

Supplementary files to Paper 1

SUPPLEMENTARY DATA

Details of sampling localities.

Species	Acc. no	Locality (S = plants cultivated from seeds)	Light *)	Temperature *)
<i>H. alpinum</i> L.	H 1076	Ukraine: Oblast Zakarpatska, Chornohora Mts.: Mt. Pip Ivan Chornohirs'kyi (2020 m), summit area, 20 km E of the village of Bohdan, 2010m, 24° 37' 45" E, 48° 02' 45" N, 31 July 2005, leg. J. Zahradníček	8	2
	H 1316	France: dépt. Hautes Alpes, Beaufort, Col Cormet de Rosseland, W of the saddle, 2127 m, , 06° 41' 48" E, 45° 41' 10" N, 16 July 2006, leg. P. Mráz & M. Puşkaş		
<i>H. amplexicaule</i> L.	H 1050	Austria: Carinthia, Hohe Tauern, Goldberggruppe: Innerfragant, near the old (unmarked) path to the Fraganter Hütte, ca 1 km SW of the village, rocks above the brook, 1233 m, 13° 04' 20" E, 46° 57' 56" N, 28 July 2005, leg. J. Chrtek & P. Mráz	8	4
	H 1055	Austria: Carinthia, Hohe Tauern, Ankogelgruppe: Stappitz near Mallnitz, Seebach valley, Zelenigleiten, 4 km NE of the village, wet rocks, 1360 m, 13° 10' 45" E, 47° 01' 12" N, 29 July 2005, leg. J. Chrtek		
	P 354	Spain: Catalunya, prov. Gerona: Queralbs, along the tourist path from Daió de Baix to Refugi Menelic, near the brook of Fresser, 1750–1950 m, 2° 10' E, 42° 23' N, 24 August 1996, leg. K. Marhold		
	P 1366	France: dépt. Hautes Alpes, La Grave, gravel alluvium below the village, 1500 m, 06° 18' 21" E, 45° 02' 37" N, June 2003, leg. P. Mráz		
<i>H. bifidum</i> Kit.	H 1073	Italy: Trentino-Alto Adige, Gruppo dell' Adamello: Passo del Tonale, Mt. Monticello, E slope, near the road, 2 km SE of the saddle (monument), 2180 m, 10° 36' 33" E, 46° 14' 42" N, 29 August 2005, leg. J. Chrtek & P. Mráz		
	H 1213	Slovakia: Orava, distr. Tvrdošín, Oravice: Juráňova dolina-Tiesňavy, 3 km SE of the village, limestone gorge, 930 m, 19° 46' 19" E, 49° 16' 31" N, 15 August 2006, leg. J. Chrtek	8	4
	H 1313	Czechia: Central Bohemia, distr. Beroun: Svatý Jan pod Skalou, calcareous rocks behind the monastery, 245 m, 14° 08' 07" E, 49° 58' 10" N, 15 June 2006, leg. V. Zavadil		
H 1314	Czechia: NE Bohemia, distr. Semily, Krkonoše Mts.: Mt. Kotel, Kotelský hřebínek between the glacial cirques, 5.8 km NW of the village of Špindlerův Mlýn, 1350 m, 15° 32' 00" E, 50° 45' 05" N, June 2007, leg. V. Zavadil & J. Chrtek			
<i>H. bracteolatum</i> Sibth. & Sm.	H 1240	Greece: Thessalia, Pilion Mts., Agriolefkes, 1400 m, leg. Binder et al. (S, BGBM Berlin-Dahlem)		
<i>H. bupleuroides</i> C.C. Gmel. I.	H 1033	Slovakia: distr. Ilava, Biele Karpaty Mts.: Vršatské Podhradie, castle ruine of Vršatec, 770 m, 18° 09' 00" E, 49° 03' 57" N, 15 June 2005, leg. J. Chrtek	9	4
<i>H. bupleuroides</i> C.C. Gmel. II.	H 1209	Slovakia: distr. Tvrdošín, Chočské vrchy Mts.: Kvačianska dolina valley, upper part, 2 km SW of the church in the village of Huty, limestone rocks, 765 m, 19° 32' 58" E, 49° 12' 16" N, 17 August 2006, leg. J. Chrtek & S. Chrtková		
	H 1212	Slovakia: Orava, distr. Tvrdošín, Oravice: Juráňova dolina-Tiesňavy, 3 km SE of the village, limestone gorge, 930 m, 19° 46' 19" E, 49° 16' 31" N, 15 August 2006, leg. J. Chrtek		
	H 1063	Austria: Oberösterreich, Dachstein massif: Vorderer Gosausee (mountain lake), rocks on NW bank, 6 km SSW of the village of Gosau, 940 m, 13° 29' 55" E, 47° 31' 53" N, 13 August 2005, leg. J. Chrtek, det. F. Schuhwerk		
	H 1062	Slovakia: distr. Poprad, Slovenský raj region: Vernár, S part of the village, limestone slopes above the road, 780 m, 20° 16' 07" E, 48° 54' 50" , 5 August 2005, leg. J. Chrtek & K. Chrtková		
	P 1235	Austria: Austria, Allgäuer Alpen, Baad: between Starzel Joch (1867 m) and Hochstarzel (1974 m), 1920 m, 10° 05' 06" E, 47° 18' 26" N, 20 July 2002, leg. P. Mráz		
<i>H. caesium</i> (Fr.) Fr.	H 1231	Sweden: prov. Gotland, par. Hall, open limestone scree by the sea 1.3 km SE of Hallshuk (close to the NW point of the island of Gotland ca 40 km NNE of Visby), 20 m, 18° 43' E, 57° 55' N, July 2006, leg. et det. T. Tyler & A. Sennikov	9	4
	H 1227	Sweden: prov. Gästrikland, par. Hille: dry road/forest margin at Oslättfors, ca 15 km NW of Gävle, 30 m, 16° 59' E, 60° 43' N, July 2006, leg. et det. T. Tyler		
<i>H. cerinthoides</i> L.	H 1176	Spain: Catalunya, prov. Lérida, Pirineus Mts: Os de Civís, 1 km WSW of the village, margin of a pasture, 1720 m, 1° 25' 46" E, 42° 26' 47" N, 21 July 2006, leg. J. Chrtek, G. Mateo & J. A. Rosselló, det. G. Mateo		
<i>H. cordifolium</i> Lapeyr.	H 1177	Andorra: Pirineus Mts, Bixessarri (NW of Sant Julià de Lòria), valley of Torrent dels Llimois, rocks and margins of a path ca 100 m from the street, 1.5 km NW of the village, 1305 m, 1° 26' 44" E, 42° 29' 33" N, 21 July 2006, leg. J. Chrtek, G. Mateo & J. A. Rosselló, det. G. Mateo		
<i>H. eriophorum</i> St.-Amans	H 1221	France: dépt. Landes, Labenne: plage de Labenne Océan Sud, 10 m, 1° 27' 20" W, 43° 36' 17" N, 27 September 2006, leg. E. Forey (S)		
	H 1223	France: dépt. Landes, Vieux-Boucau-les-Bains: plage de Vieux-Boucau, 10 m, 1° 24' 27" W, 43° 47' 47" N, 27 September 2006, leg. E. Forey (S)		
<i>H. glaucum</i> All.	H 1081	Slovenia: Primorska region, Julijske Alpe Mts., Trenta: ca 1 km W of the village of Podklanec, near the road Vršič – Bovec, 425 m, 13° 38' 03" E, 46° 20' 16" N, 9 November 2005, leg. B. Vreš & J. Chrtek	8	3

