

**BRYOPHYTES
IN
KOILLISMAA (Ks)/REGIO KUUSAMOENSIS
BIOGEOGRAPHICAL PROVINCE,
FINLAND AND RUSSIA**

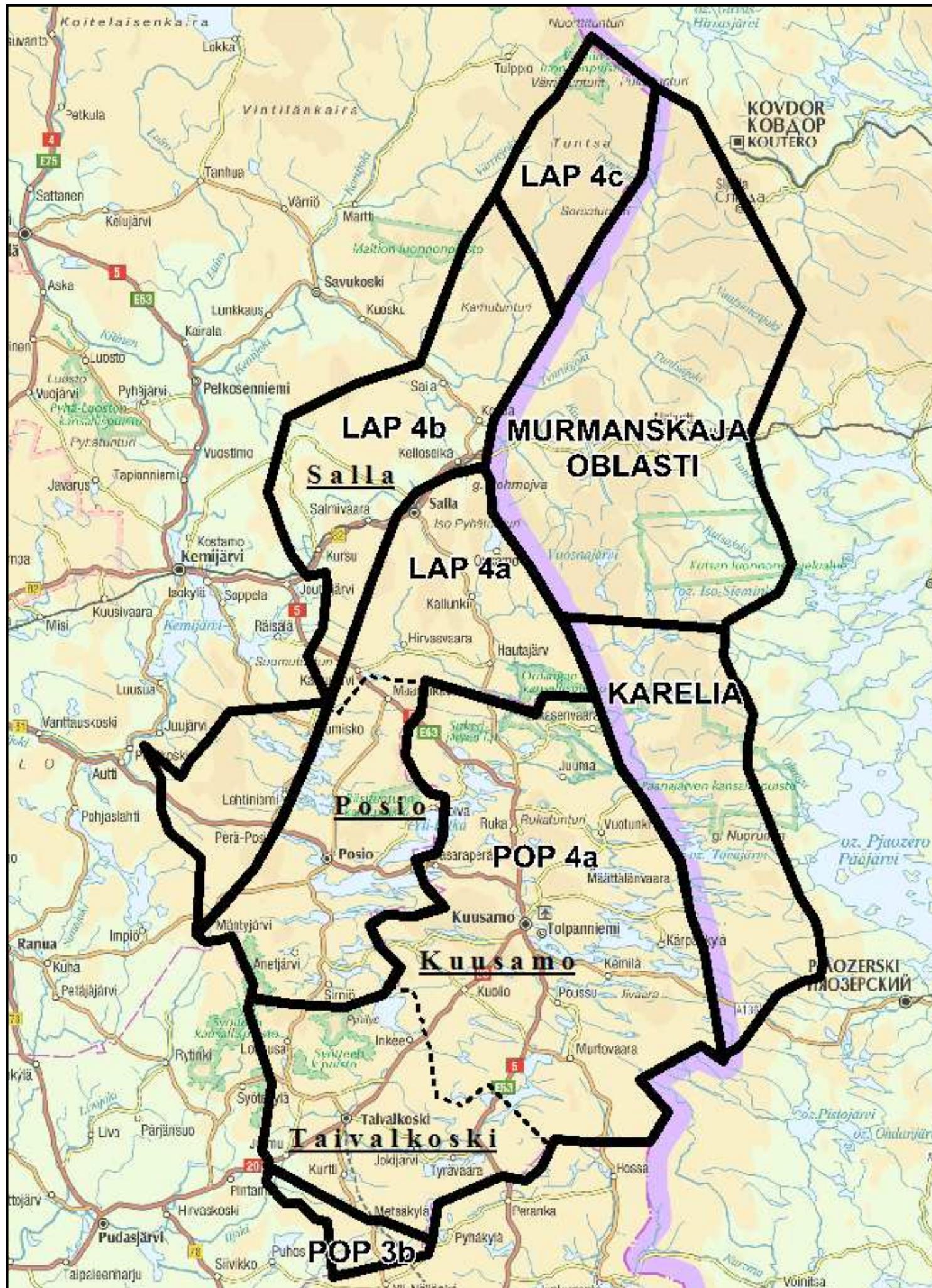
Ulvinen Tauno & Juutinen Riikka
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Nordic Bryological Society's excursion to Kuusamo, Finland
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This table is a detailed version based on checklists of Finnish bryophytes (Sammaltyöryhmä 2014, Ulvinen & Juutinen 2014). Regional distribution of bryophytes in Finland is traditionally presented according to biogeographical provinces (Appendix 1). To complicate matters, two latest assessments of threatened species, in years 2000 and 2010 in Finland have used forest vegetation zones as a basis for regional assessment (regionally threatened species, RT) and on top of that Sammaltyöryhmä (Finnish Committee for Bryophyte Conservation) has added a division based on administrative areas of environmental governance (Appendix 1). At least for time being tables based both on biogeographical provinces and vegetation zones are maintained yearly. For the purpose of this table the information of both tables is combined and distribution within Koillismaa biogeographical province is presented in subdivisions of vegetation zones.

Koillismaa province is situated partly in Russia as a result of World War II.

Majority of Finnish Koillismaa belongs to area 4a. Oulanka national park (e.g. Aventojoki, Jyrävä, Jäkälävuoma, Kitkajoki, Kiutaköngäs, Korvasvaara, Lammasvuoma, Sirkkapuro, Tulilammenpuro) is in POP 4a except for its northern parts which are in LAP 4a (e.g. Kyökkäkallio, Savinajoki) (Appendix 2). Other well known locations belonging to POP 4a in Kuusamo are Närängänvaara, Paljakka and Ruka and in Taivalkoski Kylmälävuoma and Syöte national park. Northern part of Syöte national park (the part belonging to Posio) is in LAP 4a. Also Riisitunturi national park (Posio) and Sallatunturi (Salla) are LAP 4a.



Takkaselkätunturi, Tuntsa and Värriö strict nature reserve in Salla are situated in area LAP 4c. Korouoma is in area LAP 4b. Metsäkylä area in Taivalkoski belongs to POP 3b. The subdivisions POP 3b, LAP 4b and LAP 4c are large and only a minor part of them is situated within Koillismaa province. The amount of collected specimens in POP 3b, LAP 4b and LAP 4c from Koillismaa is scanty.

Distribution in Russian Koillismaa, in provinces of Murmanskaja oblasti and Karelia are based on literature listed at the end of this text. Murmanskaja oblasti consists of area VII in Schljakov and Konstantinova (1982). Koillismaa biogeographical province is in Russia included in area 1 by Volkova and Maksimov (1993). That area also includes a part of Pohjois-Viena (Karelia Keretina, PV/Kk), e.g. Kivakkatunturi. Occurrences probably from Pohjois-Viena are removed from Koillismaa list.

Locations with bryophyte collections in Murmanskaja oblasti include Kutsa strict nature reserve (e.g. Hirveäkallio, Hosiotunturi, Jänisköngäs, Kunnusoja, Kursukuru, Pervääntämänjänkä, Pääjärvi, Raijärvi, Riekinlammit, Ruskeakuru, Vuosnatunturi, and Tuoruskuru) and in Karelia e.g. Ortsastunturi, Mäntyttunturi, Nuorunen, Paanajärvi area (e.g. Ahvenvaaranlammit, Helotuksentunturi, Kulmakkapuro, Mäntykoski, Ruskeakallio), Sieppijärvet and Ukonvaara.

A significant amount of Finnish occurrences have been checked in OULU and H by Ulvinen and from database Hertta (Finnish Environment Institute, SYKE) by Juutinen. Teuvo Ahti kindly provided us with data from Värriö strict nature reserve in Salla (area LAP 4c).

Nomenclature follows Hill et al. (2006) and Söderström et al. (2002) with few exceptions.

IUCN 2010 - National classification		
Regionally Extinct		RE
Critically Endangered		CR
Endangered		EN
Vulnerable		VU
Near Threatened		NT
Least Concern		LC
Data Deficient		DD
Not Evaluated		NE
Found after 2010 evaluation		-
Not found from Finland		(blank)
Regional classification		
	Detected 1940 onwards	Detected before 1940
Common	●	○
Rare	●	○
Indicator species	★	☆
Regionally threatened	RT	rt
Unchecked specimen		?
Regionally Extinct		RE
Not known from region		-

