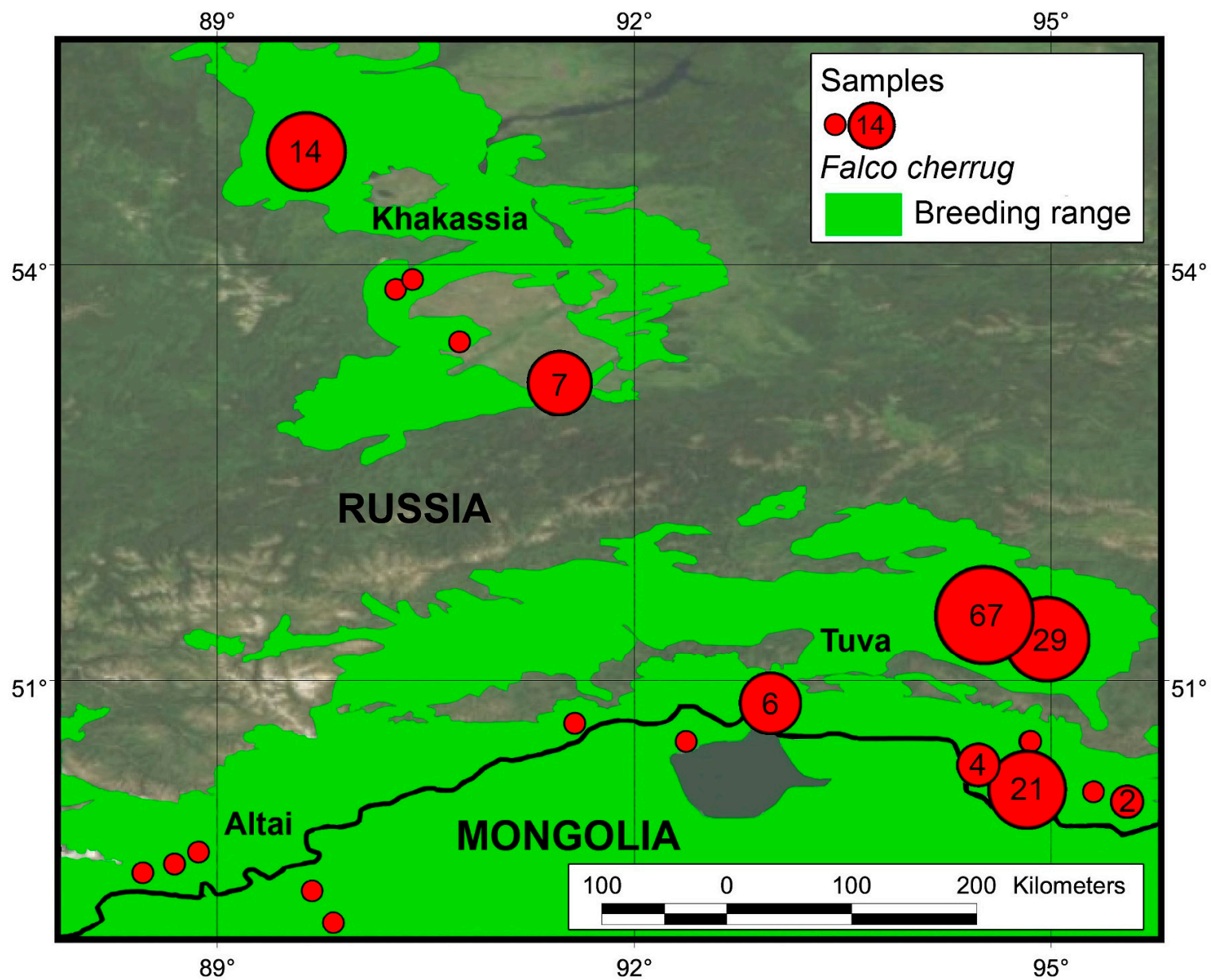


Supplementary Figure S1. Sampling localities. Map created using ArcGIS 9 (ESRI).



**Supplementary Figure S2.** Sampling localities of saker falcons from southern Siberia. Map created using ArcGIS 9 (ESRI).

**Supplementary Table S1.** Sample details. Samples used for mitochondrial DNA analyses are indicated in bold. MS: skin from museum specimen; MF: molted feather; GF: preserved growing feather; ACF: alcohol-preserved contour feather; CF: dry contour feather; ZM: Zoological Museum of Moscow University; SEC: LLC “Siberian Ecological Centre”; ARIE: All-Russian Research Institute “Ecology”.

№	Sample IDs (type of material_ ID_year_locality)	Species	Population	Collection	Collector	GenBank accession numbers
1	MS_MO2_R-21649_1910_Crimea	<i>F. cherrug</i>	Eastern Europe	ZM	Rozhkova D.N., Zinevich L.S.	
2	MS_MO10_R-21650_1916_Crimea	<i>F. cherrug</i>	Eastern Europe	ZM	Rozhkova D.N., Zinevich L.S.	
3	<b>MF_Baloban-PRIS_2015_Crimea</b>	<i>F. cherrug</i>	Eastern Europe	SEC	Karyakin I.V. with colleagues	PX511672 MT431193 <sup>1</sup>
4	<b>MF_FC23_2015_Crimea</b>	<i>F. cherrug</i>	Eastern Europe	SEC	Karyakin I.V. with colleagues	PX511668 MT431195 <sup>1</sup>
5	<b>MF_FC25_2015_Crimea</b>	<i>F. cherrug</i>	Eastern Europe	SEC	Karyakin I.V. with colleagues	PX511669 MT431194 <sup>1</sup>
6	<b>MF_FC38_2015_Crimea</b>	<i>F. cherrug</i>	Eastern Europe	SEC	Karyakin I.V. with colleagues	PX511670 MT431196 <sup>1</sup>
7	<b>MF_FC41_2015_Crimea</b>	<i>F. cherrug</i>	Eastern Europe	SEC	Karyakin I.V. with colleagues	PX511671
8	<b>MF_SFC09_2019_Crimea</b>	<i>F. cherrug</i>	Eastern Europe	ARIE	Prokopenko S.P., Sorokin A.G.	PX511647 MT431208 <sup>1</sup>
9	<b>MF_ZFC10_2019_Crimea</b>	<i>F. cherrug</i>	Eastern Europe	ARIE	Prokopenko S.P., Sorokin A.G.	PX511648 MT431207 <sup>1</sup>
10	MS_MO11_R-7214_1921_Tula	<i>F. cherrug</i>	Eastern Europe	ZM	Rozhkova D.N., Zinevich L.S.	
11	MS_MO12_R-7211_1927_Tula	<i>F. cherrug</i>	Eastern Europe	ZM	Rozhkova D.N., Zinevich L.S.	
12	MS_MO13_R-33539_1922_Tula	<i>F. cherrug</i>	Eastern Europe	ZM	Rozhkova D.N., Zinevich L.S.	
13	MS_MO14_R-7215_1923_Tula	<i>F. cherrug</i>	Eastern Europe	ZM	Rozhkova D.N., Zinevich L.S.	
14	MS_MO17_R-33538_1922_Tula	<i>F. cherrug</i>	Eastern Europe	ZM	Rozhkova D.N., Zinevich L.S.	
15	MS_MO20_R-96895_1938_Tula	<i>F. cherrug</i>	Eastern Europe	ZM	Rozhkova D.N., Zinevich L.S.	
16	MS_MO24_R-24543_1927_Kursk	<i>F. cherrug</i>	Eastern Europe	ZM	Rozhkova D.N., Zinevich L.S.	

17	MS_MO25_R-24544_1927_Kursk	<i>F. cherrug</i>	Eastern Europe	ZM	Rozhkova D.N., Zinevich L.S.	
18	MS_MO35_R-97697_1966_Khak	<i>F. cherrug</i>	Khakassia	ZM	Rozhkova D.N., Zinevich L.S.	
19	MS_MO36_R-97701_1968_Khak	<i>F. cherrug</i>	Khakassia	ZM	Rozhkova D.N., Zinevich L.S.	
20	MS_MO38_R-97700_1968_Khak	<i>F. cherrug</i>	Khakassia	ZM	Rozhkova D.N., Zinevich L.S.	
21	MS_MO39_R-97703_1968_Khak	<i>F. cherrug</i>	Khakassia	ZM	Rozhkova D.N., Zinevich L.S.	
22	MS_MO40_R-97699_1968_Khak	<i>F. cherrug</i>	Khakassia	ZM	Rozhkova D.N., Zinevich L.S.	
23	MS_MO41_R-97702_1968_Khak	<i>F. cherrug</i>	Khakassia	ZM	Rozhkova D.N., Zinevich L.S.	
24	MS_MO42_R-97698_1968_Khak	<i>F. cherrug</i>	Khakassia	ZM	Rozhkova D.N., Zinevich L.S.	
25	MF_FC1_FC-RH35-1_2014_Khak	<i>F. cherrug</i>	Khakassia	SEC	Karyakin I.V. with colleagues	
26	MF_AH-09_FC-RH30-1_2014_Khak	<i>F. cherrug</i>	Khakassia	SEC	Karyakin I.V. with colleagues	
27	<b>GF_D347_25_2016_Khak</b>	<i>F. cherrug</i>	Khakassia	SEC	Karyakin I.V. with colleagues	PX511674
28	<b>GF_D308_20_2016_Khak</b>	<i>F. cherrug</i>	Khakassia	SEC	Karyakin I.V. with colleagues	PX511673
29	GF_D400_2020_Khak	<i>F. cherrug</i>	Khakassia	SEC	Karyakin I.V. with colleagues	
30	GF_probe 17_2016_Khak	<i>F. cherrug</i>	Khakassia	SEC	Karyakin I.V. with colleagues	
31	GF_D310_23_2016_Khak	<i>F. cherrug</i>	Khakassia	SEC	Karyakin I.V. with colleagues	
32	<b>GF_D350_7_2016_Khak</b>	<i>F. cherrug</i>	Khakassia	SEC	Karyakin I.V. with colleagues	PX511675
33	GF_N1_FC75_2021_Khak	<i>F. cherrug</i>	Khakassia	SEC	Karyakin I.V. with colleagues	
34	GF_N2_FC76_2021_Khak	<i>F. cherrug</i>	Khakassia	SEC	Karyakin I.V. with colleagues	
35	GF_CA30_FC77_2021_Khak	<i>F. cherrug</i>	Khakassia	SEC	Karyakin I.V. with colleagues	
36	GF_CA31_FC78_2021_Khak	<i>F. cherrug</i>	Khakassia	SEC	Karyakin I.V. with colleagues	
37	GF_CA32_FC79_2021_Khak	<i>F. cherrug</i>	Khakassia	SEC	Karyakin I.V. with colleagues	

38	GF_CA33_FC80_2021_Khak	<i>F. cherrug</i>	Khakassia	SEC	Karyakin I.V. with colleagues	
39	GF_CA34_FC81_2021_Khak	<i>F. cherrug</i>	Khakassia	SEC	Karyakin I.V. with colleagues	
40	GF_D459_FC82_2021_Khak	<i>F. cherrug</i>	Khakassia	SEC	Karyakin I.V. with colleagues	
41	GF_D460_FC83_2021_Khak	<i>F. cherrug</i>	Khakassia	SEC	Karyakin I.V. with colleagues	
42	GF_CA26_FC84_2021_Khak	<i>F. cherrug</i>	Khakassia	SEC	Karyakin I.V. with colleagues	
43	<b>ACF_O-P057_2017_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511676
44	<b>GF_D002_40B_2018_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511678
45	GF_D416_2017_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
46	GF_D417_2017_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
47	GF_D418_2017_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
48	<b>GF_D450_2017_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511687
49	GF_D468_FC85_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
50	GF_D469_FC86_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
51	GF_D470_FC87_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
52	GF_D438_FC56_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
53	GF_D439_FC57_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
54	GF_D196_61B_2018_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
55	<b>GF_C883_62B_2018_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511655 OM937752 <sup>2</sup>
56	GF_D020_18B_2018_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
57	<b>GF_D023_21B_2018_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511652 MT431204 <sup>1</sup>