	H 1232	Slovenia: Primorska region, Julijske Alpe Mts.: Zadnjica valley, along the marked path to the Luknja saddle, 4 km E of the village of Trenta, ca 1100 m, 13° 48' 18" E, 46° 22' 28" N, 8 August 2005, leg. V. Zavadil		
	H 1230	Slovenia: Julijske Alpe Mts., village of Trenta: Zadnja Trenta valley, 0.5 km W of the chalet 'Koča pro izviru Soče', margin of gravel alluvium, 910 m, 13° 43' 41" E, 46° 24' 22" N, September 2006, leg. J. Chrtek		
<i>H. gouani</i> Arv.-Touv.	H 1171	Spain: Catalunya, prov. Gerona: rocks at the road between Ripoll and Ribes de Freser, 1290 m, 2° 10' 02" E, 42° 15' 27" N, 24 July 2006, leg. J. Chrtek		
<i>H. gymnocephalum</i> Griseb. ex Pant.	H 1215	Albania: NW part, Jezercës, 21 km NW of Bajram Curri, 1800 m, 19° 50' 23" E, 42° 25' 46" N, August 2006, leg. J. Zahradníček, det. Z. Szeląg & V. Vladimirov		
<i>H. gymnocerinthe</i> Arv.-Touv. & G. Gaut.	H 1172	Spain: Catalunya, prov. Lérida, distr. La Seu d'Urgell: Adraén, Serra del Cadí mountain ridge, NW slopes, 1 km SE of the village, 1600 m, road margin in a pine forest with dominating <i>Arctostaphylos uva-ursi</i> , 1° 30' 34" E, 42° 16' 15" N, 23 July 2006, leg. J. Chrtek, G. Mateo & J. A. Rosselló, det. G. Mateo		
<i>H. heterogynum</i> (Froel.) Guterm.	H 1250	Montenegro: Kotor, Mt. Lovćen, 1350 m, 18° 47' E, 42° 23' N, 20 August 2006, leg. M. Niketić (S)		
<i>H. humile</i> Jacq.	H 1064	Austria: Oberösterreich, Dachstein massif: Vorderer Gosausee (mountain lake), rocks on NW bank, 6 km SSW of the village of Gosau, 940 m, 13° 29' 55" E, 47° 31' 53" N, 13 August 2005, leg. J. Chrtek	7	3
	H 1188	France: Le Midi, dépt. Aude, Corbières Mts: Bugarach, Mt. Pech de Bugarach, 1130 m, 2° 22' 47" E, 42° 52' 06" N, 27 July 2006, leg. J. Chrtek		
<i>H. kittanae</i> Vladimirov	H 1228	Bulgaria: Central Rhodope Mts.: Trigrad gorge, limestone rocks near the natural entrance to Dyavolskoto garlo cave, 750–800 m, September 2005, leg. P. Ignatova		
<i>H. lachenalii</i> Suter	H 1150	Czechia: Bohemia, distr. Rakovník: forest between the villages of Roztoky and Křivoklát, 350 m, 13° 52' 22" E, 50° 01' 54" N, 29 May 2006, leg. J. Zahradníček		
	H 1160	Czechia: Moravia, distr. Znojmo: Lukov, forest 1.3 km SSW of the village, 410 m, 15° 54' 27" E, 48° 51' 04" N, June 2006, leg. J. Zahradníček		
	H 1164	Czechia: Central Bohemia, distr. Praha-východ: Tehov, forest margin 1.8 km NE of the village, 430 m, 14° 42' 36" E, 49° 59' 01" N, 27 June 2006, leg. J. Chrtek		
<i>H. laevigatum</i> Willd.	H 1031	Czechia: Bohemia, distr. Rokycany: Strašice, N part of the village, margin of a forest, 550 m, 13° 45' 07" E, 49° 44' 51" N, 29 June 2005, leg. J. Chrtek	7	5
	H 1165	Czechia: Bohemia, distr. Hradec Králové: Hradec Králové, forest 1.2 km SE of the church in Nový Hradec Králové, 270 m, 15° 52' 16" E, 50° 10' 17" N, 1 July 2006, leg. J. Chrtek & K. Chrtková		
	H 1243	Germany: Sachsen, Kreis Kamenz, Grossgrabe, 180 m, 14° 02' 30" E, 51° 21' 42" N, 2005, leg. Dürbye (S, BGBM Berlin-Dahlem)		
<i>H. lawsonii</i> Vill.	H 1175	France: Le Midi, dépt. Aude, Corbières Mts: Bugarach, Mt. Pech de Bugarach, 1130 m, 2° 22' 47" E, 42° 52' 06" N, 27 July 2006, leg. J. Chrtek		
	H 1302	France: dépt. Hautes-Alpes, Briançon, fortress in the downtown, 1320 m, 6° 38' 07" E, 44° 53' 58" N, 2 August 2007, leg. J. Chrtek		
<i>H. murorum</i> L.	H 875	Czechia: Bohemia, distr. Plzeň: Plzeň, village of Koterov, street "V závrtku", 0.6 km SSW of the railway station "Plzeň-Koterov", slopes along the street, ca 320 m, 13° 25' 07" E, 49° 43' 02" N, 12 August 2003, leg. M. Král	4	5
	H 1152	Czechia: NW Bohemia, military area Doupovské hory, 2 km N of the village of Stružná in N direction, along the road, 650 m, 13° 02' E, 50° 18' N, 1 June 2006, leg. J. Zahradníček		
	H 1030	Czechia: Bohemia, distr. Beroun: Svatý Jan pod Skalou, oak-hornbeam forest 0.8 ENE of the village, 350 m, 14° 08' 30" E, 49° 58' 15" N, 28 May 2005, leg. J. Chrtek		
<i>H. naegelianum</i> Pančić	H 1208	Montenegro: Durmitor Mts.: Mt. Veliki Meded, alpine grassland on limestone, 2050 m, 43° 03' 31" N, 19° 04' 13" E, 1 August 2006, leg. and det. Z. Szeląg		
<i>H. olympicum</i> Boiss.	H 1206	Bulgaria: Stara Planina Mts., Kaloferska Planina Mts.: Valley of Vidima river, 2 km NE of the Kaloferski Monastyr, eroded slope in <i>Carpinus orientalis</i> forest, 870 m, 24° 58' 42" E, 42° 40' 36" N, 9 August 2006, leg. and det. Z. Szeląg		
<i>H. pannosum</i> Boiss. I	H 1205	Bulgaria: Stara Planina Mts., Trojanska Planina Mts.: Mt. Kozja stena, grassy slope on limestone, 1570 m, 42° 47' 27" N, 24° 34' 06" E, 8 August 2006, leg. and det. Z. Szeląg		
<i>H. pannosum</i> Boiss. II	H 1237	Greece: Peloponnesos, Nomos Arkadias, Menalon Mts: Kardaras, limestone, 1100 m, 2005, leg. Raus et al. (S, BGBM Berlin-Dahlem)		
<i>H. petrovae</i> Vladimirov & Szeląg	H 1229	Bulgaria: Central Rhodope Mts.: Trigrad gorge, crevices of limestone rock (<i>locus classicus</i>), 750–800 m, 41° 39' 55" N, 24° 21' 50" E, 15 October 2005, leg. V. Vladimirov		
<i>H. pictum</i> Pers.	H 1303	France: dépt. Hautes Alpes, Briançon: pine forest 0.5 km N of the village of Montegenèvre, 1880 m, 6° 42' 27" E, 44° 56' 23" N, 2 August 2007, leg. J. Chrtek et al.		

	H 1307	France: dépt. Hautes Alpes, Briançon, near a path to Fort des Sallettes, 1360 m, 6° 38' 52'' E, 44° 54' 33'' N, 2 August 2007, leg. J. Chrtek et al.		
<i>H. piliferum</i> Hoppe	H 1054	Austria: Carinthia, Gurktaler Alpen: Turracher Höhe, N of the village of Ebene Reichenau, above Panorama Alm, 2210 m, 13° 51' 57'' E, 46° 55' 20'' N, 27 July 2005, leg. J. Chrtek & P. Mráz	9	1
	P 1801	Austria: Kärnten, Hohe Tauern, Kobnitz: Reißeck Hütte, S of the tunnel, 2225 m, 46° 55' 10'' N, 13° 21' 41'' E, 29 July 2005, leg. P. Mráz		
	P 1845	Italy: Alps, Spluga, Passo dello Spluga (Splügenpaß), 2120 m, 09° 01' 54'' E, 46° 30' 21'' N, 23 August 2005, leg. P. Mráz		
	H 1308	France: dépt. Savoie, slopes above the mountain lake 9 km S of the village of Valloire, 2260 m, 6° 25' 27'' E, 45° 04' 46'' N, 3 August 2007, leg. J. Chrtek et al.		
<i>H. pilosum</i> Schleich. ex Froel. I.	H 1226/I	Slovenia: Julijske Alpe Mts, Log pod Mangartom: Mt. Travnik (2200 m), SW slopes, limestone, 2120 m, 13° 38' 40'' E, 46° 26' 22'' N, 7 September 2006, leg. J. Chrtek, J. Fehrer et al.	9	2
<i>H. pilosum</i> Schleich. ex Froel. II.	H 1226/II	Slovenia: Julijske Alpe Mts, Log pod Mangartom: Mt. Travnik (2200 m), SW slopes, limestone, 2120 m, 13° 38' 40'' E, 46° 26' 22'' N, 7 September 2006, leg. J. Chrtek, J. Fehrer et al.		
<i>H. plumulosum</i> A. Kern.	H 1218	Montenegro: Canyon of the Mrtvica river, 35 km SW of Kolasin, halfway through the canyon, near the bridge, 1000 m, 19° 48' 59'' E, 42° 28' 40'' N, August 2006, leg. J. Zahradniček, det Z. Szelag		
<i>H. porrifolium</i> L.	H 1052	Austria: Carinthia, the Karawanken Mts.: Bad Eisenkappel, limestone rocks and pine forests (alliance <i>Erico-Pinion</i>) near the road to Bad Vellach, 4.5 km SSW of the town, 658 m, 14° 34' 20.5'' E, 46° 27' 07.1'' N, 26 July 2005, leg. J. Chrtek & P. Mráz		
	H 1053	Austria: Carinthia, Karawanken Mts.: Bad Eisenkappel, Trögerner Klamm gorge, N part, 7 km WSW of the village, 713 m, 14° 30' 05'' E, 46° 27' 36'' N, 26 July 2005, leg. J. Chrtek & P. Mráz		
	H 1080	Slovenia: Primorska region, Julijske Alpe Mts., Trenta: Trnovo ob Soči, near the road to Kobarid, 335 m, 13° 33' 36'' E, 46° 16' 32'' N, 9 November 2005, leg. B. Vreš & J. Chrtek		
<i>H. prenanthoides</i> Vill. I.	H 1161	Poland: Województwo dolnośląskie, Karkonosze Mts., Jagniątków: Mały Kocioł Śnieżny glacial cirque, along the path, 1250 m, 15° 33' 28'' E, 50° 46' 27'' N, July 2006, leg. J. Zahradniček	7	3
	H 1252	France: dépt. Hautes Alpes, La Grave, below the village, ca 1500 m, 06° 18' 21'' E, 45° 02' 37'' N, June 2003, leg. P. Mráz		
	H 1311	France: dépt. Hautes Alpes, Briançon: slopes in a valley 2.5 km WSW of the village of Montegenèvre, 1740 m, 6° 41' 49'' E, 44° 55' 32'', 2 August 2007, leg. J. Chrtek et al.		
<i>H. prenanthoides</i> Vill. II.	H 1187	Andorra: Pirineus Mts, Canillo, SE margin of the village, 1530 m, 1° 36' 11'' E, 42° 33' 56'' N, 22 July 2006, leg. J. Chrtek, G. Mateo & J. A. Rosselló		
<i>H. racemosum</i> Waldst. et Kit. ex Willd.	H 874	Czechia: SW Moravia, distr. Znojmo, Vranov nad Dyjí, forest 0.6 km SE of the village, 370 m, 15° 49' 09'' E, 48° 53' 32'' N, 27 September 2003, leg. J. Chrtek	5	6
	H 1253	Czechia: E Bohemia, distr. Ústí nad Orlicí, Litice nad Orlicí, near a quarry 0.3 km NW of the railway station, 350 m, 16° 34' 07'' E, 50° 07' 15'' N, 12 September 2006, leg. J. Chrtek		
	H 1220	Slovakia: Gemer, distr. Revúca, 3.5 km NNW of Tornaľa, 307 m, 20° 18' 25'' E, 48° 28' 50'' N, 28 September 2006, leg. F. Krahulec & J. Hadinec (S)		
<i>H. ramondii</i> Griseb.	H 1173	Andorra: Pirineus Mts., Encamp, valley of Riu de les Deveses, NW slopes of Mt. Alt del Griu, 3.8 km E of the town, rocky outcrops in a light mountain forest, 2040 m alt., 1° 37' 52.1'' E, 42° 32' 07.1'' N, 22 July 2006, leg. J. Chrtek, G. Mateo & J. A. Rosselló, det. G. Mateo		
<i>H. recoderi</i> De Retz	H 1174	Spain: Catalunya, prov. Barcelona: Berga, monastery of Queralt, rocks ca 200 m below the parking place, 805 m, 1° 49' 24'' E, 42° 06' 54'' N, 24 July 2006, leg. J. Chrtek		
<i>H. sabaudum</i> L.	H 1163	Czechia: Bohemia, Praha: Praha-Troja, 'Pustá vinice', heathland along a path, 240 m, 14° 24' 14'' E, 50° 07' 18'' N, 28 June 2006, leg. J. Chrtek	5	5
	H 1098	Germany: Oberlausitz, distr. Löbau-Zittau: Schönau-Berzdorf, 220 m, 14° 53' 48'' E, 51° 04' 01'' N, July 2004, leg. S. Bräutigam (S)		
	H 1255	Czechia: NW Bohemia, České středohoří Mts, distr. Litoměřice: Kamýk, near a crossing 0.7 km WSW of the village, 255 m, 14° 04' 08'' E, 50° 33' 23'' N, June 2007, leg. J. Chrtek		
<i>H. schmidtii</i> Tausch	H 1024	Czechia: Bohemia, distr. Litoměřice: Boreč, the Boreč hill, NW slope, 800 m NW of the village, 346 m, 13° 59' 15'' E, 50° 30' 54'' N, 15 May 2005, leg. J. Chrtek	8	6
	H 1025	Czechia: Bohemia, distr. Litoměřice: Boreč, the Boreč hill, E slope, 500 m N of the village, 367 m, 13° 59' 25'' E, 50° 30' 53.4'' N, 15 May 2005, leg. J. Chrtek		
	H 1151	Czechia: Central Bohemia, distr. Rakovník, Křivoklát, 320 m, 13° 52' 42'' E, 50° 01' 26'', July 2006, leg. J. Zahradniček		
<i>H. sparsum</i> Friv.	H 1251	Bulgaria: Sofia, Vitoša Mts.: NE slope of Mt. Vitoša, Bistriško Branište biosphere reserve, 2000 m, 23° 17' 56'' E, 42° 34' 07'' N, 23 June 2006, leg. F. Krahulec & A. Krahulcová		
	H 1320	Bulgaria: Pirin Mts., Bezbozko (Bezbug) lake, 2175–2254 m, 23° 31' 31'' E, 41° 44' 18'' N, 29 June 2006, leg. F. Krahulec &		

