

SUPPLEMENTAL MATERIAL

This is supplementary material (doi: 10.61733/jconch/4571s) to the article:

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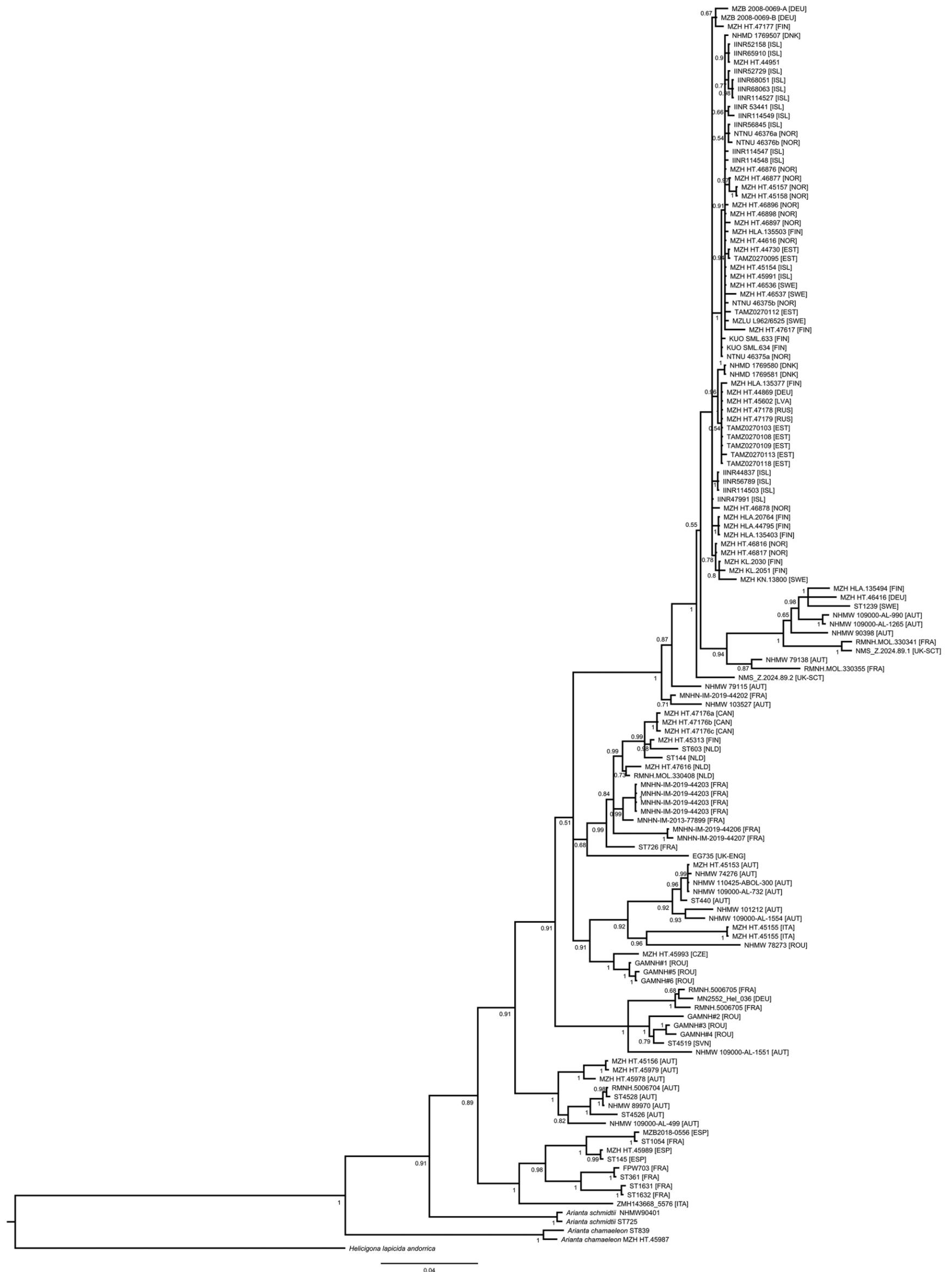


Figure S1. Bayesian inference phylogenetic tree (50% majority-rule consensus) based on the mitochondrial markers only (COI and 16S). Posterior probabilities are shown on nodes. Scale bar represents substitutions per site.

