

Supplementary material Appendix 1. Distribution of the *Pilosella alpicola* group.

Revision of herbarium material originated from following institutions: B, BP, BRA, BRNM, BRNU, CL, G, GRM, LW, SAV (including our collections), SB, SO, SOM, W, WU, Z. Mr Günter Gottschlich (Tübingen, Germany) kindly provided us the data from his collection (Go) and his revisions of herbaria ROV, KL, PAD and TUB.

*Pilosella alpicola* s.s.

***Exsiccata visa:*** Hieracia Naegeliana no. 8. Vallesia in monte Simplon: in erictis siccis, 2015–2080 m (Naegeli 14. VIII. 1866), in pratis versus montem Schönhorn, 2000 m (Naegeli 15. VIII. 1866), in prato ad hospitium, 2015 m (Naegeli VIII. 1866), BRNU, LW, BP 448277, BP 0613467, BP 0615115, W 1885–8, G.

**Specimina visa:**

**France**

Basses Alpes: Le Col de Larche, 2000 m (Vidal 18. VII. 1897 GRM, det. Arvet–Touvet).

**Switzerland**

Bernese Alps: Berner Alpen (Muret 1848 G, ut *H. schraderi* and *H. piliferum*, rev. Zahn ut *H. alpicola* subsp. *alpicola*).

Walliser Alps: Zermatt (Nitschke s.d. MSTR–Hb. Beckhaus, ut *H. alpicolum*). – Zermatt, 2800 m (Vierhapper 7. VIII. 1923 WU 2810). – Törbel, Alphänge ob Moosalp, Rand eines *Juniperus*–Busches, 2400 m (Brodbeck 18. VIII. 1988 Go 13263, det. Gottschlich). –

Vallée de Saas, Valais (s.coll. s.d. LW). – Vallée de Saas, pâturages alpins (Thomas 7. VIII. 1874 BP 448299). – Alpes de Saas (Browne VII. [18]69 BP 448295). – Alpes de Saas (Masson VII. [18]70 BP 448294). – Vallée de Saas (Thomas s.d. W s.n.). – Alpe Galle (Saas, Valais), pelouses, fissures de rochers, 2400 m (Favrat 10. VIII. 1867 W s.n.). – Val Saas superior (Eishberg s.d. W 1948–5445, ut *H. furcatum*  $\beta$  *alpicola*, rev. Peter ut *H. alpicola* subsp. *alpicola*). – Saas, Triftalp (Lagger s.d. GRM). – Saas-Grund, Oberh. Chrizbode, 2400 m (Plieninger 29. VIII. 1994 Go s.n.). – Saas, supra Saas, in alpinibus, 1600–2300 m (Bernoulli 1901 KL 72154, det. ?). – Val. Saas, ?adorient du Mittaghorn, Ausserwald (Wolf 3. VIII. 1892 G). – Pied du Mittaghorn de Saas (Mermod 25. VII. 1895 G). – Vallée de Saas (Bader VII. 1884 G). – Cabane de Plattjen, Saas-Fee (Dupperex & Weber 18. VIII. 1950 G). – Vallée de Saas, Plattjen sur Fée, pelouses alpines, abondant avec *Senecio uniflorus*, 2200–2500 m (Romieux 16. VIII. 1920 G). – Vallée de Saas, au dessus de la Furggalp au sentier du Plattjen, 2100 m (Becherer 2. VIII. 1940 G). – Vallée du Saas, Plattjen sur Fée, gazons (Romieux 16. VIII. 1920 G). – Alpe Galle (Fée, vallée de Saas) (Fourad 20. VIII. 1867 G, rev. Zahn ut *H. alpicola* subsp. *eu-alpicola* var. *normale*). – Vallée de Saas (Thomas s.d. G, rev. Zahn ut *H. alpicola* subsp. *eu-alpicola* var. *normale*). – Saas Fee – Plattjen (Kilcher 22. VII. 1926 G). – Saas Fee, Plattje, ca 2400 m (Frick 14. VIII. 1944 Z, ut *H. alpicola* subsp. *eu-alpicola*). – Weg Galenalpen nach Ritzigletscher ob Saas Fee, ca 2250 m (Frick 7. VIII. 1944 Z, ut *H. alpicola* subsp. *eu-alpicola*). – Saas Fee, Plattje, ca 2400 m (Hirschmann 21. VIII. 1953 Z, ut *H. alpicola* subsp. *alpicola* f. *macracladium*). – Saas Fee, Oberes Furggje, ca 2300 m (Hirschmann 21. VIII. 1953 Z, ut *H. alpicola* subsp. *alpicola* f. *macracladium*). – Saas, Mattmarksee, 2200 m (Muer 13. VIII. 1997 Go 32972, det. Gottschlich). – Slopes above the Mattmark See dam towards Mt. Monte Moro, 46°00'57'' N, 07°57'58'' E, 2306 m (Šingliarová & Lakoščík 6. VIII. 2007 SAV). – Saas, Mons Moro (Lagger s.d. MSTR–Hb. Beckhaus KL 59553). – Ex monte

