

# Contribution to the bryophyte flora of European Turkey

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**Abstract.** The distribution of 139 bryophyte species (126 mosses and 13 liverworts) on the territory of European Turkey (Turkish Thrace) is documented and mapped.

**Key words:** distribution, European Turkey, liverworts, mosses, Turkish Thrace

## Introduction

The bryophyte species diversity of Turkey is relatively well accounted for, especially after the publication of comprehensive check-lists by Frey & Kürschner (1991) and Uyar & Çetin (2004). However, most studies have been focused on the much larger Asiatic part of the country. The bryophyte flora of the European part (Turkish Thrace) remains poorly documented with respect to both species diversity and distribution. There are some records dealing with restricted regions (Yayıntaş & al. 1996; Yayıntaş & Tonguç 1994, 1996; Gökler & Öztürk 1996; Papp & Sabovljevic 2003). The Turkish Thrace comprises 3% (23 764 km<sup>2</sup>) of the territory of Turkey. The latest check-list of the species diversity of the Turkish Thrace includes 217 mosses (Sabovljević & al. 2008) and 27 hepatics (Sabovljević & Natcheva 2006). Comprehensive data on species distribution on the territory of Turkey and in particular in the European part of the country is still essentially missing.

Here we report details on the distribution of some bryophyte species collected during field work of sampling bryophytes for monitoring the atmospheric heavy metal deposition in European Turkey. The following sites in the provinces Edirne, Kırklareli, Istan-

bul, and Tekirdağ were visited in the period 21<sup>st</sup>–27<sup>th</sup> April 2006 (the site abbreviations are cited also in Table 1 and Fig. 1).

## Sites

1. Between Şarköy and Gölçük (Tekirdağ Province), dry calcareous-loamy soil among sclerophyllous scrubs of *Quercus ilex*; 40°38'42"N, 27°05'35"E, E-SE exposure, ca. 96 m.
2. West of Hamitabat (Kırklareli Province) at the thermo-electric power station, dry calcareous-loamy soil in an old graveyard with *Ophrys cornuta*, *Stipa capillata*, *Verbascum* sp.; 41°29'09"N, 27°20'39"E, 113 m, E exposure.
3. Ca. 7 km southeast of Isakli (Tekirdağ Province), oak forest; 40°44'36"N, 27°07'06"E, SW exposure, 320 m.
4. Graveyard ca. 8 km south of Kozyörük (Tekirdağ Province), 40°57'33"N, 26°54'08"E, 150 m, W exposure.
5. Ca. 3 km west of Kilyos (Kumköy, Istanbul Province), dry grassland with *Cistus incanus*, on periodically wet loamy soil, 41°12'09"N, 29°02'31"E, 146 m, N exposition.

