

Table S1: Body mass, haematocrit (Hct), absolute spleen mass, relative spleen mass (RSM) and whole animal oxygen uptake (MO_2) of uninstrumented unfed and fed bald notothenids during rest and following enforced exercise.

Treatment	ID	Mass (g)	Hct (%)	Spleen mass (g)	RSM (% body mass)	Routine MO_2 ($\text{mg O}_2 \text{ kg}^{-1} \text{ h}^{-1}$)	Max MO_2 ($\text{mg O}_2 \text{ kg}^{-1} \text{ h}^{-1}$)	Scope MO_2 ($\text{mg O}_2 \text{ kg}^{-1} \text{ h}^{-1}$)
Unfed-Rest	1	59.3	9.0	0.19	0.32			
Unfed-Rest	2	47.1	8.7	0.35	0.74			
Unfed-Rest	3	84.4	2.9	0.65	0.77			
Unfed-Rest	4	45	9.8	0.19	0.42			
Unfed-Rest	5	76	7.5	0.4	0.53			
Unfed-Rest	6	32	11.0	0.2	0.63			
Unfed-Rest	7	54.4	18.6	0.26	0.48			
Unfed-Rest	8	55.3	3.1	0.36	0.65			
Unfed-Rest	9	41	7.0	0.19	0.46			
Unfed-Exercise	10	97	24.1	0.42	0.43	36.30	226.72	190.42
Unfed-Exercise	11	106.2	25.9	0.51	0.48	44.51	204.50	159.99
Unfed-Exercise	12	97	20.0	0.21	0.22	54.11	167.80	113.69
Unfed-Exercise	13	85	27.6	0.26	0.31	54.14	171.83	117.69
Unfed-Exercise	14	67	21.9	0.22	0.33	73.08	199.23	126.14
Unfed-Exercise	15	97.1	28.1	0.3	0.31	54.05	97.83	43.79
Unfed-Exercise	16	92.3	23.1	0.37	0.40	67.04	113.17	46.13
Unfed-Exercise	17	73	32.8	0.2	0.27	136.65	224.69	88.04
Unfed-Exercise	18	89	34.5	0.17	0.19	68.10	204.30	136.20
Fed-Rest	19	56.5	16.1	0.39	0.70			
Fed-Rest	20	115.4	26.7	0.44	0.38			
Fed-Rest	21	73.8	21.0	0.36	0.49			
Fed-Rest	22	109.3	22.0	0.44	0.40			
Fed-Rest	23	49.3	19.2	0.16	0.32			
Fed-Rest	24	88.1	27.0	0.28	0.32			
Fed-Rest	25	120.34	19.6	0.79	0.66			
Fed-Rest	26	56.4	23.2	0.20	0.35			
Fed-Rest	27	49.83	18.7	0.19	0.39			
Fed-Rest	28	65.8	12.5	0.37	0.56			
Fed-Rest	29	113.6	25.0	0.62	0.54			
Fed-Rest	30	111.7	21.0	0.40	0.36			
Fed-Rest	31	120.76	19.0	0.54	0.44			
Fed-Exercise	34	60.2	30.1	0.26	0.43		273.58	
Fed-Exercise	35	49.6	28.7	0.06	0.12		229.81	
Fed-Exercise	36	60.7	19.4	0.16	0.26		226.99	
Fed-Exercise	37	74.2	25.9	0.13	0.18		262.46	
Fed-Exercise	38	60.6	28.6	0.1	0.17		258.43	
Fed-Exercise	39	61.3	33.8	0.09	0.15		244.46	
Fed-Exercise	40	59	27.1	0.23	0.39		224.54	
Fed-Exercise	41	64.5	29.2	0.19	0.29		196.70	
Fed-Exercise	42	39.9	26.4	0.08	0.20		256.04	

Table S2: Body mass, haematocrit (Hct), absolute spleen mass, relative spleen mass (RSM) and whole animal oxygen uptake (MO_2) of instrumented unfed bald notothens during rest and following enforced exercise.