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	IUCN 2010	POP 4a	LAP 4a	LAP 4b	LAP 4c	KAR	MUR					
BRYOPHYTA												
<i>Abietinella abietina</i>	LC	●	●	●	-	+	+					
<i>Amblyodon dealbatus</i>	VU	VU	VU	-	-	-	+					
<i>Amblystegium serpens</i>	LC	●	●	-	-	+	+					
<i>Amblystegium subtile</i>	NT	-	-	-	-	-	+					
<i>Amphidium lapponicum</i>	LC	●	●	●	●	+	+					
<i>Amphidium mougeotii</i>	LC	●	●	●	-	+	+					
<i>Andreaea alpestris</i>	LC	-	-	-	-	+	-					
<i>Andreaea crassinervia</i>	LC	-	-	RT	-	-	-					
<i>Andreaea nivalis</i>	VU	-	-	VU	-	-	-					
<i>Andreaea obovata</i>	LC	RE	-	RE	-	-	-					
<i>Andreaea rupestris</i>	LC	●	●	●	●	+	+					
<i>Anoectangium aestivum</i>	NT	-	-	-	-	-	+					
<i>Anomobryum concinnatum</i>	VU	-	-	-	-	-	+					
<i>Anomodon longifolius</i>	LC	★	★	-	-	+	+					
<i>Anomodon viticulosus</i>	LC	★	★	RT	-	+	+					
<i>Antitrichia curtipendula</i>	LC	-	-	RT	-	-	-					
<i>Aongstroemia longipes</i>	EN	EN	-	-	-	-	-					
<i>Aplodon wormskioldii</i>	NT	RT	RT	-	-	-	-					
<i>Atrichum tenellum</i>	LC	●	●	-	-	+	+					
<i>Atrichum undulatum</i>	LC	●	-	-	-	+	-					
<i>Aulacomnium palustre</i>	LC	●	●	-	-	+	+					
<i>Aulacomnium turgidum</i>	LC	RT	RT	RT	-	+	+					
<i>Barbula convoluta</i>	LC	●	●	-	-	-	+					
<i>Bartramia halleriana</i>	LC	★	★	★	★	+	+					
<i>Bartramia ithyphylla</i>	LC	●	-	●	●	+	+					
<i>Bartramia pomiformis</i>	LC	●	●	●	●	+	+					
<i>Blindia acuta</i>	LC	●	●	●	●	+	+					
<i>Brachytheciastrum collinum</i>	VU	-	-	-	VU	-	-					
<i>Brachytheciastrum velutinum</i>	LC	-	-	-	-	+	+					
<i>Brachythecium albicans</i>	LC	○	●	●	-	-	-					
<i>Brachythecium erythrorrhizon</i>	LC	●	●	●	-	+	+					
<i>Brachythecium glareosum</i>	LC	RT	rt	RT	-	-	-					
<i>Brachythecium mildeanum</i> (incl. <i>B. udum</i>)	LC	-	●	-	-	+	+					
<i>Brachythecium rivulare</i>	LC	●	●	●	-	+	+					
<i>Brachythecium rutabulum</i>	LC	RT	-	-	-	-	-					
<i>Brachythecium salebrosum</i>	LC	●	●	-	-	+	+					
<i>Brachythecium turgidum</i>	LC	RT	RT	-	RT	+	+					

	IUCN 2010	POP 4a	LAP 4a	LAP 4b	LAP 4c	KAR	MUR				
Breidleria pratensis	LC	★	-	-	-	+	+				
Bryoerythrophyllum recurvirostrum	LC	★	★	-	-	+	+				
Bryum algovicum	LC	•	-	-	-	+	-				
Bryum altaicum Broth.						+	-				
Bryum archangelicum (B. imbricatum)	LC	•	•	-	-	+	+				
Bryum arcticum	LC	○	•	-	-	+	-				
Bryum argenteum	LC	•	-	-	-	-	+				
Bryum caespiticium	LC	○	-	-	-	-	-				
Bryum capillare	LC	-	-	-	-	-	+				
Bryum creberimum (B. cirratum)	LC	○	•	-	-	+	+				
Bryum cyclophyllum	LC	•	•	-	-	-	-				
Bryum elegans	LC	●	●	-	●	+	-				
Bryum funkii						+	-				
Bryum intermedium subsp. intermedium	LC	•	-	-	-	-	-				
Bryum intermedium subsp. nitidulum	EN	EN	-	-	-	-	-				
Bryum knowltonii	NT	RE	-	-	-	-	-				
Bryum lapponicum Kaurin						+	-				
Bryum longisetum	EN	EN	RE	-	-	-	-	+			
Bryum mildeanum	DD	RT	-	-	-	+	-				
Bryum moravicum	LC	•	•	•	-	-	+				
Bryum oblongum	NT	RE	-	-	-	-	-				
Bryum pallens (B. rutilans)	LC	●	●	●	-	+	+				
Bryum pallescens	LC	○	○	-	-	+	+				
Bryum pseudotriquetrum	LC	●	●	●	●	+	+				
Bryum pseudotriquetrum var. neodamense	VU	VU	VU	-	-	-	-	+			
Bryum sahlbergii Zolotov						+	-				
Bryum salinum	DD	-	-	-	-	+	-				
Bryum tenuisetum	LC	-	RE	-	-	-	-				
Bryum weigelii	LC	●	●	●	●	+	+				
Buxbaumia aphylla	LC	●	●	-	-	+	+				
Callicladium haldanianum	LC	RT	RT	-	-	-	-				
Calliergon cordifolium	LC	●	●	-	-	+	+				
Calliergon giganteum	LC	●	●	●	-	+	+				
Calliergon megalophyllum	LC	●	●	●	-	+	-				

	IUCN 2010	POP 4a	LAP 4a	LAP 4b	LAP 4c	KAR	MUR				
<i>Calliergon richardsonii</i>	LC	●	●	●	●	+	+				
<i>Calliergonella cuspidata</i>	LC	●	●	-	-	+	+				
<i>Calliergonella lindbergii</i>	LC	●	●	●	-	+	+				
<i>Campyliadelphus chrysophyllus</i>	LC	★	★	-	RT	+	+				
<i>Campyliadelphus elodes</i>	VU	VU	VU	-	-	+	-				
<i>Campylium laxifolium</i>	EN	-	RE	-	-	-	-				
<i>Campylium protensum</i>	LC	★	★	-	-	+	+				
<i>Campylium stellatum</i>	LC	●	●	●	-	+	+				
<i>Campylophyllum calcareum</i>	LC	RT	RT	-	-	-	+				
<i>Campylophyllum halleri</i>	NT	RT	RT	-	-	+	+				
<i>Campylophyllum sommerfeltii</i>	LC	●	-	-	-	+	+				
<i>Catoscopium nigritum</i>	LC	★	★	-	-	+	+				
<i>Ceratodon purpureus</i>	LC	●	●	●	-	+	+				
<i>Cinclidium stygium</i>	LC	●	●	●	-	+	+				
<i>Cinclidium subrotundum</i>	LC	★	★	●	-	+	+				
<i>Cirriphyllum piliferum</i>	LC	●	●	★	-	+	+				
<i>Climacium dendroides</i>	LC	●	●	-	-	+	+				
<i>Cnestrum alpestre</i>	LC	RT	rt	RT	-	+	+				
<i>Cnestrum glaucescens</i>	VU	-	-	-	-	-	+				
<i>Cnestrum schisti</i>	LC	●	●	-	-	+	+				
<i>Conostomum tetragonum</i>	LC	★	★	RT	★	+	+				
<i>Cratoneuron filicinum</i>	LC	★	★	-	-	+	+				
<i>Cynodontium strumiferum</i>	LC	●	●	●	-	+	+				
<i>Cynodontium suecicum</i>	NT	RE	-	-	-	-	-				
<i>Cynodontium tenellum</i>	LC	●	●	●	●	+	+				
<i>Cyrtomnium hymenophylloides</i>	NT	RT	-	-	-	+	+				
<i>Dichelyma falcatum</i>	LC	●	●	●	-	+	+				
<i>Dichodontium palustre</i>	LC	RT	RT	-	-	-	-				
<i>Dichodontium pellucidum</i>	LC	●	●	-	-	+	+				
<i>Dicranella cerviculata</i>	LC	●	●	-	-	+	+				
<i>Dicranella crispa</i>	LC	●	●	●	-	+	+				
<i>Dicranella grevilleana</i>	LC	★	★	-	-	+	+				
<i>Dicranella humilis</i>	NT	-	-	-	-	+	+				
<i>Dicranella schreberiana</i>	LC	-	-	-	-	+	+				
<i>Dicranella subulata</i>	LC	●	●	●	-	+	+				
<i>Dicranella varia</i>	LC	-	-	-	-	+	-				
<i>Dicranoweisia crispula</i>	LC	●	●	●	●	+	+				
<i>Dicranum acutifolium</i>	NT	★	★	-	-	+	+				
<i>Dicranum angustum</i>	LC	●	●	★	●	+	+				

