

Contribution to the lichen flora of the Tatra Mountains II. Addenda ad lichenographiam Tatrae II.

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Abstract. This article provides up-to-date information about the occurrence and distribution of some lichen species in the Tatra Mountains. *Belonia incarnata*, *Bryonora castanea*, *Caloplaca istdiigera*, *Massalongia carnosa*, *Nephroma arcticum*, *Peccania coralloides* and others have previously been reported from a restricted number of localities. *Solorina octospora* is reported as new species for the West Carpathian Mountains. Species considered as extinct or missing are mentioned: *Arthonia didyma*, *A. punctiformis*, *Cyphelium karelicum*, *Peltigera colina* and *Usnea carpatica*. Attention has been given to critically endangered species, where extinction is a possibility e.g.: *Cetraria laureri*, *Leptogium saturninum*, *Lobaria pulmonaria*, *Menegazzia terebrata*, *Nephroma parile*, *Normandina pulchella* and *Thelotrema lepadinum*.
Key words: Lichen, distribution, the Tatra Mountains

Introduction

The title of this paper refers to the author's publication "Beitrag zur Flechtenflora der Tatra I. Addenda ad lichenographiam Tatrae I." (Kyselová 1990). Although the lichen flora in the Tatra mountains is fairly well investigated, there is still much to do. The aim of this paper is to present data about occurrence which is more geographically interesting, about endangered or missing lichens in the Tatras. Some of species are new to the Tatra lichen flora and several species have previously been rarely reported.

Material and methods

The material reported here was mostly collected by myself (denoted as!) partly given to me by other collectors. All samples are stored in the herbarium TNP and in the author's own herbarium. The species, whose status or degree of threat is known, are marked with abbreviations of the category according to Pišút (1993): Ex - extinct or missing, E - endangered, V - vulnerable, R - rare, I - indeterminate.

For clearer understanding localities are divided according to phytogeographical classification of the Tatra mts.: V.T. - Vysoké Tatry (High Tatras), B.T. - Belianske

Tatry (Belianske Tatras), Z.T. - Západné Tatry (Western Tatras). Nomenclature follows Santesson (1993).

Results and discussion

Agonimia tristricula (Nyl.) Zahlbr. - V.T.: Velická dolina, loco Granátová lávka dicto, supra muscos, alt. 2,200 m, a.s.l. 20. 9. 1984 !, det. A. Vězda. (V)

Allantoparmelia alpicola (Th. Fr.) Essl. - V.T.: Slavkovská dolina, alt. 2,050 m a.s.l., 17. 5. 1983 !; Dračia dolinka in regio vallis Zlomisková dolina, alt. 1965 m a.s.l., 28. 9. 1983 !; Rumanova dolinka, in regio vallis Zlomisková dolina, alt. 2,050 m a.s.l., 30. 9. 1983 !; Bielovodská dolina, loco Pustá lávka dicto, alt. 1920 m a.s.l., alt. 1,920 m a.s.l., 20. 7. 1983 !; Batizovská dolina, prope lacum Malé Batizovské pleso, alt. 1950 m a.s.l., 2. 8. 1990 !; Dolina Suchá voda, alt. 1,950 m a.s.l., 17. 8. 1990 !. Omnia ad parietes laterales saxorum graniticarum.

Anaptychia ciliaris (L.) Koerb. var. *melanosticta* (Ach.) Boist. - V.T.: Velická dolina, in decl. merid. montis Dvojité veža, supra muscos ad rupes graniticas mylonitisatas, alt. 2,220 m a.s.l., 9. 7. 1987 !; B.T.: Hlúpy, supra muscos ad saxa calcarea, alt. 2,050 m a.s.l., 23. 6. 1985 !; in parte superiore vallis Dolina Siedmich prameňov, supra muscos ad parietes altos rupium calc., alt. 1,500 m a.s.l., 28. 8. 1985 !; Hlúpy, supra muscos, alt. 2,060 m a.s.l., 13. 7. 1987 B. Chovancová. (E)

Arthonia didyma Koerb. - B.T.: Medzisteny, ad corticem Fagi sylvaticae, alt. 1,050 m a.s.l., 25. 10. 1990 !. (Ex)

Arthonia leucopellaea (Ach.) Almq. - V.T.: Bielovodská dolina, loco Pod Vysokou dicto, ad corticem Piceae abietis, alt. 1,300 m a.s.l., 16. 7. 1986 !; ibid., 1,250 m a.s.l., 9. 6. 1988 !; Žabia Bielovodská dolina, ad corticem Piceae abietis, alt. 1,300 m a.s.l., 31. 7. 1990 !; in vicinitate pagi Lysá Poľana, ad corticem Fagi sylvaticae, alt. 1,050 m a.s.l., 9. 1989 !. B.T.: in decl. sept. montis Nový, loco Javorina dicto, ad corticem Piceae abietis, alt. 1,150 m a.s.l., 14. 10. 1988. (E)

Arthonia punctiformis Ach. - V.T.: prope lacum Štrbské pleso, ad corticem Laricis deciduae, alt. 1,356 m a.s.l., 23. 10. 1984 !, det. A. Vězda. (Ex)

Bacidia tetramera (de Not.) Coppins - B.T.: in decl. sept. montis Ždiarska vidla, supra plantas emortuas, alt. 2,050 m a.s.l., 1. 7. 1987 !, det. A. Vězda.