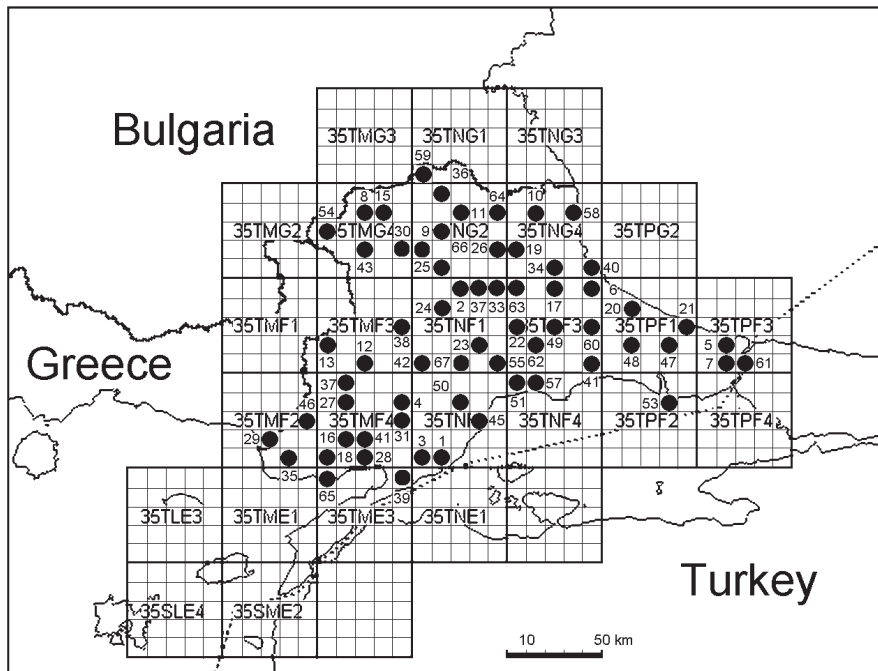


Fig. 1. Map of European Turkey showing the locations of the sampling sites. The grid system of the *Atlas Florae Europaeae* is used. For details see text.

6. Ca. 1 km north of Bahçeköy (Kırklareli Province), on the soil of cattle trails in an oak forest, 41°33'22"N, 28°03'37"E, 145 m asl, S-SE exposure.
7. Piriñçiköy (Istanbul Province), steep slopes with scrubs of *Quercus ilex*, *Philirea latifolia*, *Calluna vulgaris* in a deep valley, 41°09'39"N, 28°50'58"E, 64 m, W exposure.
8. Ca. 0.5 km east of Hanlıyenice (Edirne Province) along the road to Lalapaşa, dry overgrazed pastures with shrubs of *Quercus pubescens*, *Paliurus spina-christi*, *Fraxinus ornus*, *Jasminum fruticans*, 41°52'39"N, 26°41'19"E, 280 m.
9. Just east of Elmacık (Kırklareli Province), grassy areas with *Quercus cerris* and abandoned fields, on wet steep slopes; 41°54'28"N, 27°10'36"E, 511 m, E exposure.
10. Mt Istranca (Yıldız Dağları), ca. 7-8 km south of Avcılar (Kırklareli Province), forest of *Fagus orientalis*, *Rhododendron ponticum*, *Hypericum calycinum*; 41°53'14"N, 27°48'27"E, 318 m, N exposure.
11. Mt Istranca (Yıldız Dağları), south of Dereköy (Kırklareli Province), shady ravine along river Istranca Deresi, on calcareous rocks and soil; *Carpinus orientalis*, *Primula vulgaris*, *Paeonia officinalis*; 41°54'52"N, 27°21'51"E, 476 m, E exposure.
12. West of Hamidiye (Edirne Province), pastures with *Paliurus spina-christi* and *Antoxanthum odoratum*, on calcareous soil along cattle trails; 41°09'27"N, 26°38'57"E, 109 m, E exposure.
13. Between Meriç and Olacak (Edirne Province), wet sandy-loamy soil in a pasture with single *Pinus* sp. trees and shrubs *Paliurus spina-christi*; 41°27'25"N, 26°27'25"E, 67 m, S-SW exposure.
14. Near Cambazdere (Tekirdağ Province), among oak shrubs; 41°06'03"N, 26°54'52"E, 173 m, N exposure.
15. Ca. 1 km east of Hacıdanişment (Edirne Province), on sandy soil in grassland among shrubs of *Quercus pubescens*, *Paliurus spina-christi*, *Crataegus* sp., with *Fritillaria pontica*; 41°53'43"N, 26°48'10"E, 377 m, N exposure.
16. Kılıçköy (Edirne Province), ca. 0.5 km W-SW from the village, on dry soil in an oak grove; 40°46'43"N, 26°32'27"E, 34 m.
17. Çakıllı (Kırklareli Province), dry rendzine soil and calcareous rocks in a military area; 41°30'31"N, 27°53'12"E, 175 m.
18. East east of Suluca (Edirne Province), dry slopes with *Quercus coccifera*; 40°40'50"N, 26°28'26"E, 117 m, N-NW exposure.
19. Mt Istranca (Yıldız Dağları), ca. 6 km NE from Yenice (Kırklareli Province), at the Güzellik Suyu mountain pass, dry silicate mica schist rocks in thin oak forest and on wet rocks by the road; 41°45'12"N, 27°40'42"E, 790 m, S exposure.
20. Mt Istranca (Yıldız Dağları), oak forest near Karamandere (Istanbul Province); 41°22'56"N, 28°18'49"E, 73 m.