58	GF_D433_FC51_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
59	GF_D434_FC52_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
60	GF_D435_FC53_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
61	GF_D430_FC50_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
62	GF_D436_FC54_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
63	GF_D397_FC60_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
64	GF_D396_FC59_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
65	GF_D398_FC61_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
66	GF_CA70_FC62_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
67	GF_D429_FC21-10_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
68	GF_D428_FC21-9_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
69	GF_D222_FC21-12_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
70	GF_D223_FC21-13_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
71	GF_D227_FC21-14_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
72	GF_CA22_FC21-11_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
73	GF_CA69_FC47_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
74	GF_D394_FC48_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
75	GF_D395_FC49_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
76	GF_D420_FC21-5_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues
77	GF_D421_FC21-6_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues

78	GF_D427_FC21-7_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
79	GF_D426_FC21-8_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
80	GF_D480_FC65_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
81	GF_D481_FC66_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
82	GF_D040_36B_2018_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
83	GF_D041_39B_2018_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
84	<b>GF_D042_37B_2018_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511683
85	<b>GF_D035_27B_2018_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511682
86	GF_D210_FC38_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
87	GF_CA65_FC37_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
88	GF_D004_2B_2018_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
89	GF_D010_3B_2018_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
90	<b>GF_D001_1B_2018_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511677
91	GF_D013_48B_2018_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
92	GF_D014_49B_2018_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
93	<b>GF_D024_43B_2018_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511653 MT431205 <sup>1</sup> OM937748 <sup>2</sup>
94	<b>GF_D017_51B_2018_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511679
95	GF_D180_54B_2018_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
96	<b>GF_D019_53B_2018_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511654 MT431201 <sup>1</sup>
97	GF_D029_14B_2018_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	

98	<b>GF_D028_13B_2018_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511681
99	GF_CA68_FC43_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
100	GF_D391_FC44_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
101	GF_D393_FC46_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
102	GF_D392_FC45_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
103	GF_D386_FC63_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
104	GF_CA71_FC64_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
105	GF_CA64_FC33_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
106	GF_D408_FC34_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
107	GF_D409_FC35_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
108	GF_D413_FC36_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
109	<b>GF_D406_2017_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511685
110	GF_D403_2017_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
111	GF_D408_2017_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
112	GF_D410_2017_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
113	GF_D045_9B_2018_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
114	<b>GF_D047_11B_2018_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511684
115	GF_CA60_FC27_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
116	GF_CA61_FC28_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
117	GF_D284_FC29_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	

118	GF_D228_FC21-15_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
119	GF_D229_FC21-16_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
120	GF_D422_FC21-1_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
121	GF_D423_FC21-2_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
122	GF_D424_FC21-3_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
123	GF_D425_FC21-4_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
124	GF_D025_32B_2018_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
125	<b>GF_D027_26B_2018_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511680
126	GF_CA66_FC40_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
127	GF_CA67_FC41_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
128	GF_D379_FC42_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
129	GF_D378_FC39_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
130	GF_CA62_FC30_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
131	GF_CA63_FC31_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
132	GF_D242_FC32_2021_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
133	GF_TUV-16_2017_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
134	GF_D401_2017_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
135	GF_D407_2017_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
136	<b>GF_D413_2017_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511686
137	<b>GF_D172_172B_2018_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511656 MT431199 <sup>1</sup>

138	<b>MF_81-FC_FC-RT292-1_2014_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511688
139	MF_87-FC_FC-RT290-1_2014_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
140	MF_A45-MK_FC-RT287-1_2014_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
141	<b>MF_A18-MK_FC-RT286-1_2014_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511690
142	<b>MF_FC-RT208-1_BH10_2006_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511689
143	<b>MF_FC097_FC-RT5-2_2010_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511691
144	<b>MF_FC10_FC-RT188-1_2006_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511692
145	MF_FC23_FC-RT183-2_2005_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
146	<b>MF_FC-28_FC-RT38-1_2005_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511693
147	<b>MF_FC-29_FC-RT39-1_2005_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511694
148	<b>MF_FC29_FC-RT39-1_2010_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511695
149	MF_FC39A_FC-RT231-2_2010_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
150	<b>MF_FC39A_FC-RT231-2_2014_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511696
151	<b>MF_FC7_FC-RT169-1_2010_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511697
152	<b>MF_FC7_FC-RT169-1_2011_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511698
153	MF_FC-J06_FC-RT242-1_2008_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
154	<b>MF_FC-L1_FC-RT275-1_2011_Tuva</b>	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	PX511699
155	MF_FC6_FC-RT18-1_2008_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
156	MF_FC-A3_FC-RT226-1_2006_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
157	MF_FC11_FC-RT10-2_2005_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	

158	MF_FC19_FC-RT12-2_2006_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
159	MF_FC22A_FC-RT151-2_2005_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
160	MF_BH11A_FC-RT153-1_2014_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
161	MF_FC10_FC-RT188-1_2010_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
162	MF_FC8_FC-RT202-1_2011_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
163	MF_FCT3_FC-RT204-2_2010_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
164	MF_A35-MK_FC-RT288-1_2014_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
165	MF_TUV-14_FC-RT289_2014_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
166	MF_FC28_FC-RT38-1_2010_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
167	MF_FC30_FC-RT40-1_2008_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
168	MF_FC35A_FC-RT54-4_2005_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
169	MF_FC098_12062005_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
170	MF_FC10_27062011_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
171	MF_FC16A_18062006_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
172	MF_FCJ14_21062008_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
173	MF_Saigyn_01062010_Tuva	<i>F. cherrug</i>	Tuva	SEC	Karyakin I.V. with colleagues	
174	<b>MF_FC3_FC-ZK5-1_2010_Dauria</b>	<i>F. cherrug</i>	Dauria	SEC	Karyakin I.V. with colleagues	PX511700
175	MF_L-T2_28072010_Dauria	<i>F. cherrug</i>	Dauria	SEC	Karyakin I.V. with colleagues	
176	MS_MO58_R-110648_1988_Dauria	<i>F. cherrug</i>	Dauria	ZM	Rozhkova D.N., Zinevich L.S.	
177	<b>GF_D287_2017_Altai</b>	<i>F. cherrug</i>	Altai	SEC	Karyakin I.V. with colleagues	PX511649

178	<b>GF_D316_2017_Altai</b>	<i>F. cherrug</i>	Altai	SEC	Karyakin I.V. with colleagues	PX511650
179	<b>MF_BH-UK4_BH-RA103-1_Altai_2008</b>	<i>F. cherrug</i>	Altai	SEC	Karyakin I.V. with colleagues	PX511701
180	<b>MF_AN-LL28_AN-RA214-1_Altai_2014</b>	<i>F. cherrug</i>	Altai	SEC	Karyakin I.V. with colleagues	PX511702
181	<b>GF_D321_2017_Altai</b>	<i>F. cherrug</i>	Altai	SEC	Karyakin I.V. with colleagues	PX511651
182	<b>GF_D314_6B_2018_altaicus</b> ‘Altai falcon’ falconry	<i>F. cherrug</i>	Altai	SEC	Karyakin I.V. with colleagues	PX511657 MT431206 <sup>1</sup>
183	<b>GF_D319_16B_2018_altaicus</b> ‘Altai falcon’ falconry	<i>F. cherrug</i>	Altai	SEC	Karyakin I.V. with colleagues	PX511658 MT431200 <sup>1</sup>
184	<b>GF_D038_23B_2018_altaicus</b> ‘Vitasphera’ falconry	<i>F. cherrug</i>	Altai	SEC	Karyakin I.V. with colleagues	PX511659 MT431202 <sup>1</sup>
185	<b>GF_D033_47B_2018_altaicus</b> ‘Vitasphera’ falconry	<i>F. cherrug</i>	Altai	SEC	Karyakin I.V. with colleagues	PX511660 MT431203 <sup>1</sup>
186	MS_FR_R21515_Menzbier's_Kamchatka	<i>F. rusticolus</i>	Far East	ZM	Rozhkova D.N., Zinevich L.S.	
187	MS_FR_R95275_Dementiev's_Komandorski	<i>F. rusticolus</i>	Far East	ZM	Rozhkova D.N., Zinevich L.S.	
188	MS_FR_R95278_1933_Koryakia	<i>F. rusticolus</i>	Far East	ZM	Rozhkova D.N., Zinevich L.S.	
189	MS_FR_R95268_1941_Kamchatka	<i>F. rusticolus</i>	Far East	ZM	Rozhkova D.N., Zinevich L.S.	
190	MS_FR_R95272_1945_Kamchatka	<i>F. rusticolus</i>	Far East	ZM	Rozhkova D.N., Zinevich L.S.	
191	MS_FR_R72620_1949_Kamchatka	<i>F. rusticolus</i>	Far East	ZM	Rozhkova D.N., Zinevich L.S.	
192	MS_FR_R95270_1950_Kamchatka	<i>F. rusticolus</i>	Far East	ZM	Rozhkova D.N., Zinevich L.S.	
193	MS_FR_R95267_1951_Kamchatka	<i>F. rusticolus</i>	Far East	ZM	Rozhkova D.N., Zinevich L.S.	
194	MS_FR_R97559_1973_Kamchatka	<i>F. rusticolus</i>	Far East	ZM	Rozhkova D.N., Zinevich L.S.	
195	MS_FR_R97560_1973_Kamchatka	<i>F. rusticolus</i>	Far East	ZM	Rozhkova D.N., Zinevich L.S.	
196	MS_FR_R132286_2006_Chukotka	<i>F. rusticolus</i>	Far East	ZM	Rozhkova D.N., Zinevich L.S.	
197	MS_FR_R127174_2009_Kamchatka	<i>F. rusticolus</i>	Far East	ZM	Rozhkova D.N., Zinevich L.S.	

198	MS_FR_R127175_2009_Kamchatka	<i>F. rusticolus</i>	Far East	ZM	Rozhkova D.N., Zinevich L.S.	
199	MS_FR_R133255_2014_Chukotka	<i>F. rusticolus</i>	Far East	ZM	Rozhkova D.N., Zinevich L.S.	
200	ACF_12-KAM-19_2019_Kamchatka	<i>F. rusticolus</i>	Far East	ARIE	Dorofeev D.S., Sorokin A.G.	
201	<b>ACF_13-KAM-19_2019_Kamchatka</b>	<i>F. rusticolus</i>	Far East	ARIE	Dorofeev D.S., Sorokin A.G.	PX511664 OM937745 <sup>2</sup>
202	ACF_14-KAM-19_2019_Kamchatka	<i>F. rusticolus</i>	Far East	ARIE	Dorofeev D.S., Sorokin A.G.	
203	<b>ACF_6-KAM-19_2019_Kamchatka</b>	<i>F. rusticolus</i>	Far East	ARIE	Dorofeev D.S., Sorokin A.G.	PX511663
204	<b>CF_Chuk_N1_2019_Chukotka</b>	<i>F. rusticolus</i>	Far East	ARIE	Sarychev E.I., Sorokin A.G.	PX511661
205	CF_Chuk_N2_2019_Chukotka	<i>F. rusticolus</i>	Far East	ARIE	Sarychev E.I., Sorokin A.G.	
206	CF_Chuk_N3_2019_Chukotka	<i>F. rusticolus</i>	Far East	ARIE	Sarychev E.I., Sorokin A.G.	
207	CF_Chuk_N4_2019_Chukotka	<i>F. rusticolus</i>	Far East	ARIE	Sarychev E.I., Sorokin A.G.	
208	<b>CF_Chuk_N5_2019_Chukotka</b>	<i>F. rusticolus</i>	Far East	ARIE	Sarychev E.I., Sorokin A.G.	PX511662 MT431197 <sup>1</sup>
209	<b>ACF_Kamchatka N1_2014_Far East</b>	<i>F. rusticolus</i>	Far East	ARIE	Sorokin A.G. with colleagues	PX511665
210	ACF_Kamchatka N2_2014_Far East	<i>F. rusticolus</i>	Far East	ARIE	Sorokin A.G. with colleagues	
211	ACF_Kamchatka N3_2014_Far East	<i>F. rusticolus</i>	Far East	ARIE	Sorokin A.G. with colleagues	
212	ACF_Kamchatka N4_2019_Far East	<i>F. rusticolus</i>	Far East	ARIE	Sorokin A.G. with colleagues	
213	ACF_Kamchatka N5_2019_Far East	<i>F. rusticolus</i>	Far East	ARIE	Sorokin A.G. with colleagues	
214	<b>ACF_Kamchatka N6_2019_Far East</b>	<i>F. rusticolus</i>	Far East	ARIE	Sorokin A.G. with colleagues	PX511666 MT431198 <sup>1</sup> OM937744 <sup>2</sup>
215	<b>ACF_Kamchatka N7_2019_Far East</b>	<i>F. rusticolus</i>	Far East	ARIE	Sorokin A.G. with colleagues	PX511667 OM937743 <sup>2</sup>

**Supplementary Table S2.** DNA extraction methods.

Type of material	DNA source	DNA extraction kit	Features of the extraction
Skin from museum specimens	Small crushed dry tissue samples	TIANamp Genomic DNA Kit (Teangen, China)	Relatively long lysis for tissue rehydration, >12 h
Molted feathers	Umbilicus dry blood from the superior calamus <sup>3</sup>	Diatom DNA Prep 100 (Biokom, Russia)	Sample preparation, relatively long lysis for blood clot rehydration, >12 h
Preserved growing feathers/alcohol-preserved and dry contour feathers	Part of pulp/calamus with skin cells	DNA-Extran-2 kit (Syntol, Russia)	Drying stage from alcohol

**Supplementary Table S3.** Set of primers designed for mitochondrial DNA amplification. NC\_026715.1: GenBank accession number for the reference mitochondrial genome of the saker falcon. Nucleotide positions of studied sequences in NC\_026715.1: cytochrome *b* gene (13714 – 14856), tRNA-Thr (14857 – 14927), the control region (14928 – 16447).

