Supplementary Information

##Evidence for multiple colonisations and *Wolbachia* infections shaping the genetic structure of the widespread butterfly *Polyommatus icarus* in the British Isles

Saad Arif, Michael Gerth, William G. Hone-Millard, Maria D. S. Nunes, Leonardo Dapporto, Timothy G. Shreeve

Table S1: Sampling Localities in the British Isles

Population abbreviation	**Location**	**Sampling Date**	**Longitude**	**Latitude**	**Females**	**Males**
MLG	Mallaig, Inverness-shire, Scotland	11-July-2017	-5.834874	56.99196	5	11
MDC	Conwy, Conwy, Wales	5-August-2017	-3.843251	53.29568	8	4
BER	Berneray, Northern Uist, Outer Hebrides, Scotland	12-July-2017	-7.213534	57.71385	4	12
TUL	Traigh Uuige, Isle of Lewis, Outer Hebrides, Scotland	15-July-2017	-7.025334	58.18553	8	8
DGC	Dornoch, Ross and Cromarty, Scotland	17-July-2017	-4.016982	57.87810	2	12
RVS	Ravensheugh Sand Dunes, East Lothian, Scotland	17-August-2018	-2.596053	56.02397	2	4
OBN	Oban, Argyll, Scotland	19-July-2017	-5.482266	56.43357	2	13
BWD	Bellever Wood, Devon, England	13-June-2018	-3.898247	50.57975	2	5
FRN	Aveyron, Occitanie, France	28-July-2018	1.982669	44.15734	2	4
PCP	Pembrey Country Park, Carmarthenshire, Wales	2-June-2018	-4.308992	51.67422	1	12
ETB	Eastbourne, Sussex, England	3-June-2018	0.243747	50.76919	1	13
MMS	Martin's Meadows, Suffolk, England	8-June-2018	1.255096	52.16802	6	8
CFW	Chamber's Farm Wood, Lincolnshire, England	16-June-2018	-0.281520	53.25443	0	12
RHD	Raisby Hill, Durham, England	18-June-2018	-1.477433	54.71391	3	10
BMD	Bernwood Meadow's, Oxfordshire, England	29-July-2017, 18-August-2018	-1.125439	51.78256	8	8

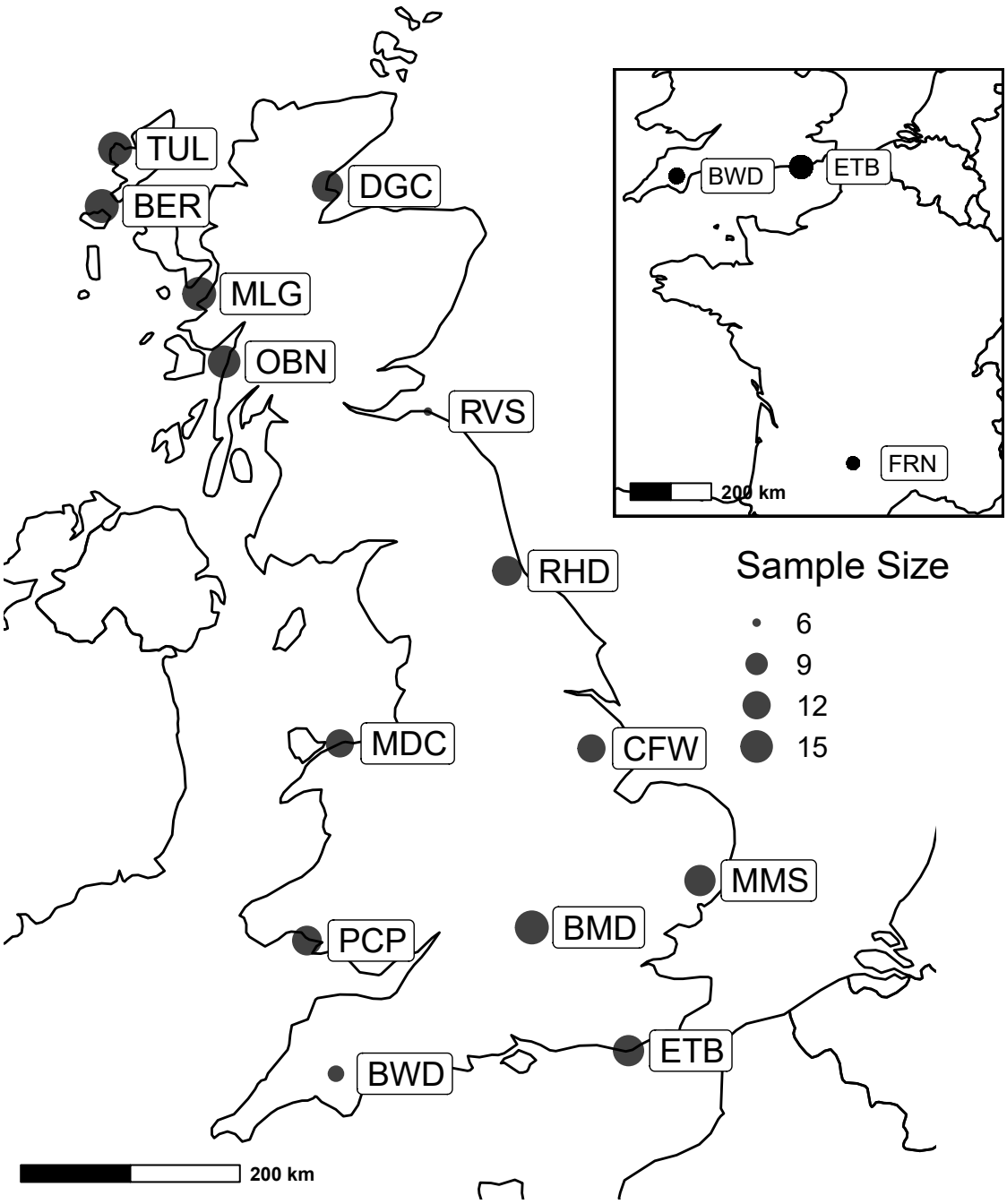

Figure S1 A map of the British Isles with geographical locations of *Polyommatus icarus* sampled for this study. An additional 6 individuals were collected from southern France as an out-group (inset). Size of circles is proportional to the number of samples acquired at each locality, except for the inset where circles are not to scale. For comparison RVS and FRN were both represented by 6 individuals here.

Table S2: Archived and newly generated *Polyommatus icarus* sequences used for CO1 mtDNA analysis

Sample ID	Island	Geographic Region	Latitude	Longitude	BOLD ID	GenBank Accession	Country	Haplotype No.
150308PP10	Crete	Eurasia	35.15000	25.915600	GBMIN32548-13	JN084691	Greece	2
150308PP62	Crete	Eurasia	35.15000	25.915600	GBMIN32571-13	JN084692	Greece	1
150308PP67	Crete	Eurasia	35.15000	25.916000	EULEP004-14	KP871006	Greece	2
150308PP22	Crete	Eurasia	35.17665	25.709327	GBMIN32539-13	JN084709	Greece	3
RVcoll11J518	Karpathos	Karpathos	35.56900	27.144000	WMB6536-18	NA	Greece	4
RVcoll11J519	Karpathos	Karpathos	35.56900	27.144000	WMB6537-18	NA	Greece	4
RVcoll11J508	Karpathos	Karpathos	35.59800	27.096000	WMB6535-18	NA	Greece	4
RVcoll11J530	Rhodes	Rhodes	36.23700	27.885000	WMB6538-18	NA	Greece	4
RVcoll11J497	Nisyros	Bisyros	36.61000	27.177000	WMB6534-18	NA	Greece	4
RVcoll14G023	main	Eurasia	36.98500	22.364000	EULEP1397-15	NA	Greece	5
RVcoll08J968	main	Eurasia	37.08100	-3.378000	EZSPN665-09	GU676484	Spain	6
RVcoll11I453	main	Eurasia	37.08100	-3.378000	GBGL20125-15	KM459409	Spain	6
RVcoll11I454	main	Eurasia	37.08100	-3.378000	EULEP162-14	KM459410	Spain	6
RVcoll11I456	main	Eurasia	37.08100	-3.378000	GBGL20126-15	KM459411	Spain	6
RVcoll11I457	main	Eurasia	37.08100	-3.378000	GBGL20127-15	KM459412	Spain	6
RVcoll11I458	main	Eurasia	37.08100	-3.378000	EULEP164-14	KM459413	Spain	6
RVcoll09V446	main	Eurasia	37.09400	-3.115000	EULEP104-14	KM459361	Spain	6
RVcoll08J960	main	Eurasia	37.10700	-3.392000	EZSPN661-09	GU676489	Spain	6
RVcoll08J962	main	Eurasia	37.10700	-3.392000	EULEP069-14	KM459344	Spain	6
RVcoll07D768	main	Eurasia	37.96000	-2.550000	EULEP027-14	KP870765	Spain	7
RVcoll07D769	main	Eurasia	37.96000	-2.550000	EULEP028-14	KP870739	Spain	7
RVcoll07D778	main	Eurasia	37.96000	-2.550000	EULEP029-14	KP870755	Spain	7
RVcoll09V486	main	Eurasia	37.96080	-2.558100	GBMIN32540-13	JN084707	Spain	7
RVcoll09V902	main	Eurasia	37.96080	-2.558100	GBMIN32544-13	JN084699	Spain	8
RVcoll09V488	main	Eurasia	37.96100	-2.558000	EULEP106-14	KM459362	Spain	7
RVcoll09V903	main	Eurasia	37.96100	-2.558000	WMB6530-18	NA	Spain	8
RVcoll09V905	main	Eurasia	37.96100	-2.558000	EULEP109-14	KM459363	Spain	7
RVcoll09V907	main	Eurasia	37.96100	-2.558000	EZSPM467-09	GU676068	Spain	7
RVcoll09V941	main	Eurasia	37.96100	-2.558000	EZSPM465-09	GU676071	Spain	8
RVcoll09X366	main	Eurasia	37.96100	-2.558000	EULEP116-14	KM459368	Spain	8
RVcoll09X370	main	Eurasia	37.96100	-2.558000	GBGL20088-15	KM459369	Spain	8
RVcoll09X371	main	Eurasia	37.96100	-2.558000	GBGL20089-15	KM459370	Spain	7
RVcoll09X372	main	Eurasia	37.96100	-2.558000	EULEP118-14	KM459371	Spain	8
RVcoll09X373	main	Eurasia	37.96100	-2.558000	GBGL20090-15	KM459372	Spain	8
RVcoll09X374	main	Eurasia	37.96100	-2.558000	GBGL20091-15	KM459373	Spain	8
RVcoll06K697	main	Eurasia	38.00400	-2.586000	EZSPN171-09	GU676767	Spain	7
RVcoll06K699	main	Eurasia	38.00400	-2.586000	EZSPN173-09	HM901841	Spain	7
RVcoll14F830	main	Eurasia	38.03100	22.218000	EULEP1340-15	NA	Greece	9
RVcoll07C177	main	Eurasia	38.06800	36.146000	GBMIN32569-13	JN084696	Turkey	10
RVcoll07C179	main	Eurasia	38.06800	36.146000	GBGL20657-18	NA	Turkey	10
RVcoll07F274	main	Eurasia	38.06800	36.146000	WMB6528-18	NA	Turkey	10
RVcollLD2371	main	Eurasia	38.12000	15.670000	GBGL20150-15	KM459436	Italy	11
RVcollLD0292	main	Eurasia	38.19200	15.993000	EULEP268-14	KM459437	Italy	11
RVcoll11I149	main	Eurasia	38.20100	15.980000	GBGL20114-15	KM459398	Italy	11
RVcoll11I180	main	Eurasia	38.24000	15.710000	GBGL20115-15	KM459399	Italy	12
RVcoll12M687	main	Eurasia	38.40200	-3.954000	EZSPM948-12	KM517852	Spain	11

Table S2: Archived and newly generated *Polyommatus icarus* sequences used for CO1 mtDNA analysis *(continued)*

Sample ID	Island	Geographic Region	Latitude	Longitude	BOLD ID	GenBank Accession	Country	Haplotype No.
RVcoll08R537	main	Eurasia	38.46600	15.929000	GBGL20084-15	KM459356	Italy	13
RVcoll07F225	main	Eurasia	38.51700	35.521000	WMB6527-18	NA	Turkey	10
RVcoll14O551	main	Eurasia	38.54300	22.585000	EULEP3484-16	NA	Greece	5
RVcoll14M901	main	Eurasia	38.54600	-2.376000	WMB5453-14	NA	Spain	7
RVcoll07F178	main	Eurasia	38.55800	36.451000	WMB6526-18	NA	Turkey	10
RVcoll14D309	main	Eurasia	38.56500	-2.265000	WMB4447-14	NA	Spain	8
RVcoll11E016	main	Eurasia	38.65800	-0.310000	EULEP160-14	KM459387	Spain	14
HBOK172-08	main	Eurasia	38.66700	-2.491000	HBOK172-08	NA	Spain	15
HBOK173-08	main	Eurasia	38.66700	-2.491000	HBOK173-08	NA	Spain	8
RVcoll08L281	main	Eurasia	38.77200	-0.146000	EZSPN772-09	GU676372	Spain	16
RVcoll07C260	main	Eurasia	39.00300	35.782000	WMB6525-18	NA	Turkey	10
RVcoll07E051	main	Eurasia	39.33600	16.358000	EULEP034-14	KM459332	Italy	11
LEPSS00041	main	Eurasia	39.44330	16.603900	BIBSA042-14	NA	Italy	11
LEPSS00042	main	Eurasia	39.55970	16.750600	BIBSA043-14	NA	Italy	11
RVcoll08H394	main	Eurasia	39.58800	-0.614000	GBGL20068-15	KM459336	Spain	17
RVcoll08R025	main	Eurasia	39.65000	-0.577000	EZSPM345-09	GU675891	Spain	11
RVcoll08J743	main	Eurasia	39.82200	-1.130000	WMB3223-14	NA	Spain	11
GWORR418-10	main	Eurasia	39.84250	15.992600	GWORR418-10	HM904304-SUPPRESSED	Italy	11
GWORU349-10	main	Eurasia	39.90170	16.115600	GWORU349-10	HM910575-SUPPRESSED	Italy	18
RVcoll11I239	main	Eurasia	39.93000	16.150000	GBGL20116-15	KM459400	Italy	11
RVcoll12Q795	main	Eurasia	39.93000	16.170000	WMB2847-13	NA	Italy	11
RVcoll07D899	main	Eurasia	39.94200	16.147000	EULEP033-14	KM459331	Italy	11
RVcoll14I327	main	Eurasia	39.99000	18.010000	WMB4780-14	NA	Italy	11
GWORZ057-10	main	Eurasia	39.99190	15.793100	GWORZ057-10	HM913968-SUPPRESSED	Italy	11
GWORR414-10	main	Eurasia	40.08310	15.727700	GWORR414-10	HM904300-SUPPRESSED	Italy	11
RVcoll07E062	main	Eurasia	40.14310	15.869200	GBMIN32566-13	JN084702	Italy	19
RVcoll09X521	main	Eurasia	40.24800	-1.582000	EULEP120-14	KM459374	Spain	11
RVcoll08L092	main	Eurasia	40.25700	-1.603000	EULEP071-14	KM459346	Spain	11
RVcoll08L276	main	Eurasia	40.32100	-0.332000	EZSPC759-10	HM901614	Spain	11
RVcoll08H434	main	Eurasia	40.37300	-3.366000	EZSPN384-09	GU676654	Spain	11
RVcoll07F062	main	Eurasia	40.53900	-0.146000	EULEP035-14	KM459333	Spain	11
RVcoll08H410	main	Eurasia	40.54800	-3.685000	GBGL20069-15	KM459337	Spain	11
RVcoll09T560	Capri	Capri	40.55000	14.220000	EULEP095-14	KM459357	Italy	11
RVcoll09T559	Capri	Capri	40.55000	14.230000	GBMIN32564-13	JN084706	Italy	20
RVcoll10C516	main	Eurasia	40.57800	14.330000	WMB3838-14	NA	Italy	21
RVcoll09V396	main	Eurasia	40.65000	0.761000	EULEP103-14	KM459360	Spain	7
RVcoll15C233	main	Eurasia	40.66700	16.614000	BIBSA1044-15	NA	Italy	11
RVcoll14A082	main	Eurasia	40.67000	14.473000	WMB6539-18	NA	Italy	20
RVcoll08H592	main	Eurasia	40.67100	-2.673000	EZSPN426-09	GU676611	Spain	11
RVcollLD2321	Ischia	Ischia	40.72900	13.884000	GBGL20148-15	KM459434	Italy	11
RVcollLD2322	Ischia	Ischia	40.72900	13.884000	GBGL20149-15	KM459435	Italy	11
RVcoll11J575	Ischia	Ischia	40.73000	13.900000	GBGL20131-15	KM459417	Italy	11
RVcoll11J576	Ischia	Ischia	40.73000	13.900000	GBGL20132-15	KM459418	Italy	11
RVcoll11J577	Ischia	Ischia	40.73000	13.900000	GBGL20133-15	KM459419	Italy	11
RVcoll19C177	main	Eurasia	40.77700	17.414000	BIBSA2030-19	NA	Italy	11
RVcoll10B514	main	Eurasia	40.79200	0.310000	GBGL20096-15	KM459379	Spain	11

Table S2: Archived and newly generated *Polyommatus icarus* sequences used for CO1 mtDNA analysis *(continued)*

