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Bryophyte flora of Albania: A Preliminary Check-List

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Résumé – Un inventaire préliminaire de la flore des bryophytes d'Albanie (Sud-Est de l'Europe) est présenté. La flore des bryophytes de l'Albanie comprend 327 taxons représentant 141 genres et 62 familles. La liste est basée sur des travaux réalisés à partir de 1888; elle représente le premier inventaire des bryophytes du pays. Une distinction a été établie entre les références antérieures à 1950 et celles plus récentes. Quelques taxons indiqués comme présents en Albanie, mais situés hors des limites territoriales actuelles du pays, ont été exclus. Les synonymes relevés dans les travaux originels utilisés ont été listés.

Abstract – A preliminary check-list of the bryoflora of Albania (SE Europe) within its political boundaries is presented. It consists of 327 taxa representing 141 genera and 62 families. This list is based on literature reports from 1888, and it represents the first check-list for the bryophytes of this country. Reports before 1950 are distinguished from those based on more recent records. Some taxa previously reported for Albania, but from localities actually outside Albanian present-day political borders are indicated and excluded. Synonyms from the works considered are reported.

Albania / South-Eastern Europe / Balkans / Flora / Bryophytes / Mosses / Liverworts / Hornworts / Check-list

INTRODUCTION

Albania represents one of the less known areas of Europe in relation to its bryophyte flora (see, for instance Stewart, 1995; Söderström *et al.,* 1998; Sabovljević *et al.,* 2001; Söderström *et al.,* 2002; as well as Bego & Koni, 1999). No check-list has ever been prepared for this group of plants, perhaps also because of a lack of local bryologists. In his studies on European bryophytes,

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Düll (1983, 1984, 1985, 1992) lists 3 hornworts, 63 liverworts and 109 moss species in the Albanian flora. Söderström *et al*. (2002) list 3 hornworts and 89 liverwort species for Albania. A much higher bryophyte diversity is likely to be present in Albania. All bryological studies have been carried out by foreign scientists or collectors, often as part of studies covering a wider area, especially for the older records, in a period when Albania was still an integral part of the Ottoman Empire, the so called Turkey in Europe. These older works covered mainly the border area between Albania and Montenegro or Serbia (Kosova/ Kosovo).

This check-list has been prepared because one us (Senior Author) has collected extensively during recent years in Albania, the need of a check-list including all previous records from the literature became apparent. It is hoped this work will fill the gap and stimulate further bryological investigations in Albania. It should be emphasized that this is not a specimen based list, distribution is based solely upon the literature references.

MATERIALS AND METHODS

The check-list (Table 1, which includes also the excluded taxa, and notes) is supplemented by a systematic synopsis of genera (Table 2), and synonyms (Table 3).

The following symbols are used:

△ = report based on collections made before 1950.

▲ = report based on collections made after 1950.

For synonyms and accepted names we have referred to Corley *et al.,* 1981; Corley & Crundwell, 1991; Cortini Pedrotti, 2001a, 2001b, 2006; Dierßen, 2001; Düll, 1983, 1984, 1985, 1992; Grolle & Long, 2000; Podpěra, 1954; Schumacker & Váňa, 2005; Smith, 2004; Zander, 1993 (for Pottiaceae), and consulted the on line data base TROPICOS [http://mobot.mobot.org/W3T/ Search/most.html] of the Missouri Botanical Garden, which is based on the information contained in *Index Muscorum* (Wijk, Margadant & Florschuetz, 1959, 1962, 1964, 1967, 1969), *Index Muscorum supplementa* (Bauer & Crosby 1986; Crosby 1977, 1979; Crosby & Bauer 1981, 1983, 1987), in the various editions of *Index of Mosses* (Crosby *et al.*, 1992; Crosby & Magill, 1994, 1997, 2000, 2004, 2005), and is continually updated.

In the maps (Figs 1, 2 & 3) are shown, respectively, the names of the administrative division of the country (Prefectures), the number of taxa of liverworts and hornworts, and the number of taxa of mosses, in parenthesis is indicated the number of collections (records). The lower administrative subdivisions (not represented) are: Rreth (District), and Komunë/Bashki (Commune/Municipality). For most collections an attempt has been made to determine their localization at the lower administrative level, sometime even more precisely. These data are not presented here, though.

For each taxon we state the distribution in Albania, the number of accepted records (collections), literature references, and excluded records (localities outside Albanian present-day political borders).

Table 1. Check-List of Albanian Bryophytes.
(The distribution is given in relation to the main administrative subdivisions of the country, for their acronyms and localization refer to fig. 1)

	ANTHOCEROTOPHYTA	SHK	KUK	LZH	DIB	DUR	TIR	ELB	FIE	KOR	BER	VLO	GJI	Und.	N. of Records	References	Records excluded
1	*Anthoceros punctatus* L.											▲			1	c	
2	*Phaeoceros bulbiculosus* (Brot.) Posk.						▲								1	c	
3	*Phaeoceros laevis* (L.) Prosk.											▲			3	c, n	

	MARCHANTIOPHYTA	SHK	KUK	LZH	DIB	DUR	TIR	ELB	FIE	KOR	BER	VLO	GJI	Und.	N. of Records	References	Records excluded
1	*Aneura pinguis* (L.) Dumort.		△										▲		2	h, q	
2	*Athalamia hyalina* (Sommerf.) S.Hatt.	▲								▲					3	l, n, o	
3	*Athalamia spathysii* (Lindenb.) S.Hatt.											▲			2	c	
4	*Barbilophozia barbata* (Schmidel ex Schreb.) Loeske	▲													1	m	
5	*Barbilophozia lycopodioides* (Wallr.) Loeske	▲								▲					3	n	
6	*Bazzania tricrenata* (Wahlenb.) Lindb.				△										1	q	
7	*Bazzania trilobata* (L.) Gray				△										1	q	
8	*Calypogeia azurea* Stotler & Crotz		△												1	q	
9	*Calypogeia fissa* (L.) Raddi						▲								1	c	
10	*Cephalozia bicuspidata* (L.) Dumort.						▲								1	c	
11	*Cephaloziella baumgartneri* Schiffn.	▲		▲		▲	▲		▲			▲	▲		27	c	
12	*Cephaloziella divaricata* (Sm.) Schiffn. var. *divaricata* (1)						▲								1	c	
13	*Cephaloziella stellulifera* (Taylor ex Spruce) Schiffn.						▲		▲						3	c	
14	*Cephaloziella turneri* (Hook.) Müll.Frib.						▲								2	c	
15	*Chiloscyphus polyanthos* (L.) Corda				△										1	q	
16	*Cololejeunea calcarea* (Lib.) Schiffn.											▲			1	c	
17	*Cololejeunea rossettiana* (C.Massal.) Schiffn.											▲	▲		5	c, l, m	
18	*Conocephalum conicum* (L.) Dumort.	▲					▲					▲	▲		11	c, h, l, m, n, q	
19	*Corsinia coriandrina* (Spreng.) Lindb.	▲		▲		▲	▲					▲	▲		8	c	
20	*Fossombronia angulosa* (Dicks.) Raddi						▲		▲						3	c	
21	*Fossombronia caespitiformis* De Not. ex Rabenh.	▲		▲		▲	▲					▲	▲		13	c	
22	*Frullania dilatata* (L.) Dumort.	▲	△	△			▲		▲			▲	▲	▲	26	c, h, j, k, m, n, o, q	
23	*Frullania fragilifolia* (Taylor) Gottsche, Lindenb. & Nees						▲								1	c	
24	*Frullania inflata* Gottsche												▲		2	l, m	
25	*Frullania tamarisci* (L.) Dumort.			△			▲		▲			▲			4	c, k, n	q1: KS
26	*Gongylanthus ericetorum* (Raddi) Nees						▲								2	c	

	MARCHANTIOPHYTA (Tab. 1 cont.)	SHK	KUK	LZH	DIB	DUR	TIR	ELB	FIE	KOR	BER	VLO	GJI	Und.	N. of Records	References	Records excluded
27	*Jungermannia atrovirens* Dumort.	▲					▲				▲				6	c, m, n	
28	*Jungermannia gracillima* Sm.		△												1	q	
29	*Jungermannia hyalina* Lyell						▲								1	c	
30	*Jungermannia leiantha* Grolle	△													1	q	
31	*Jungermannia polaris* Lindb.						▲			▲					2	c, n	
32	*Leiocolea badensis* (Gottsche) Jørg.									▲					1	n	
33	*Leiocolea collaris* (Nees) Schljakov						▲								1	c	
34	*Leiocolea turbinata* (Raddi) H.Buch.	▲				▲	▲		▲			▲	▲		18	c, m, n	
35	*Lejeunea cavifolia* (Ehrh.) Lindb.						▲		▲			▲	▲		23	c, l, m, n	
36	*Lophocolea bidentata* (L.) Dumort.	△													1	q	
37	*Lophocolea heterophylla* (Schrad.) Dumort.					▲	▲		▲			▲	▲		10	c, h, o	
38	*Lophocolea minor* Nees				△					▲					2	n, q	
39	*Lophozia excisa* (Dicks.) Dumort.									▲					1	n	
40	*Lophozia incisa* (Schrad.) Dumort.		△												1	q	
41	*Lophozia ventricosa* (Dicks.) Dumort.				△										1	q	
42	*Lunularia cruciata* (L.) Lindb.	▲		▲		▲	▲		▲			▲	▲		46	c, m, n	
43	*Mannia androgyna* (L.) A. Evans	▲		▲		▲	▲					▲	▲		14	c, m	
44	*Mannia triandra* (Scop.) Grolle	▲					▲								3	a, c	
45	*Marchantia paleacea* Bertol. (2)						▲					▲			2	c	
46	*Marchantia polymorpha* L. (3)	▲					▲					▲			3	h, n	q1: KS
47	*Metzgeria furcata* (L.) Dumort.		△				▲					▲			7	c, n, q	q1: MN
48	*Oxymitra incrassata* (Brot.) Sérgio & Sim-Sim											▲			1	c	
49	*Pedinophyllum interruptum* (Nees) Kaal.	▲													1	m	
50	*Pellia endiviifolia* (Dicks.) Dumort.	▲		▲	△	▲	▲	▲	▲	▲	▲	▲	▲		26	c, h, l, m, n, q	q1: KS
51	*Plagiochasma rupestre* (J.R.Forst. & G.Forst.) Steph.											▲	▲		9	c, h	
52	*Plagiochila asplenioides* (L. emend. Taylor) Dumort. (4)	▲	△				▲			▲					5	c, n, q	q2: 2KS
53	*Plagiochila porelloides* (Torrey ex Nees) Lindenb. (4)									▲				▲	3	m, n	
54	*Porella arboris-vitae* (With.) Grolle												▲		2	l, m	
55	*Porella cordaeana* (Huebener) Moore	△								▲					3	a, n	
56	*Porella platyphylla* (L.) Pfeiff.	▲				▲	▲			▲		▲	▲		11	c, h, l, m, n, q	q1: MN
57	*Porella baueri* (Schiffn.) C.E.O.Jens.				△		△								2	j	
58	*Preissia quadrata* (Scop.) Nees	▲	▲				▲								9	a, c, m, n	q1: KS
59	*Ptilidium ciliare* (L.) Hampe		△												1	q	
60	*Radula complanata* (L.) Dumort.		△	△			▲		▲	▲			▲	▲	16	c, j, k, m, n , q	

