

1 **Supplementary Table S1.** Samples included in the phylogenetic analysis with the ID number,
 2 geographic origin, and reference. There are red fox samples and one Corsac fox (*Vulpes corsac*) as
 3 an outgroup (NCBI ID = JF489127.1). KPK refers to the administrative province of Khyber
 4 Pakhtunkhwa in Pakistan.

Sample ID	Country	Origin	Reference
IQ04	Iraq	Northwest Seriya	Statham et al. 2014
IN12	Iran	Kazvin	Statham et al. 2014
P109	Palestine		Statham et al. 2014
IQ35	Iraq	Al Asad	Statham et al. 2014
IN11	Iran	Khorassan, Mashhad	Statham et al. 2014
IQ06	Iraq	Hilla	Statham et al. 2014
ET06	Egypt	Fayum	Statham et al. 2014
PK1	Pakistan	Central Gol National Park, KPK	This study
PK2	Pakistan	Hushey, Gilgit- Baltistan	This study
PK3	Pakistan	Hushey, Gilgit- Baltistan	This study
PK4	Pakistan	Zgang Naq Lungma, Hushey, Gilgit Baltistan	Statham et al. 2014
PK5	Pakistan	Bara Li Thang Lawa, Hushey, Gilgit Baltistan	Statham et al. 2014
PK6	Pakistan	Shigar, Gilgit- Baltistan	This study
PK7	Pakistan	Shigar, Gilgit- Baltistan	This study
PK8	Pakistan	Karabathang, Gilgit-Baltistan	This study
PK9	Pakistan	Hushey, Gilgit- Baltistan	This study
PK10	Pakistan	Hushey, Gilgit- Baltistan	This study
Nepal	Nepal	Humla District, Nepal	Werhahn et al. 2017
PK11	Pakistan	Karabathang, Gilgit-Baltistan	This study
PK12	Pakistan	Hushey, Gilgit- Baltistan	This study
PK13	Pakistan	Tormik Valley, Gilgit-Baltistan	This study
PK14	Pakistan	Baho Kha Kumbos, Hushey, Gilgit- Baltistan	This study
PK15	Pakistan	Margalla Hills National Park, Islamabad Capital Territory	This study

CA11	China	Yunbo Gho, Shiqu County, Sichuan Province, China	Statham et al. 2014
PK16	Pakistan	Thogas Kong, Hushey, Gilgit-Baltistan	This study
PK17	Pakistan	Kalam Mahoodand, Swat Valley, KPK	This study
PK18	Pakistan	Margalla Hills National Park, Islamabad Capital Territory	This study
KY20	Kyrgyzstan	Jangart	Statham et al. 2014
PK19	Pakistan	Kalam Mahoodand, Swat Valley, KPK	This study
KY31	Kyrgyzstan	Sarychat-Ertash Reserve	Statham et al. 2014
PK20	Pakistan	Ayubia National Park	This study
IY38	Italy	Grosseto	Statham et al. 2014
PK21	Pakistan	Margalla Hills National Park, Islamabad Capital Territory	This study
PK22	Pakistan	Ayubia National Park, KPK	This study
KY33	Kyrgyzstan	Sarychat-Ertash Reserve	Statham et al. 2014
KY22	Kyrgyzstan	Jangart	Statham et al. 2014
KY15	Kyrgyzstan	41.918111 78.516667	Statham et al. 2014
KY08	Kyrgyzstan	41.901444 78.6	Statham et al. 2014
KY03	Kyrgyzstan	41.551444 77.05	Statham et al. 2014
KY02	Kyrgyzstan	41.518111 76.933333	Statham et al. 2014
IA06	India	Dalhousie, Punjab	Statham et al. 2014
PK23	Pakistan	Margalla Hills National Park, Islamabad Capital Territory	This study
PK24	Pakistan	Margalla Hills National Park, Islamabad Capital Territory	This study
PK25	Pakistan	Margalla Hills National Park, Islamabad Capital Territory	This study
PK26	Pakistan	Sang Shing Khas, Krabathang, Gilgit-Baltistan	This study

PK27	Pakistan	Kuray Strang, Krabathang, Gilgit-Baltistan	This study
MA10	Mongolia		Statham et al. 2014
TJ01	Tajikistan	Parson	Statham et al. 2014
MA03	Mongolia		Statham et al. 2014
QR06	Qatar	Al Wabra Wildlife Preservation, Shahaniya, Central Qatar	Statham et al. 2014
KY12	Kyrgyzstan	41.901444 78.6	Statham et al. 2014
SB10	Serbia	Surcin	Statham et al. 2014
PK28	Pakistan	Margalla Hills National Park, Islamabad Capital Territory	This study
PK29	Pakistan	Margalla Hills National Park, Islamabad Capital Territory	This study
MA39	Mongolia	South Gobi	Statham et al. 2014
PK30	Pakistan	Hotoo, Skardu, Gilgit-Baltistan	This study
KY16	Kyrgyzstan	41.968111 78.516667	Statham et al. 2014
KY11	Kyrgyzstan	41.901444 78.6	Statham et al. 2014
KY05	Kyrgyzstan	41.551444 77.083333	Statham et al. 2014
SI09	Saudi Arabia		Statham et al. 2014
TY01	Turkey	Near Elazig	Statham et al. 2014
SI03	Saudi Arabia		Statham et al. 2014
IL04	Israel		Statham et al. 2014
MA30	Mongolia		Statham et al. 2014
MA16	Mongolia		Statham et al. 2014
MA33	Mongolia		Statham et al. 2014
MA34	Mongolia		Statham et al. 2014
MA24	Mongolia		Statham et al. 2014
MA32	Mongolia		Statham et al. 2014
MA04	Mongolia		Statham et al. 2014
PK31	Pakistan	Ayubia National Park, KPK	This study
MA28	Mongolia		Statham et al. 2014
TJ07	Tajikistan		Statham et al. 2014
PK32	Pakistan	Margalla Hills National Park, Islamabad Capital Territory	This study
PK33	Pakistan	Margalla Hills National Park,	This study