		A. Krahulcová		
<i>H. stelligerum</i> Froel.	H 1233	France: dépt. Ardèche, Vallon Pont d'Arc: crevices of calcareous rocks along the road D 390, opposite of 'le Pont d'Arc', ca 3.5 km SE of the village, 500 m, 04° 24' 10'' E, 44° 24' 25'' N, October 2006, leg. P. Mráz		
<i>H. tomentosum</i> L.	H 1066	France: dépt. Alpes Maritimes, valley of la Roya: Tende, along the old road to the Col de Tende, ca 0.5 km above the tunnel, 6 km NNW of the village, 1331 m, 07° 33' 57'' E, 44° 08' 19'' N, 28 August 2005, leg. J. Chrtek & P. Mráz		
	H 1301	France: dépt. Hautes Alpes, Briançon, near a path to Fort des Sallettes, 1360 m, 6° 38' 52'' E, 44° 54' 33'' N, 2 August 2007, leg. J. Chrtek et al.		
	H 1312	France: dépt. Hautes Alpes, le Monétier-les-Bains: near a parking place on the road to Col du Lautaret, 6.5 km NW of the village, 1760 m, 6° 27' 50'' E, 45° 01' 30'' N, 2 August 2007, leg. J. Chrtek et al.		
<i>H. transylvanicum</i> Heuff.	H 1077	Ukraine: Oblast' Zakarpatska, Marmaros'ki Al'py Mts.: Mt. Berlebashka (1480 m), NW slope along the trail (red marked), E of the village of Dilove, 1200 m, 24° 21' 31'' E, 47° 56' 13'' N, 19 September 2005, leg. J. Zahradníček	2	6
<i>H. umbellatum</i> L.	H 1021	Poland: Województwo pomorskie, Baltic coast, Jantar, 5 m, 19° 02' 27'' E, 54° 20' 00'' N, 27 June 2002, leg. et det. Z. Szelag	6	5
	H 1162	Czechia: Bohemia, Praha: Praha-Troja, 'Pustá vinice', heathland along a path, 240 m, 14° 24' 14'' E, 50° 07' 18'' N, 28 June 2006, leg. J. Chrtek		
	H 1244	Germany: Schleswig-Holstein, Nordfriesland, island of Sylt, Hörnum, 20 m, 8° 17' 08'' E, 54° 45' 05'' N, 2005, leg. Kühn (S, BGBM Berlin-Dahlem)		
<i>H. villosum</i> Jacq. I.	H 1029	Slovakia: Strážovské vrchy Mts, distr. Ilava: Mt. Strážov, summit region, calcareous rocks, 1310 m, 18° 27' 44'' E, 48° 57' 19'' N, 18 June 2005, leg. J. Chrtek	9	2
<i>H. villosum</i> Jacq. II.	H 1305	France: dépt. Savoie, slopes below (N of) Col du Galibier, the mountain lake 10 km S of the village of Valloire, 2380 m, 6° 24' 43'' E, 45° 04' 21'' N, 3 August 2007, leg. J. Chrtek et al.		
<i>H. viosum</i> Pall.	H 1315	Russia: Rostov-na-Donu, vicinity of the town, 150 m, 39° 49' 41'' E, 47° 17' 05'' (S, Botanical Garden Rostov)		
	H 1238	Russia: Siberia, Altajskij kraj, W of Barnaul, 220 m, leg. Ristow/Seitz (S, BGBM Berlin-Dahlem)		
<i>'H. intybaceum</i> All.	H 1069	Italy: Trentino-Alto Adige, Gruppo dell' Adamello: Passo del Tonale, Mt. Monticello, E slope, near the road, 2 km SE of the saddle (monument), 2180 m, 10° 36' 33'' E, 46° 14' 42'' N, 29 August 2005, leg. J. Chrtek & P. Mráz		
	H 1241	Italy: Lombardia, prov. Bergamo, Alpi Oróbie (S, BGBM Berlin-Dahlem)		
	P 1808	Austria: Tirol, Ötztaler Alpen: Sölden, Obergurgl, Mt. Gaisberg, 11° 01' 30'' E, 46° 51' 30'' N, 5 August 2005, leg. P. Mráz		
	H.intybac	B & T World Seed, http://www.b-and-t-world-seeds.com/index.html , herbarium PRA		
	inb.Kaer	Austria: Kärnten, herbarium M, S. Jagalski 4		
<i>Pilosella lactucella</i> (Wallr.) P. D. Sell & C. West	lac.Jon.1	Germany: Erzgebirge, culture Görlitz, herbarium GLM 140613		
<i>Andryala integrifolia</i> L.	Ant.int.2/2	Spain: Andalusia, Malaga, herbarium GLM 141138		
<i>Andryala levitomentosa</i> (Nyár.) P.D. Sell	A.lev.maj.1	Romania: Bistritei Mts, Pietrosul Bogolini, herbarium GLM 156367		
<i>Hispidella hispanica</i> Barnades ex Lam.	His.his.2	Spain: Sierra de Guadarrama, herbarium M, leg. J. Pizarro et C. Navarro no CN 2460		

*¹) Ellenberg indicator values (Ellenberg H, Weber HE, Düll R, Wirth V, Werner W, Paulissen D. 1992. Indicator values of plants in Central Europe. *Scripta Botanica* **18**: 1–258).

Supplementary files to Paper 2

Table S1. Comparison of treatments of species of genus *Andryala* in the Euro+Med PlantBase with the concept applied in the present paper

Greuter, 2006–	Present paper	Comments
<i>A. agardhii</i> DC.	<i>A. agardhii</i>	–
<i>A. atlantica</i> H.Lindb.	<i>A. atlantica</i>	Taxonomic evaluation in progress; most likely to be included in <i>A. integrifolia</i> , according to this study and Ferreira (unpub. data).
<i>A. chevallieri</i> Barratte ex L.Chevall.	n. s. ^a	–
<i>A. crithmifolia</i> Aiton	<i>A. crithmifolia</i>	–
<i>A. floccosa</i> Pomel	n. s. ^{a,b}	Taxonomic evaluation in progress; most likely to be included in <i>A. laxiflora</i> (Ferreira, unpub. data).
<i>A. glandulosa</i> Lam. subsp. <i>glandulosa</i>	<i>A. glandulosa</i> subsp. <i>glandulosa</i>	–
<i>A. glandulosa</i> subsp. <i>cheiranthifolia</i> (L'Hér.) Greuter	<i>A. glandulosa</i> subsp. <i>cheiranthifolia</i>	–
<i>A. integrifolia</i> L.	<i>A. integrifolia</i>	–
incl. <i>A. arenaria</i> subsp. <i>parvipila</i> Franco	n. s. ^a	Taxonomic evaluation in progress.
incl. <i>A. integrifolia</i> subsp. <i>perennans</i> Maire & Weiler	n. s. ^a	Taxonomic evaluation in progress.
incl. <i>A. ampelusia</i> Maire	n. s. ^{a,b}	Included in <i>A. integrifolia</i> (Dobignard, 2009).
incl. <i>A. arenaria</i> (DC.) Boiss. & Reut.	<i>A. arenaria</i>	Morphologically well-defined species, separated from <i>A. integrifolia</i> (cf. Table 2).
incl. <i>A. cedretorum</i> Maire	n. s. ^{a,b}	Included in <i>A. integrifolia</i> (Dobignard, 2009).
incl. <i>A. cossyrensis</i> Guss.	<i>A. cossyrensis</i>	Morphologically well-defined species, separated from <i>A. integrifolia</i> (cf. Table 2).
incl. <i>A. dentata</i> Sm.	<i>A. dentata</i>	Morphologically well-defined species, separated from <i>A. integrifolia</i> (cf. Table 2).
incl. <i>A. laxiflora</i> DC.	<i>A. laxiflora</i>	Morphologically well-defined species, separated from <i>A. integrifolia</i> .
incl. <i>A. rothia</i> Pers.	<i>A. laxiflora</i>	Synonymized with <i>A. laxiflora</i> (Blanca, 2009, 2011)
incl. <i>A. tenuifolia</i> (Tineo) DC.	n. s. ^a	Taxonomic evaluation in progress; most likely to be included in <i>A. cossyrensis</i> (Ferreira, unpub. data).
<i>A. laevitomentosa</i> (Nyár. ex Sennikov) Greuter	<i>A. laevitomentosa</i>	–
<i>A. maroccana</i> (Caball.) Maire	<i>A. maroccana</i>	–
<i>A. nigricans</i> Poir.	n. s. ^a	–
<i>A. pinnatifida</i> Aiton	<i>A. pinnatifida</i> (excl. <i>A. mogadorensis</i>)	Restricted to the Canary Islands, African populations excluded (Ferreira & al., 2014b)
subsp. <i>pinnatifida</i>	c	

Table S1. Continued.