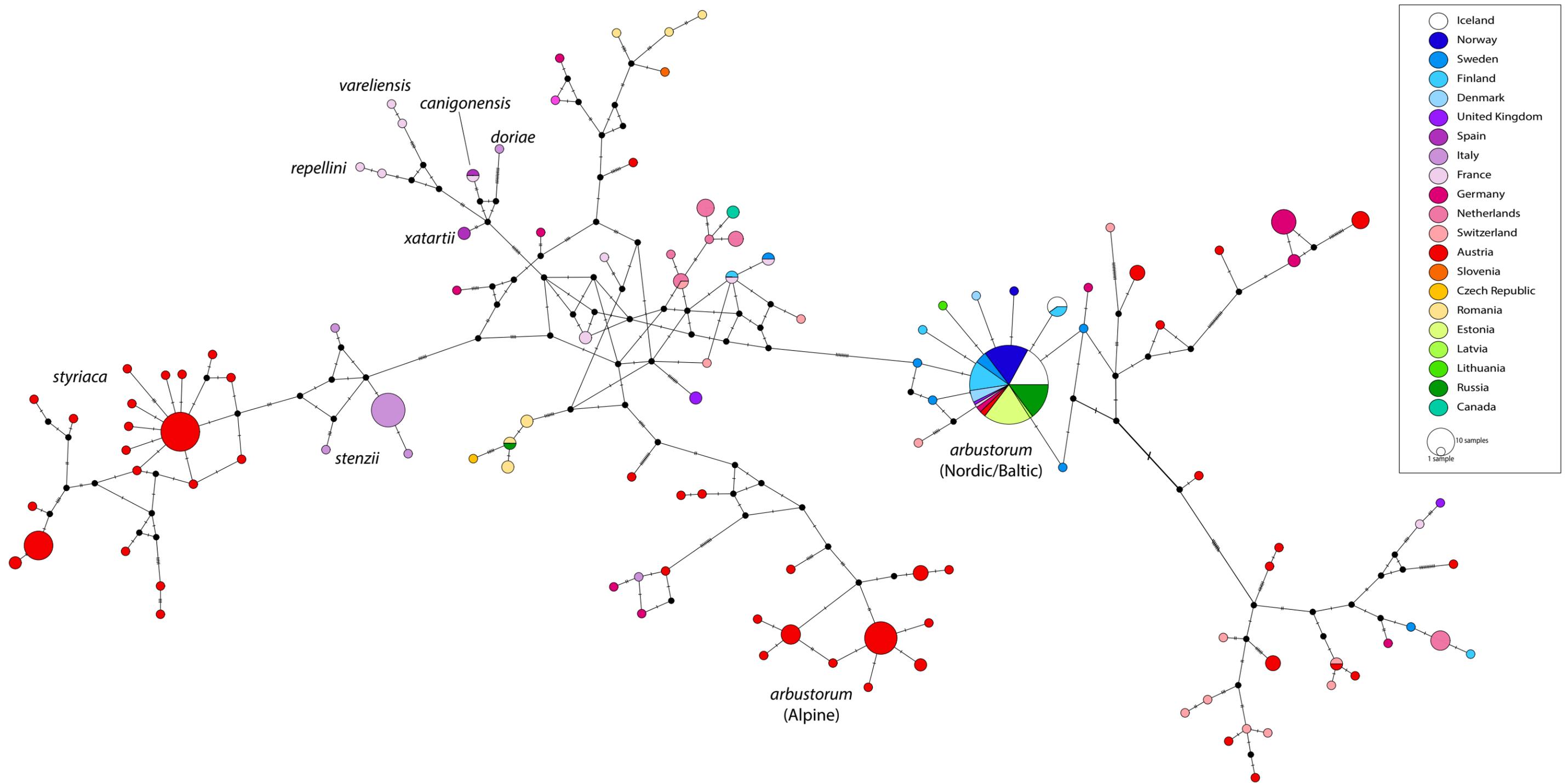


Figure S3. Haplotype network of mitochondrial marker 16S, with colour scheme representing the specimen's country of origin.

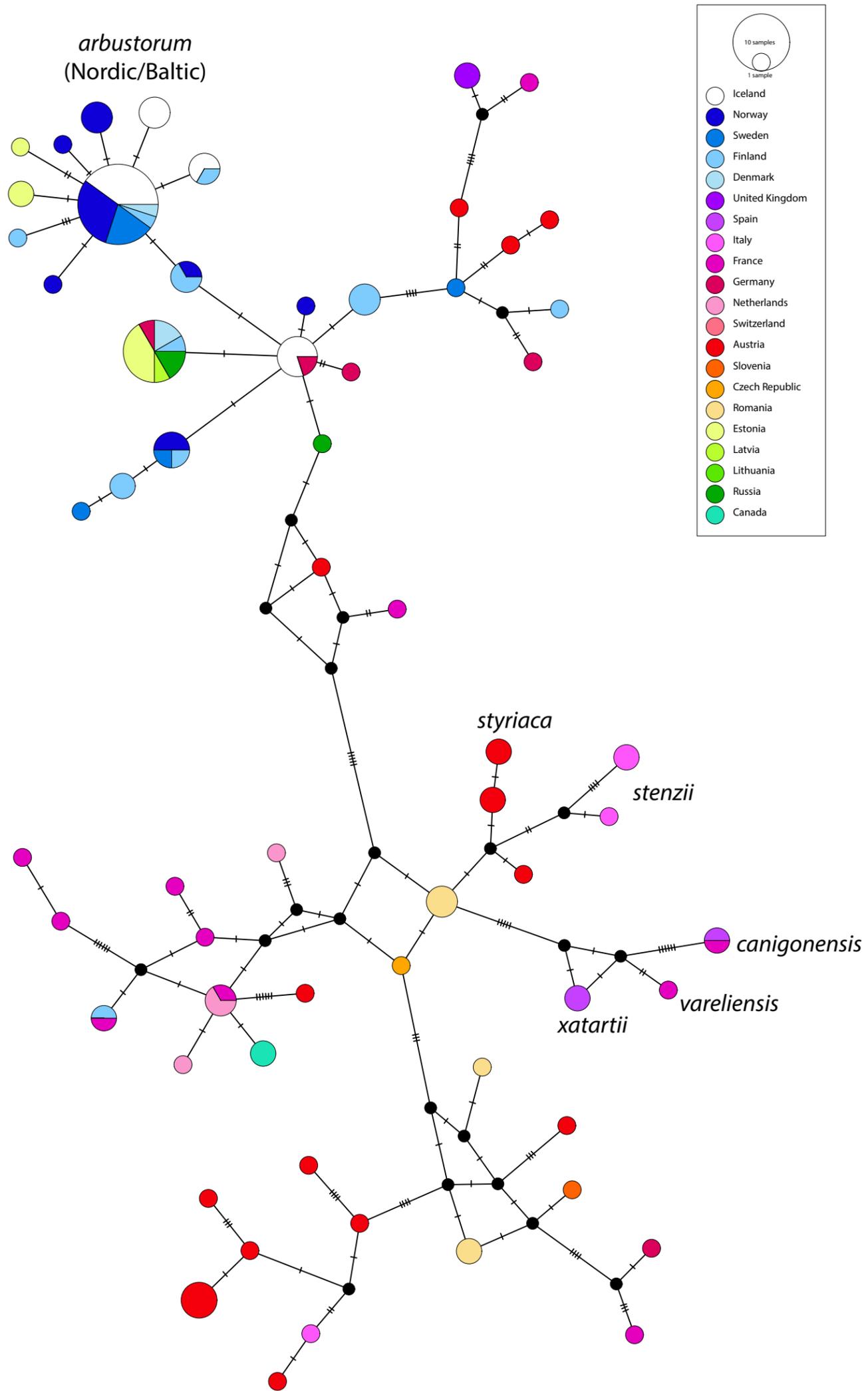


Figure S2. Haplotype network of mitochondrial marker COI, with colour scheme representing the specimen's country of origin.

Table S1. Coordinates used for making the maps in Figure 1 of the article (same specimens as Tables 1 and 2 in the article). While most specimens had precise coordinates recorded, many did not. In the latter cases, coordinates were derived using Google Earth; these are marked in red font.