	MARCHANTIOPHYTA (Tab. 1 cont.)	**SHK**	**KUK**	**LZH**	**DIB**	**DUR**	**TIR**	**ELB**	**FIE**	**KOR**	**BER**	**VLO**	**GJI**	**Und.**	**N. of Records**	**References**	**Records excluded**
61	*Radula lindenbergiana* Gottsche ex C.Hartm.		◀						◀			◀	◀		5	c, m	
62	*Reboulia hemisphaerica* (L.) Raddi	◀		◀		◀	◀		◀	◀		◀	◀		64	a, c, h, m, n	
63	*Riccardia multifida* (L.) Gray												◀		1	c	
64	*Riccardia palmata* (Hedw.) Carruth.		△												1	q	
65	*Riccia bicarinata* Lindb.											◀	◀		2	c	
66	*Riccia bifurca* Hoffm.	◀											◀		2	c, n	
67	*Riccia ciliata* Hoffm.	◀					◀		◀			◀	◀		6	c	
68	*Riccia ciliifera* Link ex Lindenb.	◀													1	n	
69	*Riccia crozalsii* Levier						◀		◀			◀			3	c	
70	*Riccia crystallina* L. emend. Raddi					◀						◀			2	c	
71	*Riccia glauca* L.					◀	◀								2	c	
72	*Riccia macrocarpa* Levier											◀			1	c	
73	*Riccia michelii* Raddi	◀							◀			◀	◀		6	c	
74	*Riccia nigrella* DC.	◀					◀		◀			◀			4	c	
75	*Riccia sorocarpa* Bisch. var. *sorocarpa* (5)					◀	◀					◀			3	c	
76	*Riccia subbifurca* Warnst. ex Croz.						◀		◀						3	c	
77	*Riccia trabutiana* Steph.			◀									◀		2	c	
78	*Scapania aequiloba* (Schwägr.) Dumort.	◀	◀												3	m	
79	*Scapania aspera* Bernet & M. Bernet	◀	◀							◀		◀			4	m, n	
80	*Scapania calcicola* (Arnell & J.Perss.) Ingham									◀					1	n	
81	*Scapania compacta* (A.Roth) Dumort.						◀					◀			2	c	
82	*Scapania nemorea* (L.) Grolle		△				◀								2	c, q	
83	*Scapania umbrosa* (Schrad.) Dumort.				△										1	q	
84	*Southbya nigrella* (De Not.) Henriq.	◀				◀	◀		◀			◀	◀		33	c	
85	*Southbya tophacea* (Spruce) Spruce	◀				◀	◀					◀			14	c, m	
86	*Targionia hypophylla* L.	◀				◀	◀					◀	◀		26	c, h	

	BRYOPHYTA	**SHK**	**KUK**	**LZH**	**DIB**	**DUR**	**TIR**	**ELB**	**FIE**	**KOR**	**BER**	**VLO**	**GJI**	**Und.**	**N. of Records**	**References**	**Records excluded**
1	*Aloina ambigua* (Bruch & Schimp.) Limpr.	△													1	f	
2	*Amblystegium serpens* (Hedw.) Schimp.	◀	△												4	g, h, q	
3	*Anomodon attenuatus* (Hedw.) Hueb.		△												1	q	
4	*Anomodon longifolius* (Schleich. ex Brid.) Hartm.	△													1	a	
5	*Anomodon viticulosus* (Hedw.) Hook. & Taylor	◀	△	△		◀	△						◀		9	a, g, h, i, k, l, n, q	

	BRYOPHYTA (Tab. 1 cont.)	SHK	KUK	LZH	DIB	DUR	TIR	ELB	FIE	KOR	BER	VLO	GJI	Und.	N. of Records	References	Records excluded
6	*Antitrichia curtipendula* (Hedw.) Brid.	△	△												2	a, q	
7	*Barbula convoluta* Hedw.	△								▲					2	f, n	
8	*Barbula unguiculata* Hedw.	▲					▲	▲					▲		6	f, h	q1: MN
9	*Bartramia ithyphylla* Brid.									▲					1	n	
10	*Bartramia pomiformis* Hedw.		△												1	q	
11	*Bartramia stricta* Brid.	△													1	g	
12	*Brachytheciastrum velutinum* (Hedw.) Ignatov & Huttunen		△			▲	▲					▲	▲		5	h, q	
13	*Brachythecium albicans* (Hedw.) Schimp.									▲					1	n	
14	*Brachythecium rivulare* Schimp.	△								▲		▲			2	a, m	
15	*Brachythecium rutabulum* (Hedw.) Schimp.	▲				▲						▲			5	f, h, n	
16	*Brachythecium salebrosum* (Hoffm. ex F.Web. & D.Mohr) Schimp.	▲												△	2	g, h	q1: MN
17	*Bryoerythrophyllum recurvirostre* (Hedw.) P.C.Chen									▲					2	n	
18	*Bryum algovicum* Sendtn. ex Müll.Hal.				△										1	q	
19	*Bryum argenteum* Hedw.	△			△		▲								6	a, f, h, q	q1: MN
20	*Bryum caespiticium* Hedw.	▲			△					▲					4	f, h, n, q	
21	*Bryum canariense* var. *provinciale* (H.Philib.) Husn.	△								▲					3	a, f, n	
22	*Bryum capillare* Hedw.	▲								▲				△	4	f, h, n	
23	*Bryum donianum* Grev.	△										▲			2	f, n	
24	*Bryum gemmiparum* De Not.	▲													2	f, n	
25	*Bryum kunzei* Hornsch.						▲								1	h	
26	*Bryum pallens* Sw.				△										1	q	
27	*Bryum pseudotriquetrum* (Hedw.) P.Gaertn., B.Mey. & Scherb.				△					▲					2	n, q	
28	*Bryum radiculosum* Brid.	△													2	a, f	
29	*Bryum schleicheri* Schwägr.	▲													1	n	
30	*Bryum schleicheri var. latifolium* (Schwägr.) Schimp.	△													1	a	
31	*Bryum stirtonii* Schimp.									▲					1	o	
32	*Bryum torquescens* Bruch ex De Not.	△													2	a, f	
33	*Buxbaumia aphylla* Hedw.		△												1	q	
34	*Buxbaumia viridis* (Moug. ex Lam. & DC.) Moug. & Nestl.											▲			1	o	
35	*Calliergonella cuspidata* (Hedw.) Loeske	▲			△				▲						5	h, k, n, q	

	BRYOPHYTA (Tab. 1 cont.)	**SHK**	**KUK**	**LZH**	**DIB**	**DUR**	**TIR**	**ELB**	**FIE**	**KOR**	**BER**	**VLO**	**GJI**	**Und.**	**N. of Records**	**References**	**Records excluded**
36	*Campyliadelphus chrysophyllus* (Brid.) R.S.Chopra	▲													1	h	
37	*Campylium protensum* (Brid.) Kindb.	▲													2	n	
38	*Campylophyllum sommerfeltii* (Myrin) Hedenäs (6)	△													1	g	
39	*Ceratodon purpureus* (Hedw.) Brid.		△		△										2	k, q	
40	*Cheilothela chloropus* (Brid.) Lindb. ex Broth.	△													1	f	
41	*Cinclidotus aquaticus* (Hedw.) Bruch & Schimp.	▲		△											2	k, n	
42	*Cinclidotus fontinaloides* (Hedw.) P.Beauv.	▲	△												3	a, n, q	
43	*Cinclidotus fontinaloides* var. *lorentzianus* Mol. (7)	▲													1	n	
44	*Cinclidotus riparius* (Host ex Brid.) Arnott	▲													1	n	
45	*Coscinodon cribrosus* (Hedw.) Spruce			△											1	k	
46	*Cratoneuron filicinum* (Hedw.) Spruce	▲			△					▲		▲			7	a, g, n, q	q1: KS
47	*Cratoneuron filicinum* var. *atrovirens* (Brid.) Ochyra									▲		▲			3	n	
48	*Crossidium squamiferum* (Viv.) Jur.							△							1	k	
49	*Ctenidium molluscum* (Hedw.) Mitt.	▲			△		△					▲			4	i, n	q1: KS
50	*Dialytrichia mucronata* (Brid.) Broth.	△													3	a, f	
51	*Dichodontium pellucidum* (Hedw.) Schimp.	▲													1	n	
52	*Dicranella heteromalla* (Hedw.) Schimp.								▲						1	h	
53	*Dicranella varia* (Hedw.) Schimp.	△													1	f	
54	*Dicranoweisia cirrata* (Hedw.) Lindb. ex Milde	△													1	a	
55	*Dicranoweisia crispula* (Hedw.) Milde		△												1	q	
56	*Dicranum majus* Sm.		△												1	q	
57	*Dicranum polysetum* Sw.		△												1	q	
58	*Dicranum scoparium* Hedw.	▲			△			△		▲					7	a, k, n, q	q3: MN;2KS
59	*Didymodon acutus* (Brid.) K.Saito	▲					▲	▲							5	f, h, n	
60	*Didymodon fallax* (Hedw.) Zander	▲				▲									2	h	q1: KS
61	*Didymodon luridus* Hornsch. ex Spreng.	△					▲						▲		3	f, h	
62	*Didymodon rigidulus* Hedw.				△										1	q	
63	*Didymodon sinuosus* (Mitt.) Delogne	▲													1	q	
64	*Didymodon tophaceus* (Brid.) Lisa	▲				▲	▲			▲					5	f, h, n	
65	*Didymodon vinealis* (Brid.) Zander	△					▲						▲		3	f, h	
66	*Distichium capillaceum* (Hedw.) Bruch & Schimp.	▲	△		△					▲					5	n, q	q1: KS
67	*Ditrichum flexicaule* (Schwägr.) Hampe	▲								▲					3	a, n	q1: KS
68	*Drepanocladus aduncus* (Hedw.) Warnst.	▲													1	h	

	BRYOPHYTA (Tab. 1 cont.)	SHK	KUK	LZH	DIB	DUR	TIR	ELB	FIE	KOR	BER	VLO	GJI	Und.	N. of Records	References	Records excluded
69	*Encalypta alpina* Sm.									▲					1	n	
70	*Encalypta ciliata* Hedw.				△					▲					3	n, q	q1: KS
71	*Encalypta rhaptocarpa* Schwägr.	△													1	a	
72	*Encalypta rhaptocarpa* var. *trachymitria* (Ripart) Wijk & Margad.	△													1	f	
73	*Encalypta streptocarpa* Hedw.	▲			△		▲			▲					5	h, n, q	
74	*Encalypta vulgaris* Hedw.	▲			△		▲			▲			▲		6	f, h, n, q	
75	*Encalypta vulgaris* var. *obtusa* Nees & Hornsch.	▲								▲					3	n	
76	*Eucladium verticillatum* (Brid.) Schimp.	▲								▲		▲			4	h, n	q1: KS
77	*Eurhynchium crassinervium* (Taylor) Schimp.	▲	△												4	a, g, h, q	
78	*Eurhynchium hians* (Hedw.) Sande Lac	▲		▲		▲			▲			▲			5	h	
79	*Eurhynchium hians* var. *rigidum* (Boul.) Düll	▲													1	h	
80	*Eurhynchium meridionale* (Schimp.) De Not.											▲			1	n	
81	*Eurhynchium praelongum* (Hedw.) Schimp.	△													2	g	
82	*Eurhynchium pulchellum* (Hedw.) Jenn.	▲													3	h	
83	*Eurhynchium pulchellum* var. *diversifolium* (Schimp.) C.E.O.Jens.	▲								▲					2	n	
84	*Eurhynchium pumilum* (Wils.) Schimp.	△													1	g	
85	*Eurhynchium schleicheri* (Hedw.f.) Jur.	▲													1	h	
86	*Eurhynchium striatulum* (Spruce) Schimp.											▲			1	n	
87	*Eurhynchium striatum* (Schreb. ex Hedw.) Schimp.						△								1	i	
88	*Fissidens bryoides* Hedw.	△													1	q	
89	*Fissidens dubius* P.Beauv.	▲					▲			▲		▲			6	n	
90	*Fissidens dubius* var. *mucronatus* (Breidl. ex Limpr.) Kartt., Hedenäs & Söderstr.						▲								1	h	
91	*Fissidens taxifolius* Hedw.								▲			▲			2	h	
92	*Fontinalis antipyretica* Hedw.	▲													2	h	
93	*Funaria hygrometrica* Hedw.	△			△		▲	△							5	a, f, h, k, q	q1: MN
94	*Funaria muhlenbergii* Turner	▲					▲	▲		▲		▲			6	f, h, n	
95	*Grimmia alpestris* (F. Weber & D. Mohr) Schleich.	△													1	a	
96	*Grimmia crinita* Brid.		△												1	q	
97	*Grimmia hartmanii* Schimp.						▲								1	h	
98	*Grimmia laevigata* (Brid.) Brid.	△													1	f	
99	*Grimmia muehlenbeckii* Schimp.	△													1	f	
100	*Grimmia pulvinata* (Hedw.) Sm. ex Sm. & Sowerby	▲					▲	△					▲		7	a, f, h, k, n	q1: KS
101	*Grimmia tergestina* Tomm. ex Bruch & Schimp.	△													1	f	