Treatment (1=Splect, 2=Sham)	ID	Body mass (g)	Hct Control (%)	Hct Stress (%)	Spleen mass (g)	RSM (% body mass)	Routine MO_2 ($\text{mg O}_2 \text{ kg}^{-1} \text{ h}^{-1}$)	Max MO_2 ($\text{mg O}_2 \text{ kg}^{-1} \text{ h}^{-1}$)	Scope MO_2 ($\text{mg O}_2 \text{ kg}^{-1} \text{ h}^{-1}$)	Scope MO_2 (%)
1	43	110	7.69	8.59	0.27	0.25	82.39	99.23	16.84	20.44
1	44	89	22.22	25.42	0.21	0.24	63.61	98.04	34.42	54.12
1	45	154	23.73	27.12	0.34	0.22	62.25	161.34	99.09	159.18
1	46	132	11.28	11.71	1.30	0.98	113.95	135.85	21.89	19.21
1	47	106	16.39	23.62	0.46	0.43	68.12	140.61	72.49	106.42
1	48	122	10.77	12.60	0.72	0.59	65.36	121.53	56.18	85.95
1	49	111.4	8.73	8.96	0.45	0.40	88.44	121.68	33.24	37.58
1	50	99.1	17.39	19.08	0.20	0.20	135.99	188.25	52.25	38.42
1	51	98.6	5.38	5.97	0.54	0.55	49.16	86.87	37.71	76.71
1	52	97	15.87	21.37	0.21	0.22	50.00	78.76	28.77	57.53
1	53	98	6.06	10.77	0.44	0.45	68.45	130.79	62.35	91.09
1	54	96	9.16	7.69	0.40	0.42	42.23	40.84	-1.38	-3.28
1	55	86.6	10.77	8.53	0.21	0.24	71.58	114.69	43.10	60.22
1	56	89.3	17.91	23.08	0.54	0.60	58.92	143.94	85.02	144.30
2	57	123.8	14.93	24.04	0.99	0.80	93.10	155.87	62.77	67.43
2	58	113.1	15.09	27.27	0.25	0.22	66.03	152.51	86.48	130.97
2	59	98.3	14.66	33.33	0.67	0.68	58.77	164.16	105.38	179.31
2	60	107.4	15.38	26.53	0.21	0.20	80.76	117.75	36.99	45.80
2	61	110	9.30	20.55	0.16	0.14	96.83	142.53	45.71	47.20
2	62	99	12.90	18.18	0.28	0.28	98.58	164.30	65.72	66.67
2	63	105	21.31	23.81	0.33	0.31	48.59	145.78	97.18	200.00
2	64	136.5	22.14	28.23	0.42	0.31	82.17	160.97	78.80	95.91
2	65	124	15.87	23.81	0.65	0.52	47.27	168.36	121.09	256.18
2	66	107	17.65	22.39	0.47	0.44	86.02	138.01	51.99	60.43
2	67	119	14.93	32.01	0.38	0.32	55.99	166.85	110.86	198.02
2	68	97	15.08	19.53	0.61	0.63	48.63	134.92	86.30	177.46
2	69	87	7.69	21.74	0.24	0.28	54.39	131.00	76.61	140.85
2	70	89	13.04	31.25	0.37	0.42	59.12	183.35	124.23	210.13
2	71	87.3	16.67	24.29	0.31	0.36	72.52	156.49	83.97	115.79
2	72	89	13.24	28.26	0.16	0.19	74.09	228.25	154.16	208.08
2	73	77.4	19.40	23.91	0.15	0.19	85.51	197.80	112.29	131.31
2	74	74	22.64	33.91	0.32	0.43	87.73	212.54	124.81	142.27
2	75	84	23.08	29.77	0.14	0.17	45.27	185.05	139.78	308.77

Table S3: Cardiac output (CO) and ventral aortic blood pressure (VAP) of instrumented unfed bald notothens during rest and following enforced exercise.