		Islamabad Capital Territory	
MA01	Mongolia		Statham et al. 2014
PK34	Pakistan	Shigar, Gilgit-Baltistan	This study
PK35	Pakistan	Margalla Hills National Park, Islamabad Capital Territory	This study
PK36	Pakistan	Shigar, Gilgit-Baltistan	This study
PE01	Russia	Primorye	Statham et al. 2014
ID52	Ireland		Statham et al. 2014
DN08	Denmark	Viborg	Statham et al. 2014
PK37	Pakistan	Margalla Hills National Park, Islamabad Capital Territory	This study
PK38	Pakistan	Sooq, Hushey, Gilgit-Baltistan	This study
PK39	Pakistan	Kalam Mahoodand, Swat Valley, KPK	This study
PK40	Pakistan	Kalam Mahoodand, Swat Valley, KPK	This study
PK41	Pakistan	Margalla Hills National Park, Islamabad Capital Territory	This study
PK42	Pakistan	Hushey, Gilgit-Baltistan	This study
SA04	Russia	Ninji, Siberia	Statham et al. 2014
MA18	Mongolia		Statham et al. 2014
SB16	Serbia	Banatski Dvor	Statham et al. 2014
PK43	Pakistan	Margalla Hills National Park, Islamabad Capital Territory	This study
PK44	Pakistan	Central Gol National Park, KPK	This study
PK45	Pakistan	Margalla Hills National Park, Islamabad Capital Territory	This study
KY19	Kyrgyzstan	41.918111 78.516667	Statham et al. 2014
SP12	Spain	Grenada	Statham et al. 2014
PK46	Pakistan	Sooq, Hushey, Gilgit-Baltistan	This study
KY18	Kyrgyzstan	42.018111 78.516667	Statham et al. 2014

PK47	Pakistan	Margalla Hills National Park, Islamabad Capital Territory	This study
HO22	Japan	Toubetsu, Hokkaido	Statham et al. 2014
PK48	Pakistan	Konggo, Hushey, Gilgit-Baltistan	This study
PK49	Pakistan	Margalla Hills National Park, Islamabad Capital Territory	This study
KY34	Kyrgyzstan	Sarychat-Ertash Reserve	Statham et al. 2014
CA05	China	Muzat	Statham et al. 2014
AK72	Canada	Old Crow, Yukon	Statham et al. 2014
AK49	USA	Kamashak Bay, Alaska	Statham et al. 2014
SV01	USA	Sacramento Valley, California	Statham et al. 2014
SE23	USA	Lassen National Park, California	Statham et al. 2014
NV02	USA	Eureka City, Nevada	Statham et al. 2014
CC07	Canada	“Central Canada”	Statham et al. 2014
RC24	USA	Rio Blanco, Colorado	Statham et al. 2014
AK25	USA	Bethel, Alaska	Statham et al. 2014
ET17	Egypt	Matruh Governorate, Bahig	Statham et al. 2014
ET15	Egypt	Matruh Governorate, Bahig	Statham et al. 2014
MO02	Morocco	Tangier, Morocco	Statham et al. 2014
AL01	Algeria		Statham et al. 2014
PK50	Pakistan	Margalla Hills National Park, Islamabad Capital Territory	This study
ON08	Oman	Sohar	Statham et al. 2014
IN05	Iran		Statham et al. 2014
IN01	Iran	Central parts, stretched from the Alborz mountain range to the Kavir desert	Statham et al. 2014
PK51	Pakistan	Gilgit, Gilgit-Baltistan	Statham et al. 2014
IA04	India	Jodhpur, Rajasthan	Statham et al. 2014
IQ68	Iraq	North Iraq	Statham et al. 2014
IQ51	Iraq	West Iraq	Statham et al. 2014

PK52	Pakistan	Outskirts of Pirawala Forest, near Khenewal, Punjab	Statham et al. 2014
IQ66	Iraq	North Iraq	Statham et al. 2014
PK53	Pakistan	Margalla Hills National Park, Islamabad Capital Territory	This study
IQ08	Iraq	Myrisha, 80 miles west of fort Ukhaidir	Statham et al. 2014
PK54	Pakistan	Wadh, Balochistan	Statham et al. 2014
IN02	Iran		Statham et al. 2014
ET19	Egypt	Aswan Governorate, Kom Ombo	Statham et al. 2014
IN10	Iran	Kurdistan, Senandage	Statham et al. 2014
IQ48	Iraq	West Iraq	Statham et al. 2014
IN07	Iran	Luristan, Khurrumbad	Statham et al. 2014
ET02	Egypt	Luxor	Statham et al. 2014
IN08	Iran	Ahwaz	Statham et al. 2014
TJ02	Tajikistan	Rhukch, Pamir	Statham et al. 2014
IN03	Iran		Statham et al. 2014
IA01	India	Kashmir	Statham et al. 2014
AF02	Afghanistan	Kandahar	Statham et al. 2014

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