Sample ID	Island	Geographic Region	Latitude	Longitude	BOLD ID	GenBank Accession	Country	Haplotype No.
RVcoll10A841	main	Eurasia	40.82400	0.373000	GBGL20094-15	KM459377	Spain	7
RVcoll10A866	main	Eurasia	40.82500	0.367000	WMB3476-14	NA	Spain	22
RVcoll15C144	main	Eurasia	40.92100	15.632000	BIBSA1017-15	NA	Italy	11
RVcoll12L143	main	Eurasia	40.98000	-3.940000	EZSPM752-12	KM517851	Spain	11
RVcoll12L149	main	Eurasia	41.07000	-3.860000	EULEP234-14	KP870761	Spain	11
RVcoll08M674	main	Eurasia	41.28000	0.866000	EZSPC669-09	GU669617	Spain	11
RVcoll12Q454	main	Eurasia	41.28100	-3.358000	WMB3998-14	NA	Spain	23
RVcoll12Q586	main	Eurasia	41.30000	13.617000	GBGL20145-15	KM459431	Italy	24
RVcoll08H255	main	Eurasia	41.31300	0.130000	EULEP048-14	KM459335	Spain	11
RVcoll12L152	main	Eurasia	41.33000	-3.270000	EULEP235-14	KP870575	Spain	25
RVcoll14F591	main	Eurasia	41.37100	23.633000	EULEP1243-15	NA	Greece	9
RVcoll11E685	Corsica	Corsica	41.37700	9.179000	GBGL20104-15	KM459388	France	11
RVcoll11E686	Corsica	Corsica	41.37700	9.179000	GBGL20105-15	KM459389	France	26
RVcoll09T515	Corsica	Corsica	41.38700	9.165000	GBMIN32543-13	JN084701	France	11
RVcoll14D350	main	Eurasia	41.44400	-4.513000	WMB4468-14	NA	Spain	7
RVcoll15M827	main	Eurasia	41.45700	14.382000	BIBSA1335-15	NA	Italy	27
RVcoll07C463	main	Eurasia	41.50600	2.098000	EZSPC284-09	JN114415	Spain	11
RVcoll08H232	main	Eurasia	41.50700	2.099000	EZSPC662-09	GU669625	Spain	11
RVcoll08J116	main	Eurasia	41.51200	-8.077000	WMB6529-18	NA	Portugal	28
RVcoll12O004	Corsica	Corsica	41.53400	8.867000	GBGL20140-15	KM459426	France	11
RVcoll10A994	main	Eurasia	41.55400	23.614000	WMB6532-18	NA	Bulgaria	29
RVcoll07D884	main	Eurasia	41.59830	13.099400	GBMIN32541-13	JN084705	Italy	20
RVcoll06G507	main	Eurasia	41.63700	-0.346000	EZSPN142-09	GU676797	Spain	11
RVcoll08J127	main	Eurasia	41.68200	-7.698000	EZSPN578-09	GU676569	Portugal	11
RVcoll08J150	main	Eurasia	41.70000	-7.650000	EULEP051-14	KM459341	Portugal	11
RVcoll13S657	main	Eurasia	41.72000	15.760000	WMB4142-14	NA	Italy	11
RVcoll11E763	Corsica	Corsica	41.76500	9.147000	GBGL20106-15	KM459390	France	26
RVcoll09V960	main	Eurasia	41.76610	23.421600	GBMIN32545-13	JN084697	Bulgaria	5
RVcoll07D812	main	Eurasia	41.76690	12.315300	GBMIN32567-13	JN084700	Italy	13
RVcoll15A610	main	Eurasia	41.79500	12.220000	OXB1077-15	NA	Italy	11
RVcoll06G433	main	Eurasia	41.80900	2.296000	EZROM751-08	JN114417	Spain	23
RVcoll07D864	main	Eurasia	41.82300	13.276000	EULEP032-14	KM459330	Italy	11
RVcoll12L141	main	Eurasia	41.84000	-3.340000	EZSPM751-12	KM517859	Spain	30
RVcoll08L473	main	Eurasia	41.86600	0.598000	EZSPC666-09	GU669622	Spain	7
RVcoll13S266	main	Eurasia	41.88900	1.053000	WMB4044-14	NA	Spain	31
RVcoll08J199	main	Eurasia	41.89000	-7.730000	EULEP052-14	KM459342	Portugal	11
RVcoll15M991	main	Eurasia	41.95500	14.966000	BIBSA1054-15	NA	Italy	20
RVcoll12L159	main	Eurasia	41.98000	-2.070000	EZSPM754-12	KM517862	Spain	11
RVcoll11E830	Corsica	Corsica	41.98800	9.190000	GBGL20107-15	KM459391	France	32
RVcoll12O000	Corsica	Corsica	42.01700	8.733000	GBGL20138-15	KM459424	France	26
RVcoll12O002	Corsica	Corsica	42.03300	9.033000	GBGL20139-15	KM459425	France	11
RVcoll12L160	main	Eurasia	42.07000	-2.630000	EULEP238-14	KP870886	Spain	7
RVcoll11E853	Corsica	Corsica	42.07600	9.194000	GBGL20108-15	KM459392	France	33
RVcoll11E854	Corsica	Corsica	42.07600	9.194000	GBGL20109-15	KM459393	France	11
RVcoll11E865	Corsica	Corsica	42.09300	9.323000	GBGL20110-15	KM459394	France	11
RVcoll13S568	San Dominp	San Domino	42.11100	15.486000	WMB3040-14	NA	Italy	11

Table S2: Archived and newly generated *Polyommatus icarus* sequences used for CO1 mtDNA analysis *(continued)*

Sample ID	Island	Geographic Region	Latitude	Longitude	BOLD ID	GenBank Accession	Country	Haplotype No.
RVcoll15M985	main	Eurasia	42.13300	14.657000	BIBSA1389-15	NA	Italy	11
RVcoll08R488	main	Eurasia	42.13600	-8.576000	EZSPM271-09	GU675792	Spain	28
RVcoll11E873	Corsica	Corsica	42.16300	9.267000	GBGL20111-15	KM459395	France	27
RVcoll12L153	main	Eurasia	42.17100	-2.288000	EZSPM753-12	KM517856	Spain	11
RVcoll12L154	main	Eurasia	42.18000	-2.290000	EULEP236-14	KP870585	Spain	11
RVcoll12L155	main	Eurasia	42.19000	-2.510000	EULEP237-14	KP871101	Spain	11
RVcoll11J554	main	Eurasia	42.19500	3.095000	WMB3698-14	NA	Spain	7
RVcoll16L194	main	Eurasia	42.21000	11.715000	EULEP5722-17	NA	Italy	25
RVcoll13S518	main	Eurasia	42.21300	14.061000	WMB5172-14	NA	Italy	34
RVcollLD1552	Corsica	Corsica	42.28600	8.887000	GBGL20147-15	KM459433	France	11
RVcollLD0479	Corsica	Corsica	42.28800	9.198000	GBGL20151-15	KM459438	France	35
RVcoll11E884	Corsica	Corsica	42.29700	9.182000	GBGL20112-15	KM459396	France	11
RVcoll11E885	Corsica	Corsica	42.29700	9.182000	GBGL20113-15	KM459397	France	11
RVcollLD1550	Corsica	Corsica	42.33000	9.480000	GBGL20146-15	KM459432	France	11
RVcoll08P076	main	Eurasia	42.35000	1.717000	EZSPC283-09	JN114416	Spain	7
RVcoll11J235	main	Eurasia	42.36300	2.998000	WMB3688-14	NA	Spain	36
RVcoll11J238	main	Eurasia	42.36300	2.998000	WMB3689-14	NA	Spain	37
RVcoll09V894	main	Eurasia	42.40000	-2.904000	WMB3407-14	NA	Spain	37
RVcoll11I382	Argentario	Argentario	42.42800	11.159000	GBGL20122-15	KM459406	Italy	11
RVcoll11I383	Argentario	Argentario	42.42800	11.159000	GBGL20123-15	KM459407	Italy	53
RVcoll11I384	Argentario	Argentario	42.42800	11.159000	GBGL20124-15	KM459408	Italy	5
RVcoll11J578	Argentario	Argentario	42.42800	11.159000	GBGL20134-15	KM459420	Italy	11
RVcoll11J579	Argentario	Argentario	42.42800	11.159000	GBGL20135-15	KM459421	Italy	11
RVcoll12Q578	main	Eurasia	42.43300	13.583000	GBGL20144-15	KM459430	Italy	11
RVcoll07C623	main	Eurasia	42.44800	1.781000	EZSPC285-09	JN114414	Spain	7
RVcoll14A121	main	Eurasia	42.45800	11.421000	BIBSA969-15	NA	Italy	11
RVcoll08P209	main	Eurasia	42.48900	1.856000	GBGL20079-15	KM459351	France	7
RVcollLD0384	Corsica	Corsica	42.52000	9.167000	WMB6070-18	NA	France	38
RVcollLD0385	Corsica	Corsica	42.54000	9.180000	GBMIN16302-13	JX678166	France	11
OXBTGS1270	main	Eurasia	42.57780	1.666050	OXB1552-16	NA	Andorra	11
OXBTGS1271	main	Eurasia	42.57780	1.666050	OXB1553-16	NA	Andorra	11
RVcoll11I332	Pianosa	Pianosa	42.58000	10.080000	GBGL20117-15	KM459401	Italy	11
RVcoll11I333	Pianosa	Pianosa	42.58000	10.080000	GBGL20118-15	KM459402	Italy	11
RVcoll11I334	Pianosa	Pianosa	42.58000	10.080000	GBGL20119-15	KM459403	Italy	11
RVcoll11I335	Pianosa	Pianosa	42.58000	10.080000	GBGL20120-15	KM459404	Italy	11
RVcoll11I336	Pianosa	Pianosa	42.58000	10.080000	GBGL20121-15	KM459405	Italy	11
RVcoll14D922	main	Eurasia	42.58000	11.130000	WMB4480-14	NA	Italy	11
RVcoll08J899	main	Eurasia	42.72800	-6.648000	EZSPM325-09	GU675911	Spain	11
RVcoll09T572	Elba	Elba	42.75200	10.205000	EULEP097-14	KM459358	Italy	11
RVcoll10C439	Elba	Elba	42.75200	10.205000	GBGL20098-15	KM459381	Italy	11
RVcoll10C440	Elba	Elba	42.75200	10.205000	GBGL20099-15	KM459382	Italy	11
RVcoll08R458	main	Eurasia	42.76700	-8.694000	EZSPM246-09	GU675791	Spain	7
RVcoll11J568	Elba	Elba	42.78500	10.391000	GBGL20129-15	KM459415	Italy	11
RVcoll11J569	Elba	Elba	42.78500	10.391000	GBGL20130-15	KM459416	Italy	11
RVcoll09V741	main	Eurasia	42.82100	-0.331000	WMB3399-14	NA	Spain	39
RVcoll14D348	main	Eurasia	42.83500	-4.647000	WMB4467-14	NA	Spain	40

Table S2: Archived and newly generated *Polyommatus icarus* sequences used for CO1 mtDNA analysis *(continued)*

Sample ID	Island	Geographic Region	Latitude	Longitude	BOLD ID	GenBank Accession	Country	Haplotype No.
RVcoll14W014	main	Eurasia	42.86000	10.970000	BIBSA978-15	NA	Italy	11
RVcoll12P242	main	Eurasia	42.92500	2.958000	WMB5151-14	NA	France	41
RVcoll130711PX33	main	Eurasia	42.94100	-6.588000	EZSPM874-12	KM517857	Spain	42
RVcoll14E286	Corsica	Corsica	42.95500	9.446000	BIBSA1294-15	NA	France	43
RVcoll09X800	main	Eurasia	42.96200	10.532000	GBGL20092-15	KM459375	Italy	11
RVcoll12O603	Levant	Levant	43.02000	6.434000	GBGL20142-15	KM459428	France	7
RVcoll14A389	main	Eurasia	43.02300	13.627000	WMB4293-14	NA	Italy	11
RVcoll14A397	main	Eurasia	43.02300	13.627000	WMB4300-14	NA	Italy	11
RVcoll08P416	main	Eurasia	43.02900	-5.066000	GBMIN32565-13	JN084704	Spain	44
RVcoll10C177	main	Eurasia	43.03900	2.926000	WMB119-11	KM517843	France	45
RVcoll10C178	main	Eurasia	43.03900	2.926000	WMB120-11	KM517840	France	23
RVcoll10C180	main	Eurasia	43.03900	2.926000	GBGL20097-15	KM459380	France	11
RVcoll130711PX19	main	Eurasia	43.04400	-6.603000	EZSPM873-12	KM517858	Spain	7
RVcoll13S619	Capraia	Capraia	43.05000	9.820000	GBGL20059-15	KM459322	Italy	11
RVcoll13S620	Capraia	Capraia	43.05000	9.820000	GBGL20058-15	KM459321	Italy	11
RVcoll13S621	Capraia	Capraia	43.05000	9.820000	GBGL20152-15	KM459439	Italy	46
RVcoll11Y003	main	Eurasia	43.06000	10.610000	GBGL20137-15	KM459423	Italy	47
RVcoll09X551	main	Eurasia	43.08500	-5.361000	WMB3438-14	NA	Spain	11
RVcoll08P653	main	Eurasia	43.09500	-5.858000	EZSPM141-09	GU675755	Spain	7
RVcoll12P295	main	Eurasia	43.13300	3.061000	WMB3904-14	NA	France	7
RVcoll10C501	main	Eurasia	43.13600	11.560000	GBGL20101-15	KM459384	Italy	11
RVcoll15A519	main	Eurasia	43.50800	12.318000	OXB877-15	NA	Italy	11
RVcoll12O601	main	Eurasia	43.51600	3.668000	GBGL20141-15	KM459427	France	5
RVcoll09V243	main	Eurasia	43.55400	5.730000	EULEP102-14	KM459359	France	11
RVcoll10B623	main	Eurasia	43.55400	5.730000	WMB106-11	KM517834	France	15
RVcoll10A444	main	Eurasia	43.59600	5.167000	GBGL20093-15	KM459376	France	7
RVcoll12P711	main	Eurasia	43.72100	4.821000	WMB3950-14	NA	France	7
RVcoll15A904	main	Eurasia	43.76800	12.981000	OXB954-15	NA	Italy	11
RVcoll15A548	main	Eurasia	43.83100	11.836000	OXB904-15	NA	Italy	11
RVcoll16A047	main	Eurasia	43.86600	10.333000	OXB1160-15	NA	Italy	48
RVcoll10C505	main	Eurasia	43.89000	11.130000	GBGL20102-15	KM459385	Italy	11
RVcoll09X205	main	Eurasia	43.89600	5.920000	GBGL20087-15	KM459366	France	23
RVcoll09X210	main	Eurasia	43.89600	5.920000	EULEP113-14	KM459367	France	7
RVcoll12Q394	main	Eurasia	43.97200	7.389000	WMB3993-14	NA	France	49
RVcoll10C500	main	Eurasia	44.00000	7.860000	GBGL20100-15	KM459383	Italy	48
RVcoll10C507	main	Eurasia	44.00200	7.946000	GBGL20103-15	KM459386	Italy	23
RVcoll12P526	main	Eurasia	44.01300	3.849000	WMB5153-14	NA	France	11
RVcoll09X222	main	Eurasia	44.07110	5.356100	GBMIN32573-13	JN084688	France	50
RVcoll14N977	main	Eurasia	44.10500	12.160000	OXB588-15	NA	Italy	11
RVcoll12O605	main	Eurasia	44.10900	7.308000	GBGL20143-15	KM459429	France	11
RVcoll10A606	main	Eurasia	44.12100	6.225000	WMB3461-14	NA	France	11
RVcoll09X260	main	Eurasia	44.14220	5.136100	GBMIN32568-13	JN084698	France	23
RVcoll15A532	main	Eurasia	44.17200	9.776000	OXB890-15	NA	Italy	11
RVcoll14E067	main	Eurasia	44.20100	7.240000	BIBSA268-15	NA	Italy	51
RVcoll14I531	main	Eurasia	44.22600	9.550000	WMB4984-14	NA	Italy	52
RVcoll14I533	main	Eurasia	44.22600	9.550000	WMB4986-14	NA	Italy	29

Table S2: Archived and newly generated *Polyommatus icarus* sequences used for CO1 mtDNA analysis *(continued)*

Sample ID	Island	Geographic Region	Latitude	Longitude	BOLD ID	GenBank Accession	Country	Haplotype No.
RVcoll11Y001	main	Eurasia	44.39900	8.512000	GBGL20136-15	KM459422	Italy	53
RVcoll14E116	main	Eurasia	44.41600	6.995000	BIBSA314-15	NA	Italy	54
OXBTGS1308	main	Eurasia	44.44470	5.210590	OXB1590-16	NA	France	11
RVcoll14I590	main	Eurasia	44.44800	1.417000	WMB5293-14	NA	France	55
RVcoll08M425	main	Eurasia	44.46600	28.480000	EZRMN209-08	HQ005054	Romania	10
RVcoll16A007	main	Eurasia	44.52000	-0.600000	BIBSA916-15	NA	France	56
RVcoll14D555	main	Eurasia	44.52000	8.700000	BIBSA120-15	NA	Italy	11
RVcoll16A000	main	Eurasia	44.59000	-0.580000	BIBSA909-15	NA	France	50
RVcoll11J219	main	Eurasia	44.64200	6.076000	GBGL20128-15	KM459414	France	50
RVcoll10B458	main	Eurasia	44.68800	15.381000	GBGL20095-15	KM459378	Croatia	57
OXBTGS1307	main	Eurasia	44.79950	5.259680	OXB1589-16	NA	France	11
RVcoll14L193	main	Eurasia	44.80900	11.100000	WMB5062-14	NA	Italy	11
RVcoll14L220	main	Eurasia	44.83600	12.250000	WMB5089-14	NA	Italy	5
RVcoll07D053	main	Eurasia	44.85200	28.872000	EZRMN210-08	HQ005055	Romania	58
LEATJ1211-16	main	Eurasia	44.85700	13.947000	LEATJ1211-16	NA	Croatia	59
RVcoll07C964	main	Eurasia	44.87100	22.414000	EZROM504-08	HQ005047	Romania	5
RVcoll14L206	main	Eurasia	44.92100	11.574000	WMB5075-14	NA	Italy	5
RVcoll15A942	main	Eurasia	44.93100	10.366000	OXB992-15	NA	Italy	5
RVcoll08M230	main	Eurasia	44.97100	25.687000	EZRMN206-08	HQ005056	Romania	53
RVcoll15A952	main	Eurasia	44.97400	10.414000	OXB1002-15	NA	Italy	11
RVcoll14I008	main	Eurasia	45.03400	8.900000	BIBSA340-15	NA	Italy	60
RVcoll06M943	main	Eurasia	45.09400	26.533000	EZROM500-08	HQ005051	Romania	61
RVcoll14G762	main	Eurasia	45.09600	28.389000	EULEP1957-15	NA	Romania	10
RVcoll15M327	main	Eurasia	45.12700	10.828000	BIBSA1209-15	NA	Italy	62
RVcoll07D104	main	Eurasia	45.21700	26.555000	EZROM502-08	HQ005048	Romania	4
RVcoll08M630	main	Eurasia	45.29900	22.894000	EZRMN208-08	HQ005052	Romania	5
RVcoll14N078	main	Eurasia	45.31000	11.696000	OXB364-15	NA	Italy	5
RVcoll15A655	main	Eurasia	45.32800	9.509000	OXB1122-15	NA	Italy	63
RVcoll15F830	main	Eurasia	45.65800	-1.120000	BIBSA1250-15	NA	France	55
RVcoll07E207	main	Eurasia	45.66670	7.229700	GBMIN32542-13	JN084703	Italy	64
RVcoll14I094	main	Eurasia	45.71000	7.472000	BIBSA426-15	NA	Italy	65
RVcoll11I974	main	Eurasia	45.86900	6.681000	WMB3671-14	NA	France	50
RVcoll14N971	main	Eurasia	45.88100	10.885000	OXB582-15	NA	Italy	5
LEPAA120-16	main	Eurasia	45.90680	8.920580	NA	MK186704	Switzerland	23
RVcoll15L950	main	Eurasia	45.94600	13.591000	BIBSA1137-15	NA	Italy	53
RVcoll15M107	main	Eurasia	46.09200	6.403000	OXB1253-15	NA	France	56
LEPAA348-16	main	Eurasia	46.09600	7.115380	NA	MK186701	Switzerland	53
RVcoll15M134	main	Eurasia	46.11600	5.628000	OXB1274-15	NA	France	66
RVcoll15L971	main	Eurasia	46.13000	13.499000	BIBSA1139-15	NA	Italy	5
RVcoll14N053	main	Eurasia	46.15300	8.333000	OXB339-15	NA	Italy	67
RVcoll08M374	main	Eurasia	46.18100	27.251000	EZRMN207-08	HQ005053	Romania	53
RVcoll15M205	main	Eurasia	46.27800	11.419000	BIBSA1175-15	NA	Italy	23
RVcoll15G529	main	Eurasia	46.29767	8.063680	EULEP4529-16	NA	Switzerland	68
GWOSZ099-11	main	Eurasia	46.30130	11.445700	GWOSZ099-11	KX040372	Italy	53
RVcoll15F875	main	Eurasia	46.43300	-1.027000	BIBSA1259-15	NA	France	55
RVcoll15G985	main	Eurasia	46.45880	8.681800	EULEP4530-16	NA	Switzerland	53

