

## APPENDIX A

### Table legends

**Table A1:** Blood [Pb] ( $\mu\text{g/dL}$ ), PCV (%),  $\delta$ -ALAD activity ( $\mu\text{mol PBG/h/L RBC}$ ) and leukocyte parameters ( $10^3/\mu\text{L}$ ) in Cape Vulture (*Gyps coprotheres*, n=28) nestlings from Karnmelkspruit (Eastern Cape Province, South Africa). The first reference interval for each parameter, calculated as mean  $\pm$  2xSD, is based on data collected for this study.

**Table A2:** Blood [Pb] ( $\mu\text{g/dL}$ ), PCV (%),  $\delta$ -ALAD activity ( $\mu\text{mol PBG/h/L RBC}$ ) and leukocyte parameters ( $10^3/\mu\text{L}$ ) in White-backed Vulture (*Gyps africanus*) nestlings from Dronfield Nature Reserve (Northern Cape Province, South Africa). The first reference interval for each parameter, calculated as mean  $\pm$  2xSD, is based on data collected for this study.

**Table A3:** Selected blood biochemistry parameters of Cape Vulture (*Gyps coprotheres*) nestlings (n = 28) from Karnmelkspruit (Eastern Cape Province, South Africa). Reference intervals are calculated as mean  $\pm$  2xSD.

**Table A4:** Selected blood biochemistry parameters in White-backed Vulture (*Gyps africanus*) nestlings (n = 37) from Dronfield Nature Reserve (Northern Cape Province, South Africa). Reference intervals are calculated as mean  $\pm$  2xSD.

**Table A1:** Blood [Pb] ( $\mu\text{g/dL}$ ), PCV (%),  $\delta$ -ALAD activity ( $\mu\text{mol PBG/h/L RBC}$ ) and leukocyte parameters ( $10^3/\mu\text{L}$ ) in Cape Vulture (*Gyps coprotheres*,  $n=28$ ) nestlings from Karnmelkspruit (Eastern Cape Province, South Africa). The first reference interval for each parameter, calculated as  $\text{mean} \pm 2\text{xSD}$ , is based on data collected for this study.

Parameter	Mean	Median	SD	Min	Max	90% Confidence Interval		Reference intervals
						Lower	Upper	
[Pb]*	-	2.4	-	0.4	102.8	-	-	
PCV	35.1	35.5	3.8	23.0	40.0	33.9	36.3	27.5 – 42.7 34.7 – 53.9 a 33.6 – 50.0 b 30.0 – 50.0 d
$\delta$ -ALAD activity	3392.9	3532.2	983.4	85.6	4649.1	3076.4	3709.5	1426.1 – 5359.7 2766.5 – 4661.9c
Total leukocytes	22.9	22.4	5.7	13.2	36.2	21.1	24.8	11.6 – 34.3 13.5 – 20.0 a 15.3 – 41.9b 10.0 – 20.0 d
Heterophils	14.8	14.4	4.2	5.9	23.9	13.4	16.1	6.3 – 23.2 1.5 – 25.9a 5.0 – 15.0 d
Immature heterophils*	-	0.0	-	0.0	0.7	-	-	- 0.0 – 0.0a
Lymphocytes	6.8	6.6	2.3	2.4	10.7	6.1	7.5	2.2 – 11.4 0.0 – 4.8a 4.0 – 15.0 d
Monocytes*	-	0.7	-	0.2	2.7	-	-	- 0.0 – 3.7 a 0.0 – 1.5 d

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Table A1 (continued):

Parameter	Mean	Median	SD	Min	Max	90% Confidence Interval		Reference intervals
						Lower	Upper	
Eosinophils*	-	0.2	-	0.0	0.7	-	-	- 0.0 – 2.2 a 0.1 – 1.8 d
Basophils*	-	0.0	-	0.0	0.9	-	-	- 0.0 – 0.0 a 0.0 – 0.6 d

<sup>a</sup> Captive, adult White-backed Vultures (Naidoo et al. 2008).

<sup>b</sup> White-backed Vulture nestlings, Dronfield and Sandveld nature reserves.

<sup>c</sup> Calculated as mean  $\pm$  2xSD of nestlings with [Pb] < 10  $\mu$ g/dL,

<sup>d</sup> *Gyps* vultures (Cooper 2002), \* Normality could not be established.

**Table A2:** Blood [Pb] ( $\mu\text{g/dL}$ ), PCV (%),  $\delta$ -ALAD activity ( $\mu\text{mol PBG/h/L RBC}$ ) and leukocyte parameters ( $10^3/\mu\text{L}$ ) in White-backed Vulture (*Gyps africanus*) nestlings from Dronfield Nature Reserve (Northern Cape Province, South Africa). The first reference interval for each parameter, calculated as mean  $\pm$  2xSD, is based on data collected for this study.