Taxon	Country	Locality	Voucher code	Coll. date	Coordinates
<i>arbustorum</i>	Austria	Carinthia, Mallnitz, Museum	http://id.luomus.fi/HT.45153	12.vii.2024	46.99118, 13.16372
<i>arbustorum</i>	Austria	Kärnten, Gailtaler Alpen, Straße Bad Bleiburg	NHMW ZOO-MO-109000-AL-732	02.vii.2015	46.6269, 13.6809
<i>arbustorum</i>	Austria	Kärnten, Spital an der Drau, Nockberge	NHMW ZOO-MO-110425-ABOL-300	2017	46.9380, 13.7414
<i>arbustorum</i>	Austria	Niederösterreich, Göller, Turmmauer	NHMW ZOO-MO-103527	2000s	47.7941, 15.4911
<i>arbustorum</i>	Austria	Niederösterreich, Mödling, Wienerwald, Gruberau	NHMW ZOO-MO-109000-AL-1551	03.iv.2007	48.1164, 16.1006
<i>arbustorum</i>	Austria	Salzburg, Saalbach, Kohlmaisalm, Bachbett	NHMW ZOO-MO-79115	1972	47.3918, 12.6408
<i>arbustorum</i>	Austria	Salzburg, Salzburg, Hochkönig Straße kurz nach Mühlbach	NHMW ZOO-MO-74276	30.vii.1973	47.3809, 13.1057
<i>arbustorum</i>	Austria	Steiermark, Veitsch Aufgang von Sattel Niederalpl	NHMW ZOO-MO-90398	31.vii.1997	47.6821, 15.3811
<i>arbustorum</i>	Austria	Tirol, Sankt Johann	NHMW ZOO-MO-78273	1970	47.5204, 12.4227
<i>arbustorum</i>	Austria	Tirol, Stripsenjoch, Wilder Kaiser	NHMW ZOO-MO-79138	1970	47.5838, 12.3002
<i>arbustorum</i>	Austria	Vienna, Vienna, Toter Grund (Donauinsel)	NHMW ZOO-MO-101212	2001	48.1859, 16.4705
<i>arbustorum</i>	Austria	Vorarlberg, Bregenzerwald, Kanisfluh	NHMW ZOO-MO-109000-AL-990	12.vii.2016	47.2662, 09.8903
<i>arbustorum</i>	Austria	Vorarlberg, Rimsbach, Bregenzerwald	NHMW ZOO-MO-109000-AL-1265	11.vii.2016	47.2663, 09.8905
<i>arbustorum</i>	Canada	New Brunswick, Saint John, Irving Nature Park	http://id.luomus.fi/HT.47176	10.xi.2024	45.22733, -66.10501
<i>arbustorum</i>	Canada	New Brunswick, Saint John, Irving Nature Park	http://id.luomus.fi/HT.47176	10.xi.2024	45.22733, -66.10501
<i>arbustorum</i>	Czechia	Brumov-Bylnice, Bylnička	http://id.luomus.fi/HT.45993	09/07/2024	49.07414, 18.05607
<i>arbustorum</i>	Denmark	Copenhagen, Fælledparken	NHMD 1769507	28.vi.2024	55.70000, 12.57300
<i>arbustorum</i>	Denmark	Stevns, Gjorslev Forest, Skæppelund	NHMD 1769580	03.vii.2024	55.38802, 12.32900
<i>arbustorum</i>	Denmark	Stevns, near Søholm	NHMD 1769581	03.vii.2024	55.38099, 12.37998
<i>arbustorum</i>	Estonia	Haapsalu linn	TAMZ 0270103	19.vi.2024	58.77977, 23.65973
<i>arbustorum</i>	Estonia	Hiumaa vald	TAMZ 0270112	13.vii.2022	58.77224, 22.62954
<i>arbustorum</i>	Estonia	Mulgi vald	TAMZ 0270095	08.vii.2024	58.01024, 25.26312
<i>arbustorum</i>	Estonia	Otepää vald	TAMZ 0270108	13.viii.2024	58.00889, 26.20633
<i>arbustorum</i>	Estonia	Pärnu, Kanaküla	http://id.luomus.fi/HT.44730	10.v.2000	58.25543, 25.17220
<i>arbustorum</i>	Estonia	Rapla vald	TAMZ 0270109	06.vii.2022	58.96695, 24.72383
<i>arbustorum</i>	Estonia	Rõuge vald	TAMZ 0270118	10.vii.2023	57.65225, 27.28563
<i>arbustorum</i>	Estonia	Toila vald	TAMZ 0270113	26.vi.2023	59.44466, 27.33157
<i>arbustorum</i>	Finland	Åland, Mariehamn, Östra Ytternäs	http://id.luomus.fi/KL.2051	18.ix.1975	60.0753, 19.9457
<i>arbustorum</i>	Finland	Åland, Sund	http://id.luomus.fi/KL.2030	18.ix.1975	60.2505, 20.1129
<i>arbustorum</i>	Finland	Lappi, Kilpisjärvi	http://id.luomus.fi/HT.47617	06.vi.1988	69.0443, 20.8031
<i>arbustorum</i>	Finland	North Savo, Kuopio	KUO SML.633	29.v.2010	62.88637, 27.60605
<i>arbustorum</i>	Finland	North Savo, Kuopio	KUO SML.634	x.2000	63.20291, 28.46727
<i>arbustorum</i>	Finland	Pirkanmaa, Tampere, Teisko, Viitapohjantie	http://id.luomus.fi/HT.44951	23.vii.2024	61.62702, 23.90556
<i>arbustorum</i>	Finland	Uusimaa, Askola	http://id.luomus.fi/HLA.20764	11.x.2001	60.5306, 25.5976
<i>arbustorum</i>	Finland	Uusimaa, Espoo, Purotie	http://id.luomus.fi/HLA.44795	15.vi.2005	60.1626, 24.6792
<i>arbustorum</i>	Finland	Uusimaa, Helsinki, Jollas	http://id.luomus.fi/HLA.135494	vi.2007	60.16334, 25.08529
<i>arbustorum</i>	Finland	Uusimaa, Helsinki, Kurkimoisio	http://id.luomus.fi/HLA.135403	03.ix.2007	60.22516, 25.13057
<i>arbustorum</i>	Finland	Uusimaa, Helsinki, Tuomarinkylä	http://id.luomus.fi/HLA.135503	08.vi.2007	60.25629, 24.97019
<i>arbustorum</i>	Finland	Uusimaa, Porvoo, Pappilanmäki	http://id.luomus.fi/KL.2009	08.vi.1987	60.4007, 25.6602
<i>arbustorum</i>	Finland	Uusimaa, Vantaa, Vaskipelto	http://id.luomus.fi/HLA.135377	viii.2007	60.27594, 25.01131
<i>arbustorum</i>	France	Aine, Hirson, Blangy	RMNH.5006705	15.v.2015	49.9423, 04.0881
<i>arbustorum</i>	France	Bourgogne-Franche-Comté, Myennes, banks of the Loire	MNHN-IM-2019-44202	09.vi.2015	47.44977, 2.92748