Moro (Schleicher s.d. LAU–Hb. Johann–Christoph Schleicher, ut *Hieracium alpicolum*). –  
In monte Moro, Saas (Lagger s.d. CL 28921, 28922, 28919, BP 448273, 448272, B). –  
Moro, Saas (Lagger s.d. BP 448278). – Monte Moro, Saas (Lagger s.d. W s.n.). – Valais:  
Monte Moro, 1500 m (Wolf 8. VIII. 1897 G). – Lac Mattmark, vallée de Saas (? VIII. ?  
G). – Lac Mattmark, Saas (Muret 30. IX. 1852 G, ut *H. alpicolum*, rev. Zahn ut *H. alpicola*  
f. *macracladium*). – Mattmark, vallée de Saas (Thomas s.d. G, rev. Zahn, ut *H. alpicola*  
subsp. *alpicola* 2. *macracladium*). – Monte Moro Pass, 1500 m (8. VII. 1897 G, det. Zahn  
ut *H. alpicola* subsp. *alpicola* var. *macracladium*). – In Monte Moro, Saas (Lagger s.d. G).  
– Mattmark sur Saas, dans les gazons arides de la Distel Alp, 2200–2400 m (Wilczek 12.  
VIII. 1901 W 1902–7925). – Prairies la Kleine Waume massif des Fletschhörner, Nanztal,  
2500 m (Beauverd 8. VIII. 1912 Go s.n.). – Col du Simplon, the col and the SE slopes of  
Mt. Tochuhorn, 2000–2500 m (Mráz 24. VIII. 2005 Hb. Mráz). – Col du Simplon, towards  
the lake Hobschensee, ca 2050 m (Mráz 12. IX. 2006 Hb. Mráz). – Col du Simplon, NW  
slopes of Mt. Hübschhorn, 2100–2400 m (Mráz 26. VII. 2009 SAV). – Simplon pass,  
46°15'00'' N, 08°00'50'' E, 2000–2300 m (Šingliarová & Lakoščík 7. VIII. 2007 SAV). –  
Simplon (Wolf VIII. 1894 SOM 88742, LW). – Vallesia (Wolf s.d. LW). – Simplon,  
terrain de gneiss, 2000 m (Wolf 25. VII. 1876 CL 125665, WU s.n., W 1927–15939, W  
1889–41180, G). – Mont Simplon, pâturages (Wolf VII. 1878 CL 28923). – Simplon  
(Wolf s.d. BRA, rev. Mráz ut *P. alpicola*). – Simplon, 2000–2600 m (Wolf VIII. 1894 BP  
0515692, SO 80558, WU 1741, G). – Simplon (Wolf VII.–VIII. 1885 WU 2172, rev. Zahn  
ut *H. alpicola*  $\alpha$  *genuinum* 1 *normale*). – Simplon (Wolf 20. VII. [18]73 GRM). – Mont  
Simplon, pâturages (Wolf VII. 1887 GRM, G, det. Burnat). – Simplonpass (Oberwallis)  
(Wolf VIII. 1894 G). – Mont Simplon, pâturages (Wolf & Burnat VII. 1878 BP 448296). –  
Près de l'hospice du Simplon, 2000 m (Masson 22. VII. 1890 LW, BP 0515691). –  
Pâturages secs et rochers du Simplon, 2000–2200 m (Bernoulli VII. – VIII. 1896 CL

125668, G). – In pascuis alpinis m. Simplon, 2000–2200 m (Bernoulli VIII. 1885 CL 125666, BP 514700, W 1912–15293, W 1997–02303). – Simplon beim Hospiz (Bernoulli VIII. 1879 G). – Col du Simplon, sur les collines près de l’hospice, 2000 m (Morthier 1. VIII. 1877 CL 29598, BP 448284, WU 2172). – Col du Simplon, in pascuis, 2000 m (Morthier 2. VIII. 1877 BP 448293). – Simplon, l’Hospice (Dufflon 22. VII. 1890 BP 475830). – Plateau Simplon (Chenevard 1. VIII. 1889 BP 514714, G). – Simplon, Plateau Hohlicht (Chenevard 9. VIII. 1891 BP 0513468). – Plateau de Hohlicht: Simplon (Chenevard 2. VIII. 1890 W 1889–22141). – Rochers du bord de la route près de l’hospice du Simplon (Chenevard 1. VIII. 1889 G, rev. Käser ut *H. alpicola*  $\alpha$  *genuinum* 2. *macracladium*). – Simplon: prairies près de l’hospice (Chenevard 25. VII. [18]92 GRM). – Roches des environ l’hospice du Simplon (Chenevard 29. VII. 1888 G, det. Arvet-Touvet). – Plateau du Simplon, 2000 m (Gysperger 14. VII. [18]95 BP 0513690). – Col du Simplon (Favrat 12. VIII. 1873 BP 0615121, WU 771). – Col du Simplon (Favrat VII. [18]69 BP 0615122, BP 448281). – Col du Simplon (Favrat VII. [18]72 BP 448300). – Col du Simplon (Favrat 8. VIII. 1881 G). – Simplon (Favrat 25. VIII. 1879 B, rev. Zahn, ut *H. alpicola* ssp. *alpicola* 2. *macracladium* NP). – Col du Simplon (Favrat 8. VIII. 1884 B). – Simplon, derrière l’hospice et sous le Schoenhorn (Favrat 12. VIII. 1873 G). – Autour de l’hospice du Simplon (Favre 21. VII. 1871 BP 0448298). – Environs de l’hospice du Simplon, 2400 m (Favre VII.–VIII. 1903 G). – Plateau du Simplon et collines environnantes (Favre 20. VII. 1903, det. Käser ut *H. alpicola*  $\alpha$  *genuinum* 1. *normale*). – Simplon, Triften, 2000 m (Don de Jacob 1. VIII. 1822 BP 448297, 418286, GRM, G). – Sommet de Col du Simplon, 2000 m (Tripot 31. VII. 1877 BP 418285, 448280, 418283). – Col du Simplon, non loin de l’hospice, 2000 m (Tripot 31. VII. 1877 GRM). – Simplon, auf der Passhöhe, Gneiss, 2000 m (Heinrich & Handel-Mazzetti 28. VII. 1906 WU 2436, det. Zahn). – In monte Simplonio (Lagger s.d. W s.n.). – Simplon (Thomas s.d. W s.n.). –

