

Frajman B., Graniszewska M. & Schönswetter P. (2016): Evolutionary patterns and morphological diversification within the European members of the *Euphorbia illirica* (*E. villosa*) group: one or several species? – *Preslia* 88: 369–390.

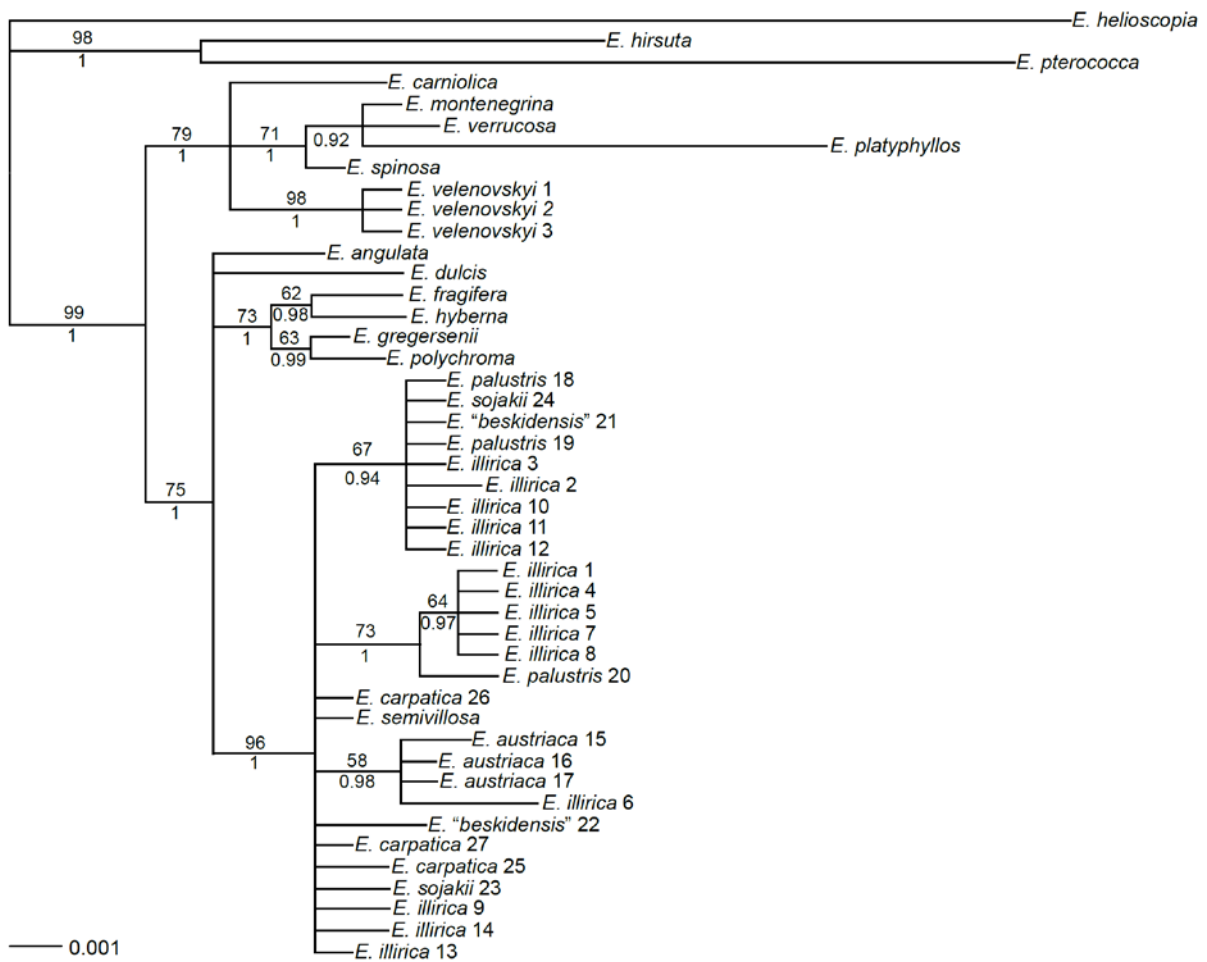
Electronic Appendix 1. – Voucher information of the genetically analysed samples; GB, GenBank accession numbers; AFLP, number of individuals included in the AFLP analyses.