	IUCN 2010	POP 4a	LAP 4a	LAP 4b	LAP 4c	KAR	MUR			
<i>Dicranum bonjeanii</i>	LC	●	●	●	-	+	+			
<i>Dicranum brevifolium</i>	LC	★	★	-	RT	+	+			
<i>Dicranum drummondii</i>	LC	●	●	●	-	+	+			
<i>Dicranum elongatum</i>	LC	●	●	●	●	+	+			
<i>Dicranum flagellare</i>	LC	RT	-	-	-	-	-			
<i>Dicranum flexicaule</i>	LC	●	●	●	●	+	+			
<i>Dicranum fragilifolium</i>	LC	●	●	-	-	+	+			
<i>Dicranum fuscescens</i>	LC	●	●	●	-	+	+			
<i>Dicranum majus</i>	LC	●	●	-	●	+	+			
<i>Dicranum montanum</i>	LC	●	●	●	-	+	+			
<i>Dicranum polysetum</i>	LC	●	●	●	-	+	+			
<i>Dicranum scoparium</i>	LC	●	●	●	●	+	+			
<i>Dicranum spurium</i>	LC	●	●	●	-	-	+			
<i>Dicranum undulatum</i>	LC	●	●	●	-	+	+			
<i>Didymodon fallax</i>	LC	RT	-	-	-	-	-			
<i>Didymodon ferrugineus</i>	NT	-	-	-	-	+	-			
<i>Didymodon icmadophilus</i>						+	+			
<i>Didymodon rigidulus</i>	LC	RT	rt	-	-	+	+			
<i>Diphyscium foliosum</i>	NT	RT	-	-	-	+	+			
<i>Disclerium nudum</i>	LC	-	-	-	-	-	+			
<i>Distichium capillaceum</i>	LC	●	●	-	●	+	+			
<i>Distichium inclinatum</i>	NT	RT	RT	-	-	+	+			
<i>Ditrichum flexicaule</i>	LC	●	●	●	●	+	+			
<i>Ditrichum heteromallum</i>	LC	●	●	●	-	+	+			
<i>Ditrichum pusillum</i>	LC	●	●	-	-	+	+			
<i>Ditrichum zonatum</i>	LC	RT	-	RT	-	-	+			
<i>Drepanocladus aduncus</i>	LC	●	●	-	●	-	+			
<i>Drepanocladus longifolius</i>	LC	●	●	●	●	+	-			
<i>Drepanocladus polygamus</i>	LC	●	●	-	-	?	-			
<i>Drepanocladus sendtneri</i>	EN	RE	-	-	-	-	-			
<i>Drepanocladus sordidus</i>	LC	●	●	●	-	+	+			
<i>Encalypta affinis</i> subsp. <i>affinis</i>	LC	★	★	-	-	+	+			
<i>Encalypta alpina</i>	NT	-	-	-	-	-	+			
<i>Encalypta brevicolla</i>	LC	●	●	★	RT	+	+			
<i>Encalypta ciliata</i>	LC	●	●	★	-	+	+			
<i>Encalypta mutica</i>	EN	EN	EN	-	-	+	+			
<i>Encalypta procera</i>	NT	★	☆	-	-	+	+			
<i>Encalypta rhaftocarpa</i> var. <i>leptodon</i>	DD	-	DD	-	-	-	-			

	IUCN 2010	POP 4a	LAP 4a	LAP 4b	LAP 4c	KAR	MUR		
<i>Encalypta rhaftocarpa</i> var. <i>rhaftocarpa</i>	LC	●	●	★	-	+	+		
<i>Encalypta streptocarpa</i>	LC	●	●	★	-	+	+		
<i>Eurhynchiastrum pulchellum</i>	LC	●	○	-	●	+	+		
<i>Fissidens adianthoides</i>	LC	●	●	-	-	+	+		
<i>Fissidens fontanus</i>	NT	RT	-	-	-	-	-		
<i>Fissidens gymnandrus</i>	NT	RT	-	-	-	+	+		
<i>Fissidens osmundoides</i>	LC	●	●	●	-	+	+		
<i>Fissidens pusillus</i>	LC	★	★	-	-	-	-		
<i>Fissidens viridulus</i>	LC	RT	RT	RT	-	-	+		
<i>Fontinalis antipyretica</i>	LC	●	●	-	-	+	+		
<i>Fontinalis dalecarlica</i>	LC	●	●	●	-	+	+		
<i>Fontinalis hypnoides</i>	LC	●	●	●	-	-	-		
<i>Fontinalis squamosa</i>	DD	DD	-	-	-	-	-		
<i>Funaria hygrometrica</i>	LC	●	●	-	-	+	+		
<i>Grimmia anodon</i>	EN	RE	-	-	-	-	-		
<i>Grimmia donniana</i>	VU	VU	-	-	-	-	-		
<i>Grimmia elatior</i>	LC	-	-	-	-	-	+		
<i>Grimmia incurva</i>	LC	-	-	-	rt	-	+		
<i>Grimmia longirostris</i>	LC	●	●	●	●	+	+		
<i>Grimmia montana</i>	NT	-	-	-	-	+	-		
<i>Grimmia muehlenbeckii</i>	LC	●	-	-	-	+	-		
<i>Grimmia ovalis</i>	LC	RE	-	-	-	-	-		
<i>Grimmia ramondii</i>	LC	RT	-	-	-	-	-		
<i>Grimmia sessitana</i> (G. reflexidens)	VU	-	-	-	-	+	-		
<i>Grimmia torquata</i>	LC	●	●	●	●	+	+		
<i>Gymnostomum aeruginosum</i>	NT	★	★	-	-	+	+		
<i>Gymnostomum boreale</i>	CR	-	-	-	-	+	+		
<i>Hamatocaulis lapponicus</i>	EN	EN	-	-	-	-	+		
<i>Hamatocaulis vernicosus</i>	VU	VU	VU	VU	-	-	+		
<i>Hedwigia ciliata</i>	LC	●	●	●	●	+	+		
<i>Helodium blandowii</i>	LC	●	●	●	-	+	+		
<i>Herzogiella striatella</i>	LC	RT	-	-	-	-	-		
<i>Herzogiella turfacea</i>	VU	VU	-	-	-	-	-		
<i>Heterocladium dimorphum</i>	LC	●	●	-	-	+	-		
<i>Homalia trichomanoides</i>	LC	RT	-	-	-	+	+		
<i>Homalothecium sericeum</i>	LC	RT	RT	-	-	-	+		
<i>Hygroamblystegium fluviatile</i>	LC	RT	RT	RT	-	+	-		
<i>Hygrohypnum alpestre</i>	LC	●	●	●	-	+	+		

	IUCN 2010	POP 4a	LAP 4a	LAP 4b	LAP 4c	KAR	MUR				
<i>Hygrohypnum duriusculum</i>	LC	●	●	●	-	+	+				
<i>Hygrohypnum luridum</i>	LC	★	★	-	-	+	+				
<i>Hygrohypnum norvegicum</i>	VU	-	-	-	-	-	+				
<i>Hygrohypnum ochraceum</i>	LC	●	●	●	●	+	+				
<i>Hygrohypnum smithii</i>	LC	●	●	-	-	-	+				
<i>Hylocomiastrum pyrenaicum</i>	LC	●	●	●	●	+	+				
<i>Hylocomiastrum umbratum</i>	LC	●	●	★	RT	+	+				
<i>Hylocomium splendens</i>	LC	●	●	●	●	+	+				
<i>Hymenostylium recurvirostrum</i>	NT	★	★	-	-	+	+				
<i>Hypnum andoi</i>	LC	●	-	-	-	-	-				
<i>Hypnum bambergeri</i>	NT	RT	-	-	-	-	-				
<i>Hypnum cypresiforme</i>	LC	●	-	●	-	+	+				
<i>Hypnum hamulosum</i>	VU	VU	-	-	-	+	+				
<i>Hypnum holmenii</i>	NT	RT	rt	-	-	+	+				
<i>Hypnum revolutum</i>	LC	●	●	★	-	+	+				
<i>Hypnum revolutum</i>	LC	-	-	-	RT	-	+				
<i>Hypnum subimponens</i>	VU	VU	-	-	-	-	-				
<i>Hypnum vaucheri</i>	LC	RT	RT	-	-	-	+				
<i>Isopterygiopsis alpicola</i>	EN	-	-	-	-	-	+				
<i>Isopterygiopsis pulchella</i>	LC	●	●	●	●	+	+				
<i>Isothecium alopecuroides</i>	LC	RE	-	-	-	-	-				
<i>Isothecium myosuroides</i>	LC	●	●	●	-	+	+				
<i>Kiaeria blyttii</i>	LC	●	-	●	-	+	+				
<i>Kiaeria glacialis</i>	LC	-	-	-	-	-	+				
<i>Kiaeria starkei</i>	LC	-	-	-	-	-	+				
<i>Leptobryum pyriforme</i>	LC	●	●	●	●	+	+				
<i>Leptodictyum riparium</i>	LC	●	●	-	-	-	+				
<i>Lescuraea saxicola</i>	LC	RT	RT	-	RT	+	+				
<i>Leskea polycarpa</i>	LC	RT	-	-	-	-	+				
<i>Leucodon sciurooides</i>	LC	★	★	RT	-	+	+				
<i>Loeskypnum badium</i>	LC	●	●	●	-	+	+				
<i>Meesia longiseta</i>	EN	RE	EN	-	-	-	-				
<i>Meesia triquetra</i>	LC	●	●	●	-	+	+				
<i>Meesia uliginosa</i>	LC	●	●	-	-	+	+				
<i>Mnium blyttii</i>	NT	-	-	-	-	-	+				
<i>Mnium hornum</i>	LC	-	-	-	-	-	+				
<i>Mnium lycopodioides</i>	LC	★	★	★	RT	+	+				
<i>Mnium marginatum</i>	LC	★	★	-	-	+	+				
<i>Mnium spinosum</i>	NT	RT	RT	-	-	-	+				

