suza and Antonín Vězda. About 150 lichens have been reported in almost 50 floristic, chorological and taxonomic studies (Černohorský 1966, Černohorský et al. 1956, Guttova 2000, Hafellner 1979, Knudsen & Kocourková 2008, 2012, Kocourková 2000, Kovář 1908, 1912, Krzewicka 2009, Lisická 1980, Lisická & Horáková 1991, Magnusson 1929, 1936, 1939, Nádvorník 1947, Pišút 1968, 1969, Runemark 1956, Servít1910, 1935, 1936, 1937, 1946, 1954, Suza 1913, 1916, 1919, 1921a,b, 1922, 1924, 1925, 1928a,b, 1929, 1931a,b, 1933, 1934, 1936, Vězda 1957, 1958, 1970, 1978, 1998, Vondrák et al. 2007, Wirth 1972). Several lichens were also noted by Rudolf Dvořák, a regional teacher and researcher, in his algological and mycological contributions (Dvořák 1923, 1925, 1930a,b, 1931) Some remarkable species, such as *Aspicilia serpentinicola* and

*Harpidium rutilans* were issued in exsiccates (Keissler 1924, Suza 1927, Vězda 1972). Five lichens were even described from the locality, among them *Acarospora suzai*, *Aspicilia serpentinicola* Suza ex A. Nordin and *Psorotichia moravica* being still accepted taxa, while the poorly known names *Dermatocarpon subfuscellum* var. *serpentini* Servít (= *Placopyrenium fuscellum*) and *Lecanora dvorakii* Motyka (= *Lecanora laatokkaënsis*) were shown to be synonyms. *Anaptychia ciliaris*, *Cladonia polycarpoides*, *Lobothallia alphoplaca*, *Nephroma parile*, *Normandina pulchella*, *Peltigera lepidophora*, *Pertusaria chiodectonoides*, *Porocyphus coccodes*, *Thyrea confusa* and numerous pyrenocarpous lichens represent other remarkable species reported from the locality in the past (see Vězda 1998) but not recorded during our excursions.

## MATERIAL AND METHODS

The field research was carried out between 21 and 24 April 2016. We also included older records, for example by J. P. Halda, J. Malíček and Z. Palice from the years 2010–2015 from the Mohelenská hadcová step reserve. The specimens were identified by standard techniques (examination under a light microscope and spot/UV reactions) and thin layer chromatography (TLC) following Orange et al. (2010). Specimens analysed by TLC are indicated by asterisks (*). Lichenicolous fungi and lichen-allied fungi are indicated by the hash (#). Herbarium vouchers of individual collectors are deposited in the following herbaria: CE – Rainer Cezanne & Marion Eichler (personal herbarium), FB – František Bouda (PRM), FBe – Franz Berger (personal herbarium), JH – Josef Halda (MP), JM – Jiří Malíček (personal herbarium), JŠ – Jaroslav Šoun (ZMT), JV – Jan Vondrák (PRA), PU – Petr Uhlík (SOKO) and ZP – Zdeněk Palice (PRA). Records without a collector abbreviation were noticed in the field without a voucher. The nomenclature and red-list categories follow Liška & Palice (2010); species missing in that paper are given with authorships. Two undescribed microlichens with provisional names are included on the list (*Micarea inconspicua*, *M. substipitata*). GPS coordinates use the WGS84 datum.

Four researchers (FB, JM, ZP, JV) studied a one-hectare plot in a scree deciduous and acidophilous oak forest below the Lamberk castle ruin. We selected an assumed lichen diversity hot-spot (for the selection criteria, see Vondrák et al., unpublished) and studied epiphytic and epixylic lichens for seven hours. A species-by-sampling-unit incidence matrix was created (Chao & Chiu 2016) where every researcher is treated as a sampling unit. We used the package spadeR (Chao et al. 2015) to estimate the species richness of the sampling area via the Chao2-estimator (Chao 1987). All distinctly lichenized fungi, *Anisomeridium macrocarpum*, *Arthopyrenia* cf. *analepta* and *Microcalicium disseminatum* were included in this analysis. For the visualization of continuous intra- and extrapolation of species richness as well as sample coverage we applied the iNEXT- R package (Hsieh et al. 2016, R Core Team 2016).




**Obr. 1.** NPR Mohelenská hadcová step s vyznačením studovaných segmentů (1a–j). Orig. J. Halda
**Fig. 1.** Mohelenská hadcová step National Nature Reserve with marked segments studied (1a–j). Orig. J. Halda

## VISITED LOCALITIES

1. Mohelno, Mohelenská hadcová step National Nature Reserve, divided into ten parts (a–j) according to the map (Fig. 1).
2. Mohelno, Dukovanský mlýn Nature Reserve, NW-facing serpentinite slopes above the river Jihlava, 49°05'55"N, 16°10'25"E, alt. 320–350 m (23 April 2016).
3. Náměšť nad Oslavou, Sedlec, Údolí Oslavy a Chvojnice Nature Reserve, Lamberk castle ruin and its surroundings with natural deciduous forests and siliceous rocky outcrops, c. 49°09'55"N, 16°10'05"E, alt. 310–400 m (22 April 2016; also included are some unpublished data by JŠ and JV from previous excursions).
4. Náměšť nad Oslavou, Sedlec, Údolí Oslavy a Chvojnice Nature Reserve, natural scree and oak forests under the Lamberk castle ruin, 1-ha plot, 49°09'59"N, 16°10'06"E, alt. 310–320 m (22 April 2016). This locality is highlighted in bold on the list to facilitate prospective extraction.
5. Moravský Krumlov, Jamolice, Templštejn castle ruin, 49°05'26"N, 16°14'54"E, alt. 350 m (23 April 2016).
6. Moravský Krumlov, Templštejn Nature Reserve, NW-facing rocky slopes 0.4 km NE of the Templštejn castle ruin, 49°05'35"N, 16°15'07"E, alt. 280 m (23 April 2016).
7. Ivančice, Senorady, Údolí Oslavy a Chvojnice Nature Reserve, S-facing rocky slopes SW of the Levnov castle ruin, c. 49°08'19"N, 16°14'24"E, alt. 300–350 m (22 & 24 April 2016).

**8.** Kladeruby nad Oslavou, Vlčí kopec, Údolí Oslavy a Chvojnice Nature Reserve, deciduous forests along a blue-marked tourist path between the castle Vlčí kopec and the river Oslava, 49°09'16"N, 16°10'10"E, alt. 320 m (22 April 2016).
**9.** Kladeruby nad Oslavou, Údolí Oslavy a Chvojnice Nature Reserve, a house on the right bank of the river Oslava 1 km WNW of a bridge, along a green-marked tourist path, 49°08'40"N, 16°11'31"E, alt. 350 m (22 April 2016).
**10.** Lhánice, Kozének Nature Monument, stone debris in a meadow yard, 49°06'40.5"N, 16°14'40"E, alt. 365 m (24 April 2016).
**11.** Mohelno, along the road near the Dukovanský mlýn Nature Reserve, pine forest on a W-facing slope above the Mohelno-dam, valley of river Jihlava, 49°06'01"N, 16°10'41"E, alt. 315 m (23 April 2016).

## LIST OF SPECIES

**Substrates: Acm** – *Acer campestre*, **Apl** – *Acer platanoides*, **as** – acidic soil, **Ber** – *Berberis vulgaris*, **cs** – calcareous soil, **Car** – *Carpinus betulus*, **Cav** – *Cerasus avium*, **Cra** – *Cratageus* sp., **dw** – dead/decaying wood, **esr** – Ca-enriched siliceous stone/rock, **Fag** – *Fagus sylvatica*, **Fra** – *Fraxinus excelsior*, **gra** – granulite rock, **hum** – humus, **isr** – inundated siliceous rock, **Jug** – *Juglans regia*, **Lar** – *Larix decidua*, **Mal** – *Malus domestica*, **mor** – mortar, **mos** – mosses, **Pic** – *Picea abies*, **Pin** – *Pinus sylvestris*, **Pru** – *Prunus domestica*, **Qpt** – *Quercus petraea*, **Que** – *Quercus* sp., **Ros** – *Rosa* sp., **rub** – rubber, **s** – soil, **Sal** – *Salix* sp., **Sam** – *Sambucus nigra*, **ser** – serpentinite, **sil** – siliceous rock, **Sor** – *Sorbus aucuparia*, **Til** – *Tilia* sp., **Ulm** – *Ulmus* sp.