ID	Taxon	Locality	Coordinates	Collector	Herbarium voucher	AFLP	GB ITS	GB <i>trnT-trnF</i>
1	<i>E. illirica</i>	Spain, La Belga near Siero	5.772W, 43.402N	L. Carlón	IB 12512	4	KU68113 3	KU681111
2	<i>E. illirica</i>	France, Montségur-sur- Lauzon in Rhône valley	4.902E, 44.378N	L. Garraud	IB 12195	1	KU68112 5	KU681103
3	<i>E. illirica</i>	Italy, Sterpo-Bertiolo west of Palmanova	13.047E, 45.912N	B. Frajman & P. Schönswetter	IB 12202	5	KU68112 6	KU681104
4	<i>E. illirica</i>	Slovenia, Pekel near Borovnica	14.372E, 45.891N	B. Frajman & P. Schönswetter	IB 11110	5	KU68112 2	KU681100
5	<i>E. illirica</i>	Slovenia, Begunje E of Cerknica	14.385E, 45.814N	B. Frajman	IB 12191	5	JN010116	JN010017
6	<i>E. illirica</i>	Croatia, Plaški, along river Dretulja	15.355E, 45.076N	A. Alegro	IB 11999	5	KU68112 4	KU681102
7	<i>E. illirica</i>	Slovenia, Pohorje, N of Smrečno	15.471E, 46.473N	P. Schönswetter & B. Frajman	IB 11125	5	KU68112 1	KU681099
8	<i>E. illirica</i>	Slovenia, Dobrovniški log N of Nedelica	16.357E, 46.624N	B. Frajman & B. Bakan	IB 12424	5	KU68112 8	KU681106
9	<i>E. illirica</i>	Hungary, S of Ebergőc	16.812E, 47.71N	G. Kiraly & A. Kiraly	IB 12462	5	KU68113 0	KU681108
10	<i>E. illirica</i>	Hungary, NW of Sopron	16.539E, 47.71N	G. Kiraly	IB 12461	5	KU68112 9	KU681107
11	<i>E. illirica</i>	Austria, Donau-Auen, Tierboden	16.699E, 48.133N	B. Frajman & P. Schönswetter	IB 11098	5	KU68112 3	KU681101
12	<i>E. illirica</i>	Bosnia & Herzegovina, Donji Skočigrm E of Trebinje	18.521E, 42.685N	B. Frajman & P. Schönswetter	IB 12390	4	KU68112 7	KU681105
13	<i>E. illirica</i>	Poland, between Luczyce and Rozubowice	22.848E, 49.744N	M. Graniszewska	WA	4	KU68113 2	KU681110
14	<i>E. illirica</i>	Poland, between Zmudz and Wolka Leszanska	23.653E, 51.012N	M. Graniszewska	WA	5	KU68113 1	KU681109
15	<i>E. austriaca</i>	Austria, Nördliche Kalkalpen, Gwöhnlistein	14.067E, 47.574N	B. Frajman & P. Schönswetter	IB 11382	4	JN010028	JN009928
16	<i>E. austriaca</i>	Austria, Nördliche Kalkalpen, Dürrenstein	15.033E, 47.817N	P. Pany	IB 12049	5	KU68111 4	KU681092
17	<i>E. austriaca</i>	Austria, Nördliche Kalkalpen, Ötschergräben	15.25E, 47.844N	P. Schönswetter	IB 12201	4	KU68111 5	KU681093