Table S2: Archived and newly generated *Polyommatus icarus* sequences used for CO1 mtDNA analysis *(continued)*

Sample ID	Island	Geographic Region	Latitude	Longitude	BOLD ID	GenBank Accession	Country	Haplotype No.
RVcoll15H602	main	Eurasia	46.49690	9.908600	EULEP4531-16	NA	Switzerland	53
LEASS697-17	main	Eurasia	46.56810	14.350800	LEASS697-17	NA	Austria	50
RVcoll13U411	main	Eurasia	46.58900	12.853000	OXB746-15	NA	Italy	53
PHLAC364-10	main	Eurasia	46.59700	11.439000	PHLAC364-10	JN820118	Italy	53
LEATD021-13	main	Eurasia	46.60600	10.553000	LEATD021-13	NA	Italy	53
LEPAA517-16	main	Eurasia	46.62050	9.331900	NA	MK186703	Switzerland	69
RVcoll06V653	main	Eurasia	46.69800	23.549000	EZROM501-08	HQ005049	Romania	5
LEASS917-17	main	Eurasia	46.78270	13.039200	LEASS917-17	NA	Austria	53
LEASS536-17	main	Eurasia	46.78330	15.533300	LEASS536-17	NA	Austria	53
RVcoll07D439	main	Eurasia	46.79900	23.959000	EZROM503-08	HQ005050	Romania	53
RVcoll15I355	main	Eurasia	46.84066	13.438470	EULEP4532-16	NA	Austria	53
ABOLD435-16	main	Eurasia	47.06700	15.650000	ABOLD435-16	NA	Austria	53
LEPAA061-16	main	Eurasia	47.08550	7.109410	NA	MK186705	Switzerland	56
LEPAA130-16	main	Eurasia	47.08550	7.109410	NA	MK186702	Switzerland	69
PHLAH454-12	main	Eurasia	47.15200	10.166000	PHLAH454-12	KM573399	Austria	56
LEPAA372-16	main	Eurasia	47.16910	8.691700	NA	MK186706	Switzerland	70
RVcoll15I899	main	Eurasia	47.25298	9.545890	EULEP4534-16	NA	Liechtenstein	69
RVcoll15M757	main	Eurasia	47.26100	4.570000	OXB1392-15	NA	France	56
RVcoll19C151	main	Eurasia	47.30300	1.349000	BIBSA1989-19	NA	France	56
LEATG234-14	main	Eurasia	47.30800	11.200000	LEATG234-14	NA	Austria	53
TLMFLep13865	main	Eurasia	47.31100	11.721000	LEATG078-14	NA	Austria	71
RVcoll16L110	BelleIleenMer	BelleIleenMer	47.31300	-3.205000	BIBSA1958-19	NA	France	50
RVcoll16L111	BelleIleenMer	BelleIleenMer	47.31300	-3.205000	BIBSA1959-19	NA	France	50
RVcoll15M788	main	Eurasia	47.32000	4.040000	OXB1413-15	NA	France	56
RVcoll16L138	BelleIleenMer	BelleIleenMer	47.36800	-3.203000	BIBSA1960-19	NA	France	50
RVcoll16L139	BelleIleenMer	BelleIleenMer	47.36800	-3.203000	BIBSA1961-19	NA	France	23
RVcoll15I714	main	Eurasia	47.45970	13.618100	EULEP4533-16	NA	Austria	56
RVcoll16L174	main	Eurasia	47.54100	-3.135000	BIBSA1970-19	NA	France	72
GBLAA056-14	main	Eurasia	47.55610	7.679440	GBLAA056-14	MH419055	Germany	73
RVcoll16L146	main	Eurasia	47.56800	-3.133000	BIBSA1969-19	NA	France	23
RVcoll07C366	main	Eurasia	47.63300	25.367000	EZROM593-08	HQ005046	Romania	53
RVcoll15M718	main	Eurasia	47.65300	3.758000	OXB1363-15	NA	France	56
RVcoll15M727	main	Eurasia	47.65300	3.758000	OXB1367-15	NA	France	56
RVcoll14U783	main	Eurasia	47.75000	1.980000	OXB820-15	NA	France	55
GWORO805-09	main	Eurasia	47.81600	11.480000	GWORO805-09	GU688449	Germany	55
RVcoll15M642	main	Eurasia	47.88500	3.228000	OXB1216-15	NA	France	74
LEASS533-17	main	Eurasia	47.94000	16.711700	LEASS533-17	NA	Austria	53
ABOLD070-16	main	Eurasia	48.03300	16.250000	ABOLD070-16	NA	Austria	53
FBLMT902-09	main	Eurasia	48.16460	11.481500	FBLMT902-09	GU655005	Germany	68
RVcoll14U785	main	Eurasia	48.28000	0.020000	OXB822-15	NA	France	55
ODOPE242-11	main	Eurasia	48.32220	10.929100	ODOPE242-11	KX044865	Germany	55
RVcoll16I980	main	Eurasia	48.56280	20.403300	EULEP5032-16	NA	Slovakia	53
RVcoll15M678	main	Eurasia	48.68800	1.919000	OXB1334-15	NA	France	68
ODOPE364-11	main	Eurasia	48.91750	11.916400	ODOPE364-11	KX040462	Germany	55
BCZSMLep25454	main	Eurasia	49.04450	12.497300	NA	NA	Germany	50
FBLMT894-09	main	Eurasia	49.04450	12.497300	FBLMT894-09	HM391783	Germany	50

Table S2: Archived and newly generated *Polyommatus icarus* sequences used for CO1 mtDNA analysis *(continued)*

Sample ID	Island	Geographic Region	Latitude	Longitude	BOLD ID	GenBank Accession	Country	Haplotype No.
BCZSMLep75749	main	Eurasia	49.18910	7.204800	NA	NA	Germany	75
GWOSU026-11	main	Eurasia	49.90320	9.823230	GWOSU026-11	KX046037	Germany	53
RVcoll14V039	main	Eurasia	50.18300	36.400000	EULEP2351-15	NA	Ukraine	76
OXBTGS945	main	Eurasia	50.21000	-3.709000	OXB570-15	NA	United Kingdom	56
RVcoll14B625	main	Eurasia	50.21000	36.430000	WMB6540-18	NA	Ukraine	55
RVcoll15M616	main	Eurasia	50.28400	2.958000	OXB1200-15	NA	France	55
BCZSMLep37416	main	Eurasia	50.36620	11.857200	NA	NA	Germany	68
FBLMW315-10	main	Eurasia	50.36620	11.857200	FBLMW315-10	HQ563555	Germany	68
OXBTGS343	main	Eurasia	50.37400	-5.131000	OXB458-15	NA	United Kingdom	77
OXBTGS344	main	Eurasia	50.37400	-5.131000	OXB459-15	NA	United Kingdom	78
RVcoll07C552	main	Eurasia	50.44000	8.920000	GBMIN32547-13	JN084693	Germany	53
OXBTGS944	main	Eurasia	50.51000	-4.110000	OXB569-15	NA	United Kingdom	56
OXBTGS943	main	Eurasia	50.57000	-3.900000	OXB568-15	NA	United Kingdom	56
OXBTGS731	main	Eurasia	50.59800	-1.971000	OXB510-15	NA	United Kingdom	56
OXBTGS732	main	Eurasia	50.59800	-1.971000	OXB511-15	NA	United Kingdom	56
OXBTGS674	main	Eurasia	50.66700	-2.097000	OXB503-15	NA	United Kingdom	56
OXBTGS675	main	Eurasia	50.66700	-2.097000	OXB504-15	NA	United Kingdom	56
RVcoll15M583	main	Eurasia	50.70200	2.234000	OXB1317-15	NA	France	79
OXBTGS951	main	Eurasia	50.81000	-1.101000	OXB268-15	NA	United Kingdom	56
RVcoll14V231	main	Eurasia	50.96400	2.953000	EULEP2433-15	NA	Belgium	56
OXBTGS650	main	Eurasia	51.26100	-2.143000	OXB496-15	NA	United Kingdom	56
OXBTGS651	main	Eurasia	51.26100	-2.143000	OXB497-15	NA	United Kingdom	78
OXBTGS456	main	Eurasia	51.28100	-0.710000	OXB477-15	NA	United Kingdom	56
OXBTGS457	main	Eurasia	51.28100	-0.710000	OXB478-15	NA	United Kingdom	56
OXBTGS468	main	Eurasia	51.28100	-0.710000	OXB480-15	NA	United Kingdom	56
OXBTGS793	main	Eurasia	51.48200	-3.621000	OXB521-15	NA	United Kingdom	56
OXBTGS794	main	Eurasia	51.48200	-3.621000	OXB522-15	NA	United Kingdom	80
OXBTGS769	main	Eurasia	51.53600	-3.757000	OXB516-15	NA	United Kingdom	56
OXBTGS770	main	Eurasia	51.53600	-3.757000	OXB517-15	NA	United Kingdom	78
OXBTGS541	main	Eurasia	51.68000	-4.270000	OXB488-15	NA	United Kingdom	78
OXBTGS542	main	Eurasia	51.68000	-4.270000	OXB489-15	NA	United Kingdom	78
OXBTGS518	main	Eurasia	51.73000	-0.803000	OXB486-15	NA	United Kingdom	81
OXBTGS519	main	Eurasia	51.73000	-0.803000	OXB487-15	NA	United Kingdom	81
OXBTGS1332	Britain	Britain	51.73890	-0.798920	OXB1614-16	NA	United Kingdom	56
RVcoll16I288	main	Eurasia	51.95240	21.981900	EULEP4960-16	NA	Poland	55
RVcoll14I860	main	Eurasia	52.14700	21.200000	EULEP2023-15	NA	Poland	80
RVcoll12Z115	main	Eurasia	52.25300	-8.503000	WMB4026-14	NA	Ireland	82
BCZSMLep82863	main	Eurasia	52.30110	13.261400	NA	NA	Germany	75
RVcoll16I578	main	Eurasia	53.15890	17.823700	EULEP4981-16	NA	Poland	55
RVcoll16I161	main	Eurasia	53.20600	11.345900	EULEP4945-16	NA	Germany	83
GBLAA1061-15	main	Eurasia	54.05500	9.594000	GBLAA1061-15	MH419694	Germany	75
RVcoll15Q070	main	Eurasia	54.41000	38.510000	EULEP4536-16	NA	Russian Federation	80
RVcoll12Z169	main	Eurasia	54.45000	-8.448000	WMB4034-14	NA	Ireland	84
OXBTGS933	main	Eurasia	54.50000	-2.730000	OXB558-15	NA	United Kingdom	81
OXBTGS934	main	Eurasia	54.50000	-2.730000	OXB559-15	NA	United Kingdom	81
OXBTGS875	main	Eurasia	54.64100	-1.184000	OXB529-15	NA	United Kingdom	81

Table S2: Archived and newly generated *Polyommatus icarus* sequences used for CO1 mtDNA analysis *(continued)*

Sample ID	Island	Geographic Region	Latitude	Longitude	BOLD ID	GenBank Accession	Country	Haplotype No.
OXBTGS876	main	Eurasia	54.64100	-1.184000	OXB530-15	NA	United Kingdom	81
OXBTGS877	main	Eurasia	54.64100	-1.184000	OXB531-15	NA	United Kingdom	81
OXBTGS861	main	Eurasia	54.69000	-1.491000	OXB527-15	NA	United Kingdom	81
OXBTGS862	main	Eurasia	54.69000	-1.491000	OXB528-15	NA	United Kingdom	81
EULEP362-14	main	Eurasia	54.90000	24.230000	EULEP362-14	MM23847	Lithuania	55
RVcoll12R452	main	Eurasia	55.18700	-4.918000	WMB4019-14	NA	United Kingdom	85
RVcoll15Q093	main	Eurasia	55.55370	38.875100	EULEP4540-16	NA	Russian Federation	80
RVcoll15Q094	main	Eurasia	55.55370	38.875100	EULEP4541-16	NA	Russian Federation	86
OXBTGS159	main	Eurasia	56.32000	-5.590000	OXB435-15	NA	United Kingdom	81
OXBTGS160	main	Eurasia	56.32000	-5.590000	OXB436-15	NA	United Kingdom	87
OXBTGS161	main	Eurasia	56.32000	-5.590000	OXB437-15	NA	United Kingdom	81
OXBTGS017	main	Eurasia	56.39200	-5.506000	OXB387-15	NA	United Kingdom	88
OXBTGS018	main	Eurasia	56.39200	-5.506000	OXB388-15	NA	United Kingdom	89
OXBTGS019	main	Eurasia	56.39200	-5.506000	OXB389-15	NA	United Kingdom	81
OXBTGS020	main	Eurasia	56.39200	-5.506000	OXB390-15	NA	United Kingdom	89
OXBTGS925	main	Eurasia	56.42000	-5.750000	OXB550-15	NA	United Kingdom	90
OXBTGS926	main	Eurasia	56.42000	-5.750000	OXB551-15	NA	United Kingdom	89
OXBTGS927	main	Eurasia	56.42000	-5.750000	OXB552-15	NA	United Kingdom	89
OXBTGS928	main	Eurasia	56.42000	-5.750000	OXB553-15	NA	United Kingdom	91
OXBTGS929	main	Eurasia	56.42000	-5.750000	OXB554-15	NA	United Kingdom	90
OXBTGS918	main	Eurasia	56.58000	-5.740000	OXB543-15	NA	United Kingdom	81
OXBTGS919	main	Eurasia	56.71000	-5.280000	OXB544-15	NA	United Kingdom	92
RVcoll12R455	main	Eurasia	56.99300	-5.824000	WMB4020-14	NA	United Kingdom	92
RVcoll08L303	main	Eurasia	57.13000	10.010000	GBMIN32546-13	JN084695	Denmark	78
OXBTGS035	outer Hebrides	Eurasia	57.21700	-7.423000	OXB396-15	NA	United Kingdom	89
OXBTGS061	outer Hebrides	Eurasia	57.30600	-7.397000	OXB397-15	NA	United Kingdom	89
OXBTGS062	outer Hebrides	Eurasia	57.30600	-7.397000	OXB398-15	NA	United Kingdom	89
OXBTGS100	outer Hebrides	Eurasia	57.65700	-7.371000	OXB418-15	NA	United Kingdom	93
OXBTGS101	outer Hebrides	Eurasia	57.72700	-7.195000	OXB419-15	NA	United Kingdom	89
OXBTGS102	outer Hebrides	Eurasia	57.72700	-7.195000	OXB420-15	NA	United Kingdom	89
OXBTGS103	outer Hebrides	Eurasia	57.72700	-7.195000	OXB421-15	NA	United Kingdom	89
OXBTGS104	outer Hebrides	Eurasia	57.72700	-7.195000	OXB422-15	NA	United Kingdom	89
OXBTGS105	outer Hebrides	Eurasia	57.72700	-7.195000	OXB423-15	NA	United Kingdom	89
EULEP335-14	main	Eurasia	59.35700	24.626300	EULEP335-14	MM23820	Estonia	9
LON963-12	main	Eurasia	59.39000	10.518000	LON963-12	KX049307	Norway	9
LON231-08	main	Eurasia	59.89330	10.737200	LON231-08	KX049168	Norway	94
RVcoll07C710	main	Eurasia	60.44000	26.190000	GBMIN32570-13	JN084694	Finland	9
LEFIE954-10	main	Eurasia	62.54200	29.526000	LEFIE954-10	HM874671-SUPPRESSED	Finland	9
RVcoll16G983	main	Eurasia	63.88345	15.682640	EULEP4756-16	NA	Sweden	9
LON634-09	main	Eurasia	64.48080	13.661900	LON634-09	KX047754	Norway	95
LEFIJ522-10	main	Eurasia	64.79700	25.317000	LEFIJ522-10	JF853641-SUPPRESSED	Finland	9
LEFIJ521-10	main	Eurasia	69.31200	25.732000	LEFIJ521-10	KM572032	Finland	96
RVcoll16C054	main	Eurasia	44.90700	4.723000	BIBSA2352-20	NA	France	56
RVcoll20A044	main	Eurasia	40.59400	14.379000	NA	NA	Italy	11
LOWA002-06	main	Eurasia	49.63300	83.567000	LOWA002-06	FJ663998	Kazakhstan	97
LOWA001-06	main	Eurasia	49.63300	83.567000	LOWA001-06	FJ663999	Kazakhstan	97

