

Appendix from K. G. McCracken et al., “Signatures of High-Altitude Adaptation in the Major Hemoglobin of Five Species of Andean Dabbling Ducks”
(Am. Nat., vol. 174, no. 5, p. 631)

Supplemental Figures and Tables

αA hemoglobin subunit**βA hemoglobin subunit**

Crested duck	Overall - Hardy-Weinberg										Hardy-Weinberg											
	Lowland					Highland					Lowland					Highland						
	Observed	Expected	P-value	F _{ST}	Observed	Expected	P-value	F _{ST}	Observed	Expected	P-value	F _{ST}	Observed	Expected	P-value	F _{ST}	Observed	Expected	P-value	F _{ST}		
Alis	Alos	Thos8	Glossy	Aberr-	Bairn	95.5% (22)	8.8% (5)	33.6% (27)	26.3%	0.037515	0.47	100% (34)	100% (23)	1.0	3.5% (2)	95.5%	95.5%	0.01604	31.3% (23)	11.4%	0.00001	0.90
Alis	Thos8	Alos	Thos8	Glossy	Aberr-	Bairn	—	7.0% (4)	5% (4)	7.1%	—	—	—	—	7.0% (4)	13.0%	5% (4)	44.7%	—	—	—	
Alis	Thos8	Thos8	Thos8	Glossy	Aberr-	Bairn	—	—	—	—	—	—	—	—	89.5% (51)	86.5%	63.8% (51)	43.9%	—	—	—	
Alis	Thos8	Thos8	Thos8	Glossy	Aberr-	Bairn	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Alis	Thos8	Thos8	Thos8	Glossy	Aberr-	Bairn	4.5% (1)	40.4% (23)	30.0% (24)	43.0%	—	—	—	—	—	—	—	—	—	—	—	
Alis	Thos8	Thos8	Thos8	Glossy	Aberr-	Bairn	—	12.3% (7)	8.4% (7)	5.8%	—	—	—	—	100% (50)	100%	—	100% (102)	100%	—	—	
Alis	Thos8	Thos8	Thos8	Glossy	Aberr-	Bairn	—	31.6% (18)	22.5% (18)	17.6%	—	—	—	—	—	—	—	—	—	—	—	
Cinnamon teal	Alis	Thos8	Thos8	Secto	Aberr-	Bairn	80.3% (44)	—	43.6% (44)	23.0%	0.00001	0.90	—	—	—	—	—	—	—	—	—	—
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	7.8% (4)	—	4.0% (4)	2.4%	—	—	—	—	—	—	—	—	—	—	—	
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	—	—	—	0%	—	—	—	—	—	—	—	—	—	—	—	
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	5.9% (3)	4.0% (2)	5.0% (5)	47.5%	—	—	—	—	—	—	—	—	—	—	—	
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	—	2.0% (1)	1.0% (1)	2.5%	—	—	—	—	—	—	—	—	—	—	—	
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	—	94.0% (47)	46.5% (47)	24.5%	—	—	—	—	—	—	—	—	—	—	—	
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Silver/puna teal	Alis	Thos8	Thos8	Secto	Aberr-	Bairn	100% (34)	25.6% (11)	58.4% (45)	50.1%	0.00007	0.47	—	—	—	—	—	—	—	—	—	—
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	—	2.3% (1)	1.3% (1)	1.8%	—	—	—	—	—	—	—	—	—	—	—	
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	—	—	—	0%	—	—	—	—	—	—	—	—	—	—	—	
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	—	41.9% (18)	23.4% (18)	39.3%	—	—	—	—	—	—	—	—	—	—	—	
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	—	2.3% (1)	1.3% (1)	0.7%	—	—	—	—	—	—	—	—	—	—	—	
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	—	27.9% (12)	15.6% (12)	7.8%	—	—	—	—	—	—	—	—	—	—	—	
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Yellow-billed pintail	Alis	Thos8	Thos8	Secto	Aberr-	Bairn	100% (65)	100% (51)	100% (22)	100.0%	—	—	—	—	—	—	—	—	—	—	—	
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Spotted teal	Alis	Thos8	Thos8	Secto	Aberr-	Bairn	83.1% (59)	—	41.8% (59)	21.6%	0.00001	0.9	—	—	—	—	—	—	—	—	—	—
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	16.9% (12)	1.4% (1)	9.2% (13)	49.8%	28.6%	—	—	—	—	—	—	—	—	—	—	—
Alis	Thos8	Thos8	Thos8	Secto	Aberr-	Bairn	—	98.6% (69)	48.9% (69)	—	—	—	—	—	—	—	—	—	—	—	—	

Figure A1: Genotypic frequencies for the α A and β A hemoglobin subunits, Hardy-Weinberg tests, and F_{ST} for five paired lowland and highland populations of Andean dabbling ducks. Each line of consecutive amino acids represents an allele, and each pair of lines represents a genotype. Amino acids observed at higher frequency in highland populations are shown in orange, amino acids observed at higher frequency in lowland populations are shown in yellow, and positions that are not polymorphic within a single population pair are shown in white. Predicted genotypes not found in the sampled specimens are indicated by faded gray text. Ser- β 4, which is fixed for the same derived amino acid in lowland and highland populations of cinnamon teal (Thr- α 28) and silver teal (Val- β 54) are underlined; Ala- α 28 is a synapomorphy for cinnamon teal and shovelers, whereas Thr- α 28 and Ile- β 54 are the ancestral states for dabbling ducks (McCracken et al. 2009b). Bold black boxes indicate additional amino acid replacements that evolved in parallel in these taxa and/or the larger sample of highland waterfowl species (McCracken et al. 2009b). The numbers of individuals with each genotype are shown in parentheses. Significant departures from Hardy-Weinberg equilibrium and F_{ST} ($P < .00001$) are shown in bold text. No difference from Hardy-Weinberg was observed for the α A subunit for lowland and highland populations analyzed separately (P values > 0.76).

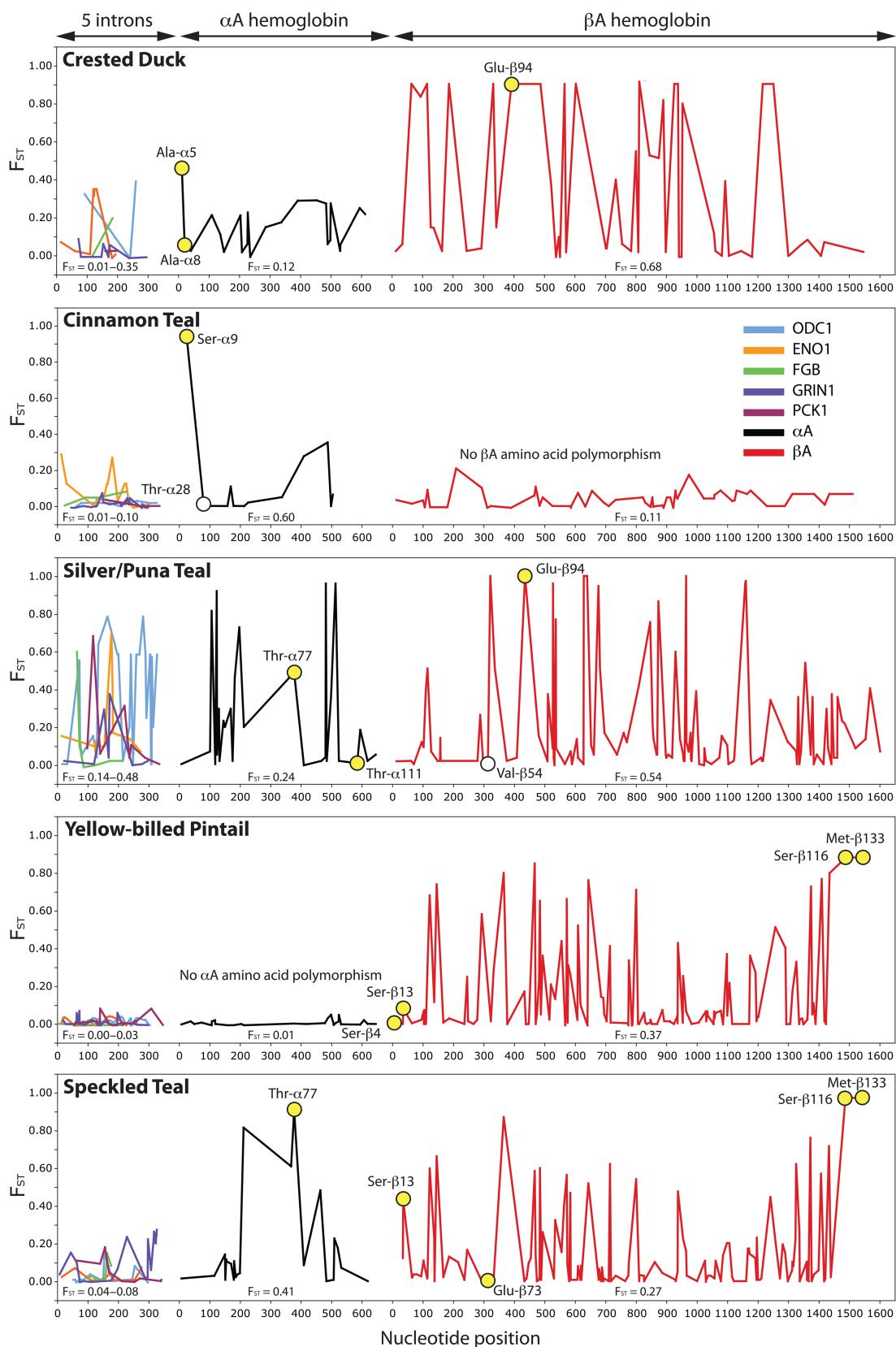
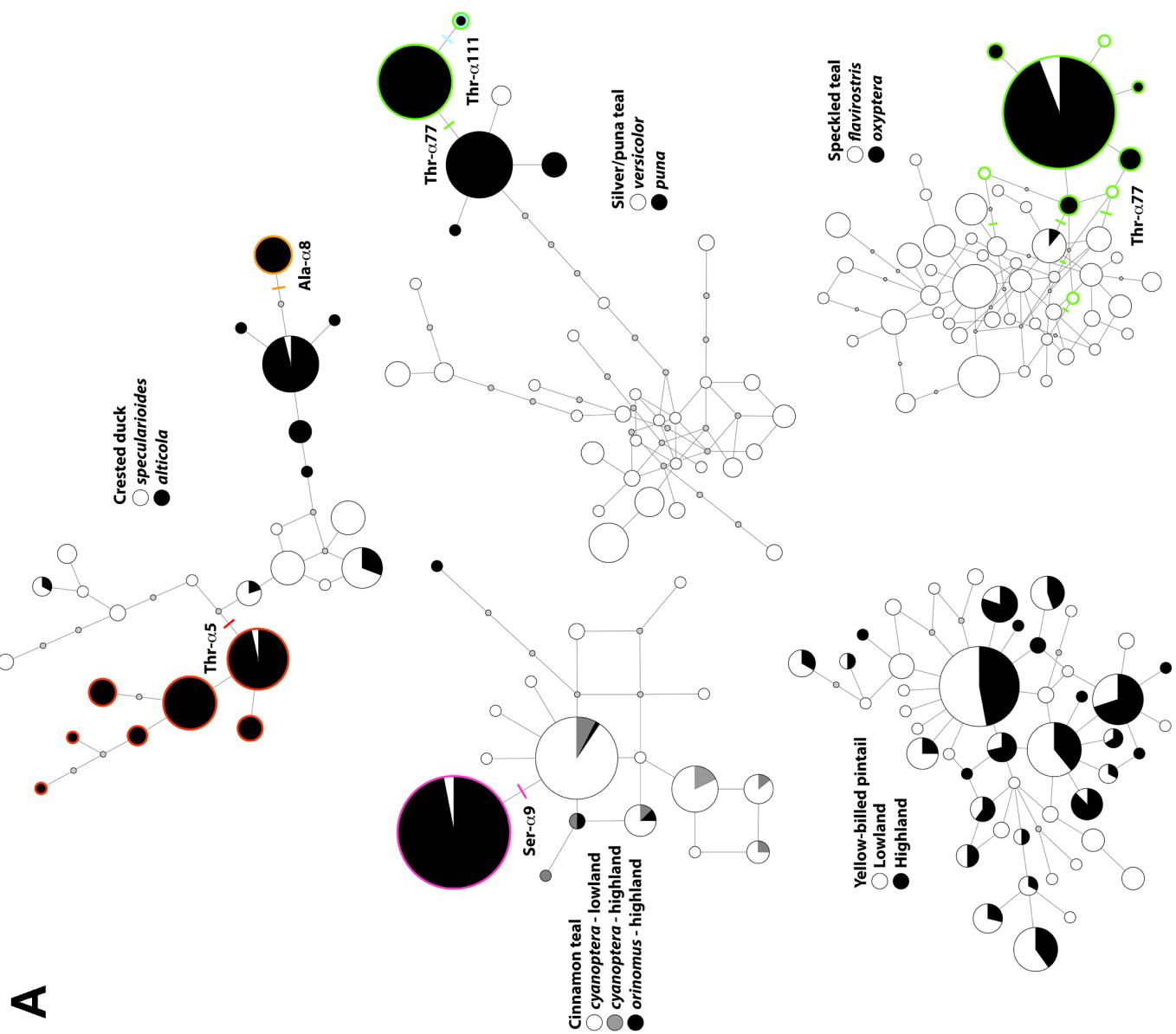


Figure A2: F_{ST} for each polymorphic nucleotide position in the five reference loci ODC1, ENO1, FGB, GRIN1, and PCK1, the α A hemoglobin subunit, and β A hemoglobin subunit, shown left to right. Polymorphic amino acid positions are indicated with “highland” alleles illustrated in yellow circles and “lowland” alleles illustrated in white circles. The overall F_{ST} for each locus is shown below each set of traces. See table 2 for intron abbreviations.



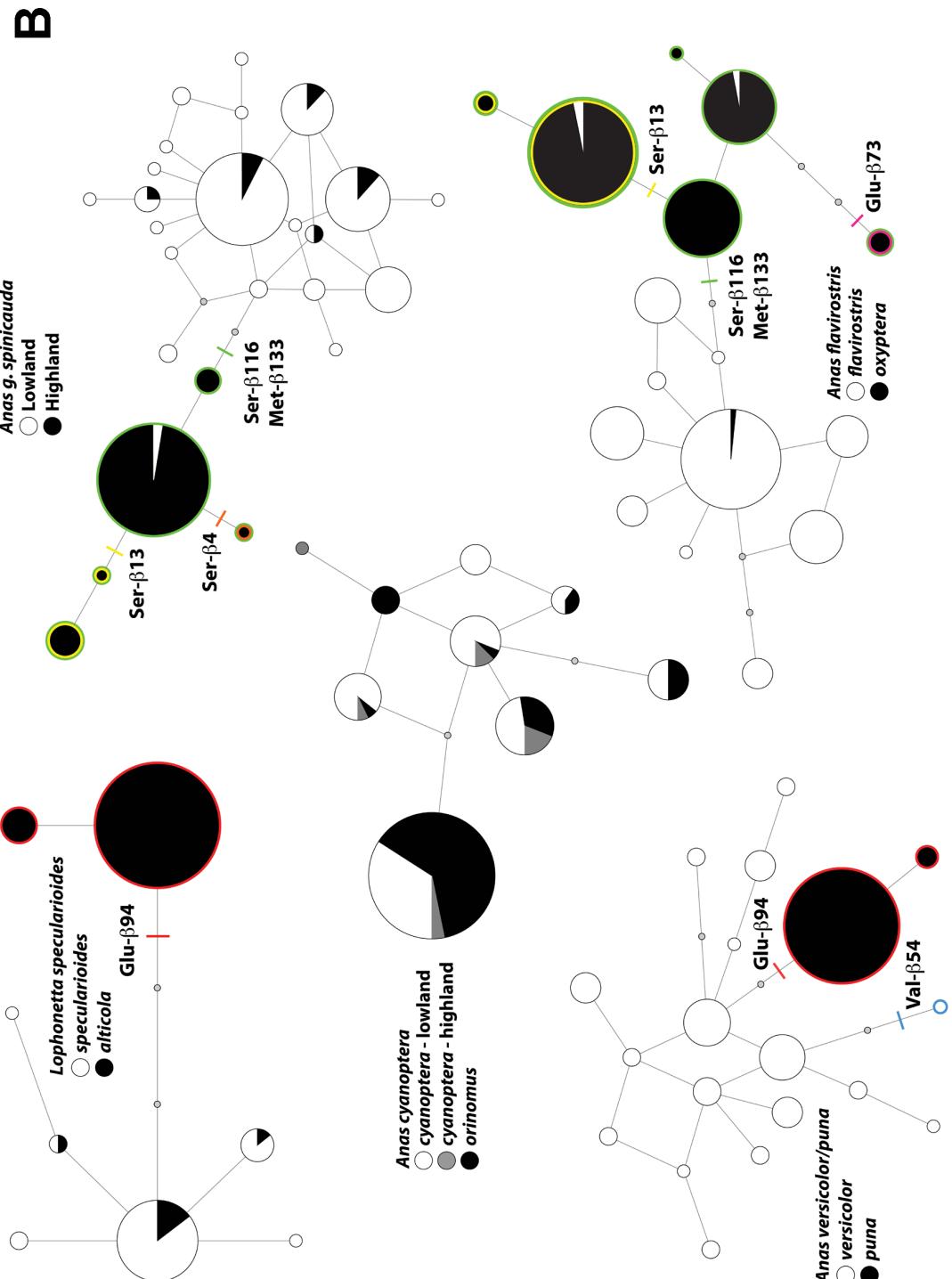


Figure A3: Allelic networks for the α A hemoglobin subunit (exons and introns; A) and the β A hemoglobin subunit coding sequence (exons only with introns excluded; B). Alleles for individuals collected in the highlands are shown in black or gray, and alleles for individuals collected in the lowlands are shown in white. Alleles with “highland” amino acids are shown with colored circles. Circle area is proportional to the number of shared alleles, and small gray circles indicate intermediate alleles not sampled.