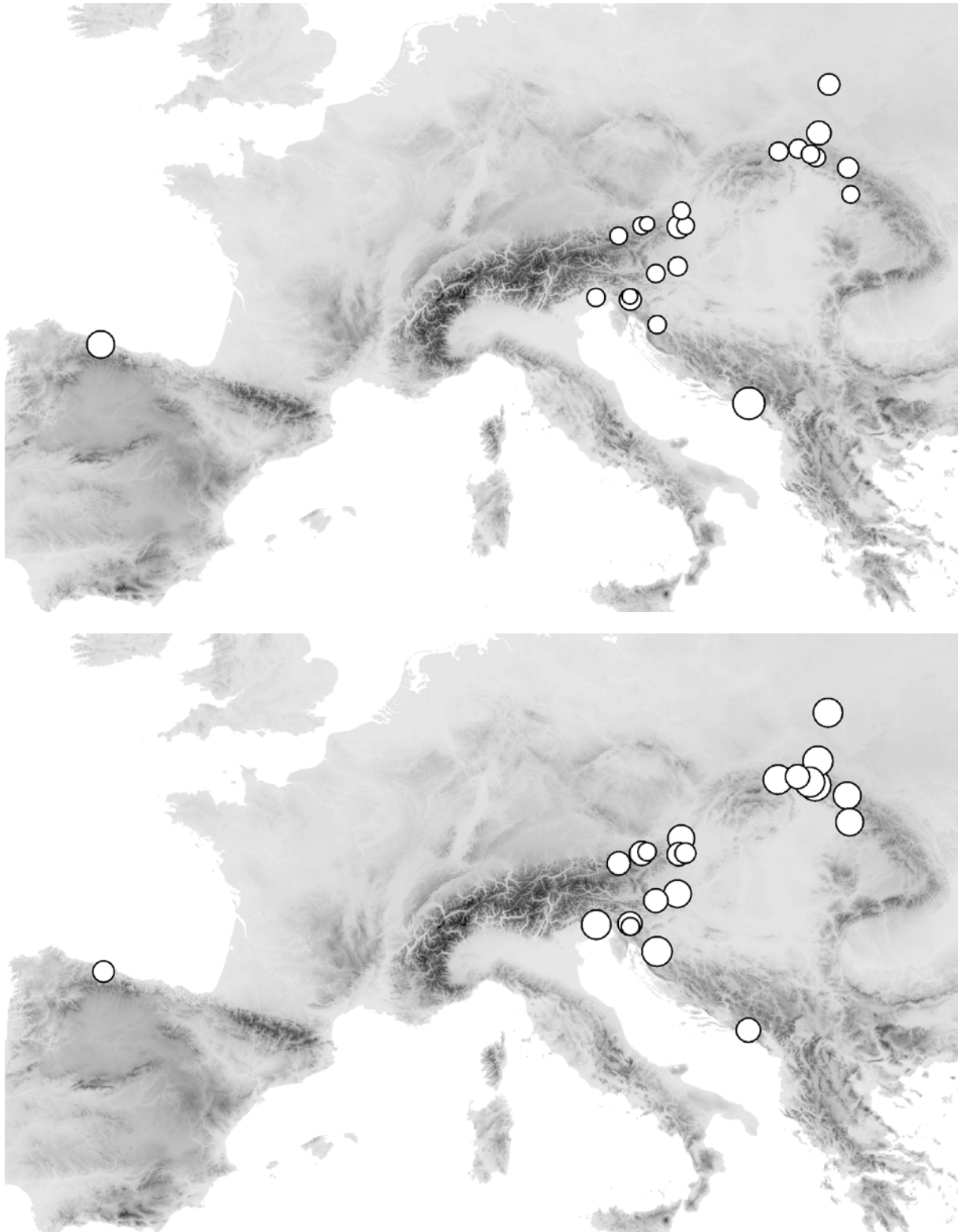
18	<i>E. palustris</i>	Slovenia, S of Filovci	16.305E, 46.65N	B. Frajman & B. Bakan	IB 12422	1	KU68111 2	KU681090
19	<i>E. palustris</i>	Austria, Donau-Auen, S of Marchfelddamm	16.8E, 48.133N	B. Frajman & P. Schönswetter	IB 11099	1	JN010073	JN009974
20	<i>E. palustris</i>	Croatia, Kopački rit	18.794E, 45.593N	B. Frajman & P. Schönswetter	IB 12575	2	KU68111 3	KU681091
21	<i>E. "beskidensis" [E. carpatica s.l.]</i>	Poland, Beskid Niski, between Motchaczka and Izby	21.038E, 49.428N	M. Graniszewska	KRA	5	KU68111 7	KU681095
22	<i>E. "beskidensis" [E. carpatica s.l.]</i>	Poland, Beskid Niski, between Wola Niszna and Moszczaniec	21.876E, 49.422N	M. Graniszewska	KRA	5	KU68111 6	KU681094
23	<i>E. sojakii</i>	Poland, Bieszczady, Cisna	22.334E, 49.214N	M. Graniszewska	KRA	5	KU68112 0	KU681098
24	<i>E. sojakii</i>	Slovakia, Bukovské vrchy, Kremenec-Jaraba skala	22.55E, 49.091N	B. Frajman & P. Schönswetter	IB 12416	5	JN010100	JN010001
25	<i>E. carpatica</i>	Ukraine, Gorgany Mts., along the river Swica	23.798E, 48.649N	M. Graniszewska	KRA	5	KU68111 9	KU681097
26	<i>E. carpatica</i>	Romania, Igriş Mts., Mlaştina Jilerescu	23.685E, 47.918N	A. M. Csörgö	IB 12464	2	KU68111 8	KU681096
27	<i>E. carpatica</i>	Romania, Igriş Mts., Valea Săpânţa	23.68E, 47.927N	A. M. Csörgö	IB 12463	5	JN010034	JN009934
28	<i>E. semivillosa</i>	Russia, Voronesh, Galichya Gora	38.919E, 52.585N	M. M. Wernisch	WHB 47895	1	JN010098	JN009999

