

Species Identification of Inuit Skin and Fur Clothing: Analyses of DNA, Hair Microscopy, and Macroscopical Identification

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APPENDIX 1

TABLE S1. Data collected on species identification of Inuit skin and fur clothing housed at the National Museum of Denmark.

ARCHIVAL INFORMATION					SAMPLE INFORMATION				
No.	Indigenous name, Inuit region	Provenance	Accession year	Inventory number	Object ID	Suit name	Garment description	Specimen sampled	Sample material
1	Yupiget, Western Inuit	Nuugaq (Cape Dezhnev)	1860	Kc.99	90710_a	AsM1	Parka, hair side turned outwards	Hood band	Skin with hair/fur
1	Yupiget, Western Inuit	Nuugaq (Cape Dezhnev)	1860	Kc.99	90710_b	AsM1	Parka, hair side turned outwards	Lower trimming	Skin with hair/fur
1	Yupiget, Western Inuit	Nuugaq (Cape Dezhnev)	1860	Kc.99	90710_c	AsM1	Parka, hair side turned outwards	Sleeve trimming	Skin with hair/fur
2	Alutiit, Western Inuit	South Alaska	1913	P.152	36332_a	AIM1	Parka, gut skin	Collar	Gut skin
3	Yupiget, Western Inuit	St. Lawrence Island	1939	P.1677	36654_a	AIM1	Boot, hair side turned outwards	Uppers	De-haired skin with epidermis
4	Inupiat, Western Inuit	Alaska	1926	P32.1	36958_a	AIF1	Parka, hair side turned outwards	Hood band	Skin with hair/fur
5	Inupiat, Western Inuit	Alaska	1926	P32.11a–b	36968_a	AIF1	Boot, hair side turned outwards	Leg trimming	De-haired skin without epidermis
6	Iñupiat, Western Inuit	Tikiqaq (Point Hope, Alaska)	1926	P32.5	36962_a	AIM2	Parka, gut skin	Lower trimming	De-haired skin with epidermis
7	Inupiat, Western Inuit	Alaska	1926	P32.4	36961_a	AIM2	Trousers, hair side turned outwards	Trouser front	Skin with hair/fur
8	Iñupiat, Western Inuit	Tikiqaq (Point Hope, Alaska)	1926	P32.9a–b	36966_a	AIM2	Boot, hair side turned outwards	Leg trimming	De-haired skin without epidermis
9	Inuinait, Central Inuit	Kogluktualuk (Tree River) or Nulahugiuq (Bernard Harbour)	1927	P30.15	37357_a	CoF1	Parka, hair side turned outwards	Front	Skin with hair/fur
10	Inuinait, Central Inuit	Kiillinnguyaq (Kent Peninsula)	1927	P30.30	37374_a	CoF1	Trousers, hair side turned outwards	Trouser front	De-haired skin with epidermis
11	Inuinait, Central Inuit	Kogluktualuk (Tree River) or Nulahugiuq (Bernard Harbour)	1927	P30.43a–b	37388_a	CoF1	Boot, hair side turned outwards	Leg	De-haired skin without epidermis
12	Inuinait, Central Inuit	Kiillinnguyaq (Kent Peninsula)	1927	P30.2	37344_a	CoM1	Parka, hair side turned outwards	Hood	Skin with hair/fur
13	Inuinait, Central Inuit	Kiillinnguyaq (Kent Peninsula)	1927	P30.25	37369_a	CoM1	Trousers, hair side turned outwards	Trouser front (lace)	De-haired skin with epidermis
14	Inuinait, Central Inuit	Kiillinnguyaq (Kent Peninsula)	1927	P30.42a–b	37387_a	CoM1	Boot, hair side turned outwards	Leg	De-haired skin with epidermis
15	Netsilingmiut, Central Inuit	Haningayok (Back River)	1924	P29.10	35238_a	NeF1	Parka, hair side turned outwards	Hood	Skin with hair/fur
16	Netsilingmiut, Central Inuit	Haningayok (Back River)	1924	P29.18	35246_a	NeF1	Trousers, hair side turned outwards	Trouser back (thread)	Sinew thread
17	Netsilingmiut, Central Inuit	Qikiqtaq (King William Island)	1924	P29.28a–d	35263_a	NeF1	Boot, hair side turned outwards	Leg (lace)	De-haired skin with epidermis

ANALYSIS RESULTS

Macroscopic identification from archive (85 specimens)	Hair TLM: performed mounting	Hair TLM (64 specimens)	Amplicon 165A&M (75 specimens)	Amplicon Fusion extended_F&R (39 specimens)	Shotgun sequencing (32 specimens)	Shotgun sequencing previously published (9 specimens)	Final identification registered in database SkinBase January 13, 2022
Wolverine (<i>Gulo gulo</i>)	Cross section + longitudinal	<i>Canis lupus familiaris</i>	–	Failed	–	Failed	<i>Canis lupus familiaris</i> ²
Wolverine (<i>Gulo gulo</i>)	Cross section longitudinal	<i>Gulo gulo</i>	–	<i>Gulo gulo</i>	–	–	<i>Gulo gulo</i>
Wolverine (<i>Gulo gulo</i>)	Cross section + longitudinal	<i>Canis lupus familiaris</i>	–	<i>Canis lupus familiaris</i>	–	–	<i>Canis lupus familiaris</i>
Unidentified mammalian species	–	–	Failed	–	–	–	Unidentified mammalian species
Seal (Phocidae)	–	–	(Phocidae)	(Phocidae)	–	–	Phocidae
Wolverine? (<i>Gulo gulo</i>)	Cross section + longitudinal	Canidae	<i>Canis lupus familiaris</i> or <i>Canis lupus</i>	Canidae	–	–	Canidae
Seal (Phocidae)	–	–	(Phocidae)	(Phocidae)	–	–	Phocidae
Seal (Phocidae)	–	–	Failed	–	–	–	Phocidae
Seal (Phocidae)	Cross section + longitudinal	<i>Phoca hispida</i>	(Phocidae)	(Phocidae)	<i>Phoca hispida</i>	–	<i>Phoca hispida</i>
Seal (Phocidae)	–	–	Failed	–	–	–	Phocidae
Caribou/reindeer (<i>Rangifer tarandus</i>)	Cross section + longitudinal	<i>Rangifer tarandus</i>	Cervidae (<i>Cervus elaphus</i> , <i>Rangifer tarandus</i> etc.)	–	–	–	<i>Rangifer tarandus</i>
Caribou/reindeer (<i>Rangifer tarandus</i>)	–	–	Cervidae (<i>Cervus elaphus</i> , <i>Rangifer tarandus</i> etc.)	–	–	–	<i>Rangifer tarandus</i>
Seal (Phocidae)	–	–	Phocidae	Phocidae	–	–	Phocidae
Caribou/reindeer (<i>Rangifer tarandus</i>)	Cross section + longitudinal	<i>Rangifer tarandus</i>	Cervidae	Cervidae	–	–	<i>Rangifer tarandus</i>
Unidentified mammalian species	–	–	Cervidae (<i>Cervus elaphus</i> , <i>Rangifer tarandus</i> etc.)	–	–	–	<i>Rangifer tarandus</i>
Seal (Phocidae)	–	–	Phocidae	Phocidae	–	–	Phocidae
Caribou/reindeer (<i>Rangifer tarandus</i>)	Cross section + longitudinal	<i>Rangifer tarandus</i>	Cervidae (<i>Cervus elaphus</i> , <i>Rangifer tarandus</i> etc.)	–	–	–	<i>Rangifer tarandus</i>
Unidentified mammalian species	–	–	Cervidae (<i>Cervus elaphus</i> , <i>Rangifer tarandus</i> etc.)	–	–	–	<i>Rangifer tarandus</i>
Unidentified mammalian species	–	–	Cervidae	–	–	–	<i>Rangifer tarandus</i>

TABLE S1. Data collected on species identification of Inuit skin and fur clothing housed at the National Museum of Denmark – *continued*:

ARCHIVAL INFORMATION				SAMPLE INFORMATION					
No.	Indigenous name, Inuit region	Provenance	Accession year	Inventory number	Object ID	Suit name	Garment description	Specimen sampled	Sample material
18	Netsilingmiut, Central Inuit	Igluligaarjuk (Chesterfield Inlet)	1924	P29.8	35236_a	NeM1	Parka, hair side turned outwards	Hood	Skin with hair/fur
19	Netsilingmiut, Central Inuit	Kugaaruk (Pelly Bay)	1924	P29.17	35245_a	NeM1	Trousers, hair side turned outwards	Trouser front	Skin with hair/fur
20	Netsilingmiut, Central Inuit	Qikiqtaq (King William Island)	1908	P.37	36219_a	NeM1	Boot, hair side turned outwards	Leg	De-haired skin with epidermis
21	Kivallirmiut, Central Inuit	Qamani'tuaq (Baker Lake)	1924	P28.10	34949_a	CaF1	Parka, hair side turned outwards	Sleeve (lace)	De-haired skin with epidermis
22	Kivallirmiut, Central Inuit	Arviat (Eskimo Point)	1924	P28.18	34957_a	CaF1	Trousers, hair side turned outwards	Waist band	Skin with hair/fur
23	Kivallirmiut, Central Inuit	Yathkyed (Hikoliqjuaq)	1924	P28.34a–b	34973_a	CaF1	Boot, hair side turned inwards	Leg	Skin with hair/fur
24	Kivallirmiut, Central Inuit	Arviat (Eskimo Point)	1924	P28.6	34945_a	CaM1	Parka, hair side turned inwards	Lower trimming	Skin with hair/fur
25	Kivallirmiut, Central Inuit	Harvaqtuq (Kazan River)	1924	P28.14	34953_a	CaM1	Trousers, hair side turned outwards	Trouser leg trimming	Skin with hair/fur
26	Kivallirmiut, Central Inuit	Arviat (Eskimo Point)	1924	P28.31a–b	34970_a	CaM1	Boot, hair side turned outwards	Leg	De-haired skin with epidermis
27	Iglulingmiut, Central Inuit	Iglulik (Iglulik)	1924	P27.453	34594_a	IgF1	Parka, hair side turned inwards	Sleeve (thread)	Sinew thread
28	Iglulingmiut, Central Inuit	Iglulik (Iglulik)	1924	P27.454	34595_a	IgF1	Trousers, hair side turned outwards	Waist band (thread)	Sinew thread
29	Iglulingmiut, Central Inuit	Mittimatalik (Ponds Inlet)	1924	P27.457	34598_a	IgF1	Boot, hair side turned outwards	Sole (thread)	Sinew
30	Iglulingmiut, Central Inuit	Mittimatalik (Ponds Inlet)	1924	P27.410	34549_a	IgM1	Parka, hair side turned outwards	Front	Skin with hair/fur
31	Iglulingmiut, Central Inuit	Mittimatalik (Ponds Inlet)	1924	P27.420	34559_a	IgM1	Trousers, hair side turned outwards	Trouser front	Skin with hair/fur
32	Iglulingmiut, Central Inuit	Iglulik (Iglulik)	1924	P27.439	34579_a	IgM1	Boot, hair side turned outwards	Leg	De-haired skin with epidermis
33	Nunatsiummiut, Central Inuit	Labrador Coast	1922	P.230a	36416_a	LaF1	Parka, hair side turned outwards	Hood	Skin with hair/fur
34	Nunatsiummiut, Central Inuit	Labrador Coast	1922	P.230b	36417_a	LaF1	Trousers, hair side turned outwards	Trouser front	Skin with hair/fur
35	Nunatsiummiut, Central Inuit	Labrador Coast	1922	P.231c	36423_a	LaF1	Boot, hair side turned outwards	Leg	Skin with hair/fur
36	Nunatsiummiut, Central Inuit	Labrador	1924	P26.18	69944_a	LaM1	Parka, feather side turned outwards	Hood band	Skin with hair/fur
37	Nunatsiummiut, Central Inuit	Labrador	1924	P26.19	69971_a	LaM1	Trousers, hair side turned outwards	Trouser front	Skin with hair/fur

ANALYSIS RESULTS

Macroscopic identification from archive (85 specimens)	Hair TLM: performed mounting	Hair TLM (64 specimens)	Amplicon 16S A&M (75 specimens)	Amplicon Fusion extended_F&R (39 specimens)	Shotgun sequencing (32 specimens)	Shotgun sequencing previously published (9 specimens)	Final identification registered in database SkinBase January 13, 2022
Seal (Phocidae)	Cross section + longitudinal	<i>Phoca vitulina</i>	Phocidae	Phocidae	<i>Phoca vitulina</i>	–	<i>Phoca vitulina</i>
Musk ox (<i>Ovibos moschathus</i>)	Cross section + longitudinal	<i>Ovibos moschathus</i>	<i>Ovibos moschathus</i>	–	–	–	<i>Ovibos moschathus</i>
Seal (Phocidae)	–	–	Failed	–	–	–	Phocidae
Caribou/reindeer (<i>Rangifer tarandus</i>)	–	–	Cervidae (<i>Cervus elaphus</i> , <i>Rangifer tarandus</i> etc.)	–	–	–	<i>Rangifer tarandus</i>
Caribou/reindeer (<i>Rangifer tarandus</i>)	Cross section + longitudinal	<i>Rangifer tarandus</i>	Cervidae (<i>Cervus elaphus</i> , <i>Rangifer tarandus</i> etc.)	–	–	–	<i>Rangifer tarandus</i>
Caribou/reindeer (<i>Rangifer tarandus</i>)	Longitudinal	<i>Rangifer tarandus</i>	Cervidae (<i>Cervus elaphus</i> , <i>Rangifer tarandus</i> etc.)	–	–	–	<i>Rangifer tarandus</i>
Caribou/reindeer (<i>Rangifer tarandus</i>)	Cross section + longitudinal	<i>Rangifer tarandus</i>	Cervidae (<i>Cervus elaphus</i> , <i>Rangifer tarandus</i> etc.)	–	–	–	<i>Rangifer tarandus</i>
Caribou/reindeer (<i>Rangifer tarandus</i>)	Longitudinal	<i>Rangifer tarandus</i>	Cervidae (<i>Cervus elaphus</i> , <i>Rangifer tarandus</i> etc.)	–	–	–	<i>Rangifer tarandus</i>
Seal (Phocidae)	–	–	Phocidae	Phocidae	–	–	Phocidae
Unidentified mammalian species	–	–	Failed	–	–	–	Unidentified mammalian species
Unidentified mammalian species	–	–	Cervidae (<i>Cervus elaphus</i> , <i>Rangifer tarandus</i> etc.)	–	–	–	<i>Rangifer tarandus</i>
Unidentified mammalian species	–	–	Cervidae (<i>Cervus elaphus</i> , <i>Rangifer tarandus</i> etc.)	–	–	–	<i>Rangifer tarandus</i>
Caribou/reindeer (<i>Rangifer tarandus</i>)	Cross section + longitudinal	<i>Rangifer tarandus</i>	Cervidae (<i>Cervus elaphus</i> , <i>Rangifer tarandus</i> etc.)	–	<i>Rangifer tarandus</i>	–	<i>Rangifer tarandus</i>
Caribou/reindeer (<i>Rangifer tarandus</i>)	Longitudinal	<i>Rangifer tarandus</i>	Failed	–	–	–	<i>Rangifer tarandus</i>
Seal (Phocidae)	–	–	Phocidae	Phocidae	–	–	Phocidae
Harbour seal (<i>Phoca vitulina</i>)	Cross section + longitudinal	<i>Phoca hispida</i>	Failed	–	Failed	–	<i>Phoca hispida</i>
Harbour seal (<i>Phoca vitulina</i>)	Cross section + longitudinal	<i>Phoca vitulina</i>	Phocidae	Phocidae	Failed	–	<i>Phoca vitulina</i>
Seal (Phocidae)	Cross section + longitudinal	<i>Phoca hispida</i>	Phocidae	Phocidae	Failed	–	<i>Phoca hispida</i>
Dog (<i>Canis lupus familiaris</i>)	Cross section + longitudinal	Canidae	<i>Canis lupus familiaris</i> or <i>Canis lupus</i>	Canidae	Failed	–	Canidae
Dog (<i>Canis lupus familiaris</i>)	Cross section + longitudinal	<i>Canis lupus familiaris</i> or <i>Canis lupus</i>	<i>Canis lupus familiaris</i>	Canidae	<i>Canis lupus familiaris</i>	Failed ¹	<i>Canis lupus familiaris</i>

TABLE S1. Data collected on species identification of Inuit skin and fur clothing housed at the National Museum of Denmark – *continued*:

ARCHIVAL INFORMATION				SAMPLE INFORMATION					
No.	Indigenous name, Inuit region	Provenance	Accession year	Inventory number	Object ID	Suit name	Garment description	Specimen sampled	Sample material
38	Nunatsiavummiut, Central Inuit	Labrador	1924	P26.20	69942_a	LaM1	Boot, hair side turned outwards	Leg	Skin with hair/fur
39	Inughuit, Eastern Inuit	North Greenland	1921	X.233	34035_a	NGF1	Parka, hair side turned outwards	Hood band	Skin with hair/fur
40	Inughuit, Eastern Inuit	North Star Bay	1909	L.4354	31857_a	NGF1	Trousers, hair side turned outwards	Trouser front	Skin with hair/fur
41	Inughuit, Eastern Inuit	Cape York (Kap York)	1924	L.9271	32950	NGF1	Stocking, hair side turned inwards	Leg trimming	Skin with hair/fur
42	Inughuit, Eastern Inuit	Qaanaaq (Thule)	1928	L.9554	33009_a	NGF2	Parka, hair side turned outwards	Hood	Skin with hair/fur
42	Inughuit, Eastern Inuit	Qaanaaq (Thule)	1928	L.9554	33009_b	NGF2	Parka, hair side turned outwards	Sleeve	Skin with hair/fur
43	Inughuit, Eastern Inuit	Qaanaaq (Thule)	1928	L.9555	33010_a	NGF2	Trousers, hair side turned outwards	Trouser front	Skin with hair/fur
44	Inughuit, Eastern Inuit	Qaanaaq (Thule)	1928	L.9556	33011_a	NGF2	Boot, hair side turned outwards	Leg	De-haired skin without epidermis
45	Inughuit, Eastern Inuit	Qaanaaq (Thule)	1928	L.9549	33005_a	NGM1	Parka, hair side turned outwards	Hood band	Skin with hair/fur
46	Inughuit, Eastern Inuit	Qaanaaq (Thule)	1928	L.9550	20420_a	NGM1	Trousers, hair side turned outwards	Waist band	Skin with hair/fur
47	Inughuit, Eastern Inuit	Qaanaaq (Thule)	1928	L.9551	33006_a	NGM1	Boot, hair side turned outwards	Leg trimming (lace)	De-haired skin without epidermis
48	Inughuit, Eastern Inuit	Cape York (Kap York)	1905	L.2097	31588_a	NGM2	Parka, hair side turned outwards	Hood	Skin with hair/fur
48	Inughuit, Eastern Inuit	Cape York (Kap York)	1905	L.2097	31588_b	NGM2	Parka, hair side turned outwards	Lower trimming	Skin with hair/fur
49	Inughuit, Eastern Inuit	Cape York (Kap York)	1905	L.2098	31589_a	NGM2	Trousers, hair side turned outwards	Trouser front	Skin with hair/fur
50	Inughuit, Eastern Inuit	Cape York (Kap York)	1905	L.2104	31595_a	NGM2	Boot, hair side turned outwards	Leg trimming	De-haired skin without epidermis
51	Kalaallit, Eastern Inuit	Aulatsivik, Aasiaat District (Egedesminde Distrikt)	1918	L.7819	67907_a	WGF1	Parka, hair side turned outwards	Hood	Skin with hair/fur
52	Kalaallit, Eastern Inuit	Kitsissuarsuit (Hunde Ejlande)	1918	L.7818b	67905_a	WGF1	Trousers, hair side turned outwards	Trouser leg trimming	De-haired skin without epidermis
53	Kalaallit, Eastern Inuit	Kitsissuarsuit (Hunde Ejlande)	1918	L.7818c	67906_a	WGF1	Stocking, hair side turned inwards	Leg trimming	Skin with hair/fur
54	Kalaallit, Eastern Inuit	West Greenland	1883	Ld.32a	68927_a	WGF2	Parka, hair side turned outwards	Hood	Skin with hair/fur
55	Kalaallit, Eastern Inuit	West Greenland	1883	Ld.32b	31316_a	WGF2	Trousers, hair side turned outwards	Trouser front	Skin with hair/fur
56	Kalaallit, Eastern Inuit	West Greenland	1883	Ld.32c	31317_a	WGF2	Boot, hair side turned outwards	Leg	De-haired skin with epidermis
57	Kalaallit, Eastern Inuit	Aito, Aasiaat District (Egedesminde Distrikt)	1844	Lc.187a	30492_a	WGF3	Parka, hair side turned outwards	Sleeve	Skin with hair/fur

ANALYSIS RESULTS

Macroscopic identification from archive (85 specimens)	Hair TLM: performed mounting	Hair TLM (64 specimens)	Amplicon 16S&M (75 specimens)	Amplicon Fusion extended_F&R (39 specimens)	Shotgun sequencing (32 specimens)	Shotgun sequencing previously published (9 specimens)	Final identification registered in database SkinBase January 13, 2022
Seal (Phocidae)	Cross section + longitudinal	<i>Phoca hispida</i>	Phocidae	Phocidae	<i>Phoca hispida</i>	–	<i>Phoca hispida</i>
Arctic fox (<i>Vulpes lagopus</i>)	Cross section + longitudinal	<i>Vulpes lagopus</i>	<i>Canis lupus</i> or <i>Vulpes Vulpes</i>	Canidae	–	–	<i>Vulpes lagopus</i>
Arctic fox (<i>Vulpes lagopus</i>)	Cross section + longitudinal	<i>Vulpes lagopus</i>	Failed	–	–	–	<i>Vulpes lagopus</i>
Polar bear (<i>Ursus maritimus</i>)	Cross section + longitudinal	<i>Rangifer tarandus</i>	Ursinae (<i>Ursus maritimus</i> or <i>Ursus arctos</i>)	Ursidae	–	–	<i>Ursus maritimus</i>
Seal (Phocidae)	Cross section + longitudinal	<i>Phoca hispida</i>	Phocidae	Phocidae	<i>Phoca hispida</i>	–	<i>Phoca hispida</i>
Seal (Phocidae)	Cross section + longitudinal	<i>Phoca hispida</i>	–	–	<i>Phoca hispida</i>	–	<i>Phoca hispida</i>
Arctic fox (<i>Vulpes lagopus</i>)	Cross section + longitudinal	<i>Vulpes lagopus</i>	<i>Canis lupus</i> or <i>Vulpes Vulpes</i>	Canidae	<i>Vulpes lagopus</i>	–	<i>Vulpes lagopus</i>
Seal (Phocidae)	–	–	Phocidae	Phocidae	–	–	Phocidae
Arctic fox (<i>Vulpes lagopus</i>)	Cross section + longitudinal	Canidae	<i>Canis lupus</i> or <i>Vulpes Vulpes</i>	Canidae	–	–	Canidae
Seal (Phocidae)	Cross section + longitudinal	<i>Phoca vitulina</i>	Failed	–	–	–	<i>Phoca vitulina</i>
Seal (Phocidae)	–	–	<i>Erignathus barbatus</i>	–	–	–	<i>Erignathus barbatus</i>
Unidentified mammalian species	Cross section + longitudinal	<i>Canis lupus familiaris</i>	Failed ²	–	–	Failed ²	<i>Canis lupus familiaris</i>
Unidentified mammalian species	–	–	–	–	–	Failed ²	<i>Canis lupus familiaris</i>
Polar bear (<i>Ursus maritimus</i>)	Cross section + longitudinal	<i>Ursus maritimus</i>	Failed	–	–	–	<i>Ursus maritimus</i>
Seal (Phocidae)	–	–	Failed	–	–	–	Phocidae
Seal (Phocidae)	Cross section + longitudinal	<i>Phoca hispida</i>	Failed	–	Failed	–	<i>Phoca hispida</i>
Seal (Phocidae)	–	–	Failed	–	–	–	Phocidae
Seal (Phocidae)	Cross section + longitudinal	Phocidae	Failed	–	Failed	–	Phocidae
Seal (Phocidae)	Cross section + longitudinal	<i>Phoca hispida</i>	Failed	–	Failed	–	<i>Phoca hispida</i>
Seal (Phocidae)	Cross section + longitudinal	<i>Phoca hispida</i>	Phocidae	Phocidae	<i>Phoca hispida</i>	–	<i>Phoca hispida</i>
Seal (Phocidae)	–	–	Phocidae	Phocidae	–	–	Phocidae
Caribou/reindeer (<i>Rangifer tarandus</i>)	Cross section + longitudinal	<i>Rangifer tarandus</i>	Cervidae (<i>Cervus elaphus</i> ,	–	<i>Rangifer tarandus</i>	–	<i>Rangifer tarandus</i>

TABLE S1. Data collected on species identification of Inuit skin and fur clothing housed at the National Museum of Denmark – *continued*.