#*Abrothallus caerulescens* I. Kotte – 6 (*Xanthoparmelia*) FBe
*Absconditella delutula* (NT) – 1h (sil) JH, **4** (dw) JV
*Absconditella lignicola* (LC) – 1b (dw) JH, 1h (dw) JH, 3 (dw) CE, **4** (dw)
*Acarospora gallica* (DD) – 1 (ser) ZP [Knudsen & Kocourková 2012]
*Acarospora fuscata* [incl. *A. gallica*] (LC) – 1 (ser), 1b (sil), 1f (sil), 1g (sil), 5 (gra)
*Acarospora nitrophila* sensu Wirth et al. 2013 (LC) – 1b (sil) JH, 1c (isr) JH, 1c (ser) JH, 1d (ser) JH, 1g (sil) JH, 1i (sil)
*Acarospora oligospora* (DD) – 7 (gra) JM
*Acrocordia gemmata* (EN) – 1b (Acm) JH, 1i (Acm, Apl) JH, **4** (Apl, Aps, Que), 5 (Qpt)
*Agonimia allobata* (DD) – **4** (Car) ZP
*Agonimia flabelliformis* J. Halda, Czarnota & Guz.-Krzemiń. – 2 (mos) CE, **4** (Car)
*Agonimia globulifera* (DD) – 1c (hum) ZP, **4** (cf.; Que) ZP
*Agonimia opuntiella* (NT) – 1 (mos), 1c (mos, lichens) JH, ZP, 7 (mos) FBe, JŠ
*Agonimia repleta* (DD) – **4** (Car, dw, Que) ZP

*Agonimia tristicula* (LC) – 1 (hum, mos, ser) JM, ZP, 5 (Acm), 1c (mos, ser, lichens) JH, ZP, 1d (mos) JH, 1e (mor, mos, ser) JH, 1f (ser), 3 (Que) JŠ
*Amandinea punctata* (LC) – 1 (ser), 1a (Que) JH, 1b (Acm, Fra, Mal, Que) JH, 1c (Fra), 1d (Fra), 1e (Que), 1f (dw), 1h (Sam), 3 (Que) JŠ, **4** (Apl, Pic, Que), 5 (Til)
#*Anisomeridium macrocarpum* (Körb.) V. Wirth – 3 (Til) JŠ, **4** (Car, Til) ZP
*Anisomeridium polypori* (LC) – 1 (Acm), 1a (Acm, Cra, Fra, Sal) JH, 1c (Car), 1f (Acm) JH, 1f (Sam) JH, 1h (Sam), 1i (Car, Fra, Sal) JH, **4** (Apl, Aps, Car, Que, Sam)
*Arthonia atra* (EN) – 1i (Acm, Apl, Car) JH, 1j (Car), **4** (Car) JV
*Arthonia byssacea* (RE→CR) – **4** (Que) JM, ZP, JV
*Arthonia didyma* (VU) – 3 (Car) JV, (Til) JŠ, **4** (Car, Que) ZP, JV
*Arthonia dispersa* (EN) – 3 (Que twigs) JV (sub *A. excipienda*)
*Arthonia endlicheri* (CR) – **4** (Til, Ulm) JV (always on sun-lit trees growing on rocks, on trunk bases close to bedrock; in the same locality recorded earlier – see Šoun et al. 2015)
*Arthonia helvola* (VU) – **4** (Fag, Pic) JM
*Arthonia mediella* (VU) – 3 (Que) JŠ, JV, **4** (Ulm)
*Arthonia muscigena* (NT) – **4** (Car) JV
*Arthonia radiata* (VU) – 3 (Car) JŠ, **4** (Car, Fag)
*Arthonia ruana* (VU) – 1h (Car), 1i (Car, Que), **4** (Car)
*Arthonia spadicea* (NT) – 1i (Acm, Car) JH, 3 (Til) JŠ, **4** (Car)
#*Arthopyrenia* cf. *analepta* (Ach.) A. Massal. – **4** (Til) JV
#*Arthopyrenia punctiformis* A. Massal. – 3 (Que twigs) JŠ, JV, **4** (Til) FB
*Arthopyrenia salicis* (DD) – **4** (Apl, Car, Til) JM, JV
*Arthrorhaphis citrinella* (LC) – 1b (hum)
*Aspicilia caesiocinerea* (LC) – 1 (ser), 1b (sil) JH, 1c (isr, ser, sil) JH, 1d (ser) JH, 1e (ser) JH, 1f (ser) JH, 1g (sil) JH, 1h (sil) JH, 5 (gra) JM
*Aspicilia calcarea* (LC) – 5 (mor)
*Aspicilia contorta* (LC) – 1 (ser) ZP, PU, 1a (ser, mor), 1b (sil) JH, 1c (ser) JH, 1d (ser) JH, 1e (mor, ser), 1f (ser), 1h (sil), 1i (sil) JH
*Aspicilia goettweigensis* (Zahlbr.) Hue – 5 (gra) JM, 7 (esr) JM*
*Bacidia bagliettoana* (LC) – 1 (mos)
*Bacidia circumspecta* (CR) – **4** (Que) ZP
*Bacidia fraxinea* (EN) – **4** (Apl) JV
*Bacidia incompta* (CR) – **4** (Fag) ZP
*Bacidia laurocerasi* (RE→CR) – **4** (Car) ZP
*Bacidia pycnidiata* (DD) – 11 (mos/hum) CE, ZP
*Bacidia rosella* (EN) – 3 (Apl) FBe, **4** (Apse, Fag) JV
*Bacidia rubella* (VU) – 1b (Acm) JH, 1f (Acm) JH, 1i (Acm, Apl) JH, 3 (Que) JŠ, **4** (Apl, Apl, Car, Fag, Que), 5 (Acm, Qpt)
*Bacidia subincompta* (VU) – 1h (Acm) JH, 1i (Acm) JH, 3 (Apl) CE, JV, **4** (Apl, Car, Que) ZP
*Bacidia trachona* (VU) – 2 (ser) ZP, 3 (sil) JŠ, **4** (Car, dw) FB