Belonia incarnata Th. Fr. et Graewe ex Th. Fr. - V.T.: Slavkovská dolina, supra lacum Szontághovo pleso, supra muscos, alt. 2,050 m a.s.l., 17. 5. 1983 !, det. A. Vězda. Z.T.: Tomanova dolina, in decl. sept. montis Poľská Tomanová, supra muscos emortuos, alt. 1,980 m a.s.l., 24. 8. 1993, det. I. Pišút. (V)

Bryonora castanea (Hepp) Poelt - B.T.: in summo

montis Belianska kopa, supra plantas destructas, alt. 1,830 m a.s.l., 26. 7. 1983 !. V.T.: Javorová dolina, sub transitu Sediľko, supra muscos, alt. 2380 m a.s.l., 11. 9. 1991 !. (R) Collected during a field trip with H. Mayrhofer.

Bryophagus gloeocapsa Nitschke ex Arn. - V.T.: Kôprová dolina, supra muscos in fossis viae silvaticae, alt. 1,150 m a.s.l., 22. 6. 1986 !; Studená dolina, prope cataractam Dlhý Studenovodský vodopád, supra muscos in silva Picearum, alt. 1,180 m a.s.l., 29. 7. 1993 !. Z.T.: ad pedem montis Sokol, alt. 870 m a.s.l., 15. 5. 1991 !; Roháčska dolina, in decl. sept. montis Predný Salatín, alt. 1,160 m a.s.l., 15. 7. 1993 !; Račkova dolina, alt. 960 m a.s.l., 19. 10. 1993 !. Omnia ad terram muscosam in fossis viae silvaticae. (V)

Buellia geophila (Flk. ex Sommerf.) Lynge - B.T.: in summo montis Belianska kopa, supra plantas emortuas, alt. 1,820 m a.s.l., 26. 7. 1983 !, det. A. Vězda.

Caloplaca isidiigera Vězda - B.T.: Predné Medodoly, ad saxa quartzitica graminosa, alt. 1,600 m a.s.l., 2. 11. 1984 !, det. A. Vězda. Z.T.: in parte inferiore vallis Tomanova dolina, ad saxa calcarea prope rivum, alt. 1,280 m a.s.l., 19. 10. 1993 !. (R) *C. isidiigera* was described as a new lichen species from the Nízke Tatry Mountains region in Slovakia. The second find was made by A. Vězda in Belianske Tatry in 1977 (Vězda 1978). Recently collected once in Malé Karpaty by Pišút (Pišút 1981).

Candelariella reflexa (Nyl.) Lett. - Z.T.: in parte inferiore vallis Tomanova dolina, ad corticem Salicis, alt. 1,260 m a.s.l., 19. 10. 1993 !. B.T.: secus viam publicam in pago Javorina, ad corticem *Tilia cordatae*, alt. 1,010 m a.s.l., 31. 7. 1990 !. (V)

Catapyrenium cinereum (Pers.) Koerb. - V.T.: Mengusovská dolina, in pede montis Kôpky, ad terram graniticam mylonitizatam, alt. 1,980 m a.s.l., 29. 9. 1983 !; in parte superiore vallis Malá Studená dolina, sub transitu Sediľko, alt. 2,200 m a.s.l., 11. 9. 1991 H. Mayrhofer.

Catapyrenium daedaleum (Krempelh.) Stein - V.T.: in transitu Západná Železná brána, supra muscos, alt. 2,270 m a.s.l., 29. 7. 1983 !; Česká dolina, sub transitu Kamzičia štrbina, alt. 2,100 m a.s.l., 8. 8. 1983 !; *ibid.*, supra transitum Kamzičia štrbina, alt. 2,190 m a.s.l., 8. 8. 1983 !; Velická dolina, loco Granátová lávka dicto, supra muscos et ad terram myloniticam, alt. 2,200 m a.s.l., 9. 7. 1983 !; Mengusovská dolina, in valle rivi Poprad, ad saxa granitica muscosa, alt. 1,420 m a.s.l., 22. 8. 1983 !.

Catolechia wahlenbergii (Ach.) Koerb. - V.T.: Velická dolina, in decl. occid. montis Velický hrb, supra muscos, alt. 1,820 m a.s.l., 22. 5. 1984 !; *ibid.*, in summo montis Velická stena, supra muscos, alt. 2,220 m a.s.l., 19. 5. 1983 !; *ibid.*, in pede montis Velické veže, supra muscos, alt. 1,750 m a.s.l., 20. 5. 1983 !; Veľká Zmrzlá dolina, ad saxa granitica muscosa, alt. 1,850 m a.s.l., 19. 6. 1984 !. (V)

Cetraria delisei (Borr. ex Schaer.) Nyl. - V.T.: sub apice montis Kolový štít, alt. 2,400 m a.s.l., 27. 9. 1981 !; in valle Rovienky alt. 1,950 m a.s.l., 11. 8. 1982 !; in valle Nefcerka, alt. 2,100 m a.s.l., 17. 8. 1983 !; in parte superiore vallis Bielovodská dolina, in ripa lacus Zamrznuté pleso, alt. 2,050 m a.s.l., 19. 7. 1983 !; *ibid.*, 17. 7. 1986 !; in transitu Velické sedlo, alt. 2,295 m a.s.l., 7. 7. 1987 !; Veľká Studená dolina, prope lacum Zbojnicke plesá, alt. 1,965 m a.s.l., 13. 10. 1993 !. Omnia ad terram humosam. (E)