<i>arbustorum</i>	France	Bourgogne-Franche-Comté, Myennes, banks of the Loire	MNHN-IM-2019-44203	09.vi.2015	47.44977, 2.92748
<i>arbustorum</i>	France	Bourgogne-Franche-Comté, Saint-Claude	MNHN-IM-2019-44206	30.vi.2021	46.40457, 5.88007
<i>arbustorum</i>	France	Bourgogne-Franche-Comté, Saint-Claude	MNHN-IM-2019-44207	30.vi.2021	46.40457, 5.88007
<i>arbustorum</i>	France	Doubs, Consolation	RMNH.MOL.330341.b	06.vi.1991	47.1570, 6.6034
<i>arbustorum</i>	France	Île-de-France, Montigny-sur-Loing	MNHN-IM-2013-77899	24.vii.2022	48.32903, 02.73962
<i>arbustorum</i>	France	Savoie, Albertville, c. 8 km S of town	RMNH.MOL.330355.b	04.vi.1992	45.6482, 06.3825
<i>arbustorum</i>	Germany	Baden-Württemberg, Backnang, Maubachtal	http://id.luomus.fi/HT.46416	13.x.2024	48.93330, 09.40651
<i>arbustorum</i>	Germany	Berlin, Berlin, Billerbecker Weg	http://id.luomus.fi/HT.44869	02.vii.2024	52.57494, 13.27475
<i>arbustorum</i>	Germany	Berlin, Humboldt Flakbunker	MZB 2008-0069-A	03.v.2008	52.5473, 13.3849
<i>arbustorum</i>	Germany	Berlin, Humboldt Flakbunker	MZB 2008-0069-B	03.v.2008	52.547, 13.3849
<i>arbustorum</i>	Italy	Veneto, Cortina d'Ampezzo, Pecol, Gavon Picol	http://id.luomus.fi/HT.45155	16.vii.2024	46.39268, 12.08540
<i>arbustorum</i>	Latvia	Riga, Liči, Mazā Jugla river floodplain	http://id.luomus.fi/HT.45602	04.viii.2024	56.96389, 24.33833
<i>arbustorum</i>	Netherlands	Flevoland, Leystad, Oostvaardersplassen	http://id.luomus.fi/HT.47616	06.ix.2001	52.4736, 05.4105
<i>arbustorum</i>	Netherlands	Gelderland, Wageningen, Bornsesteeg	RMNH.MOL.330408.b	15.iv.2013	51.9882, 05.6594
<i>arbustorum</i>	Norway	Nordland, Rana, SW Moen - S Litl-Nilsmobekken	http://id.luomus.fi/HT.46896	03.vii.2024	66.39410, 14.65529
<i>arbustorum</i>	Norway	Nordland, Værøy, Sandtjøna	http://id.luomus.fi/HT.46898	25.vii.2024	67.68660, 12.67129
<i>arbustorum</i>	Norway	Østlandet, Bærum, Hagabråten	http://id.luomus.fi/HT.46897	15.viii.2024	59.93440, 10.60709
<i>arbustorum</i>	Norway	Østlandet, Oslo, Ekeberg*	http://id.luomus.fi/HT.46816	28.01.2025	59.88556, 10.77462
<i>arbustorum</i>	Norway	Østlandet, Oslo, Ekeberg*	http://id.luomus.fi/HT.46817	28.01.2025	59.88556, 10.77462
<i>arbustorum</i>	Norway	Rogaland, Finnøy, Marmorplassen-Saltstut	http://id.luomus.fi/HT.46876	25.vi.2024	59.23123, 05.80008
<i>arbustorum</i>	Norway	Troms og Finnmark, , Nordreisa, Gjøvarden SW	http://id.luomus.fi/HT.46877	05.vii.2024	69.90850, 20.92809
<i>arbustorum</i>	Norway	Troms og Finnmark, Tromsø*	http://id.luomus.fi/HT.45157	05.viii.2024	69.63462, 18.90723
<i>arbustorum</i>	Norway	Troms og Finnmark, Tromsø*	http://id.luomus.fi/HT.45158	05.viii.2024	69.68779, 18.94904
<i>arbustorum</i>	Norway	Trøndelag, Trondheim	NTNU-VM-WET-46375	05.vi.1996	63.43720, 10.34287
<i>arbustorum</i>	Norway	Trøndelag, Trondheim	NTNU-VM-WET-46375	05.vi.1996	63.43720, 10.34287
<i>arbustorum</i>	Norway	Trøndelag, Trondheim, Bakkaunet	http://id.luomus.fi/HT.44616	29.v.2024	63.43032, 10.42705
<i>arbustorum</i>	Norway	Trøndelag, Trondheim, Dalen Hageby	NTNU-VM-WET-46376	25.ix.1996	63.43783, 10.45107
<i>arbustorum</i>	Norway	Trøndelag, Trondheim, Dalen Hageby	NTNU-VM-WET-46376	25.ix.1996	63.43783, 10.45107
<i>arbustorum</i>	Norway	Vestland, Ullensvang, Ullensvang	http://id.luomus.fi/HT.46878	30.vi.2024	60.31761, 6.67700
<i>arbustorum</i>	Romania	Cheile Tătarului	GAMNH#5	10.vii.2022	45.36858, 25.43585
<i>arbustorum</i>	Romania	Cheile Tătarului	GAMNH#6	10.vii.2022	45.36858, 25.43585
<i>arbustorum</i>	Romania	Ic Ponor, Cheile Somesului Cald	GAMNH#3	17.vii.2021	46.63101, 22.76996
<i>arbustorum</i>	Romania	Prahova, Bușteni, Valea Cerbului	GAMNH#1	10.vii.2022	45.43892, 25.52855
<i>arbustorum</i>	Romania	Rodna Mountains	GAMNH#2	18.vii.2020	47.60282, 24.64880
<i>arbustorum</i>	Romania	Stanciu Valley, Cascada Valul Miresei	GAMNH#4	16.vii.2021	46.70672, 22.86270
<i>arbustorum</i>	Russia	Karelia, Martsialnye Vody	http://id.luomus.fi/HT.47177	21.vi.2024	62.15589, 33.90298
<i>arbustorum</i>	Russia	Saint Petersburg, Saint Petersburg, Moskovskiy Avenue	http://id.luomus.fi/HT.47178	07.x.2024	59.89481, 30.31623
<i>arbustorum</i>	Russia	Saint Petersburg, Saint Petersburg, Peterhof, Sergievka Park	http://id.luomus.fi/HT.47179	29.vi.2024	59.89386, 29.83333
<i>arbustorum</i>	Scotland	East Lothian, Haddington	NMS Z.2024.89.1	17.ix.2024	55.9577, -02.7763
<i>arbustorum</i>	Scotland	East Lothian, Pencaitland	NMS Z.2024.89.2	19.ix.2024	55.9108, -02.8949
<i>arbustorum</i>	Sweden	Lycksele Lappmark, , Holme	MZLU L962/6525	10.vii.1962	66.07370, 14.82643