*Bacidina adastra* (DD) – 5 (Acm) JM*
*Bacidina chloroticula* (LC) – **4** (Car) ZP
*Bacidina inundata* (VU) – 1c (isr), 1f (isr), 1i (isr) JH
*Bacidina phacodes* (EN) – **4** (Fag) ZP, JV
*Bacidina sulphurella* (LC) – 1a (Acm), 1b (sil), 1c (ser), 1f (dw), 1h (Apl) JH, 1i (Car, Fra) JH, **4** (Car)
*Baeomyces rufus* (LC) – 1g (as, hum), 1g (sil)
*Belonia russula* (EN) – 2 (ser) CE
*Biatora globulosa* (VU) – 3 (Que) JV
*Biatora pontica* Printzen & Tønsberg – **4** (Apl, Car, Que, Til) JM*, ZP3*
*Biatora veteranorum* (EN) – **4** (dw) FB
*Biatoridium monasteriense* (VU) – 3 (Apl) JŠ, **4** (Apl), 5 (Acm) JM
*Bilimbia fuscoviridis* (LC) – 1d (ser) ZP
*Bilimbia sabuletorum* (LC) – 1 (mos), 1c (mos, ser) JH, 1d (mos, ser) JH, 1e (ser), 1f (ser), 3 (Que) JŠ, JV
*Botryolepraria lesdainii* (NT) – 5 (mor) JM
*Buellia aethalea* (LC) – 1b (sil) JH, 1i (sil) JH, 5 (esr)
*Buellia badia* (NT) – 7 (gra) JM
*Buellia griseovirens* (LC) – 1 (dw, Que), 1b (Qpt) JH, 3 (Car) JV, **4** (Car, Fag, Til)
*Buellia violaceofusca* G. Thor & Muhr – **4** (Apl; recorded earlier on the same tree – see Šoun et al. 2015)
*Calicium adspersum* (EN) – **4** (Car, Qpet) FB
*Calicium glaucellum* (NT) – 3 (Que) FBe
*Calicium salicinum* (VU) – 3 (Car) JV, **4** (Apl, Car, Que) JV
*Caloplaca albolutescens* (VU) – 5 (mor)
*Caloplaca arnoldii* (CR) – 1 (ser) JM, ZP, 1c (ser) JH, 1d (ser) JH, 5 (esr)
*Caloplaca citrina* agg. (LC) – 1b (sil), 1c (ser), 1d (ser) JH, 1f (ser) JH
*Caloplaca conversa* (CR) – 1c (ser) ZP
*Caloplaca crenulatella* (LC) – 1d (ser) JH, 7 (gra) JM
*Caloplaca decipiens* (LC) – 1e (ser), 5 (mor)
*Caloplaca demissa* (NT) – 1 (ser) JM, ZP, 1c (ser) JH, 1d (ser) JH, 5 (gra), 7 (esr)
*Caloplaca flavocitrina* (LC) – 1 (ser) ZP, 1b (sil) JH, 1d (ser) JH, 5 (mor)
*Caloplaca flavovirescens* (NT) – 1 (ser) JM, 1c (ser)
*Caloplaca grimmiae* (NT) – 1 (*Candelariella*), 1c (ser), 1d (ser)
*Caloplaca holocarpa* (LC) – 1e (ser) JH, 5 (esr), 7 (sil) JŠ
*Caloplaca chlorina* (LC) – 1 (ser), 1b (sil) JH, 1c (ser) JH, 1d (ser) JH
*Caloplaca chrysodeta* (NT) – 1d (ser), 1e (ser), 1f (ser), 1h (sil)
*Caloplaca irrubescens* (VU) – 1 (ser) CE, 1c (ser)
*Caloplaca lucifuga* (EN) – **4** (Qpet) JM, JV
*Caloplaca monacensis* (DD) – 5 (Acm, Que) FBe
*Caloplaca oasis* (DD) – 1b (sil), 1e (mor), 5 (mor),
*Caloplaca obscurella* (NT) – 1 (Acm), 3 (Que) JŠ, **4** (Apl, Que) ZP, 5 (Acm, Qpt)
*Caloplaca pyracea* (LC) – 1 (Fra, Sam)

*Caloplaca subpallida* s. l. (VU; incl. *C. oxfordensis*) – 1 (ser) JM, 1c (ser) JH, 1d (ser) JH, 7 (sil) JŠ
*Caloplaca substerilis* Vondrák, Palice & van den Boom – **4** (Fag, Que) ZP, JV
*Caloplaca velana* (LC) – 5 (mor)
*Caloplaca viridirufa* (VU) – 1a (ser) JM, ZP, 1c (ser) JH, 1d (ser) JH, PU, 5 (esr, gra) JV
*Caloplaca xerica* (VU) – 1 (ser), 1c (ser), 7 (esr) JM, JŠ
*Candelaria concolor* (NT) – 1 (ser), 1c (ser) JH
*Candelariella aurella* (LC) – 1 (ser) ZP, 1a (sil), 1b (sil), 1c (ser), 1d (ser) JH, 1e (ser) JH, 1f (ser), 1h (sil), 5 (mor)
*Candelariella coralliza* (LC) – 1 (ser), 1c (ser) JH, 1e (ser), 1f (ser)
*Candelariella efflorescens* agg. – 1 (Pru), 1b (sil) JH, 1c (ser), 1d (Fra), **4** (Car, Que)
*Candelariella vitellina* (LC) – 1 (ser), 1b (mor) JH, 1c (ser) JH, 1d (hum, ser) JH, 1e (ser) JH, 1f (ser) JH, 1g (sil), 5 (esr), 7 (sil) JŠ
*Candelariella xanthostigma* (LC) – 1a (Acm), 1a (Que) JH, 1b (Fra), 1c (Fra, Sal, Sam), 1d (Aps), 1e (Que) JH, 1f (dw), 1g (sil) JH, 1h (Sam), 3 (Fag) PU, **4** (Apl, Que), 5 (Qpt)
*Catillaria atomarioides* (Müll. Arg.) H. Kilias – 1 (ser) JM, 1c (ser) ZP, 1d (ser) JH
*Catillaria chalybeia* (NT) – 1 (ser) ZP, 1c (ser), 1d (ser) JH, JM, 5 (esr) JM
*Catillaria lenticularis* (NT) – 1d (ser) ZP
*Catillaria nigroclavata* (VU) – 1 (Ber), **4** (Car)
*Cetraria islandica* (NT) – 1f (hum) JH, 5 (hum)
*Cetrelia monachorum* (DD) – **4** (Que)
*Chaenotheca brachypoda* (VU) – **4** (Apse)
*Chaenotheca brunneola* (NT) – 1b (dw) JH, **4** (dw) JM
*Chaenotheca chlorella* (EN) – **4** (Apl, Ulm) JV
*Chaenotheca chrysocephala* (NT) – 1b (Pic), 1g (Que), 1i (Apl, Car), **4** (Apse, Pic, Ulm), 5 (Qpt)
*Chaenotheca ferruginea* (LC) – 1b (dw, Pic), 1g (Que), 1h (Lar, Que), 1i (Acm, Apl, Car, dw, Que, Til), 3 (Que) PU, **4** (Apse, Car, Que, Til, Ulm), 5 (Qpt)
*Chaenotheca furfuracea* (LC) – 1c (Sal), 1i (Car, dw, hum, Til) JH, 1j (dw, Que), **4** (dw, Pic, Ulm)
*Chaenotheca hispidula* (EN) – **4** (Que) ZP
*Chaenotheca phaeocephala* (VU) – 3 (Que) JV, **4** (Que, Ulm) FB, JM, ZP
*Chaenotheca stemonea* (VU) – **4** (Apse, Pic), 5 (Que)
*Chaenotheca trichialis* (NT) – 1b (Pic), 1h (Car, Til), 1i (Acm, Apl, Car, dw) JH, 1j (Que), 3 (Que) FBe, JŠ, **4** (Apl, Apse, dw, Que, Ulm), 5 (Qpt)
*Chaenotheca xyloxena* (VU) – **4** (dw)
*Chrysothrix candelaris* (VU) – **4** (Apl, Que, Til)
*Chrysothrix chlorina* (LC) – 1 (sil), 1f (ser, sil) JH, 1g (sil) JH, 1h (sil) JH
*Cladonia arbuscula* agg. (NT) – 1c (hum) JH, 1f (hum), 1g (hum) JH, 5 (as) FBe