Cetraria laurei Krempelh. - V.T.: Bielovodská dolina, ad corticem Piceae abietis, alt. 1,200 m, 21. 10. 1986 !. B.T.: Zadné Medodoly, ad corticem Piceae abietis, alt. 1,350 m a.s.l., 5. 8. 1986 !. (E)

Cetraria sepincola (Ehrh.) Ach. - V.T.: Skalnaté Pleso, alt. 1,756 m a.s.l., 1. 9. 1981 !; Žabia Bielovodská dolina,

alt. 1,680 m a.s.l., 22. 8. 1984 !; Dolina Zeleného plesa, in decl. sept. montis Veľká Svišťovka, alt. 1,880 m a.s.l., 24. 10. 1984 !; Červená dolina, prope lacum Červené pleso, alt. 1,812 m a.s.l., 18. 6. 1984 !; in decl. sept. montis Svišťovky (regio montis Javorinská Široká), alt. 1,850 m a.s.l., 13. 8. 1987 !. B.T.: in decl. orient. montis Bujačí vrch, alt. 1,700 m a.s.l., 29. 8. 1985 !; in iugo inter montes Ždiarska vidla et Havran, alt. 1,880 m, 27. 3. 1991 !. Omnia ad ramulos Pini mugi. Z.T.: Podbanské, loco pod Surovým Hrádkom dicto, ad ramulos juveniles Laricis deciduae, alt. 900 m a.s.l., 11. 6. 1988 !. (E) In Slovakia *C. sepincola* occurs on twigs of *Pinus mugo* at altitude 1,400 - 1,880 m a.s.l. Once it was found on a dwarf Norwegian spruce at 1,220 m a.s.l. (Suza 1937) and another find was made by Pišút on twigs of *Juniperus communis* and *Larix decidua* at 800 m a.s.l. (Pišút 1965).

Cetraria tilesii Ach. - V.T.: Česká dolina, sub transitu Kamzičia štrbina, ad terram graniticam mylonitizatam, alt. 2,066 m a.s.l., 14. 8. 1982 !; *ibid.*, alt. 2,100 m a.s.l., 8. 8. 1983 !; in parte superiore vallis Hlinská dolina, ad terram graniticam mylonitizatam, alt. 2,000 m a.s.l., 16. 8. 1984 !. Z.T.: Roháče, in iugo occid. montis Plačlivô, supra plantas emortuas (*Saxifraga oppositifolia*) ad terram myloniticam, alt. 2,000 m a.s.l., 13. 6. 1986 !. (V)

Cetrelia olivetorum (Nyl.) W. Culb. et C. Culb. - V.T.: in parte inferiore vallis Javorová dolina, ad corticem Alni incanae, alt. 1,090 m a.s.l., 26. 9. 1991 !. B.T.: Medzisteny, ad corticem muscosam Fagi sylvaticae, alt. 1,050 m a.s.l., 25. 10. 1990 !. (V)

Cladonia stellaris (Opiz) Pouzar et Vězda - V.T.: Batizovská dolina, ad pedem montis Kostolík, alt. 2,150 m a.s.l., 18. 5. 1983 !; ad pedem montis Kotlový štít, loco Gerlachovský kotol dicto, alt. 2,030 m a.s.l., 13. 6. 1983 !; in decl. merid. montis Kriváň, alt. 1,920 m a.s.l., 25. 8. 1984 !; *ibid.*, alt. 1,900 m a.s.l., 16. 10. 1990 !; in regio montis Kriváň, loco Kriváňsky žlab dicto, alt. 1,820 m a.s.l., 9. 11. 1993 S. Celer. (V)

Cyphelium karelicum (Vain.) Räs. ex Nád. - V.T.: Bielovodská dolina, ad corticem Piceae abietis in silva virginea, alt. 1,250 m a.s.l., 4. 7. 1993 !. (Ex) It is a rare species in both natural and semi-natural fir, beech and spruce forests of boreal zone and other similar habitats of Central Europe. Distribution of *C. karelicum* was discussed by Tibell (1971). In Slovakia it was reported from the Slovenské Rudohorie Mountains: Vepor, leg. Lojka 1884; Vepor, leg. Suza 1937, from the Nízke Tatry Mountains: Liptovská Teplička, leg. Lojka and once from the Vysoké Tatry Mountains region: Kôprová dolina, leg. Suza (according to Tibell 1971). In the last few decades it has not been recorded from Slovakia and the species is listed as a threatened species in Slovakia (Pišút 1993) and was classified as missing.

Haematomma ochroleucum (Neck.) Laund. var. *ochroleucum* - B.T.: Medzisteny, ad corticem Fagi sylvaticae, alt. 1,050 m a.s.l., 25. 10. 1990 !. (V)

Hypogymnia physodes (L.) Nyl. - V.T.: Kôprová dolina, in pede montis Grúnik, ad corticem Sorbi aucupariae, alt. 1,130 m a.s.l., 4. 1. 1990 !. Z.T.: Tichá dolina, ad corticem Salix caprea, alt. 1,180 m a.s.l., 8. 6. 1988 !. Both collected specimens were fertile.