	BRYOPHYTA (Tab. 1 cont.)	SHK	KUK	LZH	DIB	DUR	TIR	ELB	FIE	KOR	BER	VLO	GJI	Und.	N. of Records	References	Records excluded
102	*Gymnostomum aeruginosum* Sm.	△													1	a	
103	*Gymnostomum calcareum* Nees & Hornsch.	△													1	f	
104	*Gymnostomum viridulum* Brid.											◀			1	n	
105	*Habrodon perpusillus* (De Not.) Lindb.											◀			1	n	
106	*Herzogiella seligeri* (Brid.) Z. Iwats. (8)		△									◀			2	n, q	
107	*Homalia besseri* Lob.	◀													1	n	
108	*Homalothecium aureum* (Lag. ex Spruce) H.Rob.					◀	◀						◀		3	h	
109	*Homalothecium lutescens* (Hedw.) H. Rob.				△		△			◀					4	i, n	
110	*Homalothecium lutescens* var. *fallax* (Philib. ex Schimp.) Hedenäs & Söderstr.									◀					2	n	
111	*Homalothecium philippeanum* (Spruce) Bruch & Schimp.									◀					1	n	
112	*Homalothecium sericeum* (Hedw.) Schimp.	◀	△		△	△	△	△						◀	10	a, h, i, n, q	q3:MN;2KS
113	*Hygroamblystegium varium* (Hedw.) Mönk.	◀													1	h	
114	*Hygrohypnum luridum* (Hedw.) Jenn.	△													1	a	
115	*Hygrohypnum luridum* var. *subsphaericarpon* (Schleich. ex Brid.) C.E.O.Jens.	◀													2	n	
116	*Hylocomium splendens* (Hedw.) Schimp.	◀	△							◀					3	n, q	
117	*Hymenostylium recurvirostre* (Hedw.) Dixon	◀													1	a	
118	*Hypnum cupressiforme* Hedw.	◀	△		△		◀					◀			9	g, h, i, n, q	q2:MN, KS
119	*Isothecium alopecuroides* (Lam. ex Dubois.) Isov.	◀		△								◀			3	k, n	q1: KS
120	*Leptodictyum riparium* (Hedw.) Warnst.	◀							◀						2	h	
121	*Leptodon smithii* (Hedw.) F.Web. & D.Mohr	◀					△					◀	◀		7	g, h, k, l, n	
122	*Leskea polycarpa* Ehrh. ex Hedw.	△													1	g	
123	*Leucodon sciuroides* (Hedw.) Schwägr.	◀	△		△		◀	◀							10	a, g, h, i, n, q	
124	*Leucodon sciuroides* var. *morensis* (Schwägr.) De Not.						△								1	i	
125	*Mnium stellare* Reichard ex Hedw.	◀	△							◀					5	n, q	q1: KS
126	*Mnium thomsonii* Schimp.	◀													1	n	
127	*Myurella julacea* (Schwägr.) Schimp.	◀								◀					3	n	
128	*Neckera cephalonica* Jur. & Unger.											◀			1	o	
129	*Neckera complanata* (Hedw.) Hueb.		△				△					◀			3	i, n, q	
130	*Neckera crispa* Hedw.	◀	△				△					◀			4	i, n, q	q1: MN
131	*Orthothecium rufescens* (Dicks. ex Brid.) Schimp.	◀													1	n	
132	*Orthotrichum affine* Schrad. ex Brid.		△												1	q	
133	*Orthotrichum anomalum* Hedw.	◀													3	a, f, h	q1: MN

	BRYOPHYTA (Tab. 1 cont.)	**SHK**	**KUK**	**LZH**	**DIB**	**DUR**	**TIR**	**ELB**	**FIE**	**KOR**	**BER**	**VLO**	**GJI**	**Und.**	**N. of Records**	**References**	**Records excluded**
134	*Orthotrichum cupulatum* Hoffm. ex Brid.	△													2	a, f	
135	*Orthotrichum cupulatum* var. *sardagnanum* (Vent.) Vent	△													1	f	
136	*Orthotrichum diaphanum* Schrad. ex Brid.	△													1	f	q1: KS
137	*Orthotrichum shawii* Wilson in Schimp.						◢								1	h	
138	*Orthotrichum speciosum* Nees ex Sturm.	◢	△					△		◢					5	h, i, n, q	
139	*Orthotrichum stramineum* Hornsch. ex Brid.			△				△							2	i, k	
140	*Orthotrichum striatum* Hedw.				△		△								2	i	
141	*Palustriella commutata* (Hedw.) Ochyra	◢										◢	◢		6	a, h, l, n	q1: KS
142	*Palustriella commutata* var. *fluctuans* (Schimp.) Ochyra									◢					1	n	
143	*Palustriella commutata* var. *ptychodioides* (G.Roth) Ochyra						◢								1	h	
144	*Palustriella decipiens* (De Not.) Ochyra	◢													1	n	
145	*Palustriella falcata* (Brid.) Hedenäs	◢								◢			◢		4	a, h, n	
146	*Paraleucobryum longifolium* (Ehrh. ex Hedw.) Loeske		△												1	q	
147	*Philonotis calcarea* (Bruch & Schimp.) Schimp. (9)	◢								◢		◢			4	n, q	
148	*Philonotis fontana* (Hedw.) Brid.				△										1	q	
149	*Philonotis marchica* (Hedw.) Brid.				△										1	q	q1: KS
150	*Philonotis seriata* Mitt. (9)		△		△										5	q	
151	*Plagiomnium affine* (Bland. ex Funck) T.J.Kop.	△	△									◢			3	g, n, q	
152	*Plagiomnium cuspidatum* (Hedw.) T.J.Kop.	△					△								2	k, q	
153	*Plagiomnium rostratum* (Schrad.) T.J.Kop.	△													1	q	
154	*Plagiomnium undulatum* (Hedw.) T.J.Kop.	△			△							◢	◢		5	h, n, q	
155	*Plagiopus oederianus* (Sw.) Crum & Anders.	◢			△										3	n, q	q1: KS
156	*Plagiothecium nemorale* (Mitt.) A.Jaeger				△										1	q	
157	*Platydictya subtilis* (Hedw.) H.A.Crum		△												1	q	
158	*Pleurochaete squarrosa* (Brid.) Lindb.	△					◢	◢	◢				◢		6	f, h, n	
159	*Pleurozium schreberi* (Willd. ex Brid.) Mitt.		△												1	q	
160	*Pohlia atropurpurea* (Wahlenb.) H.Lindb.	△													1	f	
161	*Pohlia cruda* (Hedw.) Lindb.	◢								◢					3	n	
162	*Bryum alpinum* var. *latifolium* Mönk.						◢								1	n	
163	*Pohlia wahlenbergii* (F.Web. & D.Mohr) Andr.	◢													1	n	
164	*Polytrichastrum alpinum* (Hedw.) G.L.Sm.	◢								◢					2	n	
165	*Polytrichum juniperinum* Hedw.	◢			△					◢					6	a, n, q	
166	*Polytrichum piliferum* Hedw.		△	△			◢								3	h, k	
167	*Pseudocrossidium revolutum* (Brid.) Zander	◢				◢									2	h	
168	*Pseudoleskea incurvata* (Hedw.) Loeske	◢			△					◢					3	n, q	

	BRYOPHYTA (Tab. 1 cont.)	SHK	KUK	LZH	DIB	DUR	TIR	ELB	FIE	KOR	BER	VLO	GJI	Und.	N. of Records	References	Records excluded
169	*Pseudoleskea radicosa* (Mitt.) Macoun & Kindb.	▲								▲					2	n	
170	*Pseudoleskea saviana* (De Not.) Latzel				△										4	i	
171	*Pseudoleskeella catenulata* (Brid. ex Schrad.) Kindb.						△								1	i	
172	*Pseudoscleropodium purum* (Hedw.) M.Fleisch.									▲		▲			2	n	q1: KS
173	*Pterigynandrum filiforme* Hedw.		△		△		△	△		▲					9	i, k, n, q	
174	*Pterogonium gracile* (Hedw.) Sm.	△													1	a	
175	*Ptilium crista-castrensis* (Hedw.) De Not.		△												1	q	
176	*Ptychodium plicatum* (Schleich. ex F.Web. & D.Mohr) Schimp.	▲													2	n	
177	*Racomitrium canescens* (Hedw. ex Hedw.) Brid.	▲					▲	▲		▲					5	h, k, n	
178	*Racomitrium ericoides* (Web. ex Brid.) Web.	△	△												2	a, q	
179	*Rhizomnium punctatum* (Hedw.) T. Kop.									▲					1	n	q1: MN
180	*Rhynchostegiella curviseta* (Brid.) Limpr.											▲			1	h	
181	*Rhynchostegiella litorea* (De Not.) Limpr.	▲						▲				▲			3	h, n	
182	*Rhynchostegiella tenella* (Dicks.) Limpr.	▲						▲					▲		5	g, h	
183	*Rhynchostegium alopecuroides* (Brid.) A.J.E.Smith									▲					1	n	
184	*Rhynchostegium confertum* (Dicks.) Schimp.	△							▲						3	g, h	
185	*Rhynchostegium megapolitanum* (Blandow ex F.Web. & D.Mohr) Schimp.	▲					▲		▲						5	g, h	
186	*Rhynchostegium megapolitanum* var. *meridionale* Schimp.	▲													1	h	
187	*Rhynchostegium murale* (Hedw.) Schimp.		△												1	h	
188	*Rhynchostegium riparioides* (Hedw.) Cardot		△										▲	▲	3	l, n, q	
189	*Rhynchostegium riparioides* fo. *atlanticum* (Brid.) Düll											▲			1	n	
190	*Rhytidiadelphus triquetrus* (Hedw.) Warnst.	▲	△							▲					4	n, q	
191	*Rhytidium rugosum* (Hedw.) Kindb.	▲													1	n	
192	*Saelania glaucescens* (Hedw.) Broth. ex Bom. & Broth.	▲								▲					2	n	
193	*Sanionia uncinata* (Hedw.) Loeske	▲													1	n	
194	*Schistidium agassizii* Sull. & Lesq. ex Sull.	▲													2	f, n	
195	*Schistidium apocarpum* (Hedw.) Bruch & Schimp.	▲	△			▲	▲			▲					12	a, h, k, n, q	q1: MN
196	*Sciuro-hypnum glaciale* var. *gelidum* (Bryhn) Ochyra & Žarnowiec									▲					1	n	
197	*Scleropodium touretii* (Brid.) L.F.Koch	▲				▲							▲		4	g, h	
198	*Scorpiurium circinatum* (Brid.) M.Fleisch. & Loeske	▲				▲		▲				▲	▲		7	g, h	
199	*Scorpiurium deflexifolium* (Solms.) M.Fleisch. & Loeske												▲		1	n	
200	*Sphagnum palustre* L.		△												1	i	
201	*Syntrichia calcicola* J.J. Amann	▲													1	h	
202	*Syntrichia intermedia* Brid.	▲				▲	▲	△						△	8	a, f, h, k	
203	*Syntrichia intermedia* var. *calva* (Dur. & Sag.) Delogne	△													1	f	