Alpes du Simplon (Leresche VII. 1839 G, note: “il est souvent triflore, au dire de Thomas, c’est une hybride de l’*angustifolium* et du *Schraderi*”). – Simplonpass, Silikat, alpinen Rasen, Hochstauden, 2005–2020 m (Polatschek 5. VII. 2003 W 2005–00514, det. Gottschlich). – Simplonpass–höhe, Silikat, Zwergstrauchheide, Hochstauden, Schutt, 2005–2010 m (Polatschek 8. VII. 2000 W 2005–15234, det. Gottschlich). – Simplon, Paßhöhe, Zwergstrauchheide, Silikat, 2005–2010 m (Polatschek 8. VII. 2000 Go 49504, W, det. Gottschlich). – Simplon, Alpine Rasen, Silikat, 2005–2020 m (Polatschek 5. VII. 2003 Go 47112, W, det. Gottschlich). – Col du Simplon (Bicknell 23. VII. 1892 W 1950–7757, rev. Zahn). – Simplon, 2200 m (Gave VIII. 1886 GRM, det. Mráz). – Simplon, S Hospiz: Cupür, 30 m W der Paßstraße, Zwergstrauchheiden, 1990 m (Dunkel 8. VII. 2001 Du 6087–1). – Simplon, Zw. Hospiz und Rotels, Felsrasen, 2000–2040 m (Gottschlich 13. VIII. 1984 Go 05935). – Simplon, Simplonpaß: zw. Bergalp–Stalde, 2010 m (Gottschlich 13. VIII. 1984 Go 05943). – Simplon, “Bergalp” SW Hospiz, Silikatfelsen, 1970 m (Huber 7. VIII. 1986 Hb. Huber). – Kaltwassergletscher (Simplon) (Bader VII. VIII. 1865 G). – Simplon (Bader s.d. G). – Hospice du Simplon (Ayasse 15. VIII. 1879 G). – Ad Simplon plateau (pass) (de Palèzieux 30. VII. 1916 G, det. Zahn). – Près de l’hospice du Simplon (Ayasse 15. VII. 1872 G). – Pâturages du Plateau du Simplon, 2000 m (Permatier 25. VIII. 1903 G). – Col du Simplon, à droite de la route vers Domodossola, près de l’hôtel Kulm, 2000 m (Van Buggenhout VII. 1988 G, B). – Environs de l’hospice, pâturages arides et pierreux (Chavin VII. 1867 G, rev. Zahn ut *H. alpicola* subsp. *eu-alpicola* 1. *normale*). – Sirwoltepass, près du Simplon, 2400 m (Jaccard 2. VIII. 1895 G). – Simplon (Bernet VII. 187? G). – Simplon, col (Bernet 14. VII. 1881 G, rev. Zahn, ut *H. alpicola* subsp. *alpicola* 2. *macracladium*). – Simplon Sud: col de la Furgge, entre les vallées de Laggin et de Zwischbergen, 1880 m (Becherer 2. VIII. 1939 G). – Plateau du Simplon, entre la route et la Hobschensee, 2020 m (Becherer 29. VII. 1939 G). – Simplon: entre l’Hospice et la

Coupure (Sandoz 25. VIII. 1879 G). – Simplon: hauts pâturages en montant à la Nanzlücke, 2400 m (Romieux VIII. 1900 G). – Simplon: pâturages sur le col, 2000–2200 m (Romieux 29. VIII. 1904 G). – Simplon, autour de l’hospice (Romieux VII. 1890 G). – Simplon, Hospiz (Kilcher 15. VIII. 1924 G). – Pelouses siliceuses près de l’Hospice du Simplon, 2000 m (Briquet 16. VII. 1901 G, rev. Zahn ut *H. alpicola* ssp. *alpicola* 2. *macracladium*). – Plateau du Simplon (Fauconet 2. VIII. 1867 G, rev. Zahn, ut *H. alpicola* subsp. *alpicola* 2. *macracladium*). – Prairies maigres et rocailleuses du plateau du Col du Simplon, où il abonde par places, 2000–2100 m (de Retz 25. VII. 1956 G). – Simplon pass (Schlickum 21. VII. 1928 B). – Berisal – Simplonpass (Touton 20. VIII. 1912 B). – Simplonalm (Touton 5. VIII. 1901 B, rev. Zahn ut *H. alpicola*  $\alpha$  *genuinum* 1. *normale*). – Simplon (Touton s.d. B). – Simplonpass (Touton 30. VII. 1901 G). – Simplon (s. coll. VIII. 1892 W 1928–12168). – Simplon, 2000–2600 m (s. coll. VIII. 1894 W 1897–2890, ut *H. alpicolum*). – Simplon (s. coll. VII. 1866 G, rev. Zahn ut *H. alpicola* subsp. *alpicola* 1. *normale* 2. *macracladium*). – Simplon (s.coll. VII.–VIII. 1881 B, rev. Zahn ut *H. alpicola* subsp. *alpicola* f. *macracladium*). – Simplon, pâturages autour de l’hospice, 2000 m (s. coll. 1. VIII. 1889 G, ut *H. alpicola* (*piliferum*  $\times$  *glaciale*), rev. Mráz ut *P. alpicola*). – Près de l’hospice du Simplon, 2000 m (s. coll. VII. 1866 G, det. Arvet-Touvet, ut *H. alpicola* f. *atofusca*, rev. Zahn ut *H. alpicola* subsp. *alpicola* 2. *macracladium*). – Simplon (s. coll. VII. 1864 G, det. Arvet-Touvet ut *H. alpicola* f. *atofusca*, rev. Zahn ut *H. alpicola* subsp. *alpicola* 2. *macracladium*). – Simplon (Vetter 9. VIII. 1886 BRNU). – In Mt. Biesten, Vales superior (Guttnick VII. LW).