	IUCN 2010	POP 4a	LAP 4a	LAP 4b	LAP 4c	KAR	MUR				
<i>Mnium stellare</i>	LC	●	●	-	●	+	+				
<i>Mnium thomsonii</i>	LC	★	★	RT	-	+	+				
<i>Myrinia pulvinata</i>	NT	RT	RT	★	-	+	+				
<i>Myurella julacea</i>	LC	★	★	-	-	+	+				
<i>Myurella tenerrima</i>	NT	RT	-	-	-	+	+				
<i>Neckera complanata</i>	LC	★	★	RT	-	+	+				
<i>Neckera crispa</i>	LC	RT	-	-	-	+	-				
<i>Neckera oligocarpa</i>	LC	●	●	●	●	+	+				
<i>Neckera pennata</i>	VU	-	-	-	-	-	+				
<i>Oligotrichum hercynicum</i>	LC	●	●	-	●	-	-				
<i>Oncophorus wahlenbergii</i>	LC	●	●	●	●	+	+				
<i>Oncophorus virens</i>	LC	●	●	-	-	+	+				
<i>Orthothecium chryseon</i>	LC	RT	-	-	-	+	-				
<i>Orthothecium intricatum</i>	NT	RT	RT	-	-	-	-				
<i>Orthothecium rufescens</i>	EN	EN	-	-	-	+	-				
<i>Orthothecium strictum</i>	NT	★	-	-	-	+	+				
<i>Orthotrichum alpestre</i>	LC	●	●	●	-	+	+				
<i>Orthotrichum anomalum</i>	LC	RT	-	-	-	+	-				
<i>Orthotrichum obtusifolium</i>	LC	●	●	●	-	+	+				
<i>Orthotrichum pallens</i>	LC	-	-	-	-	-	+				
<i>Orthotrichum pellucidum</i>	CR	CR	CR	-	-	-	-				
<i>Orthotrichum pylaisii</i>	LC	RT	-	-	RT	-	+				
<i>Orthotrichum rupestre</i>	LC	●	●	RT	-	+	+				
<i>Orthotrichum speciosum</i>	LC	●	●	●	-	+	+				
<i>Oxystegus tenuirostris</i>	NT	RT	-	-	-	-	-				
<i>Paludella squarrosa</i>	LC	●	●	●	●	+	+				
<i>Palustriella commutata</i>	VU	VU	VU	-	-	+	+				
<i>Palustriella decipiens</i>	NT	★	★	-	RT	+	+				
<i>Palustriella falcata</i>	NT	★	★	-	-	+	+				
<i>Paraleucobryum longifolium</i>	LC	●	●	●	●	+	+				
<i>Philonotis caespitosa</i>	LC	●	-	-	-	-	+				
<i>Philonotis calcarea</i>	EN	EN	EN	-	-	+	+				
<i>Philonotis fontana</i>	LC	●	●	●	●	+	+				
<i>Philonotis seriata</i>	LC	●	●	●	-	-	+				
<i>Philonotis tomentella</i>	LC	●	●	-	-	+	+				
<i>Plagiobryum zieri</i>	NT	RT	-	-	-	+	+				
<i>Plagiomnium curvatum</i>	NT	RT	RT	-	-	+	+				
<i>Plagiomnium cuspidatum</i>	LC	●	●	-	-	+	+				
<i>Plagiomnium elatum</i>	LC	RT	RT	-	-	+	+				

	IUCN 2010	POP 4a	LAP 4a	LAP 4b	LAP 4c	KAR	MUR				
<i>Plagiomnium ellipticum</i>	LC	●	●	●	●	+	+				
<i>Plagiomnium medium</i>	LC	●	●	●	-	+	+				
<i>Plagiomnium rostratum</i>	NT	RT	RT	-	-	+	+				
<i>Plagiopus oederianus</i>	LC	★	★	-	-	+	+				
<i>Plagiothecium cavifolium</i>	LC	●	●	-	-	+	+				
<i>Plagiothecium curvifolium</i>	LC	○	-	-	-	-	-				
<i>Plagiothecium denticulatum</i> var. <i>denticulatum</i>	LC	●	●	●	-	+	+				
<i>Plagiothecium denticulatum</i> var. <i>undulatum</i>	LC	RT	-	-	-	-	-				
<i>Plagiothecium laetum</i>	LC	●	●	●	-	+	+				
<i>Plagiothecium piliferum</i>	LC	●	-	-	-	+	-				
<i>Plagiothecium platyphyllum</i>	EN	EN	-	-	-	-	-				
<i>Plagiothecium succulentum</i>	LC	-	-	-	-	-	+				
<i>Platydictya jungermannioides</i>	LC	●	●	-	RT	+	+				
<i>Platygyrium repens</i>	LC	RE	-	-	-	-	+				
<i>Platyhypnidium riparioides</i>	NT	RT	RT	-	-	+	+				
<i>Pleurozium schreberi</i>	LC	●	●	●	●	+	+				
<i>Pogonatum dentatum</i>	LC	●	●	●	-	+	+				
<i>Pogonatum urnigerum</i>	LC	●	●	●	-	+	+				
<i>Pohlia andalusica</i>	LC	○	-	-	-	?	?				
<i>Pohlia andrewsii</i>	VU	-	VU	-	-	-	-				
<i>Pohlia bulbifera</i>	LC	●	●	-	-	-	+				
<i>Pohlia cruda</i>	LC	●	●	●	●	+	+				
<i>Pohlia crudoides</i>	NT	-	-	RT	-	-	-				
<i>Pohlia drummondii</i>	LC	●	●	●	●	-	+				
<i>Pohlia elongata</i>	LC	-	-	RT	-	-	-				
<i>Pohlia filum</i>	LC	●	●	-	-	-	+				
<i>Pohlia lescuriana</i>	LC	●	●	●	-	+	+				
<i>Pohlia longicolla</i>	LC	●	-	-	-	+	+				
<i>Pohlia nutans</i>	LC	●	●	●	-	+	+				
<i>Pohlia obtusifolia</i>	LC	-	-	-	●	-	+				
<i>Pohlia proligera</i>	LC	●	●	●	-	+	+				
<i>Pohlia wahlenbergii</i>	LC	●	●	●	●	+	+				
<i>Polytrichastrum alpinum</i>	LC	●	●	●	●	+	+				
<i>Polytrichastrum longisetum</i>	LC	●	●	●	-	+	+				
<i>Polytrichastrum pallidisetum</i>	DD	RT	-	-	-	-	-				
<i>Polytrichum commune</i>	LC	●	●	●	-	+	+				
<i>Polytrichum hyperboreum</i>	LC	-	-	-	-	+	+				

	IUCN 2010	POP 4a	LAP 4a	LAP 4b	LAP 4c	KAR	MUR				
<i>Polytrichum jensenii</i>	LC	●	●	-	-	-	+				
<i>Polytrichum juniperinum</i>	LC	●	●	●	●	+	+				
<i>Polytrichum piliferum</i>	LC	●	●	●	-	+	+				
<i>Polytrichum strictum</i>	LC	●	●	●	●	+	+				
<i>Polytrichum swartzii</i>	LC	●	●	-	-	+	+				
<i>Pseudobryum cinclidioides</i>	LC	●	●	●	-	+	+				
<i>Pseudocalliergon angustifolium</i>	VU	VU	VU	-	-	-	+				
<i>Pseudocalliergon lycopodioides</i>	VU	VU	RE	-	-	-	-				
<i>Pseudocalliergon trifarium</i>	LC	★	★	★	-	+	+				
<i>Pseudoleskeia incurvata</i>	NT	RT	rt	-	-	-	+				
<i>Pseudoleskeia patens</i>	RE	-	-	-	-	-	+				
<i>Pseudoleskeia radicosa</i>	LC	RT	-	-	RT	+	+				
<i>Pseudoleskeella nervosa</i>	LC	●	●	●	●	+	+				
<i>Pseudoleskeella papillosa</i>	NT	★	-	RT	-	+	+				
<i>Pseudoleskeella rupestris</i>	NT	★	★	-	-	+	+				
<i>Pseudoleskeella tectorum</i>	LC	★	★	-	-	+	+				
<i>Pseudotaxiphyllum elegans</i>	LC	RT	-	-	-	-	-				
<i>Psilopilum laevigatum</i>	CR	RE	RE	-	-	-	-				
<i>Pterigynandrum filiforme</i>	LC	●	●	●	●	+	+				
<i>Ptilium crista-castrensis</i>	LC	●	●	-	-	+	+				
<i>Pylaisia polyantha</i>	LC	●	●	-	-	+	+				
<i>Racomitrium aciculare</i>	LC	RT	RT	-	-	?	-				
<i>Racomitrium canescens</i>	LC	●	●	●	-	+	+				
<i>Racomitrium fasciculare</i>	LC	●	○	●	-	+	+				
<i>Racomitrium lanuginosum</i>	LC	●	●	●	●	+	+				
<i>Racomitrium microcarpon</i>	LC	●	●	●	●	+	+				
<i>Racomitrium sudeticum</i>	LC	RT	RT	-	-	-	-				
<i>Rhabdoweisia fugax</i>	LC	RT	-	RT	-	-	-				
<i>Rhizomnium andrewsianum</i>	CR	RE	-	-	-	-	-				
<i>Rhizomnium gracile</i>	CR	CR	-	-	-	-	-				
<i>Rhizomnium magnifolium</i>	LC	●	●	●	●	+	+				
<i>Rhizomnium pseudopunctatum</i>	LC	●	●	●	●	+	+				
<i>Rhizomnium punctatum</i>	LC	●	●	-	-	+	+				
<i>Rhodobryum roseum</i>	LC	●	●	●	-	+	+				
<i>Rhytidadelphus squarrosus</i>	LC	●	-	●	-	-	+				
<i>Rhytidadelphus subpinnatus</i>	LC	●	●	●	-	+	+				
<i>Rhytidadelphus triquetrus</i>	LC	●	●	-	●	+	+				
<i>Rhytidium rugosum</i>	LC	-	-	-	RT	-	+				
<i>Saelania glaucescens</i>	LC	●	●	●	-	+	+				