Hypogymnia bitteri (Lynge) Ahti - V.T.: Kôprová dolina, alt. 1,550 m a.s.l., 22. 6. 1986 !; Velická dolina, alt. 1,400 m a.s.l., 15. 10. 1986 !; Javorová dolina, alt. 1,450 m, 15. 7. 1987 !; Bielovodská dolina, alt. 1,150 m a.s.l., 9. 6. 1988 !; in cacumine montis Grúnik, alt. 1,550 m a.s.l., 13. 10. 1988 !. Omnia ad corticem Piceae abietis. Mengusovská dolina, ad corticem Pini cembrae, alt. 1,550 m a.s.l., 29.

10. 1987 !; Studená dolina, ad cataractam Dihý Studenovodský vodopád, ad corticem Laricis deciduae, alt. 1180 m a.s.l., 29. 7. 1993 m!. Z.T.: in decl. merid. montis Ježová, alt. 1,400 m, a.s.l. 29. 7. 1991 !; in decl. merid. montis Kotlová, alt. 1,480 m a.s.l., 1. 8. 1991 !. B.T.: Zadné Medodoly, alt. 1,350-1,420 m, a.s.l. 15. 10. 1986 !; Medzisteny, alt. 1,140 m a.s.l., 14. 8. 1990 !. Omnia ad corticem Piceae abietis. (E)

Leptogium cyanescens (Ach.) Koerb. - V.T.: Velická dolina, in pede montis Kvetnicová veža, supra muscos emortuos, alt. 1,730 m a.s.l., 16. 6. 1983 !; Kačacia dolina, in pede montis Rumanov štít, musciola, alt. 1,700 m a.s.l., 2. 8. 1983 !. (E)

Leptogium saturninum (Dicks.) Nyl. - V.T.: in vicinitate pagi Lysá Poľana, inter muscos ad basim Aceris pseudoplatani, alt. 1,050 m a.s.l., 9. 4. 1989 !. B.T.: Medzisteny, inter muscos ad basim Fagi sylvaticae, alt. 1020 m a.s.l., 25. 10. 1990 !. (E)

Lobaria pulmonaria (L.) Hoffm. - B.T.: in valle Veľký Košíar, loco Matejove skaly dicto, alt. 1,200 m a.s.l., 20. 9. 1988 !; in decl. sept. montis Nový, loco Javorina dicto, ad corticem Aceris pseudoplatani, alt. 1,170 m a.s.l., 4. 10. 1988 !; Medzisteny, ad corticem Fagi sylvaticae, alt. 1,050 m a.s.l., 25. 10. 1990 !; in valle rivi Nový potok, ad corticem Aceris pseudoplatani, alt. 1,200 m a.s.l., 14. 8. 1990 !. (E) Since 1970 this declining species has been recorded only once from north-facing slope of Nový Mt. (Liška, Pišút 1990).

Massalongia carnosia (Dicks.) Koerb. - Z.T.: Bystrá dolina, in decl. occid. montis Bystrá, supra muscos, alt. 1,900 m a.s.l., 8. 10. 1991 !, det. I. Pišút. (V) A rare species of the boreal zone and colder mountain habitats of Central Europe. Only a few finds have been reported from Tatras so far, e.g. Valley Nefcerka, Žiarska dolina (Pišút 1965), Batizovská dolina (Suza 1926) and others.

Menegazzia terebrata (Hoffm.) Koerb. - V.T.: Javorová dolina, ad corticem Alni incanae, alt. 1,060 m a.s.l., 13. 10. 1990 !. B.T.: in decl. sept. montis Nový, ad corticem Fagi sylvaticae, alt. 1,100 m a.s.l., 14. 10. 1988 !; Medzisteny, ad corticem Fagi sylvaticae, alt. 1050 m a.s.l., 25. 10. 1990 !. (E)

Micarea prasina Fr. - B.T.: prope pagum Javorina, ad truncum putridum arborum, alt. 990 m a.s.l., 25. 10. 1990 !; Monkova dolina, ad truncum putridum arborum, alt. 1,250 m a.s.l., 23. 9. 1993 !.

Nephroma arcticum (L.) Torss. - V.T.: Kačacia dolina, ad lacum Zelené pleso Kačacie, supra muscos inter herbas, alt. 1,577 m a.s.l., 22. 7. 1983 ! (find was confirmed in 1992 and 1994); in valle Temnosmrečinská dolina, prope lacum Vyšné Temnosmrečinské pleso, supra muscos inter alias plantas, alt. 1,716 m a.s.l., 5. 8. 1992 !. (E) Lisická (1985, 1992) reported three recent finds (Zlomisková dolina, Batizovská dolina and Mengusovská dolina).

Nephroma parile (Ach.) Ach. - V.T.: Velická dolina, in decl. orient. montis Kvetnicová veža, supra muscos, alt. 1,730 m a.s.l., 16. 6. 1983 !; Dolina Kežmarskej Bielej vody, supra muscos ad basim Populi tremulae, alt. 1030 m a.s.l., 14. 9. 1989 !; Temnosmrečinská dolina, prope lacum Vyšné Temnosmrečinské pleso, ad terram humosam muscosam, alt. 1,716 m a.s.l., 22. 9. 1993 !. Z.T.: Tichá dolina, ad saxa granitica muscosa ad rivi Tichý potok, alt. 1,180 m a.s.l., 8. 6. 1988. (E) Collected during the field trip together with A. Vězda und J. Horáková.