## Italy

South Tyrol, Dolomites: Mt. Puflatsch, meadows around terminal depot of the chairlift, 46°33’07’’ N, 11°36’47’’ E, 2160 m (Šingliarová & Lakoščík 8. VIII. 2007 SAV). –

Puflatsch (Petz 18. VIII. 1913 B, det. Touton). – Schlern, Puflatsch SW St. Ulrich, Dosso abrugiera, 2110–2119 m (Pujatti 13. VII. 1999 Go 34143). – Seiser Alm, Puflatsch: Bergstation Sessellift – Gipfel, alpine rasen, 2000–2100 m (Gottschlich & Zidorn 5. VIII. 2001 Go 44734). – Seiser Alm, Kompatsch, Puflatsch, wenige m NW, 2119 m (Dunkel 2. VIII. 1998 Hb. Dunkel). – In *Vaccinium* und Rhododendrongobusch auf der Kuppe des Puflatsch bei Seis am Schlern (Vetter 5. VIII. 1927 W 1950–7759, W 1950–7760, det. Zahn). – Puflatsch bei St. Ulrich im Grodenenthal (Plank 18. VIII. 1926 W 1950–7758, det. Zahn). – Rittneralpe, porphyr, 2100 m (Petz 2. VIII. 1916 PAD). – Rittneralpe, porphyr, 2100 m (Petz 14. VIII. 1917 PAD). – Lateral ridge of Mt. Schlern, 46°29'56'' N, 11°34'54'' E, 2019 m (Šingliarová & Lakoščík 9. VIII. 2007 SAV) – Schlern, Am Fuße des Plattkofels, 60000–70000' (Krauss 12. VIII. 1868 TUB, det. Zahn ut *H. alpicola*). – Seiseralp (Touton 28. VII. 1900 B). – Rittneralp, Klobestein, Pemmern, Rittnerhornhaus (Touton 20. VII. 1913 B, ut *H. alpicola bauzaniense*). – Seiseralpe, 2200 m (Reiter 20. VII. 1937 W 1983–03642, W 1963–25602). – Meadows at the end of the Val di Duron valley, N 46°29'52'' E 11°39'35'', 2236 m (Šingliarová & Lakoščík 10. VIII. 2007 SAV). – Val di Fassa, Alta Val Duron: 600 m a Est del Passo Duron, Dosso erboso, silice, 2240 m (Prosser 21. VII. 2000 ROV, ut *H. alpicola*). – Tirol (s. coll. s.d. CL 125663).

## **Austria**

Carinthia: Sonnblickgruppe, Mallnitzer Tauern (Jabornegg 1875 KL 26490, det. Gottschlich).

## *Pilosella rhodopea*

### **Specimina visa:**

## **Albania**

Korab Mts: Foothills of Mt. Maja e Korabit, 41°48'00'' N, 20°31'38'' E, 1920 m

(Šingliarová & Lakošćík 4. VII. 2007 SAV). – Inter opp. Prizren et Debra jacentes, montes nivales Korab, in lapidosis graminosis declivum borealium in cacumine aliquo ad limites Macedoniae supra pagum Zužen, 2700 m (Kümmerle 27. VII. 1918 W1926–10220, ut *H. alpicola* subsp. *glandulifolium*). – Inter opp. Prizren et Debra jacentes, montes nivales Korab, in lapidosis graminosis declivum borealium in cacumine aliquo ad limites Macedoniae supra pagum Zužen, 2800 m (Kümmerle 26. VIII. 1918 BP 448267, ut *H. alpicola* subsp. *glandulifolium*). – Inter opp. Prizren et Debra jacentes, montes nivales, Salica Lums, in lapidosis graminosis, summi jugi supra pagum Bicaj, 2500 m (Kümmerle 14. VIII. 1918 BP 448268, ut *H. alpicola* subsp. *glandulifolium*, rev. Zahn ut *H. alpicola* subsp. *glandulifolium*). – Korab, 2000 m (Behr 14. VII. 1936 W 1950–7766, B, det. Zahn ut *H. alpicola* subsp. *glandulifolium* f. *submicromegas* Behr & Zahn). – Korab, 2200 m (Behr 14. VII. 1936 W 1950–7765, ut *H. alpicola* subsp. *glandulifolium*). – In monte Korab supra Radomir, 2200 m (Andrasovszky 24. et 25. VIII. 1917, det. Zahn ut *H. alpicola* subsp. *glandulifolia*).

## **Kosovo**

Shar planina Mts: Stojkova kuća - Piribeg, 2200 m (Nikolić & Diklić 21. VII. 1975 BEO, ut *H. alpicola*). – Bistra, 1800–2200 m (Nikolić, Diklić, Mladenović 22. VII. 1976 BEO, ut *H. alpicola* subsp. *glandulifolium*).

## **FYRO Macedonia**

Shar planina Mts: In cac. Kobilica (alp. Scard. occ.), in pasc. alp. (Bornmüller 19. VII.