Greuter, 2006–	Present paper	Comments
subsp. <i>antonii</i> (Maire) Dobignard	n. s. ^a	Included in <i>A. integrifolia</i> (Ferreira & al., 2014b).
subsp. <i>buchiana</i> (Sch.Bip.) Reyes-Bet. & A.Santos	<i>A. perezii</i> M.Z.Ferreira & al.	Ferreira & al., 2014a
subsp. <i>ducellieri</i> (Batt.) Greuter	n. s. ^{a,b}	Synonymized with <i>A. mogadorensis</i> subsp. <i>mogadorensis</i> (Ferreira & al., 2014b)
subsp. <i>jahandiezii</i> (Maire) Greuter	<i>A. mogadorensis</i> subsp. <i>jahandiezii</i> (Maire) M.Z.Ferreira & al.	Included in <i>A. mogadorensis</i> (Ferreira & al., 2014b)
subsp. <i>latifolia</i> (Bornm.) G.Kunkel	^c	Included in <i>A. pinnatifida</i> subsp. <i>cuneifolia</i> (Sch.Bip.) M.Z.Ferreira & al. (Ferreira & al., 2014a)
subsp. <i>maroccana</i> (Maire) Greuter	n. s. ^b	Synonymized with <i>A. mogadorensis</i> subsp. <i>mogadorensis</i> (Ferreira & al., 2014b)
subsp. <i>mogadorensis</i> (Hook.f.) Greuter	<i>A. mogadorensis</i> subsp. <i>mogadorensis</i>	Ferreira & al., 2014b
subsp. <i>preauxiana</i> (Sch.Bip.) G.Kunkel	^c	–
subsp. <i>teydensis</i> (Sch.Bip.) Rivas Mart. & al.	<i>A. pinnatifida</i> subsp. <i>teydensis</i>	–
subsp. <i>webbii</i> (H. Christ) G. Kunkel	^c	–
<i>A. ragusina</i> L.	<i>A. ragusina</i>	–
<i>A. spartioides</i> (Pomel ex Batt. & Trab.) Barratte	n. s. ^a	Taxonomic evaluation in progress; may be included in <i>A. ragusina</i> (Ferreira, unpub. data).

^a not sampled due to difficulties to collect (inadequate documentation of localities, remote regions)

^b not sampled due to taxonomical identity with another species (see Comments)

^c *Andryala pinnatifida* subsp. *pinnatifida*, *A. pinnatifida* subsp. *latifolia*, *A. pinnatifida* subsp. *preauxiana* and *A. pinnatifida* subsp. *webbii* are not distinguished in the present paper due to serious difficulties in their delimitation.

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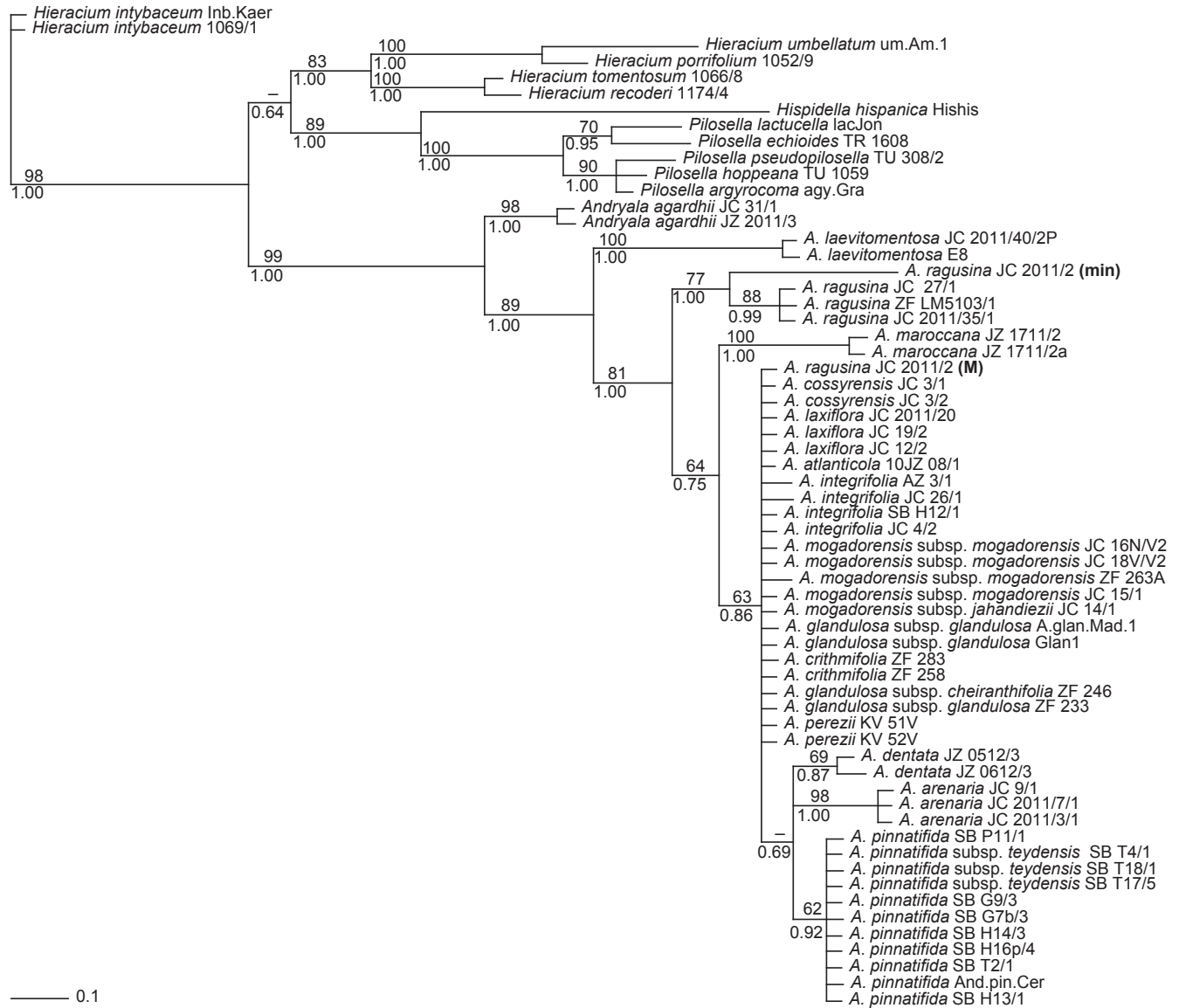


Fig. S1. Consensus tree based on Bayesian analysis of the external transcribed spacer (ETS) with posterior probabilities below branches. Bootstrap support values of maximum parsimony analysis are given above branches. One hundred equally parsimonious trees of length 159 were found (retention index = 0.947, consistency index = 0.849); the dataset comprised 86 parsimony-informative characters including 8 gapped characters. Minor (min) and major (M) ribotypes of one introgressed sample (*A. ragusina* JC 2011/2) are shown in bold. The minor ribotype (which may also contain polymorphisms stochastically scattered on other strands of the multicopy marker that cannot be distinguished from species-specific ones) groups with other *A. ragusina* samples whereas the dominant ribotype corresponds to a range of other taxa that are indistinguishable with this marker.