	IUCN 2010	POP 4a	LAP 4a	LAP 4b	LAP 4c	KAR	MUR				
<i>Sanionia uncinata</i>	LC	●	●	●	●	+	+				
<i>Schistidium agassizii</i>	LC	●	●	●	-	+	+				
<i>Schistidium apocarpum</i>	LC	●	●	-	-	+	-				
<i>Schistidium boreale</i>	LC	●	●	-	-	+	+				
<i>Schistidium crenatum</i>	LC	●	●	-	●	-	-				
<i>Schistidium dupretii</i>	LC	●	-	-	-	-	-				
<i>Schistidium frigidum</i>	LC	●	-	-	●	+	-				
<i>Schistidium frisvollianum</i>	LC	●	-	-	-	-	-				
<i>Schistidium lancifolium</i>	LC	●	-	-	-	+	-				
<i>Schistidium papillosum</i>	LC	●	●	●	●	+	+				
<i>Schistidium platyphyllum</i>	LC	-	-	-	-	+	-				
<i>Schistidium pulchrum</i>	LC	●	-	-	-	+	+				
<i>Schistidium recurvum</i>	NT	-	-	-	-	+	-				
<i>Schistidium rivulare</i>	LC	●	●	●	-	+	+				
<i>Scistidium robustum</i>	LC	●	-	-	-	-	-				
<i>Schistidium sordidum</i>	VU	VU	-	-	-	-	-				
<i>Schistidium subjulaceum</i>	EN	-	-	-	-	+	-				
<i>Schistidium submuticum</i>	LC	○	-	-	-	+	-				
<i>Schistidium tenerum</i>	VU	-	-	-	-	+	-				
<i>Schistidium trichodon</i>	NT	RT	-	-	-	+	-				
<i>Schistostega pennata</i>	NT	RT	RT	RT	-	+	-				
<i>Sciuro-hypnum curtum</i>	LC	●	●	●	-	+	+				
<i>Sciuro-hypnum glaciale</i>	VU	VU	-	-	-	-	-				
<i>Sciuro-hypnum latifolium</i>	NT	RT	-	-	-	-	+				
<i>Sciuro-hypnum plumosum</i>	LC	●	●	●	-	+	+				
<i>Sciuro-hypnum populeum</i>	LC	●	●	-	-	+	+				
<i>Sciuro-hypnum reflexum</i>	LC	●	●	●	●	+	+				
<i>Sciuro-hypnum starkei</i>	LC	●	●	-	●	+	+				
<i>Scorpidium cossonii</i>	LC	●	●	●	-	+	+				
<i>Scorpidium revolvens</i>	LC	●	●	●	-	+	+				
<i>Scorpidium scorpioides</i>	LC	●	●	●	-	+	+				
<i>Seligeria brevifolia</i>	VU	VU	VU	-	-	+	-				
<i>Seligeria calcarea</i>	RE	RE	-	-	-	-	-				
<i>Seligeria campylopoda</i>	VU	VU	-	-	-	-	-				
<i>Seligeria diversifolia</i>	NT	★	★	-	-	+	+				
<i>Seligeria donniana</i>	NT	RT	RT	-	-	+	-				
<i>Seligeria pusilla</i>	RE	-	RE	-	-	-	-				
<i>Seligeria subimmersa</i>	VU	VU	VU	-	-	+	-				
<i>Seligeria tristichoides</i>	VU	VU	VU	-	-	+	+				

	IUCN 2010	POP 4a	LAP 4a	LAP 4b	LAP 4c	KAR	MUR				
<i>Sphagnum angustifolium</i>	LC	●	●	-	-	+	+				
<i>Sphagnum aongstroemii</i>	LC	●	●	●	-	+	-				
<i>Sphagnum balticum</i>	LC	●	●	-	-	+	+				
<i>Sphagnum capillifolium</i>	LC	●	●	●	-	+	+				
<i>Sphagnum centrale</i>	LC	●	●	-	-	+	+				
<i>Sphagnum compactum</i>	LC	●	●	-	-	+	+				
<i>Sphagnum contortum</i>	NT	★	★	-	-	+	+				
<i>Sphagnum fallax</i>	LC	●	●	-	-	+	+				
<i>Sphagnum fimbriatum</i>	LC	●	●	-	-	-	-				
<i>Sphagnum flexuosum</i>	LC	●	●	-	-	+	+				
<i>Sphagnum fuscum</i>	LC	●	●	●	-	+	+				
<i>Sphagnum girgensohnii</i>	LC	●	●	●	-	+	+				
<i>Sphagnum jensenii</i>	LC	●	●	-	-	+	+				
<i>Sphagnum lindbergii</i>	LC	●	●	-	-	+	+				
<i>Sphagnum magellanicum</i>	LC	●	●	-	-	+	+				
<i>Sphagnum majus</i>	LC	●	●	-	-	+	+				
<i>Sphagnum obtusum</i>	LC	★	-	-	-	+	-				
<i>Sphagnum papillosum</i>	LC	●	●	-	-	+	+				
<i>Sphagnum platyphyllum</i>	LC	●	●	-	-	+	-				
<i>Sphagnum pulchrum</i>	LC	●	●	-	-	+	-				
<i>Sphagnum quinquefarium</i>	LC	-	-	-	-	+	+				
<i>Sphagnum riparium</i>	LC	●	●	-	-	+	+				
<i>Sphagnum rubellum</i>	LC	●	●	-	-	-	-				
<i>Sphagnum russowii</i>	LC	●	●	-	-	+	+				
<i>Sphagnum squarrosum</i>	LC	●	●	-	-	+	+				
<i>Sphagnum subfulvum</i>	LC	●	●	●	-	+	+				
<i>Sphagnum subnitens</i>	LC	RT	RT	-	-	+	-				
<i>Sphagnum subsecundum</i>	LC	●	●	-	-	+	+				
<i>Sphagnum tenellum</i>	LC	●	●	-	-	-	-				
<i>Sphagnum teres</i>	LC	●	●	-	-	+	+				
<i>Sphagnum warnstorffii</i>	LC	●	●	-	-	+	+				
<i>Sphagnum wulfianum</i>	LC	●	●	●	-	+	-				
<i>Splachnum ampullaceum</i>	LC	●	●	●	-	+	+				
<i>Splachnum luteum</i>	LC	●	●	-	-	+	+				
<i>Splachnum melanocaulon</i>	EN	EN	EN	-	-	-	-				
<i>Splachnum rubrum</i>	LC	●	●	-	-	+	-				
<i>Splachnum sphaericum</i>	LC	●	●	-	-	+	+				
<i>Splachnum vasculosum</i>	LC	●	●	-	-	+	+				
<i>Straminergon stramineum</i>	LC	●	●	●	-	+	+				