	BRYOPHYTA (Tab. 1 cont.)	SIIK	KUK	LZH	DIB	DUR	TIR	ELB	FIE	KOR	BER	VLO	GJI	Und.	N. of Records	References	Records excluded
204	*Syntrichia norvegica* Web.	▲								▲					2	n	
205	*Syntrichia ruraliformis* (Besch.) Cardot									▲					1	n	
206	*Syntrichia ruralis* (Hedw.) F. Web. & D. Mohr	▲			△					▲					7	a, f, k, n	q1: MN
207	*Thamnobryum alopecurum* (Hedw.) Nieuwl. ex Gangulee											▲			2	h, n	
208	*Thuidium delicatulum* (Hedw.) Schimp.	▲													1	n	q1: KS
209	*Thuidium philibertii* Limpr.	▲													1	n	
210	*Thuidium recognitum* (Hedw.) Lindb.		△							▲					2	n, q	
211	*Timmia austriaca* Hedw.	▲								▲					2	n	
212	*Timmia bavarica* Hessl.				△										1	i	
213	*Timmiella barbuloides* (Brid.) Mönkem.											▲			1	n	
214	*Tortella flavovirens* (Bruch) Broth.	▲		▲					▲						4	h	
215	*Tortella flavovirens* var. *viridiflava* (De Not.) Cas.-Gil.	▲													2	h	
216	*Tortella inclinata* (Hedw. f.) Limpr.						▲								1	n	
217	*Tortella nitida* (Lindb.) Broth	▲					▲								3	h	
218	*Tortella tortuosa* (Hedw.) Limpr.	▲			△		▲		▲	▲			▲		9	h, i, l, n, q	q1: KS
219	*Tortella tortuosa* var. *fragilifolia* (Jur.) Limpr.	△													1	f	
220	*Tortula canescens* Mont.						▲								1	h	
221	*Tortula cuneifolia* (Dicks. ex With.) Turn. (10)	△													1	f	
222	*Tortula eucalyptrata* Lindb.	▲								▲					2	n	
223	*Tortula inermis* (Brid.) Mont.												▲		2	h	
224	*Tortula lanceola* var. *angustata* (Bruch & Schimp.) Zander	△													1	f	
225	*Tortula marginata* (Bruch & Schimp.) Spruce											▲			1	n	
226	*Tortula muralis* Hedw.	▲					▲								7	a, f, h	q1: MN
227	*Tortula muralis* var. *aestiva* Brid. ex Hedw.	△													1	f	
228	*Tortula obtusifolia* (Schwägr.) Mathieu									▲					1	n	
229	*Tortula solmsii* (Schimp.) Limpr.	△													1	f	
230	*Tortula subulata* Hedw.	▲					▲			▲					4	f, h, n	q1: MN
231	*Trichostomum brachydontium* Bruch	▲				▲	▲								4	f, h, n	
232	*Trichostomum crispulum* Bruch	▲				▲		▲							7	a, f, h	
233	*Trichostomum crispulum* var. *brevifolium* (Müll. Hall.) Bruch & Schimp.	▲													1	h	
234	*Ulota crispa* (Hedw.) Brid.			△											1	k	
235	*Ulota curvifolia* (Wahlenb.) Lilj.			△											1	k	
236	*Warnstorfia fluitans* (Hedw.) Loeske				△										2	q	
237	*Weissia condensa* (Voit ex Sturm) Lindb.	▲					▲								5	f, h	
238	*Weissia controversa* Hedw.				△	▲	▲								3	h, q	

(Tab. 1 cont.)

EXCLUDED TAXA

	Bryophyta	**Locality is in**	**Reference**
1	*Atrichum undulatum* var. *minus* (Hedw.) Paris	KOSOVA	q
2	*Barbula unguiculata* f. *obtusifolia* Mönk.	KOSOVA	q
3	*Campylophyllum calcareum* (Crundw. & Nyholm) Hedenäs (6)	(11)	d
4	*Desmatodon heimii* (Hedw.) Mitt.	KOSOVA	q
5	*Didymodon cordatus* Jur. (12)	(11)	d
6	*Didymodon vinealis* var. *flaccida* (Bruch & Schimp.) Zander (13)	(11)	d
7	*Fissidens adianthoides* Hedw.	KOSOVA	q
8	*Grimmia hartmanii* var. *montenegrina* Beck & Szysz. (14)	MONTENEGRO	b, d
9	*Hypnum cupressiforme* var. *lacunosum* Brid. (13)	(11)	e
10	*Hypnum jutlandicum* Holmen & Warncke	KOSOVA	q
11	*Pogonatum aloides* var. *x minimum* (Crome) Molendo	MONTENEGRO	q
12	*Thuidium abietinum* (Hedw.) Schimp.	KOSOVA	q
13	*Thuidium tamariscinum* (Hedw.) Schimp.	KOSOVA	q
14	*Tortula lingulata* subsp. *montenegrina* (Breidl. & Szysz.) Podp.	MONTENEGRO	b, p
15	*Tortula mucronifolia* Schwägr.	KOSOVA	q
16	*Weissia controversa* var. *crispata* (Nees & Hornsch.) Nyh.	MONTENEGRO	f (15)

	Marchantiophyta		
1	*Leiocolea heterocolpos* (Thed. ex Hartm.) H.Buch.	MONTENEGRO	q
2	*Porella obtusata* (Taylor) Trevis	(11)	(16)
3	*Riccia lamellosa* Raddi	(11)	(17)

References in the check-list are indicated as follows:

a. Baumgartner (1915); **b.** Beck & Szyszyłowicz (1888); **c.** Bischler & al. (1980); **d.** Düll (1984); **e.** Düll (1985); **f.** Höhnel (1893); **g.** Höhnel (1894); **h.** Kárpáti & Vajda (1961); **i.** Markgraf (1927a); **j.** Markgraf (1927b); **k.** Markgraf (1931); **l.** Meyer & Grolle (1963); **m.** Meyer & Grolle (1968); **n.** Petrov (1960); **o.** Petrov (1962); **p.** Podpěra (1954); **q.** Szepesfalvy (1926).

Records excluded: References as above, the number following the reference indicates the number of records excluded, the acronym(s) which follow(s) refer to Montenegro (MN), and Kosova (KS). For instance, "q3: MN;2KS" means 3 records excluded from reference q (Szepesfalvy 1926) because localities are actually one in Montenegro, and the other 2 in Kosova.

Notes to table 1:

(1) The variety is indicated in a more recent work (Bischler 2004) and not in the original work cited (Bischler & al. 1980).

(2) Not indicated for Albania in a more recent work, but Albania indicated on distribution map therein (Bischler 2004)

(3) According to Söderström & al. (2002) it should be referred to *Marchantia paleacea* ssp. *ruderalis* Bisch. & Boisselier.

(4) In the original work (Bischler & al. 1980) *Plagiochila asplenioides* (with the indication "incl. var.") was indicated as the species collected, in a more recent work *Plagiochila porelloides* instead is indicated as the one collected, while *P. asplenoides* is reported as present in Albania but not collected (Bischler 2004).

(5) Bischler does not distinguish between varieties of this species in the original work (Bischler & al. 1980), in a more recent one, though, she does differentiate a var. *sorocarpa* (which she indicates she did collect) and a var. *hegii* Schiffn., which she only reports as recorded from Albania (Bischler 2004).

(6) *Hypnum sommerfeltii* Myr., the species reported by Höhnel, is the basionym of *Campylophyllum sommerfeltii* (Myrin) Hedenäs, a subarctic species. According to Smith (2004), Cortini (2006), Düll (1995), though, European authors using that combination may have been rather referring to *Campylophyllum calcareum* (Crundw. & Nyholm) Hedenäs. There's a report of *C. calcareum* for Albania by Düll (1985), but with no indication of locality.

(7) Variety with doubtful taxonomic value (Düll 1992).

(8) In Cortini Pedrotti (2001a): *Plagiothecium silesiacum* (P.Beauv.) Bryol. eur. = *Haplohymenium triste* (Ces.) Kindb. (Probably a mistake).

(9) In TROPICOS *Philonotis calcarea* and *Ph. seriata* are considered as synonyms of *Ph. fontana*.

(10) Höhnel (1893) refers also to a var. *luteomarginata* Höhn. which he mentions he had collected also in Corsica in 1889.

(11) No voucher or reference to locality is available.

(12) Possibly in Albania (Düll, *pers. comm.*)

(13) Likely to be present in Albania (Düll, *pers. comm.*)

(14) Düll (1984) and Podpěra (1954) report it for Albania based on a collection made by Głowacki in 1886 (in Beck and Szyszyłowicz, 1888): the locality is actually in Montenegro.

(15) The locality indicated (West coast of Lake Scutari) was within the borders of Albania from 1885 to 1891, presently is in Montenegro.

(16) Reported by M. Shehu in an unpublished thesis (Söderström, *pers. comm.*); probably from the Ersekë area (Korçë), no voucher, thesis at Tirana University (A.Miho, *pers. comm.*)

(17) Reported by Jovet-Ast 1986 for Albania (with a question mark); Not confirmed by Bischler 2004. Reported as doubtful for Albania by Söderström & al. (2002) based on Jovet-Ast's paper.

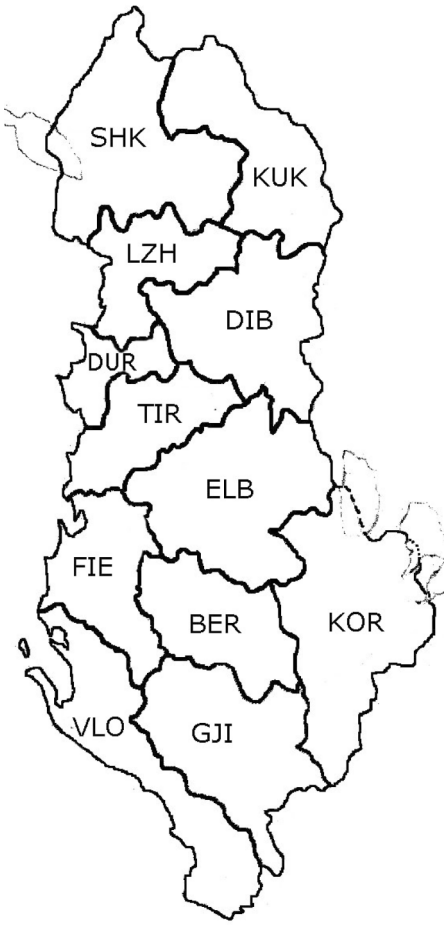

Fig. 1. The administrative boundaries of Albanian Prefectures with their names. – The Prefectures are indicated with the following acronyms, from North to South: SHK = Shkodër; KUK = Kukës; LZH = Lezhë; DIB = Dibër; DUR= Durrës; TIR = Tiranë; ELB = Elbasan; FIE = Fier; KOR = Korçë; BER = Berat; VLO = Vlorë; GJI = Gjirokastër. (Boundaries according to: Harta Administrative [GCC, 1999]).