Normandina pulchella (Borr.) Nyl. - B.T.: Medzisteny, ad corticem muscosam (*Pseudoleskellia nervosa*) Fagi sylvaticae, alt. 1,070 m a.s.l., 25. 10. 1990 !. (E) This

oceanic species was originally collected in the Tatra Mountains by Suza in 1926 (Suza 1943).

Ochrolechia alboflavescens (Wulf.) Zahlbr. - V.T.: Zadné Medodoly, ad corticem Piceae abietis, alt. 1,380 m a.s.l., 22. 6. 1985 !; Zlomisková dolina, ad corticem Pini cembrae, alt. 1600 m a.s.l., 22. 9. 1988 !; Grúnik (regio montis Kriváň), ad corticem Piceae abietis, alt. 1550 m a.s.l., 13. 10. 1988 !; Skalnatá dolina, loco Čučoriecky dicto, ad corticem Piceae abietis, alt. 1,240 m a.s.l., 6. 10. 1993 !. Z.T.: in decl. merid. montis Kotlová, alt. 1,480 m a.s.l., 1. 8. 1991 !. (V)

Ochrolechia inaequatula (Nyl.) Zahlbr. - B.T.: in iugo montis Košíare, supra muscos et alias plantas destructas, alt. 2,000 m a.s.l., 29. 8. 1985 !; in decl. sept. montis Hlúpy, alt. 2,050 m a.s.l., 23. 6. 1985 !; in decl. sept. sub apice montis Faixova, supra humum et plantas destructas, alt. 1,550 m a.s.l., 19. 9. 1985 !; in decl. sept. montis Ždiarska vidla, alt. 2,050 m a.s.l., 1. 7. 1987 !; in decl. sept. montis Jatky, supra muscos emortuos, alt. 1,800 m a.s.l., 20. 9. 1988 !; in decl. sept. montis Havran, alt. 1,850 m a.s.l., 15. 8. 1990 !. (V)

Ochrolechia microstictoides Räs. - Z.T.: in decl. merid. montis Kotlová, ad corticem Piceae abietis, alt. 1,480 m a.s.l., 1. 8. 1991 !, rev. Pišút.

Ochrolechia upsaliensis (L.) Massal. - B.T.: in cacumine montis Belianska kopa, alt. 1,820 m a.s.l., 26. 7. 1983 !; in decl. merid. montis Hlúpy, alt. 1,950 m a.s.l., 23. 6. 1985 !; in cacumine montis Bujačí vrch, alt. 1,940 m a.s.l., 29. 8. 1985 !; in decl. sept. montis Predné Jatky, alt. 1,950 m a.s.l., 29. 8. 1985 !; in decl. sept. montis Ždiarska vidla, alt. 2,050 m a.s.l., 1. 7. 1987 !; in decl. sept. montis Havran, alt. 1,800 m a.s.l., 15. 8. 1990 !. Z.T.: in decl. merid. montis Osobitá, alt. 1,620 m a.s.l., 16. 9. 1993 !. Omnia supra muscos et alias plantas destructas. (V)

Opegrapha gyrocarpa Flot. - V.T.: Velická dolina, in decl. orient. montis Kvetnicová veža, ad saxa granitica mylonitizata, alt. 1,950 m a.s.l., 11. 7. 1984 !, det. A. Vězda.

Pannaria praetermissa (Nyl.) P. James - V.T.: Mengusovská dolina, ad saxa granitica muscosa in rivi Poprad, alt. 1,400 m a.s.l., 22. 8. 1983 !. Collected during a field trip with E. Lisická, I. Pišút and A. Vězda. Velická dolina, loco Granátová lávka dicto, inter muscos, alt. 2,200 m a.s.l., 20. 9. 1984 !; ibid., 9. 7. 1987 !; Veľká Studená dolina, prope lacum Zbojnícke pleso, inter muscos, alt. 1,965 m a.s.l., 13. 10. 1993 !. Z.T.: Tichá dolina, ad saxa granitica muscosa in rivi Tichý potok, alt. 1180 m a.s.l., 3. 8. 1988 !. Collected during a field trip with A. Vězda and J. Horáková. B.T.: Monkova dolina, ad saxa calcarea muscosa, alt. 1,000 m a.s.l., 23. 9. 1993 !. (R)

Parmelia caperata (L.) Ach. - B.T.: Babia dolina, ad basim Abietis albae, alt. 850 m a.s.l., 5. 9. 1988 !; Medzisteny, ad truncum muscosum Fagi sylvaticae, alt. 1,070 m a.s.l., 25. 10. 1990 !. (E)

Parmelia conspersa (Ehrh. ex Ach.) Ach. - Z.T.: prope domum saltuarium Pred Lehotou, ad saxa granitica graminosa, alt. 810 m a.s.l., 9. 10. 1993 !; sub montes Suchý Hrádok, loco Potôčky dicto, ad saxa granitica graminosa, alt. 880 m a.s.l., 5. 8. 1993 !.

Parmelia incurva (Pers.) Fr. - V.T.: Temnosmrečinská dolina, supra lacum Nižné Temnosmrečinské pleso, ad parietes laterales saxa granitica, alt. 1,700 m a.s.l., 22. 9. 1993 !. (V) This collected specimen was found to be fertile.