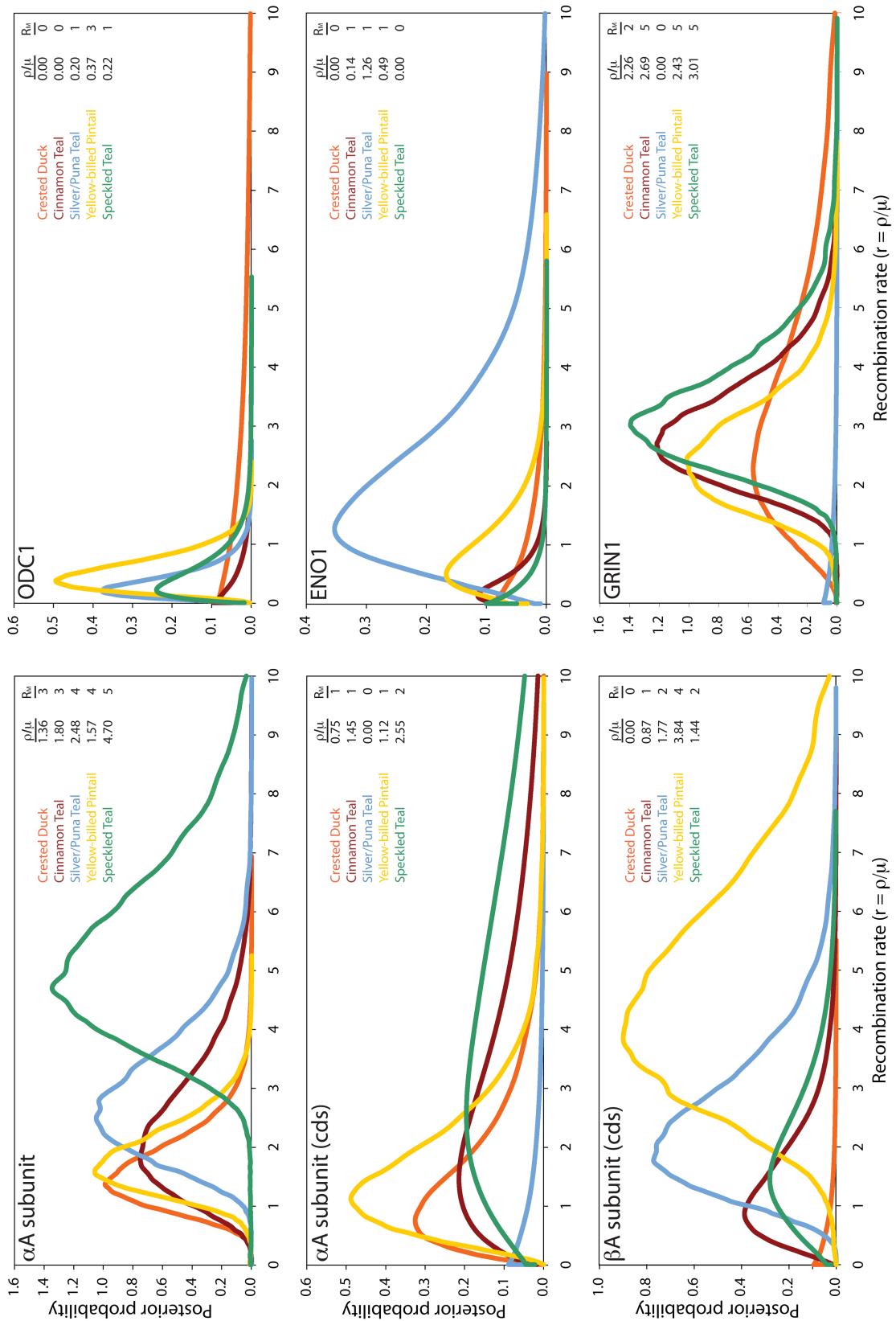
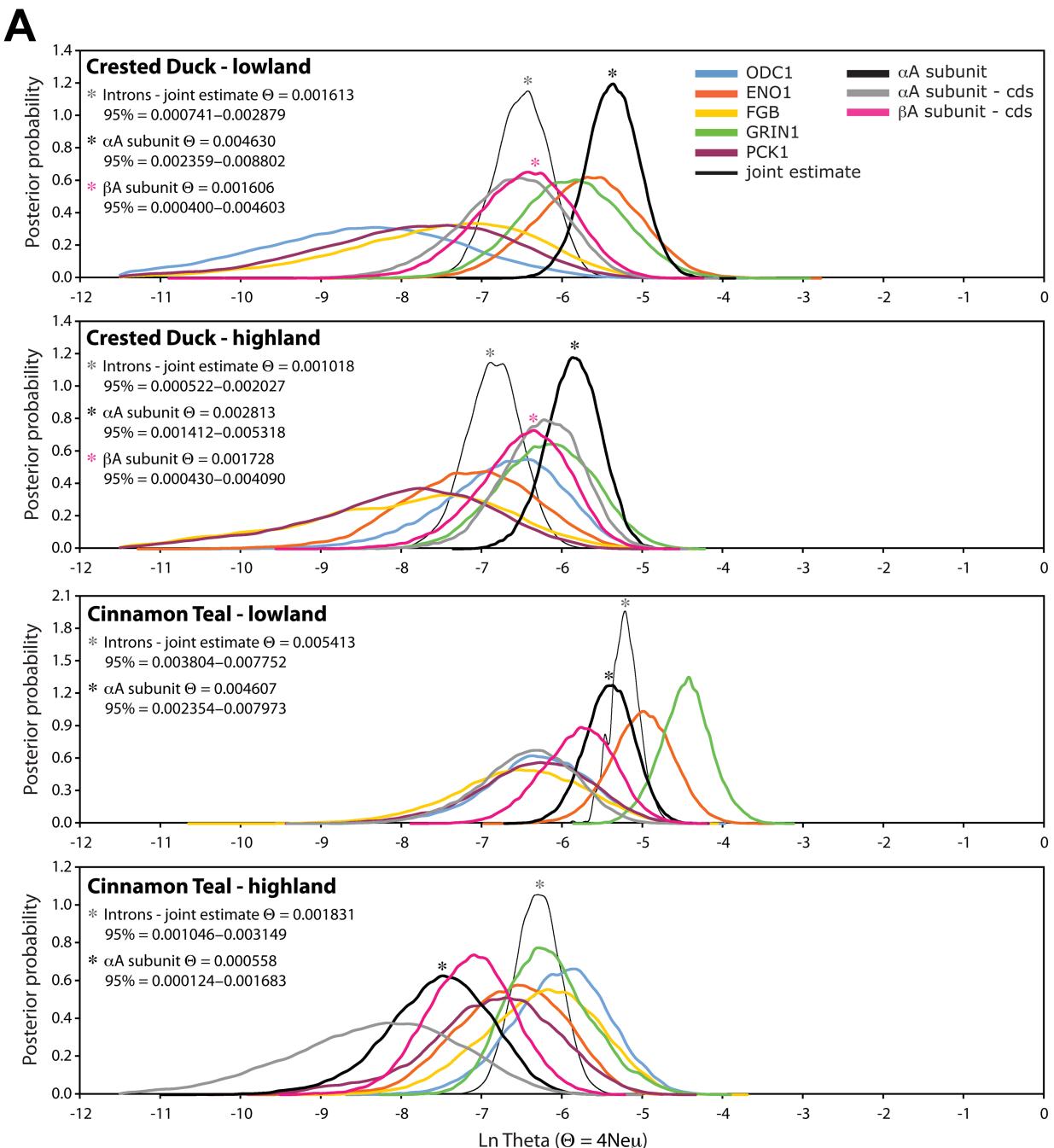
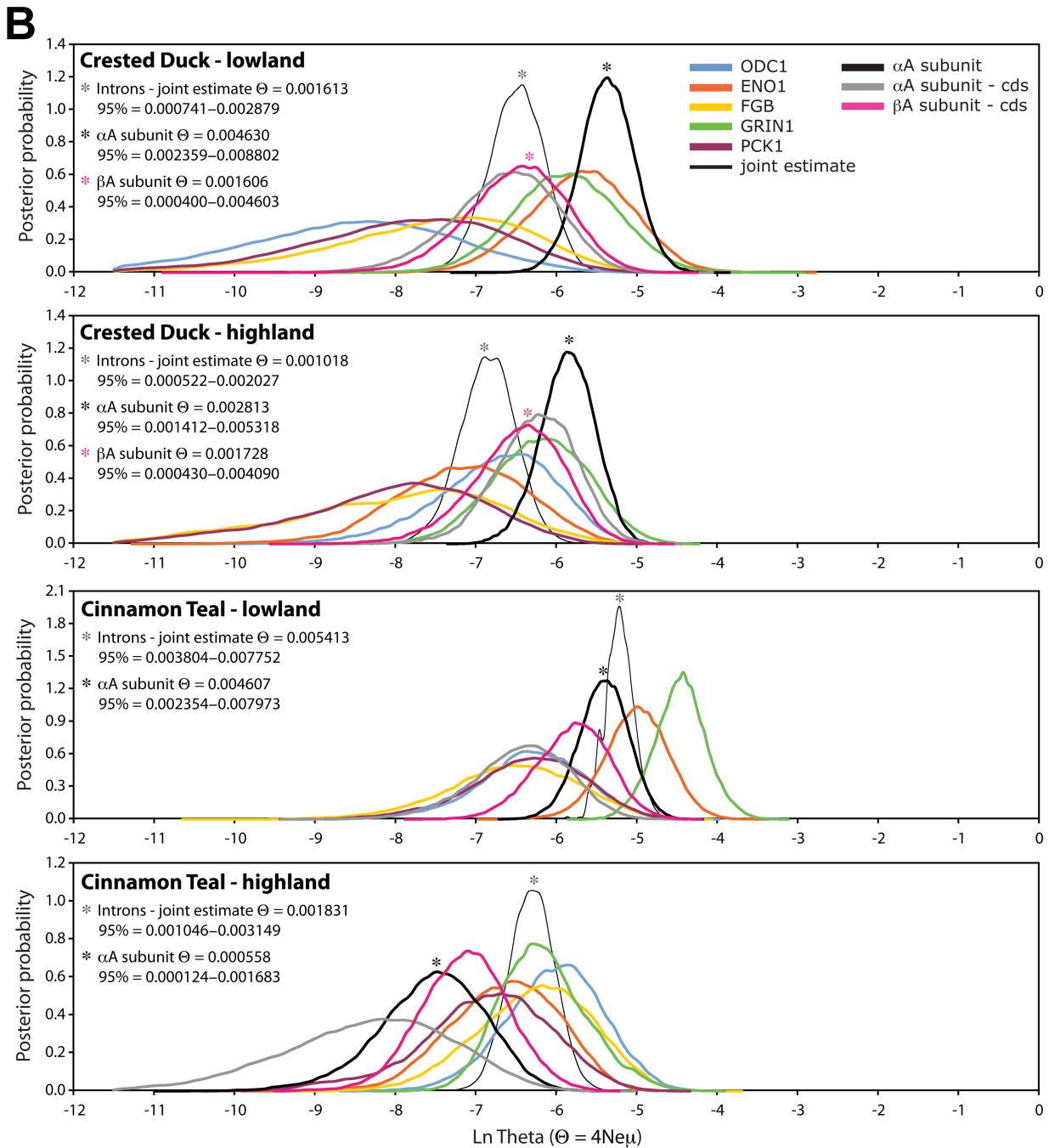


Figure A4: LAMARC analyses illustrating the recombination parameter ($r = \rho/\mu$) estimates for the α A hemoglobin subunit, the α A coding sequence, the β A coding sequence, and the autosomal introns ODC1, ENO1, and GRIN1 (see table 2 for intron definitions). The minimum number of recombination events (R_M ; Hudson and Kaplan 1985) identified by the four-gamete test is shown at the right of the most probable estimate of r .





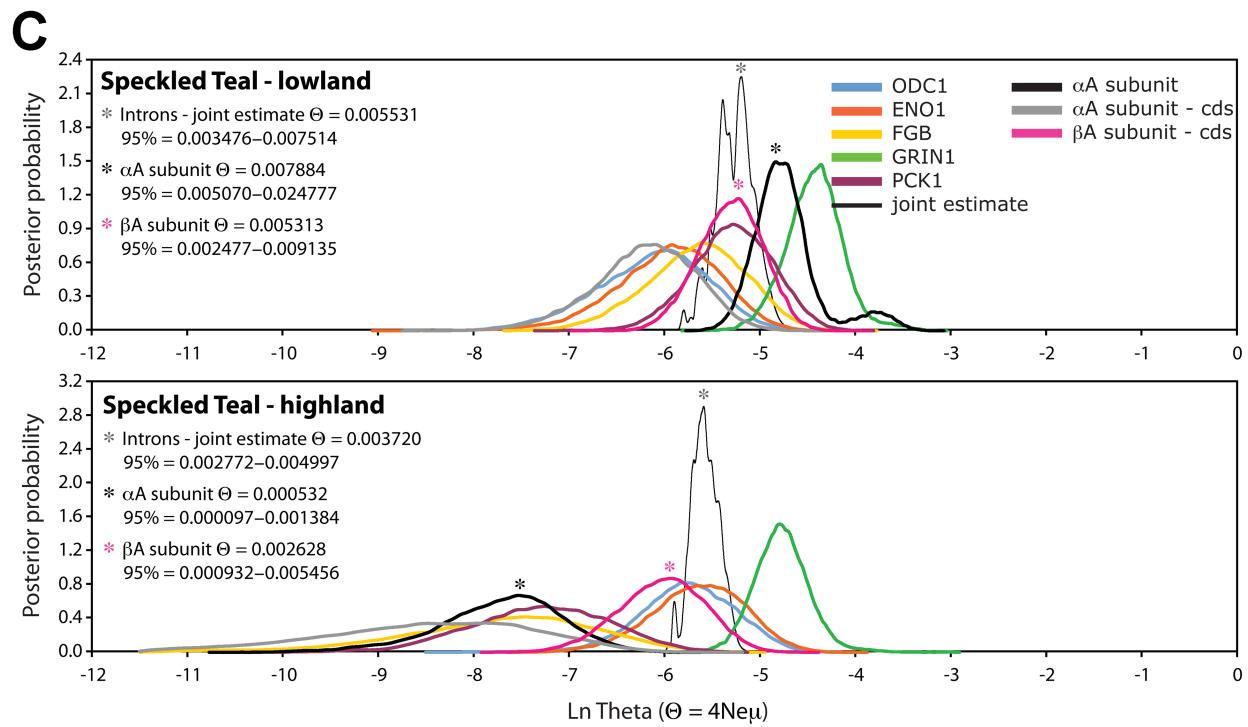


Figure A5: LAMARC analyses illustrating Θ ($4N_e\mu$) estimates for the α A and β A hemoglobin subunits and five autosomal introns contrasting paired lowland and highland populations of Andean dabbling ducks. See table 2 for intron definitions.