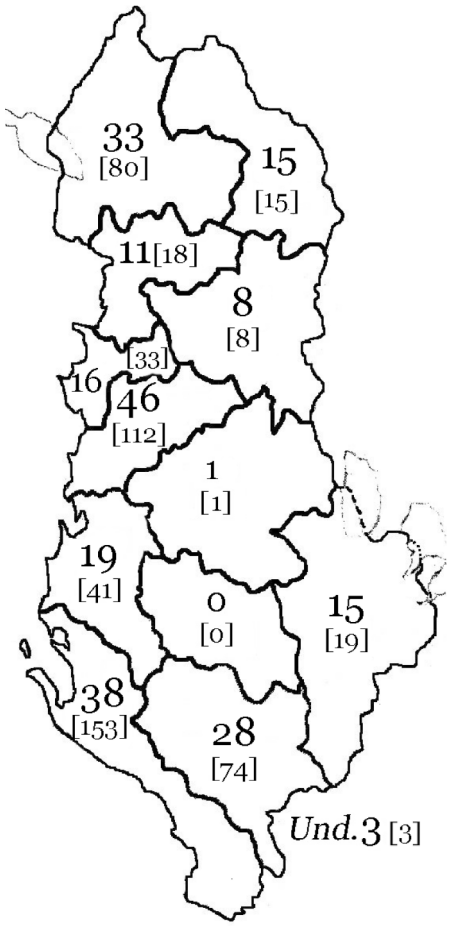

Fig. 2. Number of liverworts (including hornworts) taxa and in brackets number of collections (records). Total for Albania 89 [559]. - Und. = Undeterminded, utilized in a few instances when localization was not possible (*e.g.*, "Everywhere in mountains above 1000 m").

The fluctuation of borders in earlier times is one of the reasons for the exclusion of several records which are outside the present-day borders of Albania (which have not changed since 1921, however). Many records from Szepesfalvy (1926), in particular those which are based on the collections made by Andrasowsky in 1916-17, had to be excluded, as what he called Northern Albania referred actually to areas in Montenegro or Kosova. Some works which included in their title Albania (or, more generally, the Balkans) have been consulted also,

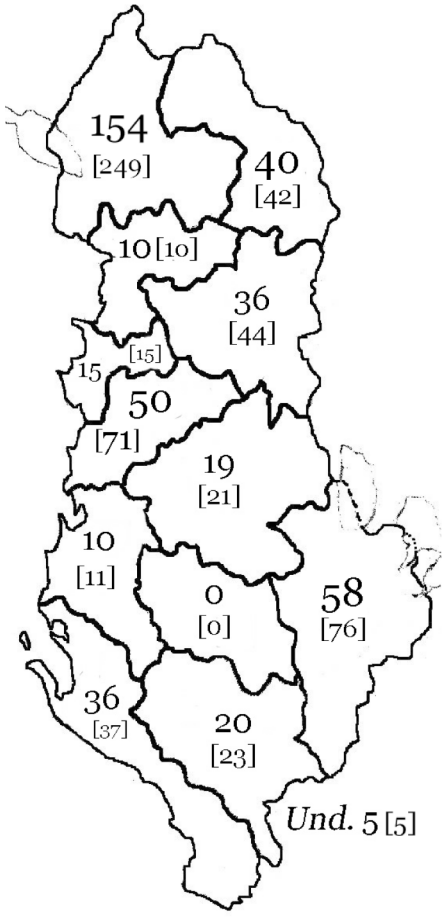

Fig. 3. Number of moss taxa and in brackets number of collections (records); Total for Albania 238 [604]. - Und. = Undeterminded, utilized in a few instances when localization was not possible (e.g., "Everywhere in mountains above 1000 m").

but in several cases there were no records of bryophytes for Albania in them. These have been reported too. For three taxa the only record of their presence in Albania is by Düll (1984, 1985). There is no original source, and no locality, and therefore, these have not been included in the list (see also Düll's notes, later). The most recent paper on the liverworts of Albania is that of Bischler *et al.* (1980), which reports about 59 taxa, some of them indicated as new to Albania, although they had already been collected at the turn of the 19th Century and reported in works (Baumgartner, 1915; Höhnel, 1893, 1894) apparently overlooked by Bischler *et al.* (1980).

The determination of the actual localities from the spellings used by the original authors has presented several problems, not least the lack of an official Albanian alphabet, used by all speakers of Albanian, which was agreed upon only in 1915, but entered into general use much later. The existence of two main varieties of Albanian (Gheg and Tosk, the last one becoming the "standard form" only after 1945) sometimes added to these difficulties. Therefore, many localities in the works consulted were indicated with their Turkish language equivalents (*e.g.,* Ipek instead of the currently used Pejë/Peć [Albanian/ Serbian, respectively; a town in Kosova]), or with spellings based on German or Slavic languages (Serbian mainly). The use of maps and of gazetteers (for Albania and the bordering countries) has allowed us, however, to locate all localities with the exception of one. The use of a series of topographic maps of Albania at the scale 1:50,000 published by the Russian Army between 1974 and 1988 also has been useful, even though the spellings of Albanian names are reported there in their phonetic rendering in the cyrillic script (Electronic Access from UC Berkeley Library [http://www.lib.berkeley.edu/EART/albania/albania50k.html]).

A data base of the bryoflora of Albania, based at the Laboratory of Bryology (Dipartimento di Biologia, Difesa e Biotecnologie Agroforestali) of the University of Basilicata, has been prepared, and it would be appreciated if all new records (and related publications) would be communicated to the corresponding author to keep the data base up to date.

Table 2. Systematic synopsis of Albanian bryophytes.

Arrangement follows Crandall-Stotler & Stotler (2000) for liverworts (with the addition of *Leiocolea* within the Jungermanniaceae), Grolle & Long (2000) for hornworts; Buck and Goffinet (2000) for mosses (with the addition of *Brachytheciastrum* and *Sciuro-hypnum* within the Brachytheciaceae). Bryophytes (s.l.) are considered as three distinct lineages (Divisions). The number following the genus indicates number of taxa. Order of genera in families is alphabetical, except for Pottiaceae (*) arranged according to Zander (1993).

HORNWORTS. ANTOCEROTOPHYTA.

ANTHOCEROTOPSIDA
ANTHOCEROTALES
Anthocerotaceae
Anthoceros **1**, *Phaeoceros* **2**

LIVERWORTS. MARCHANTIOPHYTA.

MARCHANTIOPSIDA
MARCHANTIALES
Aytoniaceae
Mannia **2**, *Plagiochasma* **1**, *Reboulia* **1**
Conocephalaceae
Conocephalum **1**
Lunulariaceae
Lunularia **1**
Marchantiaceae
Marchantia **2**, *Preissia* **1**
Cleveaceae
Athalamia **2**
Corsiniaceae
Corsinia **1**
Targioniaceae
Targionia **1**
Oxymitraceae
Oxymitra **1**
Ricciaceae
Riccia **13**

JUNGERMANNIOPSIDA
FOSSOMBRIONALES
Fossombroniaceae
Fossombronia **2**
Pelliaceae
Pellia **1**
METZGERIALES
Aneuraceae
Aneura **1**, *Riccardia* **2**
Mezgeriaceae
Metzgeria **1**
LEPICOLEALES
Ptilidiaceae
Ptilidium **1**
JUNGERMANNIALES
Geocalycaceae
Chiloscyphus **1**, *Lophocolea* **3**
Plagiochilaceae
Pedinophyllum **1**, *Plagiochila* **2**
Arnelliaceae
Southbya **2**, *Gongylanthus* **1**
Calypogeiaceae
Calypogeia **2**
Lepidoziaceae
Bazzania **2**
Cephaloziaceae
Cephalozia **1**
Cephaloziellaceae
Cephaloziella **4**
Jungermanniaceae
Barbilophozia **2,** *Jungermannia* **5,** *Leiocolea* **3,** *Lophozia* **3**
Scapaniaceae
Scapania **6**
PORELLALES
Porellaceae
Porella **4**
Jubulaceae
Frullania **4**
Lejeuneaceae
Cololejeunea **2**, *Lejeunea* **1**
RADULALES
Radulaceae
Radula **2**

MOSSES. BRYOPHYTA

SPHAGNOPSIDA
SPHAGNALES
Sphagnaceae
Sphagnum **1**

POLYTRICHOPSIDA
TETRAPHIDALES
Buxbaumiaceae
Buxbaumia **2**
POLYTRICHALES
Polytrichaceae
Polytrichastrum **1**, *Polytrichum* **2**

BRYOPSIDA
TIMMIALES
Timmiaceae
Timmia **2**
ENCALYPTALES
Encalyptaceae
Encalypta **7** (incl. 2 var.)
Funariaceae
Funaria **2**
GRIMMIALES
Grimmiaceae
Coscinodon **1**, *Grimmia* **7**, *Racomitrium* **2**, *Schistidium* **2**

Table 2. Systematic synopsis of Albanian bryophytes *(continued)*.

DICRANALES
Fissidentaceae
Fissidens **4** (incl. 1 var.)
Dicranaceae
Dicranella **2**, *Dicranum* **3**, *Paraleucobryum* **1**
Ditrichaceae
Ceratodon **1**, *Cheilothela* **1**, *Distichium* **1**, *Ditrichum* **1**, *Saelania* **1**
Rhabdoweisiaceae
Dichodontium **1,** *Dicranoweisia* **2**
POTTIALES
Pottiaceae (*)
Timmiella **1**, *Eucladium* **1**, *Trichostomum* **3** (incl. 1 var.), *Pleurochaete* **1**, *Tortella* **6** (incl. 2 var.), *Dialytrichia* **1**, *Bryoerythrophyllum* **1**, *Pseudocrossidium* **1**, *Hymenostylium* **1**, *Barbula* **2**, *Gymnostomum* **3**, *Didymodon* **7**, *Weissia* **2**, *Crossidium* **1**, *Aloina* **1**, *Tortula* **11** (incl. 2 var.). *Syntrichia* **6** (incl. 1 var.)
Cinclidotaceae
Cinclidotus **4** (incl. 1 var.)
ORTHOTRICHALES
Orthotrichaceae
Orthotrichum **9** (incl. 1 var.), *Ulota* **2**
BRYALES
Bartramiaceae
Bartramia **4**, *Philonotis* **4**, *Plagiopus* **1**
Bryaceae
Bryum **16** (incl. 3 var.)
Mniaceae
Mnium **2**, *Plagiomnium* **4**, *Pohlia* **3**, *Rhizomnium* **1**
HYPNALES
Amblystegiaceae
Amblystegium **1**, *Hygroamblystegium* **1**, *Leptodictyum* **1**
Cratoneuraceae
Cratoneuron **2** (incl. 1 var.)
Helodiaceae
Palustriella **5** (incl. 2 var.)
Hylocomiaceae
Hylocomium **1**, *Pleurozium* **1,** *Rhytidiadelphus* **1**
Rhytidiaceae
Rhytidium **1**
Leskeaceae
Leskea **1**, *Pseudoleskea* **3**, *Pseudoleskeella* **1**, *Ptychodium* **1**
Pterigynandraceae
Habrodon **1,** *Myurella* **1**, *Pteryginandrum* **1**
Thuidiaceae
Thuidium **3**
Campyliaceae
Campyliadelphus **1**, *Campylium* **1**, *Drepanocladus* **1,** *Hygrohypnum* **2** (incl. 1 var.), *Sanionia* **1**, *Warnstorfia* **1**
Brachytheciaceae
Brachytheciastrum **1**, *Brachythecium* **4,** *Eurhynchium* **11** (incl. 2 var.), *Homalothecium* **5** (incl.1 var.), *Isothecium* **1**, *Pseudoscleropodium* **1**, *Rhynchostegiella* **3**, *Rhynchostegium* **7** (incl. 1 var. & 1 form), *Sciuro-hypnum* **1**, *Scleropodium* **1**, *Scorpiurium* **2**
Plagiotheciaceae
Plagiothecium **1**
Fontinalaceae
Fontinalis **1**
Hypnaceae
Campylophyllum **1**, *Calliergonella* **1**, *Ctenidium* **1,** *Herzogiella* **1**, *Hypnum* **1,** *Orthothecium* **1**, *Platydictya* **1**, *Ptilium* **1**
Leucodontaceae
Antitrichia **1,** *Leucodon* **2** (incl. 1 var.)
Neckeraceae
Homalia **1**, *Neckera* **3,** *Thamnobryum* **1**
Leptodontaceae
Leptodon **1**
Anomodontaceae
Anomodon **3**