*Cladonia caespiticia* (NT) – 1c (hum) JH, 1f (hum) JH, 1g (hum) JH
*Cladonia cervicornis* (VU) – 1d (hum) JH, 1f (hum) JH, 1f (mos) JH, 1g (hum) JH
*Cladonia chlorophaea* agg. – 1a (hum), 1b (hum) JH, 1c (hum) JH, 1d (mos) JH, 1g (hum) JH
*Cladonia coniocraea* (LC) – 1b (dw) JH, **4** (dw)
*Cladonia digitata* (LC) – 1 (dw), **4** (dw)
*Cladonia diversa* (NT) – 1f (hum) JH
*Cladonia fimbriata* (LC) – 1 (s), 1b (hum) JH, 1d (hum) JH, 1f (hum) JH, **4** (Que, Til), 5 (dw)
*Cladonia foliacea* (NT) – 1 (s), 1a (hum), 1b (hum) JH, 1c (hum), 1d (hum) JH, 1f (hum) JH
*Cladonia furcata* (LC) – 1b (hum) JH, 1c (mos), 1d (hum) JH, 1f (hum) JH, 1g (hum) JH, 1h (hum) JH, 1i (hum) JH, 7 (as) FBe
*Cladonia glauca* (VU) – 6 (as) JM
*Cladonia gracilis* (LC) – 1c (hum) JH
*Cladonia macilenta* (LC) – 1 (dw), 1b (as, dw), 1d (dw), 1f (dw), 1g (hum) JH, 1h (dw), **4** (dw)
*Cladonia merochlorophaea* (DD) – 1 (s)
*Cladonia parasitica* (EN) – **4** (dw) JM
*Cladonia pleurota* (LC) – 1g (dw)
*Cladonia pocillum* (LC) – 1b (hum) JH
*Cladonia portentosa* (EN) – 11 (hum) ZP, PU
*Cladonia pyxidata* (LC) – 1 (s), 1c (hum), 1d (hum)
*Cladonia ramulosa* (NT) – 1g (hum) JH , 5 (hum)
*Cladonia rangiferina* (NT) – 1b (hum), 1c (hum), 1f (hum) JH, 1g (hum, mos) JH
*Cladonia rangiformis* (NT) – 1 (s), 1a (hum), 1b (hum) JH, 1c (hum) JH, 1d (hum) JH, 1f (hum) JH, 1h (hum) JH
*Cladonia rei* (LC) – 1d (hum) JH, 1f (hum) JH
*Cladonia squamosa* (LC) – 1g (hum) JH
*Cladonia subulata* (LC) – 1 (s) JM
*Cladonia symphycarpa* (VU) – 1 (hum, s) ZP, 1b (hum) JH
#*Clypeococcum cetrariae* Hafellner – 5 (*Cetraria islandica*) FBe
*Coenogonium pineti* (LC) – 1a (Acm), 1c (Acm, dw, Til), 1f (Ulm), 1h (Apl), 1i (Apl, Aps, Car, Fra, Sal, Til, dw) JH, 1j (Pic), **4** (Car, dw, Que)
*Collema crispum* (NT) – 1c (ser), 1d (as) JH, 7 (esr) JM
*Collema flaccidum* (NT) – 1 (ser) ZP, 1c (isr) JH, 1d (ser) JH
*Collema fuscovirens* (LC) – 1e (ser) JH
*Collema polycarpon* (VU) – 1d (ser) JH
*Dendrographa decolorans* (Turner & Borrer) Ertz & Tehler – **4** (Que)
*Dermatocarpon miniatum* (NT) – 1c (ser), 1d (ser), 1e (ser), 1f (ser)
*Dimelaena oreina* (VU) – 7 (gra) JM, JŠ
*Diploschistes muscorum* (LC) – 1 (mos), 1d (mos) JH
*Diploschistes scruposus* (LC) – 1 (ser), 1a (sil), 1c (ser), 1d (ser), 1e (ser), 1f (ser)

*Diplotomma porphyricum* Arnold – 1 (ser) JH, 5 (esr) JM
*Endocarpon pusillum* (NT) – 1e (cs) JH
*Endocarpon psorodeum* (EN) – 1c (ser) JH, ZP, 7 (gra) JM
*Enterographa hutchinsiae* (EN) – **4** (Car) ZP, JV
*Enterographa zonata* (VU) – 1c (sil) JH, 1f (ser) JH, 1g (sil) JH, 1h (sil) JH, 1i (sil), **4** (Car) ZP
*Evernia prunastri* (NT) – 1 (Pru), 1a (dw) JH, 1c (Que), **4** (Que), 5 (Qpt)
*Fellhanera bouteillei* (CR) – 10 (sil) ZP
*Flavoparmelia caperata* (EN) – **4** (Que)
*Fuscidea cyathoides* (NT) – 1g (sil) JH, 3 (sil) JV, 6 (gra)
*Graphis scripta* (VU) – 1c (Car), 1h (Car) JH, 1i (Car, Que) JH, 1j (Car), 3 (Car) JŠ, **4** (Car, Fag)
*Gyalecta flotowii* (CR) – 3 (Apl) FBe
*Gyalecta jenensis* (LC) – 1a (sil)
*Halecania viridescens* (DD) – 1 (Pru)
*Harpidium rutilans* – 1 (ser) ZP (confirmation of the species in 2010 since the discovery by Vězda 1972 and Wirth 1972)
*Hypocenomyce caradocensis* (LC) – 1b (Pic), **4** (Pin)
*Hypocenomyce friesii* (EN) – 3 (dw) FBe, 6 (dw) FB, JM
*Hypocenomyce scalaris* (LC) – 1 (dw, Pin) ZP, **4** (dw, Pic, Que), 5 (Til)
*Hypogymnia farinacea* (VU) – 1b (Pic)
*Hypogymnia physodes* (LC) – 1 (dw, Pru) ZP, **4** (Car, Que, Til), 5 (Qpt)
*Hypogymnia tubulosa* (NT) – 1 (Pru), 1h (Que), **4** (Que)
*Immersaria athroocarpa* (DD) – 6 (gra) JM*
*Imshaugia aleurites* (VU) – 1 (dw) JM, 1b (Pic), 1g (dw, Pin) JH, 3 (dw) JŠ
#*Karschia cezannei* Ertz & Diederich – **4** (Que) ZP
*Lasallia pustulata* (NT) – 1b (sil) JH
*Lecania croatica* (Zahlbr.) Kotlov – **4** (Apl, Car), 5 (Acm)
*Lecania cyrtella* (LC) – 1 (Sam), 1a (Acm, Cav), 1b (Acm, Fra, Que) JH, 1c (Fra, Sal, Sam), 1d (Fra), 1e (Que), 1f (dw), 1h (Sam) JH, 1i (Sam) JH
*Lecania inundata* (DD) – 1 (ser) JM, 1d (hum, ser) JH
*Lecania naegelii* (NT) – 1 (Pru), 1b (Fra) JH, **4** (Sam)
*Lecanora albescens* (LC) – 5 (mor)
*Lecanora argentata* (NT) – 1b (Sor), 1h (Car), 1i (Car), 3 (Car) JŠ, **4** (Apl, Ase, Car) ZP, 8 (Fag) PU
*Lecanora campestris* (NT) – 1 (ser) JM, 1b (sil), 1c (sil) JH, 1e (mor), 1e (ser), 1f (ser), 5 (esr) JM, 7 (esr) JM
*Lecanora chlarotera* (LC) – 5 (Qpt)
*Lecanora conizaeoides* (LC) – 1 (Pin), 1a (dw) JH, 1c (dw) JH, 1i (dw) JH, **4** (Pin, Que), 5 (Qpt)
*Lecanora dispersa* agg. (LC) – 1 (ser), 1a (mor, sil), 1b (mor) JH, 1d (ser) JH, 1e (ser) JH
*Lecanora expallens* (LC) – 1 (Pru), 1a (Jug), 1b (Que) JH, 1c (Acm, Sal, Til), 1d (Fra, Que), 1f (Que), 1i (Apl, Aps, Fra, Que, Til), 1j (Que), **4** (Apl, Apse, Car, Fag, Pic, Que, Til) JM3*, ZP2*, 5 (Acm, Qpt), 6 (dw) JM