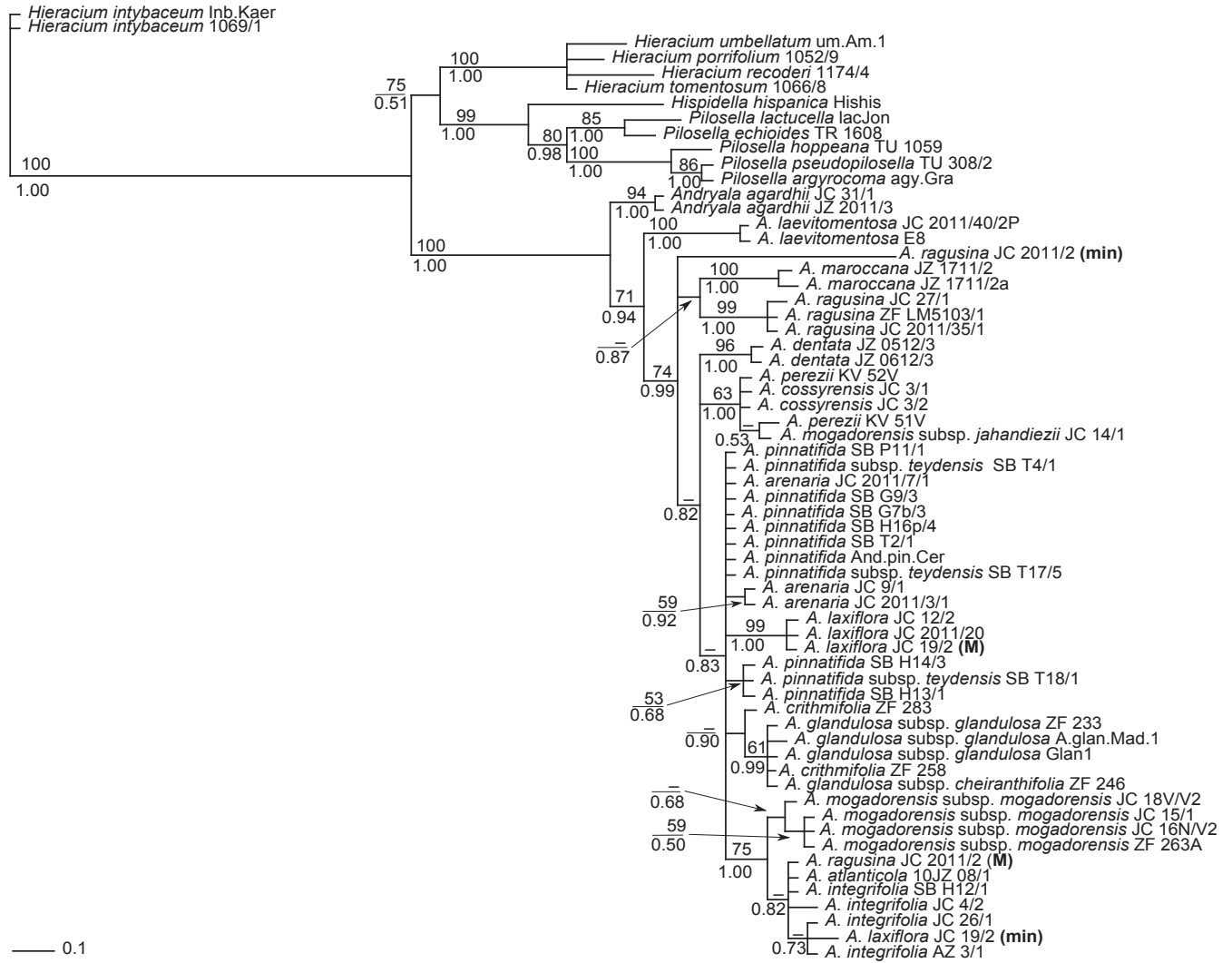


Fig. S2. Consensus tree based on Bayesian analysis of the internal transcribed spacers (ITS) with posterior probabilities below branches. Bootstrap support values of maximum parsimony analysis are given above branches. Eight hundred equally parsimonious trees of length 201 were found (retention index = 0.942, consistency index = 0.851); the dataset comprised 109 parsimony-informative characters including 6 gap-coded characters. Minor (min) and major (M) ribotypes of two introgressed samples are shown in bold. The dominant sequence of *A. laxiflora* JC 19/2 groups with other accessions of that species, the underrepresented variant groups with *A. integrifolia*. The dominant ribotype of *A. ragusina* JC 2011/2 also groups with *A. integrifolia* whereas the minor sequence of this sample is probably overprinted with stochastic substitutions and therefore does not group with other samples of *A. ragusina*, but forms a long branch of its own.

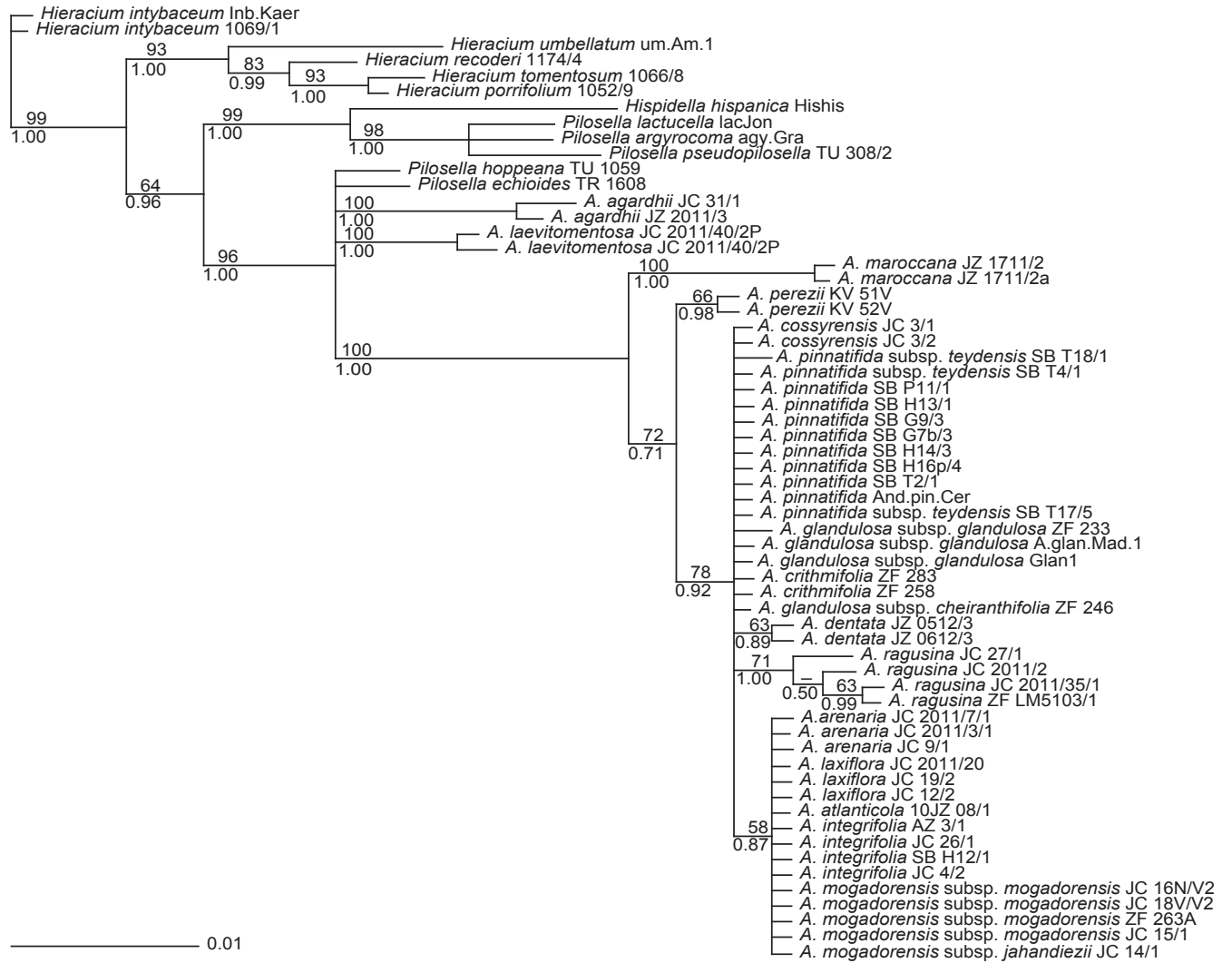


Fig. S3. Consensus tree based on Bayesian analysis of the chloroplast intergenic spacer *trnV-ndhC* with posterior probabilities below branches. Bootstrap support values of maximum parsimony analysis are given above branches. Three hundred and thirty-two equally parsimonious trees of length 122 were found (retention index = 0.969, consistency index = 0.918); the dataset comprised 64 parsimony-informative characters including 24 gapcoded characters.

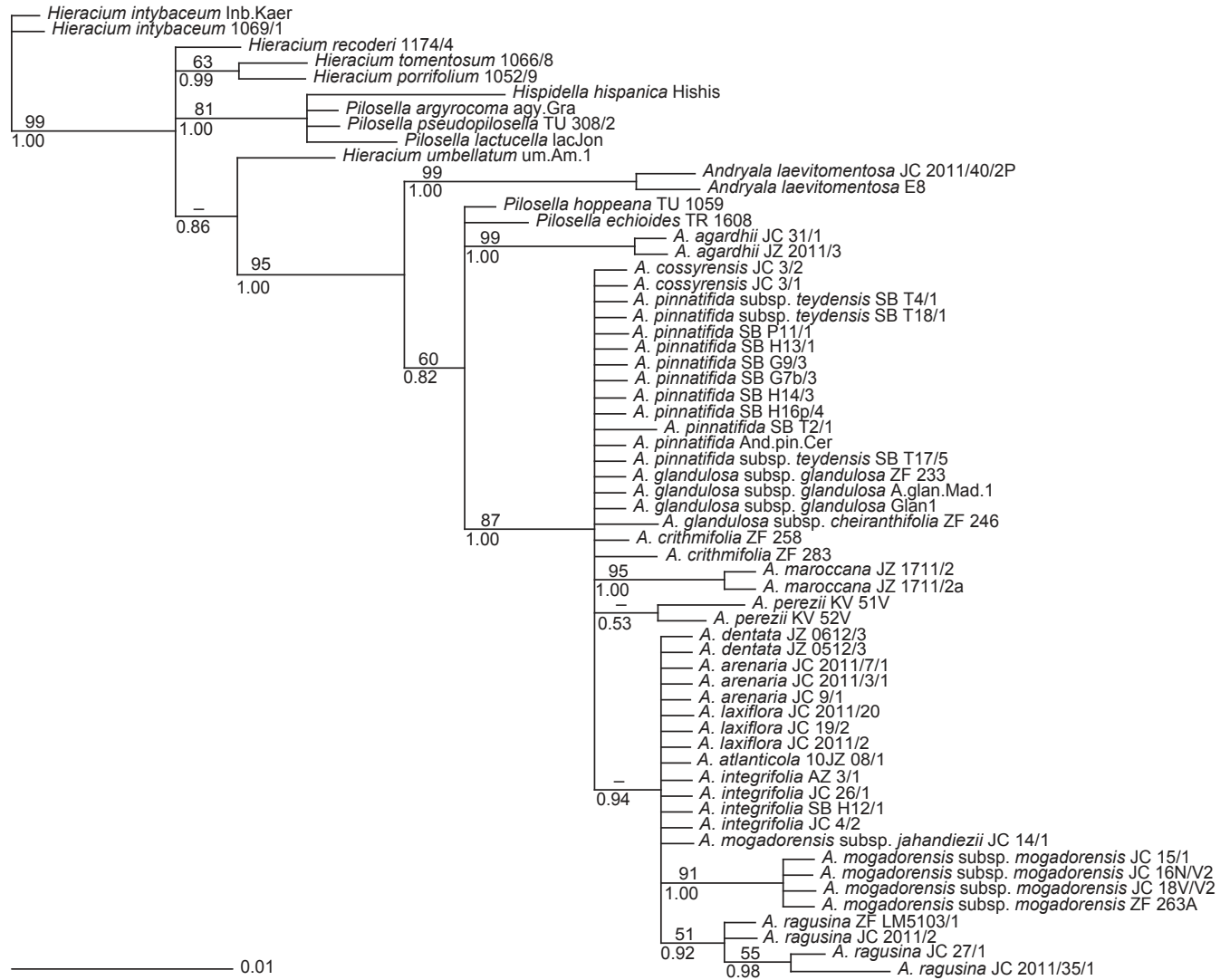


Fig. S4. Consensus tree based on Bayesian analysis of the chloroplast intergenic spacer *trnT-trnL* with posterior probabilities below branches. Bootstrap support values of maximum parsimony analysis are given above branches. One thousand equally parsimonious trees of length 63 were found (retention index = 0.935, consistency index = 0.810); the dataset comprised 35 parsimony-informative characters including 10 gapcoded characters.