Table S2: Archived and newly generated *Polyommatus icarus* sequences used for CO1 mtDNA analysis *(continued)*

Sample ID	Island	Geographic Region	Latitude	Longitude	BOLD ID	GenBank Accession	Country	Haplotype No.
OXB1552-16	main	Eurasia	42.57780	1.666050	OXB1552-16	NA	Andorra	11
OXB1553-16	main	Eurasia	42.57780	1.666050	OXB1553-16	NA	Andorra	11
OXB1589-16	main	Eurasia	44.79950	5.259680	OXB1589-16	NA	France	11
OXB1590-16	main	Eurasia	44.44470	5.210590	OXB1590-16	NA	France	11
OXB1614-16	main	Eurasia	51.73890	-0.798920	OXB1614-16	NA	United Kingdom	56
CNCBF1012-14	main	America	45.68900	-74.089000	CNCBF1012-14	NA	Canada	56
CNCBF652-14	main	America	45.68900	-74.089000	CNCBF652-14	NA	Canada	56
CNCBF653-14	main	America	45.68900	-74.089000	CNCBF653-14	NA	Canada	56
EZBNA882-07	main	America	45.68900	-74.089000	EZBNA882-07	NA	Canada	56
EZBNA884-07	main	America	45.68900	-74.089000	EZBNA884-07	NA	Canada	56
EZBNA885-07	main	America	45.68900	-74.089000	EZBNA885-07	NA	Canada	56
EZBNA886-07	main	America	45.68900	-74.089000	EZBNA886-07	NA	Canada	56
EZBNA887-07	main	America	45.68900	-74.089000	EZBNA887-07	NA	Canada	56
EZHBA353-07	main	Eurasia	48.00000	7.700000	EZHBA353-07	NA	Germany	55
EZHBA539-07	main	Eurasia	54.98000	82.890000	EZHBA539-07	NA	Russia	10
EZHBA540-07	main	Eurasia	54.98000	82.890000	EZHBA540-07	NA	Russia	10
EZHBA710-07	main	Eurasia	48.00000	7.700000	EZHBA710-07	NA	Germany	55
EZHBA711-07	main	Eurasia	48.00000	7.700000	EZHBA711-07	NA	Germany	98
IRANB381-08	main	Eurasia	36.12000	51.200000	IRANB381-08	NA	Iran	99
IRANB382-08	main	Eurasia	36.12000	51.200000	IRANB382-08	NA	Iran	100
IRANB390-08	main	Eurasia	36.15000	51.300000	IRANB390-08	NA	Iran	10
IRANB403-08	main	Eurasia	38.58300	44.367000	IRANB403-08	NA	Iran	101
IRANB414-08	main	Eurasia	34.59300	47.086000	IRANB414-08	NA	Iran	10
IRANB415-08	main	Eurasia	34.59300	47.086000	IRANB415-08	NA	Iran	10
IRANB416-08	main	Eurasia	34.59300	47.086000	IRANB416-08	NA	Iran	10
LOWAB113-07	main	Eurasia	40.08300	44.917000	LOWAB113-07	NA	Armenia	102
LOWAB167-09	main	Eurasia	40.84030	41.159700	LOWAB167-09	NA	Turkey	10
LOWAB287-09	main	Eurasia	40.52640	41.973100	LOWAB287-09	NA	Turkey	10
NLLEA1447-14	main	Eurasia	52.17000	4.500000	NLLEA1447-14	NA	Netherlands	55
NLLEA1480-14	main	Eurasia	52.33000	4.550000	NLLEA1480-14	NA	Netherlands	55
NLLEA1500-14	main	Eurasia	52.07700	5.565000	NLLEA1500-14	NA	Netherlands	56
NLLEA1503-14	main	Eurasia	52.52700	4.959000	NLLEA1503-14	NA	Netherlands	56
BERf30	outer Hebrides	Britain	57.71385	-7.213534	NA	MT151364	United Kingdom	89
BERf35	outer Hebrides	Britain	57.71385	-7.213534	NA	MT151355	United Kingdom	89
BERf37	outer Hebrides	Britain	57.71385	-7.213534	NA	MT151363	United Kingdom	89
BERf43	outer Hebrides	Britain	57.71385	-7.213534	NA	MW394241	United Kingdom	89
BERm27	outer Hebrides	Britain	57.71385	-7.213534	NA	MW394242	United Kingdom	89
BERm28	outer Hebrides	Britain	57.71385	-7.213534	NA	MW394243	United Kingdom	89
BERm29	outer Hebrides	Britain	57.71385	-7.213534	NA	MW394244	United Kingdom	89
BERm36	outer Hebrides	Britain	57.71385	-7.213534	NA	MT151362	United Kingdom	89
BERm40	outer Hebrides	Britain	57.71385	-7.213534	NA	MT151356	United Kingdom	89
BERm42	outer Hebrides	Britain	57.71385	-7.213534	NA	MT151361	United Kingdom	89
BERm45	outer Hebrides	Britain	57.71385	-7.213534	NA	MT151365	United Kingdom	89
BMDf149	Britain	Britain	51.78256	-1.125439	NA	MW394245	United Kingdom	56
BMDf154	Britain	Britain	51.78256	-1.125439	NA	MW394246	United Kingdom	81
BMDf270	Britain	Britain	51.78256	-1.125439	NA	MW394247	United Kingdom	56

Table S2: Archived and newly generated *Polyommatus icarus* sequences used for CO1 mtDNA analysis *(continued)*

Sample ID	Island	Geographic Region	Latitude	Longitude	BOLD ID	GenBank Accession	Country	Haplotype No.
BMDf272	Britain	Britain	51.78256	-1.125439	NA	MW394248	United Kingdom	NA
BMDf274	Britain	Britain	51.78256	-1.125439	NA	MW394249	United Kingdom	78
BMDf276	Britain	Britain	51.78256	-1.125439	NA	MW394250	United Kingdom	56
BMDf279	Britain	Britain	51.78256	-1.125439	NA	MW394251	United Kingdom	56
BMDm147	Britain	Britain	51.78256	-1.125439	NA	MW394252	United Kingdom	55
BMDm148	Britain	Britain	51.78256	-1.125439	NA	MW394253	United Kingdom	112
BMDm150	Britain	Britain	51.78256	-1.125439	NA	MW394254	United Kingdom	81
BMDm151	Britain	Britain	51.78256	-1.125439	NA	MW394255	United Kingdom	81
BMDm152	Britain	Britain	51.78256	-1.125439	NA	MW394256	United Kingdom	56
BMDm153	Britain	Britain	51.78256	-1.125439	NA	MW394257	United Kingdom	56
BWDf3	Britain	Britain	50.57975	-3.898247	NA	MW394258	United Kingdom	56
BWDf5	Britain	Britain	50.57975	-3.898247	NA	MW394259	United Kingdom	56
BWDm1	Britain	Britain	50.57975	-3.898247	NA	MW394260	United Kingdom	56
BWDm2	Britain	Britain	50.57975	-3.898247	NA	MW394261	United Kingdom	56
BWDm4	Britain	Britain	50.57975	-3.898247	NA	MW394262	United Kingdom	56
BWDm6	Britain	Britain	50.57975	-3.898247	NA	MW394263	United Kingdom	56
BWDm7	Britain	Britain	50.57975	-3.898247	NA	MW394264	United Kingdom	56
DGCf87	Britain	Britain	57.87810	-4.016982	NA	MT151348	United Kingdom	81
DGCm84	Britain	Britain	57.87810	-4.016982	NA	MT151339	United Kingdom	103
DGCm86	Britain	Britain	57.87810	-4.016982	NA	MT151338	United Kingdom	103
DGCm94	Britain	Britain	57.87810	-4.016982	NA	MT151340	United Kingdom	88
DGCm99	Britain	Britain	57.87810	-4.016982	NA	MW394273	United Kingdom	90
DGCm100	Britain	Britain	57.87810	-4.016982	NA	MT151349	United Kingdom	81
ETBf203	Britain	Britain	50.76919	0.243747	NA	MW394274	United Kingdom	56
ETBm188	Britain	Britain	50.76919	0.243747	NA	MW394275	United Kingdom	56
ETBm189	Britain	Britain	50.76919	0.243747	NA	MW394276	United Kingdom	56
ETBm190	Britain	Britain	50.76919	0.243747	NA	MW394277	United Kingdom	56
ETBm191	Britain	Britain	50.76919	0.243747	NA	MW394278	United Kingdom	56
ETBm199	Britain	Britain	50.76919	0.243747	NA	MW394279	United Kingdom	56
ETBm200	Britain	Britain	50.76919	0.243747	NA	MW394280	United Kingdom	56
ETBm201	Britain	Britain	50.76919	0.243747	NA	MW394281	United Kingdom	56
ETBm202	Britain	Britain	50.76919	0.243747	NA	MW394282	United Kingdom	56
ETBm205	Britain	Britain	50.76919	0.243747	NA	MW394283	United Kingdom	56
FRNfM02	Britain	Britain	44.15734	1.982669	NA	MW394284	France	7
FRNfM04	main	Eurasia	44.15734	1.982669	NA	MW394285	France	11
FRNmM03	main	Eurasia	44.15734	1.982669	NA	MW394286	France	7
FRNmM05	main	Eurasia	44.15734	1.982669	NA	MW394287	France	48
FRNmM06	main	Eurasia	44.15734	1.982669	NA	MW394288	France	7
MDCf135	Britain	Britain	53.29568	-3.843251	NA	MW394289	United Kingdom	104
MDCf136	Britain	Britain	53.29568	-3.843251	NA	MW394290	United Kingdom	81
MDCf138	Britain	Britain	53.29568	-3.843251	NA	MW394291	United Kingdom	81
MDCf139	Britain	Britain	53.29568	-3.843251	NA	MW394292	United Kingdom	81
MDCf141	Britain	Britain	53.29568	-3.843251	NA	MW394295	United Kingdom	NA
MDCf142	Britain	Britain	53.29568	-3.843251	NA	MW394293	United Kingdom	81
MDCf144	Britain	Britain	53.29568	-3.843251	NA	MW394294	United Kingdom	81
MDCm145	Britain	Britain	53.29568	-3.843251	NA	MW394296	United Kingdom	81

Table S2: Archived and newly generated *Polyommatus icarus* sequences used for CO1 mtDNA analysis *(continued)*

Sample ID	Island	Geographic Region	Latitude	Longitude	BOLD ID	GenBank Accession	Country	Haplotype No.
MLGf3	Britain	Britain	56.99196	-5.834874	NA	MW394297	United Kingdom	105
MLGf5	Britain	Britain	56.99196	-5.834874	NA	MT151347	United Kingdom	81
MLGf8	Britain	Britain	56.99196	-5.834874	NA	MW394298	United Kingdom	81
MLGf10	Britain	Britain	56.99196	-5.834874	NA	MT151352	United Kingdom	106
MLGf11	Britain	Britain	56.99196	-5.834874	NA	MT151341	United Kingdom	107
MLGm1	Britain	Britain	56.99196	-5.834874	NA	MW394299	United Kingdom	108
MLGm2	Britain	Britain	56.99196	-5.834874	NA	MT151353	United Kingdom	106
MLGm4	Britain	Britain	56.99196	-5.834874	NA	MW394300	United Kingdom	81
MLGm6	Britain	Britain	56.99196	-5.834874	NA	MW394301	United Kingdom	81
MLGm9	Britain	Britain	56.99196	-5.834874	NA	MW394302	United Kingdom	81
MLGm14	Britain	Britain	56.99196	-5.834874	NA	MT151350	United Kingdom	81
MLGm17	Britain	Britain	56.99196	-5.834874	NA	MT151351	United Kingdom	81
MMSf211	Britain	Britain	52.16802	1.255096	NA	MW394303	United Kingdom	78
MMSf215	Britain	Britain	52.16802	1.255096	NA	MW394304	United Kingdom	56
MMSf217	Britain	Britain	52.16802	1.255096	NA	MW394305	United Kingdom	81
MMSf221	Britain	Britain	52.16802	1.255096	NA	MW394306	United Kingdom	56
MMSf222	Britain	Britain	52.16802	1.255096	NA	MW394307	United Kingdom	81
MMSm207	Britain	Britain	52.16802	1.255096	NA	MW394308	United Kingdom	56
MMSm208	Britain	Britain	52.16802	1.255096	NA	MW394309	United Kingdom	81
MMSm209	Britain	Britain	52.16802	1.255096	NA	MW394310	United Kingdom	56
MMSm210	Britain	Britain	52.16802	1.255096	NA	MW394311	United Kingdom	56
MMSm212	Britain	Britain	52.16802	1.255096	NA	MW394312	United Kingdom	81
MMSm213	Britain	Britain	52.16802	1.255096	NA	MW394313	United Kingdom	56
MMSm214	Britain	Britain	52.16802	1.255096	NA	MW394314	United Kingdom	81
MMSm220	Britain	Britain	52.16802	1.255096	NA	MW394315	United Kingdom	109
OBNf111	Britain	Britain	56.43357	-5.482266	NA	MW394316	United Kingdom	81
OBNf121	Britain	Britain	56.43357	-5.482266	NA	MT151342	United Kingdom	81
OBNm110	Britain	Britain	56.43357	-5.482266	NA	MT151354	United Kingdom	89
OBNm112	Britain	Britain	56.43357	-5.482266	NA	MT151345	United Kingdom	81
OBNm113	Britain	Britain	56.43357	-5.482266	NA	MT151344	United Kingdom	81
OBNm115	Britain	Britain	56.43357	-5.482266	NA	MW394317	United Kingdom	81
OBNm116	Britain	Britain	56.43357	-5.482266	NA	MW394318	United Kingdom	88
OBNm117	Britain	Britain	56.43357	-5.482266	NA	MT151343	United Kingdom	81
OBNm118	Britain	Britain	56.43357	-5.482266	NA	MW394319	United Kingdom	81
OBNm119	Britain	Britain	56.43357	-5.482266	NA	MW394320	United Kingdom	89
OBNm120	Britain	Britain	56.43357	-5.482266	NA	MW394321	United Kingdom	81
PCPf175	Britain	Britain	51.67422	-4.308992	NA	MW394322	United Kingdom	78
PCPm156	Britain	Britain	51.67422	-4.308992	NA	MW394323	United Kingdom	78
PCPm157	Britain	Britain	51.67422	-4.308992	NA	MW394324	United Kingdom	78
PCPm158	Britain	Britain	51.67422	-4.308992	NA	MW394325	United Kingdom	78
PCPm159	Britain	Britain	51.67422	-4.308992	NA	MW394326	United Kingdom	55
PCPm160	Britain	Britain	51.67422	-4.308992	NA	MW394327	United Kingdom	80
PCPm172	Britain	Britain	51.67422	-4.308992	NA	MW394328	United Kingdom	78
PCPm176	Britain	Britain	51.67422	-4.308992	NA	MW394329	United Kingdom	78
PCPm177	Britain	Britain	51.67422	-4.308992	NA	MW394330	United Kingdom	78
RHDf242	Britain	Britain	54.71391	-1.477433	NA	MW394331	United Kingdom	110

Table S2: Archived and newly generated *Polyommatus icarus* sequences used for CO1 mtDNA analysis *(continued)*

Sample ID	Island	Geographic Region	Latitude	Longitude	BOLD ID	GenBank Accession	Country	Haplotype No.
RHDf245	Britain	Britain	54.71391	-1.477433	NA	MW394332	United Kingdom	81
RHDf253	Britain	Britain	54.71391	-1.477433	NA	MW394333	United Kingdom	111
RHDm239	Britain	Britain	54.71391	-1.477433	NA	MW394334	United Kingdom	112
RHDm240	Britain	Britain	54.71391	-1.477433	NA	MW394335	United Kingdom	81
RHDm241	Britain	Britain	54.71391	-1.477433	NA	MW394336	United Kingdom	81
RHDm247	Britain	Britain	54.71391	-1.477433	NA	MW394337	United Kingdom	81
RHDm254	Britain	Britain	54.71391	-1.477433	NA	MW394338	United Kingdom	81
RHDm255	Britain	Britain	54.71391	-1.477433	NA	MW394339	United Kingdom	81
RHDm256	Britain	Britain	54.71391	-1.477433	NA	MW394340	United Kingdom	81
RHDm257	Britain	Britain	54.71391	-1.477433	NA	MT151346	United Kingdom	81
CFWm223	Britain	Britain	53.25443	-0.281520	NA	MW394265	United Kingdom	81
CFWm225	Britain	Britain	53.25443	-0.281520	NA	MW394266	United Kingdom	81
CFWm226	Britain	Britain	53.25443	-0.281520	NA	MW394267	United Kingdom	113
CFWm229	Britain	Britain	53.25443	-0.281520	NA	MW394268	United Kingdom	81
CFWm230	Britain	Britain	53.25443	-0.281520	NA	MW394269	United Kingdom	NA
CFWm231	Britain	Britain	53.25443	-0.281520	NA	MW394270	United Kingdom	81
CFWm233	Britain	Britain	53.25443	-0.281520	NA	MW394271	United Kingdom	81
CFWm234	Britain	Britain	53.25443	-0.281520	NA	MW394272	United Kingdom	81
RVSfR3	Britain	Britain	56.02397	-2.596053	NA	MW394341	United Kingdom	81
RVSfR4	Britain	Britain	56.02397	-2.596053	NA	MW394342	United Kingdom	81
RVSmR1	Britain	Britain	56.02397	-2.596053	NA	MW394343	United Kingdom	81
RVSmR2	Britain	Britain	56.02397	-2.596053	NA	MW394344	United Kingdom	81
RVSmR5	Britain	Britain	56.02397	-2.596053	NA	MW394345	United Kingdom	81
RVSmR6	Britain	Britain	56.02397	-2.596053	NA	MW394346	United Kingdom	81
TULf72	outer Hebrides	Britain	58.18553	-7.025334	NA	MT151366	United Kingdom	89
TULf73	outer Hebrides	Britain	58.18553	-7.025334	NA	MT151360	United Kingdom	89
TULf75	outer Hebrides	Britain	58.18553	-7.025334	NA	MT151368	United Kingdom	NA
TULf77	outer Hebrides	Britain	58.18553	-7.025334	NA	MW394347	United Kingdom	89
TULm53	outer Hebrides	Britain	58.18553	-7.025334	NA	MT151367	United Kingdom	89
TULm55	outer Hebrides	Britain	58.18553	-7.025334	NA	MT151359	United Kingdom	89
TULm60	outer Hebrides	Britain	58.18553	-7.025334	NA	MW394348	United Kingdom	89
TULm62	outer Hebrides	Britain	58.18553	-7.025334	NA	MT151358	United Kingdom	89
TULm63	outer Hebrides	Britain	58.18553	-7.025334	NA	MW394349	United Kingdom	89
TULm71	outer Hebrides	Britain	58.18553	-7.025334	NA	MT151357	United Kingdom	89