	IUCN 2010	POP 4a	LAP 4a	LAP 4b	LAP 4c	KAR	MUR			
<i>Syntrichia norvegica</i>	LC	RT	-	-	-	-	+			
<i>Syntrichia ruralis</i>	LC	●	●	●	●	+	+			
<i>Taxiphyllum wissgrillii</i>	LC	RT	-	-	-	-	-			
<i>Tayloria lingulata</i>	LC	★	★	★	★	+	+			
<i>Tayloria splachnoides</i>	EN	-	-	-	-	+	-			
<i>Tayloria tenuis</i>	NT	RT	-	-	-	+	+			
<i>Tetraphis pellucida</i>	LC	●	●	●	-	+	+			
<i>Tetraplodon angustatus</i>	LC	●	●	-	-	+	+			
<i>Tetraplodon mnioides</i>	LC	●	●	-	-	+	+			
<i>Tetrodontium ovatum</i>	NT	RT	-	RT	-	-	-			
<i>Thuidium recognitum</i>	LC	●	-	-	-	+	+			
<i>Timmia austriaca</i>	LC	●	●	-	RT	+	+			
<i>Timmia bavarica</i>	VU	VU	-	-	-	-	+			
<i>Timmia comata</i>	VU	VU	VU	-	-	+	+			
<i>Tomentypnum nitens</i>	LC	●	●	-	-	+	+			
<i>Tortella fragilis</i>	LC	★	★	RT	-	+	+			
<i>Tortella tortuosa</i>	LC	●	●	●	●	+	+			
<i>Tortula hoppeana</i>	LC	-	-	-	-	+	-			
<i>Tortula mucronifolia</i>	EN	EN	-	-	-	+	-			
<i>Trematodon ambiguus</i>	LC	○	●	-	-	?	-			
<i>Trichodon cylindricus</i>	LC	●	●	-	-	+	+			
<i>Ulota curvifolia</i>	LC	●	●	●	-	+	+			
<i>Warnstorfia exannulata</i>	LC	●	●	●	●	+	+			
<i>Warnstorfia fluitans</i>	LC	●	●	●	-	+	+			
<i>Warnstorfia procera</i>	LC	●	●	●	●	-	+			
<i>Warnstorfia pseudostraminea</i>	LC	●	-	-	-	-	+			
<i>Warnstorfia sarmentosa</i>	LC	●	●	●	-	+	+			
<i>Warnstorfia trichophylla</i>	LC	●	●	●	-	+	+			
<i>Warnstorfia tundrae</i>	LC	●	●	●	-	+	+			
<i>Weissia controversa</i>	LC	RT	-	-	-	-	-			
<i>Zygodon conoideus</i>	EN	EN	-	-	-	-	-			
<i>Zygodon rupestris</i>	LC	RT	-	-	-	+	-			
<i>Zygodon viridissimus</i>	VU	VU	-	-	-	-	+			
MARCHANTIOPHYTA										
<i>Anastrophyllum hellerianum</i>	NT	RT	RT	RT	-	+	+			
<i>Anastrophyllum minutum</i>	LC	●	●	●	●	+	+			
<i>Anastrophyllum saxicola</i>	LC	●	●	●	●	+	+			
<i>Anastrophyllum sphenoloboides</i>	EN	EN	-	-	-	-	-			
<i>Aneura pinguis</i>	LC	●	●	-	-	+	+			

	IUCN 2010	POP 4a	LAP 4a	LAP 4b	LAP 4c	KAR	MUR				
<i>Anthelia julacea</i>	LC	-	★	-	●	+	+				
<i>Anthelia juratzkana</i>	LC	•	•	•	-	+	+				
<i>Arnellia fennica</i>	VU	VU	VU	-	-	+	+				
<i>Asterella gracilis</i>	LC	RT	-	-	RT	+	-				
<i>Athalamia hyalina</i>	VU	-	VU	-	-	+	+				
<i>Barbilophozia atlantica</i>	LC	•	-	•	-	+	-				
<i>Barbilophozia attenuata</i>	LC	•	•	-	-	+	+				
<i>Barbilophozia barbata</i>	LC	•	•	•	-	+	+				
<i>Barbilophozia binsteadii</i>	LC	RT	-	-	-	+	+				
<i>Barbilophozia floerkei</i>	LC	•	•	•	-	+	+				
<i>Barbilophozia hatcheri</i>	LC	•	•	•	-	+	+				
<i>Barbilophozia kunzeana</i>	LC	•	•	•	●	+	+				
<i>Barbilophozia lycopodioides</i>	LC	•	•	•	-	+	+				
<i>Barbilophozia quadriloba</i>	LC	★	★	•	-	+	+				
<i>Bazzania tricrenata</i>	NT	RT	-	-	-	-	-				
<i>Bazzania trilobata</i>	LC	-	RT	-	-	-	-				
<i>Blasia pusilla</i>	LC	•	•	-	-	+	+				
<i>Blepharostoma trichophyllum</i> subsp. <i>trichophyllum</i>	LC	•	•	•	●	+	+				
<i>Calypogeia integriflora</i>	LC	•	•	-	-	+	+				
<i>Calypogeia muelleriana</i>	LC	-	-	-	-	+	-				
<i>Calypogeia neesiana</i>	LC	•	•	•	-	-	+				
<i>Calypogeia sphagnicola</i>	LC	•	-	-	-	+	+				
<i>Calypogeia suecica</i>	VU	VU	VU	-	-	-	-				
<i>Cephalozia ambigua</i>	LC	?	?	-	-	-	+				
<i>Cephalozia bicuspidata</i>	LC	•	•	-	-	+	+				
<i>Cephalozia connivens</i>	LC	•	•	-	-	+	-				
<i>Cephalozia leucantha</i>	LC	•	•	-	-	+	+				
<i>Cephalozia loitlesbergeri</i>	LC	•	•	-	-	+	+				
<i>Cephalozia lunulifolia</i>	LC	•	•	-	-	+	+				
<i>Cephalozia pleniceps</i>	LC	•	•	?	-	+	+				
<i>Cephaloziella arctogena</i>	DD	-	-	-	-	+	-				
<i>Cephaloziella divaricata</i>	LC	•	-	-	●	+	+				
<i>Cephaloziella elachista</i>	LC	-	-	-	-	+	-				
<i>Cephaloziella hampeana</i>	LC	?	-	-	-	+	-				
<i>Cephaloziella rubella</i>	LC	•	•	-	-	-	-				
<i>Cephaloziella spinigera</i>	LC	•	-	-	-	-	-				
<i>Cephaloziella varians</i>	LC	•	-	-	?	-	-				
<i>Chiloscyphus polyanthos</i>	LC	•	•	•	●	+	+				

	IUCN 2010	POP 4a	LAP 4a	LAP 4b	LAP 4c	KAR	MUR				
<i>Cladopodiella fluitans</i>	LC	●	●	-	-	+	+				
<i>Cladopodiella francisci</i>	LC	-	RT	-	-	-	-				
<i>Conocephalum conicum</i>	EN	RE	-	-	-	+	+				
<i>Conocephalum salebrosum</i>	VU	VU	VU	VU	VU	+	+				
<i>Diplophyllum albicans</i>	LC	-	-	-	-	-	+				
<i>Diplophyllum taxifolium</i>	LC	●	●	●	●	+	+				
<i>Fossombronia foveolata</i>	LC	●	-	-	-	+	-				
<i>Geocalyx graveolens</i>	NT	RT	RT	-	-	-	+				
<i>Gymnocolea borealis</i>	DD	DD	-	-	-	-	-				
<i>Gymnocolea inflata</i>	LC	●	●	●	-	+	+				
<i>Gymnomitrion concinnatum</i>	LC	RT	-	RT	-	+	+				
<i>Gymnomitrion coralliooides</i>	LC	RT	-	-	-	-	+				
<i>Harpanthus flotovianus</i>	LC	●	●	-	●	+	+				
<i>Harpanthus scutatus</i>	EN	-	-	-	-	+	-				
<i>Jungermannia atrovirens</i>	EN	EN	EN	-	-	-	?				
<i>Jungermannia borealis</i>						-	+				
<i>Jungermannia caespiticia</i>	LC	•	-	-	-	+	+				
<i>Jungermannia confertissima</i>	DD	DD	DD	-	-	+	-				
<i>Jungermannia exsertifolia</i> subsp. <i>cordifolia</i>	LC	RT	RT	RT	-	+	+				
<i>Jungermannia gracillima</i>	LC	•	-	-	-	-	-				
<i>Jungermannia hyalina</i>	LC	•	-	-	-	+	+				
<i>Jungermannia jenseniana</i>	LC	-	-	-	-	+	-				
<i>Jungermannia leiantha</i>	NT	RT	RT	RT	-	-	-				
<i>Jungermannia obovata</i>	NT	RT	RT	RT	-	+	+				
<i>Jungermannia polaris</i>	NT	RT	-	-	-	-	-				
<i>Jungermannia pumila</i>	LC	★	★	★	-	+	+				
<i>Jungermannia sphaerocarpa</i>	LC	●	●	●	-	+	+				
<i>Kurzia pauciflora</i>	LC	RT	rt	-	-	-	-				
<i>Leiocolea badensis</i>	VU	VU	VU	-	-	+	+				
<i>Leiocolea bantriensis</i>	NT	RT	-	-	-	+	+				
<i>Leiocolea collaris</i>	NT	RT	RT	-	-	+	+				
<i>Leiocolea gillmanii</i>	LC	RT	RT	-	RT	+	+				
<i>Leiocolea heterocolpos</i>	LC	●	●	●	●	+	+				
<i>Leiocolea rutheana</i>	LC	●	●	-	-	+	+				
<i>Lejeunea cavifolia</i>	LC	RE	-	-	-	-	-				
<i>Lepidozia reptans</i>	LC	●	●	●	-	+	+				
<i>Lophocolea heterophylla</i>	LC	RT	-	-	-	+	+				
<i>Lophocolea minor</i>	LC	●	●	-	-	+	+				