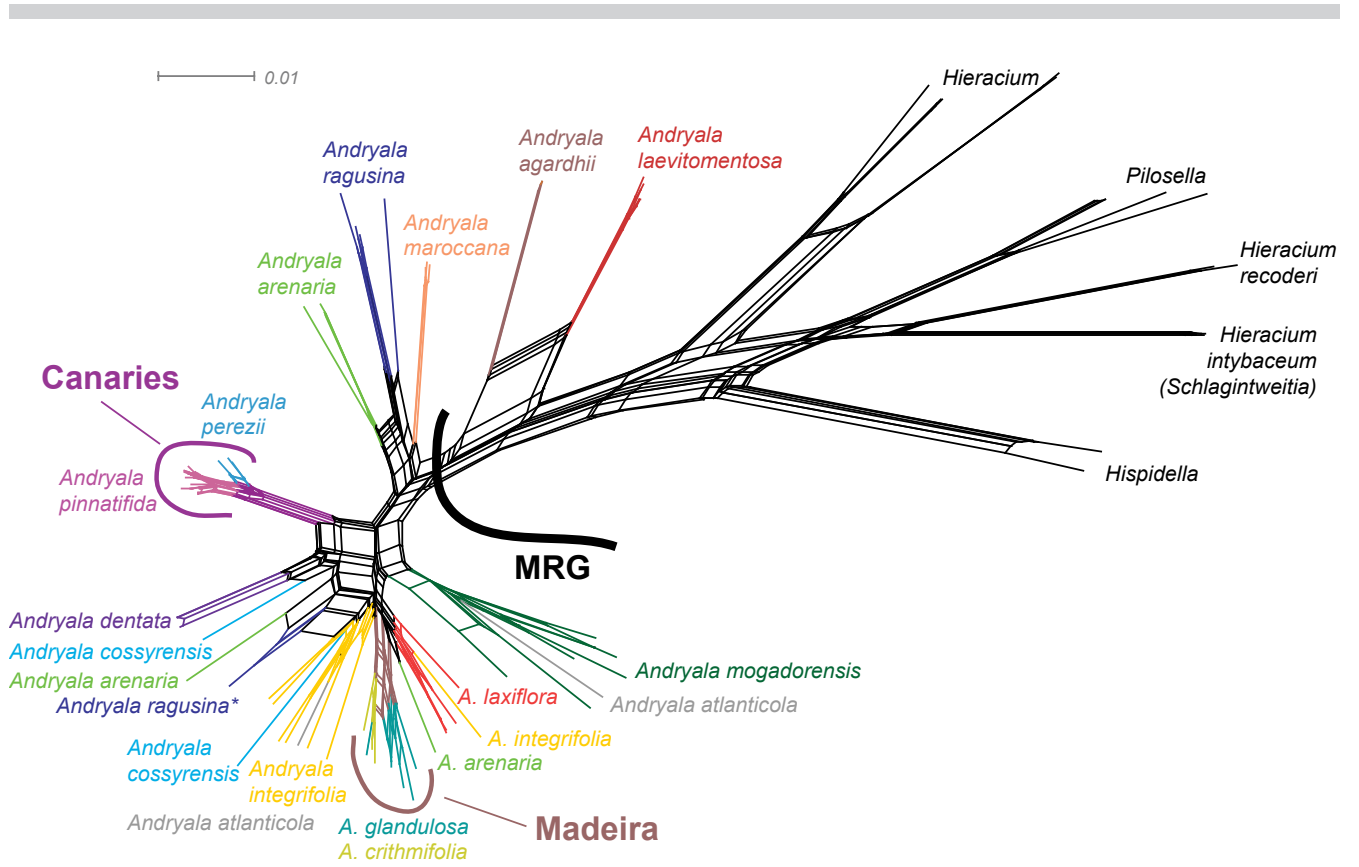


Fig. S5. Character conflict in *sqs* sequences. Neighbor Net analysis using *P*-distances (coded gaps included) reveals massive character conflict, mainly in the Major Radiation Group (MRG). Colours correspond to Fig. 3. The sample of *A. ragusina* marked by * is a putative hybrid with *A. integrifolia*.

Supplementary files to Paper 3

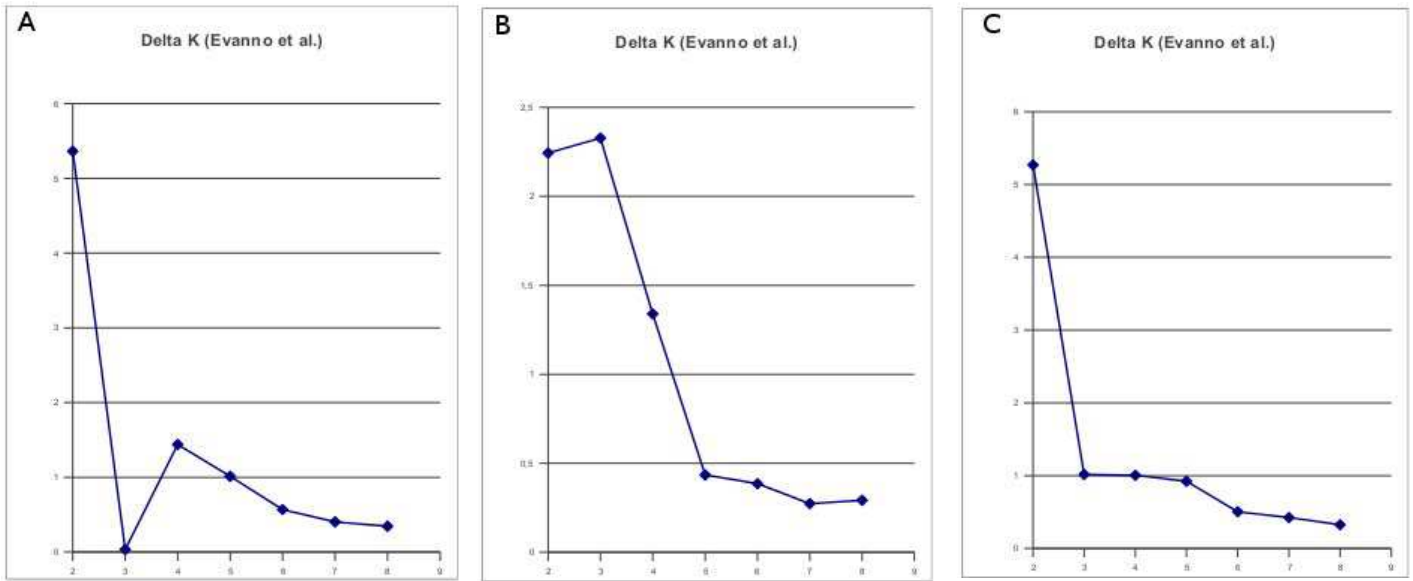


Figure S1. Summary of K-means analysis based on AFLP data. Delta K values were counted following Evanno et al. 2005 and are showed for whole dataset (A), diploid dataset (B) and tetraploid dataset (C).