Table A1
Specimen locality information for five paired lowland and highland populations of Andean dabbling ducks

Catalog no.	Species/subspecies	Country	Locality	Date	Latitude (°S)	Longitude (°W)	Elevation (m)
REW 350	<i>Lophonetta specularioides</i> <i>specularioides</i>	Falkland Islands	Fitzroy, Bertha's Beach	December 10, 2002	51.89090	58.38380	3
REW 384	<i>L. s. specularioides</i>	Falkland Islands	Fitzroy, Bertha's Beach	December 29, 2002	51.89090	58.38380	3
REW 393	<i>L. s. specularioides</i>	Falkland Islands	Fitzroy, Fox Point	December 31, 2002	51.89090	58.38380	3
KGM 719	<i>L. s. specularioides</i>	Argentina	Chubut, R.P. 17, west of Tecka	October 20, 2003	43.60620	71.06760	804
KGM 720	<i>L. s. specularioides</i>	Argentina	Chubut, R.N. 40, south of Tecka	October 20, 2003	43.71010	70.87550	934
KGM 726	<i>L. s. specularioides</i>	Argentina	Chubut, R.N. 40, west of Shamam	October 22, 2003	44.38960	70.67430	655
KGM 732	<i>L. s. specularioides</i>	Argentina	Chubut, R.N. 40, 55 km north of Rio Mayo	October 23, 2003	45.42210	70.43980	578
KGM 746	<i>L. s. specularioides</i>	Argentina	Santa Cruz, R.P. 41, Estancia La Frontera	October 26, 2003	46.84210	71.86200	783
KGM 749	<i>L. s. specularioides</i>	Argentina	Santa Cruz, R.N. 40, near Estancias Telken y La Paloma	October 26, 2003	46.87610	70.74550	618
KGM 753	<i>L. s. specularioides</i>	Argentina	Santa Cruz, R.N. 40, north of Las Horquetas	October 28, 2003	48.30230	70.97490	540
KGM 754	<i>L. s. specularioides</i>	Argentina	Santa Cruz, R.N. 40, north of Las Horquetas	October 28, 2003	48.30230	70.97490	540
KGM 774	<i>L. s. specularioides</i>	Argentina	Santa Cruz, Estancia Santa Margarita, near Lagon Viedma	October 31, 2003	49.55810	72.41400	246
KGM 794	<i>L. s. specularioides</i>	Argentina	Santa Cruz, R.N. 40, near El Zurdo	November 3, 2003	51.99600	71.22580	122
KGM 795	<i>L. s. specularioides</i>	Argentina	Santa Cruz, R.N. 40, near Estancia Monte Dinerio	November 5, 2003	52.26760	68.66560	72
KGM 802	<i>L. s. specularioides</i>	Argentina	Santa Cruz, R.N. 3, near Paraje Lemarchand	November 6, 2003	50.75020	69.48180	281
KGM 803	<i>L. s. specularioides</i>	Argentina	Santa Cruz, R.P. 288, near Puerto Punta Quilla	November 6, 2003	50.08890	68.48800	3
KGM 806	<i>L. s. specularioides</i>	Argentina	Santa Cruz, Bahia Rio Deseado	November 8, 2003	47.74210	65.97270	0
KGM 809	<i>L. s. specularioides</i>	Argentina	Chubut, south Lago Colhue Huapi	November 10, 2003	45.65240	68.94900	267
KGM 820	<i>L. s. specularioides</i>	Argentina	Chubut, Bahia Bustamante	November 11, 2003	45.13480	66.55350	0
KGM 821	<i>L. s. specularioides</i>	Argentina	Chubut, Bahia Bustamante	November 11, 2003	45.14930	66.552120	0
KGM 824	<i>L. s. specularioides</i>	Argentina	Chubut, south Camarones	November 12, 2003	44.80330	65.71630	0
KGM 827	<i>L. s. specularioides</i>	Argentina	Chubut, Cabo Raso	November 13, 2003	44.33410	65.23010	0
KGM 828	<i>L. s. specularioides</i>	Argentina	Chubut, Playa Bonita, south of Rawson	November 13, 2003	43.36090	65.04820	0
KGM 417	<i>Lophonetta specularioides</i> <i>alticola</i>	Argentina	Salta, Abra del Gallo	October 4, 2001	24.31390	66.45360	4,462
KGM 418	<i>L. s. alticola</i>	Argentina	Salta, Abra del Gallo	October 4, 2001	24.31390	66.45360	4,462
KGM 419	<i>L. s. alticola</i>	Argentina	Salta, Rio Corral Colorado	October 5, 2001	24.39830	66.56640	4,135
KGM 426	<i>L. s. alticola</i>	Argentina	Salta, Rio Corral Colorado	October 5, 2001	24.41560	66.58920	4,081
KGM 427	<i>L. s. alticola</i>	Argentina	Salta, Rio Corral Colorado	October 5, 2001	24.41560	66.58920	4,081
KGM 451	<i>L. s. alticola</i>	Argentina	Jujuy, Abra Pampa	October 10, 2001	22.71170	65.71920	3,510
KGM 503	<i>L. s. alticola</i>	Bolivia	La Paz, Rio Desaguadero	October 31, 2001	17.50000	68.41670	3,811

Table A1 (Continued)

Catalog no.	Species/subspecies	Country	Locality	Date	Latitude (°S)	Longitude (°W)	Elevation (m)
KGM 504	<i>L. s. alticola</i>	Bolivia	La Paz, Rio Desaguadero	October 31, 2001	17.50000	68.41670	3,811
KGM 525	<i>L. s. alticola</i>	Bolivia	Oruro, Lago Uru Uru	November 3, 2001	18.03420	67.14610	3,735
KGM 538	<i>L. s. alticola</i>	Bolivia	Potosí, southeast of Ventilla	November 7, 2001	19.17140	66.06690	4,119
KGM 539	<i>L. s. alticola</i>	Bolivia	Potosí, southeast of Ventilla	November 7, 2001	19.17140	66.06690	4,119
KGM 541	<i>L. s. alticola</i>	Bolivia	Oruru, west of Ventilla	November 7, 2001	19.11250	66.44970	4,149
KGM 542	<i>L. s. alticola</i>	Bolivia	Oruru, west of Ventilla	November 7, 2001	19.11250	66.44970	4,149
KGM 544	<i>L. s. alticola</i>	Bolivia	Oruro, Lago Uru Uru	November 8, 2001	18.03390	67.14560	3,730
KGM 545	<i>L. s. alticola</i>	Bolivia	Oruro, Lago Uru Uru	November 8, 2001	18.03390	67.14560	3,730
KGM 546	<i>L. s. alticola</i>	Bolivia	Oruro, Lago Uru Uru	November 8, 2001	18.03390	67.14560	3,730
REW 094	<i>L. s. alticola</i>	Peru	Junin, south of Junin, Careterra Central, km 218	August 11, 2002	11.23270	75.94180	4,177
REW 101	<i>L. s. alticola</i>	Peru	Pasco, near Cerro de Pasco	August 11, 2002	10.71240	76.23740	4,351
REW 102	<i>L. s. alticola</i>	Peru	Pasco, near Cerro de Pasco	August 12, 2002	10.71310	76.23380	4,257
REW 104	<i>L. s. alticola</i>	Peru	Pasco, near Cerro de Pasco	August 12, 2002	11.20410	76.89150	4,234
REW 107	<i>L. s. alticola</i>	Peru	Pasco, near Cerro de Pasco	August 12, 2002	10.69380	76.22320	4,188
REW 130	<i>L. s. alticola</i>	Peru	Ancash, Laguna Conococha	August 23, 2002	10.11970	77.28350	4,039
REW 131	<i>L. s. alticola</i>	Peru	Ancash, Laguna Conococha	August 23, 2002	10.11970	77.28350	4,039
REW 139	<i>L. s. alticola</i>	Peru	Ancash, Lagunas Tapara, southeast of Pachacoto	August 25, 2002	9.90790	77.36490	4,065
REW 140	<i>L. s. alticola</i>	Peru	Ancash, Lagunas Tapara, southeast of Pachacoto	August 25, 2002	9.90790	77.36490	4,065
REW 160	<i>L. s. alticola</i>	Peru	Ancash, Laguna Cantrash	August 30, 2002	9.68520	77.05580	4,270
REW 213	<i>L. s. alticola</i>	Peru	Ayacucho, Razahuilca, near Huanta	October 5, 2002	12.87980	74.17310	4,100
REW 214	<i>L. s. alticola</i>	Peru	Ayacucho, Razahuilca	October 6, 2002	12.91380	74.15460	4,065
REW 215	<i>L. s. alticola</i>	Peru	Ayacucho, Razahuilca	October 6, 2002	12.91380	74.15460	4,065
REW 289	<i>L. s. alticola</i>	Peru	Puno, Laguna Lagunillas, 35 km east of Imata	October 21, 2002	15.69090	70.81310	4,157
REW 290	<i>L. s. alticola</i>	Peru	Arequipa, near Imata	October 23, 2002	15.97340	71.24380	4,349
KGM 1073	<i>L. s. alticola</i>	Argentina	Catamarca, Antofogasta de la Sierra, Laguna La Alumbra	November 4, 2005	26.11280	67.42409	3,338
KGM 1074	<i>L. s. alticola</i>	Argentina	Catamarca, Antofogasta de la Sierra, Laguna La Alumbra	November 4, 2005	26.11280	67.42409	3,338
KGM 1087	<i>L. s. alticola</i>	Argentina	Catamarca, Rio Punilla, 35 km north of Antofogasta de la Sierra	November 7, 2005	25.82775	67.28391	4,140
KGM 1088	<i>L. s. alticola</i>	Argentina	Catamarca, Rio Punilla, 35 km north of Antofogasta de la Sierra	November 7, 2005	25.82775	67.28391	4,140
KGM 1122	<i>L. s. alticola</i>	Argentina	Catamarca, Rio Chaschuil, south of La Gruta	November 12, 2005	27.02894	68.06677	3,923
KGM 1139	<i>L. s. alticola</i>	Argentina	Catamarca, Rio Chaschuil, near Embalse Las Cortaderas	November 13, 2005	27.56000	68.14524	3,363
KGM 1140	<i>L. s. alticola</i>	Argentina	Catamarca, Rio Chaschuil, Embalse Las Cortaderas	November 14, 2005	27.55590	68.14498	3,369
KGM 1159	<i>L. s. alticola</i>	Argentina	Catamarca, Laguna Negra	November 15, 2005	27.64755	68.54215	4,106
KGM 1160	<i>L. s. alticola</i>	Argentina	Catamarca, Laguna Negra	November 15, 2005	27.64755	68.54215	4,106
KGM 1184	<i>L. s. alticola</i>	Argentina	Catamarca, La Gruta	November 17, 2005	26.92542	68.14566	4,020
KGM 1211	<i>L. s. alticola</i>	Argentina	Mendoza, east of Los Penitentes	November 29, 2005	32.85187	69.89995	2,552

Table A1 (Continued)

Catalog no.	Species/subspecies	Country	Locality	Date	Latitude (°S)	Longitude (°W)	Elevation (m)
KGM 1212	<i>L. s. alticola</i>	Argentina	Mendoza, east of Los Penitentes	November 29, 2005	32.85187	69.80995	2,552
KGM 1218	<i>L. s. alticola</i>	Argentina	Mendoza, northwest of El Sosneado	December 2, 2005	35.01203	69.63432	1,670
KGM 1220	<i>L. s. alticola</i>	Argentina	Mendoza, Laguna El Sosneado	December 2, 2005	34.84570	69.91977	2,093
KGM 1221	<i>L. s. alticola</i>	Argentina	Mendoza, Laguna El Sosneado	December 2, 2005	34.84570	69.91977	2,093
KGM 1224	<i>L. s. alticola</i>	Argentina	Mendoza, Laguna El Sosneado	December 2, 2005	34.84570	69.91977	2,093
KGM 1228	<i>L. s. alticola</i>	Argentina	Mendoza, Puesto Pampa del Rodeo, 45 km southwest of Malargüe R.N. 40	December 3, 2005	35.76321	69.62811	1,891
KGM 1232	<i>L. s. alticola</i>	Argentina	Mendoza, Rio Grande	December 4, 2005	35.81625	70.00362	1,522
REW 709	<i>L. s. alticola</i>	Bolivia	La Paz, south of Laguna Khara Khota	November 27, 2005	16.18806	68.38254	4,307
REW 710	<i>L. s. alticola</i>	Bolivia	La Paz, south of Laguna Khara Khota	November 27, 2005	16.18806	68.38254	4,307
REW 714	<i>L. s. alticola</i>	Bolivia	La Paz, Laguna Khara Khota	November 27, 2005	16.12941	68.35228	4,374
REW 715	<i>L. s. alticola</i>	Bolivia	La Paz, Laguna Khara Khota	November 27, 2005	16.12941	68.35228	4,374
REW 721	<i>L. s. alticola</i>	Bolivia	La Paz, Laguna Janyuo Khota	November 27, 2005	16.08057	68.31933	4,611
REW 723	<i>L. s. alticola</i>	Bolivia	La Paz, Laguna Janyuo Khota	November 27, 2005	16.08057	68.31933	4,611
REW 724	<i>L. s. alticola</i>	Bolivia	La Paz, Laguna Janyuo Khota	November 27, 2005	16.08057	68.31933	4,611
REW 727	<i>L. s. alticola</i>	Bolivia	La Paz, Laguna Janyuo Khota	November 27, 2005	16.08057	68.31933	4,611
Cinnamon teal:							
KGM 268	<i>Anas cyanoptera cyanoptera</i>	Argentina	Neuquén, Río Collon Cura, R.N. 40	April 19, 2001	40.21250	70.64940	608 ^a
KGM 310	<i>A. c. cyanoptera</i>	Argentina	Cordoba, Arroyo Chucul-Laguna La Felipa	April 29, 2001	33.07140	63.55280	194 ^a
KGM 311	<i>A. c. cyanoptera</i>	Argentina	Cordoba, Arroyo Chucul-Laguna La Felipa	April 29, 2001	33.07140	63.55280	194 ^a
KGM 312	<i>A. c. cyanoptera</i>	Argentina	Cordoba, Arroyo Chucul-Laguna La Felipa	April 29, 2001	33.07140	63.55280	194 ^a
KGM 313	<i>A. c. cyanoptera</i>	Argentina	Cordoba, Arroyo Chucul-Laguna La Felipa	April 29, 2001	33.07140	63.55280	194 ^a
KGM 322	<i>A. c. cyanoptera</i>	Argentina	Cordoba, south of Canals	May 1, 2001	33.60640	62.88780	118 ^a
KGM 442	<i>A. c. cyanoptera</i>	Argentina	Jujuy, south of Purmamarca	October 10, 2001	23.82030	65.47610	2141
REW 081	<i>A. c. cyanoptera</i>	Peru	Lima, south of Huacho	August 7, 2002	11.17030	77.59210	15
REW 082	<i>A. c. cyanoptera</i>	Peru	Lima, south of Huacho	August 7, 2002	11.16890	77.59250	15
REW 118	<i>A. c. cyanoptera</i>	Peru	Junin, Jauja, Laguna de Paca	August 14, 2002	11.73740	75.49240	3,506
REW 122	<i>A. c. cyanoptera</i>	Peru	Junin, Jauja, Laguna de Paca	August 15, 2002	11.74420	75.50530	3,393
REW 164	<i>A. c. cyanoptera</i>	Peru	Ancash, Laguna Conococha	August 31, 2002	10.11970	77.28350	4,039
REW 193	<i>A. c. cyanoptera</i>	Peru	Lambayeque, near Puerto Eten	September 14, 2002	6.91440	79.87290	13
REW 194	<i>A. c. cyanoptera</i>	Peru	Lambayeque, near Puerto Eten	September 14, 2002	6.91440	79.87290	13
REW 195	<i>A. c. cyanoptera</i>	Peru	Lambayeque, near Puerto Eten	September 14, 2002	6.91440	79.87290	13
REW 196	<i>A. c. cyanoptera</i>	Peru	Lambayeque, near Puerto Eten	September 14, 2002	6.91440	79.87290	13
REW 198	<i>A. c. cyanoptera</i>	Peru	Lambayeque, Playa Monsefu	September 15, 2002	6.90100	79.88510	12
REW 199	<i>A. c. cyanoptera</i>	Peru	Lambayeque, Playa Monsefu	September 15, 2002	6.90100	79.88510	12

Table A1 (Continued)

Catalog no.	Species/subspecies	Country	Locality	Date	Latitude (°S)	Longitude (°W)	Elevation (m)
REW 200	<i>A. c. cyanoptera</i>	Peru	La Libertad, Magdalena de Cao	September 17, 2002	7.86510	79.34760	23
REW 203	<i>A. c. cyanoptera</i>	Peru	Ancash, Chimbote	September 19, 2002	9.12390	78.55310	15
REW 204	<i>A. c. cyanoptera</i>	Peru	Ancash, Chimbote	September 19, 2002	9.12390	78.55310	15
REW 205	<i>A. c. cyanoptera</i>	Peru	Ancash, Chimbote	September 19, 2002	9.12390	78.55310	15
REW 206	<i>A. c. cyanoptera</i>	Peru	Ancash, Puerto Huarmey	September 20, 2002	10.09780	78.15290	14
REW 207	<i>A. c. cyanoptera</i>	Peru	Lima, Albufera de Medio Mundo	September 20, 2002	10.92390	77.66970	14
REW 208	<i>A. c. cyanoptera</i>	Peru	Lima, Albufera de Medio Mundo	September 20, 2002	10.92390	77.66970	14
REW 235	<i>A. c. cyanoptera</i>	Peru	Ica, Pisco	October 11, 2002	13.69630	76.21870	7
REW 236	<i>A. c. cyanoptera</i>	Peru	Ica, Pisco	October 11, 2002	13.67980	76.21570	9
REW 298	<i>A. c. cyanoptera</i>	Peru	Tacna, Ite, near Careterra Costanera, road marker km 47	October 26, 2002	17.87980	71.01830	10
REW 299	<i>A. c. cyanoptera</i>	Peru	Tacna, Ite, near Careterra Costanera, road marker km 47	October 26, 2002	17.87980	71.01830	10
REW 300	<i>A. c. cyanoptera</i>	Peru	Tacna, Ite, near Careterra Costanera, road marker km 47	October 26, 2002	17.87980	71.01830	10
REW 301	<i>A. c. cyanoptera</i>	Peru	Tacna, Ite, near Careterra Costanera, road marker km 47	October 26, 2002	17.87980	71.01830	10
REW 302	<i>A. c. cyanoptera</i>	Peru	Tacna, Ite, near Careterra Costanera, road marker km 47	October 26, 2002	17.87980	71.01830	10
REW 303	<i>A. c. cyanoptera</i>	Peru	Tacna, Ite, near Careterra Costanera, road marker km 47	October 26, 2002	17.87980	71.01830	10
REW 304	<i>A. c. cyanoptera</i>	Peru	Tacna, Ite, near Careterra Costanera, road marker km 47	October 26, 2002	17.87980	71.01830	10
REW 305	<i>A. c. cyanoptera</i>	Peru	Arequipa, Punta de Bombon-Islay, near La Curva and Coachacra	October 27, 2002	17.19220	71.77210	8
REW 306	<i>A. c. cyanoptera</i>	Peru	Arequipa, Punta de Bombon-Islay, near La Curva and Coachacra	October 27, 2002	17.19220	71.77210	8
REW 315	<i>A. c. cyanoptera</i>	Peru	Lima, 2 km north of La Laguna	October 29, 2002	12.55360	76.71170	9
REW 316	<i>A. c. cyanoptera</i>	Peru	Lima, 2 km north of La Laguna	October 29, 2002	12.55360	76.71170	9
REW 317	<i>A. c. cyanoptera</i>	Peru	Lima, 2 km north La Laguna	October 29, 2002	12.55360	76.71170	9
JT 011	<i>A. c. cyanoptera</i>	Argentina	Buenos Aires, Lincoln	May 8, 2003	34.87420	61.38870	86
JT 046	<i>A. c. cyanoptera</i>	Argentina	Buenos Aires, Lincoln	August 18, 2003	34.88750	61.36420	86
JT 047	<i>A. c. cyanoptera</i>	Argentina	Buenos Aires, Lincoln	August 18, 2003	34.88750	61.36420	86
KGM 712	<i>A. c. cyanoptera</i>	Argentina	Chubut, Laguna Terraplen, 34 km southwest of Esquel	October 19, 2003	42.99740	71.51530	630
KGM 713	<i>A. c. cyanoptera</i>	Argentina	Chubut, Laguna Terraplen, 34 km southwest of Esquel	October 19, 2003	42.99740	71.51530	630
KGM 766	<i>A. c. cyanoptera</i>	Argentina	Santa Cruz, Estancia La Angostura	October 29, 2003	48.64280	70.64370	460
KGM 767	<i>A. c. cyanoptera</i>	Argentina	Santa Cruz, Estancia La Angostura	October 29, 2003	48.64280	70.64370	460
KGM 797	<i>A. c. cyanoptera</i>	Argentina	Santa Cruz, near Punta Loyola	November 5, 2003	51.62660	69.01650	0
KGM 798	<i>A. c. cyanoptera</i>	Argentina	Santa Cruz, near Punta Loyola	November 5, 2003	51.62660	69.01650	0
KGM 799	<i>A. c. cyanoptera</i>	Argentina	Santa Cruz, near Punta Loyola	November 5, 2003	51.61530	68.99070	0
KGM 808	<i>A. c. cyanoptera</i>	Argentina	Chubut, south of Lago Colhue Huapi	November 9, 2003	45.64710	68.94590	256
KGM 1110	<i>A. c. cyanoptera</i>	Argentina	Catamarca, Antofogasta de la Sierra, Laguna La Alumbra	November 8, 2005	26.11280	67.42409	3,338