Primer pair, forward (F) and reverse (R)	Sequence (5'→3')	Nucleotide positions in NC_026715.1	Annealing temperature (°C)	Fragment size, bp
FCB1F	ATCAATCCTAACTATCCTACTC	13675 – 13994	55-60	320
FCB3R	GCATCCTTATTCTTCATCTG		52-57	
FCB3F	GACTAATCCGCAACCTACATG	13946 – 14314	57-62	369
FCB1R	CCCTAATCCACCTCACCTTCC		60-65	
FCB2F	ACTGACCCGATTCTTCGCCC	14238 – 14640	59-64	403
FCB4R	CTAAGCCCTCTACTTCAC		50-55	
FCB4F	CCGCCTCAGTGCTAATCC	14600 – 14945	53-58	346
FCB2R	CCCACCAACCACACACCC		55-60	
FCR3F	AGTCCTAGCACTAGCCGCCTCAG	14586 – 14966	63-68	381
FCR3R	AATAAAAACAATCTTCCCCC		50-55	
FCR4F	TTGTAAACCAAAGAGTGAAGG	14887 – 15239	53-58	353
FCR4R	ATTACCCCATACATGATAACTCAATG		60-65	

FCR2F	CCCATTATGTATTACTTTGC	15184 – 15598	50-55	415
FCR1R	CATTACACGACCAGCGTCAG		57-62	
FCD3F	ACTAAACCCATGCCCTGTAT	15263 – 15776	53-58	514
FCD3R	CTTTTGGGGCGGTTGGTTC		57-62	
FCD4F	GCCCTTCTCCGAGCCATCTG	15693 – 16070	53-58	378
FCD4R	ACAAAACTTAAAACCCCTACCC		63-68	
FCD5F	CGGTTTGCGTATTTGGAGTCA	15895 – 16544	57-62	650
FCD5R	CCAATAAACCTAAACCGCCCGA		61-66	

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**Supplementary Table S4.** Implemented modifications of two hypervariable repeat regions of the control region. Substitutions in repetitive elements are indicated in bold. Representative nucleotides for repeats exceeding four units are underlined.

Optimized region	Original repetitive element sequence (5'-3')	Implemented modification
5'- repeats ( <i>F. cherrug</i> , <i>F. rusticolus</i> )	TTC <sub>5-6</sub> [flanking] CATGCCAGCCCTAAGCTGGCATT <del>TTTT</del> TACCAAAAATAAATC AACTTCCTTAAAATAAAGCCCCTCACCA [repetitive element] C <sub>7</sub> [flanking]	This fragment was excluded from analysis due to inconsistent PCR results, which prevented reliable sequence interpretation. Specifically, PCR products appeared as up to four distinct bands on an agarose gel. Sequencing of these bands revealed that they corresponded to fragments containing between 1 and 4 repetitive units.
5'- repeats ( <i>F. peregrinus</i> NC_000878.1)	TT <sub>4</sub> C <sub>3</sub> [flanking] CATGCCAGCCCCAAGCTGGCATT <del>TTTT</del> TACCAAAAACAAATC AACTTCCCTAAAATAAAGCCCCTCACCA [repetitive element] C <sub>7</sub> [flanking]	This fragment was modified in accordance with the procedure applied to the 5'- repeat region of original <i>F. cherrug</i> and <i>F. rusticolus</i> sequences.
3'- repeats containing more than four repetitive units ( <i>F. cherrug</i> , <i>F. rusticolus</i> , <i>F. peregrinus</i> NC_000878.1)	ACGCAATATTGCACTCCCCGGCGCTGGAGTTACATTAACA ATTACACTTATTTTT [repetitive element]  ACGCAATATTGCACTCCCCAGCGCTGGAGTTACATTAACA ATTACACTTATTTTT [repetitive element]	Each of these repetitive elements exceeding four units was converted into <u>a single representative nucleotide "A"</u> . This allowed each such unit to be treated as a single evolutionary event.  Each of these repetitive elements (with one substitution), if longer than four units, was converted into <u>the representative dinucleotide "AC"</u> . This allowed such repetitive units to be represented as two independent evolutionary events.

ACGCAATATTGCACTCCCCGGCGCTGAAGTTACATTAACA  
ATTACACTTATTTTT [repetitive element]

Each of these repetitive elements (with one substitution), if it was the fifth unit, was converted into the representative dinucleotide "AG". This allowed such repetitive units to be represented as two independent evolutionary events.

ACGCAACATTGCACTCCCCGGCGCTGGAGTTACATTAACA  
ATTACACTTATTTTT [repetitive element]

Each of these repetitive elements (with one substitution), if longer than four units, was converted into the representative dinucleotide "AT". This allowed such repetitive units to be represented as two independent evolutionary events.

ACGCAATATTGCACTCCCCGGCACTGGAGTTACATTAACA  
ATTACACTTATTTTT [repetitive element]

Each of these repetitive elements (with one substitution), if longer than four units, was converted into the representative dinucleotide "AA". This allowed such repetitive units to be represented as two independent evolutionary events.

ACGCAATATTGCACTCCCCGGCGCTGGAGTTACATTAACA  
ATCACACTTATTTTT [repetitive element]

Each of these repetitive elements (with one substitution), if it was after the fifth unit, was converted into the representative dinucleotide "AG". This allowed such repetitive units to be represented as two independent evolutionary events.

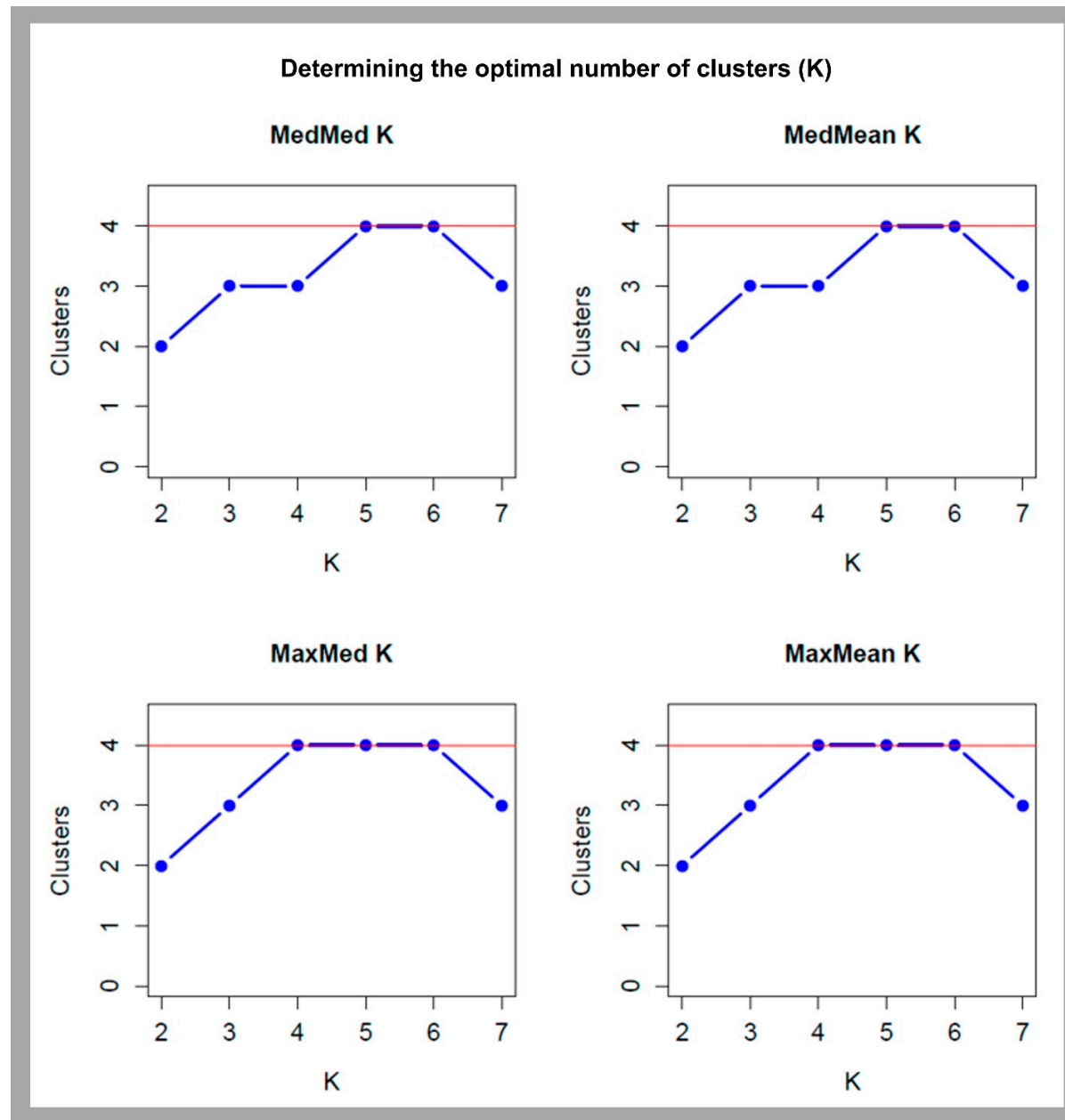
ACGCAATATTGCACTCCCCAGCACTGGAGTTACATTAACA  
ATTACACTTATTTTT [repetitive element]

Each of these repetitive elements (with two substitutions), if longer than four units, was converted into the representative trinucleotide "AAC". This allowed such repetitive units to be represented as three independent evolutionary events.

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**Supplementary Table S5.** Optimized BEAUti<sup>4</sup> parameter settings.