Table S1. Continued.

Taxon	Country	Locality	Voucher code	Coll. date	Coordinates
<i>arbustorum</i>	Sweden	Värmland, Älgå Parish	http://id.luomus.fi/HT.46537	20.ix.2024	59.64342, 12.47774
<i>arbustorum</i>	Sweden	Västerbotten, Umeå, Holmsund, Sahakallio	http://id.luomus.fi/KN.13800	05.viii.1967	63.7169, 20.3647
<i>arbustorum</i>	Sweden	Västergötland, Kinnekulle, Madelpiana Parish	http://id.luomus.fi/HT.46536	08.ix.2024	58.60879, 13.37814
<i>canigoensis</i>	Spain	Catalonia, Querals, Bastiments peak	MZB 2018-0556	22.x.2018	42.4268, 2.2307
<i>chamaeleon</i>	Slovenia	Upper Carniola, Bohinj, Stara Fužina, Rudno Polje, below Debeli peak	http://id.luomus.fi/HT.45887	27.viii.2015	46.37525, 13.91448
<i>pseudorudis</i>	Iceland	Akranes (Smíðjuvellir), Borg	IINR 44837	13.ix.2007	64.29658, -22.01395
<i>pseudorudis</i>	Iceland	Akureyri (Heiðarlundur)	IINR 47991	30.vii.2010	65.6751, -18.11385
<i>pseudorudis</i>	Iceland	Akureyri (Smáratún)	IINR 114527	17.vi.2024	65.74682, -18.08412
<i>pseudorudis</i>	Iceland	Austurland, Egilsstaðir, Þjóðvegur Bridge	http://id.luomus.fi/HT.45154	09.ix.2023	65.42817, -14.5995
<i>pseudorudis</i>	Iceland	Austurland, Hlíðarvegur	http://id.luomus.fi/HT.45991	18.viii.2024	65.73586, -14.54175
<i>pseudorudis</i>	Iceland	Einifell, Stafholtstungum, Mýr	IINR 114548	19.vii.2024	64.71017, -21.57466
<i>pseudorudis</i>	Iceland	Gunnarsholt, Rangárvöllum, Rang	IINR 68063	17.v.2019	63.8652, -20.20922
<i>pseudorudis</i>	Iceland	Hveragerði (Heiðmörk), Árn	IINR 53441	12.ix.2013	63.99892, -21.18588
<i>pseudorudis</i>	Iceland	Mógilsá, Kjalarnesi, Kjós	IINR 114549	07.v.2024	64.20954, -21.70775
<i>pseudorudis</i>	Iceland	Mógilsá, Kjalarnesi, Kjós	IINR 56789	22.v.2016	64.20979, -21.70793
<i>pseudorudis</i>	Iceland	Reyðarfjörður, S-Múl.	IINR 114547	31.vii.2024	65.03472, -14.21200
<i>pseudorudis</i>	Iceland	Reykholt (Skógarstígur), Reykholtsdal, Borg	IINR 114503	25.vi.2024	64.66616, -21.29579
<i>pseudorudis</i>	Iceland	Reykjavík (Fossvogur)	IINR 65910	04.vii.2017	64.11752, -21.90018
<i>pseudorudis</i>	Iceland	Reykjavík (Gufuneskirkjugarður)	IINR 52158	15.vi.2012	64.14550, -21.78417
<i>pseudorudis</i>	Iceland	Seltjarnarnes (Lindarbraut)	IINR 68051	01.v.2019	64.15640, -22.00315
<i>pseudorudis</i>	Iceland	Vorsabær, Flóa, Selfoss	IINR 52729	21.vi.2013	63.85724, -20.84443
<i>pseudorudis</i>	Iceland	Ytri-Kambar, Djúpavogi, S-Múl	IINR 56845	17.vi.2016	64.66110, -14.37253
<i>stenzii</i>	Italy	Trentino-Alto Adige, Corvara, Colfoaco, Passo Gardena	http://id.luomus.fi/HT.45979	26.vii.2015	46.54011, 11.83072
<i>stenzii</i>	Italy	Trentino-Alto Adige, Saltria, Forcella Denti di Terrarossa	http://id.luomus.fi/HT.45978	23.vii.2015	46.50097, 11.63761
<i>stenzii</i>	Italy	Trentino-Alto Adige, Selva di Val Gardena, Val de Chedul	http://id.luomus.fi/HT.45156	20.vii.2024	46.56255, 11.81016
<i>styriaca</i>	Austria	Oberösterreich, Gmunden, Großer Priel, Großer Priel Gipfel	NHMW ZOO-MO-109000-AL-1554	14.vii.2009	47.7171, 14.0642
<i>styriaca</i>	Austria	Oberösterreich, Gmunden, Höllengebirge, Großer Steinkogel	NHMW ZOO-MO-109000-AL-499	2000s	47.8095, 13.6494