ARCHIVAL INFORMATION				SAMPLE INFORMATION					
No.	Indigenous name, Inuit region	Provenance	Accession year	Inventory number	Object ID	Suit name	Garment description	Specimen sampled	Sample material
58	Kalaallit, Eastern Inuit	Aito, Aasiaat District (Egedesminde Distrikt)	1844	Lc.187b	30493_a	WGF3	Stocking, hair side turned inwards	Leg	Skin with hair/fur
59	Kalaallit, Eastern Inuit	Aito, Aasiaat District (Egedesminde Distrikt)	1844	Lc.187d	30495_a	WGF3	Boot, hair side turned outwards	Leg trimming	De-haired skin without epidermis
60	Kalaallit, Eastern Inuit	Alluitsoq (Lichtenau)	1938	L18.140a	33439_a	WGF4	Parka, hair side turned outwards	Collar	Skin with hair/fur
61	Kalaallit, Eastern Inuit	Alluitsoq (Lichtenau)	1938	L18.140e	33443_a	WGF4	Trousers, hair side turned outwards	Trouser front	Skin with hair/fur
62	Kalaallit, Eastern Inuit	Alluitsoq (Lichtenau)	1938	L18.140g	33444_a	WGF4	Stocking, hair side turned inwards	Leg trimming	Skin with hair/fur
63	Kalaallit, Eastern Inuit	West Greenland	1883	Ld.31a	31312_a	WGM1	Parka, hair side turned outwards	Back	Skin with hair/fur
64	Kalaallit, Eastern Inuit	West Greenland	1883	Ld.31b	31313_a	WGM1	Trousers, hair side turned outwards	Trouser back	Skin with hair/fur
65	Kalaallit, Eastern Inuit	West Greenland	1883	Ld.31c	31314_a	WGM1	Boot, hair side turned outwards	Leg	De-haired skin with epidermis
66	Ivit, Eastern Inuit	Tasiilaq (Angmagssalik)	1911	L.5064	32162_a	EGF1	Parka, hair side turned outwards	Hood band	Skin with hair/fur
67	Ivit, Eastern Inuit	Tasiilaq (Angmagssalik)	1911	L.5072	32169_a	EGF1	Trousers, hair side turned outwards	Trouser front	Skin with hair/fur
68	Ivit, Eastern Inuit	Tasiilaq (Angmagssalik)	1911	L.5082	32179_a	EGF1	Stocking, hair side turned inwards	Leg trimming	Skin with hair/fur
69	Ivit, Eastern Inuit	Tasiilaq (Angmagssalik)	1911	L.5066	32164_a	EGF2	Parka, hair side turned inwards	Front	Skin with hair/fur
70	Ivit, Eastern Inuit	Tasiilaq (Angmagssalik)	1892	Ld.133.9	31432_a	EGF2	Trousers, hair side turned outwards	Trouser front	Skin with hair/fur
71	Ivit, Eastern Inuit	Tasiilaq (Angmagssalik)	1897	L.1545.2	31535_a	EGF2	Stocking, hair side turned inwards	Leg trimming	Skin with hair/fur
72	Ivit, Eastern Inuit	Tasiilaq (Angmagssalik)	1881	Ld.17	31299_a	EGM1	Parka, gut skin	Lower trimming	Gut skin
73	Ivit, Eastern Inuit	Tasiilaq (Angmagssalik)	1894	Ld.162	117711_a	EGM1	Trousers, hair side turned outwards	Trouser front	Skin with hair/fur
74	Ivit, Eastern Inuit	Tasiilaq (Angmagssalik)	1886	Ld.66c	20246_a	EGM1	Boot, hair side turned outwards	Leg	De-haired skin without epidermis
75	Ivit, Eastern Inuit	Tasiilaq (Angmagssalik)	1911	L.4990	32086_a	EGM2	Parka, hair side turned outwards	Lower trimming	Skin with hair/fur
76	Ivit, Eastern Inuit	Tasiilaq (Angmagssalik)	1911	L.5013	32109_a	EGM2	Trousers, hair side turned outwards	Trouser leg	Skin with hair/fur
77	Ivit, Eastern Inuit	Tasiilaq (Angmagssalik)	1911	L.5024	32120_a	EGM2	Boot, hair side turned outwards	Leg	Skin with hair/fur

Numbers 1 to 77 cover 77 empirical selected garments with 81 samples.

¹ (Ameen et al., 2019).

² (Harris et al., 2020).

ANALYSIS RESULTS

Macroscopic identification from archive (85 specimens)	Hair TLM: performed mounting	Hair TLM (64 specimens)	Amplicon 16S A&M (75 specimens)	Amplicon Fusion extended_F&R (39 specimens)	Shotgun sequencing (32 specimens)	Shotgun sequencing previously published (9 specimens)	Final identification registered in database SkinBase January 13, 2022
Caribou/reindeer (<i>Rangifer tarandus</i>)	Longitudinal	<i>Rangifer tarandus</i>	–	–	–	–	<i>Rangifer tarandus</i>
Seal (Phocidae)	–	–	Failed	–	–	–	Phocidae
Dog (<i>Canis lupus familiaris</i>)	Cross section + longitudinal	<i>Bos taurus</i>	–	Failed	–	–	<i>Bos taurus</i>
Harbour seal (<i>Phoca vitulina</i>)	Cross section + longitudinal	<i>Phoca vitulina</i>	–	Failed	–	–	<i>Phoca vitulina</i>
Dog (<i>Canis lupus familiaris</i>)	Cross section + longitudinal	<i>Bos taurus</i>	–	Failed	–	–	<i>Bos taurus</i>
Seal (Phocidae)	Cross section + longitudinal	<i>Phoca hispida</i>	Failed	–	–	–	<i>Phoca hispida</i>
Seal (Phocidae)	Cross section + longitudinal	<i>Phoca hispida</i>	Phocidae	Phocidae	–	–	<i>Phoca hispida</i>
Seal (Phocidae)	–	–	Failed	–	–	–	Phocidae
Seal (Phocidae)	–	–	Failed	–	Failed	–	Phocidae
Seal (Phocidae)	Cross section + longitudinal	<i>Phoca hispida</i>	Failed	–	–	–	<i>Phoca hispida</i>
Unidentified mammalian species	Cross section + longitudinal	<i>Canis lupus familiaris</i>	<i>Canis lupus</i> or <i>Canis lupus</i>	Canidae	–	Canidae ¹ <i>Canis lupus familiaris</i>	<i>Canis lupus familiaris</i> ²
Seal (Phocidae)	Cross section + longitudinal	Phocidae	Failed	–	–	–	Phocidae
Unidentified mammalian species	Cross section + longitudinal	<i>Phoca hispida</i>	Phocidae	Phocidae	–	–	<i>Phoca hispida</i>
Polar bear (<i>Ursus maritimus</i>)	Cross section + longitudinal	<i>Ursus maritimus</i>	Ursinae (<i>Ursus maritimus</i> or <i>Ursus arctos</i>)	Ursidae	–	–	<i>Ursus maritimus</i>
Unidentified mammalian species	–	–	<i>Erignathus barbatus</i>	–	–	–	<i>Erignathus barbatus</i>
Seal (Phocidae)	Cross section + longitudinal	<i>Pagophilus groenlandicus</i>	Failed	–	–	–	<i>Pagophilus groenlandicus</i>
Unidentified mammalian species	–	–	Failed	–	–	–	Phocidae
Seal (Phocidae)	Cross section + longitudinal	<i>Phoca hispida</i>	Phocidae	Phocidae	<i>Phoca hispida</i>	–	<i>Phoca hispida</i>
Polar bear (<i>Ursus maritimus</i>)	Cross section + longitudinal	<i>Ursus maritimus</i>	Failed	–	–	–	<i>Ursus maritimus</i>
Seal (Phocidae)	Cross section + longitudinal	<i>Phoca hispida</i>	–	–	<i>Phoca hispida</i>	–	<i>Phoca hispida</i>

Numbers 1 to 77 cover 77 empirical selected garments with 81 samples.

¹ (Ameen et al., 2019).

² (Harris et al., 2020).

APPENDIX 2

Species identified from samples taken from Inuit clothing housed at the National Museum of Denmark. Figures identify the species source, garment type sampled, the area on the garment where the sample was taken (red circle), micrographs of hairs in longitudinal mount and cross-section with descriptions. The results also include the identification methods in macroscopical identification, hair transmitted light microscopy, and DNA analysis.

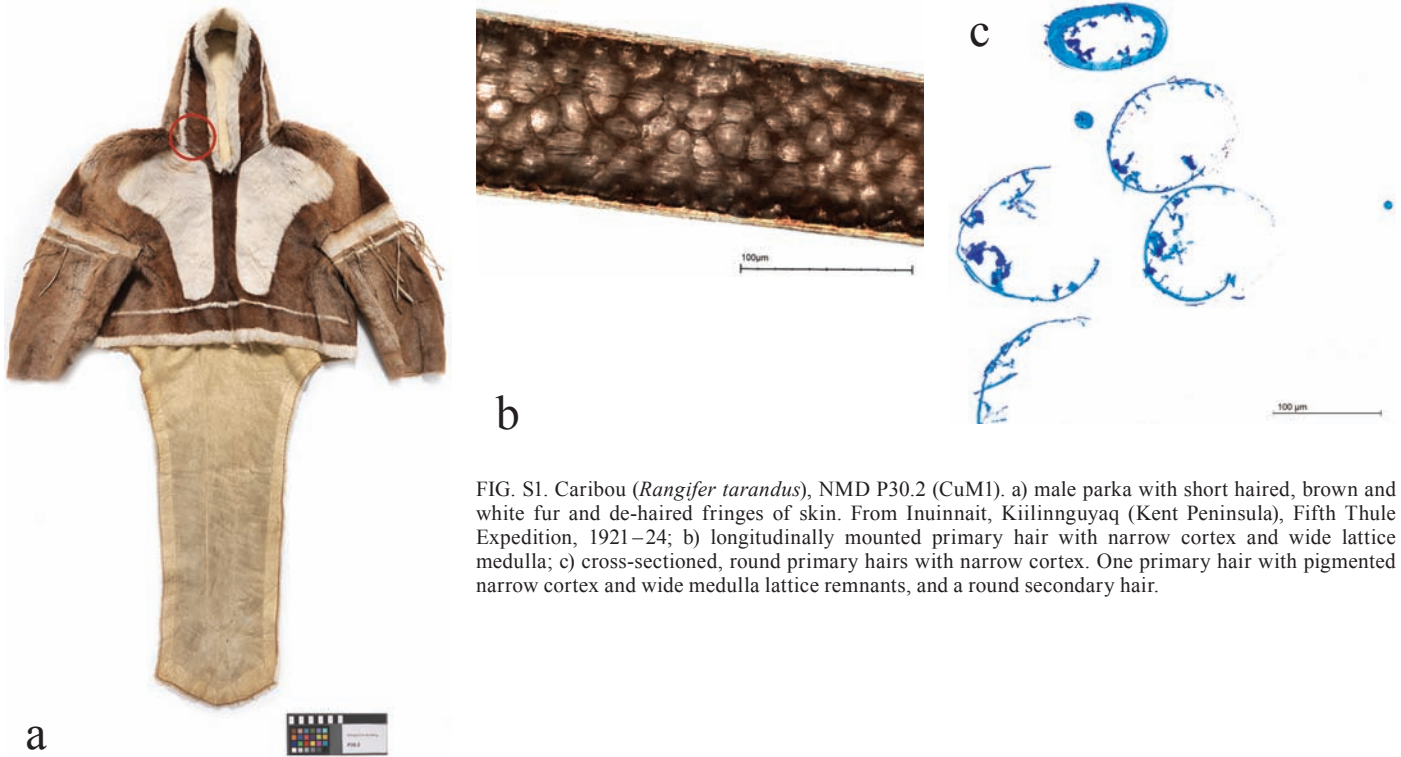


FIG. S1. Caribou (*Rangifer tarandus*), NMD P30.2 (CuM1). a) male parka with short haired, brown and white fur and de-haired fringes of skin. From Inuinnait, Kiilinguyaq (Kent Peninsula), Fifth Thule Expedition, 1921–24; b) longitudinally mounted primary hair with narrow cortex and wide lattice medulla; c) cross-sectioned, round primary hairs with narrow cortex. One primary hair with pigmented narrow cortex and wide medulla lattice remnants, and a round secondary hair.