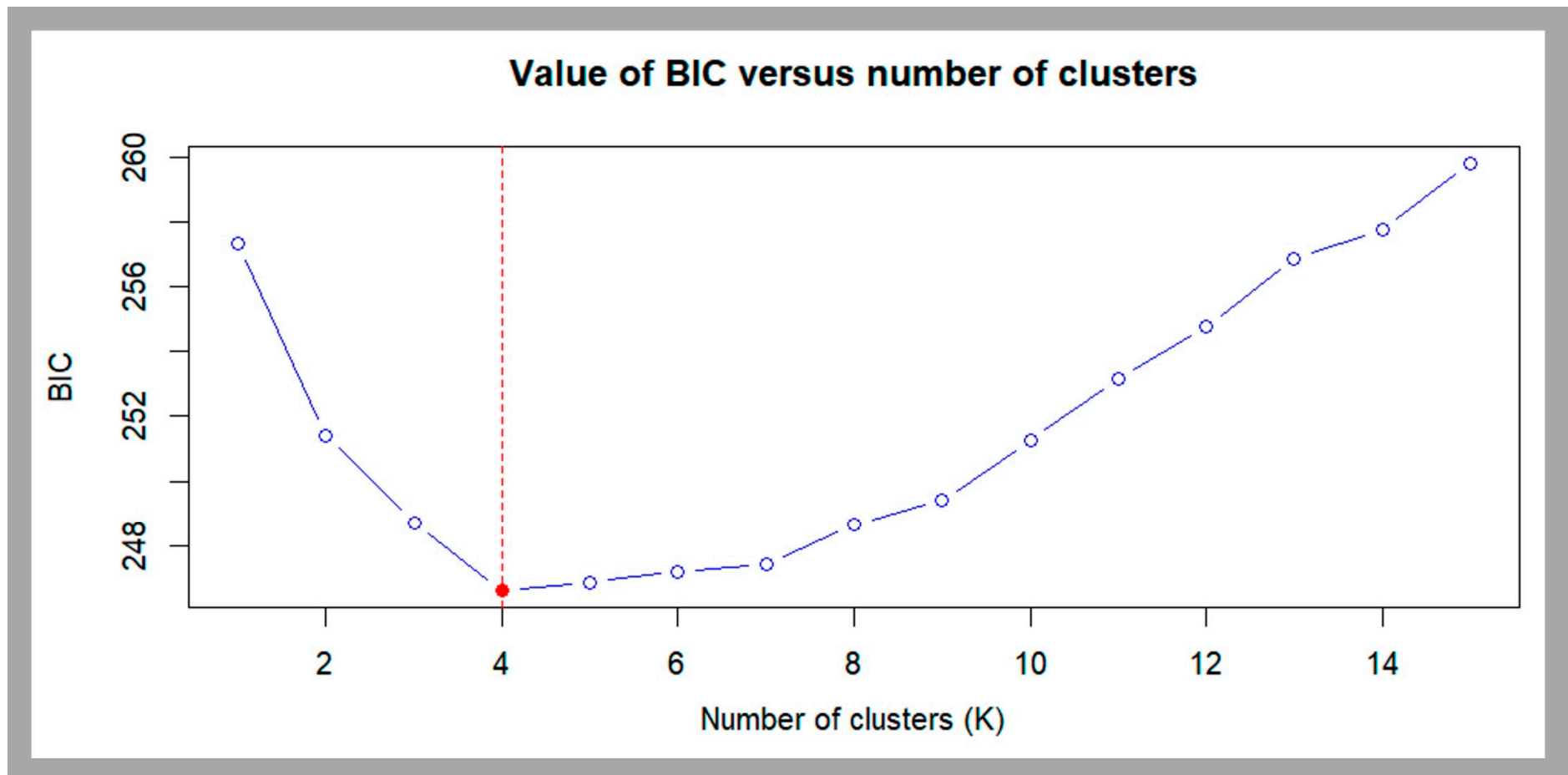
<b>Prior/operator</b>	<b>Default value</b>	<b>Optimized value</b>
birthDeath.sampleProbability betaPrior	shape="1.0", shapeB="1.0"	shape="1.0", shapeB="2.0"
wideExchange	weight="3"	weight="1"
wilsonBalding	weight="3"	weight="1"
birthDeath.sampleProbability	windowSize="0.75", weight="3"	windowSize="0.05", weight="1"



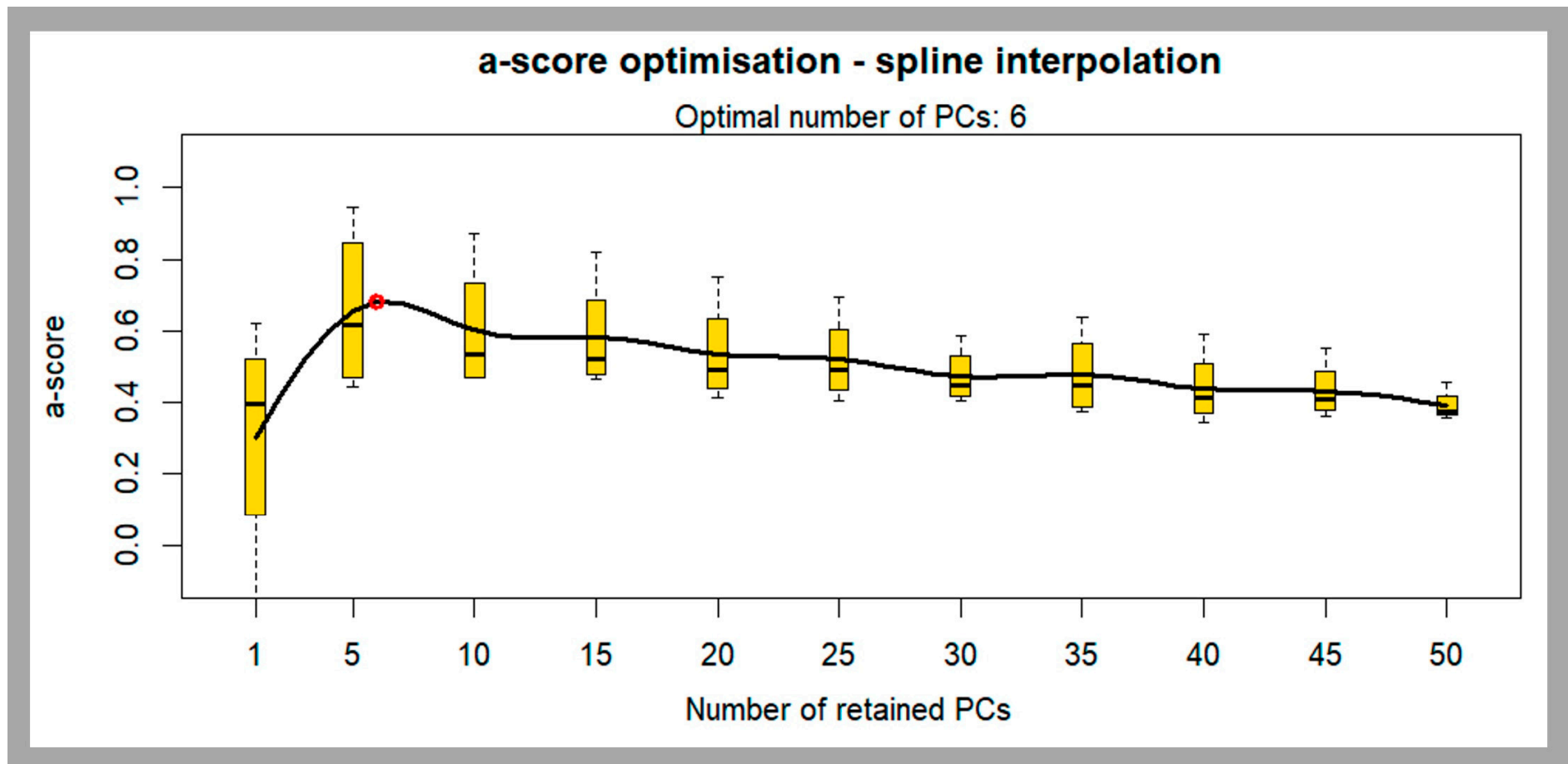
**Supplementary Figure S3.** Estimation of optimal K using the Puechmaille method<sup>5</sup> implemented in the StructureSelector server<sup>6</sup>.

**Supplementary Table S6.** Estimated posterior probabilities for numbers of genetic clusters (K) across 10 independent Geneland<sup>7</sup> runs.

Run	Selected K (% support)	Log posterior probability (sorted ↓)
2	4 (62.75%)	-5756.16732751395
6	4 (55.875%)	-5825.93761148949
10	4 (57.625%)	-5926.81420664959
7	4 (47.25%)	-6058.79933882352
4	3 (58.875%)	-6163.20528888383
9	3 (59%)	-6206.64290426688
3	3 (52.625%)	-6221.19044872243
5	3 (65.75%)	-6275.11689101992
8	3 (69%)	-6299.31061430213
1	3 (65.375%)	-6300.09004904406



**Supplementary Figure S4.** BIC-based cluster estimation (*find.clusters*, *adegetnet*)<sup>8</sup> in R v4.4.3 with visualization in RStudio v2024.12.1.563. The optimal K value is indicated by the vertical red line.



**Supplementary Figure S5.** Estimation of the optimal number of PCs (*optim.a.score*, adegenet)<sup>8</sup> in R v4.4.3 with visualization in RStudio v2024.12.1.563. The optimal number of PCs is indicated by the red circle.

**Supplementary Table S7.** Cross-validation of STRUCTURE<sup>9</sup> and DAPC<sup>8</sup> outputs. STRUCTURE membership probabilities refer to admixture coefficients. DAPC membership probabilities refer to individual proximities to the different clusters. PP – predefined population labels (prior information) used for the analyses. Identified genetic clusters represent the following individuals: (2) Tuvan *F. cherrug*; (3) exclusively *cherrug*-phenotype *F. cherrug* from Khakassia; (4) *F. rusticolus*; (1) eastern European *F. cherrug*; (I) *F. rusticolus*; (II) eastern European and contemporary Khakassian *F. cherrug*; (III-IV) individuals from all predefined populations. Core samples, defined as those comprising > 50% of individual from DAPC predefined populations, are indicated in bold. Samples marked by asterisks represent admixed individuals. Values highlighted in red indicate discordance between cluster assignments and membership probabilities. Color-coding of cluster assignments is as follows: (I) light purple; (II) light blue; (III) light green; (IV) uncolored.

№	Species	Population	ID sample	PP labels (STRUCTURE / DAPC)	STRUCTURE membership probabilities				DAPC cluster	DAPC membership probabilities			
					Cluster 2	Cluster 3	Cluster 4	Cluster 1		Cluster I	Cluster II	Cluster III	Cluster IV
1	<i>F. cherrug</i>	Eastern Europe	MS_MO2_R-21649_1910_Crimea	1 / 1	0.08	0.05	0.02	0.85	IV	0.00	0.23	0.00	0.77
2	<i>F. cherrug</i>	Eastern Europe	MS_MO10_R-21650_1916_Crimea	1 / 1	0.03	0.06	0.01	0.90	II	0.00	0.82	0.00	0.18
3	<i>F. cherrug</i>	Eastern Europe	MF_FC23_2015_Crimea	2 / 1	0.02	0.00	0.01	0.97	II	0.00	1.00	0.00	0.00
4	<i>F. cherrug</i>	Eastern Europe	MF_FC25_2015_Crimea	2 / 1	0.01	0.00	0.02	0.97	III	0.00	0.08	0.91	0.00
5	<i>F. cherrug</i>	Eastern Europe	MF_FC41_2015_Crimea	2 / 1	0.01	0.00	0.01	0.97	II	0.00	0.84	0.14	0.02
6	<i>F. cherrug</i>	Eastern Europe	MF_SFC09_2019_Crimea	2 / 1	0.04	0.01	0.02	0.94	III	0.00	0.15	0.85	0.00
7	<i>F. cherrug</i>	Eastern Europe	MF_ZFC10_2019_Crimea*	2 / 1	0.01	0.00	0.88	0.10	IV	0.14	0.00	0.00	0.86
8	<i>F. cherrug</i>	Eastern Europe	MS_MO11_R-7214_1921_Tula	1 / 1	0.04	0.14	0.01	0.81	II	0.00	1.00	0.00	0.00
9	<i>F. cherrug</i>	Eastern Europe	MS_MO12_R-7211_1927_Tula	1 / 1	0.04	0.06	0.02	0.89	II	0.00	1.00	0.00	0.00
10	<i>F. cherrug</i>	Eastern Europe	MS_MO13_R-33539_1922_Tula	1 / 1	0.03	0.06	0.03	0.88	III	0.00	0.36	0.60	0.03
11	<i>F. cherrug</i>	Eastern Europe	MS_MO14_R-7215_1923_Tula	1 / 1	0.07	0.07	0.02	0.84	III	0.00	0.00	1.00	0.00
12	<i>F. cherrug</i>	Eastern Europe	MS_MO17_R-33538_1922_Tula	1 / 1	0.03	0.09	0.02	0.87	II	0.00	0.80	0.20	0.00
13	<i>F. cherrug</i>	Eastern Europe	MS_MO20_R-96895_1938_Tula	1 / 1	0.08	0.05	0.01	0.87	II	0.00	0.96	0.02	0.02
14	<i>F. cherrug</i>	Eastern Europe	MS_MO24_R-24543_1927_Kursk	1 / 1	0.05	0.04	0.03	0.88	II	0.00	1.00	0.00	0.00
15	<i>F. cherrug</i>	Eastern Europe	MS_MO25_R-24544_1927_Kursk	1 / 1	0.08	0.06	0.03	0.83	III	0.00	0.08	0.76	0.16
16	<i>F. cherrug</i>	Khakassia	MS_MO35_R-97697_1966_Khak	5 / 2	0.11	0.06	0.18	0.65	II	0.00	0.80	0.20	0.00
17	<i>F. cherrug</i>	Khakassia	MS_MO36_R-97701_1968_Khak	5 / 2	0.06	0.05	0.25	0.64	I	0.52	0.10	0.32	0.06
18	<i>F. cherrug</i>	Khakassia	MS_MO38_R-97700_1968_Khak	5 / 2	0.08	0.08	0.22	0.62	II	0.00	0.54	0.43	0.04
19	<i>F. cherrug</i>	Khakassia	MS_MO39_R-97703_1968_Khak	5 / 2	0.10	0.04	0.30	0.57	IV	0.00	0.18	0.01	0.80
20	<i>F. cherrug</i>	Khakassia	MS_MO40_R-97699_1968_Khak	5 / 2	0.10	0.04	0.24	0.62	IV	0.01	0.36	0.04	0.60
21	<i>F. cherrug</i>	Khakassia	MS_MO41_R-97702_1968_Khak	5 / 2	0.09	0.06	0.20	0.64	III	0.00	0.05	0.95	0.00
22	<i>F. cherrug</i>	Khakassia	MS_MO42_R-97698_1968_Khak	5 / 2	0.08	0.04	0.17	0.71	II	0.00	0.59	0.41	0.00