21. Ca. 1 km northeast of Durusu (Istanbul Province), Pontic vegetation with *Arbutus*, *Erica*, *Spartium*, *Calluna vulgaris*, *Philirea latifolia*; 41°19'43"N, 28°40'44"E, 54 m.
22. In a graveyard ca. 0.5 km east of Ahiahmet (Tekirdağ Province), on dry soil and grave stones; 41°19'11"N, 27°41'11"E, 123 m.
23. In a graveyard at Kayabeyli (Kırklareli Province); 41°17'52"N, 27°25'38"E, 75 m.
24. At Alpullu (Kırklareli Province), dry grasslands in a *Pine* plantation; 41°22'05"N, 27°08'13"E, 42 m, E-SE exposure.
25. West of the highway to Kırklareli, ca. 2 km south of the turn to Nacak (Kırklareli Province), dry grassland; 41°33'20"N, 27°08'02"E, 106 m, E exposure.
26. Kaynarca (Kırklareli Province), dry scrubland (*Carpinus orientalis*, *Juniperus oxycedrus*); 41°40'09"N, 27°26'56"E, 250 m, N exposure.
27. Paşayığit (Edirne Province), among shrubs of *Carpinus orientalis* and *Quercus cerris* on dry steep slope; 40°50'35"N, 26°33'19"E, 163 m, E exposure.
28. Gökçetepe (Edirne Province), Mt Kurudağ, pine forest with undergrowth of *Ilex aquifolia* in a deep humid gully by a stream; 40°38'39"N, 26°37'12"E, 42 m, S-W exposure.
29. Northeast of Enez (Edirne Province) in the valley of river Meric, dry hills with xerophytic shrubs of *Quercus coccifera* and *Carpinus orientalis*; 40°44'15"N, 26°07'41"E, 43 m, W-NW exposure.
30. Southwest of Arpaç (Edirne Province), dry grassland; 41°40'41"N, 26°54'45"E, 156 m, N-W exposure.
31. At the road to Deveci (Tekirdağ Province), at the turn for Malkara of the Keşan – Tekirdağ road; 40°49'46"N, 26°51'22"E, 93 m, W exposure.
32. Ibriktepe (Edirne Province), graveyard with oak shrubs; 41°00'56"N, 26°30'26"E, 142 m, N-NE exposure.
33. Sütlüce (Kırklareli Province), on old walls in the village and dry pastures with *Paliurus spina-christi* and *Quercus* sp. west of the village; 41°30'27"N, 27°34'40"E, 167 m.
34. Mt Istranca (Yıldız Dağları), ca. 5 km north-east of Kömürköy (Kırklareli Province), oak forest with sandstone outcrops and along a rivulet; 41°40'11"N, 27°52'34"E, 275 m.
35. North-east of Abdürrahim (Edirne Province), among oak shrubs on sandy-loamy soil, 40°38'39"N, 26°15'13"E, 49 m.
36. At Terzidere (Kırklareli Province), grasslands with single trees *Quercus cerris*, *Q. pubescens*, *Pyrus bulgarica*, 41°59'26"N, 27°02'42"E, N exposure.
37. West of Ceylanköy (Kırklareli Province), dry pasture with *Pistacia*, *Quercus pubescens*, *Fraxinus ornus*; 41°33'00"N, 27°25'27"E, 170 m.
38. Ca. 1 km to the east of Akarca (Kırklareli Province), on soil in an oak forest (*Q. cerris*); 41°20'05"N, 26°57'24"E, 34 m, NW exposure.
39. By a micro pond along the road to Yeniköy and Şarköy, in a deep valley with sclerophyllous scrubs (*Quercus ilex*, *Phillirea latifolia*); 40°37'30"N, 26°55'37"E, 53 m, N-W exposure.
40. Kiyıköy (Kırklareli Province), steep slopes facing the Black Sea with shrubs of *Carpinus orientalis*, *Rhus* sp.; 41°38'08"N, 28°04'36"E, 48 m, N-NW exposure.
41. Ca. 1 km northeast of Büyükkılıçlı (Istanbul Province), sclerophyllous oak shrubs; 41°11'16"N, 28°10'47"E, 241 m, W-SW exposure.
42. In the graveyard of Tatarlı village (Tekirdağ Province), on dry soil and on gravestones; 41°08'3" N, 27°04'01"E, 150 m.
43. Southeast of Hasanağa (Edirne Province), along the road to Edirne, dry hilly pastures with shrubs of *Pyrus*, *Ulmus*, *Crataegus*, bryophytes restricted only near and under the shrubs; 41°42'51"N, 26°38'15"E, N-W exposure.
44. Yerlisu (Edirne Province), mixed pine forest with *Carpinus orientalis*, *Quercus pubescens*, on wet soil along a stream and in dry grassy areas; 40°43'32"N, 26°44'06"E, 161 m, N exposition.
45. Ca. 3 km west of Kumbağ (Tekirdağ Province), steep slopes with maquis vegetation (*Spartium*, *Paliurus*) facing the Marmara Sea; 40°51'02"N, 27°26'60"E, 113 m, S-E exposure.
46. At Eskiköy (Edirne Province), in thin grazed oak grove with undergrowth of *Paliurus spina-christi* and *Dracunculus*; 41°18'20"N, 26°39'00"E, 94 m, N-W exposure.
47. Yassören (Istanbul Province), dry grasslands in an abandoned military area, 41°15'09"N, 28°35'23"E, 184 m, E-NE exposure.
48. Ca. 1 km north of Kabakçı (Istanbul Province), among shrubs of *Quercus* sp. and *Palurus spina-christi*, 41°13'20"N, 28°19'35"E, 166 m, N exposure.
49. West of Büyükyoncalı (Tekirdağ Province), on soil of glades in a thin oak forest, 41°21'43"N, 27°56'27"E, 161 m asl.

