

Webster, K. N., Hill, N. J., Burnett, L. and Deane, E. M. 2014. Ectoparasite infestation patterns, haematology and serum biochemistry of urban-dwelling common brushtail possums. – Wildlife Biology doi: 10.2981/wlb.00027

Appendix 1

Frequency histograms of the intensity of each tick and flea species (excluding the flea *Ctenocephalides felis*, which was present on just one individual).

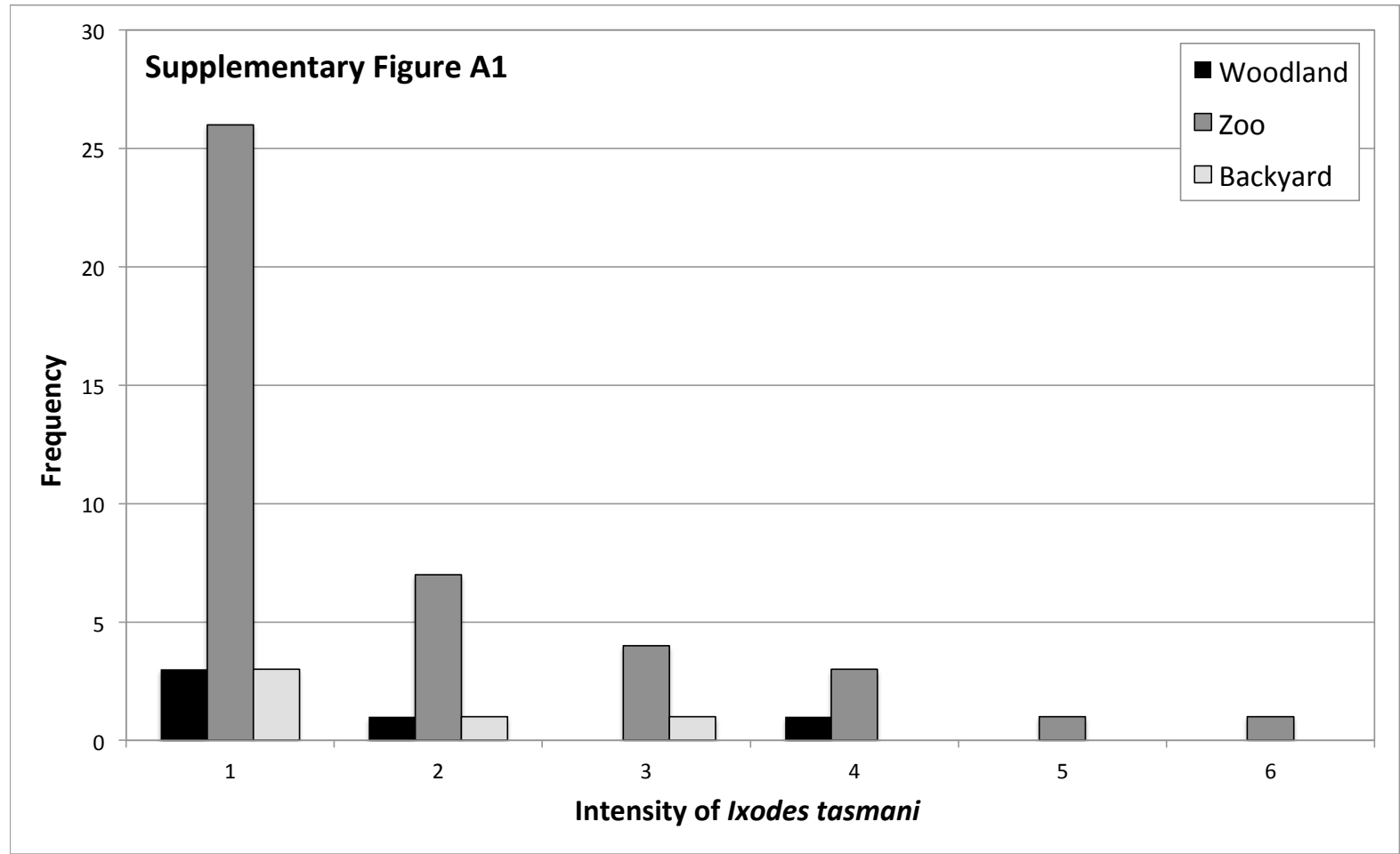
Intensity is defined as the number of conspecific parasites living on an infected host.