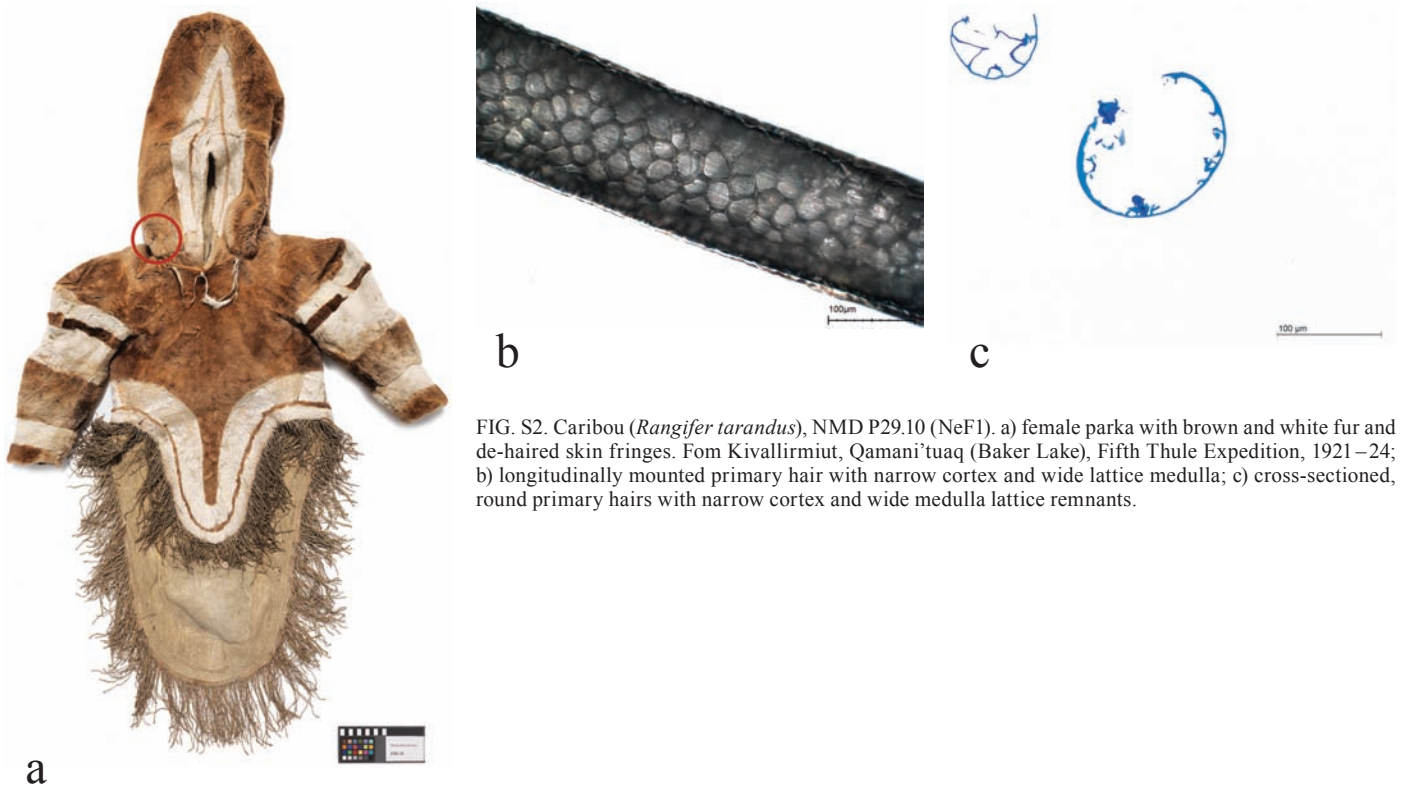
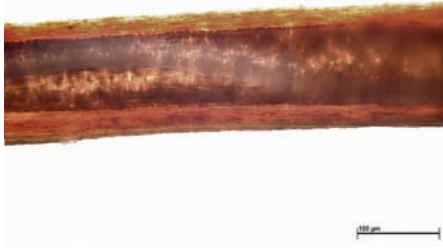


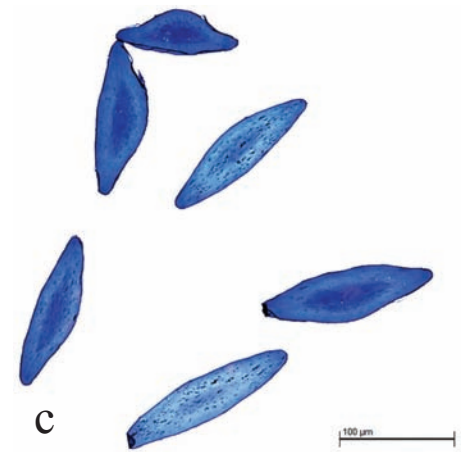
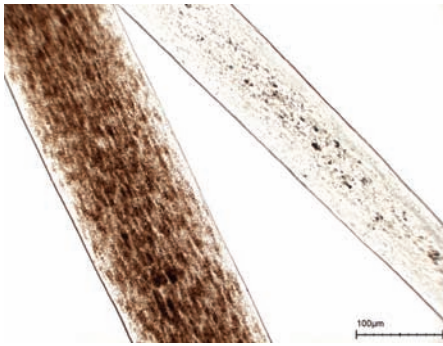
FIG. S2. Caribou (*Rangifer tarandus*), NMD P29.10 (NeF1). a) female parka with brown and white fur and de-haired skin fringes. From Kivallirmiut, Qamani'tuaq (Baker Lake), Fifth Thule Expedition, 1921–24; b) longitudinally mounted primary hair with narrow cortex and wide lattice medulla; c) cross-sectioned, round primary hairs with narrow cortex and wide medulla lattice remnants.



b

c

FIG. S3. Muskox (*Ovibos moschatus*), NMD P29.17 (NeM1). a) male trousers of muskox fur with caribou waistband. From Netsilingmiut, Kugaaruk (Pelly Bay), Fifth Thule Expedition, 1921–24; b) longitudinally mounted primary hair with medium width, unbroken medulla, and without mounting media; c) cross-sectioned, kidney-shaped primary hairs and round to oblong intermediate hairs with cortex pigmentation and medium-wide medulla and medulla remnants. Round to oblong secondary hairs.



b

c

FIG. S4. Harp seal (*Pagophilus groenlandicus*), NMD Ld.162 (EGM1). a) male trousers with harp seal fur trimmings of de-haired seal skin with epidermis. From Iivit, Tasilaq (Angmagssalik), Unknown collection circumstances, 1894; b) longitudinally mounted primary hairs with pigmented cortex and without medulla; c) cross-sectioned, eye- and hat-shaped primary hairs with cortex pigmentation, central dark shade, and without medulla.



b

c

FIG. S5. Harp seal (*Pagophilus groenlandicus*), NMD L.9356. a) boys boots with shaft of fur from harp seal and trimming and sole of de-haired seal skin with epidermis. From Kalaallit, Uummannaq District, Helge Bangsted's film expedition, 1926; b) longitudinally mounted primary hair with faint cortex pigmentation and without medulla, and with a secondary hair with visible cuticular pattern; c) cross-sectioned, oblong- and eye-shaped primary hairs without medulla.



FIG. S6. Ringed seal (*Phoca hispida*), NMD P26.20 (LaM1). a) Male boots with shaft of fur from ringed seal, and shaft trimming, foot, and sole made of de-haired seal skin. From Nunatsiavummiut, Labrador, Fifth Thule Expedition, 1921–24; b) longitudinally mounted primary hair with faint cortex pigmentation and without medulla; c) cross-section, oblong- and hat-shaped, primary hairs with cortex pigmentation and without medulla.

