

SUPPLEMENTARY MATERIAL
(ONLINE RESOURCE 1, 2, 3) for the article
**GENETIC VARIATION AND TAXONOMIC STATUS OF DAHL'S
JIRD (*MERIONES DAHLI*, RODENTIA, MURIDAE)**

© 2024 O. G. Nanova^{a,*}, V. S. Lebedev^a, E. N. Solovyeva^a, A. A. Lisenkova^b, V. Yu. Bogatyreva^a,
E. D. Zemlemerova^c, V. A. Matrosova^d

^a*Zoological Museum of Lomonosov Moscow State University, Moscow, 125009 Russia*

^b*Department of Vertebrate Zoology, Lomonosov Moscow State University, Moscow, 119234 Russia*

^c*Severtsov Institute of Ecology and Evolution, Russian Academy of Sciences, Moscow, 119081 Russia*

^d*Department of Structural and Functional Genomics, Engelhardt Institute of Molecular
Biology, Russian Academy of Sciences, Moscow, 119991 Russia*

*e-mail: nanovaolgag@gmail.com

Online Resource 1 consists of Tables S1 and S2, which both accompany the subsection “Extraction, Amplification, and Sequencing” in the Materials and Methods section of the main text and describe the primers used in the present study. Table S1 lists all primers with the respective marker genes, sequences, and sources. Table S2 provides information on the pairwise primer combinations, as well as corresponding annealing temperatures and lengths (bp) of the target fragments of the genes used in the study.

Table S1. Primers used in present study

Marker	Primer	Sequence (5' to 3')	Source
cyt <i>b</i>	L14723(L7)	CCAATGACATGAAAAATCATCGTT	Montgelard et al., 2002
	H15915(H6)	TCTCCATTCTCTGGTTTACAAGAC	
	L288a	TYCAYATCGGACGAGGAATCTACTA	Designed for present study
	R557a	AGGACTAAGGCTGCRATGATAAATG	
	L507c	GTRGATAARGCAACMCTAACACGATTCTT	
	R855a	RGGCTAGKACGCCTCCTAGTTTATT	
	R330a	GCGAATAAGAGAATGACTCCAATA	
	R807a	ACCCGAATGGTATTTCTCTT	
BRCA1	F865	CCAGTAACGGTCAGGAAAATGAAAC	Designed for present study
	R1245	TCACTCCGCTCCTTCTTGGCTTC	
IRBP	F178b	GCACCAGCACTCRCCAACCTCAG	Designed for present study
	R360	GCCTGAGATCTAGCACCAAAGAAGAG	

Table S2. Primer combinations used for amplification of fragments of *cytb*, IRBP, and BRCA1

Gene	Primer combinations	Size (bp)	Annealing temperature
<i>cytb</i>	L7 / R330a	~400	50 °C
	L288a / R557a	295	53 °C
	L507 / R855a	373	54 °C
	L807 / H6	387	50 °C
BRCA1	F865 / R1245		55 °C
IRBP	F178a / R360	263	59 °C

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Online Resource 2 is Table S3, which provides additional information referenced in the “Phylogenetic Analyses of Mitochondrial Data” subsection of the Materials and Methods section; it contains specimen codes (or in some cases haplotypes) with corresponding geographical localities and country of origin, species identification, GenBank accession numbers for the relevant sequences, and the references.

Table S3. List of used specimens (or haplotypes). Specimen code: country (K, Kazakhstan; C, China; M, Mongolia; Uz, Uzbekistan; Turkm, Turkmenistan; Kalm, Kalmykia; A, Armenia; Az, Azerbaijan; T, Turkey) – field (or museum) number – collection year