Peccania coralloides (Massal.) Massal. - B.T.: in iugo sept. montis Havran, in fissuris rupium calcarearum, alt. 1,800 m a.s.l., 15. 8. 1990 !, det. I. Pišút. (V) This species

with Mediterranean distribution has a scattered distribution in the West Carpathian Mts. and in the Tatra Mountains it was noticed by Suza (1926, 1942) and by Pišút (1970).

Peltigera collina (Ach.) Schrad. - B.T.: in pede montis Nový, ad truncum muscosum Fagi sylvaticae, alt. 1,150 m a.s.l., 29. 10. 1981 !. (Ex)

Peltigera lepidophora (Nyl. ex Vain.) Bitter - V.T.: Mengusovská dolina, ad saxa granitica muscosa in rivi Poprad, alt. 1,400 m a.s.l., 22. 8. 1983 !. Collected during the field trip with E. Lisická, I. Pišút and A. Vězda. B.T.: in iugo montis Kýčera, ad terram calcaream muscosam, alt. 1,200 m a.s.l., 6. 5. 1993 !. (V)

Peltigera venosa (L.) Hoffm. - V.T.: Mengusovská dolina, in pede montis Kôprovská veža, supra muscos, alt. 2,100 m a.s.l., 27. 9. 1983 !; ibid., Kotlina Žabích plies, in pede montis Kôpky, ad terram mylonitisatam muscosam, alt. 1,980 m a.s.l., 29. 9. 1983 !; Važecká dolina, prope lacum Zelené pleso Krivánske, ad terram humosam muscosam, alt. 2,017 m a.s.l., 16. 10. 1990 !; Slavkovská dolina, ad saxa granitica muscosa in rivulo Slavkovský potok, alt. 1,740 m a.s.l., 19. 7. 1991 !; Furkotská dolina, in decl. occid. montis Pred. Soliskové veže, supra muscos, alt. 2,150 m a.s.l., 25. 9. 1991 !. (V)

Pertusaria coronata (Ach.) Th. Fr. - V.T.: Javorová dolina, ad corticem Alni incanae, alt. 1,100 m a.s.l., 26. 6. 1991 !; prope pagum Lysá Poľana, ad corticem Fagi sylvaticae, alt. 1,050 m a.s.l., 8. 4. 1989 !. (V)

Pertusaria dactylina (Ach.) Nyl. - V.T.: Javorová dolina, ad saxa granitica muscosa, alt. 1,460 m a.s.l., 15. 7. 1987 !

Placynthium dolichoterum (Nyl.) Trevis. - V. T.: Dolina Zeleného plesa, in decl. sept. montis Veľká Svišťovka, ad saxa granitica mylonitisata et ad terram humosam muscosam, alt. 1,710 m a.s.l., 19. 6. 1984 !, det. A. Vězda.

P. pannariellum (Nyl.) H. Magn. - V.T.: Veľická dolina, loco Granátová lávka dicto, sub monte Dvojité veža, ad terram humosam in saxa granitica mylonitisata, alt. 2,200 m a.s.l., 9. 7. 1987 !.

Protoblastenia terricola (Anzi) Th. Fr. - V.T.: Dolina Zeleného plesa, in decl. sept. montis Veľká Svišťovka, supra muscos, alt. 1,700 m a.s.l., 19. 6. 1984 !, det. A. Vězda; Mengusovská dolina, in decl. occid. montis Mengus. Volovec, supra muscos emortuos, alt. 2,080 m a.s.l., 9. 8. 1993 !. B.T.: Bujací vrch, supra plantas destructas, alt. 1,940 m a.s.l., 29. 8. 1985 !; in decl. merid. montis Hlúpy, ad terram calcaream, alt. 1,950 m a.s.l., 23. 6. 1985 !; in decl. sept. montis Ždiarska vidla, supra muscos emortuos, alt. 2,050 m a.s.l., 1. 7. 1987 !; in decl. sept. montis Havran, ad terram in fissuris rupium calcarearum, alt. 1,800 m a.s.l., 15. 8. 1990 !. Z.T.: Tomanova dolina, in iugo merid. montis Temniak, ad terram calcaream muscosam, alt. 1,750 m a.s.l., 10. 8. 1992 !. (V)

P. testacea (Hoffm.) Clauz. et Rondon - B.T.: Dolina siedmich prameňov, loco Hučava dicto, in fissuris rupium calcarearum, alt. 1,250 m a.s.l., 18. 10. 1984 !; ibid., alt. 1,350 m a.s.l., 19. 9. 1985 !; Dolina siedmich prameňov sub transitu Skalné vráta, alt. 1,500 m a.s.l., 28. 8. 1985 !; Suchá dolina, alt. 1,220 m a.s.l., 23. 7. 1987 !; (V)

Protothelenella corossa (Koerb.) Mayrh. et Poelt - V.T.: Javorová dolina, ad saxa granitica graminosa, alt. 1,180 m a.s.l., 12. 9. 1991 !. Collected during a field trip with H. Mayrhofer.

Psilolechia lucida (Ach.) Choisy - Z.T.: Jalovecká dolina, ad parietes altos rupium gneissacearum, alt. 900 m a.s.l., 11. 6. 1991 !.