1918 B, det. Zahn). – In pratis montanis inter montibus Popova Čapka et Kobilica (Titov vrh), 2350 m (Černoch 19. VII. 1965 BRNM 0498241). – An Hängen von Ljubotun (Nikolaff 20. VII. 1918 SO 80559, det. Stojanov). – Zivadica, 2200 m (Behr 1938 B, det. Zahn, ut *H. alpicola* subsp. *rhodopeum* γ *alpicoloides*). – M. Scardus or., in pas. alpinis cac. Ljubotun, 1800–2000 m (Bornmüller 20. VII. 1918 B). – M. Scardus or., in pascuis cacuminis lateris borealis m. Ljubotun, 2100–2370 m (Bornmüller 20. VII. 1918 B, det. Zahn ut *H. alpicola* subsp. *petreum*).

Baba planina Mts: Bitola: mt. Perister: in pratis alpinis, ca 2500–2550 m (Weber 25. VII. 1968 BRNM 0498249, det. ? ut *H. alpicola* subsp. *glandulifolium* var. *minoriceps*). – Bitola: Perister, in pratis alpinis, ca 2000–2550 m (Weber 25. VII. 1968 BRNM 0498249, ut *H. alpicola*).

## **Greece**

Voras Mts: Foothills of the Mt. Kaimaktsalan, 2500 m (Šingliarová & Lakoščík 4. IX. 2011 SAV). – Macedonia occ., prov. Pella, eparhia Almopia: montes Kaimaktsalan, in latere boreali et orientali verticis Profitis Ilias, in glareosis et arenosis micaceis, solo gneisico, N 41°56' E 21°47', 2400–2520 m (Greuter 13. VIII. 1977 B, det. Merxmüller ut *H. alpicola*). – Auf dem Kaimaktsalan (Vidze-planina) (? 11. VII. 1937 BRNM 0498243, ut *H. alpicola* subsp. *rhodopeum* f. *normale*).

## **Bulgaria**

Pirin Mts: Mt. Razložki Suchodol above Javorov chalet, open places in *Pinus mugo*, on granite, 2300 m (Szeląg 3. VIII. 1999 SOM 157680, ut *H. alpicola*). – In graminosis saxosis marmoreis Mt. Pirin valle Razložki Suchodol, supra lacum, 2200 m (Stojanov 31.

VII. 1939 SO 80563, ut *H. alpicola*). – Pirin (Severný) - Kameniški vrach, 2400 m (Mucina 7. VIII. 1978 BRA, det. Dvořák ut *H. alpicola*, rev. Mráz ut *P. alpicola* subsp. *grisebachii*). – In graminosis alpinis Mt. Pirin ad lacum Gorno Vlahino, 2240 m (Stojanov 14. VIII. 1938 SO 805665). – In pascuis alpinis cca lacum Vlahinsko, sub Eltepe, solo granitico, 2300 m (Davidov 14. VIII. 1938 SOM 88721, ut *H. alpicola*, rev. Georgiev, ut *H. alpicola* subsp. *rhodopeum*). – Opp. Bansko, mons Vichren: herbosis in declivitate merid.-occidentali supra ripam boreo-orientalem lacus maximi superioris in valle lacuum Vlachinski ezera, ad pedem merid.-occid. montis Chvojnati vrach (2635 m), 41°45-46' N, 23°23-24' E, 2350–2400 m (Štěpánek 9. VIII. 1997 B, det. J. Chrtek jun. ut *H. alpicola*). – Opp. Bansko, vallis rivi Banderica: in cacumine montis Chvojnati vrach (2635 m), situ merid. a monte Vichren (2914 m) (Štěpánek 12. VIII. 1997 B, det. J. Chrtek jun., ut *H. alpicola*). – Foot of Mt. Vichren, 41°45'39'' N, 23°24'27'' E, 2331 m (Šingliarová & Lakoščík 24. VII. 2006 SAV). – In lapidosus montis Eltepe, 2000–2500 m (Bartha 25. VII. 1935 BP 514727). – Vr. Vichren (Koera 13. VII. 1980 SO 98667, ut *H. alpicola*). – In m. Eltepe, 2000–2500 m (Bartha 24. VII. 1935 B, det. Zahn). – In pascuis alpinis, Mt. Jel-Tepe Pirin Dag., 2200 m (Dimonie VI. 1906 W 1910–5643, WU 2460, ut *H. petraeum*, rev. Zahn ut *H. alpicola* subsp. *frivaldskyanum*). – Kamenité svahy medzi prvým a druhým jazerom vdoline Banderica (Dvořák s.d. BRA, rev. Mráz ut *P. alpicola* subsp. *grisebachii*). – Opp. Bansko: in saltu (sella) Todorina Porta (2580 m) inter montes Malka Todorka (2712 m) et Vasilaški čukar (2615 m), 2550–2580 m (Štěpánek 14. VIII. 1990 B, det. J. Chrtek jun. ut *H. alpicola*). – Trevistite skatove na Todorin vruch (Jordanov 14. VII. 1926 SO 80567). – Opp. Bansko, vallis glacialis Valjaviški cirkus: locis herbosis graminosisque alpinis secundum viam turisticam lutee signatum cis et trans saltum Samodivska porta (2500 m) inter montes Samodivski vrach (2730 m) et Maläk Poležan (2822 m), ca 4 km situ merid.-orient. supra casam alpinam Demjanica (1895 m) N 41° 42-43' E 23° 30',