*Lecanora glabrata* (DD) – **4** (Car) FB, JM
*Lecanora hagenii* (NT) – 7 (esr)
*Lecanora intumescens* (VU) – **4** (Car) JM
*Lecanora laatokkaënsis* (DD) – 1 (ser) ZP
*Lecanora leptyrodes* (DD) – **4** (Car)
*Lecanora persimilis* (NT) – 1 (Sam)
*Lecanora phaeostigma* (DD) – 6 (dw) JM
*Lecanora polytropa* (LC) – 1 (ser), 1b (sil) JH, 1c (sil), 1f (sil), 1g (sil) JH, 1h (sil)
*Lecanora pulicaris* (LC) – 1b (Qpt), 1d (Aps), 1i (Car) JH, **4** (Car)
*Lecanora rupicola* (LC) – 1 (sil), 5 (gra), 1b (sil) JH, 1c (ser) JH, 1g (sil) JH
*Lecanora sambuci* (NT) – 1 (Sam) JM
*Lecanora saxicola* (LC) – 1 (ser), 1a (sil), 1b (mor, sil), 1c (ser), 1d (ser) JH, 1f (ser), 1i (sil), 5 (gra), 10 (sil)
*Lecanora semipallida* (DD) – 1b (mor) JH
*Lecanora symmicta* (NT) – 1 (*Lonicera*), 1c (dw)
*Lecidea fuscoatra* (LC) – 1b (sil), 1f (sil)
*Lecidea lapicida* (NT) – 1c (sil) JH, 1g (sil)
*Lecidea lithophila* (NT) – 1b (sil) JH, 1g (sil) JH
*Lecidea nylanderi* (VU) – 1b (sil) JH
*Lecidea pullata* (NT) – 1b (Pic)
*Lecidella albida* Hafellner – **4** (Que) JM*
*Lecidella carpathica* (LC) – 1 (ser), 1b (sil), 1c (ser) JH, 1d (ser) JH, 1e (mor, ser) JH, 1f (ser), 5 (esr)
*Lecidella elaeochroma* (NT) – 1b (Fra), 1i (Car), **4** (Apse, Car)
*Lecidella stigmatea* (LC) – 1 (ser), 1a (mor), 1b (sil) JH, 1c (ser), 1d (ser), 7 (esr)
*Lemmopsis arnoldiana* (Hepp) Zahlbr. – 1 (ser) ZP
*Lempholemma chalazanum* (VU) – 1e (ca) JH
*Lepraria borealis* (LC) – 1 (ser) JM
*Lepraria elobata* (LC) – 1i (Acm, Car) JH
*Lepraria finkii* (B. de Lesd.) R. C. Harris (LC) – 1 (Cra, Pin) JM*, **4** (Apse, Car, Que, Til), 5 (Qpt)
*Lepraria incana* (LC) – 1b (Sor), 1h (Car) JH, 1i (Aln) JH, **4** (Apse, Car, Fag, Que, Pic, Til) JV, 5 (Til)
*Lepraria jackii* (NT) – 1 (hum, Pin) JM*, **4** (Car, Pic)
*Lepraria membranacea* (LC) – 1b (sil) JH, 1c (ser), 1d (hum, mos, ser) JH, 1e (ser), 1f (cs, ser) JH, 1g (dw, hum, mos, Que, sil) JH, 5 (gra)
*Lepraria rigidula* (LC) – **4** (Car)
*Lepraria vouauxii* (LC) – **4** (Que), 5 (Acm)
*Leprocaulon microscopicum* (NT) – 1a (ser) PU
*Leptogium magnussonii* (DD) – 1c (ser) JH, JM, ZP, 1d (ser) JH, 7 (mos-esr) JM
*Leptogium plicatile* (VU) – 1 (ser) JH, 7 (mos) FBe, JŠ
*Leptogium pulvinatum* (LC) – 1 (cs), **4** (dw, mos) JV, 7 (mos-esr) JM, 1c (mos, ser) JH

*Leptogium tenuissimum* (VU) – 1 (hum, ser) JM (det. A. Guttová), 1d (cs) JH
#*Lichenoconium lecanorae* (Jaap) D. Hawksw. – 6 (*Melanelixia disjuncta*) FBe, 7 (*Xanthoparmelia*) FBe
#*Lichenoconium pyxidatae* (Oudem.) Petr. & Syd. – 6 (*Cladonia*) FBe
*Lichinella nigritella* (EN) – 7 (esr) JM
*Lichinella stipatula* (CR) – 1c (ser) CE, JH, JM, ZP, PU, 1d (ser) JH
*Lobothallia alphoplaca* (VU) – 1 (ser)
*Lobothallia radiosa* (LC) – 1c (ser) ZP, 5 (esr, gra) JM, 1f (ser)
*Macentina abscondita* (LC) – **4** (Que) ZP
*Melanelia disjuncta* (NT) – 6 (gra)
*Melanelixia fuliginosa* (LC) – 5 (gra) JM
*Melanelixia glabra* (CR) – 1 (Pru), 5 (Qpt, Til), 9 (Apl) PU
*Melanelixia glabratula* (Lamy) Sandler & Arup – 1a (Cav, Fra, Jug), 1b (Que), 1c (Apl) JH, 1e (Que) JH, 1f (Acm) JH, 1g (Sal) JH, 1h (Sal) JH, 1i (Aln, Sal) JH, **4** (Car)
*Melanelixia subargentifera* (VU) – 9 (Apl) PU
*Melanelixia subaurifera* (VU) – 1 (Pru), 1a (Que) JH, 1b (Ros) JH, **4** (Car, Til)
*Melanohalea exasperata* (EN) – 3 (Fag) PU, 1a (Fra) JH
*Melanohalea exasperatula* (LC) – 1 (Pru), 1g (Sal) JH
*Micarea byssacea* (NT) – **4** (dw, Que) JM2*
*Micarea denigrata* (LC) – 1 (dw) ZP, 1b (dw), 1c (dw) JH, 1h (dw), 1i (Apl, dw) JH, 3 (dw) JŠ, 5 (dw)
*Micarea inconspicua* ined. – **4** (dw) JM, JV
*Micarea lignaria* (LC) – **4** (dw)
*Micarea melaena* (LC) – 3 (dw) CE, JŠ, **4** (dw) JM, JV
*Micarea micrococca* (LC) – 1a (Sal) JH, 1d (ser) JH, 1i (dw, Fra) JH, 1j (Pic), **4** (dw)
*Micarea misella* (LC) – 1 (dw), 1b (Qpt) JH, 3 (dw) CE, **4** (dw) JV
*Micarea peliocarpa* (LC) – 1f (dw) JH, 1i (dw) JH
*Micarea soralifera* Guz.-Krzemiń., Czarnota, Łubek & Kukwa – **4** (dw) ZP
*Micarea substipitata* ined. – **4** (dw) JV
*Micarea sylvicola* (LC) – 1h (sil) JH
#*Microcalicium disseminatum* (Ach.) Vain. – **4** (Pic, Que, Til) FB, JM, ZP, JV
*Mycobilimbia epixanthoides* (EN) – **4** (mos-Til) JV (specimen confirmed by an ITS sequence)
*Mycoblastus fucatus* (LC) – 1b (Pic, Sor), **4** (Car) ZP
#*Mycocalicium subtile* (Pers.) Szatala – 1 (ser) CE
*Normandina acroglypta* (DD) – 1c (ser) ZP
*Ochrolechia bahusiensis* (DD) – **4** (Que) JM*
*Ochrolechia turneri* (VU) – **4** (Que) ZP*, 5 (Qpt) JM*
*Opegrapha gyrocarpa* (LC) – 1b (sil), 1g (sil), 1h (sil), 1i (sil)
*Opegrapha niveoatra* (NT) – **4** (Apse, Car) JV, ZP