Fig. A1 *Ixodes tasmani*

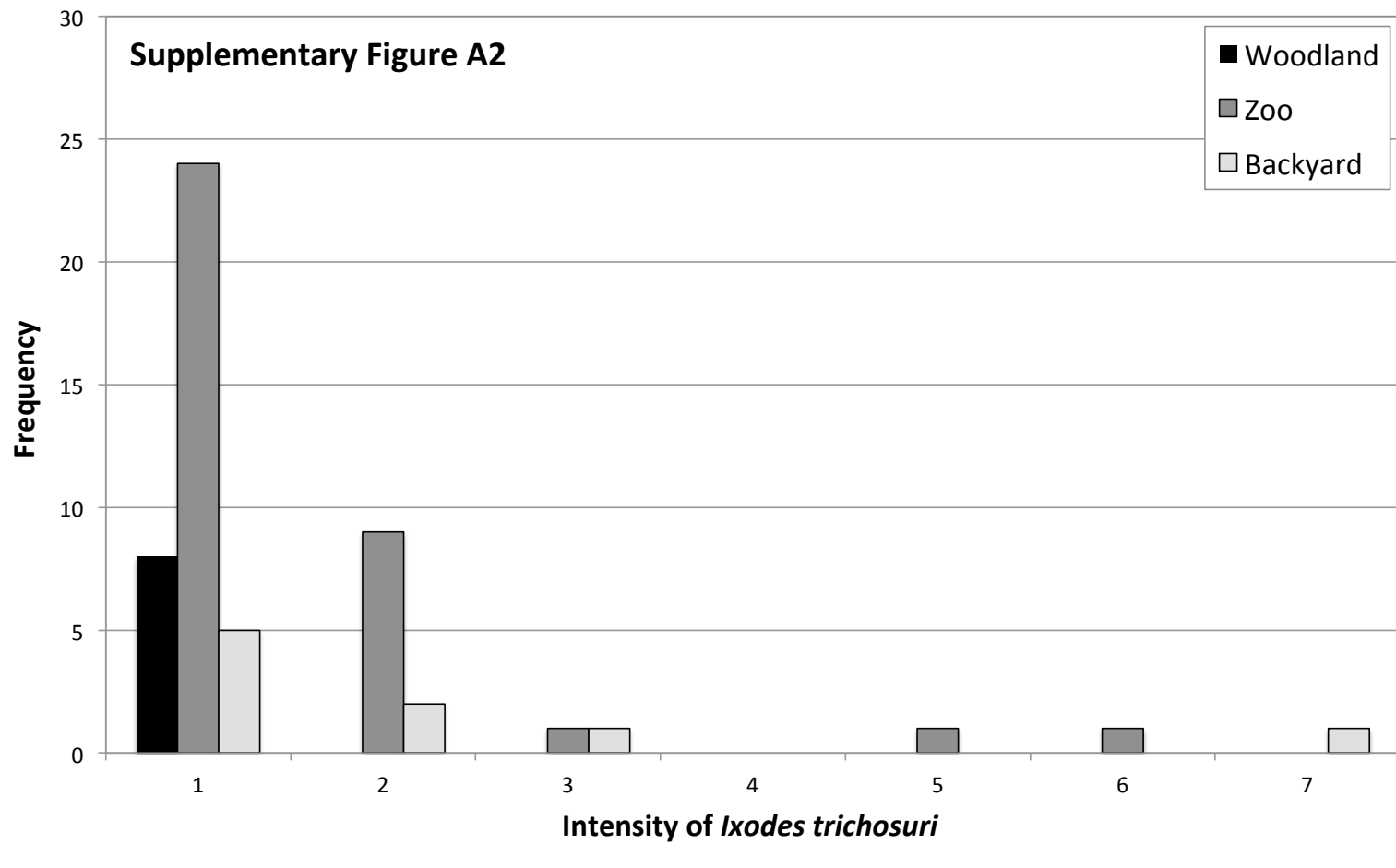
Fig. A2 *I. trichosuri*

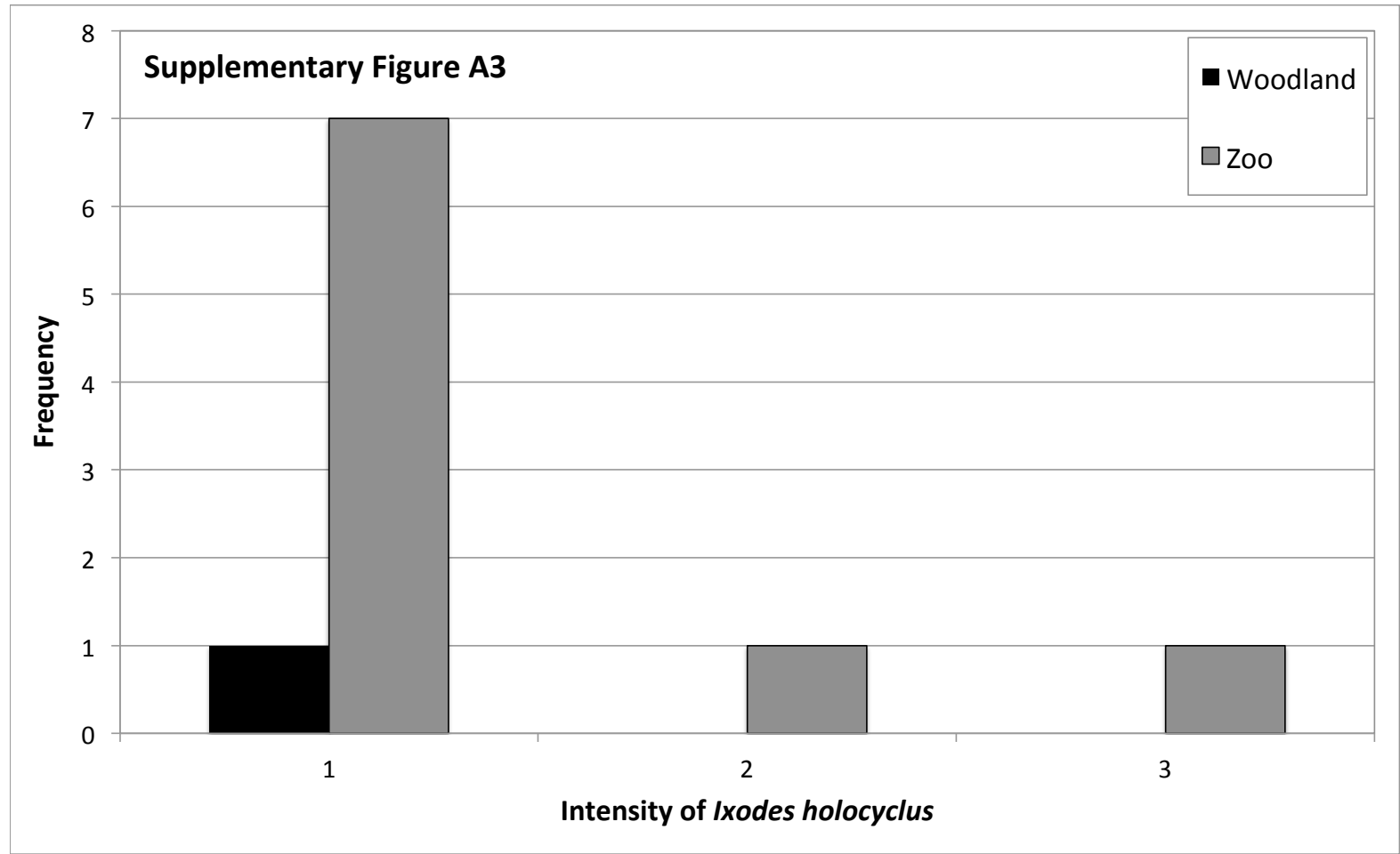
Fig. A3 *I. holocyclus*