23	<i>F. cherrug</i>	Khakassia	MF_FC1_FC-RH35-1_2014_Khak	4 / 2	0.79	0.15	0.01	0.05	IV	0.01	0.00	0.15	0.84
24	<i>F. cherrug</i>	Khakassia	MF_AH-09_FC-RH30-1_2014_Khak*	4 / 2	0.21	0.04	0.01	0.75	III	0.00	0.00	0.96	0.03
25	<i>F. cherrug</i>	Khakassia	GF_D347_25_2016_Khak	4 / 2	0.76	0.19	0.00	0.05	IV	0.00	0.01	0.03	0.96
26	<i>F. cherrug</i>	Khakassia	GF_D308_20_2016_Khak	4 / 2	0.89	0.08	0.01	0.02	IV	0.03	0.00	0.08	0.89
27	<i>F. cherrug</i>	Khakassia	GF_D400_2020_Khak	4 / 2	0.01	0.99	0.00	0.00	II	0.00	1.00	0.00	0.00
28	<i>F. cherrug</i>	Khakassia	GF_probe-17_2016_Khak	4 / 2	0.04	0.91	0.04	0.01	II	0.00	1.00	0.00	0.00
29	<i>F. cherrug</i>	Khakassia	GF_D310_23_2016_Khak	4 / 2	0.10	0.89	0.00	0.02	II	0.00	1.00	0.00	0.00
30	<i>F. cherrug</i>	Khakassia	GF_D350_7_2016_Khak	4 / 2	0.02	0.97	0.00	0.00	II	0.00	0.98	0.02	0.00
31	<i>F. cherrug</i>	Khakassia	GF_N1_FC75_2021_Khak	4 / 2	0.02	0.97	0.00	0.01	III	0.00	0.16	0.84	0.00
32	<i>F. cherrug</i>	Khakassia	GF_N2_FC76_2021_Khak	4 / 2	0.01	0.98	0.00	0.00	II	0.00	0.84	0.11	0.05
33	<i>F. cherrug</i>	Khakassia	GF_CA30_FC77_2021_Khak	4 / 2	0.01	0.99	0.00	0.00	II	0.00	1.00	0.00	0.00
34	<i>F. cherrug</i>	Khakassia	GF_CA31_FC78_2021_Khak	4 / 2	0.02	0.97	0.00	0.01	II	0.00	0.91	0.08	0.01
35	<i>F. cherrug</i>	Khakassia	GF_CA32_FC79_2021_Khak	4 / 2	0.01	0.98	0.00	0.01	II	0.00	1.00	0.00	0.00
36	<i>F. cherrug</i>	Khakassia	GF_CA33_FC80_2021_Khak	4 / 2	0.02	0.98	0.00	0.00	II	0.00	1.00	0.00	0.00
37	<i>F. cherrug</i>	Khakassia	GF_CA34_FC81_2021_Khak	4 / 2	0.01	0.99	0.00	0.00	II	0.00	1.00	0.00	0.00
38	<i>F. cherrug</i>	Khakassia	GF_D459_FC82_2021_Khak*	4 / 2	0.24	0.59	0.01	0.16	II	0.00	1.00	0.00	0.00
39	<i>F. cherrug</i>	Khakassia	GF_D460_FC83_2021_Khak	4 / 2	0.01	0.98	0.00	0.01	II	0.00	0.99	0.01	0.00
40	<i>F. cherrug</i>	Khakassia	GF_CA26_FC84_2021_Khak	4 / 2	0.02	0.97	0.00	0.01	II	0.00	0.99	0.01	0.00
41	<i>F. cherrug</i>	Tuva	ACF_O-P057_2017_Tuva	3 / 3	0.93	0.01	0.06	0.01	IV	0.01	0.00	0.04	0.95
42	<i>F. cherrug</i>	Tuva	GF_D002_40B_2018_Tuva	3 / 3	0.98	0.01	0.01	0.01	IV	0.00	0.00	0.00	1.00
43	<i>F. cherrug</i>	Tuva	GF_D416_2017_Tuva	3 / 3	0.98	0.01	0.01	0.01	II	0.00	0.97	0.02	0.02
44	<i>F. cherrug</i>	Tuva	GF_D417_2017_Tuva	3 / 3	0.98	0.01	0.01	0.00	II	0.00	1.00	0.00	0.00
45	<i>F. cherrug</i>	Tuva	GF_D418_2017_Tuva	3 / 3	0.97	0.01	0.01	0.01	II	0.00	0.90	0.02	0.08
46	<i>F. cherrug</i>	Tuva	GF_D450_2017_Tuva	3 / 3	0.98	0.01	0.01	0.01	II	0.00	0.91	0.09	0.00
47	<i>F. cherrug</i>	Tuva	GF_D468_FC85_2021_Tuva	3 / 3	0.96	0.01	0.03	0.01	III	0.00	0.20	0.79	0.00
48	<i>F. cherrug</i>	Tuva	GF_D469_FC86_2021_Tuva	3 / 3	0.95	0.01	0.03	0.01	III	0.00	0.73	0.23	0.04
49	<i>F. cherrug</i>	Tuva	GF_D470_FC87_2021_Tuva	3 / 3	0.97	0.01	0.02	0.01	III	0.00	0.20	0.79	0.01
50	<i>F. cherrug</i>	Tuva	GF_D438_FC56_2021_Tuva	3 / 3	0.97	0.00	0.01	0.01	III	0.00	0.00	0.89	0.11
51	<i>F. cherrug</i>	Tuva	GF_D439_FC57_2021_Tuva	3 / 3	0.92	0.01	0.06	0.01	IV	0.00	0.10	0.04	0.86
52	<i>F. cherrug</i>	Tuva	GF_D196_61B_2018_Tuva	3 / 3	0.96	0.01	0.03	0.01	IV	0.00	0.00	0.00	1.00
53	<i>F. cherrug</i>	Tuva	GF_C883_62B_2018_Tuva	3 / 3	0.97	0.01	0.01	0.01	IV	0.00	0.19	0.01	0.80
54	<i>F. cherrug</i>	Tuva	GF_D020_18B_2018_Tuva	3 / 3	0.97	0.01	0.01	0.00	III	0.00	0.00	1.00	0.00
55	<i>F. cherrug</i>	Tuva	GF_D023_21B_2018_Tuva	3 / 3	0.97	0.01	0.01	0.01	III	0.00	0.00	1.00	0.00
56	<i>F. cherrug</i>	Tuva	GF_D433_FC51_2021_Tuva	3 / 3	0.95	0.02	0.02	0.01	II	0.00	1.00	0.00	0.00
57	<i>F. cherrug</i>	Tuva	GF_D434_FC52_2021_Tuva	3 / 3	0.96	0.02	0.02	0.01	IV	0.00	0.08	0.00	0.92
58	<i>F. cherrug</i>	Tuva	GF_D435_FC53_2021_Tuva	3 / 3	0.95	0.02	0.02	0.01	IV	0.01	0.00	0.00	0.99
59	<i>F. cherrug</i>	Tuva	GF_D430_FC50_2021_Tuva	3 / 3	0.96	0.01	0.03	0.01	IV	0.00	0.01	0.00	0.99
60	<i>F. cherrug</i>	Tuva	GF_D436_FC54_2021_Tuva	3 / 3	0.95	0.02	0.02	0.01	II	0.00	1.00	0.00	0.00
61	<i>F. cherrug</i>	Tuva	GF_D397_FC60_2021_Tuva	3 / 3	0.97	0.01	0.02	0.01	IV	0.00	0.11	0.04	0.85
62	<i>F. cherrug</i>	Tuva	GF_D396_FC59_2021_Tuva	3 / 3	0.98	0.01	0.01	0.00	IV	0.00	0.08	0.02	0.90