	IUCN 2010	POP 4a	LAP 4a	LAP 4b	LAP 4c	KAR	MUR				
<i>Lophozia ascendens</i>	VU	VU	VU	-	-	+	+				
<i>Lophozia birenata</i>	LC	●	-	-	-	+	-				
<i>Lophozia ciliata</i>	NT	RT	-	-	-	-	-				
<i>Lophozia debiliformis</i>	DD	DD	-	-	-	-	-				
<i>Lophozia excisa</i>	LC	●	●	-	-	+	-				
<i>Lophozia grandiretis</i>	EN	EN	RE	-	-	+	+				
<i>Lophozia incisa</i>	LC	●	●	-	-	+	+				
<i>Lophozia laxa</i>	LC	●	-	-	-	-	+				
<i>Lophozia longidens</i>	LC	●	●	●	-	+	+				
<i>Lophozia longiflora</i>	NT	★	★	★	-	+	+				
<i>Lophozia obtusa</i>	LC	●	○	-	-	+	+				
<i>Lophozia opacifolia</i>	LC	-	RT	-	-	-	-				
<i>Lophozia perssonii</i>	CR	CR	-	-	-	+	-				
<i>Lophozia rufescens</i>	LC	●	-	-	-	+	+				
<i>Lophozia polaris</i> (L. major)	NT	-	-	-	-	-	+				
<i>Lophozia silvicola</i>	LC	●	●	●	-	+	+				
<i>Lophozia sudetica</i>	LC	●	-	●	-	+	+				
<i>Lophozia ventricosa</i>	LC	●	●	●	-	+	+				
<i>Lophozia wenzelii</i> var. <i>wenzelii</i>	LC	●	-	●	-	+	+				
<i>Lophozia wenzelii</i> var. <i>groenlandica</i>						+	-				
<i>Mannia fragrans</i>	EN	EN	-	-	-	-	-				
<i>Mannia pilosa</i>	VU	VU	VU	VU	-	+	+				
<i>Mannia sibirica</i>	CR	CR	-	-	-	-	-				
<i>Marchantia polymorpha</i> subsp. <i>montivagans</i>	LC	●	-	-	-	+	-				
<i>Marchantia polymorpha</i> subsp. <i>polymorpha</i>	LC	●	-	●	●	?	+				
<i>Marsupella boeckii</i>	LC	-	-	-	-	+	-				
<i>Marsupella brevissima</i>	LC	RT	-	-	-	-	-				
<i>Marsupella emarginata</i> subsp. <i>aquatica</i>	NT	★	☆	-	-	+	+				
<i>Marsupella emarginata</i> subsp. <i>emarginata</i>	LC	RT	RT	RT	RT	+	+				
<i>Marsupella sparsifolia</i>	NT	RT	-	-	-	-	-				
<i>Marsupella sphacelata</i>	VU	VU	-	-	-	+	+				

	IUCN 2010	POP 4a	LAP 4a	LAP 4b	LAP 4c	KAR	MUR				
<i>Marsupella sprucei</i>	EN	EN	-	-	RE	-	-				
<i>Metzgeria furcata</i>	LC	●	●	●	-	+	+				
<i>Moerckia hibernica</i>	VU	VU	VU	VU	-	+	+				
<i>Mylia anomala</i>	LC	●	●	-	-	+	+				
<i>Mylia taylorii</i>	NT	RT	RT	-	-	-	-				
<i>Nardia geoscyphus</i>	LC	●	-	●	-	+	+				
<i>Nardia insecta</i>	LC	-	●	-	-	+	+				
<i>Nardia japonica</i>	NE	?	-	-	-	-	-				
<i>Nardia scalaris</i>	LC	●	-	-	-	+	+				
<i>Odontoschisma elongatum</i>	LC	●	●	●	●	+	-				
<i>Odontoschisma macounii</i>	NT	★	★	-	★	+	+				
<i>Pellia endiviifolia</i>	NT	-	RT	-	-	-	-				
<i>Pellia epiphylla</i> subsp. <i>epiphylla</i>	LC	●	●	-	-	-	+				
<i>Pellia neesiana</i>	LC	●	●	●	●	+	+				
<i>Peltolepis quadrata</i>	LC	RT	-	RT	-	+	+				
<i>Plagiochila asplenoides</i>	LC	●	-	-	-	-	-				
<i>Plagiochila poreloides</i>	LC	●	●	●	-	+	+				
<i>Pleurocladula albescens</i>	LC	●	●	-	-	+	-				
<i>Porella cordaeana</i>	VU	VU	-	-	-	-	+				
<i>Porella platyphylla</i>	NT	RT	RT	-	-	+	+				
<i>Preissia quadrata</i> subsp. <i>quadrata</i>	LC	●	●	-	●	+	+				
<i>Ptilidium ciliare</i>	LC	●	●	●	●	+	+				
<i>Ptilidium pulcherrimum</i>	LC	●	●	●	-	+	+				
<i>Radula complanata</i>	LC	●	●	●	-	+	+				
<i>Radula lindenbergiana</i>	VU	-	-	-	-	-	+				
<i>Riccardia chamedryfolia</i>	LC	RT	RT	-	-	+	-				
<i>Riccardia incurvata</i>	NT	-	-	-	-	-	+				
<i>Riccardia latifrons</i> subsp. <i>latifrons</i>	LC	●	●	-	-	+	-				
<i>Riccardia palmata</i>	NT	RT	-	-	-	+	-				
<i>Riccia cavernosa</i>	RE	-	-	-	-	-	+				
<i>Sauteria alpina</i>	LC	-	-	-	-	-	+				
<i>Scapania aequiloba</i>	EN	EN	-	-	-	+	-				
<i>Scapania apiculata</i>	CR	-	-	-	-	-	+				
<i>Scapania calcicola</i>	VU	VU	-	-	-	-	-				
<i>Scapania carinthiaca</i>	CR	CR	-	-	-	-	-				
<i>Scapania crassiretis</i>	EN	-	-	EN	-	-	-				
<i>Scapania curta</i>	LC	●	-	●	-	+	+				

	IUCN 2010	POP 4a	LAP 4a	LAP 4b	LAP 4c	KAR	MUR				
<i>Scapania cuspiduligera</i>	VU	VU	-	-	-	-	+				
<i>Scapania glaucocephala</i>	-	•	-	-	-	-	-	-			
<i>Scapania gymnostomophila</i>	NT	★	★	-	-	+	+				
<i>Scapania hyperborea</i>	LC	•	○	-	-	+	+				
<i>Scapania irrigua</i> subsp. <i>irrigua</i>	LC	•	•	•	•	+	-				
<i>Scapania lingulata</i>	LC	•	-	-	-	+	-				
<i>Scapania mucronata</i>	LC	-	•	•	-	+	+				
<i>Scapania nemorea</i>	NT	-	-	-	-	+	-				
<i>Scapania paludicola</i>	LC	•	•	•	-	+	+				
<i>Scapania paludosa</i>	NT	RT	RT	RT	-	-	+				
<i>Scapania praetervisa</i>	NT	RT	-	-	-	+	-				
<i>Scapania scandica</i>	LC	•	-	-	-	+	+				
<i>Scapania sphaerifera</i>						-	+				
<i>Scapania spitsbergensis</i>	EN	-	-	RE	-	-	+				
<i>Scapania subalpina</i>	LC	•	•	-	-	+	+				
<i>Scapania uliginosa</i>	NT	RT	RT	-	-	+	+				
<i>Scapania umbrosa</i>	LC	•	-	•	-	+	-				
<i>Scapania undulata</i>	LC	•	•	•	-	+	+				
<i>Tetralophozia setiformis</i>	LC	•	•	•	•	+	+				
<i>Tritomaria exsectiformis</i>	NT	RT	RT	-	-	-	+				
<i>Tritomaria polita</i>	LC	•	•	•	-	+	+				
<i>Tritomaria quinquedentata</i> subsp. <i>quinquedentata</i>	LC	•	•	•	-	+	+				
<i>Tritomaria quinquedentata</i> subsp. <i>turgida</i>	LC	•	-	-	-	+	-				
<i>Tritomaria scitula</i>	LC	RT	RT	-	-	+	+				

CHECKLISTS OF FINNISH BRYOPHYTES:

With biogeographical provinces:

Ulvinen, T. & Juutinen, R. 2014: Suomen sammalien levinneisyys eliömaakunnissa. – Suomen ympäristökeskus. 3.2.2014. http://www.ymparisto.fi/fi-FI/Luonto/Lajit/Lajiensuojelutyo/Eliotyoryhmat/Sammaltyoryhma/Suomen_sammalet