2400–2470 m (Štěpánek 8. VIII. 1997 B, det. J. Chrtek jun. ut *H. alpicola*). – Prolezan S slope, alpine grassland on granite, 2600 m (Szeląg 1. VIII. 1999 SOM 157724, ut *H. alpicola*). – Piasuklivo–kamenishti zatreveni mesta po istochnoto bilo na vruh Sinanica, 2300 m (Vihodchevski 16. IX. 1970 SO 80572, ut *H. alpicola*). – In saxosis calcareis ad Car. Sinanica (s.coll. s.d. SOM 88720). – In saxosis Mt. Pirin, Bankenky–Izera, 2200 m (Davidov 23. VII. 1915 SOM 88713, rev. Georgiev ut *H. alpicola* subsp. *rhodopeum*). – In graminosis saccosis m. Pirini, ad cac. Vasilev Grob, 2340 m (Akhtarov 17. VIII. 1940, SOM 88718). – In graminosis alpinis Mt. Pirin, cacum Vasilev–Grob (Černi Vrh), 2375 m (Stojanov 17. VIII. 1940 SO 80561). – Meadows below Mt. Bezbog, 41°43'35'' N, 23°30'57'' E, 2414 m (Šingliarová & Lakoščík 23. VII. 2006 SAV). – In pascuis Mt. Pirin (Urumov 19. VII. 1915 SOM 88716, det. Akhtarov ut *H. alpicola* subsp. *rhodopeum*, rev. Georgiev ut *H. alpicola* subsp. *rhodopeum*). – Pirin (Kellerer 1909 SOM 88712, rev. Georgiev ut *H. alpicola* subsp. *rhodopeum*). – In pascuis m. Pirin (Urumov 25. VII. 1915 SOM 88717, 88715, 88714, rev. Georgiev ut *H. alpicola* subsp. *rhodopeum*). – Bansko (Nábělek VII. [19]32 SAV). – M. Pirin (Urumov 1927 BP 448261, 448276, rev. Zahn ut *H. alpicola* subsp. *rhodopeum*). – In Mt. Pirin (Urumov 1905 BP 448274, 448275). – In pascuis alpinis m. Pirin (Urumov 1909 SOM 88719).

Rila: 7–te ezera (Stojanov 10. VIII. 1949 SOM 102452, det. Ganchev ut *H. alpicola*). – In saxosis m. Čarna Rila, Sedem–ezera, 2350 m (Davidov 22. VII. 1909 SOM 88722, rev. Georgiev). – Jazera Bistrici (Mrkvička 5. VIII. 1905 SOM 88710, rev. Georgiev ut *H. alpicola* subsp. *rhodopeum*). – Mt. Dodov vrh, 42°09'59'' N, 23°20'23'' E, 2540 m (Šingliarová & Lakoščík 22. VII. 2006 SAV). – Maljovitsa hut, 42°11'22'' N, 23°22'28'' E, 1985 m (Šingliarová & Lakoščík 21. VII. 2006 SAV). – Parangalica (Andrejev 18. VIII. 1975 SOM 132075, ut *H. alpicola*). – In saxosis montis Lopušnica, 2300 m (Schneider &

Bergmann 25. VII. 1907 G–Hb. Burnat, det. Zahn ut *H. alpicola* subsp. *ullepitschii*, rev. Mráz ut *P. rhodopea*). – In monte Lopusnica, 2300 m (Schneider & Bergmann, 25. VIII. 1907 W 1907–21381, det. Zahn ut *H. alpicola* subsp. *ullepitschii*). – In rupestribus Mt. Bela Rila, Kanarata, 2600 m (Davidov 26. VII. 1909 SOM 88731, det. Georgiev). – In saxosis mt. Tzarska Rila, clivis merid. Mussalae, 2700 m (Davidov 8. VIII. 1909 SOM 88730, rev. Georgiev ut *H. alpicola* subsp. *rhodopeum*). – Musallah – Schutzhause (Zenny 25. VII. 1930 W 1967–19086, ut *H. alpicola* subsp. *glandulifolium*). – In monte mons Allah in saxosis, 2400 m (Schneider & Bergmann 21. VIII. 1907 G–Hb. Burnat, ut *H. alpicola* subsp. *rhodopeum*  $\beta$  *subrhodopeum*, rev. Mráz ut *P. rhodopea*). – In monte Mt. Allah auf grasigen Felshängen, 2500 m (Schneider & Bergmann 21. VIII. 1907 G–Hb. Burnat, det. Zahn ut *H. alpicola* subsp. *rhodopeum*  $\alpha$  *genuinum*, note: involucris albo ?sericeis, caulibus omnibus parce epilosis). – Aufsieg von Borowetz zur Hütte am Mus Alla (Bössler 7. VIII. 1960 B, det. Schuhwerk). – Aufsieg von Borowetz zur Hütte “Stalin” (Bössler 7. VIII. 1960 B, det. Schuhwerk). – In saxosis graminosis ad cacumen montis Musala, Rhodopes Centr., 2500 m (Wagner 28. VII. 1892 W s.n., G, ut *H. petraeum*). – Alpijski poljanski kraj putekata od v. Musala za vrha, 2500 m (Atanasov 11. IX. 1969 SO 80570, det. Vihodchevski ut *H. alpicola*). – In saxosis regionis summae montis Musala, Rhodop. Centr., 2500 m (Wagner 28. VII. 1892 WU s.n., ut *H. petraeum*, rev. Hayek & Zahn ut *H. alpicola* subsp. *rhodopeum*). – In saxosis ad cacumen montis Musala, Rhodopes centr., 2500 m (Wagner 1892 BP s.n., ut *H. rhodopeum* = *H. petraeum*, rev. Zahn ut *H. alpicola* subsp. *rhodopeum*). – In saxosis graminosis regionis Mtis Mušala, Rhodopes centr., 2000 m (Wagner VIII. 1892 BP 448264, ut *H. petraeum*, rev. Zahn ut *H. alpicola* subsp. *petraeum*). – Musallah [Musala] (Ronniger 25. VII. 1930 W 1965–9005, ut *H. alpicola*, rev.? ut *H. alpicola* subsp. *glandulifolium*, subsp. *serbicum*). – In monte Mus Allah [Musala], in saxosis, 2700 m (Schneider & Bergmann 21. VII. ? BP 514724, det.