Species	Locality	Specimen code	cytb	BRCA1	IRBP	Reference
<i>M. penicilliger</i>	Kazakhstan, S Balkhash	K-3-2015	MN204228	MN204314	MN204393	Nanova et al., 2020
<i>M. penicilliger</i>	Kazakhstan, S Balkhash	K-6-2015	MN204229	MN204315	MN204394	Nanova et al., 2020
<i>M. penicilliger</i>	Kazakhstan, S Balkhash	K-13-2015	MN204230	MN204316	MN204395	Nanova et al., 2020
<i>M. penicilliger</i>	Kazakhstan, S Balkhash	K-17-2015	MN204231	MN204317	MN204396	Nanova et al., 2020
<i>M. penicilliger</i>	Kazakhstan, S Balkhash	K-23-2015	MN204232	MN204318	MN204397	Nanova et al., 2020
<i>M. penicilliger</i>	Kazakhstan, S Balkhash	K-25-2015	MN204233	MN204319	MN204398	Nanova et al., 2020
<i>M. meridianus</i>	Kazakhstan, E Balkhash	K-28-2015	MN204234	MN204320	MN204399	Nanova et al., 2020
<i>M. meridianus</i>	Kazakhstan, E Balkhash	K-30-2015	MN204235	MN204321	MN204400	Nanova et al., 2020
<i>M. meridianus</i>	Kazakhstan, E Balkhash	K-33-2015	MN204236	MN204322	MN204401	Nanova et al., 2020
<i>M. meridianus</i>	Kazakhstan, E Balkhash	K-34-2015	MN204237	MN204323	MN204402	Nanova et al., 2020
<i>M. meridianus</i>	Kazakhstan, E Balkhash	K-230-2007	MN204238	—	MN204403	Nanova et al., 2020
<i>M. meridianus</i>	Kazakhstan, E Balkhash	K-236-2007	MN204239	MN204324	MN204404	Nanova et al., 2020
<i>M. meridianus</i>	Kazakhstan, Zaisan depression	K-71-2007	MN204240	MN204325	MN204405	Nanova et al., 2020
<i>M. meridianus</i>	Kazakhstan, Zaisan depression	K-72-2007	MN204241	MN204326	MN204406	Nanova et al., 2020
<i>M. meridianus</i>	Kazakhstan, Zaisan depression	K-73-2007	MN204242	MN204327	MN204407	Nanova et al., 2020
<i>M. penicilliger</i>	China, Xinjiang, Dzhungar basin	C-1-2012	MN204244	—	—	Nanova et al., 2020
<i>M. penicilliger</i>	China, Xinjiang, Dzhungar basin	C-2-2012	MN204245	MN204329	MN204409	Nanova et al., 2020
<i>M. penicilliger</i>	China, Xinjiang, Dzhungar basin	C-4-2012	MN204246	MN204330	MN204410	Nanova et al., 2020
<i>M. penicilliger</i>	China, Xinjiang, Dzhungar basin	C-3-2012	MN204247	MN204331	MN204411	Nanova et al., 2020
<i>M. penicilliger</i>	China, Xinjiang, Dzhungar basin	C-6-2012	MN204248	MN204332	MN204412	Nanova et al., 2020
<i>M. penicilliger</i>	China, Xinjiang, Dzhungar basin	C-7-2012	MN204249	MN204333	MN204413	Nanova et al., 2020

GENETIC VARIATION AND TAXONOMIC STATUS OF DAHL'S JIRD

Table S3. Continuation

Species	Locality	Specimen code	cytb	BRCA1	IRBP	Reference
<i>M. penicilliger</i>	China, Xinjiang, Dzhungar basin	C-5-2012	MN204250	MN204334	MN204414	Nanova et al., 2020
<i>M. meridianus</i>	Mongolian Dzhungaria	M-181-2011	MN204251	MN204335	-	Nanova et al., 2020
<i>M. meridianus</i>	Mongolian Dzhungaria	M-182-2011	MN204252	MN204336	MN204415	Nanova et al., 2020
<i>M. meridianus</i>	Mongolian Dzhungaria	M-183-2011	MN204253	MN204337	MN204416	Nanova et al., 2020
<i>M. meridianus</i>	Mongolian Dzhungaria	M-184-2011	MN204254	MN204338	MN204417	Nanova et al., 2020
<i>M. meridianus</i>	Mongolian Dzhungaria	M-180-2011	MN204255	MN204339	-	Nanova et al., 2020
<i>M. meridianus</i>	Mongolian Dzhungaria	M-160-2011	MN204256	MN204340	MN204418	Nanova et al., 2020
<i>M. meridianus</i>	Mongolian Dzhungaria	M-161-2011	MN204257	MN204341	MN204419	Nanova et al., 2020
<i>M. meridianus</i>	Mongolian Dzhungaria	M-164-2011	MN204258	MN204342	MN204420	Nanova et al., 2020
<i>M. meridianus</i>	Mongolian Dzhungaria	M-220-2011	MN204259	MN204343	MN204421	Nanova et al., 2020
<i>M. meridianus</i>	Mongolian Dzhungaria	M-115-2011	MN204260	MN204344	MN204422	Nanova et al., 2020
<i>M. meridianus</i>	Mongolian Dzhungaria	M-116-2011	MN204261	MN204345	MN204423	Nanova et al., 2020
<i>M. meridianus</i>	Mongolian Dzhungaria	M-117-2011	MN204262	MN204346	-	Nanova et al., 2020
<i>M. meridianus</i>	Mongolian Dzhungaria	M-118-2011	MN204263	MN204347	MN204424	Nanova et al., 2020
<i>M. meridianus</i>	Mongolian Dzhungaria	M-119-2011	MN204264	MN204348	MN204425	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-86-2012	MN204265	MN204349	MN204426	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-88-2012	MN204266	MN204350	MN204427	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-92-2012	MN204268	MN204352	MN204429	Nanova et al., 2020
<i>M. meridianus</i>	Mongolia, NW Transaltai Gobi	M-221-2011	MN204269	MN204353	MN204430	Nanova et al., 2020
<i>M. meridianus</i>	Mongolia, NW Transaltai Gobi	M-223-2011	MN204270	MN204354	MN204431	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-222-2011	MN204271	MN204355	MN204432	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-80-2012	MN204272	MN204356	MN204433	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-74-2012	MN204273	MN204357	MN204434	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-41-2012	MN204274	MN204358	MN204435	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-70-2012	MN204275	MN204359	MN204436	Nanova et al., 2020