Table A1 (Continued)

Catalog no.	Species/subspecies	Country	Locality	Date	Latitude (°S)	Longitude (°W)	Elevation (m)
KGM 1142	<i>A. c. cyanoptera</i>	Argentina	Catamarca, Embalse Las Cortaderas	November 14, 2005	27.55590	68.14498	3,369
KGM 441	<i>Anas cyanoptera orinomus</i>	Argentina	Salta, northeast of La Caldera	October 9, 2001	24.5030	65.37080	1,468
KGM 485	<i>A. c. orinomus</i>	Bolivia	La Paz, Lago Titicaca, east of Huatajata	October 27, 2001	16.19580	68.62440	3,808
KGM 486	<i>A. c. orinomus</i>	Bolivia	La Paz, Lago Titicaca, east of Huatajata	October 27, 2001	16.19580	68.62440	3,808
KGM 487	<i>A. c. orinomus</i>	Bolivia	La Paz, Lago Titicaca, east of Huatajata	October 27, 2001	16.19580	68.62440	3,808
KGM 496	<i>A. c. orinomus</i>	Bolivia	La Paz, Lago Titicaca, Cohani	October 28, 2001	16.35140	68.62690	3,844
KGM 499	<i>A. c. orinomus</i>	Bolivia	La Paz, Lago Titicaca	October 28, 2001	16.33690	68.68890	3,854
KGM 527	<i>A. c. orinomus</i>	Bolivia	Oruro, Lago Uru Uru	November 3, 2001	18.03420	67.14610	3,735
KGM 528	<i>A. c. orinomus</i>	Bolivia	Oruro, Lago Uru Uru	November 3, 2001	18.03420	67.14610	3,735
KGM 529	<i>A. c. orinomus</i>	Bolivia	Oruro, Lago Uru Uru	November 3, 2001	18.03420	67.14610	3,735
KGM 530	<i>A. c. orinomus</i>	Bolivia	Oruro, Lago Uru Uru	November 3, 2001	18.03420	67.14610	3,735
KGM 531	<i>A. c. orinomus</i>	Bolivia	Oruro, Lago Uru Uru	November 3, 2001	18.03420	67.14610	3,735
KGM 532	<i>A. c. orinomus</i>	Bolivia	Oruro, Lago Uru Uru	November 3, 2001	18.03420	67.14610	3,735
KGM 533	<i>A. c. orinomus</i>	Bolivia	Oruro, Lago Uru Uru	November 4, 2001	18.03420	67.14610	3,735
KGM 534	<i>A. c. orinomus</i>	Bolivia	Oruro, Lago Uru Uru	November 4, 2001	18.03420	67.14610	3,735
KGM 535	<i>A. c. orinomus</i>	Bolivia	Oruro, Lago Uru Uru	November 4, 2001	18.03420	67.14610	3,735
KGM 552	<i>A. c. orinomus</i>	Bolivia	Oruro, Lago Uru Uru	November 9, 2001	18.03390	67.14560	3,730
KGM 557	<i>A. c. orinomus</i>	Bolivia	La Paz, Lago Titicaca	November 10, 2001	16.42440	68.86190	3,850
KGM 559	<i>A. c. orinomus</i>	Bolivia	La Paz, Lago Titicaca, Cohani	November 11, 2001	16.35080	68.62780	3,839
KGM 560	<i>A. c. orinomus</i>	Bolivia	La Paz, Lago Titicaca, Cohani	November 11, 2001	16.35080	68.62780	3,839
KGM 561	<i>A. c. orinomus</i>	Bolivia	La Paz, Lago Titicaca, Cohani	November 11, 2001	16.35060	68.63300	3,840
KGM 562	<i>A. c. orinomus</i>	Bolivia	La Paz, Lago Titicaca, Cohani	November 11, 2001	16.35060	68.63300	3,840
KGM 563	<i>A. c. orinomus</i>	Bolivia	La Paz, Lago Titicaca, Cohani	November 11, 2001	16.35190	68.63300	3,845
KGM 564	<i>A. c. orinomus</i>	Bolivia	La Paz, Lago Titicaca, Cohani	November 11, 2001	16.35190	68.63500	3,845
KGM 565	<i>A. c. orinomus</i>	Bolivia	La Paz, Lago Titicaca, Cohani	November 11, 2001	16.35190	68.63500	3,845
KGM 566	<i>A. c. orinomus</i>	Bolivia	La Paz, Lago Titicaca, Cohani	November 11, 2001	16.35190	68.63500	3,845
REW 125	<i>A. c. orinomus</i>	Peru	Junin, Jauja, Laguna de Paca	August 16, 2002	11.73740	75.49240	3,506
REW 126	<i>A. c. orinomus</i>	Peru	Junin, Jauja, Laguna de Paca	August 16, 2002	11.73740	75.49240	3,506
REW 238	<i>A. c. orinomus</i>	Peru	Cusco, Laguna Chacan, 8 km north of Izcuchaca	October 13, 2002	13.43410	72.13040	3,533
REW 239	<i>A. c. orinomus</i>	Peru	Cusco, Laguna Chacan, 8 km north of Izcuchaca	October 13, 2002	13.43410	72.13040	3,533
REW 240	<i>A. c. orinomus</i>	Peru	Cusco, Laguna Chacan, 8 km north of Izcuchaca	October 13, 2002	13.43410	72.13040	3,533
REW 241	<i>A. c. orinomus</i>	Peru	Cusco, Laguna Chacan, 8 km north of Izcuchaca	October 13, 2002	13.43410	72.13040	3,533
REW 242	<i>A. c. orinomus</i>	Peru	Cusco, Laguna Chacan, 8 km north of Izcuchaca	October 13, 2002	13.43410	72.13040	3,533
REW 248	<i>A. c. orinomus</i>	Peru	Cusco, Urubamba Valley, near Chincero	October 15, 2002	13.43040	72.06160	3,789

Table A1 (Continued)

Catalog no.	Species/subspecies	Country	Locality	Date	Latitude (°S)	Longitude (°W)	Elevation (m)
REW 253	<i>A. c. orinomus</i>	Peru	Cusco, Urubamba Valley, Laguna Piuray, near Chinchero and Umasbamba	October 15, 2002	13.42300	72.04390	3,743
REW 254	<i>A. c. orinomus</i>	Peru	Cusco, Urubamba Valley, Laguna Piuray, near Chinchero and Umasbamba	October 15, 2002	13.42300	72.04390	3,743
REW 255	<i>A. c. orinomus</i>	Peru	Cusco, near Laguna Pomacanchi, 5 km west of Combapata, Acomayo	October 17, 2002	14.11440	71.46570	3,781
REW 256	<i>A. c. orinomus</i>	Peru	Cusco, near Laguna Pomacanchi, 5 km west of Combapata, Acomayo	October 17, 2002	14.11440	71.46570	3,781
REW 257	<i>A. c. orinomus</i>	Peru	Cusco, near Laguna Pomacanchi, 5 km west of Combapata, Acomayo	October 17, 2002	14.11440	71.46570	3,781
REW 258	<i>A. c. orinomus</i>	Peru	Cusco, near Laguna Pomacanchi, 5 km west of Combapata, Acomayo	October 17, 2002	14.11440	71.46570	3,781
REW 259	<i>A. c. orinomus</i>	Peru	Cusco, near Laguna Pomacanchi, 5 km west of Combapata, Acomayo	October 17, 2002	14.10810	71.47080	3,636
REW 268	<i>A. c. orinomus</i>	Peru	Puno, Lago Titicaca, Jaru Jaru	October 20, 2002	15.98490	69.60680	3,824
REW 269	<i>A. c. orinomus</i>	Peru	Puno, Lago Titicaca, Jaru Jaru	October 20, 2002	15.98490	69.60680	3,824
REW 271	<i>A. c. orinomus</i>	Peru	Puno, Lago Titicaca, near Puno	October 20, 2002	15.86700	69.99390	3,830
REW 272	<i>A. c. orinomus</i>	Peru	Puno, Lago Umayo, Sillustani	October 21, 2002	15.71270	70.15000	3,853
REW 284	<i>A. c. orinomus</i>	Peru	Puno, Deustiva	October 21, 2002	15.56390	70.24250	3,871
REW 285	<i>A. c. orinomus</i>	Peru	Puno, Deustiva	October 21, 2002	15.56390	70.24250	3,871
REW 286	<i>A. c. orinomus</i>	Peru	Puno, Deustiva	October 21, 2002	15.56390	70.24250	3,871
REW 287	<i>A. c. orinomus</i>	Peru	Puno, Deustiva	October 21, 2002	15.56390	70.24250	3,871
REW 698	<i>A. c. orinomus</i>	Bolivia	La Paz, Lago Titicaca	November 26, 2005	16.32928	68.75429	3,763
REW 708	<i>A. c. orinomus</i>	Bolivia	La Paz, Lago Titicaca	November 26, 2005	16.19903	68.74898	3,780
Silver/puna teal:							
KGM 280	<i>Anas versicolor versicolor</i>	Argentina	Cordoba, south of Nicolas Bruzone, R.N. 35	April 23, 2001	34.61420	64.37580	192 ^a
KGM 301	<i>A. v. versicolor</i>	Argentina	Cordoba, Arroyo Chucul-Laguna La Felipa	April 28, 2001	33.20470	63.60670	201 ^a
KGM 316	<i>A. v. versicolor</i>	Argentina	Cordoba, Arroyo Chucul-Laguna La Felipa	April 30, 2001	33.20140	63.62560	203 ^a
KGM 318	<i>A. v. versicolor</i>	Argentina	Cordoba, Arroyo Chucul-Laguna La Felipa	April 30, 2001	33.20920	63.56190	191 ^a
KGM 321	<i>A. v. versicolor</i>	Argentina	Cordoba, south of Laguna La Salada	May 1, 2001	33.51720	62.91310	119 ^a
KGM 327	<i>A. v. versicolor</i>	Argentina	Cordoba, south of Canals	May 1, 2001	34.16690	63.05530	126 ^a
JT 015	<i>A. v. versicolor</i>	Argentina	Buenos Aires, Lincoln	May 10, 2003	34.79440	61.45320	86
JT 035	<i>A. v. versicolor</i>	Argentina	Buenos Aires, Lincoln	July 27, 2003	34.88750	61.36420	86
JT 095	<i>A. v. versicolor</i>	Argentina	Buenos Aires, Lincoln	August 2, 2004	35.03750	61.41833	85
JT 096	<i>A. v. versicolor</i>	Argentina	Buenos Aires, Lincoln	August 2, 2004	35.03750	61.41833	85
JT 097	<i>A. v. versicolor</i>	Argentina	Buenos Aires, Lincoln	August 2, 2004	35.03750	61.41833	85

Table A1 (Continued)

Catalog no.	Species/subspecies	Country	Locality	Date	Latitude (°S)	Longitude (°W)	Elevation (m)
JT 098	<i>A. v. versicolor</i>	Argentina	Buenos Aires, Lincoln	August 2, 2004	35.03750	61.41833	85
JT 101	<i>A. v. versicolor</i>	Argentina	Buenos Aires, Lincoln	August 2, 2004	35.03750	61.41833	85
JT 102	<i>A. v. versicolor</i>	Argentina	Buenos Aires, Lincoln	August 2, 2004	35.03750	61.41833	85
JT 103	<i>A. v. versicolor</i>	Argentina	Buenos Aires, Lincoln	August 2, 2004	35.03750	61.41833	85
JT 104	<i>A. v. versicolor</i>	Argentina	Buenos Aires, Lincoln	August 2, 2004	35.03750	61.41833	85
JT 105	<i>A. v. versicolor</i>	Argentina	Buenos Aires, Lincoln	August 2, 2004	35.03750	61.41833	85
JT 106	<i>A. v. versicolor</i>	Argentina	Buenos Aires, Lincoln	August 2, 2004	35.03750	61.41833	85
JT 107	<i>A. v. versicolor</i>	Argentina	Buenos Aires, Lincoln	August 2, 2004	35.03750	61.41833	85
JT 108	<i>A. v. versicolor</i>	Argentina	Buenos Aires, Lincoln	August 2, 2004	35.03750	61.41833	85
JT 110	<i>A. v. versicolor</i>	Argentina	Buenos Aires, Lincoln	August 2, 2004	35.03750	61.41833	85
JT 112	<i>A. v. versicolor</i>	Argentina	Buenos Aires, Lincoln	August 2, 2004	35.03750	61.41833	85
JT 113	<i>A. v. versicolor</i>	Argentina	Buenos Aires, Lincoln	August 2, 2004	35.03750	61.41833	85
REW 343	<i>Anas versicolor fretensis</i>	Falkland Islands	Goose Green	December 7, 2002	51.83250	59.04080	5
KGM 703	<i>A. v. fretensis</i>	Argentina	Chubut, near Rio Chubut, south of El Maitein	October 18, 2003	42.17020	71.17030	683
KGM 724	<i>A. v. fretensis</i>	Argentina	Chubut, Valle de Solis, east of Las Pampas	October 21, 2003	44.14560	71.52690	687
KGM 760	<i>A. v. fretensis</i>	Argentina	Santa Cruz, Estancia La Angostura	October 28, 2003	48.63410	70.64860	335
KGM 761	<i>A. v. fretensis</i>	Argentina	Santa Cruz, Estancia La Angostura	October 28, 2003	48.63410	70.64860	335
KGM 762	<i>A. v. fretensis</i>	Argentina	Santa Cruz, Estancia La Angostura	October 29, 2003	48.63410	70.64860	335
KGM 763	<i>A. v. fretensis</i>	Argentina	Santa Cruz, Estancia La Angostura	October 29, 2003	48.63410	70.64860	335
KGM 764	<i>A. v. fretensis</i>	Argentina	Santa Cruz, Estancia La Angostura	October 29, 2003	48.63410	70.64860	335
KGM 788	<i>A. v. fretensis</i>	Argentina	Santa Cruz, R.N. 40, Stag River	November 3, 2003	51.68630	71.98130	178
KGM 792	<i>A. v. fretensis</i>	Argentina	Santa Cruz, R.N. 40, El Zurdo	November 3, 2003	51.99280	71.23190	122
KGM 793	<i>A. v. fretensis</i>	Argentina	Santa Cruz, R.N. 40, El Zurdo	November 3, 2003	51.99280	71.23190	122
KGM 446	<i>Anas puna</i>	Argentina	Jujuy, Abra Pampa	October 10, 2001	22.71170	65.771920	3,510
KGM 447	<i>A. puna</i>	Argentina	Jujuy, Abra Pampa	October 10, 2001	22.71170	65.771920	3,510
KGM 480	<i>A. puna</i>	Bolivia	La Paz, Lago Titicaca, north of Batallas	October 26, 2001	16.23860	68.57670	3,820
KGM 488	<i>A. puna</i>	Bolivia	La Paz, Lago Titicaca, east of Huatajata	October 27, 2001	16.20030	68.63080	3,850
KGM 489	<i>A. puna</i>	Bolivia	La Paz, Lago Titicaca, east of Huatajata	October 27, 2001	16.20030	68.63080	3,850
KGM 493	<i>A. puna</i>	Bolivia	La Paz, Lago Titicaca, east of Huatajata	October 27, 2001	16.20030	68.63080	3,850
KGM 494	<i>A. puna</i>	Bolivia	La Paz, Lago Titicaca, east of Huatajata	October 27, 2001	16.20030	68.63080	3,850
KGM 495	<i>A. puna</i>	Bolivia	La Paz, Lago Titicaca, east of Huatajata	October 27, 2001	16.20030	68.63080	3,850
KGM 523	<i>A. puna</i>	Bolivia	Oruro, Lago Uru Uru	November 2, 2001	18.02500	67.14190	3,730
KGM 524	<i>A. puna</i>	Bolivia	Oruro, Lago Uru Uru	November 3, 2001	18.03420	67.14610	3,735
KGM 536	<i>A. puna</i>	Bolivia	Oruro, Lago Uru Uru	November 4, 2001	18.03420	67.14610	3,735
KGM 547	<i>A. puna</i>	Bolivia	Oruro, Lago Uru Uru	November 8, 2001	18.03390	67.14560	3,730