*Opegrapha rufescens* (VU) – 3 (Que) JŠ, **4** (Apse, Car, Que) JV
*Opegrapha varia* (NT) – 3 (Car) CE, JŠ, **4** (Apl, Car, Que) JV
*Opegrapha vermicellifera* (VU) – 1h (Apl), 1i (Aps, Car) JH, 3 (Til) JŠ, **4** (Apl, Apse, Car, Ulm)
*Opegrapha viridis* (EN) – 1i (Car) JH, **4** (Car) JV,
*Opegrapha vulgata* (NT) – 3 (dw) CE, **4** (Car) JV
*Parmelia omphalodes* (NT) – 1a (sil), 1g (sil), 1i (sil)
*Parmelia pinnatifida* (DD) – 6 (gra)
*Parmelia saxatilis* (LC) – 1a (sil), 1b (dw, sil) JH, 1c (ser), 1f (ser, sil) JH, 1g (dw, hum, sil) JH, 1i (sil) JH
*Parmelia sulcata* (LC) – 1 (Pru), 1a (Cav, dw, Jug), JH, 1b (Acm, Mal, Que), 1c (Fra, Que, Sal, Sam, ser), 1d (Fra, Pin, ser), 1e (Que), 1f (dw), 1h (Que), 1i (dw), **4** (Car, Que, Til), 5 (Acm), 9 (Apl) PU
*Parmelina tiliacea* (NT) – 1 (ser), 1b (sil) JH, 1f (ser) JH
*Parmeliopsis ambigua* (LC) – 1b (Pic, Sor), 1c (dw), 1d (dw), 1g (sil), 3 (sil) JŠ, **4** (dw)
*Parmeliopsis hyperopta* (NT) – 1b (Pic)
*Peccania cernohorskyi* (CR) – 1d (ser)
*Peltigera didactyla* s. str. (LC) – **4** (dw), 7 (mos) JŠ
*Peltigera horizontalis* (EN) – **4** (Ulm), 11 (hum) ZP
*Peltigera polydactylon* (EN) – 1h (mos) JH
*Peltigera praetextata* (NT) – 1a (sil), 1b (sil), 1c (hum, mos) JH, 1h (mos), 3 (as) PU, JŠ, **4** (dw, mos, Que)
*Peltigera rufescens* (NT) – 1d (mos) JH, 7 (mos) JŠ
*Peltula euploca* (EN) – 1d (ser) JH, 7 (esr) JM
*Pertusaria albescens* (NT) – 1a (Fra), 1i (Que) JH, **4** (Car), 5 (Qpt)
*Pertusaria amara* (NT) – 1i (Que, Til), **4** (Car, Que), 9 (Apl) PU
*Pertusaria coccodes* (VU) – 3 (Que) JŠ, **4** (Car, Que) ZP
*Pertusaria coronata* (VU) – **4** (Que) ZP
*Pertusaria lactea* (NT) – 1f (ser) JH, 1g (sil) JH, 1h (sil) JH, 1i (sil) JH, 6 (gra)
*Pertusaria leioplaca* (VU) – 1h (Apl, Car), 1i (Car, Fra, Que) JH, 1j (Car), **4** (Car, Fag)
*Pertusaria pertusa* (EN) – 1g (sil) JH
*Phaeophyscia chloantha* (EN) – 1 (ser), 1c (ser) JH
*Phaeophyscia endophoenicea* (EN) – **4** (Car)
*Phaeophyscia nigricans* (LC) – 1 (Sam), 1c (sil) JH, 3 (Fag) PU, 5 (Acm)
*Phaeophyscia orbicularis* (LC) – 1 (Pru, ser) ZP, 1a (Jug, Que) JH, 1b (Acm, Fra, Mal, mor, sil) JH, 1c (Car, Fra, Sal, Sam, ser) JH, 1d (Fra, ser) JH, 1f (dw), 1h (Que), **4** (Til), 5 (Til)
*Phaeophyscia pusilloides* (RE→CR) – 1 (Fra, Pru) JM, FB
*Phaeophyscia sciastra* (NT) – 1 (ser), 1e (ser), 1f (ser)
*Phlyctis argena* (LC) – 1 (Pru), 1a (Cav, Fra), 1b (sil) JH, 1h (Apl) JH, 1i (Aln, Fra) JH, 1j (Que) JH, 3 (Fag) PU, (Que) JŠ, **4** (Car, Que), 5 (Qpt)
*Physcia adscendens* (LC) – 1 (Pru), 1a (Que) JH, 1b (sil) JH, **4** (Apl, Til)
*Physcia aipolia* (EN) – 1b (Acm, Ros) JH

*Physcia caesia* (LC) – 1 (ser), 1a (sil), 1b (mor, sil), 1c (ser, sil) JH, 1d (ser), 1e (ser), 1f (ser) JH, 1i (sil) JH
*Physcia dimidiata* (NT) – 1d (hum) JH, 5 (esr)
*Physcia dubia* (LC) – 1a (Acm, Fra), 1b (Acm, sil) JH, 1c (Sal, ser, sil) JH, 1d (ser), 1e (Que, ser) JH, 1f (ser), 1h (sil), **4** (Car)
*Physcia stellaris* (VU) – 1 (Pru)
*Physcia tenella* (LC) – 1 (Pru), 1a (Jug, Que), 1b (Acm, Fra, Mal, Cal), 1c (Fra, Sal, Sam), 1d (Aps, Fra), 1e (Que), 1f (dw), 1h (Que, Sam), **4** (Car, Til), 5 (Acm)
*Physcia wainioi* (LC) – 1 (ser) JM, 1b (sil) JH
*Physconia enteroxantha* (NT) – 1a (Jug), 1c (Fra), 1e (Que) JH, 9 (Apl) PU
*Physconia grisea* (LC) – 1d (hum) JH, 9 (Apl) PU
*Physconia perisidiosa* (VU) – 1 (Pru), 1a (Fra) JH, 1c (Sal) JH, **4** (Apl, Que), 9 (Apl) PU
*Piccolia ochrophora* (NT) – 1 (Sam)
*Placopyrenium fuscellum* (VU) – 1c (ser) JH, 1d (ser) JH
*Placynthiella dasaea* (LC) – 1h (dw), 1i (dw)
*Placynthiella icmalea* (LC) – 1 (hum), 1a (dw), 1b (as, dw) JH, 1f (dw, hum), 1g (dw), 1h (dw), 1i (dw) JH, 1j (dw), 3 (dw) JŠ, **4** (dw), 5 (dw)
*Placynthiella oligotropha* (LC) – 1d (hum) JH
*Placynthiella uliginosa* (LC) – **4** (dw) JM, ZP
*Placynthium nigrum* (NT) – 1c (ser) JH, 1d (ser)
*Platismatia glauca* (NT) – 1b (Pic, Sor), 1f (ser) JH, **4** (Car, dw, Que)
*Polysporina simplex* (LC) – 1b (sil) JH, 1c (isr) JH, 5 (esr)
*Porina aenea* (LC) – 1a (Acm), 1c (Acm, dw, Til), 1d (Fra), 1h (Apl), 1i (Aln, Aps, Fra, Sal, Car) JH, **4** (Apse, Car, Fag, Pic)
*Porina chlorotica* (LC) – 1b (sil) JH, 1d (ser) JH, 1g (sil), 1h (sil) JH, 1i (sil) JH, 1j (sil), 2 (ser) ZP, 3 (sil) JŠ
*Porpidia crustulata* (LC) – 1b (sil), 1g (sil), 1h (sil), 1i (sil)
*Porpidia macrocarpa* (LC) – 1g (sil)
*Porpidia nadvornikiana* (EN) – 2 (ser) CE, ZP, PU (apparently in the same locality recorded earlier – see Palice et al. 2005)
*Porpidia soredizodes* (LC) – 1g (sil) JH
*Protoblastenia rupestris* (LC) – 1c (ser) JH, 1d (ser) JH, 1e (ser), 1f (ser)
*Pseudevernia furfuracea* (NT) – 1 (Pru), 1a (dw) JH, 1b (Pic, Sor), **4** (Car), 5 (Qpt)
*Psilolechia lucida* (LC) – 1f (ser) JH, 1g (sil) JH, 1h (sil), 1i (sil), 1j (sil)
*Pterygiopsis umbilicata* (CR) – 7 (esr) JM (confirmation of earlier records by Vězda 1978 and Šoun et al. 2015)
*Pycnora sorophora* (NT) – 1 (dw) ZP, 3 (dw) JŠ
*Pyrenula nitida* (EN) – 1h (Car) JH, 1i (Car), 1j (Car), **4** (Apse, Car, Fag), 8 (Fag) PU
*Pyrenula nitidella* (EN) – 1h (Car) JH, **4** (Car) JV
*Ramalina farinacea* (VU) – 1c (ser) JH, 1i (Que) JH, 1j (Que) JH, 9 (Apl) PU
*Ramalina pollinaria* (NT) – 1 (ser) JM*, 1b (sil), 1c (sil) JH, 1f (ser) JH, 3 (Que) PU, **4** (Apse, Car, Que) ZP, 9 (Apl) PU