Zahn, ut *H. alpicola* subsp. *rhodopeum* Griseb.  $\beta$  *subrodopeum* Zahn). – In monte Mus Allah [Musala], in saxosis graminosis, 2500 m (Schneider & Bergmann 21. VII. ? BP 514725, det. Zahn). – V nachaloto na zimnata puteka za vr. Musala, nad ezerata, 2500 m (Szelag 15. VIII. 1998 SOM 157712, ut *H. alpicola*). – In lapidosis graniticus declivibus cacum Čadar Tepe, 2380 m (Kitanov 23. VII. 1952 SOM 88695, SO 80562, ut *H. alpicola*). – Po kamenistnija sklon na vruchu Chadar tepe, 2380 m (Kitanov 23. VII. 1952 SO 84629, W 1955–18869, ut *H. alpicola*). – Mt. Yastrebits, meadow (ski-slope) near the terminal depot of cabinlift, 42°13'29'' N, 23°34'46'' E, 2359 m (Šingliarová & Lakoščík 20. VII. 2006 SAV). – Grantschar valley, meadows around tarn, 42°07'16'' N, 23°35'29'' E, 2200 m (Šingliarová & Lakoščík 9. VII. 2007 SAV). – Ad lacum Grantschar (Tzar Boris III. 11. IX. 1939 SOM 88732, det. Georgiev). – In pascuis siccis Mt. Zelena Rila, Belmeken, 2000 m (Davidov 14. VIII. 1912 SOM 88705, 88708, ut *H. alpicola*, rev. Georgiev ut *H. alpicola* subsp. *rhodopeum*). – In inferibus subalpinis Zelena Rila, Belmeken (Davidov 12. VII. 1893 SOM 88706). – Rhodopegebirge ober Kostenec, im *Festucetum*, Mughus – Granza (Hruby s.d. BRNU, det Zahn). – Rhodopegebirge ober Kostenec, im *Vaccinieto-Mughetum*, ca 2200 m (Hruby s.d. BRNU, det. Zahn). – Rhodopegebirge ober Kostenec, im *Vaccinietum*, ca 2200 m (Hruby s.d. BRNU, det Zahn). – In saxosis Mt. Zelena Rila: Kallinite, 2350 m (Davidov 13. VIII. 1912 SOM 88707, 88709, rev. Georgiev, ut *H. alpicola* subsp. *rhodopeum*). – In pratis alpinis Mt. Bela Rila, In-Čal, 2300 m (Davidov 23. VII. 191? SOM 88711, det. Georgiev). – In pascuis saxosis Mt. Černa Rila: Belata Voda, 2400 m (Davidov 24. VII. 1912 SOM 88724, 88726, 88727, det. Georgiev ut *H. alpicola*). – In saxosis pascuis Mt. Černa Rila, supra Kara–Bunar, 2550 m (Davidov 31. VII. 1909 SOM 88725, rev. Georgiev, ut *H. alpicola* subsp. *rhodopeum*). – In pascuis alpinis Mt. Rila, “Jakar Dupka”, 2400 m (Davidov 6. VII. 1909 SOM 88733, det. Georgiev).

Stara planina Mts: Mt. Vezhen, meadows near the summit, 42°45'35'' N, 24°23'45'' E, 2130 m (Šingliarová & Lakoščík 26. VII. 2006 SAV). – Pars montium Zlatiško-Tetevenska planina, opp. Teteven, pagus Ribarica, mons Vežen: graminosis herbosisque alpinis in cacumine montis Vežen (2198 m), solo granitico, 42°45-46' N, 24°24' E, 2170–2198 m (Štěpánek, Bělohávková, Vladimirov & Petkova 20. VII. 1998 B, det. J. Chrtek jun. ut *H. alpicola*). – kh. Planinski Izvori (Velchev 27. VII. 1995 SOM 153365, det. Kachaunova ut *H. alpicola*). – Pod vrchom Kartala – M. Kupena (Urumov 1927 BP 448262). – M. Jumruk Čal (Urumov 1927 BP s.n.). – In graminosis alpinis Mt. Iumruk Čal, 2350 m (Drenovsky 17. VII. 1911 SOM 88702, det. Urumov, rev. Georgiev ut *H. alpicola* subsp. *rhodopeum*). – Trevnisti mesta na Jamruk Chal (Pitekov VII. 1937 SO 86102, det. Vihodchevski ut *H. alpicola*). – Iumruk Chal (Kitanov 8. VIII. 1945 SOM 110593). – In pascuis Mt. Maru Gidik (Urumov s.d. SOM 88696, ut *H. alpicola* subsp. *petraeum*, rev. Georgiev ut *H. alpicola* subsp. *rhodopeum*). – In graminosis alpinis Mt. Karlovski Balkan (Urumov 19. VI. 1927 SOM 88704, rev. Georgiev ut *H. alpicola* subsp. *rhodopeum*). – Kupena – Naj visokite chasti na suhite pasdisha (Jordanov 26. VII. 1923 SO 80569, ut *H. alpicola* var. *petraeum*). – In graminosis saxosis Mt. Stara planina, cacum Mara Gidik, 2100 m (Stojanov 21. VII. 1941 SO 80566, ut *H. seriocophylum*, rev. Georgiev ut *H. alpicola* subsp. *rhodopaeum*). – In pascuis saxosis granaticis Mt. Balcan Central, ad cac. Mara Gidik, 2100 m (Achtarov 1. VIII. 1941 SO 80564, ut *H. alpicola*). – In cacumine montis Mara Gidik, supra Kalofer (Wagner 19. VIII. 1893 WU 1893, W 1963–2494, G, rev. Zahn ut *H. alpicola* Schleich. subsp. *rhodopeum*). – In cacumine montis Mara Gidik (Wagner 19. VIII. 1893 W 1963–2494). – In saxosis montis Mara Gidik supra Kalofer (Wagner 19. VIII. 1893 G–Hb. Burnat). – In pascuis m. Mara Gidik (Urumov 1909 SOM 88697, ut *H. alpicola* subsp. *petraeum*). – Mt. Botev, 42°42'54'' N, 24°55'01'' E, 2352 m (Šingliarová