Table 3. List of synonyms

The citations in the original works considered have been corrected when wrong, as far as possible. When more than two names are present the last name is the one currently used, the others are synonyms or variants. Synonyms for "excluded taxa" (*i.e.,* those indicated at the end of Table 1) are also included. Some recent synonyms are also included.

Liverworts

Aneura palmata (Hedw.) Dumort. = *Riccardia palmata* (Hedw.) Carruth.
Calypogeia trichomanis (L.) Corda = *Calypogeia azurea* Stotler & Crotz
Chiloscyphus coadunatus (Sw.) J.J.Engel & R.M.Schust. = *Lophocolea bidentata* (L.) Dumort.
Chiloscyphus minor (Nees) J.J.Engel & R.M.Schust. = *Lophocolea minor* Nees
Chiloscyphus profundus (Nees) J.J.Engel & R.M.Schust. = *Lophocolea heterophylla* (Schrad.) Dumort.
Chomiocarpon quadratum (Scop.) Lindb. = *Preissia quadrata* (Scop.) Nees
Clevea hyalina (Sommerf.) Lindb. = *Athalamya hyalina* (Sommerf.) S.Hatt.
Dolichotheca silesiaca (F.Web. & D.Mohr) M.Fleisch.= *Herzogiella seligeri* (Brid.) Z. Iwats.

Table 3. List of synonyms *(continued)*.

Fegatella conica (L.) Corda = *Conocephalum conicum* (L.) Dumort.
Frullania illyrica Grolle = *Frullania inflata* Gottsche
Haplozia crenulata (Mitt.) Müll. Frib. = *Aplozia crenulata* (Mitt.) Lindb. = *Jungermannia gracillima* Sm.
Haplozia lanceolata (Nees) Müll. Frib. = *Aplozia lanceolata* (L.) Dumort. = *Jungermannia leiantha* Grolle
Jungermannia tristis Nees = *Jungermannia atrovirens* Dumort.
Lophozia badensis (Gottsche) Schiffn. = *Leiocolea badensis* (Gottsche) Jørg.
Lophozia collaris (Nees) Dumort. = *Leiocolea collaris* (Nees) Schljakov
Lophozia heterocolpos (Thed. ex Hartm.) M.Howe = *Leiocolea heterocolpos* (Thed. ex Hartm.) H.Buch
Lophozia turbinata (Raddi) Steph. = *Leiocolea turbinata* (Raddi) H.Buch
Madotheca baueri Schiffn. = *Porella baueri* (Schiffn.) C.E.O.Jensen
Madotheca cordeana (Hueb.) Dumort. = *Porella cordaeana* (Hueb.) Moore
Madotheca platyphylla (L.) Dumort. = *Porella platyphylla* (L.) Pfeiff.
Madotheca rivularis Nees = *Porella cordaeana* (Hueb.) Moore
Neesiella rupestris (Nees) Schiffn. = *Mannia triandra* (Scop.) Grolle
Oxymitra paleacea Bisch. ex Lindenb. = *Oxymitra incrassata* (Brot.) Sérgio & Sim-Sim;
Pellia fabbroniana Raddi = *Pellia endiviifolia* (Dicks.) Dumort.
Plagiochila asplenioides var. *humilis* Lindenb. = *Plagiochila porelloides* (Torrey ex Nees) Lindenb.
Plagiochila asplenioides var. *minor* Lindenb. = *Plagiochila porelloides* (Torrey ex Nees) Lindenb.
Pleuroschisma tricrenata (Wahlenb.) Dumort. = *Bazzania tricrenata* (Wahlenb.) Lindb.
Pleuroschisma trilobatum (L.) Dumort. = *Bazzania trilobata* (L.) Gray
Porella laevigata (Schrad.) Pfeiff. = *Porella arboris-vitae* (With.) Grolle
Preissia commutata Nees = *Preissia quadrata* (Scop.) Nees
Radula lindbergiana Gottsche ex J.B.Jack = *Radula lindenbergiana* Gottsche ex C. Hartm.
Riccardia pinguis (L.) Gray = *Aneura pinguis* (L.) Dumort.
Riccia bischoffii Hueb. = *Riccia ciliifera* Link ex Lindenb.
Scapania nemorosa Dumort. = *Scapania nemorea* (L.) Grolle
Solenostoma schiffneri (Loitl.) Müll. Frib. = *Jungermannia polaris* Lindb.
Solenostoma triste (Nees) Müll. Frib. = *Jungermannia atrovirens* Dumort.
Targionia hypophylla v. *fimbriata* Müll. Frib. = *Targionia hypophylla* L.

Mosses

Acrocladium cuspidatum (Hedw.) Lindb. = *Calliergonella cuspidata* (Hedw.) Loeske
Amblystegium filicinum (Hedw.) De Not. = *Cratoneuron filicinum* (Hedw.) Spruce
Amblystegium riparium (Hedw.) Schimp. = *Leptodictyum riparium* (Hedw.) Warnst.
Amblystegium subtile (Hedw.) Schimp. = *Platydictya subtilis* (Hedw.) Crum
Amblystegium varium (Hedw.) Linbd. = *Hygroamblystegium varium* (Hedw.) Mönk.
Barbula acuta (Brid.) Brid. = *Didymodon acutus* (Brid.) K. Saito
Barbula fallax Hedw. = *Didymodon fallax* (Hedw.) Zander
Barbula gracilis Schwägr. = *Didymodon acutus* (Brid.) K. Saito
Barbula lurida (Hornsch.) Lindb. (≠ *Barbula lurida* Hornsch.) = *Didymodon luridus* Hornsch. ex Spreng.
Barbula revoluta Brid. = *Pseudocrossidium revolutum* (Brid.) Zander
Barbula sinuosa (Wils.) Braithw. = *Barbula sinuosa* (Mitt.) Grav. = *Didymodon sinuosus* (Mitt.) Delogne
Barbula tophacea (Brid.) Mitt. = *Didymodon tophaceus* (Brid.) Lisa
Barbula unguiculata var. *obtusifolia* Bruch & Schimp. =*Barbula obtusifolia* Schultz = *Barbula unguiculata* f. *obtusifolia* Mönk. [Note: *Barbula obtusifolia* Schultz ≠ *Barbula obtusifolia* Schwägr. = *Tortula obtusifolia* (Schwägr.) Mathieu]
Barbula vinealis Brid. = *Didymodon vinealis* (Brid.) Zander
Bartramia oederi Brid. = *Plagiopus oederianus* (Sw.) Crum & Anders.
Brachythecium glaciale var. *gelidum* (Bryhn) Mönk. = *Sciuro-hypnum glaciale* var. *gelidum* (Bryhn) Ochyra & Żarnowiec
Brachythecium velutinum (Hedw.) Schimp. = *Brachytheciastrum velutinum* (Hedw.) Ignatov & Huttunen
Bryum atropurpureum (Wahlenb.) Wahlenb. = *Pohlia atropurpurea* (Wahlenb.) H.Lindb.
Bryum caespiticum var. *kunzei* (Hornsch.) Warnst. = *Bryum kunzei* Hornsch.
Bryum capillare var. *meridionale* Schimp. = *Bryum capillare* subsp. *meridionale* (Schimp.) Podp. = *Bryum capillare* Hedw.
Bryum cirratum (Hedw.) With. = *Dicranoweisia cirrata* (Hedw.) Lindb. ex Milde

Table 3. List of synonyms *(continued)*.