50. South of Güveçli (Tekirdağ Province), dry field boundaries with *Astracantha* sp., 40°58'08"N, 27°20'42"E, 320 m, N-W exposure.
51. Graveyard, ca. 5 km E-NE of Tekirdağ, 41°01'19"N, 27°35'15"E, 146 m.
52. Southwest of Tayakadın (Istanbul Province), dry calcareous soil among shrubs along arable fields, 41°31'36"N, 26°39'28"E, 102 m, N-W exposure.
53. Büyükçekmece (Istanbul Province), on soil in a private garden, 41°01'06"N, 28°35'10"E, 5 m.
54. Sırpsındığı (Edirne Province), graveyard on a dry limestone hill, 41°46'53"N, 26°28'32"E, 228 m.
55. Southeast of Müsellim (Tekirdağ Province), dry pasture with *Fritillaria graeca*, *Orchis morio* and *Cistus incanus*, 41°07'10"N, 27°33'22"E, 73 m, N exposure.
56. Evciler (Kırklareli Province), old graveyard with *Anemone blanda*, *Paliurus spina-christi*, *Cupressus sempervirens*, 40°57'18"N, 27°10'38"E, 184 m.
57. South of Türkgücü (Tekirdağ Province), dry semi-open pasture, 41°04'54"N, 27°49'42"E, 110 m.
58. Limanköy (Kırklareli Province), among *Quercus-Calluna vulgaris* shrubs, 41°54'03"N, 28°01'31"E, 54 m, S exposure.
59. At Kocatarla (Kırklareli Province), along a river, 41°58'01"N, 27°02'55"E, 329 m asl, W-SW exposure.
60. Between Sayalar and Hallaçlı (Istanbul Province), young oak forest and dry grasslands, 41°21'56"N, 28°12'12"E, 251 m.
61. Istanbul, Emirgan, on soil in the central part of the park facing the Bosphorus, 41°06'29"N, 29°03'00"E, 80 m.
62. Northeast of Yulaflı (Tekirdağ Province), dry grassland with shrubs of *Paliurus spina-christi*, 41°13'49"N, 27°48'53"E, 171 m.
63. East of Cevizköy (Kırklareli Province), on *Quercus cerris* in arable fields, 41°32'17"N, 27°36'38"E.
64. Southeast of Armutveren (Kırklareli Province), dry calcareous soil in pastures, 41°53'47"N, 27°33'07"E, 353 m, E exposure.
65. Southwest of Erikli (Edirne Province), sclerophyllous shrubs of *Quercus coccifera* – *Paliurus spina-christi* and on wet soil along a rivulet, 40°37'50"N, 26°27'17"E, 46 m, N-W exposure.
66. At İnce (Kırklareli Province), dry calcareous soil at a picnic place in a pine plantation, 41°40'32"N, 27°03'48"E, 168 m, S-W exposure.

