

Table S1.

Sample	Name	Opgraph clusters	Coverage x	Catalogue name	dd_mm_yyyy	Location	Location	Note on location	Provider	Total number of usable reads	Estimated error rates (%)	Heterozygosity estimates	Inbreeding coefficients	Number of segments	Mean length ROH	Median length ROH	Max length ROH	Total length ROH
Golden jackal	Golden jackal	Golden jackal	4.40	RKW 1332_SAMN03366713					Freedman et al. 2014	107048490	NA	0.00118						
Red wolf	Red wolf 3	Red Wolf	5.57	#652-M PDZA (SAMN10246099)	01_06_2004	29.9399086	-94.653957	"Rough location for capture zone of founders", (from Point Defiance Zoo & Aquarium)	U.S. Fish and Wildlife Service	149530167	0.0756	0.00168	0.108					
Red wolf	Red wolf 2	Red Wolf	5.24	BioSample: SAMN02921318; Sample name: rwb; SRA: SRS661494		29.9399086	-94.653957	"Rough location for capture zone of founders"	vonHoldt et al. 2016	182476507	0.5853 (*)	0.00500						
Red wolf	Red wolf 1	Red Wolf	25.41	BioSample: SAMN02921317; Sample name: rwa; SRA: SRS661493		29.9399086	-94.653957	"Rough location for capture zone of founders"	vonHoldt et al. 2016	730585462	0.0403	0.00178	0.191					
Coyote	Florida	Coyote	6.96	BioSample: SAMN05439957; Sample name: FloridaCoyote; SRA: SRS1589014		30.1738346	-82.238964	"Estimated from vonHoldt et al. 2016"	vonHoldt et al. 2016	192248702	0.0395	0.00179	0.024					
Coyote	Illinois	Coyote	6.17	BioSample: SAMN02921303; Sample name: mvc; SRA: SRS661479		41.656687	-88.094688	"Estimated from vonHoldt et al. 2016"	vonHoldt et al. 2016	192453098	0.4814 (*)	0.00500	0.000					
Coyote	Missouri	Coyote	4.79	MSB-Mamm:58790 (SAMN10180423)	77_77_1987	37.186564	-93.603057	10 MI. W. SPRINGFIELD ON HWY 44	University of New Mexico Museum of Southwestern Biology (Gopalakrishnan et al. 2018)	120687507	0.0433	0.00155	0.020					
Coyote	Quebec	Coyote	3.27	BioSample: SAMN05736724; Sample name: QuebecWolf; SRA: SRS1677740		47.5618756	-75.394498	"Estimated from vonHoldt et al. 2016"	vonHoldt et al. 2016	103090908	0.1931 (*)	0.00334	0.015					
Coyote	Alaska	Coyote	7.84	UAM-Mamm:19791 (SAMN10180421)	04_03_1991	67.7333333	-152.416667	Confluence of John River and Hunt Fork	University of Alaska Museum of the North (Gopalakrishnan et al. 2018)	202147010	0.0473	0.00154	0.171					
Coyote	Mexico	Coyote	11.33	MSB-Mamm:83943 (SAMN10180422)	13_10_1996	28.9954	-112.38596	Isla Tiburón	University of New Mexico Museum of Southwestern Biology (Gopalakrishnan et al. 2018)	286356442	0.0420	0.00160	0.199					
Coyote	California	Coyote	26.64	BioSample: SAMN02921301; Sample name: cac; SRA: SRS661477		37.4486362	-120.581619	"Estimated from vonHoldt et al. 2016"	vonHoldt et al. 2016	811742421	0.0780	0.00191	0.146					
Coyote	Alabama	Coyote	5.06	BioSample: SAMN02921302; Sample name: alc; SRA: SRS661478		32.8918405	-86.081453	"Estimated from vonHoldt et al. 2016"	vonHoldt et al. 2016	167870483	0.4491 (*)	0.00500						
Eastern timber wolf	Algonquin 3	Eastern Timber Wolf	5.20	Z50514 (SAMN10246098)	03_02_2010	45.34459	-78.94058	Algonquin National Park	Ontario Ministry of Natural Resources	144748744	0.0405	0.00163	0.192					
Eastern timber wolf	Algonquin 2	Eastern Timber Wolf	4.21	BioSample: SAMN05791669; Sample name: AlgonquinWolf13467; SRA: SRS1704985		45.8371591	-78.3813126	Algonquin National Park	vonHoldt et al. 2016	112047899	0.0610	0.00166	0.097					