Table S3. Continuation

Species	Locality	Specimen code	cytb	BRCA1	IRBP	Reference
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-71-2012	MN204276	MN204360	MN204437	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-72-2012	MN204277	MN204361	MN204438	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-73-2012	MN204278	MN204362	MN204439	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-75-2012	MN204279	—	MN204440	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-76-2012	MN204280	—	MN204441	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-77-2012	MN204281	—	MN204442	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-78-2012	MN204282	MN204363	MN204443	Nanova et al., 2020
<i>M. meridianus</i>	Mongolia, NW Transaltai Gobi	M-235-2011	MN204284	MN204365	MN204445	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-94-2012	MN204285	MN204366	-	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-100-2012	MN204286	MN204367	MN204446	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-101-2012	MN204287	MN204368	MN204447	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-115-2012	MN204288	MN204369	MN204448	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-117-2012	MN204289	MN204370	—	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-118-2012	MN204290	MN204371	MN204449	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-136-2012	MN204291	MN204372	MN204450	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-137-2012	MN204292	MN204373	MN204451	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-104-2012	MN204294	MN204375	MN204453	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-105-2012	MN204295	MN204376	MN204454	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-106-2012	MN204296	MN204377	MN204455	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-119-2012	MN204297	MN204378	MN204456	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-120-2012	MN204298	MN204379	MN204457	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-121—2012	MN204299	MN204380	MN204458	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-122—2012	MN204300	MN204381	MN204459	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-123—2012	MN204301	MN204382	MN204460	Nanova et al., 2020
<i>M. psammophilus</i>	Central and NW Mongolia	M-197—2010	MN204304	MN204385	MN204463	Nanova et al., 2020

GENETIC VARIATION AND TAXONOMIC STATUS OF DAHL'S JIRD

Table S3. End

Species	Locality	Specimen code	cytb	BRCA1	IRBP	Reference
<i>M. psammophilus</i>	C & NW Mongolia	M-226–2010	MN204306	MN204386	MN204464	Nanova et al., 2020
<i>M. psammophilus</i>	C & NW Mongolia	M-227–2010	MN204307	MN204387	MN204465	Nanova et al., 2020
<i>M. psammophilus</i>	C & NW Mongolia	M-141–2009	MN204310	MN204390	MN204467	Nanova et al., 2020
<i>M. psammophilus</i>	Mongolia, NW Transaltai Gobi	M-274–2011	MN204313	MN204392	MN204470	Nanova et al., 2020
<i>M. penicilliger</i>	Uzbekistan, Bukhara	Uz-65–2017	OL448958	—	—	Present study
<i>M. penicilliger</i>	Kazakhstan, Kyzylorda	K-47–2019	OL448959	—	—	Present study
<i>M. penicilliger</i>	SW Turkmenistan	Turkm-1941	OL448960	—	—	Present study
<i>M. meridianus</i>	Russia, Kalmykia	Kalm-35	OL448961	n/a	n/a	Present study
<i>M. meridianus</i>	Russia, Kalmykia	Kalm-200	OL448962	OL355118	OL448972	Present study
<i>M. dahli</i>	Armenia, Araks valley	A-S85717-1967	OL448963	n/a	OL448973	Present study
<i>M. dahli</i>	Armenia, Araks valley	A-S85719-1967	OL448964	OL355119	OL448974	Present study
<i>M. dahli</i>	Armenia, Araks valley	A-S159307-1967	OL448965	n/a	OL448975	Present study
<i>M. dahli</i>	Armenia, Araks valley	A-S85701-1967	OL448966	n/a	OL448976	Present study
<i>M. dahli</i>	Armenia, Araks valley	A-S85672-1967	OL448967	OL355120	OL448977	Present study
<i>M. dahli</i>	Armenia, Araks valley	A-S77293-1958	OL448968	OL355121	OL448978	Present study
<i>M. dahli</i>	Armenia, Araks valley	A-S77296-1958	OL448969	n/a	OL448979	Present study
<i>M. dahli</i>	Azerbaijan, Nakhchivan	Az-S77235-1963	OL448970	n/a	OL448980	Present study
<i>M. dahli</i>	Azerbaijan, Nakhchivan	Az-S77236-1963	OL448971	OL355122	OL448981	Present study
<i>M. dahli</i>	Turkey, Ararat foothills	T-1	MW289793	n/a	MW295395-8	Bulut and Karacan, 2021
<i>M. dahli</i>	Turkey, Ararat foothills	T-2	MW289794	n/a		Bulut and Karacan, 2021
<i>M. dahli</i>	Turkey, Ararat foothills	T-3	MW289795	n/a		Bulut and Karacan, 2021

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Online Resource 3 provides the command lines used for the ML reconstructions performed in IQTree version 1.6 (Nguyen et al., 2015) with application of ModelFinder routine (Kalyaanamoorthy et al., 2017) used to search for the optimum partitioning scheme and best-fit substitution models for each subset under the Bayesian information criterion.

```
iqtree -s Meriones_cytb_dahli.nex -spp cytb_all.nex
      -pre M_dahli_ML_cytb -m TESTMERGE
iqtree -s Meriones_cytb_dahli.nex -spp M_dahli_
      ML_cytb.best_scheme.nex -bb 10000
```

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