Table A1 (Continued)

Catalog no.	Species/subspecies	Country	Locality	Date	Latitude (°S)	Longitude (°W)	Elevation (m)
KGM 548	<i>A. puma</i>	Bolivia	Oruro, Lago Uru Uru	November 8, 2001	18.03390	67.14560	3,730
KGM 549	<i>A. puma</i>	Bolivia	Oruro, Lago Uru Uru	November 8, 2001	18.03390	67.14560	3,730
REW 095	<i>A. puma</i>	Peru	Junin, south of Junin, Careterra Central, km 218	August 11, 2002	11.23270	75.94180	4,177
REW 096	<i>A. puma</i>	Peru	Junin, south of Junin, Careterra Central, km 218	August 11, 2002	11.23270	75.94180	4,177
REW 097	<i>A. puma</i>	Peru	Junin, south of Junin, Careterra Central, km 218	August 11, 2002	11.23270	75.94180	4,177
REW 098	<i>A. puma</i>	Peru	Pasco, near Cerro de Pasco	August 11, 2002	10.71240	76.23740	4,351
REW 099	<i>A. puma</i>	Peru	Pasco, near Cerro de Pasco	August 11, 2002	10.71240	76.23740	4,351
REW 105	<i>A. puma</i>	Peru	Pasco, near Cerro de Pasco	August 12, 2002	10.71420	76.23350	4,360
REW 106	<i>A. puma</i>	Peru	Pasco, near Cerro de Pasco	August 12, 2002	10.71520	76.23390	4,261
REW 110	<i>A. puma</i>	Peru	Junin, near Junin	August 13, 2002	11.16390	76.01520	4,122
REW 114	<i>A. puma</i>	Peru	Junin, Jauja, Laguna de Paca	August 14, 2002	11.71800	75.51010	3,494
REW 116	<i>A. puma</i>	Peru	Junin, Jauja, Laguna de Paca	August 14, 2002	11.71670	75.50610	3,499
REW 123	<i>A. puma</i>	Peru	Junin, Jauja, Laguna de Paca	August 15, 2002	11.73740	75.49240	3,506
REW 135	<i>A. puma</i>	Peru	Ancash, Laguna Utoto, near Catac	August 24, 2002	9.86630	77.49490	4,306
REW 136	<i>A. puma</i>	Peru	Ancash, Laguna Utoto, near Catac	August 24, 2002	9.86520	77.49590	4,304
REW 137	<i>A. puma</i>	Peru	Ancash, Laguna Utoto, near Catac	August 24, 2002	9.86520	77.49590	4,304
REW 141	<i>A. puma</i>	Peru	Ancash, Laguna Utoto, near Catac	August 25, 2002	9.86350	77.48850	4,426
REW 149	<i>A. puma</i>	Peru	Ancash, Lagunas Llanganuco	August 27, 2002	9.05600	77.62500	3,768
REW 156	<i>A. puma</i>	Peru	Ancash, Laguna Cantrash	August 30, 2002	9.68520	77.05580	4,270
REW 243	<i>A. puma</i>	Peru	Cusco, Laguna Chacan, 8 km north of Izcuchaca	October 13, 2002	13.43410	72.13040	3,533
REW 244	<i>A. puma</i>	Peru	Cusco, Laguna Chacan, 8 km north of Izcuchaca	October 13, 2002	13.43410	72.13040	3,533
REW 245	<i>A. puma</i>	Peru	Cusco, Laguna Huaypo, north of Izcuchaca	October 13, 2002	13.40930	72.14200	3,557
REW 246	<i>A. puma</i>	Peru	Cusco, Laguna Huaypo, north of Izcuchaca	October 13, 2002	13.39590	72.12840	3,556
REW 262	<i>A. puma</i>	Peru	Puno, Lago Titicaca, Jaru Jaru	October 20, 2002	15.98490	69.60680	3,824
REW 263	<i>A. puma</i>	Peru	Puno, Lago Titicaca, Jaru Jaru	October 20, 2002	15.98490	69.60680	3,824
REW 264	<i>A. puma</i>	Peru	Puno, Lago Titicaca, Jaru Jaru	October 20, 2002	15.98490	69.60680	3,824
REW 288	<i>A. puma</i>	Peru	Puno, south of Santa Lucia, near Lago Lagunillas	October 21, 2002	15.78040	70.61470	4,150
KGM 1078	<i>A. puma</i>	Argentina	Catamarca, Antofogasta de la Sierra, Laguna La Alumbra	November 5, 2005	26.11280	67.42409	3,338
KGM 1079	<i>A. puma</i>	Argentina	Catamarca, Antofogasta de la Sierra, Laguna La Alumbra	November 5, 2005	26.11280	67.42409	3,338
REW 684	<i>A. puma</i>	Bolivia	La Paz, Lago Titicaca, Isla Cojata	November 25, 2005	16.22357	68.60489	3,824
REW 694	<i>A. puma</i>	Bolivia	La Paz, Lago Titicaca	November 25, 2005	16.23489	68.59975	3,830
Yellow-billed pintail:							
KGM 266	<i>Anas georgica</i>	Argentina	Neuquén, Río Limay, R.N. 237	April 19, 2001	40.45940	70.665280	611 ^a
KGM 274	<i>A. georgica</i>	Argentina	Neuquén, Las Lajás	April 21, 2001	38.54390	70.36030	774 ^a
KGM 277	<i>A. georgica</i>	Argentina	Neuquén, Las Lajás	April 21, 2001	38.54390	70.36030	774 ^a

Table A1 (Continued)

Catalog no.	Species/subspecies	Country	Locality	Date	Latitude (°S)	Longitude (°W)	Elevation (m)
KGM 306	<i>A. georgica</i>	Argentina	Cordoba, Arroyo Chucul-Laguna La Felipa	April 28, 2001	33.27560	63.50530	195 ^a
KGM 309	<i>A. georgica</i>	Argentina	Cordoba, west of Pascanas, Ruta 11	April 29, 2001	33.10390	63.17250	140 ^a
KGM 324	<i>A. georgica</i>	Argentina	Cordoba, south of Canals	May 1, 2001	34.10640	63.04000	128 ^a
KGM 439	<i>A. georgica</i>	Argentina	Salta, northeast of La Caldera	October 9, 2001	24.505030	65.37080	1,468
KGM 440	<i>A. georgica</i>	Argentina	Salta, northeast of La Caldera	October 9, 2001	24.505030	65.37080	1,468
REW 310	<i>A. georgica</i>	Peru	Arequipa, Punta de Bombon-Islay	October 27, 2002	17.19930	71.73210	8
JT 009	<i>A. georgica</i>	Argentina	Buenos Aires, Lincoln	May 8, 2003	34.77250	61.48390	83
JT 010	<i>A. georgica</i>	Argentina	Buenos Aires, Lincoln	May 8, 2003	34.77250	61.48390	83
JT 025	<i>A. georgica</i>	Argentina	Buenos Aires, Lincoln	July 27, 2003	34.88750	61.36420	86
JT 027	<i>A. georgica</i>	Argentina	Buenos Aires, Lincoln	July 27, 2003	34.88750	61.36420	86
JT 029	<i>A. georgica</i>	Argentina	Buenos Aires, Lincoln	July 27, 2003	34.88750	61.36420	86
JT 032	<i>A. georgica</i>	Argentina	Buenos Aires, Lincoln	July 27, 2003	34.88750	61.36420	86
JT 034	<i>A. georgica</i>	Argentina	Buenos Aires, Lincoln	July 27, 2003	34.88750	61.36420	86
JT 036	<i>A. georgica</i>	Argentina	Buenos Aires, Lincoln	July 27, 2003	34.88750	61.36420	86
JT 037	<i>A. georgica</i>	Argentina	Buenos Aires, Lincoln	July 27, 2003	34.88750	61.36420	86
JT 038	<i>A. georgica</i>	Argentina	Buenos Aires, Lincoln	July 27, 2003	34.88750	61.36420	86
JT 039	<i>A. georgica</i>	Argentina	Buenos Aires, Lincoln	July 27, 2003	34.88750	61.36420	86
JT 040	<i>A. georgica</i>	Argentina	Buenos Aires, Lincoln	July 27, 2003	34.88750	61.36420	86
JT 042	<i>A. georgica</i>	Argentina	Buenos Aires, Lincoln	July 27, 2003	34.88750	61.36420	86
JT 043	<i>A. georgica</i>	Argentina	Buenos Aires, Lincoln	July 27, 2003	34.88750	61.36420	86
JT 057	<i>A. georgica</i>	Argentina	Buenos Aires, Lincoln	August 18, 2003	34.88750	61.36420	86
JT 058	<i>A. georgica</i>	Argentina	Buenos Aires, Lincoln	August 18, 2003	34.88750	61.36420	86
KGM 697	<i>A. georgica</i>	Argentina	Chubut, near Rio Chubut, south of El Maiten	October 17, 2003	42.11350	71.17290	698
KGM 698	<i>A. georgica</i>	Argentina	Chubut, near Rio Chubut, south of El Maiten	October 17, 2003	42.11350	71.17290	698
KGM 705	<i>A. georgica</i>	Argentina	Chubut, Estancia Leleque	October 18, 2003	42.40710	71.08010	674
KGM 706	<i>A. georgica</i>	Argentina	Chubut, Estancia Leleque	October 18, 2003	42.40710	71.08010	674
KGM 714	<i>A. georgica</i>	Argentina	Chubut, R.P. 17, south of Arroyo Nanty Fall	October 20, 2003	43.27410	71.43370	731
KGM 725	<i>A. georgica</i>	Argentina	Chubut, R.N. 40, west of Shamatán	October 22, 2003	44.38780	70.64680	643
KGM 731	<i>A. georgica</i>	Argentina	Chubut, Lago Fontana	October 22, 2003	44.89680	71.51060	914
KGM 733	<i>A. georgica</i>	Argentina	Chubut, Rio Mayo, R.P. 74, 16 km east of R. Rojas	October 23, 2003	45.61480	70.82750	533
KGM 734	<i>A. georgica</i>	Argentina	Chubut, Rio Mayo, R.P. 74, 16 km east of R. Rojas	October 23, 2003	45.61480	70.82750	533
KGM 741	<i>A. georgica</i>	Argentina	Santa Cruz, Chaera Sandine, east of Los Antiguos	October 25, 2003	46.58040	71.15030	245
KGM 742	<i>A. georgica</i>	Argentina	Santa Cruz, Rio Fenix Chico, east of Lago Buenos Aires	October 25, 2003	46.57540	70.95920	382
KGM 750	<i>A. georgica</i>	Argentina	Santa Cruz, R.N. 40, Rio Ecker	October 26, 2003	47.12180	70.86590	703
KGM 758	<i>A. georgica</i>	Argentina	Santa Cruz, Rio Chico, near Gobernador Gregores	October 28, 2003	48.75040	70.32000	293

Table A1 (Continued)

Catalog no.	Species/subspecies	Country	Locality	Date	Latitude (°S)	Longitude (°W)	Elevation (m)
KGM 759	<i>A. georgica</i>	Argentina	Santa Cruz, Rio Chico, near Gobernador Gregores	October 28, 2003	48.75040	70.32000	293
KGM 765	<i>A. georgica</i>	Argentina	Santa Cruz, Estancia La Angostura	October 29, 2003	48.63410	70.64860	335
KGM 776	<i>A. georgica</i>	Argentina	Santa Cruz, R.P. 5, near Estancia La Martina	November 1, 2003	50.40650	71.51380	755
KGM 777	<i>A. georgica</i>	Argentina	Santa Cruz, R.N. 40, southwest of Puesto Coti Aike	November 1, 2003	50.85140	71.49260	360
KGM 780	<i>A. georgica</i>	Argentina	Santa Cruz, R.N. 40, near Tapi Aike	November 1, 2003	51.02100	71.77940	292
KGM 787	<i>A. georgica</i>	Argentina	Santa Cruz, R.N. 40, Stag River	November 3, 2003	51.68810	72.05720	150
KGM 810	<i>A. georgica</i>	Argentina	Chubut, south of Lago Colhue Huapi	November 10, 2003	45.65240	68.94000	267
KGM 816	<i>A. georgica</i>	Argentina	Chubut, south of Lago Musters	November 10, 2003	45.60390	69.21630	285
KGM 1203	<i>A. georgica</i>	Argentina	San Juan, south of Calingasta	November 26, 2005	31.45628	69.40011	1,445
KGM 1205	<i>A. georgica</i>	Argentina	San Juan, Rio Castano, north of Calingasta	November 26, 2005	31.25095	69.44229	1,349
KGM 1206	<i>A. georgica</i>	Argentina	San Juan, Rio Castano, north of Calingasta	November 26, 2005	31.25095	69.44229	1,349
KGM 1207	<i>A. georgica</i>	Argentina	San Juan, Rio Castano, north of Calingasta	November 26, 2005	31.25095	69.44229	1,349
KGM 1215	<i>A. georgica</i>	Argentina	Mendoza, R.N. 40, north of Pareditas	November 30, 2005	33.92687	69.08465	1,046
KGM 1225	<i>A. georgica</i>	Argentina	Mendoza, near Arroyo Malo	December 2, 2005	35.17195	69.85158	1,809
KGM 1226	<i>A. georgica</i>	Argentina	Mendoza, near Arroyo Malo	December 2, 2005	35.17195	69.85158	1,809
KGM 1234	<i>A. georgica</i>	Argentina	Mendoza, near Arroyo Malo	December 4, 2005	35.17195	69.85158	1,809
KGM 1235	<i>A. georgica</i>	Argentina	Mendoza, near Rio Malargue	December 5, 2005	35.51057	69.78974	1,748
KGM 1236	<i>A. georgica</i>	Argentina	Mendoza, R.N. 40, south of El Manzano, near Rio Grande	December 5, 2005	36.14745	69.71230	1,273
KGM 1237	<i>A. georgica</i>	Argentina	Mendoza, R.N. 40, south of El Manzano, near Rio Grande	December 5, 2005	36.17499	69.69342	1,267
KGM 1238	<i>A. georgica</i>	Argentina	Mendoza, R.N. 40, south of El Manzano, near Rio Grande	December 5, 2005	36.17499	69.66342	1,267
KGM 1240	<i>A. georgica</i>	Argentina	Neuquén, Laguna Auquinko	December 5, 2005	37.33838	69.98023	1,410
KGM 1241	<i>A. georgica</i>	Argentina	Neuquén, Laguna Auquinko	December 5, 2005	37.33838	69.98023	1,410
KGM 1243	<i>A. georgica</i>	Argentina	Neuquén, Rio Nahueve, northwest of Andacollo	December 6, 2005	37.11194	70.75385	1,107
KGM 1244	<i>A. georgica</i>	Argentina	Neuquén, Valle Rio Agrio, near Arroyo Codihue, 15 km northwest of Las Lajas	December 6, 2005	38.47249	70.48972	746
KGM 1249	<i>A. georgica</i>	Argentina	Neuquén, east of Lago Norquincó	December 7, 2005	39.14414	71.20203	1,052
KGM 1250	<i>A. georgica</i>	Argentina	Neuquén, east of Lago Norquincó	December 7, 2005	39.14414	71.20203	1,052
UWBM 65848	<i>A. georgica</i>	Argentina	Buenos Aires, Sierra de la Ventana, ~60 mi inland from Bahía Blanca	July 14, 1997	38.15000	61.80000	251 ^a
KGM 421	<i>A. georgica</i>	Argentina	Salta, Rio Corral Colorado	October 5, 2001	24.39890	66.56970	4,124
KGM 422	<i>A. georgica</i>	Argentina	Salta, Rio Corral Colorado	October 5, 2001	24.39890	66.56970	4,124
KGM 423	<i>A. georgica</i>	Argentina	Salta, Rio Corral Colorado	October 5, 2001	24.41580	66.58940	4,084
KGM 425	<i>A. georgica</i>	Argentina	Salta, Rio Corral Colorado	October 5, 2001	24.41970	66.59750	4,070
KGM 490	<i>A. georgica</i>	Bolivia	La Paz, Lago Titicaca, east of Huatajata	October 27, 2001	16.20030	68.63080	3,850
KGM 491	<i>A. georgica</i>	Bolivia	La Paz, Lago Titicaca, east of Huatajata	October 27, 2001	16.20030	68.63080	3,850

Table A1 (Continued)