67. Karacakilavuz (Tekirdağ Province), on soil and tree trunks in an oak forest (*Quercus cerris*), 41°07'40"N, 27°20'32"E, 145 m, N-NE exposition.

A total of 139 bryophyte species were collected (126 mosses and 13 liverworts, Table 1). The nomenclature follows Grolle & Long (2000) and Söderström & al. (2002) for liverworts, and Hill & al. (2006) for mosses.

**Table 1.** List of bryophyte species collected on the territory of European Turkey (for site details see text).

No	Taxon	Localities
<b>Mosses</b>		
1.	<i>Acaulon mediterraneum</i> Limpr.	12
2.	<i>A. muticum</i> (Hedw.) Müll.Hall.	30
3.	<i>Amblystegium serpens</i> (Hedw.) Schimp.	43
4.	<i>Anomodon viticulosus</i> (Hedw.) Hook. & Taylor	11
5.	<i>Antitrichia curtipendula</i> (Hedw.) Brid.	34
6.	<i>Archidium alternifolium</i> (Hedw.) Mitt.	6
7.	<i>Atrichum angustatum</i> (Brid.) Bruch & Schimp.	6, 10
8.	<i>A. undulatum</i> (Hedw.) P. Beauv.	10, 6
9.	<i>Barbula unguiculata</i> Hedw.	2, 18, 24, 26, 27, 30, 35, 36, 37, 40, 42, 43, 44, 48, 48, 50, 56, 9
10.	<i>Brachytheciastrum velutinum</i> (Hedw.) Ignatov & Huttunen	6
11.	<i>Brachythecium albicans</i> (Hedw.) Schimp.	9, 12, 18, 33, 36, 49
12.	<i>B. rutabulum</i> (Hedw.) Schimp.	9, 23, 44, 53
13.	<i>B. salebrosum</i> (Hoffm. ex F. Weber & D. Mohr.) Schimp.	30, 34
14.	<i>Bryum alpinum</i> Huds. ex With.	9, 13, 19, 29, 35, 36, 41, 44, 48, 49, 55
15.	<i>B. argenteum</i> Hedw. var. <i>argenteum</i>	9, 19
	<i>B. argenteum</i> var. <i>lanatum</i> (P. Beauv.) Hampe	17, 33
16.	<i>B. caespiticium</i> Hedw.	4, 12, 16, 17, 17, 18, 19, 21, 22, 26, 27, 31, 33, 36, 37, 40, 41, 42, 43, 45, 47, 48, 52, 56
17.	<i>B. capillare</i> Hedw.	2, 3, 6, 7, 8, 11, 16, 22, 28, 33, 34, 35, 36, 40, 44, 45, 48, 49, 50, 57
18.	<i>B. dichotomum</i> Hedw.	5, 9, 22, 23, 29, 30, 32, 33, 39, 42, 43, 45, 46, 48, 49, 50, 53, 54, 59
19.	<i>B. elegans</i> Nees	1, 5, 12, 13, 18, 25, 29, 30, 32, 33, 35, 41, 50, 51, 55, 57
20.	<i>B. mildeanum</i> Jur.	12

Table 1. Continuation.