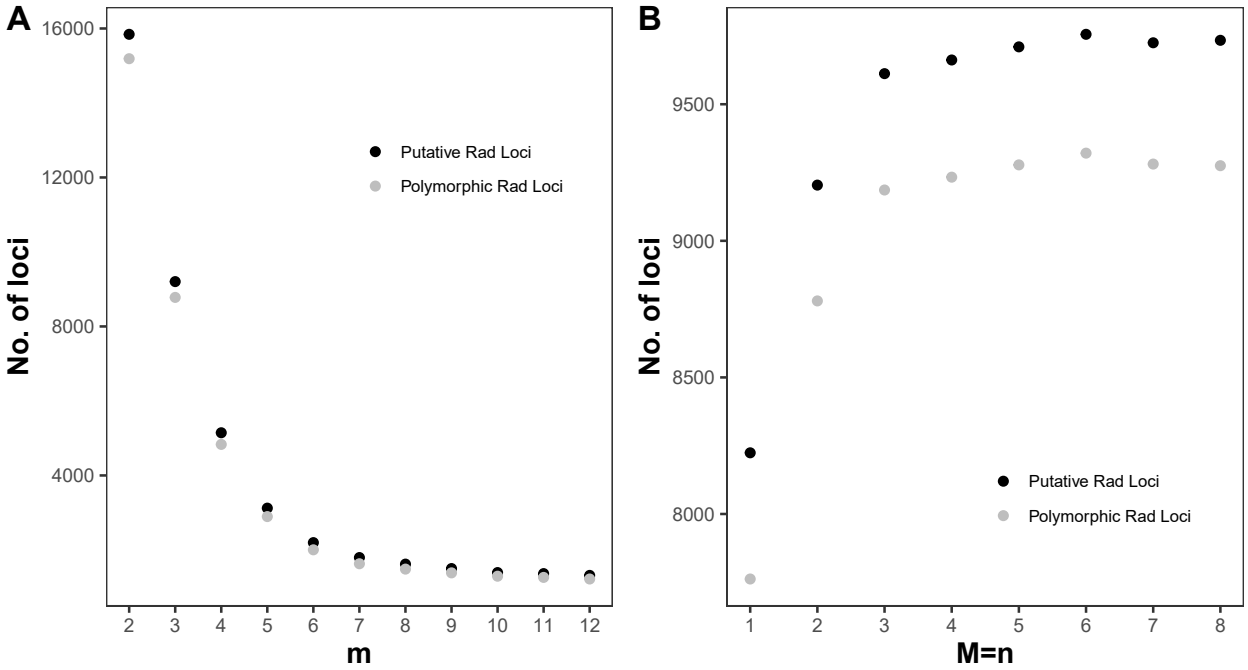

Figure S2 Tests of different combinations of Stacks parameters **m (A)** and **M=n (B)** on assembly of total and polymorphic RAD loci.

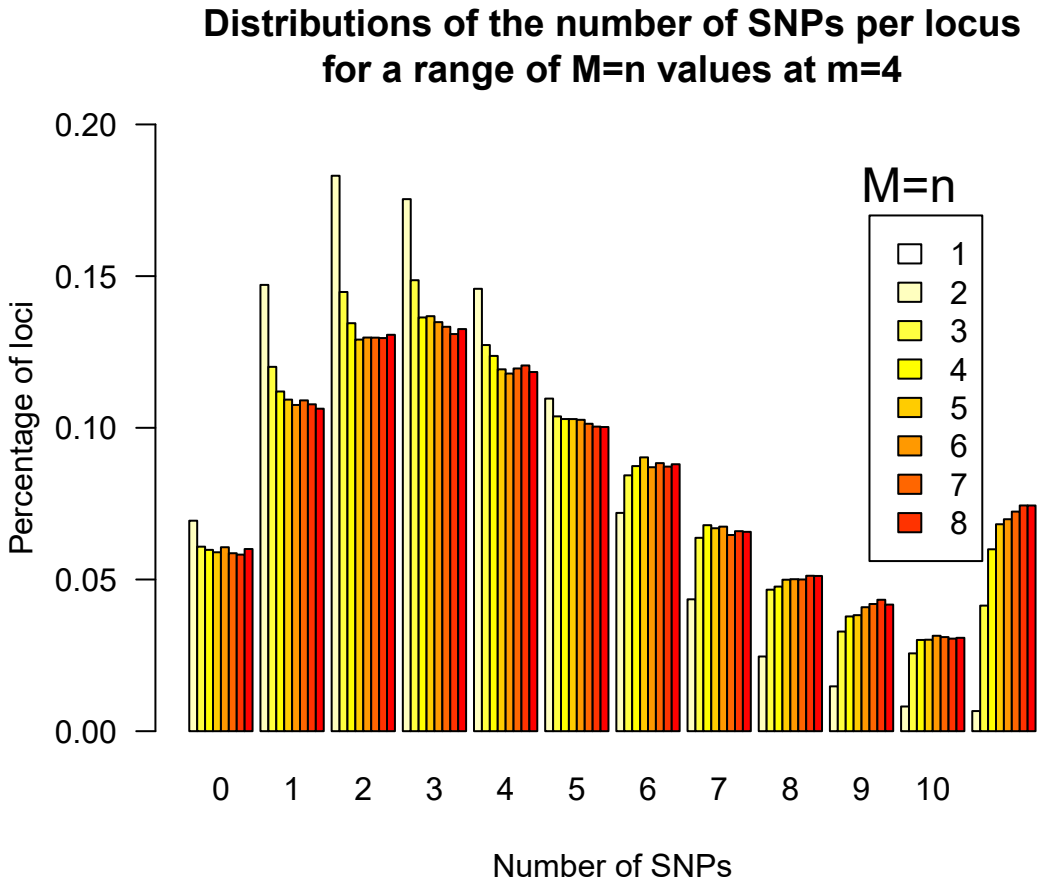

Figure S3 Tests of different combination of Stacks parameters **M**=**n** for **m**=4 on the distribution of SNPs across loci.

Table S3: Summary of RAD Loci assembly using Stacks

Sample	**SRA Accession**	**Total Reads**	**POP**	**Average Coverage of Stacks**	**Standard Deviation**	**No. of Reads Used**
BERf030	SRR11238036	3129338	BER	50.31	175.75	1395803(44.6%)
BERf035	SRR11238036	3317737	BER	57.68	194.96	1379735(41.6%)
BERf037	SRR11238036	3695537	BER	43.18	158.72	1435221(38.8%)
BERf043	SRR11238036	3071772	BER	60.87	200.79	1295991(42.2%)
BERm027	SRR11238036	3195023	BER	55.42	188.97	1307905(40.9%)
BERm028	SRR11238036	6952171	BER	39.15	145.69	1656005(23.8%)
BERm029	SRR11238036	8470130	BER	37.75	137.99	1769026(20.9%)
BERm036	SRR11238036	3855171	BER	49.6	178.65	1456264(37.8%)
BERm038	SRR11238036	2859523	BER	54.79	182.72	1306837(45.7%)
BERm039	SRR11238036	2149488	BER	71.11	200.67	1027671(47.8%)
BERm040	SRR11238036	3457223	BER	52.38	183.1	1387460(40.1%)
BERm041	SRR11238036	1436794	BER	81.07	184.1	772559(53.8%)
BERm042	SRR11238036	3264460	BER	51.94	178.12	1265899(38.8%)
BERm044	SRR11238036	3122980	BER	66.41	205.14	1273322(40.8%)
BERm045	SRR11238036	3168433	BER	49.44	171.94	1325130(41.8%)
BERm046	SRR11238036	3620747	BER	47.17	173.38	1374133(38.0%)
BMDf149	SRR11238035	3713282	BMD	37.51	124.13	1742297(46.9%)
BMDf154	SRR11238035	3984391	BMD	39.01	129.17	1874337(47.0%)
BMDf270	SRR11238035	2961330	BMD	34.51	104.28	1473334(49.8%)
BMDf272	SRR11238035	3200952	BMD	32.74	104.73	1597267(49.9%)
BMDf274	SRR11238035	2556011	BMD	29.1	87.06	1181892(46.2%)
BMDf276	SRR11238035	2740520	BMD	29.3	83.73	1362646(49.7%)
BMDf278	SRR11238035	1893829	BMD	35.29	103.17	857798(45.3%)
BMDf279	SRR11238035	3436779	BMD	33.29	107.73	1680352(48.9%)
BMDm147	SRR11238035	3537215	BMD	38.25	126.23	1771228(50.1%)
BMDm148	SRR11238035	3441037	BMD	37.82	121.45	1695779(49.3%)
BMDm150	SRR11238035	3947571	BMD	34.31	114.36	1986204(50.3%)
BMDm151	SRR11238035	3500869	BMD	36.55	116.57	1792859(51.2%)
BMDm152	SRR11238035	3707329	BMD	37.31	121.18	1733345(46.8%)
BMDm153	SRR11238035	3620544	BMD	37.27	115.17	1669465(46.1%)
BMDm271	SRR11238035	1723401	BMD	40.73	96.16	847625(49.2%)
BMDm275	SRR11238035	1390969	BMD	32.82	88.13	689129(49.5%)
BWDf3	SRR11238035	4621287	BWD	37.19	115.73	2277809(49.3%)
BWDf5	SRR11238035	4042362	BWD	38.4	123.28	1979966(49.0%)
BWDm1	SRR11238035	4163695	BWD	35.64	106.9	2041968(49.0%)
BWDm2	SRR11238035	4653162	BWD	36.64	106.19	2354239(50.6%)
BWDm4	SRR11238035	4663845	BWD	37.78	110.85	2271000(48.7%)
BWDm6	SRR11238035	4508000	BWD	37.58	117.53	2150872(47.7%)
BWDm7	SRR11238035	4181443	BWD	36.49	113.84	2160048(51.7%)
CFWm223	SRR11238035	2672555	CFW	34.91	107.73	1379267(51.6%)

Table S3: Summary of RAD Loci assembly using Stacks *(continued)*

Sample	**SRA Accession**	**Total Reads**	**POP**	**Average Coverage of Stacks**	**Standard Deviation**	**No. of Reads Used**
CFWm224	SRR11238035	931489	CFW	33.02	80.62	473217(50.8%)
CFWm225	SRR11238035	184682	CFW	n/a	n/a	n/a
CFWm226	SRR11238035	2763326	CFW	36.66	114.4	1369747(49.6%)
CFWm227	SRR11238035	585059	CFW	26.38	57.71	271176(46.4%)
CFWm228	SRR11238035	2217151	CFW	33.67	106.71	1064328(48.0%)
CFWm229	SRR11238035	2446267	CFW	32.52	90.83	1237435(50.6%)
CFWm230	SRR11238035	2313054	CFW	30.33	93.79	1141870(49.4%)
CFWm231	SRR11238035	2292118	CFW	33.33	107.58	1174822(51.3%)
CFWm232	SRR11238035	256147	CFW	n/a	n/a	n/a
CFWm233	SRR11238035	2173984	CFW	30.64	100.68	1097179(50.5%)
CFWm234	SRR11238035	2793732	CFW	32.94	110.1	1414162(50.6%)
DGCf087	SRR11238036	3347527	DGC	54.93	189.48	1471911(44.0%)
DGCf106	SRR11238036	1842158	DGC	73.95	189.68	935008(50.8%)
DGCm084	SRR11238036	2989975	DGC	54.63	180.93	1274767(42.6%)
DGCm085	SRR11238036	3159714	DGC	52.7	182.13	1350353(42.7%)
DGCm086	SRR11238036	3187641	DGC	46.93	166.77	1359170(42.6%)
DGCm094	SRR11238036	2713601	DGC	46.67	161.8	1217329(44.9%)
DGCm095	SRR11238036	1943761	DGC	70.31	187.58	1031539(53.1%)
DGCm096	SRR11238036	2103517	DGC	58.69	171.15	982742(46.7%)
DGCm097	SRR11238036	2862619	DGC	55.08	182.06	1272021(44.4%)
DGCm098	SRR11238036	2721654	DGC	65.46	197.52	1196617(44.0%)
DGCm099	SRR11238036	2839000	DGC	52.21	175.53	1220008(43.0%)
DGCm100	SRR11238036	7576466	DGC	37.61	142.97	1675952(22.1%)
DGCm101	SRR11238036	2847149	DGC	63.24	198.45	1292574(45.4%)
DGCm102	SRR11238036	3267814	DGC	51.3	179.45	1398105(42.8%)
ETBm188	SRR11238035	3010657	ETB	33.87	105.18	1534229(51.0%)
ETBf203	SRR11238035	2180678	ETB	36.2	113.04	1014987(46.5%)
ETBm189	SRR11238035	3911583	ETB	37.79	122.08	2002976(51.2%)
ETBm190	SRR11238035	3447634	ETB	34.86	114.97	1767783(51.3%)
ETBm191	SRR11238035	2339047	ETB	32.52	102.82	1252671(53.6%)
ETBm192	SRR11238035	1294040	ETB	27.19	77.33	678519(52.4%)
ETBm193	SRR11238035	1289852	ETB	30.53	87.21	679367(52.7%)
ETBm194	SRR11238035	1472576	ETB	31.97	92.99	795190(54.0%)
ETBm199	SRR11238035	2165577	ETB	33.65	105.4	1106314(51.1%)
ETBm200	SRR11238035	2661036	ETB	35.11	112.4	1370634(51.5%)
ETBm201	SRR11238035	2335170	ETB	31.7	99.09	1166820(50.0%)
ETBm202	SRR11238035	3364649	ETB	35.45	113.06	1723046(51.2%)
ETBm204	SRR11238035	2017944	ETB	38.1	107.19	998453(49.5%)
ETBm205	SRR11238035	2054444	ETB	34.09	105.32	1047208(51.0%)
FRNfM02	SRR11238035	4128301	FRN	33.69	105.83	2134077(51.7%)

Table S3: Summary of RAD Loci assembly using Stacks *(continued)*

Sample	**SRA Accession**	**Total Reads**	**POP**	**Average Coverage of Stacks**	**Standard Deviation**	**No. of Reads Used**
FRNfM04	SRR11238035	3691899	FRN	31.37	96.31	1755740(47.6%)
FRNmM03	SRR11238035	2576724	FRN	31.86	97.21	1293688(50.2%)
FRNmM05	SRR11238035	3167685	FRN	36.48	111.38	1674427(52.9%)
FRNmM06	SRR11238035	3345278	FRN	33.2	100.24	1727404(51.6%)
FRNmM07	SRR11238035	2992795	FRN	32.87	98.82	1537909(51.4%)
MDCf134	SRR11238036	1531260	MDC	73.68	173.21	746189(48.7%)
MDCf135	SRR11238036	3193961	MDC	55	187.99	1402656(43.9%)
MDCf136	SRR11238036	3182956	MDC	55.02	189.9	1311574(41.2%)
MDCf138	SRR11238036	3392174	MDC	55.54	190.24	1392772(41.1%)
MDCf139	SRR11238036	2894914	MDC	60.18	190.11	1285166(44.4%)
MDCf142	SRR11238036	2816815	MDC	55.25	184.98	1217701(43.2%)
MDCf144	SRR11238036	3491288	MDC	53.85	188.32	1428296(40.9%)
MDCf146	SRR11238036	2823133	MDC	64.6	197.79	1155219(40.9%)
MDCm140	SRR11238036	1750868	MDC	78.76	193.98	876127(50.0%)
MDCm141	SRR11238036	3675988	MDC	50.44	182.7	1434632(39.0%)
MDCm143	SRR11238036	3264423	MDC	49.5	174.36	1355402(41.5%)
MDCm145	SRR11238036	3276452	MDC	53.34	184.17	1305359(39.8%)
MLGf003	SRR11238036	3331468	MLG	44.93	163.27	1330734(39.9%)
MLGf005	SRR11238036	3269479	MLG	53.71	182.14	1322214(40.4%)
MLGf008	SRR11238036	2944072	MLG	53.13	181.42	1373732(46.7%)
MLGf010	SRR11238036	3277359	MLG	57.57	190.14	1343152(41.0%)
MLGf011	SRR11238036	3511746	MLG	53.3	183.08	1387321(39.5%)
MLGm001	SRR11238036	3364196	MLG	47.52	169.04	1451538(43.1%)
MLGm002	SRR11238036	2901880	MLG	49.48	167.43	1273448(43.9%)
MLGm004	SRR11238036	2581961	MLG	48.66	164.76	1110997(43.0%)
MLGm006	SRR11238036	4754478	MLG	41.36	157.36	1444616(30.4%)
MLGm007	SRR11238036	3078368	MLG	54.91	183.7	1372169(44.6%)
MLGm009	SRR11238036	3157171	MLG	50.16	173.76	1344150(42.6%)
MLGm012	SRR11238036	3134956	MLG	57.55	192.04	1296623(41.4%)
MLGm013	SRR11238036	3484557	MLG	52.91	183.06	1363605(39.1%)
MLGm014	SRR11238036	2858870	MLG	55.4	184.75	1194456(41.8%)
MLGm016	SRR11238036	2214552	MLG	71.4	200.21	1068911(48.3%)
MLGm017	SRR11238036	3695528	MLG	55.43	192.61	1524083(41.2%)
MMSf206	SRR11238035	3707087	MMS	33.52	104.64	1885075(50.9%)
MMSf211	SRR11238035	2202122	MMS	29.2	89.98	1081684(49.1%)
MMSf215	SRR11238035	3840292	MMS	36.92	113.55	1933486(50.3%)
MMSf217	SRR11238035	2707625	MMS	30.72	92.05	1344134(49.6%)
MMSf221	SRR11238035	4208537	MMS	35.72	104.23	2149741(51.1%)
MMSf222	SRR11238035	3952532	MMS	32.63	96.17	1968865(49.8%)
MMSm207	SRR11238035	3517181	MMS	34.73	109.29	1836941(52.2%)