Eastern timber wolf	Algonquin 1	Eastern Timber Wolf	6.18	BioSample: SAMN05791668; Sample name: AlgonquinWolf13470; SRA: SRS1704945		45.8371591	-78.3813126	Algonquin National Park	vonHoldt et al. 2016	122850385	0.0455	0.00231	0.000					
Great lakes wolf	IRNP	Great Lakes Wolf	9.04	BioSample: SAMN04209256; Sample name: RKW1387; SRA: SRS1136754		47.9958654	-88.9092899	Isle Royale National Park	vonHoldt et al. 2016, Marsden et al. 2016	383060298	0.0681	0.00110	0.400	297	1730698	1468456	5353278	514017249
Great lakes wolf	Minnesota	Great Lakes Wolf	23.82	BioSample: SAMN02921310; Sample name: ghw; SRA: SRS661486		46.745947	-94.505756	"Estimated from vonHoldt et al. 2016"	vonHoldt et al. 2016, Marsden et al. 2016	82935849	0.0391	0.00182	0.122					
Wolf	Eurasia 2	Eurasian Wolf	7.72	GW2_SAMN01974487		65.6873915	156.7958972	Chukotka, Russia	Wang et al. 2013	211117215	0.0836	0.00138	0.185					
Wolf	Eurasia 1	Eurasian Wolf	9.56	GW1_SAMN01974486		50.7793339	82.4104216	Altai, Russia	Wang et al. 2013	292402755	0.1087	0.00159	0.129					
Wolf	Eurasia 3	Eurasian Wolf	9.83	GW3_SAMN01974488		53.2799469	34.2068799	Bryansk, Russia	Wang et al. 2013	329090300	0.1460	0.00148	0.166					
Wolf	Mexico 1	Mexican Wolf	22.15	"BioSample: SAMN02921314; SAMN02921315; Sample name: mxa+mb; SRA: SRS661490-SRS661491"		34.2923957	-106.7932892	"Estimated from vonHoldt et al. 2016"	Fan et al. 2015	618720272	0.0976	0.00062	0.714	434	1671394	1446006	6784185	725385081
Wolf	Mexico 2	Mexican Wolf	2.08	MSB-Mamm:259087 (SAMN10180511)	02_06_2007	34.2923957	-106.7932892	Sevilleta National Wildlife Refuge	University of New Mexico Museum of Southwestern Biology (Gopalakrishnan et al. 2018)	56091351	0.0396	0.00112	0.370					
Wolf	St. Lawrence Island		11.82	UAM-Mamm:30678 (SAMN10246094)	26_04_1994	63.7797222	-171.7411111	St. Lawrence Island	University of Alaska Museum of the North	303885641	0.0415	0.00104	0.373					
Wolf	Pacific Coast		13.56	UAM-Mamm:21440 (SAMN10246091)	20_03_1992	56.75	-133.5	Alexander Archipelago	University of Alaska Museum of the North	345355315	0.0413	0.00128	0.220	105	1495222	1394477	2969331	156998277
Wolf	Yellowstone 2	Yellowstone Wolf	24.25	BioSample: SAMN02921320; Sample name: ysp; SRA: SRS661496		44.427963	-110.588455	Yellowstone National Park	Fan et al. 2015	680714876	0.0444	0.00500	0.166					
Wolf	Yellowstone 1	Yellowstone Wolf	3.66	BioSample: SAMN02921322; Sample name: ysc; SRA: SRS661498		44.427963	-110.588455	Yellowstone National Park	Fan et al. 2015	189644388	0.6364 (*)	0.00149	0.049					
Wolf	Toronto	Atlantic, Alaskan, Central and Polar Wolf	8.24	2_PAM_720 (SAMN10246095)	77_77_2003	43.72	-79.55	Rexdale (P)	North American Fur Auctions	222358489	0.0549	0.00151	0.058					
Wolf	Atlantic Coast	Atlantic, Alaskan, Central and Polar Wolf	8.19	BAF-117 (SAMN10246096)	77_77_2002	54.9	-59.78	Postville	North American Fur Auctions	222690959	0.0611	0.00148	0.082					
Wolf	Alaska 1	Atlantic, Alaskan, Central and Polar Wolf	6.26	ARF07 (SAMN10246095)	01_09_2002	67	-158	Kobuk River	North American Fur Auctions	161650685	0.0495	0.00140	0.039					
Wolf	Alaska 2	Atlantic, Alaskan, Central and Polar Wolf	6.24	BioSample: SAMN05439956; Sample name: AlaskanWolf; SRA: SRS1589013		63.500043	-146.275791	"Estimated from vonHoldt et al. 2016"	vonHoldt et al. 2016	170693586	0.0406	0.00132	0.015					