No	Taxon	Localities
21.	<i>B. neodamense</i> Itzigs.	9
22.	<i>B. pseudotriquetrum</i> var. <i>bimum</i> (Schreb.) Lilj.	62
23.	<i>B. rubens</i> Mitt.	9, 32, 49, 53
24.	<i>B. subapiculatum</i> Hampe	10, 36, 61
25.	<i>B. torquescens</i> Bruch & Schimp.	18, 41
26.	<i>B. turbinatum</i> (Hedw.) Turner	60
27.	<i>Campyliadelphus chrysophyllus</i> (Brid.) R.S. Chopra	55
28.	<i>Ceratodon purpureus</i> (Hedw.) Brid.	8, 9, 12, 13, 13, 15, 22, 29, 31, 33, 34, 35, 49, 52, 62
29.	<i>Ctenidium molluscum</i> (Hedw.) Mitt.	11, 34
30.	<i>Dicranella heteromalla</i> (Hedw.) Schimp.	10
31.	<i>Dicranum scoparium</i> Hedw.	11, 34
32.	<i>Didymodon acutus</i> (Brid.) K. Saito	2, 17, 18, 25, 26, 32, 33, 35, 37, 47, 47, 48, 50
33.	<i>D. fallax</i> (Hedw.) R.H. Zander	19
34.	<i>D. insulanus</i> (De Not.) M.O. Hill	11
35.	<i>D. luridus</i> Hornsch.	17, 42, 55
36.	<i>D. sicculus</i> M.J.Cano, Ros, Garcia-Zamora & J.Guerra	44
37.	<i>D. sinuosus</i> (Mitt.) Delogne	40
38.	<i>D. tophaceus</i> (Brid.) Lisa	28
39.	<i>D. vinealis</i> (Brid.) R.H. Zander	18, 27, 28, 33, 36, 55
40.	<i>Ditrichum pallidum</i> (Hedw.) Hampe	10
41.	<i>D. pusillum</i> (Hedw.) Hampe	5
42.	<i>Drepanocladus aduncus</i> (Hedw.) Warnst.	47
43.	<i>Encalypta streptocarpa</i> Hedw.	11
44.	<i>Ephemerum stellatum</i> H. Philib.	6
45.	<i>Epipterygium tozeri</i> (Grev.) Lindb.	5
46.	<i>Fissidens adianthoides</i> Hedw.	11
47.	<i>F. bryoides</i> Hedw.	5, 21, 34, 44, 45
48.	<i>F. dubius</i> P. Beauv.	26, 55
49.	<i>F. kosanini</i> Latzel.	44
50.	<i>F. taxifolius</i> Hedw.	5, 6, 20, 21, 61
51.	<i>F. viridulus</i> (Sw. ex Anon.) Wahlenb. var. <i>viridulus</i>	39
	<i>F. viridulus</i> var. <i>incurvus</i> (Starke ex Röhl.) Waldh.	39
52.	<i>Fontinalis antipyretica</i> Hedw.	34
53.	<i>Funaria hygrometrica</i> Hedw.	5, 36, 40, 42, 44, 47
54.	<i>Grimmia pulvinata</i> (Hedw.) Sm.	2, 3, 9, 15, 16, 17, 22, 23, 26, 31, 33, 39, 41, 42, 44, 45, 54, 56