*Reichlingia leopoldii* (DD) – 5 (ser) ZP
*Rhizocarpon disporum* (NT) – 1 (ser) CE, FB, 1b (sil) JH, 1c (ser) JH
*Rhizocarpon distinctum* (LC) – 1c (ser) JH, ZP
*Rhizocarpon geographicum* (LC) – 1 (ser), 1b (sil), 1c (ser), 1e (ser), 1f (ser), 1g (sil), 5 (gra)
*Rhizocarpon lecanorinum* (LC) – 1b (sil), 1c (ser) JH, 1d (ser), 1e (ser), 1f (ser)
*Rhizocarpon polycarpum* (LC) – 1 (ser) JM, 1b (sil), 1c (sil) JH
*Rhizocarpon reductum* (LC) – 1b (sil) JH, 1c (ser) JH, 1d (ser) JH, 1e (ser), 1f (ser, sil), 1g (sil) JH
*Rhizocarpon viridiatrum* (VU) – 1 (*Aspicilia*, ser) FB, JM
*Rimularia insularis* (NT) – 7 (esr) JM
*Rinodina aspersa* (NT) – 6 (gra) FBe, 10 (sil) ZP
*Rinodina bischoffii* (LC) – 1d (ser) JH
*Rinodina degeliana* Coppins – **4** (Car, dw, Til) ZP
*Rinodina efflorescens* (VU) – **4** (Que) JM
*Rinodina oleae* (LC) – 5 (mor)
*Rinodina oxydata* (NT) – 6 (gra) FBe
*Rinodina pyrina* (VU) – 1 (Sam)
*Rinodina rinodinoides* (EN) – 2 (ser) CE
*Ropalospora viridis* (LC) – **4** (Car)
*Sarcogyne clavus* (NT) – 6 (gra) FB, 7 (esr) JM
*Sarcogyne privigna* (NT) – 5 (esr) FBe, JM
*Sarcogyne regularis* (LC) – 1 (ser) ZP, 5 (mor)
*Schismatomma pericleum* (EN) – **4** (Que)
*Scoliciosporum chlorococcum* (LC) – 1 (Pin), 1a (dw) JH, 3 (Que) JV, **4** (Pin, Que)
*Scoliciosporum sarothamni* (LC) – 1 (Pru), **4** (Car, Que, Til), 5 (Til)
*Scoliciosporum umbrinum* (LC) – 1 (ser) ZP, 1a (rub) JH, 1b (sil) JH, 1c (sil) JH, 1d (ser) JH, 1f (ser), 1g (sil)
#*Sphaerellothecium reticulatum* (Zopf) Etayo – 7 (*Xanthoparmelia*) FBe
*Spilonema paradoxum* (DD) – 1 (ser) CE
*Staurothele fissa* (EN) – 1c (isr) JH
*Staurothele frustulenta* (LC) – 7 (esr) JM
*Staurothele hymenogonia* (DD) – 1d (ser) JH
*Steinia geophana* (LC) – **4** (dw) JM, JV, 5 (as) FBe, 7 (as) FBe
#*Stigmidium xanthoparmeliarum* Hafellner – 7 (*Xanthoparmelia*) FBe
*Strangospora moriformis* (NT) – 1b (Pin) JH, 3 (dw) JV
*Synalissa ramulosa* (NT) – 1d (ser) JH, 1e (ser) JH
#*Taeniolella pertusariicola* D. Hawksw. & H. Mayrhofer – 6 (*Pertusaria lactea*) FBe
#*Taeniolella punctata* M. S. Christ. & D. Hawksw. – 3 (*Graphis scripta*) JV
*Tephromela grumosa* (LC) – 1g (sil)
*Thelenella muscorum* (VU) – 1c (mos) ZP, 2 (mos-ser) CE
*Thelocarpon epibolum* (LC) – **4** (dw) FB, JM

*Thelocarpon intermediellum* (NT) – 3 (dw) CE
*Thelocarpon olivaceum* (NT) – **4** (dw) JV
*Toninia cinereovirens* (EN) – 1c (ser) CE, JM, ZP, PU
*Toninia sedifolia* (LC) – 1 (ser) JM, 1c (mos) JH, 1d (hum, mos, ser) JH
*Trapelia glebulosa* (LC) – 1b (sil) JH, 1c (isr) JH, 1g (sil)
*Trapelia placodioides* (LC) – 1 (ser), 1h (sil)
*Trapeliopsis flexuosa* (LC) – 1 (dw), 1a (dw), 1b (dw) JH, 1d (dw, Pin), 1f (hum), 1g (dw), 1h (dw), 1i (dw), 1j (dw), **4** (dw, Que)
*Trapeliopsis granulosa* (LC) – 1 (dw), 1b (dw), 1c (dw) JH, 1g (dw), 1h (dw), **4** (dw)
*Trapeliopsis pseudogranulosa* (LC) – 1b (as), 3 (as) FBe, JŠ
*Tuckermannopsis chlorophylla* (NT) – 1b (Pic)
*Usnea hirta* (VU) – 3 (Que) JŠ
*Usnea scabrata* (CR) – 1a (dw) JH
*Vahliella leucophaea* (VU) – 1c (ser)
*Verrucaria aquatilis* (VU) – 1c (isr)
*Verrucaria dolosa* (LC) – 1b (sil) JH, 1c (ser) JH, 1d (ser) JH, 1h (sil) JH, 1i (isr) JH
*Verrucaria hochstetteri* (VU) – 1 (ser) ZP
*Verrucaria macrostoma* (NT) – 1 (ser) JM
*Verrucaria muralis* (LC) – 5 (mor), 1b (sil) JH, 1c (ser), 1d (ser) JH, 1h (sil)
*Verrucaria nigrescens* (LC) – 1 (ser), 1b (sil) JH, 1c (ser) JH, 1d (ser) JH, 1e (ser), 1f (ser), 5 (mor)
*Verrucaria polysticta* (DD) – 1 (ser) JM
*Verrucaria procopii* (DD) – 1 (ser) ZP
*Verrucaria praetermissa* (VU) – 1c (isr) JH, 1f (isr), 1h (sil), 1i (isr) JH
*Verrucaria sphaerospora* (VU) – 1 (ser) JM, ZP
*Vezdaea aestivalis* (NT) – **4** (mos-Ulm) FB, JV (anamorph; see Vězda 1970)
*Vulpicida pinastri* (NT) – 1b (Pic)
# *Weddellomyces xanthoparmeliae* Calat. & Nav.-Ros. – 6 (*Xanthoparmelia*) FBe
*Xanthoparmelia conspersa* (LC) – 1 (ser), 1b (sil) JH, 1c (ser) JH, 1d (hum) JH, 1e (ser), 1f (ser), 1g (sil) JH
*Xanthoparmelia protomatrae* (NT) – 1 (ser), 6 (gra) JM
*Xanthoparmelia pulla* (LC) – 1 (ser) JM*, 1b (sil), 1c (ser), 1d (ser) JH, 1e (ser), 1f (ser) JH, 1g (sil), 1i (sil), 5 (gra) JM*
*Xanthoparmelia stenophylla* (LC) – 1c (ser), 1d (ser), 1e (ser), 1f (mos) JH
*Xanthoparmelia verruculifera* (LC) – 1 (ser), 1b (sil) JH, JH, 1c (ser) JH, 1d (ser) JH, 1e (ser), 1f (ser) JH, 1g (sil) JH, 1i (sil), JH
*Xanthoria candelaria* (LC) – 1b (Mal), 1e (Que) JH
*Xanthoria elegans* (LC) – 1d (ser), 1e (ser)
*Xanthoria fallax* (NT) – 1 (ser) JM, 1f (ser) JH, 5 (gra) FBe
*Xanthoria parietina* (LC) – 1 (Pru), 1a (Jug, Que), 1b (Acm, Que), 1c (Fra, Qpt, Sal, Sam), 1e (Que), 1f (dw, ser), 1h (Sam), **4** (Apl), 5 (Acm)
*Xanthoria polycarpa* (NT) – 1 (Pru), **4** (branch)
*Xylographa parallela* (VU) – 1c (dw)

## COMMENTS ON REMARKABLE SPECIES

### *Belonia russula*

This pyrenocarpous lichen with a trentepohlioid photobiont has recently been transferred to the genus *Gyalecta* (Baloch et al. 2010). The record from the Dukovanský mlýn locality (340 m a.s.l.) is quite surprising because this species usually occurs at higher elevations. *Belonia russula* prefers vertical to overhanging, slightly calcareous or basic siliceous rocks (Wirth et al. 2013). In the past it was reported from several sites in the Czech Republic (see Vězda & Liška 1999); the single recently published record comes from serpentinite rocks at the locality Křížky in the Slavkovský les Mts (Peksa 2011).