Bryum elegans var. *carinthiacum* (Schimp.) Breidl. = *Bryum stirtonii* Schimp.
Bryum murale Wils. ex Hunt. = *Bryum radiculosum* Brid.
Bryum pendulum (Hornsch.) Schimp. = *Bryum algovicum* Sendtn. ex Müll. Hal.
Bryum provinciale H.Philib. = *Bryum canariense* var. *provinciale* (H.Philib.) Husn.
Bryum ventricosum Dicks. = *Bryum pseudotriquetrum* (Hedw.) Gaertn. Meyer & Scherb.
Buxbaumia indusiata Brid. = *Buxbaumia viridis* (Moug. ex Lam. & DC.) Moug. & Nestl.
Calliergon cuspidatum (Hedw.) Kindb. = *Calliergonella cuspidata* (Hedw.) Loeske
Camptothecium aureum (Lag.) Schimp. = *Homalothecium aureum* (Lag. ex Spruce) H.Rob.
Camptothecium lutescens Bruch & Schimp. = *Homalothecium lutescens* (Hedw.) H.Rob.
Camptothecium lutescens var. *fallax* (Philib.) Breidl. = *Homalothecium lutescens* var. *fallax* (Philib. ex Schimp.) Hedenäs & Söderstr.
Camptothecium sericeum (Hedw.) Kindb. = *Homalothecium sericeum* (Hedw.) Schimp.
Camptothecium sericeum f. *tenella* = *Homalothecium sericeum* f. *tenellum* Limpr. = *Homalothecium sericeum* (Hedw.) Schimp.
Campylium calcareum Crundw. & Nyh. = *Campylophyllum calcareum* (Crundw. & Nyh.) Heden.
Campylium protensum f. *tenera* Mönk. (= f. *tenue* Podp.) = *Campylium protensum* (Brid.) Kindb.
Catharinea undulata var. *minor* F.Weber & D.Mohr = *Atrichum undulatum* var. *minus* (Hedw.) Paris
Ceratodon chloropus (Brid.) Brid. = *Cheilothela chloropus* (Brid.) Lindb. ex Broth.
Chrysohypnum chrysophyllum (Brid.) Loeske = *Campyliadelphus chrysophyllus* (Brid.) R.S.Chopra
Cinclidotus mucronatus (Brid.) Guim. = *Dialytrichia mucronata* (Brid.) Broth.
Cirriphyllum crassinervium (Taylor) Loeske & M.Fleisch. = *Eurhynchium crassinervium* (Taylor) Schimp.
Cratoneuron commutatum (Hedw.) Roth. = *Palustriella commutata* (Hedw.) Ochyra
Cratoneuron commutatum var. *falcatum* (Brid.) Mönk. = *Palustriella falcata* (Brid.) Hedenäs
Cratoneuron commutatum var. *irrigatum* (Zett.) Mönk. = *Palustriella commutata* var. *fluctuans* (Schimp.) Ochyra
Cratoneuron commutatum var. *ptychodioides* (G.Roth) Mönk. = *Palustriella commutata* var. *ptychodioides* (G.Roth) Ochyra
Cratoneuron decipiens (De Not.) Loeske = *Palustriella decipiens* (De Not.) Ochyra
Cratoneuron filicinum f. *gracilescens* (Schimp.) Mönk. = *Cratoneuron filicinum* var. *gracilescens* (Brid.) G.Roth = *Cratoneuron filicinum* (Hedw.) Spruce
Cratoneuron filicinum var. *fallax* (Brid.) G.Roth. = *Cratoneuron filicinum* var. *atrovirens* (Brid.) Ochyra
Cratoneurum Spruce ex I. Hagen = *Cratoneuron* (Sull.) Spruce
Crossidium squamigerum (Viv.) Jur. = *Crossidium squamiferum* (Viv.) Jur. [Orthographic variants]
Desmatodon latifolius (Hedw.) Brid. = *Tortula eucalyptrata* Lindb.
Dialytrichia brebissonii (Brid.) Limpr. = *Dialytrichia mucronata* (Brid.) Broth.
Dicranum longifolium Ehrh. ex Hedw. = *Paraleucobryum longifolium* (Ehrh. ex Hedw.) Loeske
Dicranum scoparium f. *orthophyllum* (Brid.) Mönk. = *Dicranum scoparium* var. *orthophyllum* Brid. = *Dicranum scoparium* Hedw.
Dicranum undulatum Ehrh. = *Dicranum polysetum* Sw. [≠ *Dicranum undulatum* Schrad. ex Brid. = *Dicranum bergeri* Bland.]
Ditrichium flexicaule (Schleich.) Hampe = *Ditrichum flexicaule* (Schwägr.) Hampe
Drepanocladus fluitans (Hedw.) Warnst. = *Warnstorfia fluitans* (Hedw.) Loeske
Encalypta contorta Hoppe ex Lindb. = *Encalypta streptocarpa* Hedw.
Encalypta rhabdocarpa Schwägr. = *Encalypta rhaptocarpa* Schwägr. (Orthographic variants)
Encalypta rhabdocarpa var. *leptodon* Lindb. = *Encalypta rhaptocarpa* var. *trachymitria* (Ripart) Wijk & Margad.
Erythrophyllum rubellum Hilp. = *Bryoerythrophyllum recurvirostre* (Hedw.) P.C.Chen
Eurhynchium circinatum (Brid.) Schimp. = *Scorpiurium circinatum* (Brid.) M.Fleisch. & Loeske
Eurhynchium circinatum var. *deflexifolium* (Solms) Boul. = *Scorpiurium deflexifolium* (Solms.) M.Fleisch. & Loeske
Eurhynchium striatum. var. *meridionale* Schimp. = *Eurhynchium meridionale* (Schimp.) De Not.
Eurhynchium strigosum (Hoffm. ex F.Weber & D.Mohr) Schimp. = *Eurhynchium pulchellum* (Hedw.) Jenn.
Eurhynchium strigosum var. *diversifolium* (Schleich.) Mol. & Lorentz. = *Eurhynchium pulchellum* var. *diversifolium* (Schimp.) C.E.O.Jens.
Eurhynchium swartzii (Turn.) Curn. = *Erhynchium hians* (Hedw.) Sande Lac.
Eurhynchium swartzii var. *abbreviatum* Turn. = *Eurhynchium schleicheri* (Hedw. f.) Jur.
Eurhynchium swartzii var. *atrovirens* (Brid.) Dixon = *Erhynchium hians* (Hedw.) Sande Lac.

Table 3. List of synonyms *(continued)*.

Eurhynchium swartzii var. *robustum* Limpr. = *Eurhynchium hians* var. *rigidum* (Boul.) Düll
Fissidens cristatus f. *mucronata* Breidl. = *Fissidens dubius* var. *mucronatus* (Breidl. ex Limpr.) Kartt., Heden. & Söderstr.
Fissidens cristatus Wils. ex Mitt. = *Fissidens dubius* P.Beauv.
Funaria dentata Crome = *Funaria muhlenbergii* Turn.
Funaria mediterranea Lindb. = *Funaria muhlenbergii* Turn.
Grimmia apocarpa Hedw. = *Schistidium apocarpum* (Hedw.) Bruch & Schimp.
Grimmia apocarpa var. *epilosa* (Warnst.) Paris = *Grimmia apocarpa* Hedw.
Grimmia leucophaea Grev. = *Grimmia laevigata* (Brid.) Brid.
Gymnostomum calcareum var. *viridulum* (Brid.) Bruch & Schimp. = *Gymnostomum viridulum* Brid.
Gymnostomum rupestre Schleich. ex Schwägr. = *Gymnostomum aeruginosum* Sm.
Herpetineuron toccoae (Sull. & Lesq.) Cardot = *Anomodon viticulosus* (Hedw.) Hook. & Taylor
Hygrohypnum palustre var. *subsphaericarpon* (Schleich. ex Brid.) Loeske = *Hygrohypnum luridum* var. *subsphaericarpon* (Schleich. ex Brid.) C.E.O.Jens.
Hylocomium schreberi (Willd. ex Brid.) De Not. = *Pleurozium schreberi* (Willd. ex Brid.) Mitt.
Hylocomium triquetrum (Hedw.) Schimp. = *Rhytidiadelphus triquetrus* (Hedw.) Warnst.
Hymenostomum tortile (Schwägr.) Bruch & Schimp. = *Weissia condensa* (Voit ex Sturm) Lindb.
Hymenostylium curvirostre var. *cataractum* (Schimp.) Limpr = *Hymenostylium recurvirostre* (Hedw.) Dixon
Hypnum commutatum Hedw. = *Palustriella commutata* (Hedw.) Ochyra
Hypnum falcatum Brid. = *Palustriella commutata* (Hedw.) Ochyra
Hypnum filicinum Hedw. = *Cratoneuron filicinum* (Hedw.) Spruce
Hypnum sommerfeltii Myr. = *Campylophyllum sommerfeltii* (Myr.) Heden.
Isothecium filescens (Brid.) Mönk. = *Eurhynchium striatulum* (Spruce) Schimp.
Isothecium myurum Brid. = *Isothecium alopecuroides* (Lam. ex Dubois.) Isov.
Lescuraea atrovirens (Dicks. ex Brid.) Kindb. = *Pseudoleskea incurvata* (Hedw.) Loeske
Lescuraea radicosa (Mitt.) Mönk. = *Pseudoleskea radicosa* (Mitt.) Macoun & Kindb.
Leskea catenulata (Brid. ex Schrad.) Mitt. = *Pseudoleskeella catenulata* (Brid. ex Schrad.) Kindb.
Mniobryum albicans (Wahlenb.) Limpr. = *Pohlia wahlenbergii* (F.Weber & D.Mohr) A.L.Andrews
Mnium affine Bland. = *Plagiomnium affine* (Bland. ex Funck) T.J.Kop.
Mnium cuspidatum Hedw. = *Plagiomnium cuspidatum* (Hedw.) T.J.Kop.
Mnium orthorrhynchum Brid. = *Mnium thomsonii* Schimp.
Mnium punctatum Hedw. = *Rhizomnium punctatum* (Hedw.) T.J.Kop.
Mnium rostratum Schrad. = *Plagiomnium rostratum* (Schrad.) T.J.Kop.
Mnium undulatum Hedw. = *Plagiomnium undulatum* (Hedw.) T.J.Kop.
Myurella julacea var. *scabrifolia* Lindb. ex Limpr. = *Myurella julacea* (Schwägr.) Schimp.;
Neckera besseri (Lobarz.) Jur. = *Homalia besseri* Lobarz.
Orthotrichum leiocarpum Bruch & Schimp. = *Orthotrichum striatum* Hedw.
Orthotrichum sardagnanum Vent. = *Orthotrichum cupulatum* var. *sardagnanum* (Vent.) Vent.
Orthotrichum saxatile Brid. = *Orthotrichum anomalum* Hedw.
Orthotrichum saxatile Schimp. = *Orthotrichum anomalum* Hedw.
Orthotrichum striatum var. *shawii* Wils. = *Orthotrichum shawii* Wils. in Schimp.
Oxyrrhynchium hians var. *rigidum* (Boul.) Ochyra & Žarnowiec = *Eurhynchium hians* var. *rigidum* (Boul.) Düll
Plagiopus oederi (Brid.) Limpr. = *Plagiopus oederianus* (Sw.) Crum & Anders.
Plagiothecium silesiacum (F.Weber & D.Mohr) Schimp. = *Herzogiella seligeri* (Brid.) Z.Iwats.
Plagiothecium silvaticum Bruch & Schimp. in Lindb. = *Plagiothecium sylvaticum* (Brid.) Bruch & Schimp. = *Plagiothecium nemorale* (Mitt.) A. Jaeger
Platyhypnidium riparioides (Hedw.) Podp. = *Rhynchostegium riparioides* (Hedw.) Cardot
Platyhypnidium rusciforme (Necker) Fleisch. = *Rhynchostegium riparioides* (Hedw.) Cardot
Platyhypnidium rusciforme var. *alopecuroides* Brid. = *Rhynchostegium alopecuroides* (Brid.) A.J.E.Smith
Platyhypnidium rusciforme var. *atlanticum* Brid. = *Rhynchostegium riparioides* f. *atlanticum* (Brid.) Düll
Pogonatum alpinum (Hedw.) Roehl. = *Polytrichastrum alpinum* (Hedw.) G.L.Sm.
Polytrichum juniperinum Willd. = *Polytrichum juniperinum* Hedw.
Polytrichum piliferum Schreb. = *Polytrichum piliferum* Hedw.
Pottia heimii (Hedw.) Schimp. = *Desmatodon heimii* (Hedw.) Mitt.
Pottia lanceolata var. *angustata* (Bruch & Schimp.) Müll. Hal = *Tortula lanceola* var. *angustata* (Bruch & Schimp.) Zander

Table 3. List of synonyms *(continued)*.