No	Taxon	Localities
55.	<i>G. trichophylla</i> Grev.	11
56.	<i>Hedwigia ciliata</i> (Hedw.) P. Beauv.	19, 34, 36
57.	<i>H. stellata</i> Hedenäs	34
58.	<i>Homalothecium aureum</i> (Spruce) H. Rob.	1, 4, 5, 8, 9, 12, 15, 16, 17, 18, 25, 26, 29, 30, 33, 35, 36, 39, 41, 44, 45, 48, 49, 50, 52, 59
59.	<i>H. lutescens</i> (Hedw.) H. Rob.	2, 8, 14, 17, 26, 27, 30, 33, 38, 39, 40, 43, 47, 50, 55, 56, 62
60.	<i>H. philippeanum</i> (Spruce) Schimp.	11
61.	<i>H. sericeum</i> (Hedw.) Schimp.	3, 7, 10, 11, 17, 19, 22, 27, 31, 32, 34, 35, 40, 41, 42, 43, 44, 48, 54, 55, 61
62.	<i>Hygroamblystegium varium</i> (Hedw.) Mönk.	44
63.	<i>Hypnum cupressiforme</i> Hedw. var. <i>cupressiforme</i>	3, 6, 7, 10, 11, 12, 14, 15, 16, 17, 19, 20, 21, 22, 25, 26, 28, 30, 31, 32, 33, 34, 35, 36, 38, 41, 43, 44, 45, 46, 47, 48, 49, 52, 56, 58, 60
	<i>H. cupressiforme</i> var. <i>lacunosum</i> Brid.	5, 12, 13, 30, 35, 55, 62
64.	<i>Isothecium alopecuroides</i> (Lam. ex Dubois) Isov.	34
65.	<i>Kindbergia praelonga</i> (Hedw.) Ochyra	34, 53
66.	<i>Leptodictyum riparium</i> (Hedw.) Warnst.	59
67.	<i>Leucodon sciuroides</i> (Hedw.) Schwägr.	3, 19
68.	<i>Neckera complanata</i> (Hedw.) Huebener	11
69.	<i>N. crispa</i> Hedw.	11
70.	<i>Orthotrichum affine</i> Schrad. ex Brid.	3, 9, 16, 22, 27, 31, 38, 39, 41, 43, 44, 63
71.	<i>O. anomalum</i> Hedw.	42, 54, 56
72.	<i>O. cupulatum</i> Hoffm. ex Brid.	11
73.	<i>O. diaphanum</i> Schrad. ex Brid.	16, 38, 42, 43, 46, 63
74.	<i>O. lyellii</i> Hook. & Taylor	63
75.	<i>O. pumilum</i> Sw. ex Anon.	34, 46, 63
76.	<i>O. rupestre</i> var. <i>rupestre</i> Schleich. ex Schwägr.	22
77.	<i>O. stramineum</i> Hornsch. ex Brid.	19
78.	<i>O. striatum</i> Hedw.	3, 34, 63
79.	<i>Oxyrrhynchium hians</i> (Hedw.) Loeske	5, 9, 11, 14, 25, 43, 44, 55
80.	<i>Phascum cuspidatum</i> Hedw. var. <i>cuspidatum</i>	9, 30, 43, 48, 50, 56
	<i>P. cuspidatum</i> var. <i>schreberianum</i> (Dicks.) Brid.	33
81.	<i>Philonotis caespitosa</i> Jur.	35
82.	<i>P. tomentella</i> Molendo	12

Table 1. Continuation.

No	Taxon	Localities
83.	<i>Physcomitrium pyriforme</i> (Hedw.) Bruch & Schimp.	9
84.	<i>Plagiomnium affine</i> (Blandow ex Funck) T.J. Kop.	34
85.	<i>Plagiothecium nemorale</i> (Mitt.) A. Jaeger	34
86.	<i>P. platyphyllum</i> Mönk.	34
87.	<i>Platyhipnidium riparioides</i> (Hedw.) Dixon	34
88.	<i>Pleuridium acuminatum</i> Lindb.	6, 10, 13, 21, 36, 49, 58
89.	<i>P. subulatum</i> (Hedw.) Rabenh.	6, 8, 13, 16, 36, 62
90.	<i>Pleurochaete squarrosa</i> (Brid.) Lindb.	8, 12, 13, 14, 15, 16, 17, 25, 26, 30, 33, 34, 36, 37, 40, 41, 45, 48, 49, 52, 54, 55, 57, 62
91.	<i>Pohlia annotina</i> (Hedw.) Lindb.	19
92.	<i>P. wahlenbergii</i> (F. Weber & D. Mohr) A.L. Andrews	59
93.	<i>Polytrichum juniperinum</i> Hedw.	12, 13, 15, 34, 36, 49, 62
94.	<i>P. piliferum</i> Hedw.	19, 34
95.	<i>Pseudocrossidium hornschuchianum</i> (Schultz) R.H. Zander	1, 13, 27, 32, 35, 36, 48
96.	<i>P. obtusulum</i> (Lindb.) H.A. Crum & L.E. Anderson	17
97.	<i>Pseudoscleropodium purum</i> (Hedw.) M. Fleisch.	5, 6, 7, 11, 21, 39, 40, 47, 48
98.	<i>Pteryginandrum filiforme</i> Hedw.	19
99.	<i>Pylaisia polyantha</i> (Hedw.) Schimp.	63
100.	<i>Racomitrium canescens</i> (Hedw.) Brid.	36
101.	<i>R. ericoides</i> (Brid.) Brid.	34, 49
102.	<i>R. heterostichum</i> (Hedw.) Brid.	34
103.	<i>Rhynchostegiella curviseta</i> (Brid.) Limpr.	28
104.	<i>R. tenella</i> (Dicks.) Limpr.	17, 44
105.	<i>Rhynchostegium megapolitanum</i> (Blandow ex F. Weber & D. Mohr) Schimp.	51, 52
106.	<i>R. murale</i> (Hedw.) Schimp.	1, 5, 6
107.	<i>Sciuro-hypnum populeum</i> (Hedw.) Ignatov & Huttunen	43
108.	<i>Scleropodium touretii</i> (Brid.) L.F. Koch	1, 7, 13, 16, 27, 29, 35, 41, 45, 49, 57
109.	<i>Scorpiurium circinatum</i> (Bruch) M. Fleisch. & Loeske	16, 27, 28, 39, 44, 56
110.	<i>Syntrichia montana</i> Nees	2, 9, 56, 48
111.	<i>S. papillosa</i> (Wilson) Jur.	33
112.	<i>S. princeps</i> (De Not.) Mitt.	54
113.	<i>S. ruralis</i> (Hedw.) F. Weber & D. Mohr var. <i>ruralis</i>	7, 8, 9, 12, 15, 17, 19, 25, 29, 30, 35, 36, 48, 54, 59