63	<i>F. cherrug</i>	Tuva	GF_D398_FC61_2021_Tuva	3 / 3	0.92	0.01	0.06	0.01	II	0.00	0.99	0.00	0.00
64	<i>F. cherrug</i>	Tuva	GF_CA70_FC62_2021_Tuva	3 / 3	0.96	0.01	0.03	0.01	II	0.00	0.99	0.00	0.01
65	<i>F. cherrug</i>	Tuva	GF_D429_FC21-10_Tuva	3 / 3	0.97	0.01	0.02	0.01	III	0.00	0.03	0.92	0.04
66	<i>F. cherrug</i>	Tuva	GF_D428_FC21-9_Tuva	3 / 3	0.97	0.01	0.02	0.00	III	0.00	0.00	0.96	0.04
67	<i>F. cherrug</i>	Tuva	GF_D222_FC21-12_Tuva	3 / 3	0.97	0.01	0.01	0.01	III	0.00	0.00	1.00	0.00
68	<i>F. cherrug</i>	Tuva	GF_D223_FC21-13_Tuva	3 / 3	0.97	0.01	0.01	0.00	III	0.00	0.04	0.87	0.09
69	<i>F. cherrug</i>	Tuva	GF_D227_FC21-14_Tuva	3 / 3	0.97	0.01	0.02	0.01	IV	0.00	0.00	0.11	0.89
70	<i>F. cherrug</i>	Tuva	GF_CA22_FC21-11_Tuva	3 / 3	0.96	0.02	0.01	0.01	III	0.00	0.07	0.90	0.03
71	<i>F. cherrug</i>	Tuva	GF_CA69_FC47_2021_Tuva	3 / 3	0.96	0.01	0.03	0.00	IV	0.00	0.00	0.17	0.83
72	<i>F. cherrug</i>	Tuva	GF_D394_FC48_2021_Tuva	3 / 3	0.97	0.01	0.02	0.01	III	0.00	0.00	0.32	0.68
73	<i>F. cherrug</i>	Tuva	GF_D395_FC49_2021_Tuva	3 / 3	0.97	0.01	0.02	0.00	IV	0.00	0.00	0.05	0.95
74	<i>F. cherrug</i>	Tuva	GF_D420_FC21-5_Tuva	3 / 3	0.93	0.01	0.06	0.01	IV	0.00	0.00	0.00	1.00
75	<i>F. cherrug</i>	Tuva	GF_D421_FC21-6_Tuva	3 / 3	0.94	0.01	0.04	0.01	IV	0.01	0.00	0.03	0.96
76	<i>F. cherrug</i>	Tuva	GF_D427_FC21-7_Tuva	3 / 3	0.95	0.02	0.03	0.01	IV	0.00	0.00	0.00	1.00
77	<i>F. cherrug</i>	Tuva	GF_D426_FC21-8_Tuva	3 / 3	0.95	0.01	0.02	0.02	IV	0.00	0.00	0.00	1.00
78	<i>F. cherrug</i>	Tuva	GF_D480_FC65_2021_Tuva	3 / 3	0.96	0.01	0.02	0.01	III	0.00	0.00	1.00	0.00
79	<i>F. cherrug</i>	Tuva	GF_D481_FC66_2021_Tuva	3 / 3	0.98	0.01	0.01	0.01	IV	0.00	0.08	0.03	0.89
80	<i>F. cherrug</i>	Tuva	GF_D040_36B_2018_Tuva	3 / 3	0.97	0.01	0.01	0.01	III	0.00	0.06	0.91	0.03
81	<i>F. cherrug</i>	Tuva	GF_D041_39B_2018_Tuva	3 / 3	0.98	0.01	0.01	0.01	III	0.00	0.08	0.91	0.00
82	<i>F. cherrug</i>	Tuva	GF_D042_37B_2018_Tuva	3 / 3	0.96	0.01	0.02	0.01	IV	0.00	0.00	0.00	1.00
83	<i>F. cherrug</i>	Tuva	GF_D035_27B_2018_Tuva	3 / 3	0.97	0.01	0.01	0.01	III	0.00	0.28	0.71	0.00
84	<i>F. cherrug</i>	Tuva	GF_D210_FC38_2021_Tuva	3 / 3	0.97	0.01	0.01	0.01	IV	0.00	0.00	0.00	1.00
85	<i>F. cherrug</i>	Tuva	GF_CA65_FC37_2021_Tuva	3 / 3	0.97	0.01	0.01	0.01	II	0.00	0.98	0.01	0.02
86	<i>F. cherrug</i>	Tuva	GF_D004_2B_2018_Tuva	3 / 3	0.97	0.01	0.01	0.01	III	0.00	0.00	1.00	0.00
87	<i>F. cherrug</i>	Tuva	GF_D010_3B_2018_Tuva	3 / 3	0.98	0.01	0.01	0.01	III	0.00	0.00	1.00	0.00
88	<i>F. cherrug</i>	Tuva	GF_D001_1B_2018_Tuva	3 / 3	0.96	0.02	0.02	0.01	II	0.00	1.00	0.00	0.00
89	<i>F. cherrug</i>	Tuva	GF_D013_48B_2018_Tuva	3 / 3	0.95	0.01	0.03	0.00	IV	0.00	0.00	0.00	1.00
90	<i>F. cherrug</i>	Tuva	GF_D014_49B_2018_Tuva	3 / 3	0.90	0.01	0.08	0.00	IV	0.00	0.01	0.00	0.99
91	<i>F. cherrug</i>	Tuva	GF_D024_43B_2018_Tuva	3 / 3	0.93	0.02	0.04	0.01	II	0.00	0.96	0.00	0.04
92	<i>F. cherrug</i>	Tuva	GF_D017_51B_2018_Tuva	3 / 3	0.93	0.03	0.04	0.01	II	0.00	0.99	0.01	0.00
93	<i>F. cherrug</i>	Tuva	GF_D180_54B_2018_Tuva	3 / 3	0.97	0.01	0.01	0.01	IV	0.00	0.48	0.02	0.50
94	<i>F. cherrug</i>	Tuva	GF_D019_53B_2018_Tuva	3 / 3	0.95	0.01	0.03	0.01	II	0.00	0.73	0.25	0.02
95	<i>F. cherrug</i>	Tuva	GF_D029_14B_2018_Tuva	3 / 3	0.98	0.01	0.01	0.01	II	0.00	0.74	0.16	0.10
96	<i>F. cherrug</i>	Tuva	GF_D028_13B_2018_Tuva	3 / 3	0.97	0.01	0.01	0.01	II	0.00	0.99	0.01	0.00
97	<i>F. cherrug</i>	Tuva	GF_CA68_FC43_2021_Tuva	3 / 3	0.98	0.00	0.01	0.01	III	0.00	0.00	1.00	0.00
98	<i>F. cherrug</i>	Tuva	GF_D391_FC44_2021_Tuva	3 / 3	0.98	0.01	0.01	0.01	III	0.00	0.00	1.00	0.00
99	<i>F. cherrug</i>	Tuva	GF_D393_FC46_2021_Tuva	3 / 3	0.98	0.00	0.01	0.01	III	0.00	0.01	0.99	0.00
100	<i>F. cherrug</i>	Tuva	GF_D392_FC45_2021_Tuva	3 / 3	0.97	0.01	0.01	0.02	II	0.00	0.90	0.10	0.00
101	<i>F. cherrug</i>	Tuva	GF_D386_FC63_2021_Tuva	3 / 3	0.91	0.01	0.08	0.01	IV	0.00	0.07	0.00	0.93
102	<i>F. cherrug</i>	Tuva	GF_CA71_FC64_2021_Tuva	3 / 3	0.91	0.01	0.08	0.01	IV	0.01	0.04	0.00	0.95

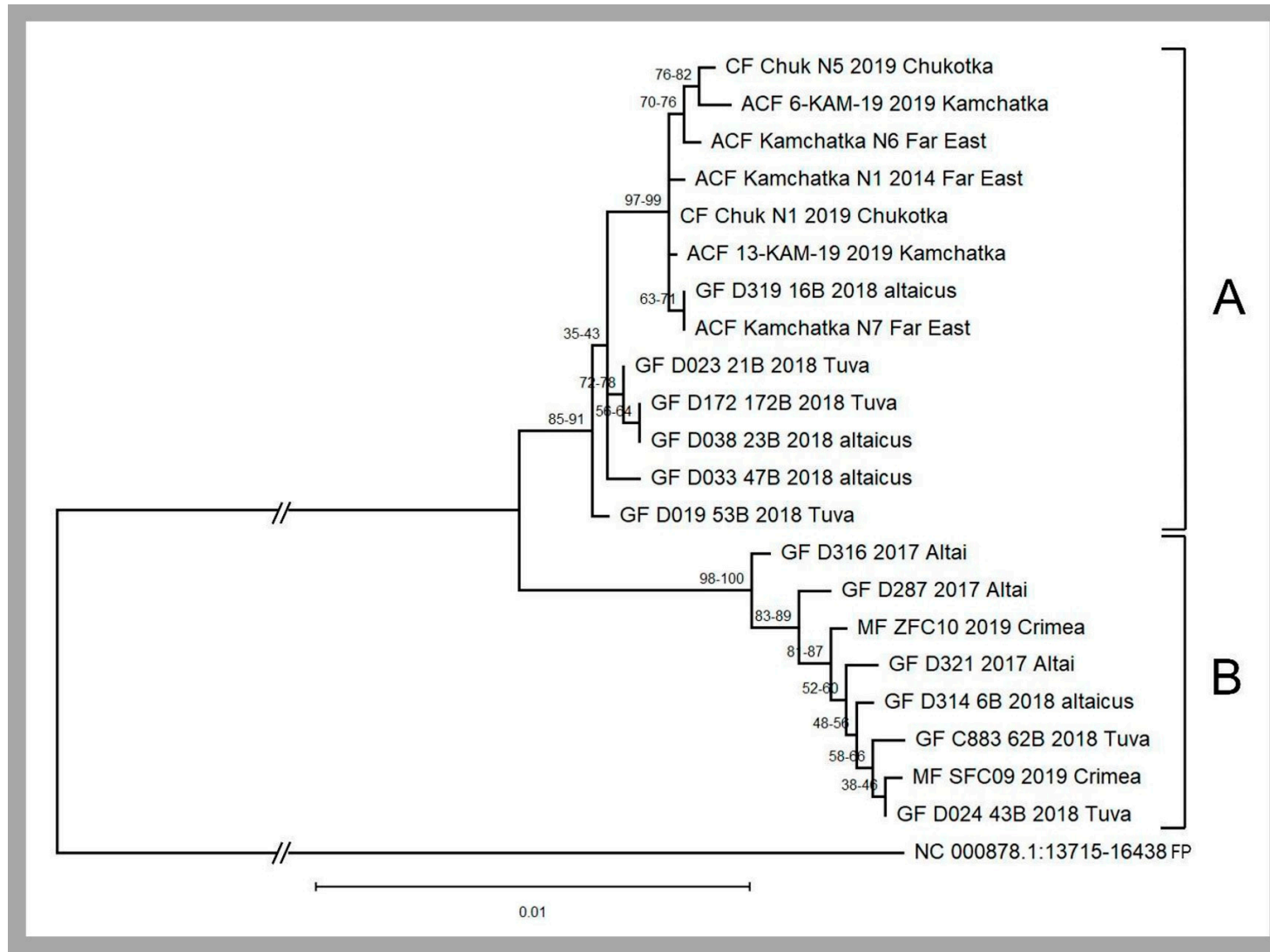
103	<i>F. cherrug</i>	Tuva	GF_CA64_FC33_2021_Tuva	3 / 3	0.95	0.01	0.03	0.01	III	0.01	0.20	0.57	0.22
104	<i>F. cherrug</i>	Tuva	GF_D408_FC34_2021_Tuva	3 / 3	0.95	0.01	0.03	0.00	IV	0.00	0.00	0.00	1.00
105	<i>F. cherrug</i>	Tuva	GF_D409_FC35_2021_Tuva	3 / 3	0.97	0.01	0.02	0.01	IV	0.00	0.05	0.01	0.95
106	<i>F. cherrug</i>	Tuva	GF_D413_FC36_2021_Tuva	3 / 3	0.95	0.01	0.04	0.01	III	0.00	0.26	0.58	0.16
107	<i>F. cherrug</i>	Tuva	GF_D406_2017_Tuva	3 / 3	0.97	0.01	0.01	0.01	II	0.00	0.96	0.02	0.02
108	<i>F. cherrug</i>	Tuva	GF_D403_2017_Tuva	3 / 3	0.96	0.01	0.02	0.01	III	0.00	0.00	0.93	0.06
109	<i>F. cherrug</i>	Tuva	GF_D408_2017_Tuva	3 / 3	0.97	0.01	0.01	0.01	II	0.00	0.96	0.02	0.02
110	<i>F. cherrug</i>	Tuva	GF_D410_2017_Tuva	3 / 3	0.96	0.02	0.01	0.01	II	0.00	0.41	0.01	0.58
111	<i>F. cherrug</i>	Tuva	GF_D045_9B_2018_Tuva	3 / 3	0.94	0.01	0.05	0.01	II	0.00	0.94	0.00	0.06
112	<i>F. cherrug</i>	Tuva	GF_D047_11B_2018_Tuva	3 / 3	0.96	0.00	0.03	0.01	II	0.00	0.89	0.01	0.10
113	<i>F. cherrug</i>	Tuva	GF_CA60_FC27_2021_Tuva	3 / 3	0.88	0.01	0.10	0.01	III	0.00	0.00	1.00	0.00
114	<i>F. cherrug</i>	Tuva	GF_CA61_FC28_2021_Tuva	3 / 3	0.84	0.01	0.14	0.01	I	0.78	0.00	0.00	0.22
115	<i>F. cherrug</i>	Tuva	GF_D284_FC29_2021_Tuva	3 / 3	0.93	0.01	0.05	0.01	III	0.00	0.27	0.73	0.00
116	<i>F. cherrug</i>	Tuva	GF_D228_FC21-15_Tuva	3 / 3	0.90	0.02	0.07	0.01	II	0.03	0.61	0.00	0.36
117	<i>F. cherrug</i>	Tuva	GF_D229_FC21-16_Tuva	3 / 3	0.97	0.00	0.02	0.01	IV	0.00	0.00	0.00	1.00
118	<i>F. cherrug</i>	Tuva	GF_D422_FC21-1_Tuva	3 / 3	0.96	0.01	0.03	0.01	III	0.00	0.00	1.00	0.00
119	<i>F. cherrug</i>	Tuva	GF_D423_FC21-2_Tuva	3 / 3	0.93	0.01	0.06	0.00	III	0.03	0.00	0.86	0.11
120	<i>F. cherrug</i>	Tuva	GF_D424_FC21-3_Tuva	3 / 3	0.97	0.01	0.01	0.01	III	0.00	0.01	0.94	0.05
121	<i>F. cherrug</i>	Tuva	GF_D425_FC21-4_Tuva	3 / 3	0.96	0.01	0.02	0.01	III	0.00	0.00	1.00	0.00
122	<i>F. cherrug</i>	Tuva	GF_D025_32B_2018_Tuva	3 / 3	0.97	0.01	0.01	0.01	III	0.00	0.00	0.86	0.14
123	<i>F. cherrug</i>	Tuva	GF_D027_26B_2018_Tuva	3 / 3	0.95	0.03	0.01	0.01	III	0.00	0.00	0.88	0.12
124	<i>F. cherrug</i>	Tuva	GF_CA66_FC40_2021_Tuva	3 / 3	0.95	0.01	0.03	0.01	IV	0.01	0.01	0.04	0.94
125	<i>F. cherrug</i>	Tuva	GF_CA67_FC41_2021_Tuva	3 / 3	0.96	0.01	0.03	0.01	IV	0.00	0.03	0.09	0.89
126	<i>F. cherrug</i>	Tuva	GF_D379_FC42_2021_Tuva	3 / 3	0.96	0.02	0.02	0.01	II	0.00	0.79	0.03	0.18
127	<i>F. cherrug</i>	Tuva	GF_D378_FC39_2021_Tuva	3 / 3	0.96	0.02	0.02	0.01	IV	0.00	0.03	0.03	0.94
128	<i>F. cherrug</i>	Tuva	GF_CA62_FC30_2021_Tuva	3 / 3	0.98	0.01	0.01	0.01	III	0.00	0.00	1.00	0.00
129	<i>F. cherrug</i>	Tuva	GF_CA63_FC31_2021_Tuva	3 / 3	0.98	0.01	0.01	0.00	III	0.00	0.00	1.00	0.00
130	<i>F. cherrug</i>	Tuva	GF_D242_FC32_2021_Tuva	3 / 3	0.96	0.01	0.01	0.02	III	0.00	0.02	0.98	0.00
131	<i>F. cherrug</i>	Tuva	GF_TUV-16_2017_Tuva	3 / 3	0.96	0.01	0.02	0.01	II	0.00	0.67	0.00	0.33
132	<i>F. cherrug</i>	Tuva	GF_D401_2017_Tuva	3 / 3	0.97	0.01	0.01	0.01	II	0.00	0.99	0.00	0.01
133	<i>F. cherrug</i>	Tuva	GF_D407_2017_Tuva	3 / 3	0.97	0.01	0.01	0.01	II	0.00	0.99	0.00	0.01
134	<i>F. cherrug</i>	Tuva	GF_D413_2017_Tuva	3 / 3	0.98	0.01	0.01	0.00	IV	0.00	0.09	0.02	0.89
135	<i>F. cherrug</i>	Tuva	GF_D172_172B_2018_Tuva	3 / 3	0.95	0.01	0.03	0.01	III	0.00	0.00	1.00	0.00
136	<i>F. cherrug</i>	Tuva	MF_87-FC_FC-RT290-1_2014_Tuva	3 / 3	0.98	0.00	0.01	0.01	III	0.00	0.02	0.91	0.08
137	<i>F. cherrug</i>	Tuva	MF_A45-MK_FC-RT287-1_2014_Tuva	3 / 3	0.94	0.02	0.04	0.01	III	0.00	0.01	0.90	0.09
138	<i>F. cherrug</i>	Tuva	MF_FC097_FC-RT5-2_2010_Tuva	3 / 3	0.95	0.01	0.04	0.01	IV	0.00	0.04	0.01	0.95
139	<i>F. cherrug</i>	Tuva	MF_FC10_FC-RT188-1_2006_Tuva	3 / 3	0.96	0.02	0.01	0.01	II	0.00	0.49	0.51	0.00
140	<i>F. cherrug</i>	Tuva	MF_FC23_FC-RT183-2_2005_Tuva	3 / 3	0.89	0.01	0.09	0.02	II	0.00	0.98	0.01	0.02
141	<i>F. cherrug</i>	Tuva	MF_FC29_FC-RT39-1_2010_Tuva	3 / 3	0.96	0.01	0.02	0.02	III	0.00	0.00	0.98	0.02
142	<i>F. cherrug</i>	Tuva	MF_FC39A_FC-RT231-2_2010_Tuva	3 / 3	0.97	0.01	0.02	0.01	III	0.00	0.00	1.00	0.00