Catalog no.	Species/subspecies	Country	Locality	Date	Latitude (°S)	Longitude (°W)	Elevation (m)
KGM 492	<i>A. georgica</i>	Bolivia	La Paz, Lago Titicaca, east of Huatajata	October 27, 2001	16.20030	68.63080	3,850
KGM 498	<i>A. georgica</i>	Bolivia	La Paz, Lago Titicaca, Kala Uta	October 28, 2001	16.33530	68.69170	3,845
KGM 507	<i>A. georgica</i>	Bolivia	Oruro, Lago Uru Uru	November 1, 2001	18.02500	67.14190	3,730
KGM 508	<i>A. georgica</i>	Bolivia	Oruro, Lago Uru Uru	November 1, 2001	18.02690	67.15190	3,739
KGM 522	<i>A. georgica</i>	Bolivia	Oruro, Lago Uru Uru	November 2, 2001	18.02500	67.14190	3,730
KGM 526	<i>A. georgica</i>	Bolivia	Oruro, Lago Uru Uru	November 3, 2001	18.03420	67.14610	3,735
KGM 550	<i>A. georgica</i>	Bolivia	Oruro, Lago Uru Uru	November 8, 2001	18.03390	67.14560	3,730
KGM 551	<i>A. georgica</i>	Bolivia	Oruro, Lago Uru Uru	November 9, 2001	18.03390	67.14560	3,730
KGM 567	<i>A. georgica</i>	Bolivia	La Paz, Lago Titicaca, east of Huatajata	November 18, 2001	16.20030	68.61690	3,850
KGM 568	<i>A. georgica</i>	Bolivia	La Paz, Lago Titicaca, east of Huatajata	November 18, 2001	16.20030	68.61690	3,850
REW 108	<i>A. georgica</i>	Peru	Junin	August 13, 2002	11.04630	76.17780	4,107
REW 109	<i>A. georgica</i>	Peru	Junin	August 13, 2002	11.04630	76.17780	4,107
REW 111	<i>A. georgica</i>	Peru	Junin, Jauja, Laguna de Paca	August 14, 2002	11.72990	75.50160	3,319
REW 112	<i>A. georgica</i>	Peru	Junin, Jauja, Laguna de Paca	August 14, 2002	11.71800	75.51010	3,494
REW 113	<i>A. georgica</i>	Peru	Junin, Jauja, Laguna de Paca	August 14, 2002	11.71800	75.51010	3,494
REW 115	<i>A. georgica</i>	Peru	Junin, Jauja, Laguna de Paca	August 14, 2002	11.71860	75.50810	3,497
REW 117	<i>A. georgica</i>	Peru	Junin, Jauja, Laguna de Paca	August 14, 2002	11.71860	75.50810	3,497
REW 144	<i>A. georgica</i>	Peru	Ancash, Laguna Pampacocha, near Caraz	August 26, 2002	8.99410	77.78290	3,332
REW 145	<i>A. georgica</i>	Peru	Ancash, Laguna Pampacocha, near Caraz	August 26, 2002	8.99410	77.78290	3,332
REW 146	<i>A. georgica</i>	Peru	Ancash, Laguna Pampacocha, near Caraz	August 26, 2002	8.99410	77.78290	3,332
REW 147	<i>A. georgica</i>	Peru	Ancash, Laguna Pampacocha, near Caraz	August 26, 2002	8.99410	77.78290	3,332
REW 148	<i>A. georgica</i>	Peru	Ancash, Laguna Pampacocha, near Caraz	August 26, 2002	8.99410	77.78290	3,332
REW 155	<i>A. georgica</i>	Peru	Ancash, Laguna Conococha	August 29, 2002	10.12770	77.28760	4,040
REW 247	<i>A. georgica</i>	Peru	Cusco, Urubamba Valley, near Chincero	October 15, 2002	13.43040	72.06160	3,789
REW 249	<i>A. georgica</i>	Peru	Cusco, Urubamba Valley, near Chincero	October 15, 2002	13.43040	72.06160	3,789
REW 250	<i>A. georgica</i>	Peru	Cusco, Urubamba Valley, near Chincero	October 15, 2002	13.43040	72.06160	3,789
REW 251	<i>A. georgica</i>	Peru	Cusco, Urubamba Valley, near Chincero	October 15, 2002	13.43040	72.06160	3,789
REW 265	<i>A. georgica</i>	Peru	Puno, Lago Titicaca, Jaru Jaru	October 20, 2002	15.98490	69.60680	3,824
REW 266	<i>A. georgica</i>	Peru	Puno, Lago Titicaca, Jaru Jaru	October 20, 2002	15.98490	69.60680	3,824
REW 267	<i>A. georgica</i>	Peru	Puno, Lago Titicaca, Jaru Jaru	October 21, 2002	15.72370	70.15490	3,863
REW 277	<i>A. georgica</i>	Peru	Puno, Lago Umayo, Sillustani	October 21, 2002	15.72370	70.15490	3,863
REW 278	<i>A. georgica</i>	Peru	Puno, Lago Umayo, Sillustani	November 5, 2005	26.11280	67.42409	3,338
KGM 1075	<i>A. georgica</i>	Argentina	Catamarca, Antofagasta de la Sierra, Laguna La Alumbra	November 5, 2005	26.11280	67.42409	3,338
KGM 1076	<i>A. georgica</i>	Argentina	Catamarca, Antofagasta de la Sierra, Laguna La Alumbra	November 14, 2005	27.55887	68.14496	3,367
KGM 1141	<i>A. georgica</i>	Argentina	Catamarca, Embalse Las Cortaderas	November 14, 2005	27.55887	68.14496	3,367

Table A1 (Continued)

Catalog no.	Species/subspecies	Country	Locality	Date	Latitude (°S)	Longitude (°W)	Elevation (m)
KGM 1171	<i>A. georgica</i>	Argentina	Catamarca, Rio Chaschuil, east Valle Chaschuil	November 16, 2005	27.78961	68.07358	3,063
KGM 1173	<i>A. georgica</i>	Argentina	Catamarca, Embalse Las Cortaderas	November 17, 2005	27.55748	68.14529	3,363
KGM 1187	<i>A. georgica</i>	Argentina	Catamarca, Rio Chaschuil, east Valle Chaschuil	November 18, 2005	27.78961	68.07358	3,063
REW 681	<i>A. georgica</i>	Bolivia	La Paz, Lago Titicaca, Isla Cojata	November 25, 2005	16.22357	68.60489	3,824
REW 682	<i>A. georgica</i>	Bolivia	La Paz, Lago Titicaca, Isla Cojata	November 25, 2005	16.22357	68.60489	3,824
REW 683	<i>A. georgica</i>	Bolivia	La Paz, Lago Titicaca, Isla Cojata	November 25, 2005	16.22357	68.60489	3,824
REW 687	<i>A. georgica</i>	Bolivia	La Paz, Lago Titicaca	November 25, 2005	16.23489	68.59975	3,830
REW 700	<i>A. georgica</i>	Bolivia	La Paz, Lago Titicaca	November 26, 2005	16.30100	68.81016	3,762
REW 702	<i>A. georgica</i>	Bolivia	La Paz, Lago Titicaca	November 26, 2005	16.28512	68.82497	3,762
REW 704	<i>A. georgica</i>	Bolivia	La Paz, Lago Titicaca	November 26, 2005	16.19220	68.81144	3,778
Speckled teal:							
KGM 255	<i>Anas flavirostris flavirostris</i>	Argentina	Río Negro, Chichimales	April 14, 2001	39.12060	66.93250	195 ^a
KGM 263	<i>A. f. flavirostris</i>	Argentina	Río Negro, Los Juncos, R.P. 23	April 17, 2001	41.06170	71.01170	909 ^a
KGM 264	<i>A. f. flavirostris</i>	Argentina	Río Negro, Los Juncos, R.P. 23	April 17, 2001	41.06170	71.01170	909 ^a
KGM 265	<i>A. f. flavirostris</i>	Argentina	Río Negro, Los Juncos, R.P. 23	April 17, 2001	41.06170	71.01170	909 ^a
KGM 267	<i>A. f. flavirostris</i>	Argentina	Neuquén, Río Collon Cura, R.N. 40	April 19, 2001	40.21250	70.64940	608 ^a
KGM 275	<i>A. f. flavirostris</i>	Argentina	Neuquén, Las Lajitas	April 21, 2001	38.54390	70.36030	774 ^a
KGM 276	<i>A. f. flavirostris</i>	Argentina	Neuquén, Las Lajitas	April 21, 2001	38.54390	70.36030	774 ^a
KGM 285	<i>A. f. flavirostris</i>	Argentina	Cordoba, north of La Para	April 25, 2001	30.86780	62.94860	77 ^a
KGM 319	<i>A. f. flavirostris</i>	Argentina	Cordoba, Arroyo Chucul–Laguna La Felipa	April 30, 2001	33.18420	63.71250	228 ^a
KGM 320	<i>A. f. flavirostris</i>	Argentina	Cordoba, Arroyo Chucul–Laguna La Felipa	April 30, 2001	33.18420	63.71250	228 ^a
REW 323	<i>A. f. flavirostris</i>	Falkland Islands	Cape Pembroke	November 20, 2002	51.68820	57.77330	24
REW 324	<i>A. f. flavirostris</i>	Falkland Islands	Cape Pembroke	November 21, 2002	51.68820	57.77330	24
REW 325	<i>A. f. flavirostris</i>	Falkland Islands	Cape Pembroke	November 21, 2002	51.68820	57.77330	24
REW 326	<i>A. f. flavirostris</i>	Falkland Islands	Cape Pembroke	November 22, 2002	51.68820	57.77330	24
REW 327	<i>A. f. flavirostris</i>	Falkland Islands	Cape Pembroke	November 22, 2002	51.68820	57.77330	24
REW 333	<i>A. f. flavirostris</i>	Falkland Islands	Cape Pembroke	November 25, 2002	51.68820	57.77330	24
REW 340	<i>A. f. flavirostris</i>	Falkland Islands	Cape Pembroke	December 6, 2002	51.68840	57.75270	22
REW 342	<i>A. f. flavirostris</i>	Falkland Islands	Cape Pembroke	December 6, 2002	51.68820	57.77330	24
REW 353	<i>A. f. flavirostris</i>	Falkland Islands	Cape Pembroke	December 12, 2002	51.68820	57.77330	24
REW 360	<i>A. f. flavirostris</i>	Falkland Islands	Cape Pembroke	December 17, 2002	51.68790	57.76770	18
REW 361	<i>A. f. flavirostris</i>	Falkland Islands	Cape Pembroke	December 17, 2002	51.68790	57.76770	19
REW 387	<i>A. f. flavirostris</i>	Falkland Islands	Fitzroy, Fox Point	December 31, 2002	51.89090	58.33380	3
REW 388	<i>A. f. flavirostris</i>	Falkland Islands	Fitzroy, Fox Point	December 31, 2002	51.89090	58.33380	3
REW 389	<i>A. f. flavirostris</i>	Falkland Islands	Fitzroy, Fox Point	December 31, 2002	51.89090	58.33380	3

Table A1 (Continued)

Catalog no.	Species/subspecies	Country	Locality	Date	Latitude (°S)	Longitude (°W)	Elevation (m)
REW 390	<i>A. f. flavirostris</i>	Falkland Islands	Fitzroy, Fox Point	December 31, 2002	51.89090	58.38380	3
JT 012	<i>A. f. flavirostris</i>	Argentina	Buenos Aires, Lincoln	May 8, 2003	34.87420	61.38870	86
JT 013	<i>A. f. flavirostris</i>	Argentina	Buenos Aires, Lincoln	May 8, 2003	34.87420	61.38870	86
JT 020	<i>A. f. flavirostris</i>	Argentina	Buenos Aires, Lincoln	July 27, 2003	34.88750	61.36420	86
JT 026	<i>A. f. flavirostris</i>	Argentina	Buenos Aires, Lincoln	July 27, 2003	34.88750	61.36420	86
JT 031	<i>A. f. flavirostris</i>	Argentina	Buenos Aires, Lincoln	July 27, 2003	34.88750	61.36420	86
JT 033	<i>A. f. flavirostris</i>	Argentina	Buenos Aires, Lincoln	July 27, 2003	34.88750	61.36420	86
JT 055	<i>A. f. flavirostris</i>	Argentina	Buenos Aires, Lincoln	August 18, 2003	34.88750	61.36420	86
JT 056	<i>A. f. flavirostris</i>	Argentina	Buenos Aires, Lincoln	August 18, 2003	34.88750	61.36420	86
JT 100	<i>A. f. flavirostris</i>	Argentina	Buenos Aires, Lincoln	August 2, 2004	35.03750	61.41833	85
KGM 699	<i>A. f. flavirostris</i>	Argentina	Chubut, near Rio Chubut, south of El Maiten	October 17, 2003	42.11350	71.17290	698
KGM 700	<i>A. f. flavirostris</i>	Argentina	Chubut, near Rio Chubut, south of El Maiten	October 17, 2003	42.11350	71.17290	698
KGM 707	<i>A. f. flavirostris</i>	Argentina	Chubut, R.N. 40, Arroyo Madera	October 18, 2003	42.66510	71.07310	957
KGM 708	<i>A. f. flavirostris</i>	Argentina	Chubut, R.N. 40, Arroyo Madera	October 18, 2003	42.66510	71.07310	957
KGM 717	<i>A. f. flavirostris</i>	Argentina	Chubut, R.P. 17, east of Corcovado	October 20, 2003	43.52710	71.20470	815
KGM 718	<i>A. f. flavirostris</i>	Argentina	Chubut, R.P. 17, east of Corcovado	October 20, 2003	43.52710	71.20470	815
KGM 727	<i>A. f. flavirostris</i>	Argentina	Chubut, R.N. 40, Arroyo Apelleg	October 22, 2003	44.67310	70.64430	679
KGM 735	<i>A. f. flavirostris</i>	Argentina	Chubut, Rio Mayo, R.P. 74, 16 km east of R. Rojas	October 23, 2003	45.61480	70.82750	533
KGM 736	<i>A. f. flavirostris</i>	Argentina	Chubut, Rio Mayo, R.P. 74, 16 km east of R. Rojas	October 23, 2003	45.61480	70.82750	533
KGM 747	<i>A. f. flavirostris</i>	Argentina	Santa Cruz, R.P. 41, south of Estancia La Frontera	October 26, 2003	46.85040	71.87330	860
KGM 748	<i>A. f. flavirostris</i>	Argentina	Santa Cruz, Lago Buenos Aires	October 26, 2003	46.60230	71.21150	215
KGM 771	<i>A. f. flavirostris</i>	Argentina	Santa Cruz, south of Arroyo El Puesto	October 30, 2003	49.15710	72.94650	455
KGM 772	<i>A. f. flavirostris</i>	Argentina	Santa Cruz, south of Arroyo El Puesto	October 30, 2003	49.15710	72.94650	455
KGM 778	<i>A. f. flavirostris</i>	Argentina	Santa Cruz, R.N. 40, southwest of Puerto Coti Aike	November 1, 2003	50.84930	71.49590	360
KGM 779	<i>A. f. flavirostris</i>	Argentina	Santa Cruz, R.N. 40, southwest of Puerto Coti Aike	November 1, 2003	50.84930	71.49590	360
KGM 783	<i>A. f. flavirostris</i>	Argentina	Santa Cruz, R.N. 40, near Estancia Las Tres Marias	November 1, 2003	51.34540	72.19780	450
KGM 784	<i>A. f. flavirostris</i>	Argentina	Santa Cruz, R.N. 40, near Estancia Las Tres Marias	November 1, 2003	51.34540	72.19780	450
KGM 789	<i>A. f. flavirostris</i>	Argentina	Santa Cruz, R.N. 40, Stag River	November 3, 2003	51.68630	71.98130	178
KGM 790	<i>A. f. flavirostris</i>	Argentina	Santa Cruz, R.N. 40, west of Puente Blanco	November 3, 2003	51.89520	71.56390	107
KGM 791	<i>A. f. flavirostris</i>	Argentina	Santa Cruz, R.N. 40, west of Puente Blanco	November 3, 2003	51.89520	71.56390	107
KGM 814	<i>A. f. flavirostris</i>	Argentina	Chubut, south of Lago Musters	November 10, 2003	45.60390	69.21630	285
KGM 815	<i>A. f. flavirostris</i>	Argentina	Chubut, south of Lago Musters	November 10, 2003	45.60390	69.21630	285
KGM 1202	<i>A. f. flavirostris</i>	Argentina	San Juan, near Calingasta	November 25, 2005	31.30953	69.41263	1,338
KGM 1204	<i>A. f. flavirostris</i>	Argentina	San Juan, Rio San Juan, near Calingasta	November 26, 2005	31.33149	69.41695	1,359
KGM 1208	<i>A. f. flavirostris</i>	Argentina	San Juan, Dique Cuesta del Viento, near Rodeo	November 27, 2005	30.20251	69.10036	1,537

Table A1 (Continued)