Table S3: Summary of RAD Loci assembly using Stacks *(continued)*

Sample	**SRA Accession**	**Total Reads**	**POP**	**Average Coverage of Stacks**	**Standard Deviation**	**No. of Reads Used**
MMSm208	SRR11238035	6585205	MMS	39.8	105.73	3123181(47.4%)
MMSm209	SRR11238035	3346988	MMS	33.87	102.05	1753505(52.4%)
MMSm210	SRR11238035	3233531	MMS	34.83	103.98	1678764(51.9%)
MMSm212	SRR11238035	3408275	MMS	34.06	109.98	1801319(52.9%)
MMSm213	SRR11238035	2318554	MMS	31.13	94.72	1241729(53.6%)
MMSm214	SRR11238035	3178148	MMS	30.59	87.25	1651822(52.0%)
MMSm220	SRR11238035	4093188	MMS	35.24	108.45	2039613(49.8%)
OBNf111	SRR11238036	2630822	OBN	64.41	196.32	1209675(46.0%)
OBNf121	SRR11238036	2690338	OBN	60.94	185.86	1177813(43.8%)
OBNm110	SRR11238036	2681431	OBN	47.36	159.57	1284679(47.9%)
OBNm112	SRR11238036	2751978	OBN	63.41	197.95	1272679(46.2%)
OBNm113	SRR11238036	3194428	OBN	64.07	207.61	1391156(43.5%)
OBNm114	SRR11238036	227420	OBN	n/a	n/a	n/a
OBNm115	SRR11238036	2830379	OBN	61.76	197.96	1348164(47.6%)
OBNm116	SRR11238036	3026011	OBN	44.43	160.46	1329775(43.9%)
OBNm117	SRR11238036	2249328	OBN	60	180.73	1145652(50.9%)
OBNm118	SRR11238036	1753843	OBN	32.88	112.75	858594(49.0%)
OBNm119	SRR11238036	2786199	OBN	51.81	171.04	1253529(45.0%)
OBNm120	SRR11238036	3188535	OBN	63.35	203.53	1375248(43.1%)
OBNm122	SRR11238036	1963010	OBN	63.4	179.44	969701(49.4%)
OBNm123	SRR11238036	1680297	OBN	63.39	171.31	833328(49.6%)
OBNm124	SRR11238036	754559	OBN	69.41	137.52	393118(52.1%)
PCPm161	SRR11238035	1798002	PCP	34.68	94.93	897699(49.9%)
PCPf175	SRR11238035	3534243	PCP	32.62	98.96	1772238(50.1%)
PCPm156	SRR11238035	3363460	PCP	32.67	106.51	1705822(50.7%)
PCPm157	SRR11238035	2928578	PCP	31.7	101.07	1523220(52.0%)
PCPm158	SRR11238035	3130749	PCP	30.38	96.42	1614384(51.6%)
PCPm159	SRR11238035	3436320	PCP	34.03	114.25	1757627(51.1%)
PCPm160	SRR11238035	2575990	PCP	33.15	111.19	1289258(50.0%)
PCPm162	SRR11238035	1826962	PCP	31.34	93.84	824280(45.1%)
PCPm172	SRR11238035	2959900	PCP	37.35	110.05	1551248(52.4%)
PCPm173	SRR11238035	1373989	PCP	28.97	75.26	696769(50.7%)
PCPm174	SRR11238035	781039	PCP	35.39	76.64	390583(50.0%)
PCPm176	SRR11238035	1701200	PCP	29.14	87.69	877375(51.6%)
PCPm177	SRR11238035	2015460	PCP	28.74	80.42	1035047(51.4%)
RHDf242	SRR11238035	3187266	RHD	35.64	111.25	1396716(43.8%)
RHDf245	SRR11238035	3282691	RHD	32.61	103.53	1403744(42.8%)
RHDf253	SRR11238035	1198067	RHD	54.19	130.59	528822(44.1%)
RHDm239	SRR11238035	3816448	RHD	31.9	100.38	1870860(49.0%)
RHDm240	SRR11238035	3883290	RHD	34.65	115.21	1893018(48.7%)

Table S3: Summary of RAD Loci assembly using Stacks *(continued)*

Sample	**SRA Accession**	**Total Reads**	**POP**	**Average Coverage of Stacks**	**Standard Deviation**	**No. of Reads Used**
RHDm241	SRR11238035	1863382	RHD	31.93	92.75	944340(50.7%)
RHDm246	SRR11238035	1379829	RHD	29.96	82.25	664141(48.1%)
RHDm247	SRR11238035	4254163	RHD	33.1	102.82	2017608(47.4%)
RHDm248	SRR11238035	3382304	RHD	34.67	110.64	1778628(52.6%)
RHDm254	SRR11238035	2413011	RHD	33.44	99.08	1220013(50.6%)
RHDm255	SRR11238035	2782584	RHD	33.81	105.43	1372736(49.3%)
RHDm256	SRR11238035	2032467	RHD	33.49	99.93	997506(49.1%)
RHDm257	SRR11238035	4126879	RHD	34.04	111.19	2019138(48.9%)
RVSfR3	SRR11238036	3181026	RVS	63.88	200.8	1364721(42.9%)
RVSfR4	SRR11238036	2034084	RVS	70.88	191.46	977547(48.1%)
RVSmR1	SRR11238036	3068970	RVS	53.43	178.86	1340289(43.7%)
RVSmR2	SRR11238036	2084868	RVS	65.18	186.73	1036699(49.7%)
RVSmR5	SRR11238036	2532622	RVS	65.86	200.21	1181758(46.7%)
RVSmR6	SRR11238036	2743057	RVS	61.31	190.52	1279604(46.6%)
TULf054	SRR11238036	3159299	TUL	63.25	203.62	1340220(42.4%)
TULf061	SRR11238036	2598097	TUL	63.25	197.59	1136439(43.7%)
TULf064	SRR11238036	3009782	TUL	77.02	199.59	380263(12.6%)
TULf072	SRR11238036	3142924	TUL	55.04	187.55	1387313(44.1%)
TULf073	SRR11238036	3443965	TUL	51.62	178.8	1416133(41.1%)
TULf075	SRR11238036	3457076	TUL	54.03	188.55	1427764(41.3%)
TULf077	SRR11238036	3473548	TUL	51.94	183.85	1380019(39.7%)
TULf078	SRR11238036	3054081	TUL	53.43	183.06	1280522(41.9%)
TULm053	SRR11238036	1575217	TUL	95.78	208.01	819583(52.0%)
TULm055	SRR11238036	1455895	TUL	113.89	237.36	722208(49.6%)
TULm060	SRR11238036	3382266	TUL	53.34	184.86	1299380(38.4%)
TULm062	SRR11238036	3109015	TUL	60.93	195.83	1265235(40.7%)
TULm063	SRR11238036	3525244	TUL	47.52	173.53	1442273(40.9%)
TULm069	SRR11238036	2774500	TUL	55.47	182.19	1162454(41.9%)
TULm070	SRR11238036	2561524	TUL	69.26	203.09	1125614(43.9%)
TULm071	SRR11238036	4247179	TUL	42.8	163.37	1444012(34.0%)

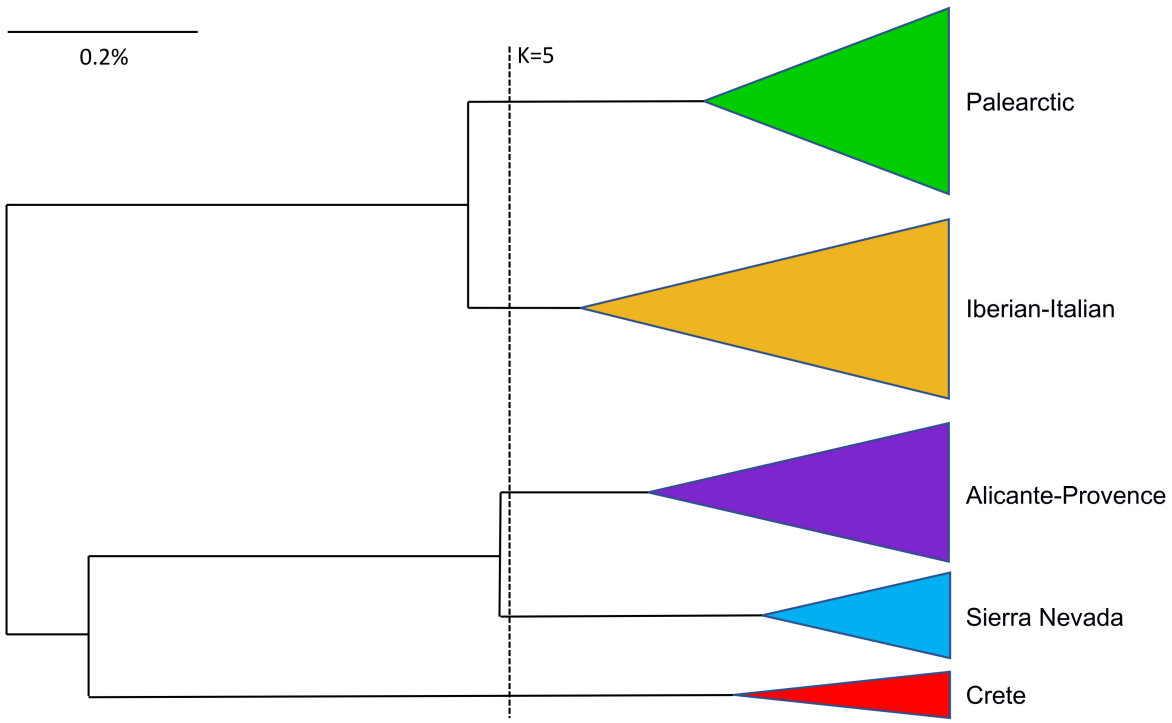

Figure S4 UPGMA clustering of all 586 *Polyommatus icarus* mitochondrial *CO1* sequences (Table S2). The horizontal red bar cuts at k=5, and these 5 clusters corresponds exactly to the *CO1* lineage classification based in Dincă *et al.* (2011). The size of the collapsed tips is proportional to the log of the sample size in those lineages.

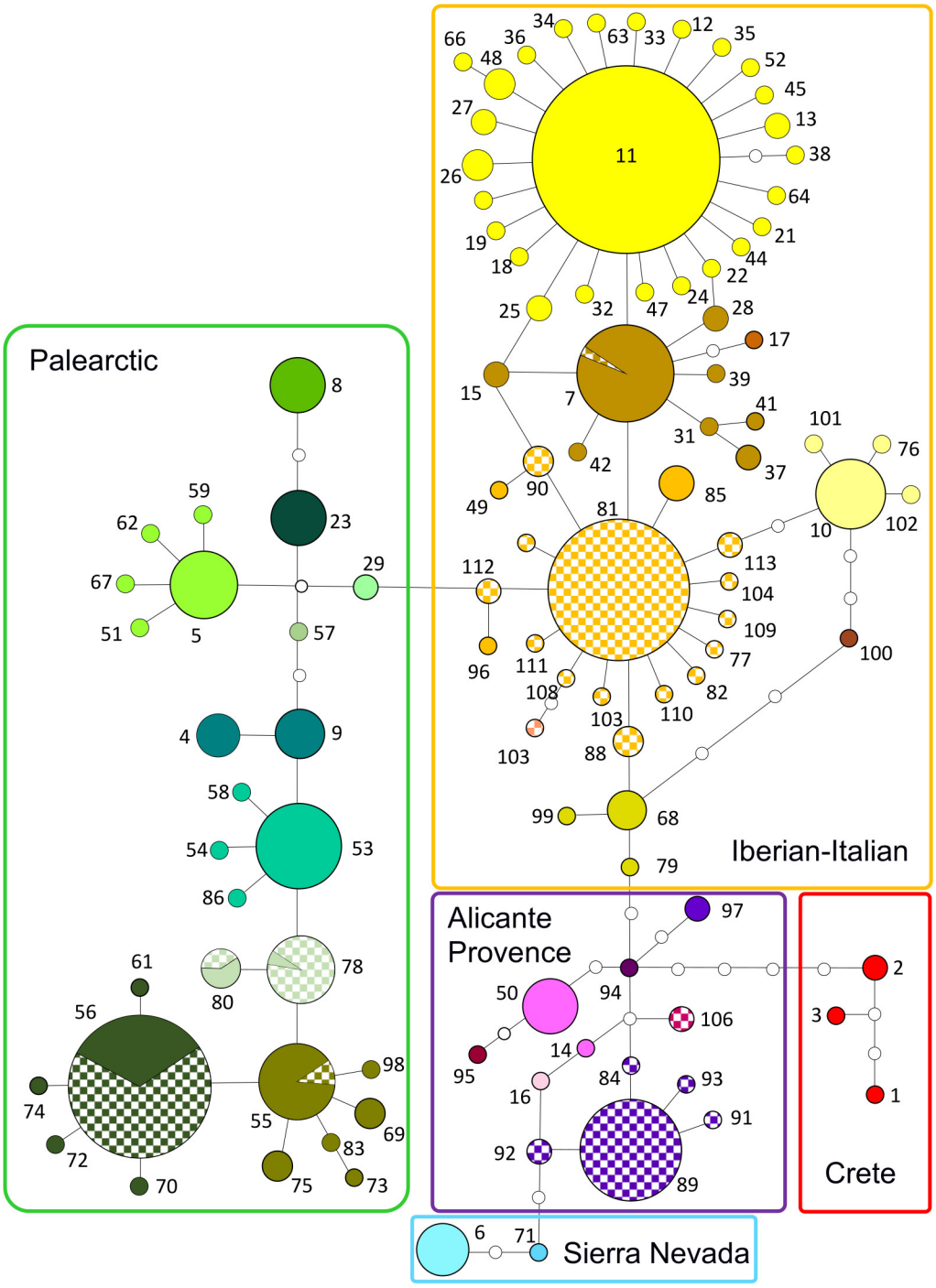

Figure S5 The *CO1* haplotype network as in Figure 1A of the main text including the same colouring scheme. Unique haplotypes are numbered and can be matched to find individual sample IDs using Table S2.

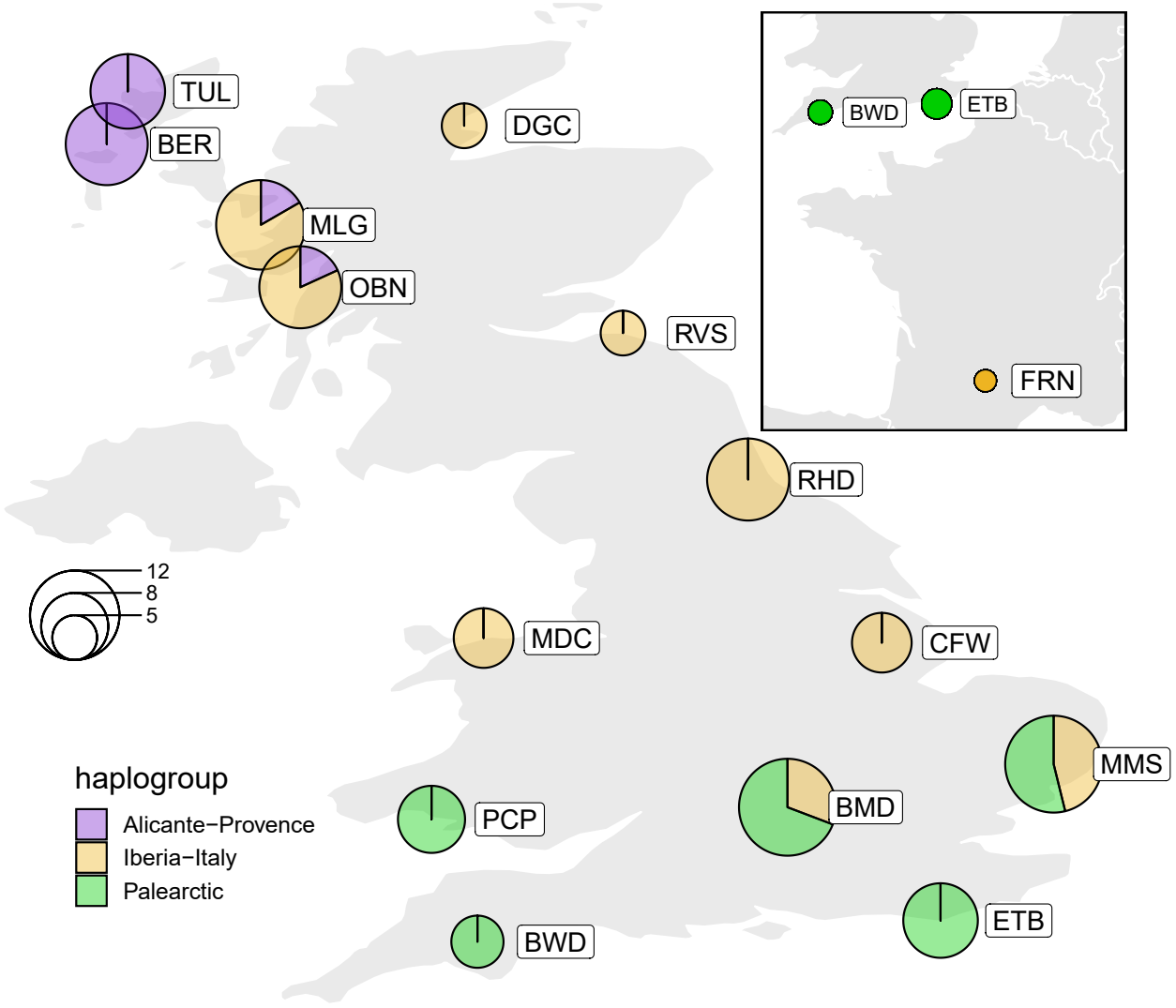

Figure S6 *CO1* Haplotype composition in the British Isles. Lineages or haplogroups are classified are based on Dincă *et al.* (2011). Circles are proportional to sample size.