<i>styriaca</i>	Austria	Steiermark, Gesäuse, Neuburg Alm	NHMW ZOO-MO-89970	12.vi.1988	47.5297, 14.6775
<i>styriaca</i>	Austria	Steiermark, Johnsbach	RMNH.5006704	02.ix.2012	47.5335, 14.6048
<i>xatartii</i>	Spain	Catalonia, Coll de Nou Fonts, Pod Coll de Noufonts	http://id.luomus.fi/HT.45989	08.viii.2024	42.41376, 02.16704
<i>arbustorum</i>	Austria	Kärnten, Trögern, 11.6 km W of Bad Eisenkappel	ST 4526	Groenenberg <i>et al.</i> 2016	46.4568, 14.5028
<i>arbustorum</i>	Austria	Oberösterreich, Hallstatt	ST 440	Gittenberger <i>et al.</i> 2004; Groenenberg <i>et al.</i> 2016	47.5622, 13.6491
<i>arbustorum</i>	England	Derbyshire	EG735 / —	Gittenberger <i>et al.</i> 2004; Wade <i>et al.</i> 2001	52.7352, -01.6405
<i>arbustorum</i>	France	Aude, Gorges du Rébenty	ST 726	Gittenberger <i>et al.</i> 2004; Groenenberg <i>et al.</i> 2016	42.8264, 02.0909
<i>arbustorum</i>	Germany	Pleß forest near Eddigehausen, Wittenberg (mountain)	MN 2552-Hel-036	Neiber & Hausdorf 2015	51.5975, 09.9650
<i>arbustorum</i>	Netherlands	Zuid-Holland, Hoogmade, banks of the Wijde Aa river	ST 144	Gittenberger <i>et al.</i> 2004; Groenenberg <i>et al.</i> 2016	52.1676, 04.6034
<i>arbustorum</i>	Netherlands	Zuid-Holland, Hoogmade, banks of the Wijde Aa river	ST 603	Gittenberger <i>et al.</i> 2004; Groenenberg <i>et al.</i> 2016	52.1676, 04.6034
<i>arbustorum</i>	Slovenia	Kamnische Alpe, S-slope Grintavec	ST 4519	Groenenberg <i>et al.</i> 2016	46.3442, 14.5311
<i>arbustorum</i>	Sweden	Stockholms Län, S of Uppsala in forest	ST 1239	Gittenberger <i>et al.</i> 2004; Groenenberg <i>et al.</i> 2016	59.6946, 17.8566
<i>canigonensis</i>	France	Aude, Massif du Canigou, Pla Guillem	ST 1054	Gittenberger <i>et al.</i> 2004; Groenenberg <i>et al.</i> 2016	42.4728, 02.4186
<i>chamaeleon</i>	Austria	Kärnten, Karawanken, Bärental, Johannsenruhe	ST 839	Gittenberger <i>et al.</i> 2004; Groenenberg <i>et al.</i> 2016	46.4536, 14.1595
<i>doriae</i>	Italy	Piemonte, Biella, Monte Mucrone, E of Bocchetta del Lago	ZMH 143668-5576	Hausdorf & Walther 2021	46.0639, 09.6721
<i>repellini</i>	France	Hautes-Alpes	FPW703	Gittenberger <i>et al.</i> 2004	44.8055, 06.6821
<i>repellini</i>	France	Hautes-Alpes, Pic des Chalances, Queyras	ST 361	Groenenberg <i>et al.</i> 2016	44.8055, 06.6821
<i>schmidtii</i>	Austria	Kärnten, Karawanken, S-side of Natschacher Sattel (N of Bielschitza)	ST 725	Gittenberger <i>et al.</i> 2004; Groenenberg <i>et al.</i> 2016	46.4487, 14.1908
<i>schmidtii</i>	Slovenia	Kamnisko-Savinjske Alps	NHMW 90401	Cadahia <i>et al.</i> 2014	46.3718, 14.5515
<i>styriaca</i>	Austria	Oberösterreich, Johnsbach, 2.8 km N of Heshütte	ST 4528	Groenenberg <i>et al.</i> 2016	47.5557, 14.6619
<i>vareliensis</i>	France	Alpes-Maritimes, near D64 to St.Etienne de Tinée (W of Bouseyas)	ST 1631	Groenenberg <i>et al.</i> 2016	44.2586, 06.9278
<i>vareliensis</i>	France	Alpes-Maritimes, near D64 to St.Etienne de Tinée (W of Bouseyas)	ST 1632	Groenenberg <i>et al.</i> 2016	44.2586, 06.9278
<i>xatartii</i>	Spain	Catalunya, Ripollès, 3 km NE of Núria	ST 145	Gittenberger <i>et al.</i> 2004; Groenenberg <i>et al.</i> 2016	42.3968, 02.1521