Catalog no.	Species/subspecies	Country	Locality	Date	Latitude (°S)	Longitude (°W)	Elevation (m)
KGM 1209	<i>A. f. flavirostris</i>	Argentina	San Juan, Dique Cuesta del Viento, near Rodeo	November 27, 2005	30.20251	69.10036	1,537
KGM 1210	<i>A. f. flavirostris</i>	Argentina	San Juan, Dique Los Caquenes, north of San Jose de Jachal	November 27, 2005	30.15419	68.62979	1,101
KGM 1214	<i>A. f. flavirostris</i>	Argentina	Mendoza, R.N. 40, north of Pareditas	November 30, 2005	33.92687	69.08465	1,046
KGM 1216	<i>A. f. flavirostris</i>	Argentina	Mendoza, Arroyo Papagallo, R.P. 101	December 1, 2005	34.25949	69.19389	1,628
KGM 1217	<i>A. f. flavirostris</i>	Argentina	Mendoza, Arroyo Hondo, R.P. 101	December 1, 2005	34.47866	69.28887	1,627
KGM 1219	<i>A. f. flavirostris</i>	Argentina	Mendoza, Laguna El Sosneado	December 2, 2005	34.84364	69.91449	2,093
KGM 1227	<i>A. f. flavirostris</i>	Argentina	Mendoza, near Rio Malargue	December 3, 2005	35.51057	69.78974	1,748
KGM 1229	<i>A. f. flavirostris</i>	Argentina	Mendoza, Rio Grande	December 3, 2005	35.86860	69.93396	1,470
KGM 1230	<i>A. f. flavirostris</i>	Argentina	Mendoza, Rio Chico, ~15 km east Paso Pehuenche	December 4, 2005	35.89623	70.19656	1,827
KGM 1231	<i>A. f. flavirostris</i>	Argentina	Mendoza, Rio Chico, ~15 km east of Paso Pehuenche	December 4, 2005	35.89623	70.19656	1,827
KGM 1246	<i>A. f. flavirostris</i>	Argentina	Neuquén, Rio Litran, 23 km southwest of Paso Pino Hachado	December 7, 2005	38.80336	70.95286	1,409
KGM 1247	<i>A. f. flavirostris</i>	Argentina	Neuquén, Rio Litran, 23 km southwest of Paso Pino Hachado	December 7, 2005	38.80336	70.95286	1,409
KGM 420	<i>Anas flavirostris oxyptera</i>	Argentina	Salta, Rio Corral Colorado	October 5, 2001	24.39890	66.56970	4,124
KGM 424	<i>A. f. oxyptera</i>	Argentina	Salta, Rio Corral Colorado	October 5, 2001	24.41580	66.58940	4,084
KGM 428	<i>A. f. oxyptera</i>	Argentina	Salta, Rio Corral Colorado	October 5, 2001	24.39720	66.56640	4,135
KGM 429	<i>A. f. oxyptera</i>	Argentina	Salta, southwest of San Antonia de los Cobres	October 5, 2001	24.24720	66.34420	3,821
KGM 430	<i>A. f. oxyptera</i>	Argentina	Salta, southwest of San Antonia de los Cobres	October 5, 2001	24.24720	66.34420	3,821
KGM 435	<i>A. f. oxyptera</i>	Argentina	Salta, Rio Tocoma	October 6, 2001	24.19360	66.55080	3,820
KGM 436	<i>A. f. oxyptera</i>	Argentina	Salta, Rio Corral Colorado	October 7, 2001	24.41920	66.59530	4,126
KGM 437	<i>A. f. oxyptera</i>	Argentina	Salta, southwest of San Antonia de los Cobres	October 7, 2001	24.24720	66.34420	3,821
KGM 448	<i>A. f. oxyptera</i>	Argentina	Jujuy, Abra Pampa	October 10, 2001	22.71170	65.71920	3,510
KGM 449	<i>A. f. oxyptera</i>	Argentina	Jujuy, Abra Pampa	October 10, 2001	22.71170	65.71920	3,510
KGM 450	<i>A. f. oxyptera</i>	Argentina	Jujuy, Abra Pampa	October 10, 2001	22.71170	65.71920	3,510
KGM 452	<i>A. f. oxyptera</i>	Argentina	Jujuy, Abra Pampa	October 10, 2001	22.71170	65.71920	3,510
KGM 481	<i>A. f. oxyptera</i>	Bolivia	La Paz, Lago Titicaca, north of Batallas	October 26, 2001	16.23860	68.57670	3,820
KGM 482	<i>A. f. oxyptera</i>	Bolivia	La Paz, Lago Titicaca, north of Batallas	October 26, 2001	16.23860	68.57670	3,820
KGM 483	<i>A. f. oxyptera</i>	Bolivia	La Paz, Lago Titicaca, north of Batallas	October 26, 2001	16.23860	68.57670	3,820
KGM 484	<i>A. f. oxyptera</i>	Bolivia	La Paz, Lago Titicaca, north of Batallas	October 26, 2001	16.23860	68.57670	3,820
KGM 500	<i>A. f. oxyptera</i>	Bolivia	La Paz, southeast of Penas	October 28, 2001	16.27670	68.46720	3,973
KGM 501	<i>A. f. oxyptera</i>	Bolivia	La Paz, southwest of Laguna Sora Kkota	October 29, 2001	16.22560	68.39060	4,402
KGM 502	<i>A. f. oxyptera</i>	Bolivia	La Paz, north of Patacamaya	October 31, 2001	17.25330	67.95000	3,817
KGM 506	<i>A. f. oxyptera</i>	Bolivia	Oruro, 20 km northwest of Oruro	November 1, 2001	17.88860	67.30690	3,743
KGM 521	<i>A. f. oxyptera</i>	Bolivia	Oruro, south of Coriviri	November 2, 2001	18.30640	66.99080	3,736
KGM 537	<i>A. f. oxyptera</i>	Bolivia	Oruro, Huachacalla	November 4, 2001	18.83970	66.65530	3,842
KGM 540	<i>A. f. oxyptera</i>	Bolivia	Oruro, southeast of Ventilla	November 7, 2001	19.10580	66.22670	4,239

Table A1 (Continued)

Catalog no.	Species/subspecies	Country	Locality	Date	Latitude (°S)	Longitude (°W)	Elevation (m)
KGM 543	<i>A. f. oxyptera</i>	Bolivia	Oruru, southeast of Crucero	November 7, 2001	19.02470	66.54360	4,032
KGM 558	<i>A. f. oxyptera</i>	Bolivia	La Paz, Lago Titicaca southeast of Taraco	November 10, 2001	16.46440	68.89140	3,840
REW 090	<i>A. f. oxyptera</i>	Peru	Junin	August 10, 2002	11.44190	75.94060	3,648
REW 091	<i>A. f. oxyptera</i>	Peru	Junin	August 10, 2002	11.44190	75.94060	3,648
REW 092	<i>A. f. oxyptera</i>	Peru	Junin, Careterra Central, road marker km 199, near Caripa	August 11, 2002	11.38120	75.98130	4,011
REW 093	<i>A. f. oxyptera</i>	Peru	Junin, Careterra Central, road marker km 199, near Caripa	August 11, 2002	11.37960	75.98040	4,012
REW 119	<i>A. f. oxyptera</i>	Peru	Junin, Jauja, Laguna de Paca	August 15, 2002	11.73060	75.49900	3,375
REW 120	<i>A. f. oxyptera</i>	Peru	Junin, Jauja, Laguna de Paca	August 15, 2002	11.73240	75.49760	3,380
REW 132	<i>A. f. oxyptera</i>	Peru	Ancash, Laguna Conococha	August 23, 2002	10.11970	77.28350	4,039
REW 133	<i>A. f. oxyptera</i>	Peru	Ancash, Laguna Conococha	August 23, 2002	10.11970	77.28350	4,039
REW 134	<i>A. f. oxyptera</i>	Peru	Ancash, Laguna Conococha	August 23, 2002	10.11970	77.28350	4,039
REW 138	<i>A. f. oxyptera</i>	Peru	Ancash, near Laguna Patacocha, southeast of Pachacoto	August 25, 2002	9.89080	77.31230	4,119
REW 142	<i>A. f. oxyptera</i>	Peru	Ancash, Laguna Pampacocha, near Caraz	August 26, 2002	8.99410	77.78290	3,332
REW 143	<i>A. f. oxyptera</i>	Peru	Ancash, Laguna Pampacocha, near Caraz	August 26, 2002	8.99410	77.78290	3,332
REW 157	<i>A. f. oxyptera</i>	Peru	Ancash, Laguna Canrash	August 30, 2002	9.68520	77.05580	4,270
REW 158	<i>A. f. oxyptera</i>	Peru	Ancash, Laguna Canrash	August 30, 2002	9.68520	77.05580	4,270
REW 159	<i>A. f. oxyptera</i>	Peru	Ancash, Laguna Canrash	August 30, 2002	9.68520	77.05580	4,270
REW 219	<i>A. f. oxyptera</i>	Peru	Ayacucho, San Lucas	October 8, 2002	13.32160	74.35240	3,211
REW 220	<i>A. f. oxyptera</i>	Peru	Ayacucho, San Lucas	October 8, 2002	13.32160	74.35240	3,211
REW 221	<i>A. f. oxyptera</i>	Peru	Ayacucho, San Lucas	October 8, 2002	13.32160	74.35240	3,211
REW 222	<i>A. f. oxyptera</i>	Peru	Ayacucho, San Lucas	October 8, 2002	13.33110	74.34660	3,175
REW 223	<i>A. f. oxyptera</i>	Peru	Ayacucho, San Lucas	October 8, 2002	13.33110	74.34660	3,175
REW 237	<i>A. f. oxyptera</i>	Peru	Ayacucho, Laguna Islacocha, near Yavirivira	October 12, 2002	14.58530	73.90920	4,405
REW 252	<i>A. f. oxyptera</i>	Peru	Cusco, Urubamba Valley, Laguna Piuray, near Chinchoro	October 15, 2002	13.42410	72.03260	3,749
REW 270	<i>A. f. oxyptera</i>	Peru	Puno, Lago Titicaca, Jaru Jaru	October 20, 2002	15.98490	69.66680	3,824
REW 275	<i>A. f. oxyptera</i>	Peru	Puno, Lago Umayo, Sillustani	October 21, 2002	15.72370	70.15490	3,863
REW 276	<i>A. f. oxyptera</i>	Peru	Puno, Lago Umayo, Sillustani	October 21, 2002	15.72370	70.15490	3,863
KGM 1071	<i>A. f. oxyptera</i>	Argentina	Catamarca, northeast of Villaviil, Cotagua	November 4, 2005	27.04428	66.78063	2,367
KGM 1072	<i>A. f. oxyptera</i>	Argentina	Catamarca, northeast of Villaviil, Cotagua	November 4, 2005	27.04428	66.78063	2,367
KGM 1089	<i>A. f. oxyptera</i>	Argentina	Catamarca, Rio Punilla, 35 km north of Antofogasta de la Sierra	November 7, 2005	25.82775	67.28391	4,140
KGM 1120	<i>A. f. oxyptera</i>	Argentina	Catamarca, Rio Chaschuil, east of Valle Chaschuil	November 12, 2005	27.78961	68.07558	3,063
KGM 1129	<i>A. f. oxyptera</i>	Argentina	Catamarca, near La Gruta	November 13, 2005	26.92542	68.14566	4,020
KGM 1170	<i>A. f. oxyptera</i>	Argentina	Catamarca, Rio Chaschuil, east of Valle Chaschuil	November 16, 2005	27.78964	68.07765	3,067
KGM 1183	<i>A. f. oxyptera</i>	Argentina	Catamarca, La Gruta	November 17, 2005	26.92542	68.14566	4,020
KGM 1186	<i>A. f. oxyptera</i>	Argentina	Catamarca, Rio Chaschuil, east of Valle Chaschuil	November 18, 2005	27.78961	68.07558	3,063

Table A1 (Continued)

Catalog no.	Species/subspecies	Country	Locality	Date	Latitude (°S)	Longitude (°W)	Elevation (m)
KGM 1188	<i>A. f. oxyptera</i>	Argentina	Catamarca, Rio Chaschui, east of Valle Chaschui	November 18, 2005	27.78980	68.07723	3,061
REW 685	<i>A. f. oxyptera</i>	Bolivia	La Paz, Lago Titicaca	November 25, 2005	16.23489	68.59975	3,830
REW 686	<i>A. f. oxyptera</i>	Bolivia	La Paz, Lago Titicaca	November 25, 2005	16.23489	68.59975	3,830
REW 688	<i>A. f. oxyptera</i>	Bolivia	La Paz, Lago Titicaca	November 25, 2005	16.23489	68.59975	3,830
REW 689	<i>A. f. oxyptera</i>	Bolivia	La Paz, Lago Titicaca	November 25, 2005	16.23489	68.59975	3,830
REW 690	<i>A. f. oxyptera</i>	Bolivia	La Paz, Lago Titicaca	November 25, 2005	16.23489	68.59975	3,830
REW 691	<i>A. f. oxyptera</i>	Bolivia	La Paz, Lago Titicaca	November 25, 2005	16.23489	68.59975	3,830
REW 692	<i>A. f. oxyptera</i>	Bolivia	La Paz, Lago Titicaca	November 25, 2005	16.23489	68.59975	3,830
REW 693	<i>A. f. oxyptera</i>	Bolivia	La Paz, Lago Titicaca	November 25, 2005	16.23489	68.59975	3,830
REW 732	<i>A. f. oxyptera</i>	Bolivia	La Paz, Laguna Khara Khota	November 27, 2005	16.13957	68.35377	4,238
LSUMZ B8251	<i>A. f. oxyptera</i>	Peru	Pasco, Milpo, east of Tambo de Vacas on Pozuzo-Chaglla trail	July 11, 1985	10.38028	76.26806	3,581 ^a
LSUMZ B8252	<i>A. f. oxyptera</i>	Peru	Pasco, Milpo, east of Tambo de Vacas on Pozuzo-Chaglla trail	July 11, 1985	10.38028	76.26806	3,581 ^a

Note: Specimens labeled KGM, REW, and JT were collected by the authors and are cataloged at the University of Alaska Museum (UAM). Other abbreviations refer to three specimens obtained from the Louisiana State University Museum of Natural Science (LSUMZ) and University of Washington Burke Museum of Natural History (UWBM). R.P. = Ruta Provincial, R.N. = Ruta Nacional.

^a

Elevation determined using Google Earth; all others were recorded with a GPS receiver in the field.

Table A2Primers used to amplify and sequence the α A and β A hemoglobin subunits and five autosomal introns

Primer	Position in α A/ β A alignment	Location	Orientation	Sequence 5' to 3'
α A hemoglobin subunit:				
HBA2.-14a.F	-14	5' start codon	Forward	GGGCACCCGTGCTGGGGCTGCCAAC
HBA2.-14b.F	-14	5' start codon	Forward	GTGCTGGGGCTGCCAAC
HBA2.-7.F	-7	5' start codon	Forward	CCGTGCTGGGGCTGCCAACGCKGAGC
HBA2.1a.F	1	Start codon	Forward	CTGCCAACGTGAGCTGCAACC
HBA2.1b.F	1	Start codon	Forward	CTGCCAACGCGGAGCTGCAACC
HBA2.1c.F	1	Start codon	Forward	GCTGCCAACACWGAGCTGCAACC
HBA2.1d.F	1	Start codon	Forward	GTGCTGGGGCTGCCAACRSDGAGCTGCAACC
HBA2.32a.F	32	Exon 1	Forward	GTGCTGTCTGCKGMTGACAAGASCAACG
HBA2.32b.F	32	Exon 1	Forward	TGTCYGCGRCTGACAAGRCCARCG
HBA2.32c.F	32	Exon 1	Forward	TGTCCGCGGCTGACAAGACCAACG
HBA2.332.F	332	Exon 2	Forward	CCCAGACCAAGACCTACTTCCCC
HBA2.342.F	342	Exon 2	Forward	GACCTACTTCCCCACTTTGACC
HBA2.373a.R	373	Exon 2	Reverse	GCAGCCGCCACCTTCTTGCC
HBA2.373b.R	373	Exon 2	Reverse	CAGCCGCCACCTTCTTGCC
HBA2.724.R	724	Exon 3	Reverse	TAACGGTACTTGGCAGTMAG
HBA2.730.R	730	Exon 3	Reverse	GCCACGGTGGCTTAACGGTACTTGGC
HBA2.747.R	747	3' stop codon	Reverse	CCAGCTCTAGCCAYSGTGGCG
HBA2.748.R	748	3' stop codon	Reverse	CCAGCTCTAGCCAYSGTGGCC
HBA2.756.R	756	3' stop codon	Reverse	CTGGCAACAGGGTGGGTCCAGCTAGCC
β A hemoglobin subunit:				
HBB.1.F	1	Start codon	Forward	GCCACACGCTACCCCTCACCCGACACC
HBB.482.F	482	Exon 2	Forward	GCTGCACGTGGACCCGAGAACTTCAGG
HBB.626.F	626	Intron 2	Forward	CAGTGCTGGAGGAAGAGAAGRAGCTGG
HBB.628.F	628	Intron 2	Forward	CASTGCTGGAGGAAGAGAAGSTGGTG
HBB.1173.F	1173	Intron 2	Forward	GCCAGTRGGAGCTTGCCTTGGTGCC
HBB.1652.F	1652	Exon 3	Forward	CTCCTGGGTGACATCCTCATCATCG
HBB.295.R	295	Exon 2	Reverse	CTGGACAGGTTCCCGAAGGAGGC
HBB.453.R	453	Exon 2	Reverse	CCTGAAGTTCTCGGGTCCACGTGCAGC
HBB.646a.R	646	Intron 2	Reverse	CCTGCCTSTCCTCSTGGTTCTKCC
HBB.646b.R	646	Intron 2	Reverse	CCTGCCTCTCCTYSRGTTCTGCC
HBB.646c.R	646	Intron 2	Reverse	CCTGCCCATCCTTCTGGATCTGCC
HBB.1251a.R	1251	Intron 2	Reverse	TTTTTCTCCCTCTGHCTTCATTGG
HBB.1251b.R	1251	Intron 2	Reverse	TTTTTCTMCCTCTSYCTTCATTGG
HBB.1251c.R	1251	Intron 2	Reverse	TTTTTCTCCCTGTCTTCATTGG
HBB.1251d.R	1251	Intron 2	Reverse	TTTTTCTCCCTCTGTCTTCNTTGG
HBB.1625.R	1625	Exon 3	Reverse	CGATGATGAGGATGTCACCCAGGAGC
HBB.1761.R	1761	3' stop codon	Reverse	GGATGTTCTGGAGCGTTGCTGCC
Ornithine decarboxylase:				
ODC1-5.F	...	...	Forward	TCGTTCAAGCCATTCTGATGCC
ODC1-6.R	...	...	Reverse	CCAGGRAAGCCACCAATRTC
α enolase:				
ENO1-8.F	...	...	Forward	CGCGATGGAAAGTATGACCT
ENO1-9.R	...	...	Reverse	CCAACGCTGCCAGTAAACTT

Table A2 (Continued)

Primer	Position in α A/ β A alignment	Location	Orientation	Sequence 5' to 3'
β fibrinogen:				
FGB-7.F	Forward	GTTAGCATTATGAACGTGCAAGTAATTG
FGB-7.R	Reverse	TTTCTTGAATCTGTAGTTAACCTGATG
N-methyl D aspartate 1 glutamate receptor:				
GRIN1-11.F	Forward	CTGGTGGGGCTGTCTGTG
GRIN1-11a.R	Reverse	ACTTTGAASCGKCCAAATG
GRIN1-11b.R	Reverse	GAASCGKCCAAATGGGCTGGTAAACAGAATCAC
Phosphoenolpyruvate carboxykinase:				
PCK1-9.F	Forward	CAGCCATGAGATCTGAAGCA
PCK1-9.R	Reverse	TTGAGAGCTGGCTTTCATTG

Note: α A and β A hemoglobin subunit sequence positions correspond to alignments of 862 and 683 individual waterfowl (McCracken et al. 2009b). Position 1 corresponds to the first position of the start codon. GRIN1-11b.R amplifies the long GRIN11 allele resulting from a 414-bp short interspersed repeat, which segregates at high frequency in the highland subspecies of speckled teal *Anas flavirostris oxyptera* (see Zhu et al. 1991 for characterization in other waterfowl).