Pseudoleskea atrovirens (Dicks.) Schimp. = *Pseudoleskea incurvata* (Hedw.) Loeske
Pseudoleskea illyrica G_owacki. = *Pseudoleskea saviana* (De Not.) Latzel
Racomitrium canescens var. *ericoides* (Weber) Schimp. = *Racomitrium ericoides* (Weber ex Brid.) Weber
Rhynchostegiella algiriana (Brid.) Broth. = *Rhynchostegiella tenella* (Dicks.) Limpr.
Rhynchostegiella algiriana var. *litorea* (De Not.) Mönk. = *Rhynchostegiella litorea* (De Not.) Limpr.
Rhynchostegium rusciforme (Neck.) Schimp. = *Rhynchostegium riparioides* (Hedw.) Cardot
Rhynchostegium tenellum (Dicks.) Schimp. = *Rhynchostegiella tenella* (Dicks.) Limpr.
Rosulabryum capillare (Hedw.) J.R.Spencer = *Bryum capillare* Hedw.
Sanionia uncinata f. *plumosa* (Schimp.) Mönk. = *Sanionia uncinata* (Hedw.) Loeske
Schistidium alpicola (Hedw.) Limpr. = *Schistidium agassizii* Sull. & Lesq. ex Sull.
Scleropodium illecebrum Schimp. = *Scleropodium touretii* (Brid.) L.Koch
Scleropodium purum (Hedw.) Limpr. = *Pseudoscleropodium purum* (Hedw.) M.Fleisch.
Sphagnum cymbifolium var. *pallescens* Warnst. = *Sphagnum palustre* L.
Stereodon cupressiformis (Hedw.) Brid. ex Mitt. = *Hypnum cupressiforme* Hedw.
Stereodon cupressiformis var. *ericetorum* Schimp. = *Hypnum jutlandicum* Holmen & Warncke
Syntrichia inermis (Brid.) Bruch = *Tortula inermis* (Brid.) Mont.
Syntrichia montana Nees in Raab = *Syntrichia intermedia* Brid.
Syntrichia ruralis ssp. *calcicolens* (W.A.Kramer) Düll = *Syntrichia calcicola* J.J.Amann
Syntrichia ruralis var. *calcicola* Grebe = *Syntrichia calcicola* J.J.Amann
Syntrichia ruralis var. *ruraliformis* (Besch.) Husn. ex T. Durand = *Syntrichia ruraliformis* (Besch.) Cardot
Syntrichia ruralis var. *ruraliformis* Dixon = *Syntrichia ruraliformis* (Besch.) Cardot
Syntrichia subulata (Hedw.) F.Weber & D.Mohr = *Tortula subulata* Hedw.
Thamnium alopecurum (Hedw.) Schimp. = *Thamnobryum alopecurum* (Hedw.) Nieuwl. ex Gangulee
Tortella squarrosa (Brid.) Limpr. = *Pleurochaete squarrosa* (Brid.) Lindb.
Tortella viridiflava (De Not.) Broth. = *Tortella flavovirens* var. *viridiflava* (De Not.) Cas.-Gil.
Tortula aestiva (Brid. ex Hedw.) P.Beauv. = *Tortula muralis* var. *aestiva* Brid. ex Hedw.
Tortula montana (Nees) Lindb. (≠ *Tortula montana* Mitt.) = *Syntrichia intermedia* Brid.
Tortula montana var. *calva* (Dur. & Sag.) Limpr. = *Syntrichia intermedia* var. *calva* (Dur. & Sag.) Delogn.
Tortula montenegrina (Breidl. & Szysz.) Broth. = *Tortula lingulata* subsp. *montenegrina* (Breidl. & Szysz.) Podp.
Tortula muralis f. *incana* Sapegen = *Tortula muralis* Hedw.
Tortula muralis var. *rupestris* A. Chev. = *Barbula muralis* var. *rupestris* Schultz = *Tortula muralis* Hedw.
Tortula obtusifolia var. *brevifolia* (Schimp.) G. Roth = *Tortula obtusifolia* (Schwägr.) Mathieu
Tortula ruralis (Hedw.) P.Gaertn., B.Mey. & Scherb. = *Syntrichia ruralis* (Hedw.) F.Weber & D.Mohr
Tortula ruralis subsp. *ruraliformis* (Besch.) Dixon = *Syntrichia ruraliformis* (Besch.) Cardot
Trichostomum brevifolium Sendtn. ex Müll. Hal. = *Trichostomum crispulum* var. *brevifolium* (Müll. Hal.) Bruch & Schimp.
Trichostomum mutabile Bruch = *Trichostomum brachydontium* Bruch
Ulota americana Mitt. = *Ulota curvifolia* (Wahlenb.) Lilj.
Weissia crispata (Nees & Hornsch.) Müll. Hal.= *Weissia controversa* var. *crispata* (Nees & Hornsch.) Nyh.
Weissia tortilis (Schwägr.) Müll. Hal. = *Weissia condensa* (Voit ex Sturm) Lindb.
Weissia viridula Hedw. ex Brid. = *Weissia controversa* Hedw.

RESULTS AND DISCUSSION

A Check-list of the Bryophytes of Albania is given in Table 1. We report here 327 taxa (species, subspecies, varieties and in a few instances, forms), which almost doubles the number of records for Albania as indicated by Düll (1983, 1984, 1985), which consisted of 175 entities. In particular, 238 mosses are reported (109 in Düll, 1984, 1985, 1992, including the 4 excluded herein), 86 liverworts, and 3 hornworts (63 + 3 in Düll, 1983). The taxa indicated by Söderström *et al.* (2002),

with the exclusion of three of them, are the same we report here. The check-list is based on a total of 1207 records (including 44 records from localities reported in the works considered as in Albania, but actually outside present-day Albanian borders, and which have been indicated in Table 1 under "Records excluded"). All records, without a valid location in Albania, have been excluded.

The actual number of bryophytes species in Albania is very likely much higher than that reported here (Bego & Koni, 1999, estimate it at about 500 species, a number probably not far from reality). This is suggested by the number of taxa in neighboring countries (see *e.g.,* Düll, 1995; Sabovljević *et al*., 2001; Blockeel *et al.*, 2002; Pavletić, 1968, Sabovljević, 2004) as well as the floristic and geographic diversity of the country itself, an important meeting area between the Mediterranean, the central European, and the Pontic floristic elements (for more information on these characteristics refer also to Colacino (2004) and the references indicated therein).

Excluded bryophyte taxa

Nineteen taxa, excluded from the Albanian Flora, are reported at the end of Table 1. *Campylophyllum calcareum* (Crundw. & Nyholm) Hedenäs, *Didymodon cordatus* Jur., *Didymodon vinealis* var. *flaccida* (Bruch & Schimp.) Zander, and *Hypnum cupressiforme* var. *lacunosum* Brid., reported in Düll (1983, 1985), have no indication of any voucher or locality and have therefore been excluded (see also the notes by Düll at the end of Table 1). *Grimmia hartmanii* var. *montenegrina* Beck & Szysz., reported for Albania by Podpěra (1954) and Düll (1984), is actually from Montenegro. The records of *Atrichum undulatum* var. *minus* (Hedw.) Paris, *Barbula unguiculata* f. *obtusifolia* Mönk., *Desmatodon heimii* (Hedw.) Mitt., *Fissidens adianthoides* Hedw., *Hypnum jutlandicum* Holmen & Warncke, *Thuidium abetinum* (Hedw.) Schimp., *Thuidium tamariscinum* (Hedw.) Schimp., and *Tortula mucronifolia* Schwägr., reported for Albania, are actually from localities in Kosova. The records of *Pogonatum aloides* var. *x minimum* (Crome) Molendo, *Tortula lingulata* subsp. *montenegrina* (Breidl. & Szysz.) Podp., *Weissia controversa* var. *crispata* (Nees & Hornsch.) Nyh., and *Leiocolea heterocolpos* (Thed. ex Hartm.) H.Buch., also reported for Albania, are actually from localities in Montenegro.

Three taxa reported for Albania by Söderström *et al.* (2002) have also been excluded: *Porella obtusata* (Taylor) Trevis, *Riccia lamellosa* Raddi, both without indication of any voucher or locality, and *Leiocolea heterocolpos* (Thed. ex Hartm.) H.Buch, whose report is based on the same record by Szepesfalvy (1926), which refers to a locality in Montenegro. For more details refer to the notes at the end of Table 1.

Excluded Works

The following works refer in their title to the Balkan area, or to Albania, in none of them, however, records of bryophytes for Albania are to be found. In particular, Ade & Koppe (1955) report species from Macedonia, Greece, Bulgaria, Serbia, and southern Italy, near Naples, while none is reported from Albania. Baumgartner (1914a, 1914b) reports several bryophytes from the Island of Corfu (Greece), while his collections from localities on the adjacent coast of Albania do not include any bryophytes. Vilhelm (1923) reports species from northern

Montenegro only. Weiss (1866) reports only Vascular Plants from Albania. Düll (1996), eventually, cites a work by Unger (1862) for Albania. We have not been able to locate it; its title, however, seems to refer to areas south of Albania.

Systematic synopsis of Albanian bryophytes (Table 2)

Arrangement follows Crandall-Stotler & Stotler (2000) for liverworts. Given the state of flux of hornworts taxonomy (Renzaglia & Vaughn, 2000), and considered there are only two genera of this group in our check-list, we follow the traditional arrangement of Grolle & Long (2000). For mosses the arrangement is according to Buck and Goffinet (2000), with the exception of Pottiaceae arranged according to Zander (1993). We differ from Grolle & Long (2000) in considering the bryophytes made up by three independent lineages (Divisions): Bryophyta (Mosses), Marchantiophyta (Liverworts), and Anthocerotophyta (Hornworts). We report for Albania 141 genera and 62 families of bryophytes (s.l.).

Synonyms (Table 3)

This list of synonyms is based on those found in the original sources, with a few additions (*e.g.*, recent synonymies). Errors in the original citations have been corrected, as far as possible.

Discussion

Albania is still a relatively unexplored area in Europe, not all areas within that country, however, are equally unknown from a bryological standpoint. Coastal areas, as well as those near Tirana and near Scutari (Shkodër), have been more frequently visited and collected. The less known areas appears to be the Northern Alps, the areas near the border with Kosova, and the internal areas of Berat and Elbasan. Even for those areas with the highest numbers of mosses and liverworts (and hornworts), as indicated in figures 2 and 3, these have been usually collected along the roads and near the major inhabited areas (with a few notable exceptions). A description of the characteristics of the bryophyte flora of Albania (as attempted in Colacino, 2004) is, therefore, probably still premature, even though it appears there is a prevalence of moss taxa with a central European distribution, followed by boreal and sub-boreal ones (Colacino, 2004). This is confirmed also by the results of Bischler *et al.* (1980) who found, for liverworts, a high number of central European taxa also (even though they did collect mainly in coastal areas). This is in opposition to the characteristics of the vascular flora which is made up prevalently by Mediterranean (and Balkan) elements (see, for instance Bego & Koni, 1999; Vangjeli *et al.*, 1995). As reported by Stewart (1995), it is likely that the northern mountains have a bryophyte flora typical of Balkan mountains, with possibly rare species and arctic-alpine relicts. Interesting (and bryologically almost unexplored) areas on the Adriatic Coast (including the sand dunes and lagoon of the National Park of Divjaka) are under severe pressure because of human exploitation, and it is not known for how long (and if) they will be effectively protected (see also Leone *et al.*, 2003, for recent data on Divjaka Lagoon).

According to Stewart (1995), there are nine bryophyte species of particular conservation interest in Albania: the only locally endemic species, the rare (R) liverwort *Frullania illyrica* Grolle, is now included in *F. inflata* Gottsche,

with a wider distribution, and whose status is Vulnerable (V) according to Schumacker & Váňa (2005). There are four other liverworts, *Athalamia spathysii* (Lindenb.) S. Hatt., *Mannia triandra* (Scop.) Grolle, *Riccia trabutiana* Steph., all with the status of rare according to the European Red List, and the insufficiently known (K) *Marchantia palacea* Bertol. (but not threatened – NT, according to Schumacker & Váňa, 2005). Out of the four mosses cited therein, *Tortula lingulata* Lindb. (K) is known from a single locality which we found to be outside the present borders of the country (actually we report *Tortula lingulata* subsp. *montenegrina* (Breidl. & Szysz.) Podp., which is considered by some authors (*e.g.* Düll, 1984) as synonym of *Tortula lingulata* Lindb.). The other mosses are *Neckera cephalonica* Jur. & Unger. (K), *Buxbaumia viridis* (Moug. ex Lam. & DC.) Moug. & Nestl. (V), and *Tortula solmsii* (Schimp.) Limpr. (R), the latter collected in Albania only once, more than a century ago (Höhnel, 1893). There are no data available on bryophyte conservation at the national level, the Red Data Book for Albania (Vangjeli *et al.*, 1995) did not include bryophytes.

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