Treatment	ID	Routine CO (a.u.)	Max CO (a.u.)	Scope CO (a.u.)	Scope CO (%)	Routine VAP (kPa)	Max VAP (kPa)	Scope VAP (kPa)	Scope VAP (%)
(1=Splect, 2=Sham)									
1	43	1.26	1.37	0.10	8.03	3.54	3.61	0.07	2.11
1	44					5.11	5.42	0.31	6.13
1	45	0.56	1.06	0.49	87.74	4.19	4.50	0.31	7.37
1	46	0.70	1.27	0.57	80.89	3.37	3.67	0.30	8.90
1	47	0.27	0.73	0.46	167.97	3.16	4.06	0.90	28.50
1	48	0.63	1.12	0.49	76.99	3.33	3.87	0.54	16.31
1	49	0.39	0.92	0.53	137.70	3.17	4.29	1.12	35.26
1	50					3.77	5.39	1.62	42.90
1	51	0.70	1.39	0.69	98.03	3.56	4.11	0.55	15.49
1	52	0.68	1.23	0.55	80.47	3.24	4.48	1.24	38.12
1	53	0.57	1.31	0.74	131.10	3.23	3.29	0.06	1.86
1	54	0.79	1.37	0.57	72.16	2.48	2.62	0.14	5.72
1	55	0.45	0.87	0.42	94.62	3.52	3.64	0.12	3.49
1	56	0.51	1.07	0.55	108.32	3.82	5.18	1.36	35.45
2	57	0.82	1.61	0.80	97.27	3.20	4.13	0.93	29.20
2	58	0.78	1.60	0.82	105.04	3.17	5.45	2.28	71.96
2	59	0.45	1.14	0.70	156.76	3.33	5.78	2.45	73.59
2	60	0.54	1.13	0.59	108.67	3.01	4.38	1.37	45.70
2	61	0.63	1.11	0.48	76.66	3.95	5.00	1.04	26.32
2	62					3.76	3.89	0.13	3.41
2	63	0.55	1.05	0.50	91.12	3.76	4.76	1.00	26.73
2	64	0.59	1.52	0.93	156.95	3.12	5.42	2.30	73.93
2	65					3.46	4.54	1.08	31.26
2	66	0.46	0.99	0.52	113.42	3.57	3.83	0.26	7.33
2	67	1.21	2.00	0.79	65.08	3.67	5.01	1.34	36.56
2	68	0.67	1.43	0.76	114.18	2.59	3.52	0.94	36.14
2	69	0.53	0.94	0.41	76.97	3.34	3.95	0.61	18.28
2	70	0.36	1.26	0.90	248.74	2.98	4.86	1.88	63.13
2	71	0.65	1.38	0.73	111.51	3.50	4.84	1.35	38.56
2	72	0.57	1.19	0.62	108.08	3.83	4.39	0.56	14.76
2	73	0.34	0.87	0.53	156.33	4.22	4.87	0.65	15.53
2	74	0.50	0.79	0.29	58.20	4.43	4.62	0.19	4.28
2	75	0.45	0.65	0.20	43.68	4.68	5.52	0.83	17.75

Table S4: Heart rate (HR) and stroke volume (SV) of instrumented unfed bald notothenids during rest and following enforced exercise.

Treatment	ID	Routine HR (beats min ⁻¹)	Max HR (beats min ⁻¹)	Scope HR (beats min ⁻¹)	Scope HR (%)	Routine SV (a.u)	Max SV (a.u)	Scope SV (a.u)	Scope SV (%)
(1=Splect, 2=Sham)									
1	43	23.12	21.87	-1.25	-5.40	0.05	0.06	0.01	14.19
1	44	17.26	21.88	4.62	26.79				
1	45	21.32	26.63	5.31	24.91	0.03	0.04	0.01	50.30
1	46	23.20	25.52	2.32	10.01	0.03	0.05	0.02	64.42
1	47	24.12	25.96	1.84	7.62	0.01	0.03	0.02	149.00
1	48	20.73	26.16	5.43	26.21	0.03	0.04	0.01	40.23
1	49	21.04	27.64	6.60	31.39	0.02	0.03	0.01	80.91
1	50	12.74	24.16	11.42	89.60				
1	51	21.20	25.98	4.78	22.55	0.03	0.05	0.02	61.59
1	52	23.25	24.28	1.03	4.43	0.03	0.05	0.02	72.81
1	53	25.25	25.52	0.27	1.07	0.02	0.05	0.03	128.65
1	54	22.31	24.94	2.63	11.80	0.04	0.05	0.02	53.99
1	55	21.52	23.57	2.05	9.53	0.02	0.04	0.02	77.69
1	56	19.28	24.86	5.58	28.94	0.03	0.04	0.02	61.56
2	57	22.16	30.00	7.84	35.36	0.04	0.05	0.02	45.74
2	58	19.66	25.50	5.84	29.68	0.04	0.06	0.02	58.11
2	59	13.59	23.03	9.44	69.46	0.03	0.05	0.02	51.52
2	60	27.17	27.51	0.35	1.27	0.02	0.04	0.02	106.05
2	61	25.32	28.07	2.75	10.86	0.02	0.04	0.01	59.35
2	62	23.23	24.02	0.79	3.40				
2	63	11.90	20.59	8.69	73.00	0.05	0.05	0.00	10.47
2	64	19.07	24.02	4.95	25.95	0.03	0.06	0.03	104.01
2	65	20.83	25.81	4.98	23.92				
2	66	21.37	27.08	5.71	26.70	0.02	0.04	0.01	68.44
2	67	19.56	25.37	5.81	29.73	0.06	0.08	0.02	27.25
2	68	20.41	24.53	4.12	20.20	0.03	0.06	0.03	78.18
2	69	20.08	25.43	5.35	26.66	0.03	0.04	0.01	39.73
2	70	11.74	25.81	14.08	119.95	0.03	0.05	0.02	58.55
2	71	15.10	25.29	10.19	67.50	0.04	0.05	0.01	26.27
2	72	19.56	25.67	6.11	31.24	0.03	0.05	0.02	58.54
2	73	20.37	26.85	6.48	31.79	0.02	0.03	0.02	94.51
2	74	21.10	25.10	4.00	18.96	0.02	0.03	0.01	32.99
2	75	18.32	20.76	2.44	13.33	0.02	0.03	0.01	26.78