Table A3

Number of polymorphic positions, alleles, standardized allelic richness, theta (Θ), nucleotide diversity (π), nonsynonymous and synonymous nucleotide diversity (π_N and π_S), observed and expected heterozygosity of the nucleotide sequence, Tajima's D , F_{ST} , and Φ_{ST} for the αA and βA hemoglobin subunits and five unlinked autosomal introns from five paired lowland and highland populations of Andean dabbling ducks

Species/population	No. polymorphic positions	No. alleles	Alelic richness ($\pm SD$)	Θ	Θ (95%)	Nucleotide diversity (π /site)	π_N	π_S	Observed heterozygosity	Expected heterozygosity	Tajima's D	F_{ST}	Φ_{ST}
αA hemoglobin:													
Yellow-billed pintail:													
Lowland	27	40	23.0 ± 2.2	.012030	.007211–.022484	.005145	.00000	.00949	.85	.93	−.91	.01	.01
Highland	19	25	17.4 ± 1.8	.002513	.001340–.005923	.004365	.00000	.00808	.86	.90	−.59		
Cinnamon teal:													
<i>cyanoptera</i>	12	16	10.7 ± 1.5	.004607	.002354–.007973	.002485	.00042	.00424	.76	.71	−.75	.60	.55
<i>orinomus</i>	7	4	2.4 ± .9	.000558	.000124–.001683	.000238	.00025	.00022	.06	.06	−1.94		
Crested duck:													
<i>specularoides</i>	17	14		.004630	.002359–.008802	.005293	.00014	.00967	.87	.88	−.29	.12	.21
<i>alticola</i>	20	16	11.3 ± 1.4	.002813	.001412–.005318	.007698	.00210	.01218	.83	.85	.96		
Speckled teal:													
<i>flavirostris</i>	22	48	25.8 ± 2.3	.007884	.005070–.024777	.005516	.00049	.00975	.92	.96	.03	.41	.54
<i>oxyptera</i>	5	6	3.7 ± 1.0	.000532	.000097–.001384	.000251	.00004	.00043	.07	.15	−1.64		
Silver/puna teal:													
<i>versicolor</i>	24	28	23.0 ± 1.6	.009416	.005364–.015833	.007170	.00000	.01278	.88	.95	−.18	.24	.66
puna	4	5	4.3 ± .7	.000725	.000176–.001897	.001022	.00173	.00037	.56	.59	−.28		
αA hemoglobin (cds):													
Yellow-billed pintail:													
Lowland	11	14	8.9 ± 1.4	.005822	.002346–.012353	.002472	.00000	.00988	.57	.62	−1.22	.01	.00
Highland	5	7	5.6 ± .8	.001364	.000388–.004433	.002065	.00000	.00826	.61	.60	−.20		
Cinnamon teal:													
<i>cyanoptera</i>	4	6	5.2 ± .7	.001801	.000427–.004591	.001557	.00042	.00496	.59	.54	−.29	.69	.72
<i>orinomus</i>	2	3	2.2 ± .7	.000282	.000026–.001457	.000187	.00025	.00000	.06	.06	−1.22		
Crested duck:													
<i>specularoides</i>	6	6		.001461	.000314–.004083	.002447	.00014	.00944	.74	.74	−.63	.27	.28
<i>alticola</i>	7	9	7.2 ± 1.0	.001969	.000671–.004716	.004220	.00210	.01055	.70	.67	.79		
Speckled teal:													
<i>flavirostris</i>	4	7	5.4 ± .8	.002223	.000641–.005161	.002000	.00049	.00652	.63	.60	.31	.65	.73
<i>oxyptera</i>	2	3	1.7 ± .7	.000376	.000018–.001390	.000068	.00004	.00014	.03	.03	−1.33		
Silver/puna teal:													

Table A3 (Continued)

Species/population	No. polymorphic positions	No. alleles	Alelic richness (\pm SD)	Θ	Θ (95%)	Nucleotide diversity (π /site)	π_N	π_s	Observed heterozygosity	Expected heterozygosity	Tajima's D	F_{ST}	Φ_{ST}
<i>versicolor</i>	4	5	4.5 \pm .6	.001657	.000401–.004772	.001173	.00000	.00470	.38	.41	−.87	.27	.36
<i>puna</i>	3	4	3.3 \pm .6	.001169	.000173–.003382	.001361	.00173	.00022	.49	.54	−.07		
β A hemoglobin (cds):													
Yellow-billed pintail:													
Lowland	14	21	11.9 \pm 1.8	.007331	.003881–.012425	.003962	.00019	.01529	.71	.79	−.93	.37	.65
Highland	9	10	7.2 \pm 1.2	.002081	.000913–.004700	.002992	.00167	.00687	.35	.41	−.65		
Cinnamon teal:													
<i>cyanoptera</i>	8	8	7.2 \pm .7	.003111	.001148–.006926	.004491	.00000	.01795	.54	.74	.59	.11	.10
<i>orinomus</i>	7	7	5.5 \pm .9	.000821	.000259–.002267	.002679	.00000	.01069	.40	.37	−.38		
Crested duck:													
<i>specularoides</i>	5	6	6	.001606	.000400–.004603	.001134	.00000	.00461	.35	.41	−1.41	.68	.83
<i>altilola</i>	6	5	3.8 \pm .7	.001728	.000430–.004090	.001312	.00040	.00405	.19	.26	−1.11		
Speckled teal:													
<i>flavirostris</i>	12	12	8.9 \pm 1.1	.005313	.002477–.009135	.003828	.00034	.01433	.74	.76	−.63	.27	.68
<i>oxyptera</i>	10	7	4.9 \pm .9	.002628	.000932–.005456	.002560	.00171	.00509	.70	.68	−.95		
Silver/puna teal:													
<i>versicolor</i>	13	17	15 \pm 1.1	.008514	.004216–.014428	.005386	.00009	.02118	.85	.90	−.46	.54	.70
<i>puna</i>	1	2	1.9 \pm .3	.000665	.000115–.002000	.000157	.00000	.00064	.07	.07	−.78		
Ornithine decarboxylase:													
Yellow-billed pintail:													
Lowland	24	16	11.0 \pm 1.4	.012277	.004535–.021752	.011713	...	...	.83	.79	−.40	.01	.02
Highland	16	13	10.2 \pm 1.2	.003901	.001214–.010230	.009106	...	...	.73	.75	−.08		
Cinnamon teal:													
<i>cyanoptera</i>	9	7	6.9 \pm .3	.001693	.000427–.006186	.008065	...	...	.81	.79	1.86	.01	.01
<i>orinomus</i>	9	7	7.0 \pm .2	.002884	.000686–.007350	.007821	...	...	.74	.81	1.71		
Crested duck:													
<i>specularoides</i>	2	2	2	.000241	.000017–.002015	.001264	...	...	.61	.43	1.24	.35	.36
<i>altilola</i>	4	5	4.0 \pm .7	.001591	.000213–.004046	.001131	...	...	.40	.41	−.55		
Speckled teal:													
<i>flavirostris</i>	14	7	5.5 \pm .9	.002563	.000611–.005999	.003200	...	...	.53	.54	−1.51	.08	.04
<i>oxyptera</i>	7	7	6.1 \pm .8	.002963	.001085–.007857	.003367	...	...	.70	.73	−.21		
Silver/puna teal:													
<i>versicolor</i>	28	13	11.4 \pm 1.0	.008935	.004374–.016201	.026824	...	...	.71	.85	2.14	.48	.58
<i>puna</i>	18	4	3.4 \pm .6	.001535	.000305–.004104	.004870	...	...	.21	.20	−1.62		

Table A3 (Continued)

Species/population	No. polymorphic positions	No. alleles	Alelic richness (\pm SD)	Θ	Θ (95%)	Nucleotide diversity (π /site)	π_N	π_s	Observed heterozygosity	Expected heterozygosity	Tajima's D	F_{ST}	Φ_{ST}
α enolase:													
Yellow-billed pintail:													
Lowland	12	13	10.5 \pm 1.2	.004180	.001313–.011534	.004662	...	...	.68	.73	−.94	.01	.01
Highland	11	13	9.9 \pm 1.2	.008171	.002671–.020918	.004666	...	...	.65	.76	−.88		
Cinnamon teal:													
<i>cyanoptera</i>	14	9	8.1 \pm .7	.006755	.002916–.014025	.014293	...	...	.77	.86	1.30	.03	.09
<i>orinomus</i>	7	7	6.8 \pm .4	.001418	.000335–.004259	.007995	...	...	.74	.78	1.70		
Crested duck:													
<i>specularoides</i>	14	6	6	.003365	.000890–.011085	.001468	...	...	.35	.38	−1.17	.26	−.02
<i>albicola</i>	15	5	4.6 \pm .6	.000962	.000132–.003278	.001692	...	...	.63	.64	−.62		
Speckled teal:													
<i>flavirostris</i>	7	7	4.3 \pm 1.1	.002662	.000739–.006717	.001944	...	...	.28	.26	−1.21	.07	.05
<i>oxyptera</i>	7	7	5.7 \pm .8	.003952	.001242–.008573	.004328	...	...	.47	.55	.02		
Silver/puna teal:													
<i>versicolor</i>	18	11	10.2 \pm .7	.006722	.002897–.013519	.008930	...	...	.79	.89	1.00	.21	.34
puna	12	2	2.0 \pm .0	.000084	.000012–.000606	.001645	...	...	.49	.51	1.82		
β fibrinogen:													
Yellow-billed pintail:													
Lowland	6	6	5.4 \pm .6	.003282	.000883–.009240	.004497	...	...	.78	.68	−.01	.00	−.01
Highland	5	5	4.7 \pm .5	.002149	.000413–.007392	.004546	...	...	.69	.68	.33		
Cinnamon teal:													
<i>cyanoptera</i>	5	4	4.0 \pm .0	.001408	.000256–.005885	.007807	...	...	.65	.70	2.05	.10	.04
<i>orinomus</i>	6	5	4.4 \pm .6	.002066	.000431–.006822	.005595	...	...	.50	.50	.38		
Crested duck:													
<i>specularoides</i>	1	2	2	.000809	.000030–.003769	.000952	...	...	.17	.23	.03	.13	.15
<i>albicola</i>	1	2	1.6 \pm .5	.000593	.000021–.002845	.000143	...	...	.00	.03	−.91		
Speckled teal:													
<i>flavirostris</i>	5	6	5.1 \pm .8	.003622	.001127–.008913	.002963	...	...	.49	.61	−.41	.05	.09
<i>oxyptera</i>	2	3	2.6 \pm .5	.000567	.000034–.002476	.002089	...	...	.44	.49	.58		
Silver/puna teal:													
<i>versicolor</i>	5	5	4.8 \pm .4	.002705	.000526–.006678	.005321	...	...	.62	.61	.55	.36	.28
puna	2	3	2.5 \pm .5	.001415	.000205–.004583	.002117	...	...	.53	.51	.47		
N-methyl D aspartate 1 glutamate receptor:													
Yellow-billed pintail:													

Table A3 (Continued)

Species/population	No. polymorphic positions	No. alleles	Allelic richness (\pm SD)	Θ	Θ (95%)	Nucleotide diversity (π /site)	π_N	π_s	Observed heterozygosity	Expected heterozygosity	Tajima's D	F_{ST}	Φ_{ST}
Lowland	31	34	21.1 \pm 2.1	.020994	.011945–.034871	.008993	....	....	.89	.92	-1.37	.02	.02
Highland	22	23	16.1 \pm 1.7	.004489	.002169–.010570	.008740	....	....	.92	.91	-1.00		
Cinnamon teal:													
<i>cyanoptera</i>	18	18	11.9 \pm 1.6	.011878	.005970–.021765	.016601	....	....	.75	.80	1.46	.01	.02
<i>orinomus</i>	12	12	9.3 \pm 1.1	.001828	.000810–.006657	.014970	....	....	.92	.83	2.77		
Crested duck:													
<i>specularoides</i>	9	11	11	.002914	.000748–.009567	.004660	....	....	.87	.87	1.49	.06	-.02
<i>albicola</i>	11	12	9.7 \pm 1.0	.002091	.000597–.006132	.004108	....	....	.82	.80	.37		
Speckled teal:													
<i>flavirostris</i>	28	35	20.8 \pm 2.1	.012663	.006547–.022412	.009271	....	....	.90	.93	-.27	.04	.06
<i>oxyptera</i>	26	32	21.3 \pm 2.0	.008210	.004870–.015369	.012547	....	....	.91	.94	-.46		
Silver/puna teal:													
<i>versicolor</i>	6	7	6.1 \pm .8	.004098	.001319–.009493	.002236	....	....	.53	.57	-1.01	.14	.28
<i>puna</i>	2	3	2.5 \pm .5	.000812	.000073–.002954	.001446	....	....	.44	.46	.28		
Phosphoenolpyruvate carboxykinase:													
Yellow-billed pintail:													
Lowland	14	9	5.9 \pm 1.1	.002574	.000805–.008152	.001979	....	....	.52	.53	-1.25	.03	.03
Highland	10	8	6.0 \pm 1.0	.004746	.001464–.011860	.003563	....	....	.65	.67	-.93		
Cinnamon teal:													
<i>cyanoptera</i>	4	5	4.1 \pm .7	.001876	.000356–.006024	.001859	....	....	.48	.56	-.33	.01	.01
<i>orinomus</i>	3	4	3.5 \pm .5	.001228	.000153–.004260	.002240	....	....	.60	.63	.59		
Crested duck:													
<i>specularoides</i>	1	2	2	.000586	.000024–.002906	.000126	....	....	.04	.04	-1.11	.01	.02
<i>albicola</i>	1	2	2.0 \pm .2	.000418	.000024–.002139	.000292	....	....	.11	.10	-.52		
Speckled teal:													
<i>flavirostris</i>	9	10	7.2 \pm 1.2	.005036	.002081–.011054	.003834	....	....	.69	.73	-.46	.06	.11
<i>oxyptera</i>	5	5	4.9 \pm .3	.000697	.000144–.002551	.003892	....	....	.64	.64	.95		
Silver/puna teal:													
<i>versicolor</i>	6	7	6.4 \pm .6	.003160	.000804–.007232	.002283	....	....	.65	.66	-.56	.40	.46
<i>puna</i>	3	4	3.5 \pm .5	.000841	.000060–.002632	.001866	....	....	.47	.46	.97		
Introns—joint estimates:													
Yellow-billed pintail:													
Lowland	...	...	...	.007730	.005997–.012781	....	....	....	...	...	...	...
Highland	...	...	...	.004615	.002703–.007036	....	....	....	...	...	...	...

Table A3 (Continued)

Species/population	No. polymorphic positions	No. alleles	Allelic richness (\pm SD)	Θ	Θ (95%)	Nucleotide diversity (π /site)	π_N	π_s	Observed heterozygosity	Expected heterozygosity	Tajima's D	F_{ST}	Φ_{ST}
Cinnamon teal:													
<i>cyanoptera</i>005413	.003804–.007752	...	...	...	...	...	...	...	...
<i>orinomus</i>001831	.001046–.003149	...	...	...	...	...	...	...	...
Crested duck:													
<i>specularoides</i>001613	.000741–.002879	...	...	...	...	...	...	...	...
<i>atticola</i>001018	.000522–.002027	...	...	...	...	...	...	...	...
Speckled teal:													
<i>flavirostris</i>005531	.003476–.007514	...	...	...	...	...	...	...	...
<i>oxyptera</i>003720	.002772–.004997	...	...	...	...	...	...	...	...
Silverpuna teal:													
<i>versicolor</i>004911	.003434–.007381	...	...	...	...	...	...	...	...
<i>puna</i>000817	.000319–.001537	...	...	...	...	...	...	...	...

Note: Highland populations are shown in bold text. Bold numerals indicate a significant P value, no overlap in 95% estimates of Θ , or higher π_N/π_s ratio in the highlands. Nonsignificant Φ_{ST} P values for α enolase and N-methyl D aspartate 1 glutamate receptor in crested duck result from indels being treated as “missing data” in the calculation. cds = coding sequence.