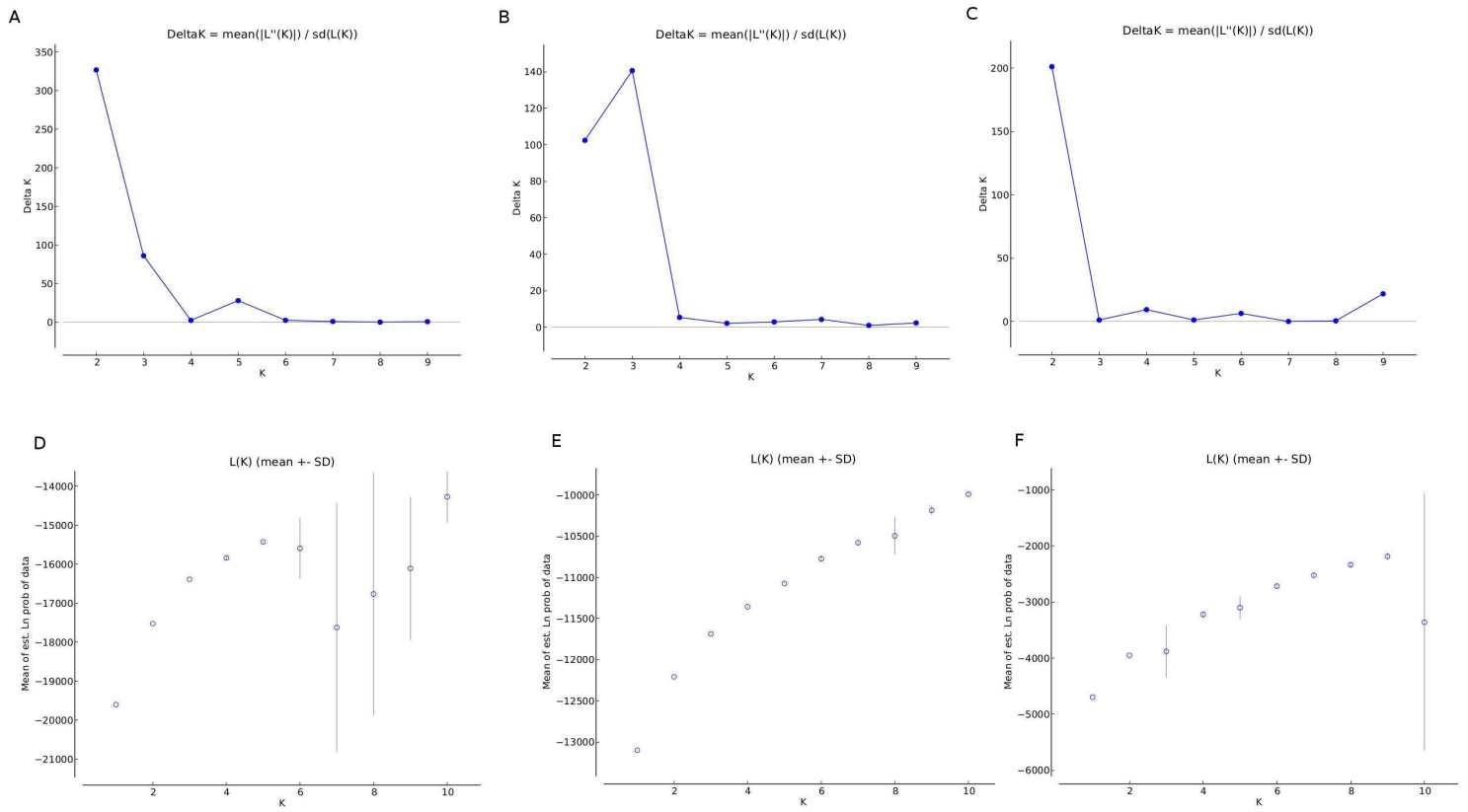


Figure S2. Summary of Structure analysis based on AFLP data. Delta K-values were counted following Evanno et al. 2005 and are showed for whole dataset (A), diploid dataset (B) and tetraploid dataset (C). Values of ln probability of the data for each number of groups (K) are plotted against the K-value for whole dataset (D), diploid dataset (E) and tetraploid dataset (F).

Supplementary files to Paper 1

Appendix 1

List of localities of the population samples. Records are given as follows: species/subspecies (in alphabetical order), population code, locality description, geographic coordinates (WGS84), altitude, date of collection, and collector.

A. agardhii

JC 2011_30 – Spain, Andalusia, province Granada, Sierra de Baza Mts: Calar de Santa Barbara, 7,5 km NE of the village of Las Juntas, 1 960 m alt., 37°23'05"N, 02°51'03"W, 31 May 2011, leg. J. Chrtek and Z. Dočkalová; **JC 2011_30** – Spain, Andalusia, province Granada, Sierra de Baza Mts: Calar del Desabezedo, 4,6 km E of the the village of Las Juntas, 1 995 m alt., 37°19'49"N, 02°51'20"W, 31 May 2011, leg. J. Chrtek and Z. Dočkalová; **JC 2011_33** – Spain, Andalusia, province Almería, Sierra de María Mts: María, near a path to Maimón 3,2 km SE of the village, 1 380 m alt., 37°41'29"N, 02°08'21" W, 2 June 2011, leg. J. Chrtek and Z. Dočkalová; **JZ 2011_3** – Spain, Andalusia, Sierra Mágina: north of Huelma, along the road to Mágina, 1 584 m alt., 37°42'19"N, 3°27'45.24"W, 11 June 2011, leg. J. Zahradníček, K. Krak, P. Vít, J. Kalůsková, T. Urfus and M. Urfusová; **JZ 2211** – Spain, Andalusia, Sierra de las Cabras: road from Canada de la Cruz, saddle west of Mt. Pinar Liano, 1 806 m alt., 38°04'17.58"N, 2°20'02"W, 12 June 2011, leg. J. Zahradníček, K. Krak, P. Vít, J. Kalůsková, T. Urfus and M. Urfusová.

A. arenaria

JC 2011_3 – Spain, Andalusia, province Malaga, vicinity of Marbella: Artola, Urbanización Las Chapas, hill near the Avenida Uno, 25 m alt., 36°29'38"N, 04°45'36"W, 25 May 2011, leg. J. Chrtek and Z. Dočkalová; **JC 2011_7** – Spain, Andalusia, province Cádiz: Bornos, subruderal places near the main street 2 km WNW of the town, 237 m alt., 36°49'01"N, 05°46'01"W, 26 May 2011, leg. J. Chrtek and Z. Dočkalová; **JC 2011_9** – Spain, Andalusia, province Huelva: Almonte, near the road A-483, 5.9 km SSW of the town, 55 m alt., 37°12'35"N, 06°30'21"W, 26 May 2011, leg. J. Chrtek and Z. Dočkalová.

A. atlanticola

10JZ_08 – Morocco, High Atlas Mts., region Marrakech-Tensift-El-Haouz: 2 km of Around, rocks along the road from Around to Tubkal, 1 960 m alt., 31°06'59"N, 7°55'11"W, 20 June 2010, leg. J. Zahradníček and P. Schindlerová; **JC 13_V** – Morocco, High Atlas Mts., region Marrakech-Tensift-El-Haouz: Imlil, slopes near the road to Asni, 2.5 km NNW of the village, 1585 m alt., 31°09'29"N, 07°55'29"W, 19 May 2010, leg. J. Chrtek and Z. Dočkalová; **Ixis** – Morocco, High Atlas Mts., region Marrakech-Tensift-El-Haouz: Imlil, saddle above the town, 2 063 m, 31°09'56"N, 7°54'45"W, 20 June 2010, leg. J. Zahradníček and P. Schindlerová.

A. cossyrensis

JC 3 – Morocco, region Oriental, province Berkane, Monts des Beni Snassen: Berkane, Zegzal (Zegzel) valley, along a road near a small bridge over the stream, 6,4 km SW of the town, 280 m alt., 34°52'31"N, 02°21'28"W, 14 May 2010, leg. J. Chrtek and Z. Dočkalová.

A. crithmifolia

260_ZF – Portugal, Madeira, south coast: Pináculo, 12 August 2009, leg. Z. Ferreira; **259_ZF** – Portugal: Madeira, south coast: Cabo Girão, alt., 32° 39' 12.72" N, 16° 59' 36.06"W, 09 August 2009, leg. Z. Ferreira and I. Ferreira; **301_ZF** – Portugal, Madeira, south coast: Garajau, 32°38'15" N 16°51'02" W, 17 July 2012, leg. Z. Ferreira, A. Pupo Correia and R. Jardim.

A. dentata

JZ 0412 – Italy, Isola di Pantelleria: Rekhale, near the road 0,9 km ENE of the village, 305 m alt., 36°45'41"N, 12°00'20"E, 17 May 2012, leg. J. Zahradníček and J. Chrtek; **JZ 0512** – Italy, Isola di Pantelleria: Tracino, near the road to Casa Bono 2.4 km SSW of the village (square), disturbed place, 220 m alt., 36°46'15"N, 12°01'44" E, 17 May 2012, leg. J. Zahradníček and J. Chrtek; **JZ 0612** – Italy, Isola di Pantelleria: Siba-Roncone, near the road 0,9 km SE of the village, 450 m alt., 36°46'58"N, 11°59'11"E, 17 May 2012, leg. J. Zahradníček and J. Chrtek.

A. glandulosa subsp. *cheiranthifolia*

248_ZF – Portugal: Madeira, Pico do Areeiro, 32° 43'N 16° 55'W, 26 July 2009, leg. Z. Ferreira., A. Pupo Correia and M. Sequeira; **271_ZF** – Portugal, Madeira, SW coast: Jardim do Mar, 3 July 2010, leg. Z. Ferreira; **241_ZF** – Portugal, Madeira: Encumeada, 32°44'N, 17°01'W, 24 July 2009, leg. Z. Ferreira., A. Pupo Correia and M. Sequeira; **257_ZF** – Portugal, Madeira: Fajã da Ovelha, 29 July 2009, leg. Z. Ferreira, M. Benedito and M. Sequeira; **269B_ZF** – Portugal, Madeira, south coast: Calheta, 3 July 2010, leg. Z. Ferreira.

A. glandulosa* subsp. *glandulosa

233_ZF – Portugal, Madeira, north coast: Seixal, 24 July 2009, leg. Z. Ferreira., A. Pupo and M. Sequeira; **Glan_ZF** – Portugal, Madeira, north coast: Porto Moniz, rocks near the road, 263 m alt., 32°51'46"N, 17°10'29"W, 23 July 2011, leg. Z. Ferreira; **298_ZF** – Portugal, Madeira, north coast: S. Jorge, 32°50'N, 16°54'W, 15 July 2012, leg. Z. Ferreira; **ZF_278A** – Portugal, Madeira, west coast: Ponta do Pargo, 32°48'N 17°15'W, 3 July 2010, leg. Z. Ferreira.

A. integrifolia

KV 4 – Spain, Canary Islands, Gran Canaria: Valleseco, 0.3 km W of the village, along the road, 1 060 m alt., 28°02'59"N, 15°34'43"W, 15 April 2007, leg. K. Vazačová (seeds); **SB_H12** – Spain: Canary Islands, El Hierro: Tiñor (3 km SW of Valverde), near the road to San Andrés, 0,2 km W of the village, 980 m alt., 27°47'18"N, 17°56'10"W, 20 May 2010, leg. S. Bräutigam and E. Bräutigam; **SB_H15** – Spain, Canary Islands, El Hierro: San Andrés, near a road to El Pinar, 4 km SSW of the village, 1 125 m alt., 27°44'08"N, 17°58'28"W, 22 May 2010, leg. S. Bräutigam and E. Bräutigam; **SB_H16i** – Spain, Canary Islands, El Hierro: San Andrés, near the road to Frontera, 2 km WSW of the village, *Chamaecytisus proliferus* shrubs, 1175 m alt., 27°45'41"N, 17°58'17"W, 22 May 2010, leg. S. Bräutigam and E. Bräutigam; **ZF LM5104** – Spain, Guadalix de la Sierra, rotonda de la ctra. a Miraflores, 0440371 W 4515490 N, 850 m, 19 June 2010, leg. L. Medina and M. Sequeira; **AZ_3** – Algeria, Alger: town district of Kouba, 90 m alt., 36°43'N, 03°05'E, 2 July 2011, leg. Abida Zeddami; **AZ_4** – Algeria, Alger: town district of Le Caroubier, 2 m alt., 36°44'N, 03°07'E, 3 July 2011, leg. Abida Zeddami.