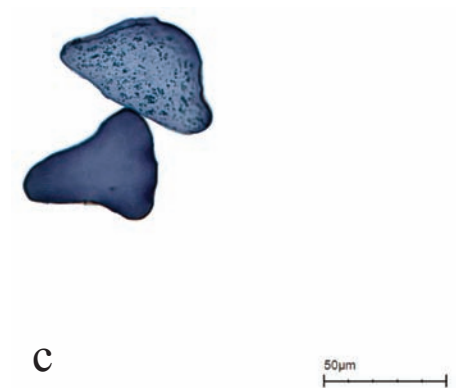
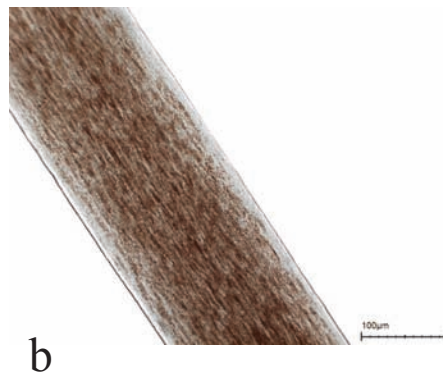


FIG. S7. Ringed seal (*Phoca hispida*), NMD Ld.32b (WGF2). a) female trousers of ringed seal fur with trimmings, decoration, and waistband of de-haired, dyed seal skin. From Kalaallit, West Greenland, Chief Factor E.C. Boye, 1883; b) Longitudinally mounted primary hair with pigmentation and without medulla; c) cross-sectioned, hat-shaped primary hairs with cortex pigmentation and without medulla.

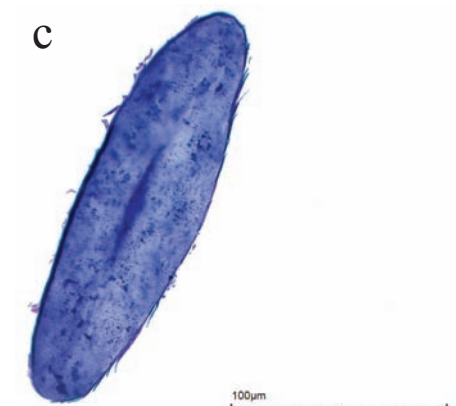
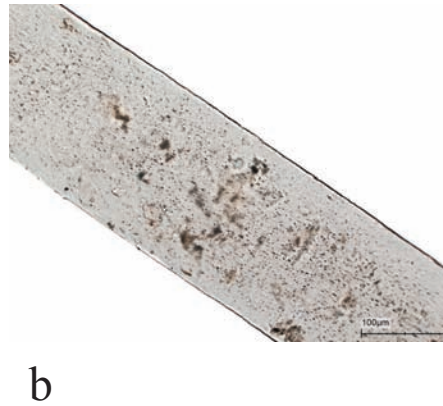


FIG. S8. Harbour seal (*Phoca vitulina*), NMD P29.8 (NeM1). a) male parka of harbour seal fur. From Netsilingmiut, Igluligaarjuk (Chesterfield Inlet), Canada, Fifth Thule Expedition, 1921–24; b) longitudinally mounted, primary hair with cortex pigmentation and without medulla; c) cross-sectioned, oblong to oval primary hair with cortex pigmentation, central dark shade, remnant cuticular scales, and without medulla.

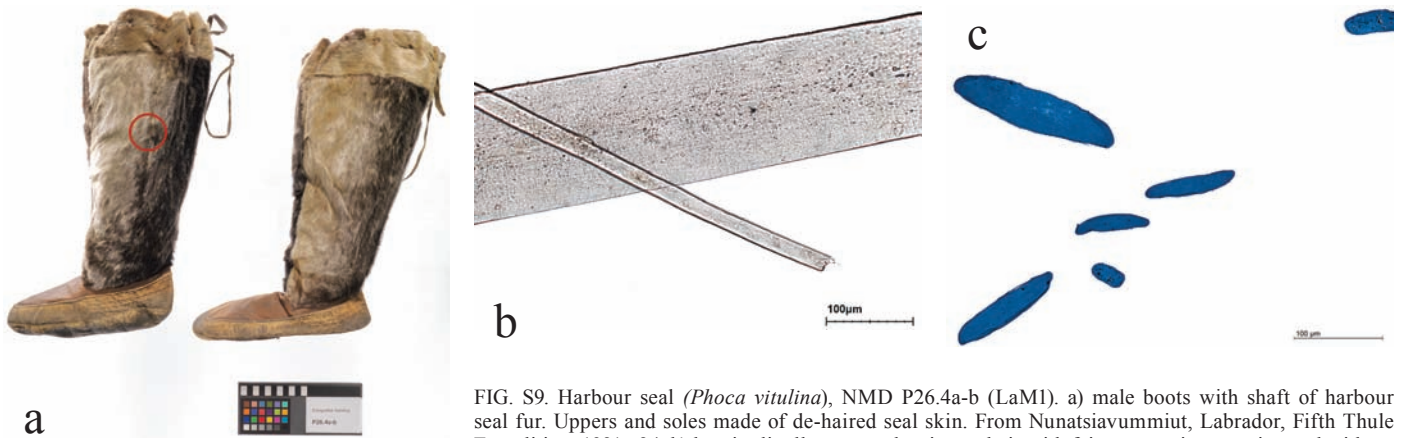


FIG. S9. Harbour seal (*Phoca vitulina*), NMD P26.4a-b (LaM1). a) male boots with shaft of harbour seal fur. Uppers and soles made of de-haired seal skin. From Nunatsiavummiut, Labrador, Fifth Thule Expedition, 1921–24; b) longitudinally mounted, primary hair with faint cortex pigmentation and without medulla, and a secondary hair; c) cross-section oblong and oval primary hairs without medulla.

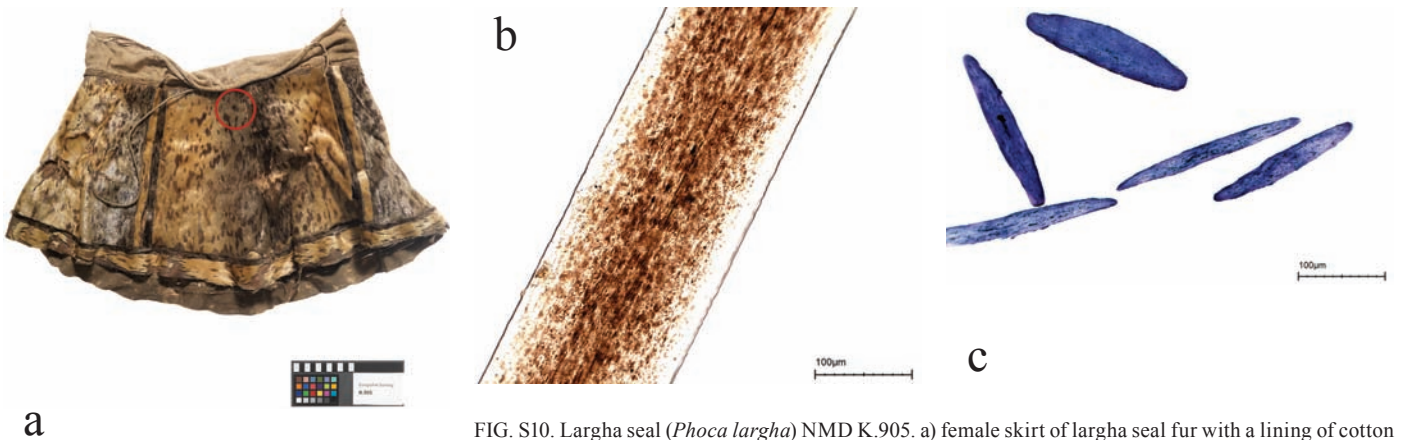


FIG. S10. Largha seal (*Phoca largha*) NMD K.905. a) female skirt of largha seal fur with a lining of cotton textile. From Nanai, Sakhalin, Professor Benedikt Balogh von Barathos, 1937; b) longitudinally mounted primary hair with cortex pigmentation and without medulla; c) cross-sectioned, thin oblong and oval primary hairs with cortex pigmentation and without medulla.

