

# Spatial Genetic Structure of Long-tailed Ducks (*Clangula hyemalis*) among Alaskan, Canadian, and Russian Breeding Populations

Robert E. Wilson,<sup>1,2</sup> Judy R. Gust,<sup>2</sup> Margaret R. Petersen<sup>2</sup> and Sandra L. Talbot<sup>2</sup>

## APPENDIX 1

TABLE S1. Primer sequences for autosomal and sex-linked (Z-specific) microsatellites used for Long-tailed Ducks.

Primer	Orientation	Sequence 5' to 3'	Reference
<b>Autosomal</b>			
6AB	Forward	TGCTGGTATACCTGAATTC	Modified from Cathey et al., 1998
	Reverse	TTCAGGTGTCTACACAAC	
Aph02	Forward	CACACGCGCAGCAGAGGA	Maak et al., 2003
	Reverse	GTCGTCAGCCAGGGGTTTGAG	
Aph08	Forward	AAAGCCCTGTGAAGCGAGCTA	Maak et al., 2003
	Reverse	TGTGTGTGCATCTGGGTGTGT	
Aph19	Forward	CATGGAGCAAGCAATCGTCTG	Maak et al., 2003
	Reverse	ACCACGTCCATCCTGAAGAAA	
Aph23	Forward	TCCTCTGCTCTAGTTGTGATGG	Maak et al., 2003
	Reverse	CCTCAGCAGTCTTCCTCAGTG	
Bca10	Forward	ATGTAGCCATGAAAATTAATAAATG	Buchholz et al., 1998
	Reverse	CCAGTATTAGCCGAAAAGATGA	
Bca11	Forward	TAGAAAAGGCTGAAGGAGTGGC	Buchholz et al., 1998
	Reverse	TGAGGAAGCAACTGTAAATAGGAGA	
Hhiµ5	Forward	CTCTCCTTTTACTACAAATTCCTT	Buchholz et al., 1998
	Reverse	ATAAAGGTAGGTGACCCAATCCT	
Sfiµ11	Forward	CTTCTGCAAGCCTCATCAC	S. Libants, K. Oswald, E. Olle, and K. Scribner, pers. comm. 1999, Michigan State University, GenBank accession AF180501
	Reverse	TGAAAAACCTTCTAACAGCT	
Smo07	Forward	TTTTACCCAGTTCACCTCAGCC	Paulus and Tiedemann, 2003
	Reverse	GATTCAAATTTGCCGAGGATTA	
Smo09	Forward	TTTGGAGTTTGGAGTTCGTGGGG	Paulus and Tiedemann, 2003
	Reverse	ATTCCCTGCAAAAACCTACGGCA	
CRG	Forward	GTAGGCAAAGCAAGTCTGAAGTT	A. Baker, pers. comm. 2001
	Reverse	GCAACCACCAGCAGTCACTACAA	
<b>Sex-linked</b>			
Bca4	Forward	ACACAACCTTCAAAGTCAATCCAAT	Buchholz et al., 1998
	Reverse	TCCTGACGCTCTCGGACGAGT	
Smo1	Forward	CTTAAGGTATTGTGCTTTATA	Paulus and Tiedemann, 2003
	Reverse	TGGTCCAAAGGGTGTCTCAGAA	

TABLE S2. General and clade specific primers (see Fig. 2) used to amplify the mtDNA control region for Long-tailed Ducks.

Primer	Sequence 5' to 3'	Orientation	Position	Reference
L16620	ACCCATAATACGGCGAAGGATT	Forward	General	Liukkon-Anttila et al., 2002
H542	ATGGCCCTGACCGAGGAACCAGA	Reverse	General	Quinn and Wilson, 1993; Ruokonen et al., 2000
L141A	ACTAAACCCATTACATAG	Forward	Clade A	This study
L254A	CAACAAGGCCCATATAG	Forward	Clade A	This study
L232A	CCCAACCCATGCTACA	Forward	Clade A	This study
H257A	CTATCGAGCATTACCCCT	Reverse	Clade A	This study
H509A	CCACTTTGAAAGGCAAGG	Reverse	Clade A	This study
L141B	ACTAAACCCATTACATAA	Forward	Clade B	This study
L232B	CCTAACCCGTAACG	Forward	Clade B	This study
L254B	CAACAAGGCCCATAG	Forward	Clade B	This study
H257B	CTGTGAGCATTACCTAT	Reverse	Clade B	This study
H509B	CCACTTTGAAAGGCAAGT	Reverse	Clade B	This study

<sup>1</sup> Corresponding author: Institute of Arctic Biology, University of Alaska Fairbanks, Fairbanks, Alaska 99775, USA; [rewilson@usgs.gov](mailto:rewilson@usgs.gov)

<sup>2</sup> U.S. Geological Survey, Alaska Science Center, Anchorage, Alaska 99508, USA