A. laxiflora

JC 2011_15 – Spain, Andalusia, province Huelva: Encinasola, near a road H-211 4,4 km SSE of the town, 260 m alt., 38°05'56"N, 06°51'16"W, 27 May 2011, leg. J. Chrtek and Z. Dočkalová; **JC 2011_19** – Spain, Andalusia, province Córdoba: Hornachuelos, near a road A-2212 3,5 km NW of the town, 280 m alt., 37°51'39"N, 05°15'57"W, 28 May 2011, leg. J. Chrtek and Z. Dočkalová; **JC 2011_20** – Spain, Andalusia, province Jaén: Linares, near a road J-6030 3 km WNW of the town center, 405 m alt., 38°06'37"N, 03°39'29"W, 28 May 2011, leg. J. Chrtek and Z. Dočkalová.

A. laevitomentosa

A – Romania, Bukovina, Suceava county, Vatra Dornei: Mt. Pietrosul Bogolin, rocks near the top (northernmost population), 1 680 m, 47°23'19"N, 25°32'1"E, 5 August 2011, leg. J. Chrtek, P. Mráz, V. Mrázová and M. Puskás; **C** – Romania, Bukovina, Suceava county, Vatra Dornei: Mt. Pietrosul Bogolin, rocks near the top, 1 740 m alt., 47°23'08"N, 25°32'19"E, 5 August 2011, J. Chrtek, P. Mráz, V. Mrázová and M. Puskás; **JC 2011/40/2P** – Romania, Bukovina, Suceava county, Vatra Dornei: Mt. Pietrosul Brostenilor, rocks in the upper part, 1 780 m alt., 47°22'31"N, 25°32'29"E, 5 August 2011, J. Chrtek, P. Mráz, V. Mrázová and M. Puskás.

A. maroccana

JZ 1711 – Morocco, region Oriental, rocks on northern seaside of peninsula near Melilla (Spain), 74 m alt., 35° 26' 4.62"N, 2° 58' 1.86"W, 9 July 2011, J. Zahradníček and K. Krak.

A. mogadorensis

JC 15 – Morocco, region Sous-Masa-Drâa: Tamri, near the main road along the Atlantic coast, 4,7 km WSW of the village, 30 m alt., 30°41'33"N, 09°52'28"W, 22 May 2010, leg. J. Chrtek and Z. Dočkalová; **JC 18/V2** – Morocco, region Doukkala-Abda: Moulay Abdallah (SW of El Jadida), near the main road 13.5 km SW of the village, 12 m alt., 33°05'09"N, 08°39'16"W, 22 May 2010, leg. J. Chrtek and Z. Dočkalová; **JC 16N** – Morocco, region Marrakech-Tensift-El-Haouz: Essaouira (Mogador), coastal dunes at the northern margin of the town, 8 m alt., 31°31'40"N, 09°45'01"W, 22 May 2010, leg. J. Chrtek and Z. Dočkalová; **JC 17** – Morocco, region Doukkala-Abda: Sidi Rosia (S of Safi), near the main road 3.4 km SSW of the village, 15 m alt., 32°11'37"N, 09°15'19"W, 22 May 2010, leg. J. Chrtek and Z. Dočkalová; **ZF 263A** – Morocco, region Marrakech-Tensift-El-Haouz: Essaouira (Mogador), coastal dunes at the northern margin of the town, alt. 31°32'40"N, 09°45'00"W, 22 May 2010, leg. Z. Ferreira and I. Álvarez.

A. mogadorensis* subsp. *jahandiezii

JC 14 – Morocco, region Sous-Masa-Drâa: Inezgane, near the road between the golf resort and King's Palace, near the river of Sous, 7 m alt., 30°21'46"N, 09°34'27"W, 21 May 2010, leg. J. Chrtek and Z. Dočkalová.

A. perezii

KV 51V – Spain, Canary Islands, Lanzarote: Haria, near the road 2 km SW of the village, 380 m alt., 29°08'04"N, 13°30'41"W, leg. K. Vazačová; **KV 52V** – Spain, Canary Islands, Lanzarote: El Jurado, Guinate, near the road 0.7 km SW of the village, 440 m alt., 29°10'33"N, 13°29'57"W, leg. K. Vazačová.

A. pinnatifida

KV 10 – Spain, Canary Islands, Gran Canaria: Barranco de Guayadeque, 4.5 km NW of the village of Agüimes, 540 m alt., 27°55'59"N, 15°28'44"W, 13 May 2007, leg. K. Vazačová; **KV 16** – Spain, Canary Islands, Tenerife: Cumbre de Bolico, near the road 2 km SE of the village of Las Portelas, 1 155 m alt., 28°18'53"N, 16° 49'48"W, 4 June 2007, leg. K. Vazačová; **KV 25** – Spain, Canary Islands, La Gomera: Alto de Garajonay, 1.5 km NE of the village of Igualeiro, 1 300 m alt., 28°06'30"N, 17°14'30"W, 6 November 2007, leg. K. Vazačová; **SB G5** – Spain, Canary Islands, La Gomera: Hermigua, El Curato, near the rocks Los Gemelos, 300 m alt., 28°08'58"N, 17°12'18"W, 9 May 2010, leg. S. Bräutigam and E. Bräutigam; **SB H13** – Spain, Canary Islands, El Hierro: San Andrés, near the road to Frontera, 4 km SW of the village, shrubs with prevailing *Chamaecytisus proliferus*, 980 m alt., 27°44'46"N, 17°59'08"W, 20 May 2010, leg. S. Bräutigam and E. Bräutigam; **SB G7b** – Spain, Canary Islands, La Gomera: Arure, at the path to Montaña de los Manantiales 2,5 km ENE of the village, *Erica arborea-Cistus monspeliensis* shrubs, 940 m alt., 28°08'32"N, 17°18'06"W, leg. S. Bräutigam and E. Bräutigam; **SB G9** – Spain, Canary Islands, La Gomera: Vallehermoso, 3 km SSE of the village, at the road to Las Rosas, 980 m alt., 28°09'05"N, 17°15'13"W, 11 May 2010, leg. S. Bräutigam and E. Bräutigam; **SB T2** – Spain, Canary Islands, Tenerife: Puerto de la Cruz, above the village of Puerto de la Cruz, 7 km WSW of the town, disturbed places in the agricultural landscape, 780 m alt., 28°22'31"N, 16°36'37" W, 3 May 2010, leg. S. Bräutigam and E. Bräutigam; **SB H14** – Spain, Canary Islands, El Hierro: Sabinosa, near the Ermita Virgen de los Reyes, 3 km SW of the village, rocky places, nearby the *Euphorbia-Kleinia* shrubs, 720 m alt., 27°43'51"N, 18°07'16"W, 21 May 2010, leg. S. Bräutigam and E. Bräutigam; **SB H16p** – Spain, Canary Islands, El Hierro: San Andrés, near the road to Frontera, 2 km WSW of the village, *Chamaecytisus proliferus* shrubs, 1175 m alt., 27°45'41"N, 17°58'17"W, 22 May 2010, leg. S. Bräutigam and E. Bräutigam.

A. pinnatifida subsp. *teydensis*

SB T4 – Spain, Canary Islands, Tenerife: Cañadas, at the road Arona – Vilaflor near La Escalona (km 13), 1 190 m alt., 28°07'37"N, 16°39'24"W, 7 May 2010, leg. S. Bräutigam and E. Bräutigam; **SB T18** – Spain, Canary Islands, Tenerife: Cañadas, near the road below El Portilla, rocks with *Pinus canariensis* forest, 1950 m alt., 28° 18'27"N, 16°33'58"W, 27 May 2010, leg. S. Bräutigam and E. Bräutigam; **SB T17** – Spain, Canary Islands, Tenerife: Montañas de Anaga, 3 km E of Cruz del Carmen near Las Casas de Cumbre, road margin, "Fayal-Brezal" (*Myrica fayae-Ericetum arboreae*) vegetation, 800 m alt., 28°32'02"N, 16°15'12"W, 26 May 2010, leg. S. Bräutigam and E. Bräutigam; **SB T19** – Spain, Canary Islands, Tenerife: Cañadas, on the path 1,5 km E of Parador Nacional de la Cañadas, below Guajara, 2 200 m alt., 28°13'32"N, 16°36'46"W, 28 May 2010, leg. S. Bräutigam and E. Bräutigam.

A. ragusina I

JC 2011_35 – Spain: Comunitat Valenciana: Sax, along the road to Catalla, 5.6 km NE of the town (city centre), 610 m alt., 38°34'34"N, 00°46'59"W, 3 June 2011, leg. J. Chrtek; **ZF LM5103** – Spain, province Madrid: Guadalupe de la Sierra, 40°46'48"N, 3°41'49"W, 19 June 2010, leg. L. Medina and M. Sequeira.

A. ragusina II

JC 2011_2 – Spain, Andalusia, province Malaga: Alhaurin el Grande, near the old street to Alhaurin de la Torre, 5.7 km ESE of the town (near Golf Lauro), 230 m alt., 36°38'52"N, 04°37'17"W, 24 May 2011, leg. J. Chrtek and Z. Dočkalová; **JC 2011_27** – Spain, Andalusia, province Granada: near the road to Jérez del Marquesado, 4.5 km of the town (city centre), 1075 m alt., 37°15'25"N, 03°08'16"W, 31 May 2011, leg. J. Chrtek and Z. Dočkalová.