143	<i>F. cherrug</i>	Tuva	MF_FC39A_FC-RT231-2_2014_Tuva	3 / 3	0.97	0.01	0.02	0.01	IV	0.00	0.01	0.04	0.95
144	<i>F. cherrug</i>	Tuva	MF_FC7_FC-RT169-1_2010_Tuva	3 / 3	0.95	0.01	0.02	0.01	III	0.00	0.01	0.94	0.05
145	<i>F. cherrug</i>	Tuva	MF_FC-J06_FC-RT242-1_2008_Tuva	3 / 3	0.96	0.01	0.03	0.01	IV	0.00	0.31	0.02	0.67
146	<i>F. cherrug</i>	Tuva	MF_FC-L1_FC-RT275-1_2011_Tuva	3 / 3	0.91	0.01	0.05	0.03	II	0.00	0.93	0.01	0.06
147	<i>F. cherrug</i>	Tuva	MF_FC6_FC-RT18-1_2008_Tuva	3 / 3	0.96	0.01	0.02	0.01	IV	0.00	0.67	0.02	0.30
148	<i>F. cherrug</i>	Tuva	MF_FC-A3_FC-RT226-1_2006_Tuva	3 / 3	0.91	0.03	0.05	0.01	III	0.01	0.02	0.89	0.08
149	<i>F. cherrug</i>	Tuva	MF_FC11_FC-RT10-2_2005_Tuva	3 / 3	0.98	0.00	0.01	0.01	IV	0.00	0.02	0.21	0.77
150	<i>F. cherrug</i>	Tuva	MF_FC19_FC-RT12-2_2006_Tuva	3 / 3	0.96	0.01	0.02	0.01	IV	0.00	0.00	0.00	1.00
151	<i>F. cherrug</i>	Tuva	MF_FC22A_FC-RT151-2_2005_Tuva	3 / 3	0.97	0.01	0.01	0.01	II	0.00	1.00	0.00	0.00
152	<i>F. cherrug</i>	Tuva	MF_BH11A_FC-RT153-1_2014_Tuva	3 / 3	0.83	0.01	0.14	0.03	I	0.23	0.04	0.26	0.47
153	<i>F. cherrug</i>	Tuva	MF_FC10_FC-RT188-1_2010_Tuva	3 / 3	0.98	0.00	0.01	0.01	III	0.00	0.00	1.00	0.00
154	<i>F. cherrug</i>	Tuva	MF_FC8_FC-RT202-1_2011_Tuva	3 / 3	0.97	0.01	0.02	0.01	IV	0.00	0.02	0.06	0.92
155	<i>F. cherrug</i>	Tuva	MF_FCT3_FC-RT204-2_2010_Tuva	3 / 3	0.95	0.01	0.04	0.01	IV	0.01	0.00	0.12	0.87
156	<i>F. cherrug</i>	Tuva	MF_A35-MK_FC-RT288-1_2014_Tuva	3 / 3	0.93	0.04	0.02	0.02	III	0.00	0.00	0.99	0.01
157	<i>F. cherrug</i>	Tuva	MF_TUV-14_FC-RT289_2014_Tuva	3 / 3	0.95	0.01	0.04	0.01	III	0.00	0.00	0.83	0.17
158	<i>F. cherrug</i>	Tuva	MF_FC28_FC-RT38-1_2010_Tuva	3 / 3	0.94	0.01	0.02	0.03	II	0.00	0.98	0.01	0.01
159	<i>F. cherrug</i>	Tuva	MF_FC30_FC-RT40-1_2008_Tuva	3 / 3	0.97	0.01	0.02	0.01	III	0.00	0.07	0.93	0.00
160	<i>F. cherrug</i>	Tuva	MF_FC35A_FC-RT54-4_2005_Tuva	3 / 3	0.96	0.01	0.03	0.01	II	0.00	0.97	0.01	0.02
161	<i>F. cherrug</i>	Tuva	MF_FC098_12062005_Tuva	3 / 3	0.93	0.01	0.04	0.02	II	0.00	1.00	0.00	0.00
162	<i>F. cherrug</i>	Tuva	MF_FC10_27062011_Tuva	3 / 3	0.92	0.02	0.05	0.01	II	0.00	0.78	0.00	0.22
163	<i>F. cherrug</i>	Tuva	MF_FC16A_18062006_Tuva	3 / 3	0.92	0.01	0.04	0.02	IV	0.00	0.00	0.04	0.96
164	<i>F. cherrug</i>	Tuva	MF_FCJ14_21062008_Tuva	3 / 3	0.88	0.06	0.03	0.03	III	0.00	0.29	0.70	0.00
165	<i>F. cherrug</i>	Tuva	MF_Saigyn_01062010_Tuva	3 / 3	0.92	0.02	0.03	0.03	II	0.00	0.86	0.14	0.00
166	<i>F. cherrug</i>	Dauria	MF_FC3_FC-ZK5-1_2010_Dauria	6 / 2	0.46	0.05	0.04	0.45	III	0.00	0.00	1.00	0.00
167	<i>F. cherrug</i>	Dauria	MF_L-T2_28072010_Dauria	6 / 2	0.41	0.07	0.03	0.48	II	0.00	0.91	0.09	0.00
168	<i>F. cherrug</i>	Dauria	MS_MO58_R-110648_1988_Dauria	6 / 2	0.43	0.03	0.07	0.47	III	0.00	0.03	0.97	0.00
169	<i>F. rusticolus</i>	Far East	MS_FR_R21515_Menzbier_Kamchatka	7 / 4	0.04	0.01	0.93	0.03	I	1.00	0.00	0.00	0.00
170	<i>F. rusticolus</i>	Far East	MS_FR_R95275_Dementiev_Komandorski	7 / 4	0.03	0.00	0.95	0.02	I	1.00	0.00	0.00	0.00
171	<i>F. rusticolus</i>	Far East	MS_FR_R95278_1933_Koryakia	7 / 4	0.03	0.01	0.95	0.02	IV	0.02	0.08	0.00	0.90
172	<i>F. rusticolus</i>	Far East	MS_FR_R95268_1941_Kamchatka	7 / 4	0.02	0.00	0.96	0.02	I	0.57	0.00	0.00	0.43
173	<i>F. rusticolus</i>	Far East	MS_FR_R95272_1945_Kamchatka	7 / 4	0.03	0.00	0.93	0.03	I	1.00	0.00	0.00	0.00
174	<i>F. rusticolus</i>	Far East	MS_FR_R72620_1949_Kamchatka	7 / 4	0.03	0.00	0.95	0.02	I	0.99	0.00	0.00	0.01
175	<i>F. rusticolus</i>	Far East	MS_FR_R95270_1950_Kamchatka	7 / 4	0.03	0.01	0.93	0.03	IV	0.04	0.00	0.00	0.96
176	<i>F. rusticolus</i>	Far East	MS_FR_R95267_1951_Kamchatka	7 / 4	0.03	0.01	0.95	0.02	I	1.00	0.00	0.00	0.00
177	<i>F. rusticolus</i>	Far East	MS_FR_R97559_1973_Kamchatka	7 / 4	0.02	0.01	0.95	0.02	I	1.00	0.00	0.00	0.00
178	<i>F. rusticolus</i>	Far East	MS_FR_R97560_1973_Kamchatka	7 / 4	0.02	0.01	0.95	0.02	IV	0.00	0.00	0.00	1.00
179	<i>F. rusticolus</i>	Far East	MS_FR_R132286_2006_Chukotka	8 / 4	0.02	0.01	0.96	0.01	III	0.01	0.03	0.12	0.84
180	<i>F. rusticolus</i>	Far East	MS_FR_R127174_2009_Kamchatka	8 / 4	0.01	0.01	0.98	0.01	I	1.00	0.00	0.00	0.00
181	<i>F. rusticolus</i>	Far East	MS_FR_R127175_2009_Kamchatka	8 / 4	0.01	0.01	0.98	0.01	I	0.99	0.00	0.00	0.01
182	<i>F. rusticolus</i>	Far East	MS_FR_R133255_2014_Chukotka	8 / 4	0.01	0.01	0.98	0.01	IV	0.00	0.00	0.00	1.00