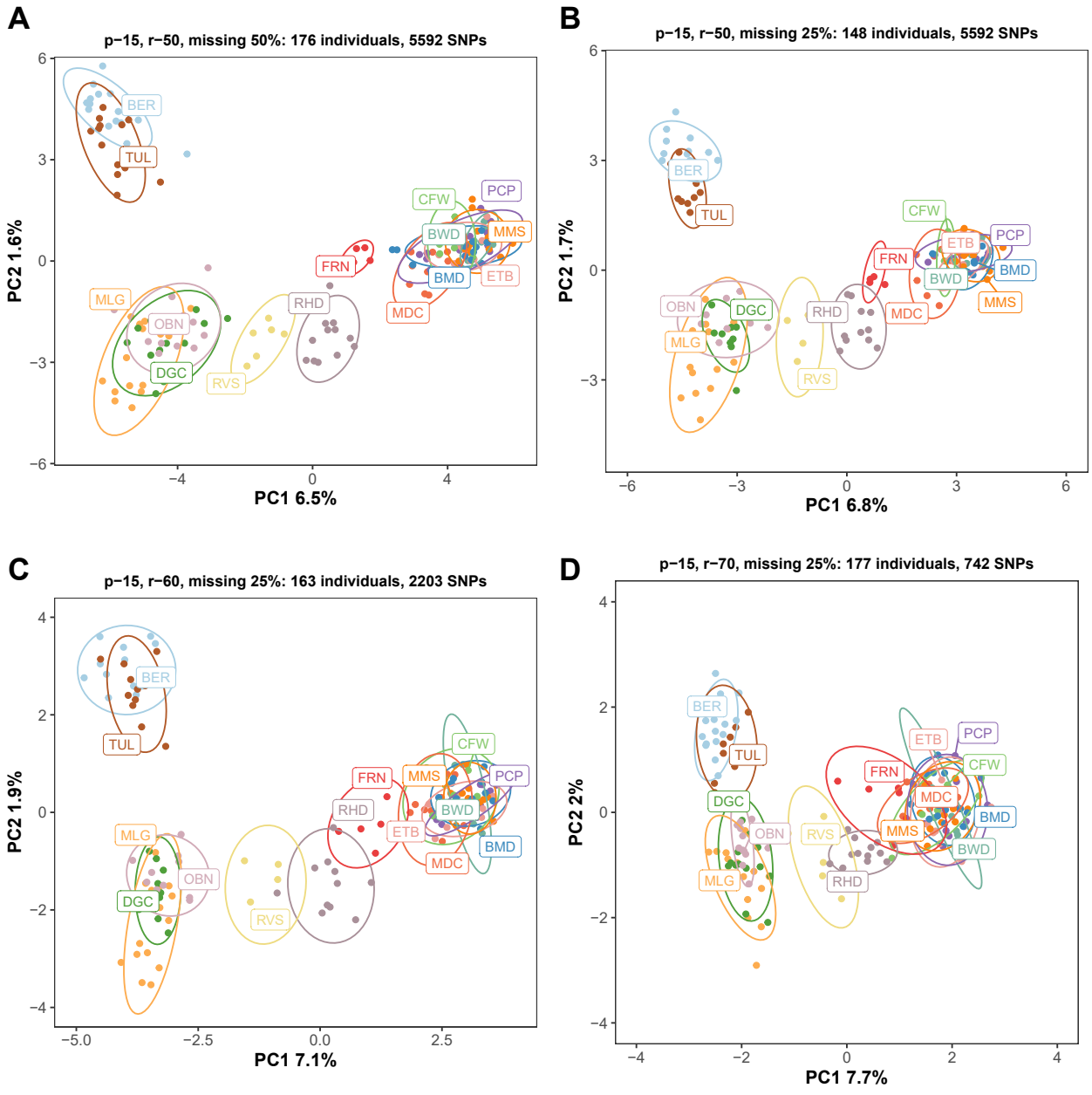

Figure S7 Population structure based on principal component analysis (PCA) of ddRADseq SNP datasets with varying levels of missing data and number of markers. **(A)** This SNP marker dataset is the same as Figure 3 but only individuals with > 50% missing data were removed. **(B)** This is a dataset with the same exclusion criteria for missing data (>25%) as in Figure 3 but with only unlinked SNPs (1st SNP on each RAD locus). (C) and (D) are PCAs based on a dataset with more stringent criteria for including loci (present in at least 60% or 70% of individuals across all localities), and hence lesser number of loci. Ninety-% Confidence Interval (CI) ellipses for PC1 and PC2 for each locality are also shown.

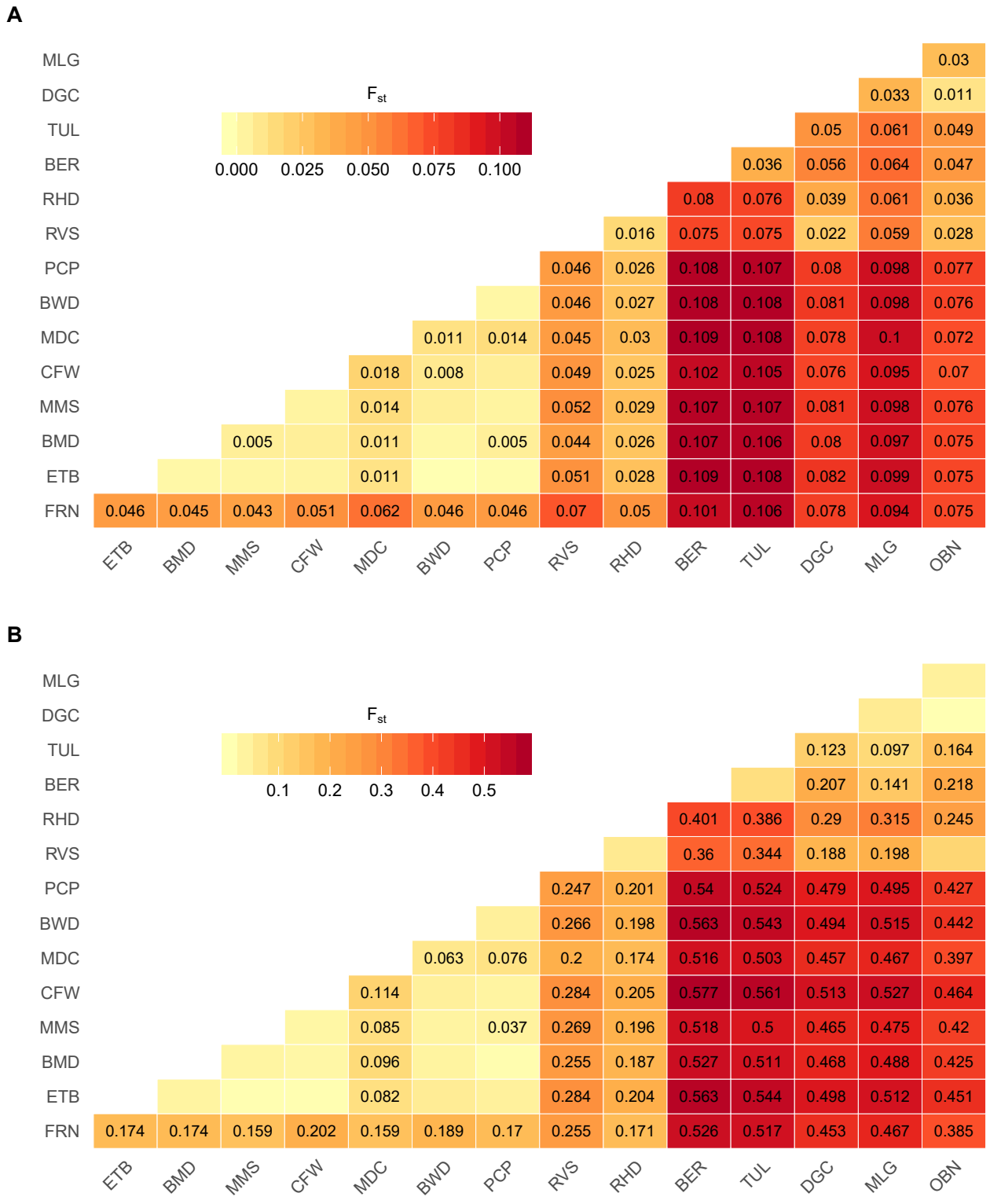

Figure S8 Weir and Cockerham estimates of population pairwise F_{st} across all 15 populations using **(A)** 5387 putatively neutral SNPS and **(B)** 104 outlier SNPs. Pairwise estimates that were statistically different from zero (based on 10000 permutations) are displayed. Populations are grouped according to geographical distance.

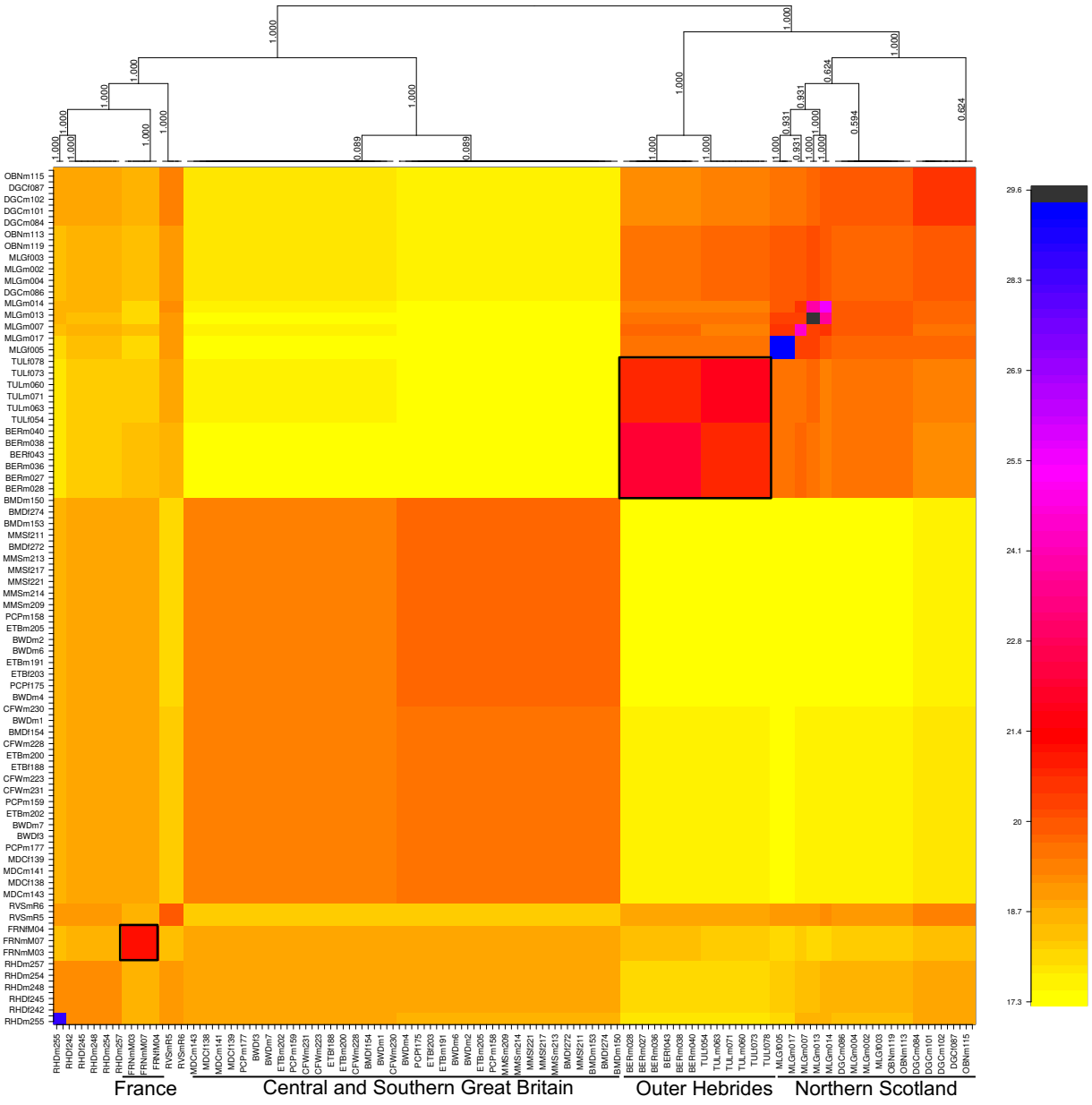

Figure S9 Clustered fineRADstructure population-averaged co-ancestry matrix based on 148 individuals and 5387 putatively neutral SNPs. Individuals from Northern Scottish, Southern English and Welsh, and French locations cluster together. The Outer Hebrides (large black outline) show further structuring within the Northern Scottish cluster. Individuals from southern Scotland (RVS) and northern England (RHD) show varying levels of co-ancestry with northern and southern populations, representing hybrid populations in case of RVS and RHD. FRN (small black outline) also shares co-ancestry with northern and southern populations but represents a distinct cluster of individuals. Some individuals from MLG share high ancestry and may be close relatives. Note: note all individuals are labelled.

Table S4: Summary of Reads mapping to *Wolbachia*

Sample	Total Reads	Population	% Total Reads Classified by Centrifuge	% Total Reads Classified as Microbial (Archeae and Bacteria)	% Total Reads Classified as Bacterial	% of Classified Reads mapping to Wolbachia wNo	% of Classified Reads mapping to other Wolbachia taxa
BERf030	3129338	BER	5.11	5.11	5.10	43.1900000	0.5481900
BERf035	3317737	BER	5.73	5.73	5.73	49.1400000	0.4403900
BERf037	3695537	BER	4.61	4.61	4.59	26.1900000	0.3305567
BERf043	3071772	BER	5.19	5.19	5.18	42.6200000	0.2948000
BERm027	3195023	BER	3.78	3.78	3.77	12.8000000	0.2317670
BERm028	6952171	BER	3.13	3.13	3.12	0.0106300	0.0000000
BERm029	8470130	BER	2.67	2.67	2.66	0.0055870	0.0004656
BERm036	3855171	BER	3.43	3.43	3.40	11.6400000	0.2016500
BERm038	2859523	BER	3.40	3.40	3.38	0.0733600	0.0010790
BERm039	2149488	BER	5.26	5.26	5.25	14.4900000	0.2747400
BERm040	3457223	BER	3.32	3.32	3.31	12.3900000	0.2036490
BERm041	1436794	BER	5.01	5.01	4.99	0.1270000	0.0000000
BERm042	3264460	BER	3.56	3.56	3.55	20.0500000	0.3241100
BERm044	3122980	BER	3.96	3.96	3.95	20.4600000	0.2758500
BERm045	3168433	BER	3.61	3.61	3.60	12.7500000	0.2543100
BERm046	3620747	BER	2.84	2.84	2.83	0.0159400	0.0000000
BMDf149	3713282	BMD	3.43	3.43	3.42	0.0187000	0.0000000
BMDf154	3984391	BMD	3.27	3.27	3.26	0.0638600	0.0000000
BMDf270	2961330	BMD	5.52	5.52	5.49	0.0233700	0.0000000
BMDf272	3200952	BMD	5.51	5.51	5.48	0.0435900	0.0000000
BMDf274	2556011	BMD	7.99	7.99	7.92	0.0615200	0.0000000
BMDf276	2740520	BMD	7.65	7.65	7.59	0.0482800	0.0000000
BMDf278	1893829	BMD	7.78	7.78	7.76	0.0559900	0.0000000
BMDf279	3436779	BMD	5.17	5.17	5.14	0.0237200	0.0000000
BMDm147	3537215	BMD	3.64	3.64	3.63	0.0097380	0.0000000
BMDm148	3441037	BMD	4.06	4.06	4.05	0.0074120	0.0000000
BMDm150	3947571	BMD	4.98	4.98	4.94	0.0026990	0.0000000
BMDm151	3500869	BMD	4.15	4.15	4.13	NA	0.0007204
BMDm152	3707329	BMD	4.69	4.69	4.68	0.0054030	0.0000000
BMDm153	3620544	BMD	4.41	4.41	4.39	0.0077000	0.0000000
BMDm271	1723401	BMD	8.17	8.17	8.15	0.0022490	0.0000000
BMDm275	1390969	BMD	8.70	8.70	8.68	0.0069260	0.0000000
BWDf3	4621287	BWD	3.75	3.75	3.71	0.0406700	0.0000000
BWDf5	4042362	BWD	4.75	4.75	4.74	0.0108500	0.0000000
BWDm1	4163695	BWD	3.84	3.84	3.82	0.0065330	0.0000000
BWDm2	4653162	BWD	4.55	4.55	4.52	0.0033600	0.0000000

Table S4: Summary of Reads mapping to *Wolbachia (continued)*

Sample	Total Reads	Population	% Total Reads Classified by Centrifuge	% Total Reads Classified as Microbial (Archeae and Bacteria)	% Total Reads Classified as Bacterial	% of Classified Reads mapping to Wolbachia wNo	% of Classified Reads mapping to other Wolbachia taxa
BWDm4	4663845	BWD	9.33	9.33	9.30	0.0055160	0.0000000
BWDm6	4508000	BWD	3.88	3.88	3.87	0.0067830	0.0000000
BWDm7	4181443	BWD	7.75	7.75	7.71	0.0003616	0.0003616
DGCf087	3347527	DGC	4.00	4.00	3.99	6.5330000	0.1235270
DGCf106	1842158	DGC	4.74	4.74	4.73	4.9620000	0.0853450
DGCm084	2989975	DGC	3.50	3.50	3.50	7.9210000	0.1539700
DGCm085	3159714	DGC	3.79	3.79	3.78	11.7200000	0.1708470
DGCm086	3187641	DGC	3.76	3.76	3.75	8.4960000	0.1615860
DGCm094	2713601	DGC	4.09	4.09	4.08	8.3930000	0.1404810
DGCm095	1943761	DGC	5.29	5.29	5.28	0.0183700	0.0000000
DGCm096	2103517	DGC	4.45	4.45	4.43	0.0753400	0.0022500
DGCm097	2862619	DGC	3.43	3.43	3.42	10.3400000	0.1570170
DGCm098	2721654	DGC	3.69	3.69	3.68	0.0571900	0.0000000
DGCm099	2839000	DGC	3.34	3.34	3.33	0.0369800	0.0000000
DGCm100	7576466	DGC	2.98	2.98	2.98	7.2910000	0.1005850
DGCm101	2847149	DGC	3.40	3.40	3.39	6.5730000	0.1118720
DGCm102	3267814	DGC	4.07	4.07	4.06	6.8670000	0.1086340
ETBf188	3010657	ETB	4.98	4.98	4.94	0.0056900	0.0000000
ETBf203	2180678	ETB	5.88	5.88	5.87	0.0308700	0.0000000
ETBm189	3911583	ETB	3.48	3.48	3.46	NA	0.0000000
ETBm190	3447634	ETB	4.85	4.85	4.80	0.0031670	0.0000000
ETBm191	2339047	ETB	5.90	5.90	5.86	0.0193800	0.0000000
ETBm192	1294040	ETB	7.82	7.82	7.79	0.0112100	0.0010190
ETBm193	1289852	ETB	7.41	7.41	7.39	NA	0.0000000
ETBm194	1472576	ETB	7.02	7.02	7.00	0.0030650	0.0010220
ETBm199	2165577	ETB	5.72	5.72	5.70	0.0042370	0.0000000
ETBm200	2661036	ETB	5.07	5.07	5.04	0.0061210	0.0000000
ETBm201	2335170	ETB	6.35	6.35	6.30	0.0121200	0.0000000
ETBm202	3364649	ETB	4.83	4.83	4.80	0.0083660	0.0000000
ETBm204	2017944	ETB	6.55	6.55	6.53	0.0054950	0.0000000
ETBm205	2054444	ETB	6.23	6.23	6.21	0.0008167	0.0000000
FRNfM02	4128301	FRN	4.92	4.92	4.86	0.0226500	0.0000000
FRNfM04	3691899	FRN	4.88	4.88	4.84	0.0713100	0.0017680
FRNmM03	2576724	FRN	6.69	6.69	6.65	0.0085340	0.0000000
FRNmM05	3167685	FRN	4.72	4.72	4.69	0.0048750	0.0000000
FRNmM06	3345278	FRN	5.45	5.45	5.41	0.0017350	0.0000000