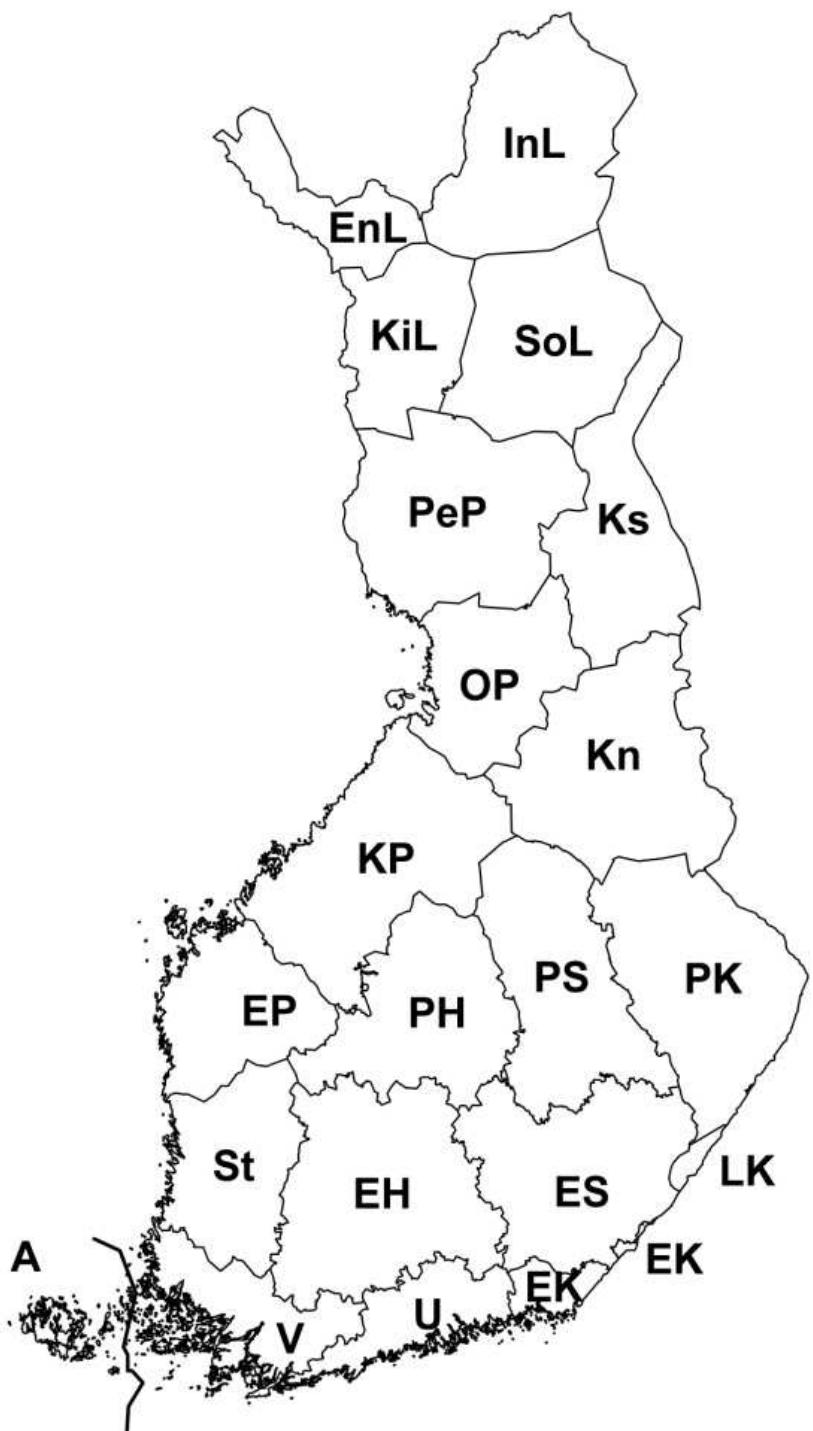
With vegetation zones and regionally threatened species:

Sammaltyöryhmä 2013: Suomen sammalien levinneisyys metsäkasvillisuusvyöhykkeissä ja ELY-keskuksissa. – Suomen ympäristökeskus. 3.2.2014. http://www.ymparisto.fi/fi-FI/Luonto/Lajit/Lajiensuojelutyo/Eliotyoryhmat/Sammaltyoryhma/Suomen_sammalet

Appendix 1.

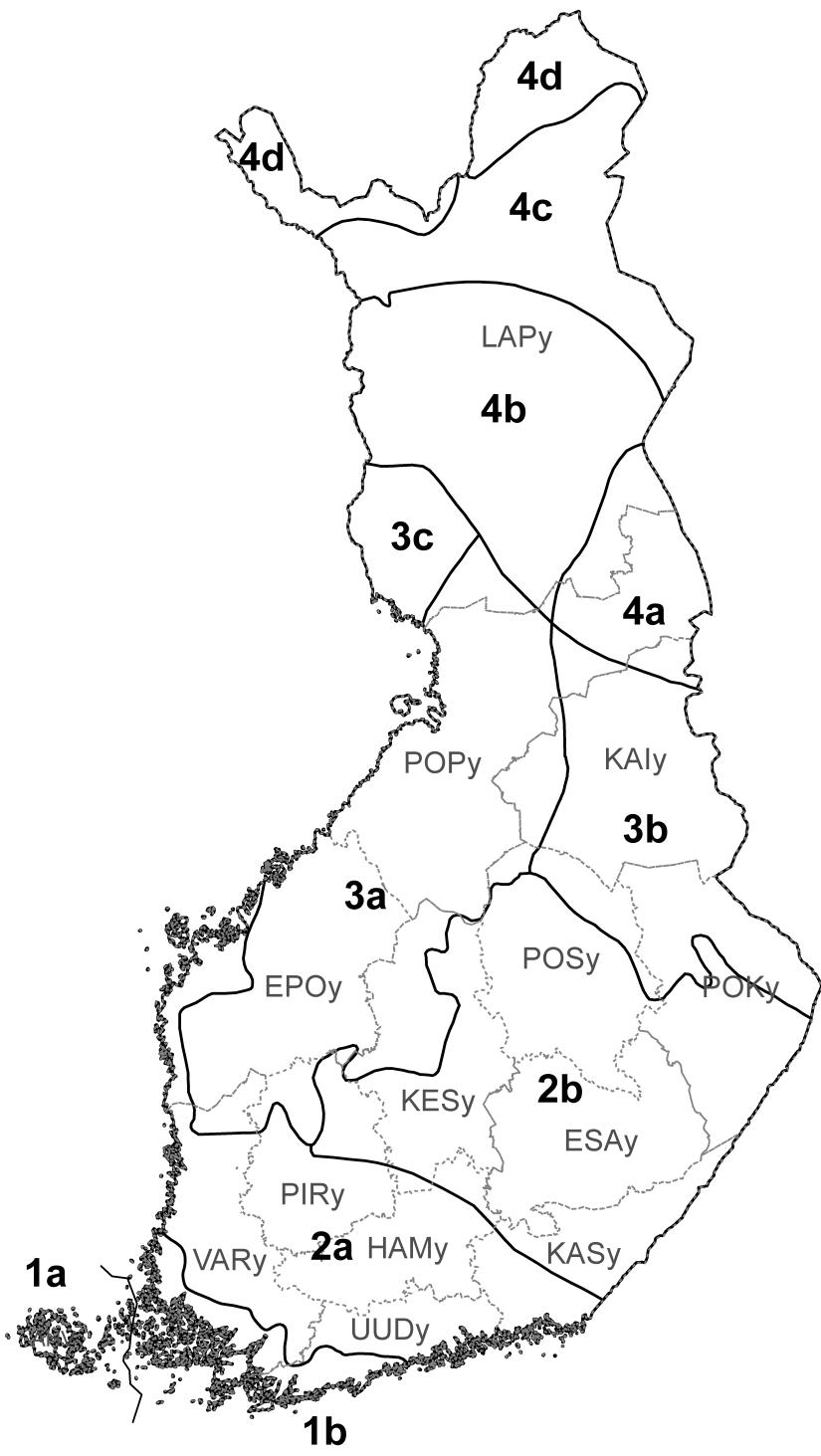
BIOGEOGRAPHICAL PROVINCES IN FINLAND:

A/A	Ahvenanmaa (Alandia)
V/Ab	Varsinais-Suomi/ (Regio aboënsis)
U/N	Uusimaa (Nylandia)
EK/Ka	Etelä-Karjala (Karelia australis)
St/St	Satakunta (Satakunta)
EH/Ta	Etelä-Häme (Tavastia australis)
ES/Sa	Etelä-Savo (Savonia australis)
LK/Kl	Laatokan Karjala (Karelia ladogensis)
EP/Oa	Etelä-Pohjanmaa (Ostrobottnia australis)
PH/Tb	Pohjois-Häme (Tavastia borealis)
PS/Sb	Pohjois-Savo (Savonia borealis)
PK/Kb	Pohjois-Karjala (Karelia borealis)
KP/Om	Keski-Pohjanmaa (Ostrobottnia media)
Kn/Kn	Kainuu (Ostrobottnia kajanensis)
OP/Obo	Oulun Pohjanmaa (Ostrobottnia ouluensis)
PeP/Obu	Perä-Pohjanmaa (Ostrobottnia ultima)
Ks/Ks	Koillismaa (Regio kuusamoënsis)
KiL/Lkk	Kittilän Lappi (Lapponia kittilensis)
SoL/Lks	Sompion Lappi (Lapponia sompiensis)
EnL/Le	Enontekiön Lappi (Lapponia enontekiensis)
InL/Li	Inarin Lappi (Lapponia inarensis)



VEGETATION ZONES IN FINLAND:

- 1a Hemiboreal, Åland
- 1b Hemiboreal, Oak zone
- 2a Southern boreal, Southwestern Finland and Southern Ostrobothnia
- 2b Southern boreal, Lake district
- 3a Middle boreal, Ostrobothnia
- 3b Middle boreal, Northern Carelia – Kainuu**
- 3c Middle boreal, Southwestern Lapland
- 4a Northern boreal,
Kuusamo district**
- 4b Northern boreal,
North ostrobothnia**
- 4c Northern boreal,
Forest Lapland**
- 4d Northern boreal,
Fjeld Lapland



Appendix 2. Oulangan national park