Table S5: Total vascular resistance (Rtot) and cardiac power index (CPI) of instrumented unfed bald notothens during rest and following enforced exercise.

Treatment	ID	Routine Rtot	Max Rtot	Scope Rtot	Scope Rtot (%)	Routine CPI	Max CPI	Scope CPI	Scope CPI (%)
(1=Splect, 2=Sham)		(a.u)	(a.u)	(a.u)	(%)	(a.u)	(a.u)	(a.u)	(%)
1	43	2.80	2.65	-0.15	-5.48	4.47	4.93	0.46	10.31
1	44								
1	45	7.46	4.27	-3.19	-42.81	2.36	4.75	2.39	101.58
1	46	4.79	2.89	-1.91	-39.80	2.37	4.66	2.30	96.99
1	47	11.65	5.58	-6.06	-52.05	0.86	2.95	2.09	244.34
1	48	5.28	3.47	-1.81	-34.28	2.10	4.32	2.22	105.84
1	49	8.16	4.64	-3.52	-43.10	1.23	3.96	2.73	221.50
1	50								
1	51	5.09	2.97	-2.12	-41.68	2.49	5.71	3.21	128.70
1	52	4.75	3.63	-1.11	-23.47	2.21	5.52	3.31	149.27
1	53	5.70	2.51	-3.19	-55.92	1.83	4.31	2.48	135.40
1	54	3.12	1.92	-1.20	-38.59	1.97	3.59	1.62	82.01
1	55	7.84	4.17	-3.67	-46.83	1.58	3.18	1.60	101.40
1	56	7.47	4.86	-2.61	-34.98	1.96	5.52	3.57	182.17
2	57	3.91	2.56	-1.35	-34.51	2.61	6.66	4.05	154.88
2	58	4.06	3.41	-0.66	-16.13	2.47	8.72	6.25	252.59
2	59	7.48	5.06	-2.42	-32.39	1.48	6.61	5.13	345.71
2	60	5.58	3.89	-1.68	-30.18	1.62	4.93	3.31	204.03
2	61	6.32	4.52	-1.80	-28.50	2.47	5.52	3.05	123.15
2	62								
2	63	6.84	4.53	-2.30	-33.69	2.06	5.00	2.94	142.20
2	64	5.28	3.58	-1.71	-32.31	1.84	8.21	6.37	346.91
2	65								
2	66	7.74	3.89	-3.85	-49.71	1.65	3.78	2.13	129.07
2	67	3.03	2.50	-0.52	-17.28	4.44	10.02	5.57	125.44
2	68	3.87	2.46	-1.41	-36.43	1.73	5.05	3.32	191.59
2	69	6.31	4.22	-2.09	-33.16	1.77	3.71	1.94	109.32
2	70	8.27	3.87	-4.40	-53.22	1.07	6.11	5.04	468.90
2	71	5.35	3.50	-1.84	-34.49	2.29	6.70	4.41	193.07
2	72	6.67	3.68	-2.99	-44.85	2.20	5.24	3.05	138.80
2	73	12.40	5.59	-6.81	-54.93	1.43	4.25	2.81	196.13
2	74	8.89	5.86	-3.03	-34.08	2.21	3.65	1.44	64.98
2	75	10.38	8.51	-1.87	-18.05	2.11	3.57	1.46	69.19