Wolf	Saskatchewan	Atlantic, Alaskan, Central and Polar Wolf	4.63	GWC-857 (SAMN10246093)	77_77_2002	55.1	-105.28	La Ronge	North American Fur Auctions	134908797	0.0640	0.00156	0.005					
Wolf	Qamarijuaq	Atlantic, Alaskan, Central and Polar Wolf	3.82	R1P9 (SAMN10246092)	01_04_2000	64.43	-93.1	Tebery Lake	Department of Environment Nunavut	100312929	0.0463	0.00115	0.027					
Wolf	South Baffin	Polar, West and East Arctic Wolf	12.72	PG65 (SAMN10246088)	05_02_2000	65.17	-65.5	Mouth of Chidliak Fiord/Cumberland Sound	Department of Environment Nunavut	335568758	0.0434	0.00114	0.267					
Wolf	North Baffin	Polar, West and East Arctic Wolf	14.13	PIE8 (SAMN10246087)	14_12_1999	72.7	-77.98	"Graveyard"	Department of Environment Nunavut	363205435	0.0402	0.00142	0.090	60	1382523	1255827	2684601	82951367
Wolf	Victoria Island	Polar, West and East Arctic Wolf	11.77	HW70 (SAMN10246096)	25_01_2004	72.77	-111.02	Wynnatt Bay	Environment and Natural Resources Northwest Territories	307779135	0.0393	0.00146	0.044					
Wolf	Banks Island	Polar, West and East Arctic Wolf	15.36	SW24 (SAMN10246089)	20_04_2004	74.13	-119.75	Thomson River	Environment and Natural Resources Northwest Territories	400130823	0.0390	0.00137	0.140	91	1526788	1397649	3131701	138937171
Wolf	Krummelangsa		0.44	M10575 (SAMN10246097)	77_77_1995	74.08333	-23.83333	Krummelangsa	Natural History Museum of Denmark	159952327	0.1461 (*)	0.00500	0.041					
Wolf	Ellesmere 2	Polar, West and East Arctic Wolf	5.95	GF217 (SAMN10246090)	06_04_2002	76.42	-82.88	In community of Grise Fiord	Department of Environment Nunavut	153517018	0.0399	0.00125	0.036					
Wolf	Daneborg	Atlantic, Alaskan, Central and Polar Wolf	11.21	Daneborg (SAMN10180430)	13_01_2013	74.3	-20.2334697	Daneborg	Greenland Institute of Natural Resources (Gopalakrishnan et al. 2018)	284695953	NA	0.00102	0.313	202	1592261	1393555	4023046	321636675
Wolf	Ellesmere 1	Polar, West and East Arctic Wolf	7.69	GF212 (SAMN10180431)	24_03_2002	77.22	-85.42	10 km south of Gunnars Island	Department of Environment Nunavut (Gopalakrishnan et al. 2018)	203079413	0.0400	0.00084	0.385					

References
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We acknowledge that the location of the sample seems highly improbable, however it is information we have been given along with the sample and therefore the information we present. While it is surprising, it is the only sample from this location or any large city location, which initially was why the sample was interesting. The specific sample originated from the North American Fur Auctions and there is a Hudson's Bay Auction House, Rexdale, Ontario, Toronto. The information given together with other samples from the North American Fur Auctions, fits a specific rural location with detail on nearby named locations. The geo location with the sample fits a green area along a river going through Rexdale. Perhaps the wolf truly came from here following the river. We are unable to conclude whether the sample originates from a rare incident or mislabelling from the provider, therefore we chose to present the metadata we were given with the sample.

* The specific samples are treated as high error rate samples.