Psoroma hypnorum (Vahl) Gray - V.T.: Mengusovská dolina, in decl. occid. montis Mengusovský Volovec, ad terram myloniticam, alt. 2,160 m a.s.l., 12. 10. 1993 !. Z.T.: Bystrá dolina, prope lacum Bystré pleso, supra muscos, alt. 1,930 m a.s.l., 6. 8. 1992 !; Tomanova dolina, loco Svišťovky dicto, ad terram humosam calcaream, alt. 1,680 m a.s.l., 3. 8. 1993 !. (V)

Ptychographa flexella (Ach.) Coppins - V.T.: in parte inferiore vallis Mengusovská dolina, loco Uhlíšatka dicto, alt. 1,200 m a.s.l., 7. 10. 1991 !. Z.T.: in valle Hlina, alt. 1,200 m a.s.l., 15. 6. 1989 !, det. A. Vězda; Kamenistá dolina, alt. 1,300 m a.s.l., 8. 10. 1991 !. Omnia ad lignum putridum siccum. (I)

Pyrenula nitida (Weig.) Ach. - B.T.: Tokáreň, ad corticem Fagi sylvaticae, alt. 1,150 m a.s.l., 22. 7. 1987 !; Medzisteny, ad corticem Fagi sylvaticae, alt. 1,050 m a.s.l., 25. 10. 1990 !. (E)

Ramalina capitata (Ach.) Nyl. - V.T.: Batizovská dolina, ad apicem rupium graniticarum in saxosis, 1,900 m a.s.l., 10. 7. 1984 !; Furkotská dolina, ad apicem rupium graniticarum in saxosis, alt. 1,840 m a.s.l., 26. 7. 1990. Collected during the field trip with V. Wirth and I. Pišút. Z.T.: in cacumine montis Veľká kopa, ad apicem rupium graniticarum, alt., 2,000 m a.s.l., 15. 8. 1984 !.

Ramalina fastigiata (Pers.) Ach. - V.T.: in pagos Tatranská Lomnica, ad corticem Fraxini excelsioris prope viam publicam, alt. 850 m, 21. 9. 1993 !. (E)

Rinodina roscida (Sommerf.) Arn. - B.T.: Bujací vrch, supra muscos, alt. 1,940 m a.s.l., 29. 8. 1985 !, det. A. Vězda; Hlúpy, supra plantas emortuas (*Dryas octopetala*), alt. 1,950 m a.s.l., 11. 7. 1986 !. (V)

Sarea resinae (Fr.) Kuntze - V.T.: Bielovodská dolina, alt. 1,250 - 1,300 m a.s.l., 9. 6. 1988 !; Čierna Javorová dolina, alt. 1,450 m a.s.l., 26. 10. 1989 !; Zadné Meďodoly, alt. 1,250 m a.s.l., 23. 9. 1993 !. Omnia ad resinam Piceae abietis.

Solorina octospora (Arn.) Arn. - V.T.: Mengusovská dolina, in decl. orient. sub transitu Kôprovské sedlo, ad terram mylonitisatam muscosam inter herbas, alt. 2,100 m a.s.l., 29. 9. 1994 !. B.T.: in decl. sept. sub apice montis Hlúpy, ad terram calcaream muscosam (*Distichum capillaceum*), alt. 2,000 m a.s.l., 23. 6. 1985 !; in parte superiore vallis Tristárska dolina, ad terram calcaream muscosam inter alias plantas (*Saxifraga wahlenbergii*, *Salix reticulata*, *Soldanella carpatica*, *Ranunculus alpestris* etc.), alt. 1,920 m a.s.l., 29. 7. 1994 !. After the revision of earlier material of the genus *Solorina* collected by the author in the Tatra mountains, *S. octospora* was found new to the West Carpathian Mts. In 1994, during the botanical field work, *S. octospora* was collected twice more. The species may morphologically resemble *S. saccata*, but is distinguished by a finely verrucose thallus (those of *S. saccata* are fully smooth). According to Hakulinen (1957), the thallus is dark brown in the central part (*S. saccata* is lighter coloured) and the thallus margin is light grey. Slovak specimens are dark brown, sometimes greyish stained, faintly pruinose with light brown thallus margin. Thallus of *S. saccata* is usually more slender like those of *S. octospora*. In accordance with its name, *S. octospora* is characterized by 8 big spores (35-40 x 14-21 μ) in the asci, while those of *S. saccata* contain 4 spores. In the Carpathian Mountains, *S. octospora* has previously been recorded only from an isolated locality in Rumania: Mts. Fagaras, Lacul Bilea (Moruzi, Petria, Mantu 1967). In the Alps, the species is rather rare and also in the northwestern Europa only a few localities are known. The species is

further known from Spitzbergs (Hertel 1977). Many more records are given for arctic region. The species is reported from Novaja Zemlja, Caucasus, from the mountains of West- and Ostsiberian, of Scandinavia and also from North America and Greenland (Hakulinen 1957). All these records confirm its arctic- boreal- alpine distribution.