Parameter	n	Mean	Median	SD	Min	Max	90% Confidence Interval		Reference intervals
							Lower	Upper	
[Pb]	37	27.3	27.3	50.5	11.2	180.4	13.3	41.3	
PCV	34	32.9	32.5	2.8	28.0	39.0	32.1	33.7	27.3 – 38.5 34.7 – 53.9 <sup>a</sup> 33.6 – 50.0 <sup>b</sup> 30.0 – 50.0 <sup>d</sup>
$\delta$ -ALAD activity	34	2804.6	3192.1	1196.5	451.8	4756.6	2457.4	3151.9	411.6 – 5197.6 1965.9 – 5386.5 <sup>c</sup>
Total leukocytes	34	13.5	13.6	5.9	7.3	34.5	11.8	15.2	1.8 – 25.2 13.5 – 20.0 <sup>a</sup> 15.3 – 41.9 <sup>b</sup> 10.0 – 20.0 <sup>d</sup>
Heterophils	34	8.0	7.9	4.2	3.7	23.5	6.8	9.2	0 – 16.3 1.5 – 25.9 <sup>a</sup> 5.0 – 15.0 <sup>d</sup>
Immature heterophils*	34	-	0.0	-	0.0	0.9	-	-	- 0.0 – 0.0 <sup>a</sup>
Lymphocytes	34	4.2	4.3	1.7	1.5	7.5	3.7	4.7	0.9 – 7.5 0.0 – 4.8 <sup>a</sup> 4.0 – 15.0 <sup>d</sup>
Monocytes	34	0.8	0.9	0.8	0.1	3.8	0.6	1.0	0.0 – 2.3 0.0 – 3.7 <sup>a</sup> 0.0 – 1.5 <sup>d</sup>

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Table A2 (continued):

Parameter	n	Mean	Median	SD	Min	Max	90% Confidence Interval		Reference intervals
							Lower	Upper	
Eosinophils*	34	-	0.2	-	0.0	0.5	-	-	- 0.0 – 2.2 <sup>a</sup> 0.1 – 1.8 <sup>d</sup>
Basophils*	34	-	0.1	-	0.0	0.9	-	-	- 0.0 – 0.0 <sup>a</sup> 0.0 – 0.6 <sup>d</sup>

<sup>a</sup> Captive, adult White-backed Vultures (Naidoo et al. 2008).

<sup>b</sup> White-backed Vulture nestlings, Dronfield and Sandveld nature reserves.

<sup>c</sup> Calculated as mean  $\pm$  2xSD of nestlings with [Pb] < 15  $\mu$ g/dL.

<sup>d</sup> *Gyps* vultures (Cooper 2002).

\* Normality could not be established.

**Table A3:** Selected blood biochemistry parameters of Cape Vulture (*Gyps coprotheres*) nestlings (n = 28) from Karmmelkspruit (Eastern Cape Province, South Africa). Reference intervals are calculated as mean  $\pm$  2xSD.

Parameter	Mean	Median	SD	Min	Max	90% Confidence interval		Reference intervals
						Lower	Upper	
Cholesterol (mmol/L)	5.2	5.1	0.9	3.6	6.9	4.9	5.5	3.4 – 7.0 5.0 – 10.0 <sup>e</sup>
Triglycerides (mmol/L)*	-	0.8	-	0.5	2.3	-	-	- 5.9 – 8.6 <sup>c</sup>
Total protein (g/L)	31.4	30.8	2.8	25.8	37.5	30.5	32.3	25.8 – 37.0 32.4 – 43.2 <sup>b</sup> 25.0 – 50.0 <sup>e</sup>
Albumin (g/L)	14.1	13.9	1.2	11.9	16.7	13.7	14.5	11.7 – 16.6 12.4 – 13.2 <sup>a</sup> 13.8 – 24.6 <sup>b</sup> 10.0 – 20.0 <sup>e</sup>
Globulin (g/L)	17.3	17.1	1.9	13.8	21.3	16.7	17.9	13.5 – 21.1 15.0 – 30.0 <sup>e</sup>
Albumin:Globulin	0.8	0.8	0.1	0.6	0.9	0.8	0.84	0.7 – 1.0 0.6 – 1.0 <sup>c</sup>
ALT (u/L)	25.3	23.2	7.9	12.3	45.4	22.7	27.8	9.5 – 41.0 35.3 – 38.1 <sup>a</sup> 13.6 – 37.6 <sup>b</sup> 10 – 60 <sup>e</sup>
GGT (u/L)*	-	2.5	-	0.0	6.6	-	-	- 0.37 – 2.37 <sup>b</sup> 0.0 – 6.0 <sup>e</sup>
Urea (U) (mmol/L)	0.6	0.5	0.2	0.3	0.9	0.5	0.6	0.3 – 0.9 0.8 – 1.1 <sup>c</sup>
Uric acid (UA) (mmol/L)	0.3	0.3	0.1	0.2	0.7	0.27	0.33	0.1 – 0.5 0.0 – 1.03 <sup>a</sup>
U:UA	1.9	1.8	0.6	0.9	3.3	1.7	2.1	0.7 – 3.1 1.4 – 2.7 <sup>d</sup>