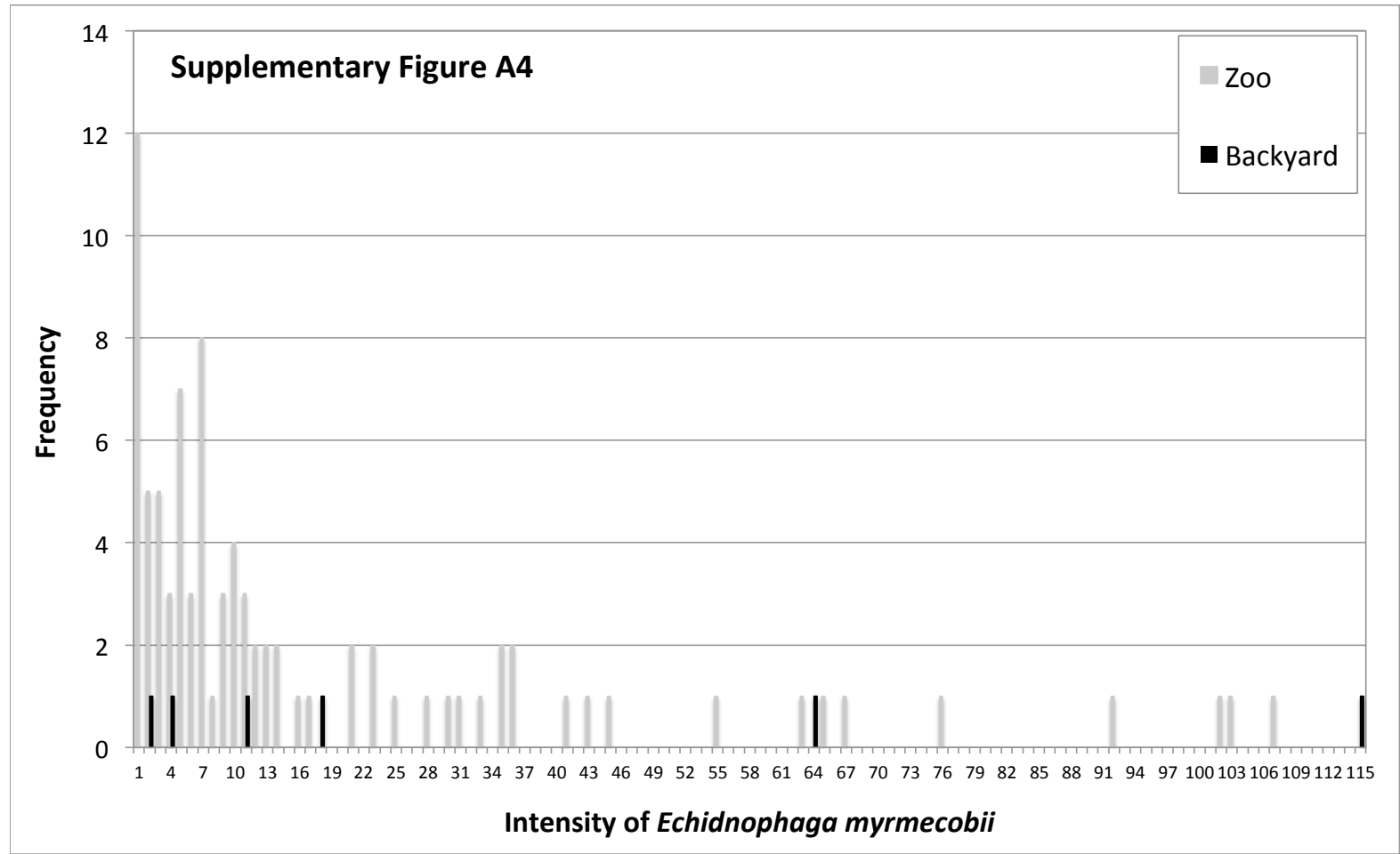
Fig. A4 *Echidnophaga myrmecobii*



Supplementary Figure A2







Appendix A2

Table A1. Mean haematological and serum biochemical parameters of possums, according to habitat type (urban or woodland). Parameters in italics were the dependent variables in ANOVA or MANOVA models of ectoparasite effects on urban possum health.