Electronic Appendix 2. – GenBank numbers of previously published outgroup sequences.

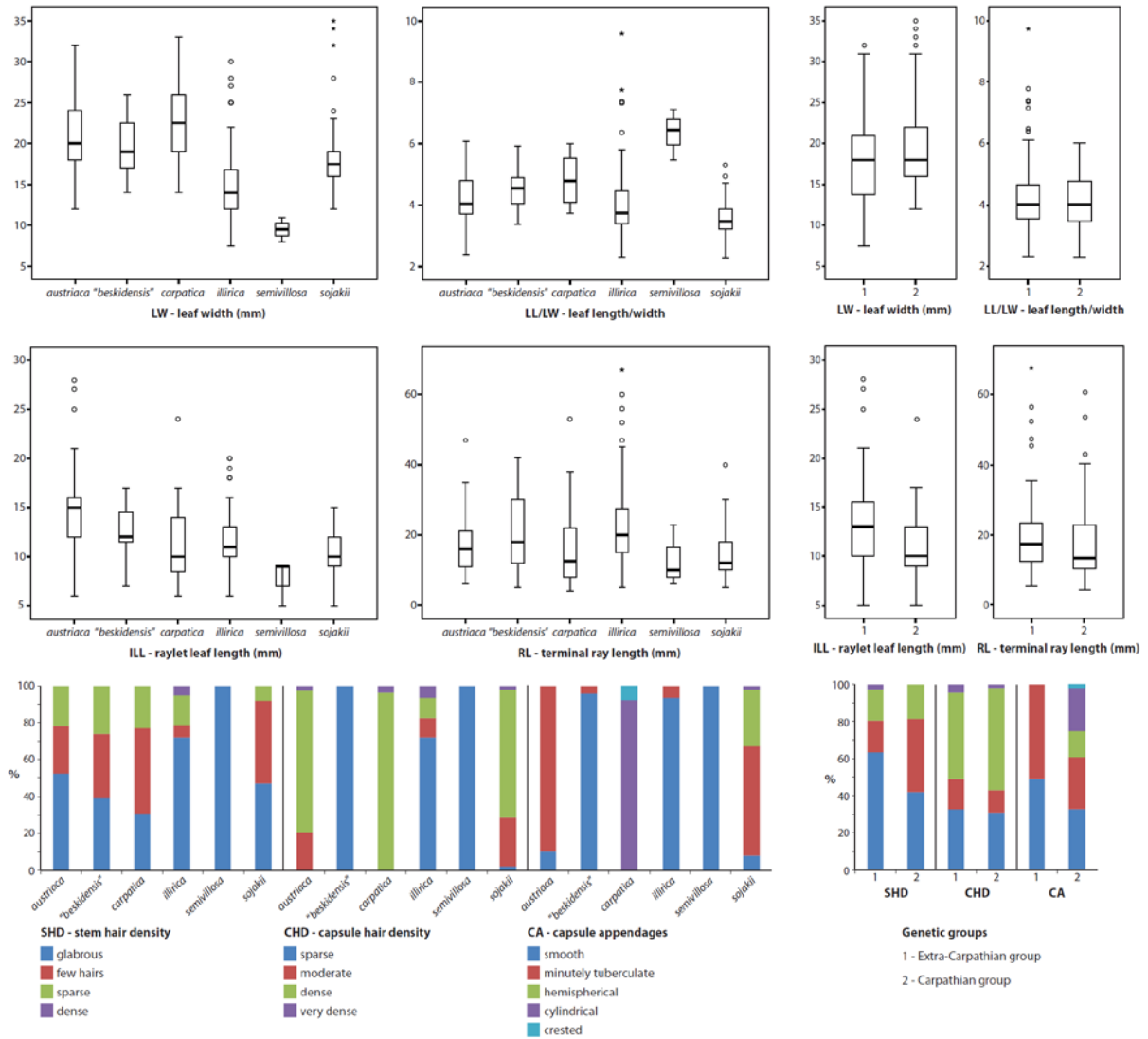
Taxon/Reference	ITS		<i>trnT-trnF</i>
Barres et al., 2011			
<i>Euphorbia palustris</i> L. 1	HQ900637		
Frajman & Schönswetter, 2011			
<i>Euphorbia angulata</i> Jacq.	JN010026		JN009926
<i>Euphorbia carniolica</i> Jacq.	JN010033		JN009933
<i>Euphorbia dulcis</i> L.	JN010041		JN009942
<i>Euphorbia fragifera</i> Janka	JN010048		JN009949
<i>Euphorbia gregersenii</i> K. Maly ex Beck	JN010051		JN009952
<i>Euphorbia helioscopia</i> L.	JN010052		JN009953
<i>Euphorbia hirsuta</i> L.	JN010055		JN009956
<i>Euphorbia hyberna</i> L.	JN010056		JN009957
<i>Euphorbia montenegrina</i> (Bald.) K. Maly ex Rohlena	JN010068		JN009969
<i>Euphorbia platyphyllos</i> L.	JN010081		JN009982
<i>Euphorbia polychroma</i> A. Kern.	JN010083		JN009984
<i>Euphorbia pterococca</i> Brot.	JN010085		JN009986
<i>Euphorbia spinosa</i> L.	JN010102		JN010003
<i>Euphorbia velenovskyi</i> Bornm. 1	JN010112		JN010013
<i>Euphorbia velenovskyi</i> Bornm. 2	JN010113		JN010014
<i>Euphorbia velenovskyi</i> Bornm. 3	JN010114		JN010015
<i>Euphorbia verrucosa</i> L.	JN010115		JN010016
Kryukov et al., 2010			
<i>Euphorbia aristata</i> Schmalh.	GU979434		
<i>Euphorbia lamprocarpa</i> (Prokh.) Prokh. 1	GU953745		
<i>Euphorbia palustris</i> L. 2	GU979432		
<i>Euphorbia pilosa</i> L. 1	GU979435		
<i>Euphorbia procera</i> M. Bieb.	GU979433		
Riina et al., 2013			