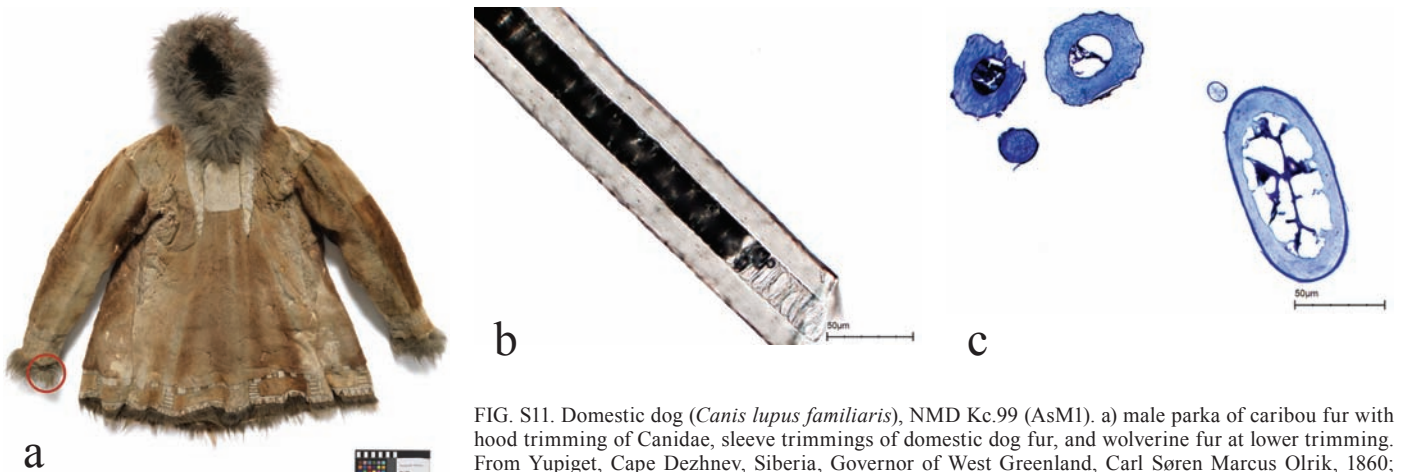


FIG. S11. Domestic dog (*Canis lupus familiaris*), NMD Kc.99 (AsM1). a) male parka of caribou fur with hood trimming of Canidae, sleeve trimmings of domestic dog fur, and wolverine fur at lower trimming. From Yupiget, Cape Dezhnev, Siberia, Governor of West Greenland, Carl Søren Marcus Olrik, 1860; b) longitudinally mounted primary hair with medium width unbroken medulla, which at the bottom is filled with mounting media; c) cross-sectioned, oval primary hair with medulla remnants. Nut-shaped intermediate hairs with cuticular scales. Hairs have faint pigmentation in cortex lumens.

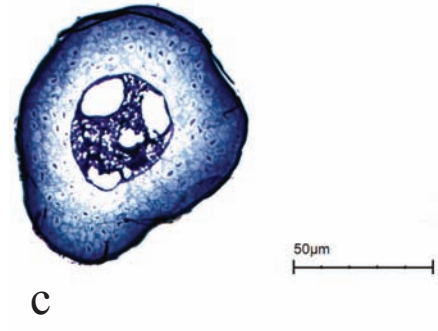
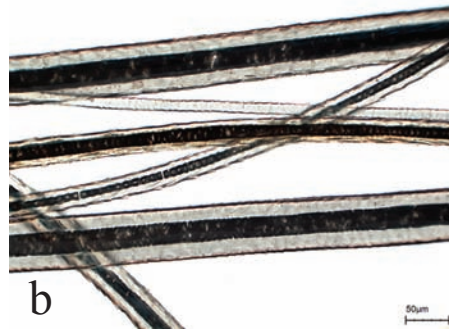


FIG. S12. Domestic dog (*Canis lupus familiaris*), NMD L.2097 (NGM2). a) male parka of domestic dog fur including the hood trimming. From Inughuit, Cape York, North Greenland, the Literary Greenland Expedition, 1902–04, 1905; b) longitudinally mounted primary hairs with medium width, unbroken medulla, and intermediate hair with medium width uniserial ladder medulla. Secondary hair shows obvious cuticular scales; c) cross-sectioned, round to oval primary hair with pigmentation cortex lumens and medium width medulla and medulla remnants.

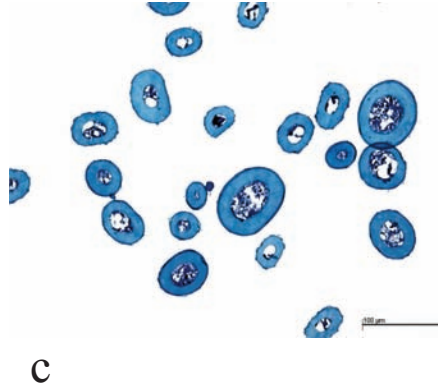
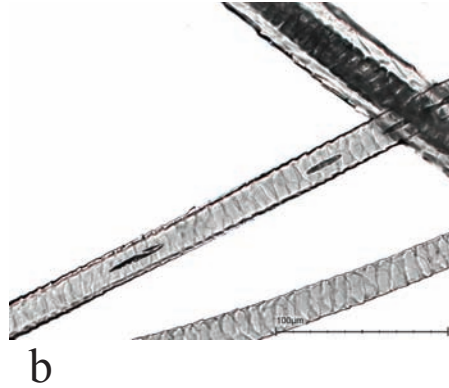


FIG. S13. Wolf (*Canis lupus*), NMD P30.9. a) male parka of fur possibly from ground squirrel (*Urocyon parryi richardsonii*), and sleeve trimmings of wolf fur. From Inuinnait, Kiillinnguyaq (Kent Peninsula), Umingmarktórmiut, Fifth Thule Expedition, 1902–04, 1927; b) longitudinally mounted primary hairs with an unbroken medium width medulla and cuticular pattern. Secondary hair cuticular pattern; c) cross-sectioned, round to oval primary hairs, and nut-shaped, intermediate hairs, all with medium width medulla and medulla remnants.

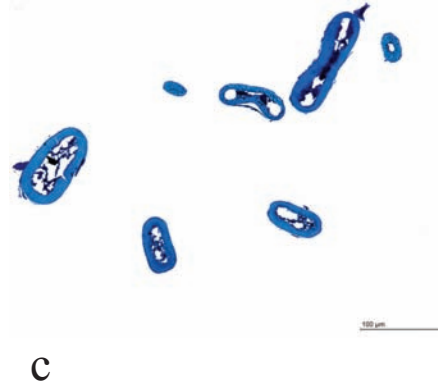


FIG. S14. Wolf (*Canis lupus*), NMD P30.9. a) male parka possibly of fur ground squirrel (*Urocyon parryi richardsonii*), and sleeve trimmings of wolf fur. From Inuinnait, Kiillinnguyaq (Kent Peninsula), Umingmarktórmiut, Fifth Thule Expedition, 1902–04, 1927; b) longitudinally mounted primary hairs with an unbroken, medium width medulla without mounting media; c) cross-sectioned, oblong dumbbell-shaped primary hairs, and nut-shaped intermediate hairs, all with cortex pigmentation, medium width medulla and medulla remnants.

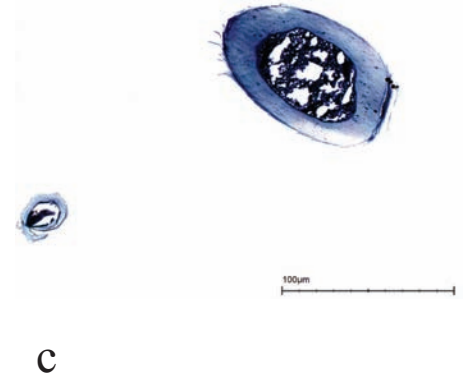


FIG. S15. Arctic fox (*Vulpes lagopus*), NMD X.233 (NGF1). a) female parka of Arctic fox fur and hood of Phocidae fur. From Inughuit, North Greenland, Polar researcher, Peter Freuchen, 1921; b) longitudinally mounted intermediate hairs with uniserial ladder medulla; c) cross-section, oval primary hair with cortex pigmentation, medium width medulla and medulla remnants, and nut-shaped intermediate hair with medulla remnants.

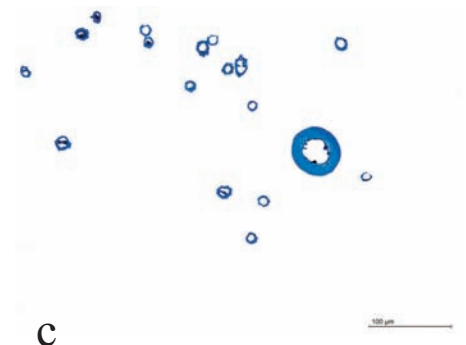


FIG. S16. Arctic fox (*Vulpes lagopus*), NMD L.9555 (NGF2). a) female trousers of Arctic fox fur and woven textile of wool and cotton. From Inughuit, Qaanaaq (Thule), North Greenland, Polar researcher Knud Rasmussen, 1928; b) longitudinally mounted primary hair with unbroken medium width medulla and intermediate hairs with uniserial ladder medulla; c) cross-sectioned, round primary hair with cortex pigmentation, medium width medulla and medulla remnants, and nut-shaped intermediate hairs.

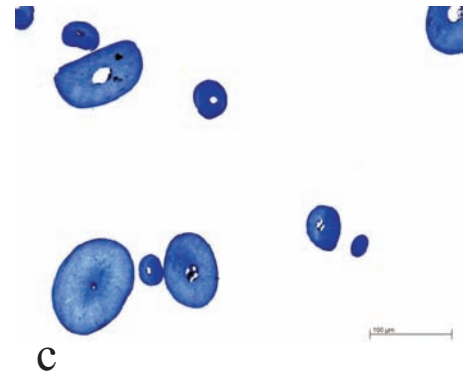
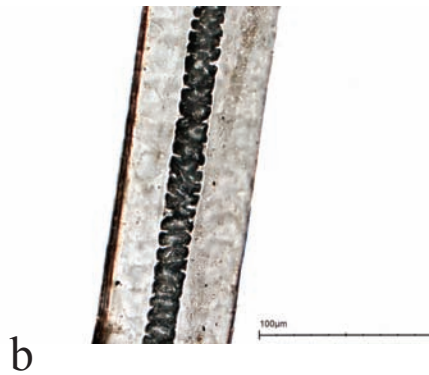


FIG. S17. Polar bear (*Ursus maritimus*), NMD L.2098 (NGM2). a) male trousers of polar bear fur with trimmings of de-haired seal skin. From Inughuit, Cape York, the Danish Literary Expedition, 1902–1904, 1905; b) longitudinally mounted primary hair with unbroken, narrow medulla; c) cross-sectioned, oval primary hairs with faint pigmentation, narrow medulla and medulla remnants, and an oval secondary hair.