Table S4: Summary of Reads mapping to *Wolbachia (continued)*

Sample	**Total Reads**	**Population**	**% Total Reads Classified by Centrifuge**	**% Total Reads Classified as Microbial (Archeae and Bacteria)**	**% Total Reads Classified as Bacterial**	**% of Classified Reads mapping to Wolbachia wNo**	**% of Classified Reads mapping to other Wolbachia taxa**
FRNmM07	2992795	FRN	5.82	5.82	5.79	0.0030250	0.0000000
MDCf134	1531260	MDC	4.18	4.18	4.16	0.1970000	0.0016020
MDCf135	3193961	MDC	2.51	2.51	2.50	0.1118000	0.0000000
MDCf136	3182956	MDC	2.34	2.34	2.33	0.2309000	0.0014430
MDCf138	3392174	MDC	2.52	2.52	2.52	0.1846000	0.0012230
MDCf139	2894914	MDC	3.08	3.08	3.08	0.1566000	0.0000000
MDCf142	2816815	MDC	2.85	2.85	2.84	0.1359000	0.0027180
MDCf144	3491288	MDC	2.41	2.41	2.40	0.1269000	0.0024170
MDCf146	2823133	MDC	2.81	2.81	2.80	0.2156000	0.0065710
MDCm140	1750868	MDC	4.76	4.76	4.75	0.0051320	0.0000000
MDCm141	3675988	MDC	2.54	2.54	2.53	0.0652600	0.0022900
MDCm143	3264423	MDC	2.91	2.91	2.90	0.1208000	0.0011080
MDCm145	3276452	MDC	2.77	2.77	2.76	NA	0.0000000
MLGf003	3331468	MLG	3.36	3.36	3.35	0.2643000	0.0009576
MLGf005	3269479	MLG	3.63	3.63	3.60	5.9680000	0.0919720
MLGf008	2944072	MLG	3.97	3.97	3.96	4.6690000	0.1006500
MLGf010	3277359	MLG	3.35	3.35	3.34	6.8430000	0.3241526
MLGf011	3511746	MLG	3.15	3.15	3.15	6.7270000	0.0875231
MLGm001	3364196	MLG	3.46	3.46	3.45	0.0938200	0.0000000
MLGm002	2901880	MLG	4.23	4.23	4.22	10.8800000	0.2047000
MLGm004	2581961	MLG	3.06	3.06	3.05	0.0723600	0.0000000
MLGm006	4754478	MLG	4.31	4.31	4.30	4.3210000	0.0948030
MLGm007	3078368	MLG	3.46	3.46	3.45	7.9880000	0.1522960
MLGm009	3157171	MLG	3.35	3.35	3.33	0.0067730	0.0000000
MLGm012	3134956	MLG	3.30	3.30	3.29	5.9460000	0.0911140
MLGm013	3484557	MLG	2.74	2.74	2.73	0.1393000	0.0021940
MLGm014	2858870	MLG	3.66	3.66	3.66	4.4670000	0.0841600
MLGm016	2214552	MLG	3.83	3.83	3.82	4.4960000	0.0690170
MLGm017	3695528	MLG	3.31	3.31	3.29	6.1700000	0.1152330
MMSf206	3707087	MMS	4.55	4.55	4.51	0.0484500	0.0000000
MMSf211	2202122	MMS	7.40	7.40	7.36	0.0252100	0.0000000
MMSf215	3840292	MMS	3.75	3.75	3.73	0.0136600	0.0000000
MMSf217	2707625	MMS	6.44	6.44	6.40	0.0817800	0.0000000
MMSf221	4208537	MMS	4.26	4.26	4.23	0.0153000	0.0000000
MMSf222	3952532	MMS	4.84	4.84	4.79	0.1184000	0.0000000
MMSm207	3517181	MMS	4.52	4.52	4.49	0.0097640	0.0000000

Table S4: Summary of Reads mapping to *Wolbachia (continued)*

Sample	Total Reads	Population	% Total Reads Classified by Centrifuge	% Total Reads Classified as Microbial (Archeae and Bacteria)	% Total Reads Classified as Bacterial	% of Classified Reads mapping to Wolbachia wNo	% of Classified Reads mapping to other Wolbachia taxa
MMSm208	6585205	MMS	4.21	4.21	4.18	0.0117000	0.0003776
MMSm209	3346988	MMS	5.09	5.09	5.05	0.0073450	0.0000000
MMSm210	3233531	MMS	5.83	5.83	5.81	0.0044030	0.0000000
MMSm212	3408275	MMS	4.63	4.63	4.58	0.0073910	0.0006719
MMSm213	2318554	MMS	6.87	6.87	6.83	0.0019820	0.0000000
MMSm214	3178148	MMS	5.55	5.55	5.50	0.0053980	0.0000000
MMSm220	4093188	MMS	4.51	4.51	4.48	0.0079450	0.0000000
OBNf111	2630822	OBN	3.09	3.09	3.08	0.0737100	0.0000000
OBNf121	2690338	OBN	3.92	3.92	3.91	7.1730000	0.1592340
OBNm110	2681431	OBN	4.03	4.03	4.01	6.8400000	0.1763280
OBNm112	2751978	OBN	3.52	3.52	3.51	7.8850000	0.1613200
OBNm113	3194428	OBN	3.31	3.31	3.30	5.1820000	0.0582510
OBNm114	227420	OBN	9.96	9.96	9.95	2.0440000	0.0882720
OBNm115	2830379	OBN	3.21	3.21	3.20	0.0188400	0.0000000
OBNm116	3026011	OBN	3.84	3.84	3.82	3.3610000	0.0687910
OBNm117	2249328	OBN	4.09	4.09	4.07	5.2970000	0.1056250
OBNm118	1753843	OBN	8.01	8.01	7.93	0.0175800	0.0000000
OBNm119	2786199	OBN	3.96	3.96	3.95	0.0226700	0.0009444
OBNm120	3188535	OBN	3.09	3.09	3.08	0.2973000	0.0000000
OBNm122	1963010	OBN	4.32	4.32	4.30	5.5760000	0.0974170
OBNm123	1680297	OBN	6.19	6.19	6.16	4.1080000	0.0782600
OBNm124	754559	OBN	10.30	10.30	10.30	0.0121200	0.0000000
PCPf161	1798002	PCP	7.89	7.89	7.86	0.0037070	0.0000000
PCPf175	3534243	PCP	4.66	4.66	4.62	0.0262300	0.0000000
PCPm156	3363460	PCP	5.61	5.61	5.56	0.0057320	0.0005732
PCPm157	2928578	PCP	6.23	6.23	6.18	0.0035160	0.0005861
PCPm158	3130749	PCP	6.42	6.42	6.36	0.0069110	0.0005316
PCPm159	3436320	PCP	4.92	4.92	4.88	0.0037330	0.0000000
PCPm160	2575990	PCP	6.46	6.46	6.42	0.0037580	0.0000000
PCPm162	1826962	PCP	9.87	9.87	9.84	0.0023580	0.0000000
PCPm172	2959900	PCP	5.01	5.01	4.98	0.0020970	0.0000000
PCPm173	1373989	PCP	10.20	10.20	10.20	0.0029820	0.0000000
PCPm174	781039	PCP	9.21	9.21	9.20	0.0014330	0.0000000
PCPm176	1701200	PCP	6.86	6.86	6.83	0.0008968	0.0008968
PCPm177	2015460	PCP	9.13	9.13	9.10	0.0023210	0.0000000
RHDf242	3187266	RHD	4.44	4.44	4.42	0.0647600	0.0000000

Table S4: Summary of Reads mapping to *Wolbachia (continued)*

Sample	Total Reads	Population	% Total Reads Classified by Centrifuge	% Total Reads Classified as Microbial (Archeae and Bacteria)	% Total Reads Classified as Bacterial	% of Classified Reads mapping to Wolbachia wNo	% of Classified Reads mapping to other Wolbachia taxa
RHDf245	3282691	RHD	6.46	6.46	6.43	0.1333000	0.0010330
RHDf253	1198067	RHD	8.33	8.33	8.32	0.0166300	0.0000000
RHDm239	3816448	RHD	5.78	5.78	5.73	0.0043790	0.0000000
RHDm240	3883290	RHD	4.90	4.90	4.87	0.0011090	0.0000000
RHDm241	1863382	RHD	7.74	7.74	7.71	0.0021670	0.0000000
RHDm246	1379829	RHD	8.43	8.43	8.41	0.0071050	0.0000000
RHDm247	4254163	RHD	5.74	5.74	5.69	0.0039870	0.0000000
RHDm248	3382304	RHD	4.92	4.92	4.89	0.0063290	0.0000000
RHDm254	2413011	RHD	6.91	6.91	6.88	0.0025260	0.0000000
RHDm255	2782584	RHD	6.73	6.73	6.71	0.0044750	0.0000000
RHDm256	2032467	RHD	7.49	7.49	7.47	0.0068410	0.0000000
RHDm257	4126879	RHD	5.50	5.50	5.45	5.0120000	0.2209100
CFWm223	2672555	CFW	5.79	5.79	5.76	0.0033720	0.0000000
CFWm224	931489	CFW	9.74	9.74	9.72	0.0011380	0.0000000
CFWm225	184682	CFW	11.10	11.10	11.10	NA	0.0000000
CFWm226	2763326	CFW	4.99	4.99	4.97	0.0030070	0.0000000
CFWm227	585059	CFW	11.60	11.60	11.60	0.0060920	0.0000000
CFWm228	2217151	CFW	7.42	7.42	7.39	NA	0.0000000
CFWm229	2446267	CFW	7.31	7.31	7.28	0.0011660	0.0000000
CFWm230	2313054	CFW	7.53	7.53	7.49	0.0030410	0.0000000
CFWm231	2292118	CFW	6.36	6.36	6.33	0.0035850	0.0000000
CFWm232	256147	CFW	11.30	11.30	11.30	0.0035690	0.0000000
CFWm233	2173984	CFW	7.49	7.49	7.46	0.0102300	0.0000000
CFWm234	2793732	CFW	6.07	6.07	6.04	0.0018580	0.0000000
RVSfR3	3181026	RVS	2.76	2.76	2.75	0.5478000	0.0011650
RVSfR4	2034084	RVS	3.97	3.97	3.97	0.0731900	0.0000000
RVSmR1	3068970	RVS	3.33	3.33	3.32	0.0946300	0.0000000
RVSmR2	2084868	RVS	3.79	3.79	3.77	0.1693000	0.0000000
RVSmR5	2532622	RVS	2.96	2.96	2.95	0.0829200	0.0014060
RVSmR6	2743057	RVS	2.76	2.76	2.75	0.0194300	0.0000000
TULf054	3159299	TUL	3.24	3.24	3.21	15.6000000	0.2325030
TULf061	2598097	TUL	5.52	5.52	5.51	38.6200000	0.2518600
TULf064	3009782	TUL	3.48	3.48	3.46	53.5600000	0.4500400
TULf072	3142924	TUL	6.09	6.09	6.08	42.4700000	0.3689300
TULf073	3443965	TUL	5.02	5.02	5.01	40.9600000	0.3228800
TULf075	3457076	TUL	5.27	5.27	5.26	46.9700000	0.4356400

Table S4: Summary of Reads mapping to *Wolbachia (continued)*

Sample	**Total Reads**	**Population**	**% Total Reads Classified by Centrifuge**	**% Total Reads Classified as Microbial (Archeae and Bacteria)**	**% Total Reads Classified as Bacterial**	**% of Classified Reads mapping to Wolbachia wNo**	**% of Classified Reads mapping to other Wolbachia taxa**
TULf077	3473548	TUL	4.68	4.68	4.67	42.8700000	0.2906059
TULf078	3054081	TUL	5.51	5.51	5.46	42.6400000	0.4620500
TULm053	1575217	TUL	5.55	5.55	5.54	11.5300000	0.1435170
TULm055	1455895	TUL	5.94	5.94	5.93	5.4380000	0.0895540
TULm060	3382266	TUL	3.64	3.64	3.63	15.2200000	0.2568900
TULm062	3109015	TUL	3.73	3.73	3.72	19.1000000	0.2703500
TULm063	3525244	TUL	2.99	2.99	2.97	0.0587700	0.0000000
TULm069	2774500	TUL	2.63	2.63	2.59	0.0793400	0.0055680
TULm070	2561524	TUL	4.95	4.95	4.93	19.8500000	0.2974900
TULm071	4247179	TUL	3.48	3.48	3.46	6.5080000	0.1192360

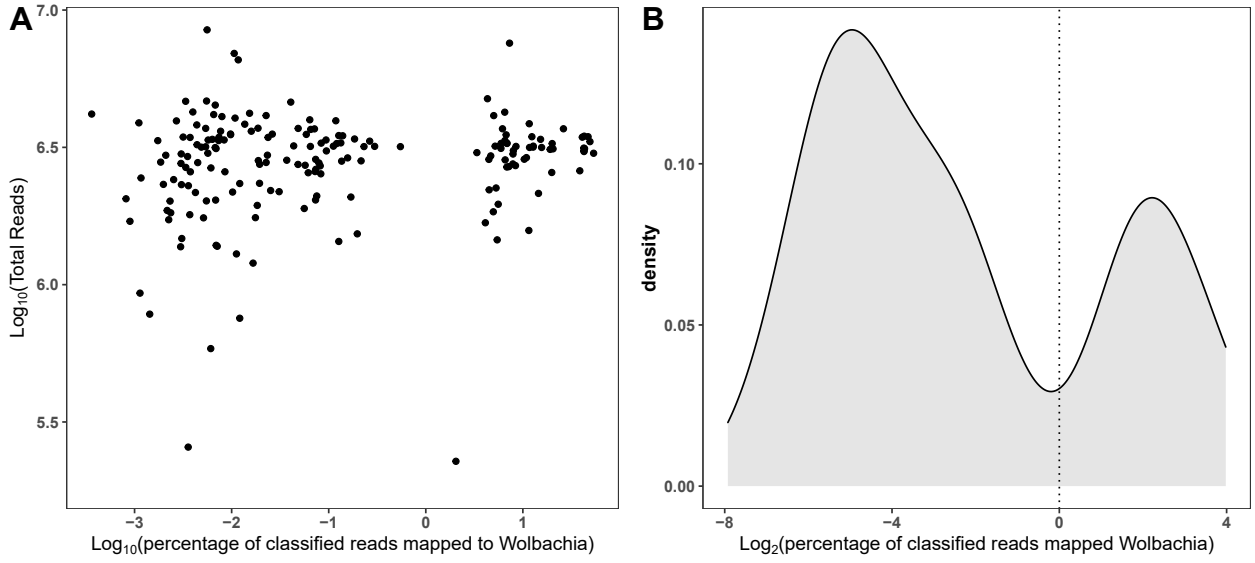

Figure S10 (A) Percentage of reads mapped to *Wolbachia* is independent of total read depth. **(B)** There was a natural discontinuity around $\log_2(\%$ reads mapped to *Wolbachia*$) = 0$ resulting in a bimodal distribution.

Table S5: Pairwise Fisher's Exact test for proportion infected by Wolbachia

x	BER	DGC	MLG	OBN	RHD
DGC	1	NA	NA	NA	NA
MLG	1	1	NA	NA	NA
OBN	1	1	1	NA	NA
RHD	**0.02722**	**0.02009**	**0.02722**	0.23602	NA
TUL	1	1	1	0.80703	**0.00033**

Table S6: Genotypes for female-specific sex RAD loci

Marker*	Genotype Class	Phenotypic Sex	Uninfected	wIca1	wIca2
9681_65	**Homozygote**	**female**	2	12	0
		male	81	19	19
	Heterozygote	**female**	30	0	6
		male	0	0	0
9781_55	**Homozygote**	**female**	0	11	0
		male	70	17	17
	Heterozygote	**female**	26	0	4
		male	0	0	0
11011_27	**Homozygote**	**female**	0	11	0
		male	67	17	16
	Heterozygote	**female**	28	0	2
		male	0	0	0
22073_63	**Homozygote**	**female**	2	10	0
		male	68	19	20
	Heterozygote	**female**	21	1	2
		male	0	0	0
22073_76	**Homozygote**	**female**	2	11	0
		male	68	18	20
	Heterozygote	**female**	21	0	2
		male	0	0	0
24861_17	**Homozygote**	**female**	0	9	0
		male	66	15	19
	Heterozygote	**female**	27	0	2
		male	0	0	0
24861_38	**Homozygote**	**female**	0	9	0
		male	66	15	19
	Heterozygote	**female**	27	0	2
		male	0	0	0
24861_43	**Homozygote**	**female**	0	9	0
		male	66	15	19
	Heterozygote	**female**	26	0	2
		male	0	0	0
25851_91	**Homozygote**	**female**	2	12	0
		male	77	19	18
	Heterozygote	**female**	30	0	5
		male	0	0	0
396673_60	**Homozygote**	**female**	7	11	2
		male	70	15	17
	Heterozygote	**female**	14	0	2
		male	0	0	0

* Prefix represents a unique RAD locus and the suffix represents position of a SNP on locus; 1 locus can have multiple SNPS