<i>Euphorbia lamprocarpa</i> (Prokh.) Prokh. 2	KC212294		
<i>Euphorbia alpina</i> Ledeb. 1	KC212167		
<i>Euphorbia alpina</i> Ledeb. 2	KC212168		
Steinmann and Porter, 2002			



Electronic Appendix 4. – Bayesian consensus phylogram of *trnT-trnF* sequences of the *Euphorbia illirica* group and outgroup taxa from *E. sect. Helioscopia*. Numbering of multiple accessions per taxon corresponds to Supplementary Tables 1 and 2. Numbers above branches are maximum parsimony bootstrap values > 50%, those below branches posterior probabilities > 0.50.



Electronic Appendix 5. – Geographic distribution of genetic diversity and DW, an estimate of rarity, in populations of the *Euphorbia illirica* group. Only populations with at least three investigated populations are shown; *E. palustris* is not shown. Upper panel, DW; lower panel, genetic diversity.



Electronic Appendix 6. – Boxplot diagrams and histograms of morphological characters among the six taxonomic groups (left) and the two genetic clusters (right; shown in Fig. 4). Boxes define 25 and 75 percentiles; thick black bars indicate medians; whiskers are from 5 to 95 percentiles; circles indicate outliers and asterisks extreme values. Characters are explained in Table 2. Numbers of individuals per group are as follows: *E. austriaca* 78, *E. “beskidensis”* 23, *E. carpatica* 26, *E. illirica* 75, *E. semivillosa* 3 and *E. sojakii* 49; Extra-Carpathian group 147, Carpathian group 107.