

Group	Partial Pressure of Inspired O ₂ (kPa)					
	21	13	13	9	7	6
Arterial O₂ Saturation – Low-Altitude Populations (%)						
Northern pintail	94 ± 1	74 ± 3	70 ± 1	54 ± 4	47 ± 4	42 ± 4
Cinnamon teal	95 ± 1	80 ± 2	76 ± 2	57 ± 1	49 ± 3	45 ± 2
Ruddy duck	95 ± 1	87 ± 1	78 ± 1	65 ± 4	57 ± 5	51 ± 5
Green-winged teal	92 ± 1	80 ± 3	73 ± 1	58 ± 2	49 ± 1	41 ± 3
Gadwall	94 ± 2	75 ± 2	72 ± 2	56 ± 3	46 ± 3	47 ± 3
Mallard	94 ± 1	73 ± 3	69 ± 3	58 ± 3	50 ± 4	44 ± 4
Arterial O₂ Saturation – High-Altitude Populations (%)						
Yellow-billed pintail	---	85 ± 2*	77 ± 2	63 ± 4	45 ± 5	38 ± 4
Cinnamon teal	---	86 ± 3	80 ± 1	63 ± 4	50 ± 3	43 ± 5
Ruddy duck	---	90 ± 2	80 ± 3	60 ± 4	46 ± 5	41 ± 5
Speckled teal	---	83 ± 2	81 ± 2	62 ± 3	51 ± 2	47 ± 2
Puna teal	---	83 ± 1	77 ± 1	64 ± 3	46 ± 6	42 ± 6

Table S1: Arterial oxygen saturation (%) during stepwise hypoxia exposure for the different species of high- and low-altitude ducks. Significant differences ($P < 0.05$) in arterial O₂ saturation between high- and low-altitude pairs at a given partial pressure of inspired oxygen (P_iO_2) are indicated by an asterisk as determined by Holm-Sidak post hoc tests. N=10 northern pintails, n=8 low-altitude ruddy ducks, n=11 low-altitude cinnamon teals, n=10 green-winged teals, n=8 gadwalls, n=8 mallard ducks, n=12 yellow-billed pintails, n=6 high-altitude ruddy ducks, n=12 high-altitude cinnamon teals, n=10 speckled teals, and n=8 Puna teals.

PO ₂ (kPa)	Puna teal	Gadwall	Mallard
O₂ Consumption (ml kg⁻¹ min⁻¹)			
18	---	17.56 ± 1.89	15.17 ± 3.00
13	26.95 ± 1.79	20.07 ± 2.38	18.58 ± 3.27
12	25.08 ± 2.75	17.70 ± 3.23	19.34 ± 2.28
9	28.77 ± 4.00	19.21 ± 3.44	21.41 ± 3.40
7	24.43 ± 3.12	19.37 ± 2.51	21.87 ± 3.08
6	22.78 ± 2.71	16.84 ± 2.71	20.67 ± 4.65
Heart Rate (min⁻¹)			
18	---	206.67 ± 25.53	191.65 ± 22.33
13	225.16 ± 10.37	181.95 ± 24.79	184.28 ± 22.74
12	214.85 ± 10.27	158.44 ± 15.38	187.47 ± 22.30
9	238.38 ± 10.58	173.93 ± 16.84	215.40 ± 31.66
7	261.17 ± 16.55*	186.50 ± 23.44	228.51 ± 24.76
6	278.84 ± 15.48*	239.65 ± 24.55	305.73 ± 33.30*
O₂ Pulse (ml O₂ beat⁻¹ g⁻¹)			
18	---	0.09 ± 0.01	0.08 ± 0.02
13	0.13 ± 0.01	0.12 ± 0.02	0.10 ± 0.01
12	0.12 ± 0.01	0.12 ± 0.02	0.11 ± 0.02
9	0.13 ± 0.02	0.12 ± 0.02	0.10 ± 0.02
7	0.10 ± 0.02	0.11 ± 0.02	0.11 ± 0.020
6	0.09 ± 0.01*	0.07 ± 0.01	0.07 ± 0.02
Arterial O₂ Content (mmol l⁻¹)			
18	---	8.89 ± 0.26	8.83 ± 0.33
13	8.81 ± 0.09	7.20 ± 0.37*	6.86 ± 0.41
12	8.20 ± 0.06	6.88 ± 0.26*	6.43 ± 0.40
9	6.56 ± 0.35	5.34 ± 0.45*	5.40 ± 0.36*
7	4.65 ± 0.55*	4.38 ± 0.33*	4.69 ± 0.44*
6	4.23 ± 0.55*	4.45 ± 0.35*	4.16 ± 0.51*
SDRR (ms)			
Normoxia	107.60 ± 15.85	126.60 ± 22.17	150.46 ± 30.88
6 kPa O ₂	79.62 ± 24.18	101.72 ± 24.28	145.24 ± 43.43
5-min recovery	96.37 ± 19.06	137.68 ± 19.53	139.35 ± 29.81
20-min recovery	83.97 ± 16.52	149.95 ± 23.06	123.34 ± 24.10
RMSSD (ms)			
Normoxia	136.13 ± 23.10	175.63 ± 33.94	198.76 ± 43.76
6 kPa O ₂	103.13 ± 34.38	143.89 ± 34.53	211.53 ± 63.85
5-min recovery	126.45 ± 31.48	185.43 ± 29.12	203.36 ± 44.52
20-min recovery	99.44 ± 24.78	195.35 ± 30.02	174.92 ± 32.91

Table S2: Measurements of oxygen consumption, heart rate, oxygen pulse, arterial oxygen content, SDRR (standard deviation of the R-R interval), and RMSSD (root mean square of the standard deviation) during stepwise hypoxia exposure in the Puna teal, gadwall and mallard. These represent the species recorded in our study for which there were no low/high-altitude pair. Significant differences ($P < 0.05$) in the y variable between phylogenetic pairs are indicated by an asterisk and determined by two-way repeated measures ANOVA. $N = 8$ high-altitude Puna teal, $n = 8$ low-altitude gadwall, and $n = 8$ low-altitude mallard duck.

Species	Haematocrit (%)	Blood Hb content (g dl ⁻¹)	Hb P ₅₀ (kPa)	Body mass (kg)	Relative heart mass (g kg ⁻¹)
Low altitude					
Gadwall	44.6 ± 1.9	15.3 ± 0.4	----	0.754 ± 0.04	----
Mallard	46.5 ± 2.4	15.1 ± 0.6	----	0.947 ± 0.02	7.4 ± 0.4
High altitude					
Puna teal	49.8 ± 1.3	17.0 ± 0.3	3.61	0.404 ± 0.01	9.8 ± 0.6

Table S3: Differences in haematological parameters, body mass, and relative heart mass in Puna teal, gadwall, and mallard ducks. Hb, haemoglobin; P₅₀, the PO₂ at which Hb is half-saturated with O₂ (values obtained from Natarajan et al. (Natarajan et al., 2015)). N=8 high-altitude Puna teal, n=8 low-altitude gadwall, and n=8 low-altitude mallard duck.