	Urban					Woodland				
	Mean	SEM	Minimum	Maximum	Valid n	Mean	SEM	Minimum	Maximum	Valid n
<i>Haemoglobin (g l⁻¹)</i>	109.726	1.01	74	155	212	109.344	2.49	89	161	32
<i>Erythrocyte count (×10¹² l⁻¹)</i>	5.071	0.054	3.17	7.63	212	4.511	0.115	3.24	6.3	32
MCV (fl)	63.453	0.249	53	75	212	77.344	1.883	60	97	32
MCH (pg)	21.745	0.095	18	26	212	24.469	0.359	20	28	32
MCHC (g l ⁻¹)	342.561	0.619	320	382	212	318.375	4.357	271	347	32
<i>Lymphocytes (×10⁹ l⁻¹)</i>	3.837	0.153	0.5	13.5	213	1.997	0.297	0.2	5.3	32
<i>Neutrophils (×10⁹ l⁻¹)</i>	3.29	0.126	0.3	10.1	213	1.663	0.21	0.2	4.9	32
<i>Eosinophils (×10⁹ l⁻¹)</i>	0.09	0.01	0	0.7	194	0.131	0.04	0	0.9	29
MPV (fl)	7.668	0.068	5.5	13.2	213	9.047	0.306	6.1	12.7	32
<i>Iron^a (μmol l⁻¹)</i>	34.918	1.007	6	82	220	31.172	2.529	6	57	29
<i>Iron saturation^a (%)</i>	52.968	1.362	16	98	216	51.379	4.226	10	95	29
Sodium (mmol l ⁻¹)	151.954	0.214	144	169	219	153.516	0.903	137	165	31
Potassium (mmol l ⁻¹)	3.412	0.032	2.5	5	209	3.843	0.166	2.5	6.1	28
Creatinine (mmol l ⁻¹)	86.521	1.272	42	149	219	95.935	5.901	44	166	31
Urate (mmol l ⁻¹)	0.041	0.005	0	1	213	0.043	0.002	0.01	0.07	31
Total protein (g l ⁻¹)	66.046	0.414	49	82	219	61.032	0.798	52	71	31
Albumin (g l ⁻¹)	36.252	0.204	26	43	218	34.517	0.512	29	41	29
<i>Total bilirubin^a (μmol l⁻¹)</i>	4.157	0.126	1	14	217	3.967	0.212	2	6	30
Calcium (mmol l ⁻¹)	2.488	0.012	1.91	2.96	219	2.264	0.029	2.01	2.54	29
Phosphate (mmol l ⁻¹)	1.775	0.043	0.37	3.46	219	1.187	0.093	0.48	2.37	29
Magnesium (mmol l ⁻¹)	1.104	0.01	0.72	1.48	218	1.051	0.028	0.72	1.43	31
Lipase (mmol l ⁻¹)	10.821	0.265	7	41	218	8.793	0.218	7	11	29
ALP (IU l ⁻¹)	429.475	23.62	37	2158	219	512.129	52.502	153	1132	31
AST ^a (IU l ⁻¹)	63.688	2.308	23	314	215	57.552	4.155	36	147	29
ALT ^a (IU l ⁻¹)	39.256	0.995	11	117	219	37.621	2.308	21	75	29
GGT (IU l ⁻¹)	6.297	0.306	1	62	219	6.966	0.586	3	19	29
Cholesterol (mmol l ⁻¹)	3.141	0.052	1.47	6.19	219	2.672	0.085	1.96	3.73	29
Triglyceride (mmol l ⁻¹)	1.788	0.087	0.47	8.9	219	1.218	0.117	0.51	3.32	29
SMI ^a (g)	2343.33	50.6	356.02	4005.76	238	2320.49	144.69	402.14	3570.89	27

Where MCV is mean corpuscular volume, MCH is mean corpuscular haemoglobin (by mass), MCHC is mean corpuscular haemoglobin concentration, MPV is mean platelet volume, ALP is alkaline phosphatase concentration (IU = international units), AST is aspartate aminotransferase concentration, ALT is alanine aminotransferase concentration, GGT is gamma-glutamyl transferase concentration and SMI is scaled mass index. 'Valid n' indicates the number of possums for which a particular haematological or biochemical measurement was known.

^a Indicates parameters that were significantly affected by the presence of at least one species of ectoparasite in urban possums (see Table 6 and text of article for details).