Solorina saccata (L.) Ach. - V.T.: Dolina Zeleného plesa, in decl. sept. montis Veľká Svišťovka, supra muscos ad terram mylonitisatam, alt. 1,700 m a.s.l., 19. 6. 1984 !; Kôprová dolina, ad cataractam Kmetov vodopád, supra muscos ad saxa granitica plusminusve mylonitisata, alt. 1,200 m a.s.l., 24. 6. 1986 !; Bielovodská dolina, supra muscos ad saxa calcarea, alt. 1,070 m a.s.l., 8. 6. 1988 !. Z.T.: in decl. orient. montis Sokol, supra muscos in fissuris rupium dolomiticarum, alt. 1,100 m a.s.l., 31. 5. 1984 !. B.T.: Dolina siedmich prameňov, 4. 1957, J. Šmarda, rev. E. Lisická; Dolina siedmich prameňov, loco Hučava dicto, supra muscos ad saxa calcarea, alt. 1,200 m a.s.l., 18. 10. 1884 !; in decl. sept. montis Havran, alt. 1,800 m a.s.l., 15. 8. 1990 !; in decl. occid. montis Ždiarska vidla, supra muscos et ad terram calcaream, alt. 1,820 m a.s.l., 27. 3. 1991 !.

Stereocaulon dactylophyllum Flk. - V.T.: Bielovodská dolina, loco Pod Vysokou dicto, ad saxa calcarea, alt. 1,300 m a.s.l., 8.11.1993 !.

Stereocaulon saxatile H. Magn. - V.T.: Kôprová dolina, ad terram pauperam inter saxa pusilla, alt. 1150 m a.s.l., 22. 6. 1986 !. Collected during the field trip with A. Vězda and E. Farkas.

Teloschistes contortuplicatus (Ach.) Clauz. ex Rond. et Vězda - B.T.: in decl. occid. montis Nový, ad saxa calcarea, alt., 1,800 m a.s.l., 15. 8. 1990 !. (R)

T. contortuplicatus is considered to be an extremely rare lichen species in Slovakia. The only four localities known were detected by Vězda in Belianske Tatry, Veľká Fatra mountains region (Vězda 1958, 1970) and by Petrik in Západné Tatry (Lisická 1993).

Thelotrema lepadinum (Ach.) Ach. - V.T.: Bielovodská dolina, ad corticem Piceae abietis, alt. 1250 m a.s.l., 9. 6. 1988 !. B.T.: Medzisteny, ad corticem Fagi sylvaticae, alt. 1,050 m a.s.l., 25. 10. 1990 !. (E)

Thelopsis melathelia Nyl. - V.T.: Mengusovská dolina, in decl. occid. montis Mengusovský Volovec, in fissuris rupium graniticarum mylonitisatarum, alt. 2,150 m a.s.l., 9. 8. 1993 !. Z.T.: Tomanova dolina, in iugo merid. montis Temniak, alt. 2,020 m a.s.l., 28. 8. 1984 !; in decl. merid. montis Osobitá, alt. 1,650 m a.s.l., 16. 9. 1993 !. Omnia supra muscos et alias plantas emortuas. (V)

Toninia alutacea (Anzi) Jatta - V.T.: Dolina Zeleného plesa, in decl. sept. montis Veľká Svišťovka, ad terram in fissuris rupium graniticarum mylonitisatarum, alt. 1,700m a.s.l., 19. 6. 1984 !, det. A. Vězda. This rare species has been reported from the Carpathian Mountains under the name *Toninia intermedia* (Belianske Tatry, Bujačí vrch, ca 1,750 - 2,000 m a.s.l.) by Vězda (1960).

Toninia squalida (Ach.) Massal. - V.T.: Mengusovská dolina, Hincova Kôpka, ad terram graniticam muscosam, alt. 1,980 m a.s.l., 27. 9. 1983 !; *ibid.*, loco Satanova dolinka dicto, alt. 1,820 m a.s.l., 27. 9. 1983 !; Veľká Studená dolina, in pede montis Predná veža, alt. 2,020 m a.s.l., 5. 7. 1983 !; Litvorová dolina, alt. 1,750m a.s.l., 17. 7. 1986 !. Z.T.: in decl. sept. montis Bystrá, supra muscos, alt. 1,900 m a.s.l., 8. 10. 1991 !. (R)

Umbilicaria cinereorufescens (Schaer.) Frey - V.T.: in decl. merid. montis Huncovský štít, ad saxa granitica, alt. 1,950 m a.s.l., 14. 6. 1984 !. (V)

Umbilicaria microphylla (Laurer) Massal. - V.T.: Malá Studená dolina, supra lacum Horné Spišské pleso, ad saxa granitica, alt. 2,040 m a.s.l., 25. 10. 1990 !. (R)

Umbilicaria proboscidea (L.) Schrader - V.T.: Žabla Bielovodská dolina, supra lacum Vyšné Bielovod. Žabie pleso, ad saxa granitica, alt. 1,675 m a.s.l., 22. 8. 1984 !. (V)

Usnea carpatica Mot. - V.T.: in vicinitate pagi Štrbské Pleso, ad corticem Larici deciduae, alt. 1,380 m a.s.l., 23. 10. 1984 !; Hlinská dolina, ad corticem Piceae abietis, alt. 1,450 m a.s.l., 16. 9. 1984 !, det. A. Vězda. (Ex)

Xanthoria sorediata (Vainio) Poelt - B.T.: in decl. merid. montis Hlúpy, supra muscos ad saxa calcarea, alt. 1,980m a.s.l., 20. 6. 1984 !. (E)

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