### *Lichinella stipatula*

*Lichinella stipatula* is a small cyanolichen, macroscopically resembling crusts of filamentous cyanobacteria, in whose assemblages it often occurs. It has so far been reported from three localities in the Czech Republic. Most of records come from serpentinite rocks in Mohelno (collections by A. Vězda – see Vězda & Liška 1999) and it is also known from basic conglomerates in the valley of the river Rokytná near the town of Moravský Krumlov (Vězda 1978) and on the Trubínský vrch hill in Central Bohemia (Lenzová & Svoboda 2015). At the locality of Mohelno, it occurs at many sites in central and lower parts of the reserve.

### *Phaeophyscia pusilloides*

This rare *Phaeophyscia* has only been reported from southern Bohemia (Třeboň) in the Czech Republic (Nádvorník 1947) and has been considered extinct in the country (Liška & Palice 2010). In 2014, a small thallus was collected on bark of *Acer campestre* in the floodplain forest reserve Cahnov-Soutok, southern Moravia (Vondrák et al. 2016). We observed a rich population on shady bark of *Fraxinus excelsior* and *Prunus domestica* very close to a tourist path under rocky outcrops in the Mohelenská hadcová step protected area.

### *Rinodina rinodinoides*

This species is characterized by its relatively small ascospores of the *Milvina*-type with pitted walls and at first innate apothecia becoming broadly attached and biatorine to lecideine. It occurs on hard siliceous rocks or serpentinites (Mayrhofer et al. 1992). In Europe, *Rinodina rinodinoides* is a widespread but rare lichen. In the Czech Republic, it has only been reported from serpentinites near the village of Ujčov in the valley of the river Svratka, Tišnov region (Mayrhofer & Poelt 1979). Suza 's collection from this locality served as the type material of *R. serpentini* H. Mayrhofer & Poelt, afterwards synonymized with *R. rinodinoides* (Mayrhofer et al. 1992).

***Spilonema paradoxum***
*Spilonema paradoxum* is a diminutive fruticose cyanobacterial lichen so far reported from three localities in the Czech Republic: serpentinites at the locality Hadce u Želivky (Černohorský et al. 1956), serpentinite rocks in Mohelno (Vězda 1970) and granodiorite rocks at Štolpich in the Jizerské hory Mts (Wagner 1995).

***Toninia cinereovirens***
The species was repeatedly reported from the Czech Republic in the past, especially by J. Suza (see Vězda & Liška 1999), but in the last 20 years it has been confirmed only in the Třebíč Region by Vězda (1998, as *T. imbricata*). In the Mohelenská hadcová step reserve, we observed this species rarely on the serpentinite rock Ovčí skok.

**SUMMARY**

Field excursions carried out during the bryo-lichenological meeting in the Třebíč Region led us to well preserved natural habitats in river valleys. Its participants visited serpentinite and granulite rocks, castle ruins, screes and oak forests. Altogether, 390 lichenized and 15 lichenicolous or lichen-allied fungi were recorded.

The extensive xerothermic serpentinite steppes at the locality Mohelenská hadcová step were undoubtedly the biggest lichenological attraction. *Caloplaca conversa*, *Catillaria atomarioides*, *Lemmopsis arnoldiana*, *Leptogium magnussonii*, *L. tenuissimum*, *Lichinella stipatula*, *Melanelixia glabra*, *Normandina acroglypta*, *Peccania cernohorskyi*, *Phaeophyscia pusilloides*, *Spilonema paradoxum*, *Staurothele fissa*, *Toninia cinereovirens*, *Vahliella leucophaea*, *Verrucaria procopii* and *V. sphaerospora* represent the most valuable records. *Harpidium rutilans* and *Lecanora laatokkaënsis* were confirmed there at their so far only known locality in the Czech Republic. In total, we recorded 272 lichen species in the reserve. A few additional records from serpentinites were recorded in the neighbouring reserve – Dukovanský mlýn: *Belonia russula*, *Porpidia nadvornikiana*, *Rinodina rinodinoides*, *Thelenella muscorum* and *Cladonia portentosa* in a relict pine forest.

The region is very rich in castle ruins, of which we visited three – Lamberk, Templštejn and Levnov. Forests in the surroundings of Lamberk castle are important habitats for many rare epiphytic lichens such as *Arthonia dispersa* and *Gyalecta flotowii*. The oak and scree woodlands below this ruin were selected for a detailed biodiversity survey of 1-ha plot (Locality 4 on the list). We recorded 153 epiphytic and epixylic species, including many rare and endangered taxa. The estimated number of species in the plot is 187 according to the Chao2 estimator (standard error 12.6). The surveyed forest was very rich in lichens with trentepohlioid photobionts (25 species, 16 %) and calicioid (lichenized) fungi (14 species, 9 %), but quite poor in macrolichens (29 species, 19 %). *Arthonia*

*byssacea*, *A. endlicheri*, *Bacidia incompta*, *B. laurocerasi*, *Biatora pontica*, *Buellia violaceofusca*, *Calicium adspersum*, *Caloplaca lucifuga*, *Cetrelia monachorum*, *Chaenotheca hispidula*, *Cladonia parasitica*, *Dendrographa decolorans*, *Enterographa hutchinsiae*, *Lecidella albida*, *Mycobilimbia epixanthoides*, *Ochrolechia bahusiensis* and *Schismatomma pericleum* are the most interesting records from the plot.

At the castle Templštejn, the greatest lichen diversity was observed on walls and Ca-enriched granulite rocks and on old solitary trees. The most interesting epiphytic findings are *Acrocordia gemmata*, *Biatoridium monasteriense*, *Caloplaca monacensis* and *Ochrolechia turneri*. Noteworthy saxicolous records are *Aspicilia goettweigensis*, *Caloplaca albolutescens*, *C. viridirufa*, *Diplotomma porphyricum* and *Sarcogyne privigna*. In the valley of the river Jihlava close to the ruin (locality 6 on the list), we collected *Hypocenomyce friesii*, *Immersaria athroocarpa* and *Parmelia pinnatifida*.

The rocks under the third castle ruin Levnov (also known as Ketkovický hrad) are known among lichenologists as the type locality of the rare and poorly known cyanolichen *Pterygiopsis umbilicata*. The species occurs on Ca-rich granulite rocks together with a few other cyanolichens, for example *Leptogium magnussonii*, *Lichinella nigritella* and *Peltula euploca*. *Acarospora oligospora*, *Dimelaena oreina*, *Endocarpon psorodeum* and *Rimularia insularis* complete the list of remarkable species from this site.

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**Foto k článku „Lichens recorded during the Bryological and Lichenological meeting in Mohelno“**

**Obr. 10.** *Pterygiopsis umbilicata* je extrémně vzácný cyanolišejník, popsaný A. Vězdou z rulových skal pod zříceninou hradu Levnov v údolí Oslavy. Foto F. Bouda
**Fig. 10.** *Pterygiopsis umbilicata* is an extremely rare cyanolichen, described by A. Vězda from gneissic rocks below the Levnov castle ruin in the valley of the river Oslava. Photo by F. Bouda

**Obr. 11.** Hektarová výzkumná plocha ve starém lesním porostu pod zříceninou hradu Lamberk. Foto J. Malíček
**Fig. 11.** One-hectare research plot in the old-growth forest below the Lamberk castle ruin. Photo by J. Malíček