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Table A3 (continued):

Parameter	Mean	Median	SD	Min	Max	90% Confidence interval		Reference intervals
						Lower	Upper	
Phosphorus (mmol/L)*	-	2.2	-	1.9	3.0	-	-	- 0.23 – 1.35 <sup>b</sup> 0.3 – 0.5 <sup>c</sup>
Calcium (mmol/L)	2.4	2.4	0.2	2.1	2.6	2.4	2.5	2.1 – 2.7 0.5 – 1.3 <sup>a</sup> 2.0 – 3.0 <sup>e</sup>

<sup>a</sup> Captive adult Cape Vultures (Naidoo et al. 2009).

<sup>b</sup> Captive adult Cape Vultures (Van Heerden et al. 1987).

<sup>c</sup> White-backed Vulture nestlings (van Wyk et al. 1998)

<sup>d</sup> Wild and captive adult White-backed Vultures (Naidoo et al. 2008)

<sup>e</sup> Raptors (Cooper 2002).

\* Normality could not be established.

**Table A4:** Selected blood biochemistry parameters in White-backed Vulture (*Gyps africanus*) nestlings (n = 37) from Dronfield Nature Reserve (Northern Cape Province, South Africa). Reference intervals are calculated as mean  $\pm$  2xSD.

Parameter	Mean	Median	SD	Min	Max	90% Confidence interval		Reference intervals
						Lower	Upper	
Cholesterol (mmol/L)	4.4	4.5	1.0	2.4	7.2	4.2	4.7	2.5 – 6.4 4.4 – 10.5 <sup>b</sup> 5.0 – 10.0 <sup>c</sup>
Triglycerides (mmol/L)	0.8	0.8	0.5	0.3	2.3	0.7	0.9	0.0 – 1.8 5.9 – 8.6 <sup>b</sup>
Total protein (g/L)	31.6	31.6	2.1	26.9	37.2	31.0	32.1	27.5 – 35.7 18.5 – 40.1 <sup>b</sup> 25.0 – 50.0 <sup>c</sup>
Albumin (g/L)	13.8	13.6	0.8	12.3	16.0	13.6	14.0	12.1 – 15.4 10.4 – 13.2 <sup>a</sup> 7.5 – 17.9 <sup>b</sup> 10.0 – 20.0 <sup>c</sup>
Globulin (g/L)	17.8	17.8	1.5	14.6	21.3	17.4	18.2	14.9 – 20.7 16.8 – 28.3 <sup>a</sup> 10.8 – 22.4 <sup>b</sup> 15.0 – 30.0 <sup>c</sup>
Albumin:Globulin	0.8	0.8	0.1	0.7	0.9	0.76	0.79	0.7 – 0.9 0.6 – 1.0 <sup>b</sup>
ALT (u/L)	27.1	24.7	9.8	7.9	53.5	24.4	29.8	7.5 – 46.8 9.2 – 144.5 <sup>a</sup> 10 – 60 <sup>c</sup>
GGT (u/L)	2.2	2.3	1.5	0.0	5.9	1.8	2.7	0.0 – 5.2 0.0 – 6.0 <sup>c</sup>
Urea (U) (mmol/L)	0.8	0.8	0.4	0.3	2.2	0.6	0.9	0.0 – 1.6 1.2 – 5.2 <sup>a</sup> 0.8 – 1.1 <sup>b</sup>
Uric acid (UA) (mmol/L)*	-	0.4	-	0.2	0.8	-	-	- 0.6 – 0.7 <sup>a</sup>
U:UA	1.8	1.8	1.0	0.6	4.6	1.5	2.1	0.0 – 3.8 1.4 – 2.7 <sup>a</sup>

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Table A4 (continued):

Parameter	Mean	Median	SD	Min	Max	90% Confidence interval		Reference intervals
						Lower	Upper	
Phosphorus (mmol/L)	2.1	2.1	0.3	1.5	2.6	2.0	2.1	1.5 – 2.6 0.3 – 0.5 <sup>b</sup>
Calcium (mmol/L)*	-	2.5	-	2.1	2.8	-	-	- 0.6 – 0.7 <sup>b</sup> 2.0 – 3.0 <sup>c</sup>

<sup>a</sup> Wild and captive adult White-backed Vultures (Naidoo et al. 2008).

<sup>b</sup> White-backed Vulture nestlings, Dronfield and Sandveld nature reserves.

<sup>c</sup> Raptors (Cooper 2002).

\* Normality could not be established.