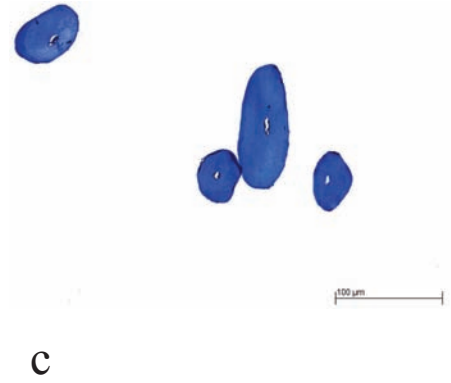
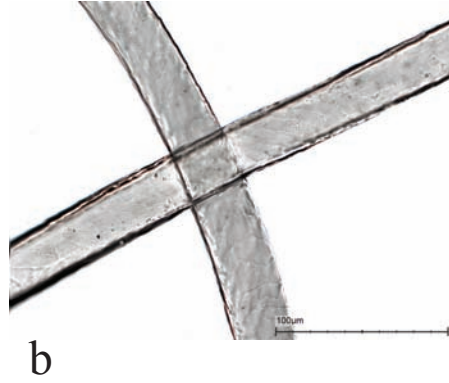


FIG. S18. Polar bear (*Ursus maritimus*), NMD L1545.2 (EGF2). a) female stockings of de-haired seal skin, boots and stockings with trimmings of polar bear fur. From Iivit, Angmagssalik, East Greenland, Chief Factor Johan Petersen, 1897; b) Longitudinally mounted secondary hairs with distinct cuticular pattern; c) cross-sectioned, oval primary hairs with sparse cortex pigmentation, narrow medulla and medulla remnants.

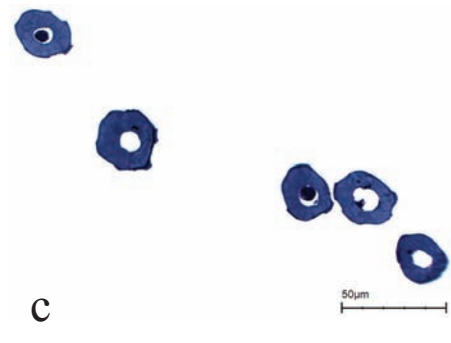


FIG. S19. Wolverine (*Gulo gulo*), NMD Kc99 (AsM1). a) male parka of elder tree bark, tanned caribou fur with hood trimmings of Canidae fur, domestic dog fur sleeve trimmings, and wolverine at lower trimmings. From Yupiget, Cape Dezhnev, Siberia. Governor for North Greenland, Carl Søren Marcus Olrik, 1860; b) longitudinally mounted primary hair with unbroken, medium width medulla, and an intermediate hair with uniserial ladder medulla; c) cross-sectioned, nut-shaped intermediate hairs with cortex pigmentation, medium width medulla and medulla remnants.

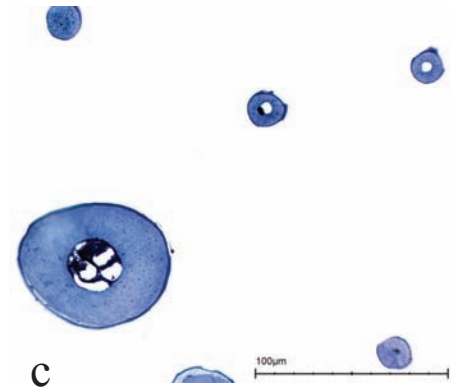
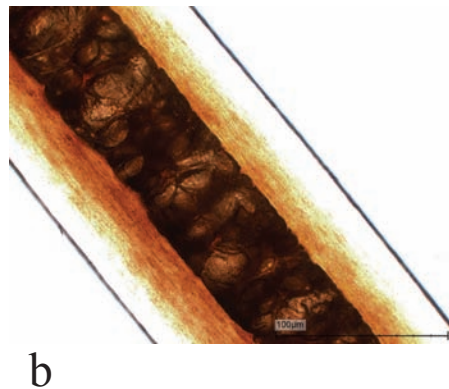
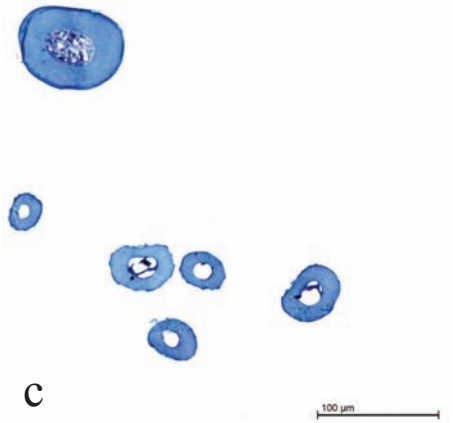
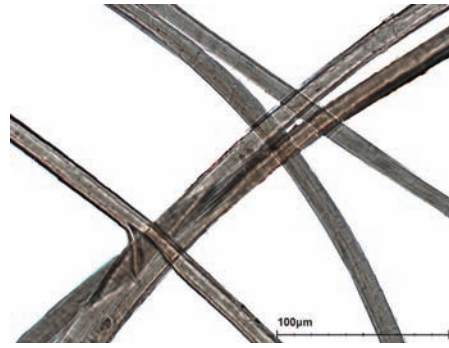


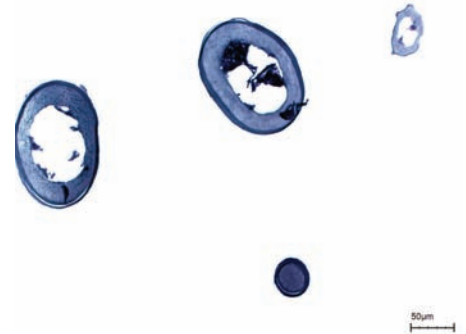
FIG. S20. Wolverine (*Gulo gulo*), NMD P.6403. a) Iñupiat boys parka of caribou fur with wolverine fur hood trimmings. From Alaska, collected by Helge Larsen, head of ethnography collection, National Museum of Denmark, 1945; b) longitudinally mounted primary hair with unbroken, medium width medulla; c) cross-sectioned, round to oval primary hair with faint pigmentation in cortex lumens, and medium width medulla with medulla remnants. Nut-shaped, intermediate hairs with medium width medulla and medulla remnants, and a round, secondary hair.



b

c

FIG. S21. Ground squirrel (possibly *Urocyon parryi richardsonii*), NMD 930.9. a) male parka of ground squirrel fur and hood trimming of wolf fur. From Inuinnait, Killinnguyaq (Kent Peninsula), Umingmaktórmíut, Fifth Thule Expedition, 1902–04, 1927; b) longitudinally mounted secondary hairs; c) cross-sectioned, round to oblong primary and intermediate hairs with medium width cortex and medulla remnants.



b

c

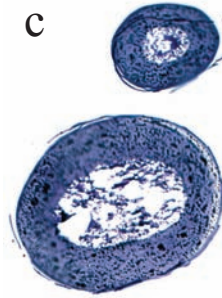
FIG. S22. Ermine (*Mustela erminea*), NMD P30.1. a) male parka of caribou fur with whole ermine skins as decoration. From Inuinnait, Kitlingeq (Victoria Island), Fifth Thule Expedition, 1902–04, 1927; b) longitudinally mounted intermediate hair with unbroken, medium width medulla. Only the top of the hair is filled with mounting media; c) cross-sectioned, round to oblong primary hairs with medium width medulla and medulla remnants, and a round, secondary hair.



a



b



c



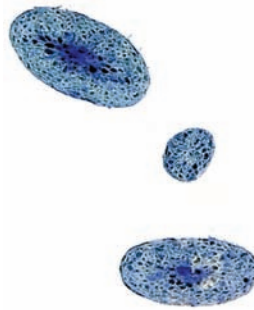
FIG. S23. Cattle (*Bos taurus*), NMD L18.140a (WGF4). a) female parka of artificial silk, silk ribbon, and bead cape. Collar and sleeve trimmings of cattle fur. From Kalaallit, Alluitsoq (Lichenau), Caroline Lyngø, 1938; b) longitudinally mounted primary hair with unbroken medium width medulla; c) two cross-sectioned, round to oval primary hairs with medium width pigmented cortex and medulla remnants.



a



b



c



FIG. S24. Cattle (*Bos taurus*), NMD L18.140fg (WGF4). a) female boots of red painted, de-haired seal skin. Seal skin fur stockings with trimmings of cattle fur: b) longitudinally mounted primary hairs with unbroken medium width medulla. c) cross-section, oval primary hairs with dark central medulla and pigmented, wide cortex with lumens, and a pigmented, secondary round hair. It is possible the hair is dyed.