No	Taxon	Localities
	<i>S. ruralis</i> var. <i>ruraliformis</i> (Besch.) Delogne	40, 52
114.	<i>Thamnobryum alopecurum</i> (Hedw.) Gangulee	34
115.	<i>Tortella tortuosa</i> (Hedw.) Limpr.	11
116.	<i>Tortula inermis</i> (Brid.) Mont.	9, 39
117.	<i>T. lanceola</i> R.H. Zander	25, 30
118.	<i>T. modica</i> R.H. Zander	30, 33
119.	<i>T. muralis</i> Hedw.	1, 4, 16, 17, 22, 26, 33, 39, 40, 41, 42, 45, 48, 51, 53, 56
120.	<i>T. subulata</i> Hedw.	26, 34, 44
121.	<i>Trichostomum brachydontium</i> Bruch	6, 12, 33, 49, 55, 57, 62
122.	<i>T. crispulum</i> Bruch	28, 47, 48
123.	<i>Weissia brachycarpa</i> (Nees & Hornsch.) Jur.	19, 21, 30, 36, 61
124.	<i>W. controversa</i> Hedw.	21, 39, 45
125.	<i>W. levieri</i> (Limpr.) Kindb.	1, 9, 18, 22, 25, 30, 33, 36, 43, 45, 56, 57
126.	<i>Zygodon rupestris</i> Schimp. ex Lorentz	28
<b>Liverworts</b>		
1.	<i>Cephaloziella divaricata</i> (Sm.) Schiffn. var. <i>divaricata</i>	13, 21, 49, 55, 57, 58, 62
	<i>C. divaricata</i> var. <i>asperifolia</i> (Taylor) Macvicar	30
2.	<i>Fossombromia husnotii</i> Corb.	13, 45, 12
3.	<i>Frullania dilatata</i> (L.) Dumort.	3, 11, 19, 22, 28, 32, 33, 34, 38, 41, 43, 44, 60
4.	<i>Lejeunea cavifolia</i> (Ehrh.) Lindb.	11
5.	<i>Lumularia cruciata</i> (L.) Lindb.	34, 44
6.	<i>Plagiochila porelloides</i> (Torrey ex Nees) Lindenb.	34
7.	<i>Radula complanata</i> (L.) Dumort.	19, 43, 44, 48, 60
8.	<i>Reboulia hemisphaerica</i> (L.) Raddi	44
9.	<i>Riccia ciliata</i> Hoffm.	12, 13, 49
10.	<i>R. gougetiana</i> Durieu & Mont.	13
11.	<i>R. sorocarpa</i> Bisch.	12, 36
12.	<i>Scapania compacta</i> (A. Roth) Dumort.	34
13.	<i>Southbya tophacea</i> (Spruce) Spruce	13

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