Table S2. Data on additional genetic sequences used for the COI haplotype network. The identification of the taxa was extracted from the original works (cited references).

Taxon	Country	Locality	GenBank accession no.	Source
<i>alpicola</i>	Austria	Hohe Tauern	AF296911	Gittenberger <i>et al.</i> 2004
<i>alpicola</i>	Austria	Hohe Tauern	AF296906	Gittenberger <i>et al.</i> 2004
<i>alpicola</i>	Austria	Hohe Tauern	AF296912	Gittenberger <i>et al.</i> 2004
<i>alpicola</i>	Austria	Hohe Tauern	AF296913	Gittenberger <i>et al.</i> 2004
<i>alpicola</i>	Austria	Hohe Tauern	AF296910	Gittenberger <i>et al.</i> 2004
<i>alpicola</i>	Germany	Achberg	AF296907	Gittenberger <i>et al.</i> 2004
<i>alpicola</i>	Germany	Achberg	AF296909	Gittenberger <i>et al.</i> 2004
<i>alpicola</i>	Germany	Achberg	AF296915	Gittenberger <i>et al.</i> 2004
<i>alpicola</i>	Germany	Achberg	AF296916	Gittenberger <i>et al.</i> 2004
<i>alpicola</i>	Germany	Achberg	AF296917	Gittenberger <i>et al.</i> 2004
<i>alpicola</i>	Germany	Achberg	AF296918	Gittenberger <i>et al.</i> 2004
<i>alpicola</i>	Germany	Achberg	AF296919	Gittenberger <i>et al.</i> 2004
<i>alpicola</i>	Germany	Achberg	AF296920	Gittenberger <i>et al.</i> 2004
<i>alpicola</i>	Germany	Achberg	AF296921	Gittenberger <i>et al.</i> 2004
<i>alpicola</i>	Germany	Achberg	AF296905	Gittenberger <i>et al.</i> 2004
<i>alpicola</i>	Germany	Bayern, Achberg, S-side, 5 km NW of Reit im Winkel	AF296914	Gittenberger <i>et al.</i> 2004
<i>alpicola</i>	Germany	Bayern, Achberg, S-side, 5 km NW of Reit im Winkel	AF296908	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Austria	above Ebnesangeralm	EF398171	Haase & Misof 2009
<i>arbustorum</i>	Austria	above Haindlkarhütte	EF398150	Haase & Misof 2009
<i>arbustorum</i>	Austria	ascent towards Rotkogelsattel	JX025684	Haase <i>et al.</i> 2013
<i>arbustorum</i>	Austria	Bad Aussee	JX025726	Haase <i>et al.</i> 2013
<i>arbustorum</i>	Austria	bank of pond in Kummer	EF398138	Haase & Misof 2009
<i>arbustorum</i>	Austria	below Gsengscharte	EF398152	Haase & Misof 2009
<i>arbustorum</i>	Austria	below Leobner Mauer	EF398240	Haase & Misof 2009
<i>arbustorum</i>	Austria	bridge across Hartlsbach	EF398222	Haase & Misof 2009
<i>arbustorum</i>	Austria	Buckletschneidergraben	EF398160	Haase & Misof 2009
<i>arbustorum</i>	Austria	descent from Elm	JX025704	Haase <i>et al.</i> 2013
<i>arbustorum</i>	Austria	Friedhof der Namenlosen	PV636390	Haase <i>et al.</i> 2003
<i>arbustorum</i>	Austria	Gamssteinsattel	EF398242	Haase & Misof 2009
<i>arbustorum</i>	Austria	Grabnerhof	EF398252	Haase & Misof 2009
<i>arbustorum</i>	Austria	Grabnerstein	EF398253	Haase & Misof 2009
<i>arbustorum</i>	Austria	Gstatterboden	EF398250	Haase & Misof 2009
<i>arbustorum</i>	Austria	Haindlkargaben	EF398203	Haase & Misof 2009
<i>arbustorum</i>	Austria	Haindlkarhütte	EF398256	Haase & Misof 2009
<i>arbustorum</i>	Austria	Hallstatt	AF296928	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Austria	Hallstatt	AF296929	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Austria	Hallstatt	AF296930	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Austria	Hallstatt	AF296923	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Austria	Hartlsgraben	EF398231	Haase & Misof 2009
<i>arbustorum</i>	Austria	Heßhütte	EF398178	Haase & Misof 2009
<i>arbustorum</i>	Austria	Höllersteig	EF398235	Haase & Misof 2009
<i>arbustorum</i>	Austria	Humlechnergraben	EF398245	Haase & Misof 2009
<i>arbustorum</i>	Austria	Kainzenalblgraben	EF398155	Haase & Misof 2009
<i>arbustorum</i>	Austria	Kasegger	EF398243	Haase & Misof 2009
<i>arbustorum</i>	Austria	Klosterneuburger Au	PV636399	Haase <i>et al.</i> 2003
<i>arbustorum</i>	Austria	Köblwirt	EF398259	Haase & Misof 2009
<i>arbustorum</i>	Austria	Lahngangsee	JX025709	Haase <i>et al.</i> 2013
<i>arbustorum</i>	Austria	Langgriesgraben	EF398156	Haase & Misof 2009
<i>arbustorum</i>	Austria	left bank of Johnsbach at graben	EF398162	Haase & Misof 2009
<i>arbustorum</i>	Austria	near Rollsattel	JX025717	Haase <i>et al.</i> 2013
<i>arbustorum</i>	Austria	Oberhof	EF398249	Haase & Misof 2009
<i>arbustorum</i>	Austria	Oberösterreich, Dachstein	AF296986	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Austria	Petergstammgraben	EF398195	Haase & Misof 2009
<i>arbustorum</i>	Austria	Puchberg am Schneeberg	PV636418	Haase <i>et al.</i> 2003
<i>arbustorum</i>	Austria	Pühringer Hütte	JX025669	Haase <i>et al.</i> 2013
<i>arbustorum</i>	Austria	Reichenstein	EF398261	Haase & Misof 2009
<i>arbustorum</i>	Austria	right bank of Enns at Haindlkargaben	EF398220	Haase & Misof 2009
<i>arbustorum</i>	Austria	rock at Leobner Törl	EF398237	Haase & Misof 2009
<i>arbustorum</i>	Austria	rock on eastern road side in Johnsbachtal	EF398206	Haase & Misof 2009
<i>arbustorum</i>	Austria	Rollsattel	JX025713	Haase <i>et al.</i> 2013
<i>arbustorum</i>	Austria	Rotenedergraben	EF398192	Haase & Misof 2009
<i>arbustorum</i>	Austria	Rotgschirr	JX025661	Haase <i>et al.</i> 2013
<i>arbustorum</i>	Austria	Rotkogelsattel	JX025653	Haase <i>et al.</i> 2013
<i>arbustorum</i>	Austria	Salzofen	JX025696	Haase <i>et al.</i> 2013
<i>arbustorum</i>	Austria	Schloss Kaiserau	EF398268	Haase & Misof 2009
<i>arbustorum</i>	Austria	Schwarzschiefergraben	EF398159	Haase & Misof 2009
<i>arbustorum</i>	Austria	Teufelsarsch	EF398234	Haase & Misof 2009
<i>arbustorum</i>	Austria	Toplitzsee	JX025728	Haase <i>et al.</i> 2013
<i>arbustorum</i>	Austria	Totes Gebirge	AF296922	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Austria	Totes Gebirge	AF296926	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Austria	Totes Gebirge	AF296931	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Austria	Totes Gebirge	AF296932	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Austria	track to Rotgschirr	JX025729	Haase <i>et al.</i> 2013
<i>arbustorum</i>	Austria	upper Johnsbachtal	EF398246	Haase & Misof 2009
<i>arbustorum</i>	Austria	Wasserfallweg	EF398166	Haase & Misof 2009
<i>arbustorum</i>	Denmark	Elling	MF140967	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Denmark	Lyngby	PV636383	Haase <i>et al.</i> 2003
<i>arbustorum</i>	Estonia	Käbli	MF140968	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Estonia	Käbli	MF140969	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Estonia	Käbli	MF140970	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Estonia	Käbli	MF140971	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Estonia	Narva	MF140972	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Estonia	Narva	MF140973	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Estonia	Narva	MF140974	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Estonia	Narva	MF140975	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Finland	Hamina	MF140976	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Finland	Hamina	MF140977	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Finland	Hamina	MF140978	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Germany	Grafenmatt	PV636394	Haase <i>et al.</i> 2003
<i>arbustorum</i>	Germany	Zastler Tal	PV636388	Haase <i>et al.</i> 2003
<i>arbustorum</i>	Lithuania	National Park Kurtuvenu	MF140985	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Netherlands	Zuid-Holland, Hoogmade, Wijde Aa	AF296941	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Netherlands	Zuid-Holland, Hoogmade, Wijde Aa	AF296927	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Netherlands	Zuid-Holland, Hoogmade, Wijde Aa	AF296942	Gittenberger <i>et al.</i> 2004

Table S2. Continued.