183	<i>F. rusticolus</i>	Far East	ACF_12-KAM-19_2019_Kamchatka	8 / 4	0.01	0.01	0.97	0.01	I	1.00	0.00	0.00	0.00
184	<i>F. rusticolus</i>	Far East	ACF_13-KAM-19_2019_Kamchatka	8 / 4	0.01	0.01	0.98	0.01	I	0.67	0.00	0.10	0.23
185	<i>F. rusticolus</i>	Far East	ACF_14-KAM-19_2019_Kamchatka	8 / 4	0.02	0.02	0.95	0.01	I	0.62	0.03	0.03	0.32
186	<i>F. rusticolus</i>	Far East	ACF_6-KAM-19_2019_Kamchatka	8 / 4	0.01	0.01	0.98	0.01	I	1.00	0.00	0.00	0.00
187	<i>F. rusticolus</i>	Far East	CF_Chuk_N1_2019_Chukotka	8 / 4	0.01	0.01	0.99	0.00	I	1.00	0.00	0.00	0.00
188	<i>F. rusticolus</i>	Far East	CF_Chuk_N2_2019_Chukotka	8 / 4	0.01	0.01	0.99	0.00	I	0.99	0.00	0.00	0.01
189	<i>F. rusticolus</i>	Far East	CF_Chuk_N3_2019_Chukotka	8 / 4	0.01	0.00	0.99	0.00	I	1.00	0.00	0.00	0.00
190	<i>F. rusticolus</i>	Far East	CF_Chuk_N4_2019_Chukotka	8 / 4	0.01	0.00	0.98	0.01	I	0.98	0.00	0.00	0.02
191	<i>F. rusticolus</i>	Far East	CF_Chuk_N5_2019_Chukotka	8 / 4	0.01	0.01	0.98	0.01	I	1.00	0.00	0.00	0.00
192	<i>F. rusticolus</i>	Far East	ACF_Kamchatka-N1_2014_Far-East	8 / 4	0.01	0.00	0.99	0.00	I	1.00	0.00	0.00	0.00
193	<i>F. rusticolus</i>	Far East	ACF_Kamchatka-N2_2014_Far-East	8 / 4	0.01	0.00	0.98	0.01	I	0.99	0.00	0.00	0.01
194	<i>F. rusticolus</i>	Far East	ACF_Kamchatka-N3_2014_Far-East	8 / 4	0.01	0.01	0.98	0.01	I	1.00	0.00	0.00	0.00
195	<i>F. rusticolus</i>	Far East	ACF_Kamchatka-N4_2019_Far-East	8 / 4	0.02	0.01	0.96	0.01	I	1.00	0.00	0.00	0.00
196	<i>F. rusticolus</i>	Far East	ACF_Kamchatka-N5_2019_Far-East	8 / 4	0.01	0.01	0.98	0.01	I	0.87	0.00	0.00	0.13
197	<i>F. rusticolus</i>	Far East	ACF_Kamchatka-N6_2019_Far-East	8 / 4	0.01	0.01	0.97	0.01	I	1.00	0.00	0.00	0.00
198	<i>F. rusticolus</i>	Far East	ACF_Kamchatka-N7_2019_Far-East	8 / 4	0.01	0.00	0.99	0.00	I	1.00	0.00	0.00	0.00

**Supplementary Table S8.** Summary of individual assignments from predefined populations (prior information) to DAPC clusters<sup>8</sup>. Predefined population (PP) labels represent: (1) *F. cherrug* from eastern Europe; (2) *F. cherrug* from Khakassia and Dauria, grouped to balance sampling; (3) *F. cherrug* from Tuva; (4) *F. rusticolus* from the Far East. Clusters I–IV were identified by DAPC. The "Assignment per PP" value indicates the proportion of individuals successfully reassigned to their original clusters using discriminant functions – a high or low value denotes a clear-cut or admixed cluster, respectively. n – number of individuals.

	PP individuals: distribution by cluster, n (%)				Core of cluster, i.e. > 50% of individual from predefined populations
	(1) Eastern European <i>F. cherrug</i>	(2) Khakassian (n = 25) with Daurian (n = 3) <i>F.</i> <i>cherrug</i>	(3) Tuvan <i>F. cherrug</i>	(4) Far Eastern <i>F. rusticolus</i>	
PP size, n	15	28	125	30	
Assignment per PP	0.9642857	0.9666667	0.9482759	0.9807692	
I (n = 28)	–	1 (3.6%)	2 (7.1%)	25 (89.3%)	83.3% of PP (4)
II (n = 60)	8 (13.3%)	17 (28.3%)	35 (58.3%)	–	53.3% of PP (1) 60.7% of PP (2)
III (n = 58)	5 (8.6%)	5 (8.6%)	47 (81%)	1 (1.7%)	–
IV (n = 52)	2 (3.8%)	5 (9.6%)	41 (78.8%)	4 (7.7%)	–



**Supplementary Figure S6.** Maximum Likelihood phylogenetic tree based on the original 21 mitochondrial DNA sequences. The tree was constructed using the HKY model of nucleotide substitution in MEGA12<sup>10</sup>, with *F. peregrinus* (NC\_000878.1: 13715–16438) included as an outgroup. Branch support values, shown as percentages, represent the proportion of replicate trees (161 replicates, determined adaptively) in which the associated taxa clustered together. Haplogroups A and B are marked by square brackets.

**Supplementary Table S9.** Summary of intrapopulation genetic diversity metrics<sup>11-13</sup> across ten microsatellite loci for the studied populations. Population labels represent: (1) *F. cherrug* from eastern Europe; (2) *F. cherrug* from Khakassia (n = 25) and Dauria (n = 3), grouped to balance sampling; (3) *F. cherrug* from Tuva; (4) *F. rusticolus* from the Far East. Genetic diversity indices are presented as total and mean  $\pm$  standard error (SE) values. N: number of individuals; Na: number of alleles; Ne: effective number of alleles; I: Shannon's information index; Ho: observed heterozygosity; He: expected heterozygosity; uHe: unbiased expected heterozygosity; F: fixation index; A': rarefaction-corrected<sup>14</sup> allelic richness (minimum sample size = 18 genes); A<sub>pr</sub>: rarefaction-corrected<sup>14</sup> private allelic richness. For each index, the minimum value is highlighted in red, and the maximum value is underlined.

Population	Metric	N	Na	Ne	I	Ho	He	uHe	F	A'	A <sub>pr</sub>
<b>(1) Eastern European <i>F. cherrug</i></b>	Total	15	84							5.55	1.26
	Mean	13.800	8.400	6.095	1.814	0.732	0.778	0.808	0.057		
	SE	0.629	1.166	1.040	0.177	0.055	0.043	0.045	0.053		
<b>(2) Khakassian with Daurian <i>F. cherrug</i></b>	Total	28	113							5.73	1.35
	Mean	27.600	12.100	7.000	2.017	0.745	0.798	<u>0.813</u>	<u>0.059</u>		
	SE	0.221	1.952	1.287	0.198	0.040	0.042	<u>0.042</u>	<u>0.037</u>		
<b>(3) Tuvan <i>F. cherrug</i></b>	Total	125	151							<u>5.86</u>	<u>1.38</u>
	Mean	<u>123.700</u>	<u>15.300</u>	<u>8.837</u>	<u>2.152</u>	<u>0.804</u>	<u>0.806</u>	0.809	0.002		
	SE	<u>0.716</u>	<u>2.468</u>	<u>1.651</u>	<u>0.240</u>	<u>0.056</u>	<u>0.056</u>	0.056	0.018		
<b>(4) Far Eastern <i>F. rusticolus</i></b>	Total	30	82							4.55	0.85
	Mean	29.800	8.200	5.086	1.597	0.699	0.716	0.729	0.033		
	SE	0.133	1.611	1.018	0.216	0.069	0.057	0.057	0.046		

**Supplementary Table S10.** Results of the analysis of molecular variance (AMOVA) <sup>11-13</sup>. Values: df, degrees of freedom; SS, sum of squares; MS, mean square; Est. Var., estimated variance; %, percentage of variance.

Source	df	SS	MS	Est. Var.	%
Among Pops	3	109.035	36.345	0.767	8%
Within Pops	194	1623.106	8.367	8.367	92%
Total	197	1732.141	-	9.133	100%

**Supplementary Table S11.** Pairwise population differentiation ( $F_{ST}$ ) <sup>11-13</sup>. Population labels represent: (1) *F. cherrug* from eastern Europe; (2) *F. cherrug* from Khakassia (n = 25) and Dauria (n = 3), grouped to balance sampling; (3) *F. cherrug* from Tuva; (4) *F. rusticolus* from the Far East. The highest value in the matrix is highlighted in red.

Species	Population	<i>F. cherrug</i>			<i>F. rusticolus</i>
		(1)	(2)	(3)	(4)
	(1)	0.000			
<i>F. cherrug</i>	(2)	0.024	0.000		
	(3)	0.024	0.015	0.000	
<i>F. rusticolus</i>	(4)	0.069	0.051	0.047	0.000

**Supplementary Table S12.** Summary statistics<sup>10, 15</sup> of genetic variability across 22 mitochondrial DNA sequences, covering the region from *cytb* to the control region (CR). CS: the complete fragment spanning *cytb*, tRNA-Thr, and CR. InDel: insertion-deletion mutations. FP: *F. peregrinus* mitogenome fragment (NC\_000878.1: 13715–16438). d/d': an average genetic distance within (d) and between (d') groups based on the Tamura-Nei distance model. SE: standard error, estimated with 1000 bootstrap replicates. V: variable sites. SVS: singleton variable sites. PIS: parsimony informative sites. Pi: nucleotide diversity. k: average number of nucleotide differences. h: number of haplotypes. Hd: haplotype diversity.

Groups		Analyzed sequences (size of aligned fragments, bp)	d ± SE	V (SVS/PIS)	Pi	k	h	H <sub>d</sub>
Intragroup	Clade A (n = 13):							
	<i>F. cherrug</i> (n = 6), <i>F. rusticolus</i> (n = 7)	CS with InDel (≤ 3005)	0.00204 ± 0.00051	21 (9/12)	0.00182 <sup>a</sup>	4.897 <sup>a</sup>	10 <sup>a</sup>	0.962 <sup>a</sup>
		<i>cytb</i> with tRNA-Thr (≤ 1214)	0.00153 ± 0.00074	5 (1/4)	0.00152	1.846	5	0.808
		CR with InDel (≤ 1791)	0.00243 ± 0.00070	16 (8/8)	0.00206 <sup>b</sup>	3.051 <sup>b</sup>	9 <sup>b</sup>	0.910 <sup>b</sup>
	Clade B (n = 8):							
	<i>F. cherrug</i> (n = 8)							
		<i>cytb</i> with tRNA-Thr (≤ 1214)	0.00136 ± 0.00069	4 (1/3)	0.00135	1.643	4	0.821

		CR with InDel ( $\leq 1684$ )	0.00255 $\pm$ 0.00073	14 (11/2)	0.00261 <sup>d</sup>	3.464 <sup>d</sup>	7 <sup>d</sup>	0.964 <sup>d</sup>
Groups		Analyzed sequences	d' $\pm$ SE					
Intergroup	Clade A/Clade B	CS with InDel ( $\leq 3005$ )	0.0108 $\pm$ 0.0018					
		<i>cytb</i> with tRNA-Thr ( $\leq 1214$ )	0.00726 $\pm$ 0.00225					
		CR with InDel ( $\leq 1791$ )	0.0137 $\pm$ 0.0028					
	FP/Clade A	CS with InDel ( $\leq 3014$ )	0.0409 $\pm$ 0.0040					
		<i>cytb</i> with tRNA-Thr (1214)	0.0408 $\pm$ 0.0060					
		CR with InDel ( $\leq 1800$ )	0.0412 $\pm$ 0.0055					
	FP/Clade B	CS with InDel ( $\leq 3014$ )	0.0453 $\pm$ 0.0042					
		<i>cytb</i> with tRNA-Thr (1214)	0.0449 $\pm$ 0.0063					
CR with InDel ( $\leq 1800$ )		0.0458 $\pm$ 0.0057						

Intergroup	<i>F. rusticolus</i> (n = 7)/ FP	CS with InDel ( $\leq 3014$ )	$0.0413 \pm 0.0041$
		<i>cytb</i> with tRNA-Thr (1214)	$0.0406 \pm 0.0061$
		CR with InDel ( $\leq 1800$ )	$0.0420 \pm 0.0055$
	<i>F. rusticolus</i> (n = 7)/Clade A*	CS with InDel ( $\leq 3014$ )	$0.0029 \pm 0.0008$
		<i>cytb</i> with tRNA-Thr (1214)	0
		CR with InDel ( $\leq 1800$ )	$0.0033 \pm 0.0011$
	<i>F. rusticolus</i> (n = 7)/Clade B	CS with InDel ( $\leq 3014$ )	$0.0114 \pm 0.0020$
		<i>cytb</i> with tRNA-Thr (1214)	$0.0057 \pm 0.0017$
		CR with InDel ( $\leq 1800$ )	$0.0143 \pm 0.0029$

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Lengths of the analyzed control region fragments excluding indels: <sup>a</sup> – 2695 bp, <sup>b</sup> – 1481 bp, <sup>c</sup> – 2539 bp, <sup>d</sup> –  $\leq 1325$  bp. \* – excluding sample GF\_D319\_16B\_2018\_altaicus\_AF due to its introgression or incomplete lineage sorting.

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