& Lakoščík 11. VII. 2007 SAV). – Vr. Botev, 2376 m (Atanasov 17. VIII. 1969 SO 80571, det. Vihodchevski ut *H. alpicola*). – In pascuis ad limitem inferiorem alpinae m. Balkan prope Kalofer Thraciae (Janka 2. IX. 1871 CL 123072, 293992, W 1839–38865, WU 2804, BRNM 11243/36, BP 448287, 448290, 448269, 448265, ut *H. petreum* Friv., syn. *H. rhodopeum* Gries.). – Troyan Balkan, NE Ambariza Gipfel, saures alpines Grasland, N 42°43' 49'' E 24° 47' 27'', 1900 m (Röthlisberger 18. VII. 2001 Z, ut *Hieracium alpicola*, rev Mráz ut *Pilosella rhodopea*). – Kaloferska planina, knapp östlich Dobrila-Rasthaus, subalpines Grasland auf silikat, N 42° 42' 39'' E 24° 45' 50'', 1850 m (Röthlisberger 20. VII. 2001 Z, ut *Hieracium alpicola*, rev Mráz ut *Pilosella rhodopea*). – In pascuis inter fruticulos *Juniperi nanae*, thalique ad limitem inferiorem regioni alpinae m. Balkan prope Kalofer. Thraciae borealis (Janka 7. VIII. 1872 CL 29391, W 1927–22489). – Po visokite kamenishti pri peci na Baladana, Kademlija (Neichev VII. 1903 SO 80568, ut *H. alpicola* subsp. *petraeum*). – V rajona na kh. T'zha (Kachaunova 12. VII. 1996 SOM 153110, det. Bondrev ut *H. alpicola*). – M. Kalofer (Urumov 1927 BP 448263).

## **Romania**

Căpățîinii Mts: Mt. Zmeuretu – Muntii Căpățîinii, In pășuni alpine, Reg. Argeș R-Vîlcea, alt. ca 2000 m (Ciurchea 20. VII. 1950 CL 444641).

Cozia Mts: Muntenia, distr. Argeș, Cozia, partea superior, 1400-1600 m (Nyárády 20. VI. 1950 SB 117668). – Mt. Cozia, secondary formed meadows in the summit area, 45°19'04'' N, 24°20'17'' E, 1592 m (Šingliarová & Lakoščík 14. VII. 2007 SAV).

## **Geographically poorly localized samples:**

In pascuis alpinis mt. Rhodope (Adamovič s.d. G, ut *H. rhodopeum*). – Rumelia (Frivaldsky s.d. W 0007313, ut *H. petraeum* Friv., cor. Fries, note: Hoc plane diversum a

*H. petraeum* ad Frivaldsky sp. In Mon. Hier. et Gries. Comm Definitum, rev. Peter ut *H. micromegas* Fries).

### *Pilosella serbica*

#### **Specimina visa**

#### **Montenegro**

Prokletje Mts: Auf einem Hochsattel von Plav am Wege nach Dečani, 2000 m (Dörfler 25. VII. 1914 WU 2763, SO s.n., det. Zahn ut *H. alpicola* subsp. *glandulifolium*  $\beta$  *pilosicaule*).

#### **Kosovo**

Prokletje Mts: Pločica, 1800–2000 m (Nikolić, Diklić, Bogdanović 17. VII. 1973 BEO, det. Zahn ut *H. alpicola* subsp. *glandulifolium*). – Djeravica – Derviš Kom (Nikolić, Diklić, Bogdanović 17. VII. 1973 BEO, ut *H. alpicola* subsp. *glandulifolium*).

#### **Serbia**

Kopaonik Mts: Mt. Suvo Rudište, N 43°16'28'', E 20°48'55'', 1850–1917 m (Šingliarová & Lakošćik 16. VII 2006 and 2. VII 2007 SAV). – Suvo Rudište (Pančić s.d. BP 448266, ut *H. petraeum*). – Suvo Rudište (Pančić 29. VII. 1885 WU 2651, ut *H. petraeum*, rev. Zahn ut *H. alpicola* subsp. *glandulifolium*). – Suvo Rudište, 1900 m (Nikolić, Diklić, Mladenović 28. VII. 1979 BEO, ut *H. alpicola* var. *glandulifolium*). – Kopaonik (Rudski 8. VII. 1938 BEO, det. ? ut *H. alpicola* var. *petraeum*). – Staro Rudište (Rudski 15. VII. 1938 BEO, det. Soška ut *H. alpicola* var. *petraeum*). – Krčmar (Rudski 10. VII. 1938 BEO, ut *H. alpicola* var. *petraeum*). – Serbia in graminosis, apricis montis Kupernik [Kopaonik] (Pančić VIII s.a. W s.n., ut *P. petrea*, note: Specimina typica capitulis minoribus, usque



novem non parum recedunt). – Serbia in graminosis, apricis montis Kupernik (Pančić VIII

? GRM, ut *P. petrea*, rev. Arvet–Touvet ut *H. rhodopeum*).