Taxon	Country	Locality	GenBank accession no.	Source
<i>arbustorum</i>	Netherlands	Zuid-Holland, Hoogmade, Wijde Aa	AF296943	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Netherlands	Zuid-Holland, Oestgeest	AF296938	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Netherlands	Zuid-Holland, Oestgeest	AF296939	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Netherlands	Zuid-Holland, Oestgeest	AF296944	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Netherlands	Zuid-Holland, Oestgeest	AF296934	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Netherlands	Zuid-Holland, Oestgeest	AF296935	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Netherlands	Zuid-Holland, Oestgeest	AF296936	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Netherlands	Zuid-Holland, Oestgeest	AF296937	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Netherlands	Zuid-Holland, Oestgeest	AF296933	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Norway	Ålesund	MF140986	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Romania	Sibiu, Balea Lac, just above entrance of tunnel	MW633243	Hausdorf & Walther 2021
<i>arbustorum</i>	Romenia	Lake Bilea	PV636408	Haase <i>et al.</i> 2003
<i>arbustorum</i>	Russia	Curonian split	MF140984	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Russia	Kingisepp	MF140979	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Russia	Kingisepp	MF140980	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Russia	Kingisepp	MF140981	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Russia	Kingisepp	MF140982	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Russia	Kingisepp	MF140983	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Russia	Leningrad region, Orechovo	MF140988	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Russia	Leningrad region, Orechovo	MF140989	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Russia	Leningrad region, Orechovo	MF140990	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Russia	Pskov region, Izborsk	MF140987	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Sweden	Fiskebäckskil	PV636389	Haase <i>et al.</i> 2003
<i>arbustorum</i>	Sweden	Gothenburg	MF140992	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Sweden	Gothenburg	MF140993	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Sweden	Gothenburg	MF140994	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Sweden	Gothenburg	MF140991	Bondareva <i>et al.</i> 2020
<i>arbustorum</i>	Switzerland	Baldegg	PV636385	Haase <i>et al.</i> 2003
<i>arbustorum</i>	Switzerland	below Zwinglipass hut	PV636420	Haase <i>et al.</i> 2003
<i>arbustorum</i>	Switzerland	Bern, 5 km S of Kandersteg	AF538287	Gittenberger <i>et al.</i> 2004
<i>arbustorum</i>	Switzerland	Bollenwees	PV636386	Haase <i>et al.</i> 2003
<i>arbustorum</i>	Switzerland	Gurnigel	PV636392	Haase <i>et al.</i> 2003
<i>arbustorum</i>	Switzerland	Hinter Selun	PV636413	Haase <i>et al.</i> 2003
<i>arbustorum</i>	Switzerland	Hoher Kasten	PV636397	Haase <i>et al.</i> 2003
<i>arbustorum</i>	Switzerland	Mont Raimeux	PV636402	Haase <i>et al.</i> 2003
<i>arbustorum</i>	Switzerland	Nuglar	PV636412	Haase <i>et al.</i> 2003
<i>arbustorum</i>	Switzerland	Schiawang	PV636410	Haase <i>et al.</i> 2003
<i>arbustorum</i>	Switzerland	Strela	PV636404	Haase <i>et al.</i> 2003
<i>arbustorum</i>	Switzerland	Weissenstein	PV636415	Haase <i>et al.</i> 2003
<i>stenzii</i>	Italy	Cima Dodici	AF296956	Gittenberger <i>et al.</i> 2004
<i>stenzii</i>	Italy	Cima Dodici	AF296949	Gittenberger <i>et al.</i> 2004
<i>stenzii</i>	Italy	Cima Dodici	AF296951	Gittenberger <i>et al.</i> 2004
<i>stenzii</i>	Italy	Cima Dodici	AF296952	Gittenberger <i>et al.</i> 2004
<i>stenzii</i>	Italy	Cima Dodici	AF296954	Gittenberger <i>et al.</i> 2004
<i>stenzii</i>	Italy	Cima Dodici	AF296955	Gittenberger <i>et al.</i> 2004
<i>stenzii</i>	Italy	Cima Dodici	AF296957	Gittenberger <i>et al.</i> 2004
<i>stenzii</i>	Italy	Cima Dodici	AF296958	Gittenberger <i>et al.</i> 2004
<i>stenzii</i>	Italy	Cima Dodici	AF296959	Gittenberger <i>et al.</i> 2004
<i>stenzii</i>	Italy	Cima Dodici	AF296960	Gittenberger <i>et al.</i> 2004
<i>stenzii</i>	Italy	Cima Dodici	AF296961	Gittenberger <i>et al.</i> 2004
<i>stenzii</i>	Italy	Cima Dodici	AF296962	Gittenberger <i>et al.</i> 2004
<i>stenzii</i>	Italy	Cima Dodici	AF296963	Gittenberger <i>et al.</i> 2004
<i>stenzii</i>	Italy	Cima Dodici	AF296950	Gittenberger <i>et al.</i> 2004
<i>stenzii</i>	Italy	Cima Dodici	AF296953	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Ennstaler Alpen	AF296974	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Ennstaler Alpen	AF296992	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Ennstaler Alpen	AF296973	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Oberösterreich, Dachstein	AF296971	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Oberösterreich, Dachstein	AF296972	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Oberösterreich, Dachstein	AF296982	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Oberösterreich, Dachstein	AF296983	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Oberösterreich, Dachstein	AF296984	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Oberösterreich, Dachstein	AF296985	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Oberösterreich, Dachstein	AF296987	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Oberösterreich, Dachstein	AF296988	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Oberösterreich, Dachstein	AF296989	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Oberösterreich, Dachstein	AF296990	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Oberösterreich, Dachstein	AF296991	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Oberösterreich, Dachstein	AF296981	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Oberösterreich, Dachstein, 4 km S of Obertraun, Krippenstein	AF296980	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Totes Gebirge	AF296967	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Totes Gebirge	AF296968	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Totes Gebirge	AF296969	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Totes Gebirge	AF296970	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Totes Gebirge	AF296975	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Totes Gebirge	AF296976	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Totes Gebirge	AF296977	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Totes Gebirge	AF296978	Gittenberger <i>et al.</i> 2004
<i>styriaca</i>	Austria	Totes Gebirge	AF296979	Gittenberger <i>et al.</i> 2004