

Supporting information to:

Hartigan, A., Dhand, N. K., Rose, K., Slapeta, J., & Phalen, D. N. (2012). Comparative pathology and ecological implications of two myxosporean parasites in native Australian frogs and the invasive cane toad. PLoS One, 7(10), e43780.

Published: October 3, 2012

<http://dx.doi.org/10.1371/journal.pone.0043780>

Table 2A-E. Summary of statistical analyses results for associating *Cystodiscus axonis* and *Cystodiscus australis* with lesions of disease

A

Brain histopathology (GGBF)						
Univariable binary logistic regression						
Outcome	Explanatory variables	b	s.e.	Odds Ratio	95% C.I	p
Presence of brain plasmodia	Age (Adult versus Tadpoles)	1.04	0.79	2.83	-0.64, 2.57	0.21
	Season					0.003*
Gliosis	Presence of brain plasmodia**	3.75	0.89	42.50	8.83, 325.64	<0.001
	Parasitic load					<0.001*

*Fisher's exact test

B

Chi-sq test		p
Presence of brain plasmodia	Striped marsh frog tadpoles versus GGBF	0.0086
	Peron's tree frog tadpoles versus GGBF	0.0004

C

Liver histopathology (GGBF)						
Univariable binary logistic regression						
Outcomes	Explanatory variables	b	s.e.	Odds Ratio	95% C.I	p
Presence of Liver plasmodia	Age (Adult versus Tadpoles)	-2.29	1.07	0.10	0.005, 0.564	0.006
Biliary inflammation	Presence of liver plasmodia	2.245	0.481	9.438	3.78, 25.32	<.0001

D**Multivariable logistic regression**

Outcomes	Explanatory variables	b	s.e.	Odds Ratio	95% C.I	p
Biliary hyperplasia	Intercept	-0.8315	0.7414			
	Presence of liver plasmodia	2.5827	0.8454	13.233	3.0, 95.4	0.0023
	Age (Adults versus Tadpoles)	-2.2683	1.0627	0.103	0.009, 0.68	0.0328
	Season					0.0285
	Summer vs. Spring	0.167	0.9708	1.182	0.17, 8.38	0.86
	Autumn vs. Spring	1.5394	0.9679	4.662	0.76, 36.42	0.11
	Winter vs. Spring	2.3841	0.968	10.849	1.79, 85.49	0.01
Grade of biliary hyperplasia	Intercept 3	-4.48	0.87			
	Intercept 2	-1.85	0.71			
	Intercept 1	-0.76	0.68			
	Presence of liver plasmodia	2.87	0.58	17.70	5.98, 61.83	<0.001
	Age (Adults versus Tadpoles)	-2.25	0.92	0.11	0.01, 0.56	0.015
	Season					0.057
	Summer vs. Spring	0.43	0.84	1.53	0.28, 9.40	0.61
	Autumn vs. Spring	1.60	0.80	4.96	1.05, 28.20	0.044
Winter vs. Spring	1.62	0.76	5.06	1.16, 26.67	0.034	
Loss of hepatocytes	Intercept	-1.95	0.92			
	Presence of liver plasmodia	2.12	0.68	8.33	2.39, 36.37	0.002
	Age (Adults versus Tadpoles)	-2.69	1.28	0.07	0.003, 0.61	0.036
	Season					0.002
	Summer vs. Spring	-0.58	1.15	0.56	0.06, 6.05	0.62
	Autumn vs. Spring	2.28	1.06	9.75	1.41, 100.2	0.032
	Winter vs. Spring	2.43	1.00	11.35	1.86, 106.76	0.016
Hepatic myxosporidiosis severity	Intercept 3	-4.59	0.84			
	Intercept 2	-2.90	0.75			
	Intercept 1	-0.73	0.67			
	Presence of liver plasmodia	2.42	0.52	11.22	4.21, 32.41	<0.001
	Age (Adults versus Tadpoles)	-2.04	0.94	0.13	0.01, 0.695	0.03
	Season					0.01
	Summer vs. Spring	0.46	0.83	1.58	0.30, 8.99	0.58
	Autumn vs. Spring	1.08	0.78	2.95	0.67, 15.23	0.16
Winter vs. Spring	2.07	0.77	7.91	1.88, 36.65	0.007	

E

Chi-sq test	p
Liver plasmodia	GGBF vs. Striped marsh frog tadpoles 0.03331

	GGBF vs. Peron's tree frog tadpoles	0.00824
Biliary fibrosis	GGBF vs. Striped marsh frog adults	0.02725
	GGBF vs. Peron's tree frog adults	0.0022

Figure_S1.tif

[Download \(336.89 kB\)](#)

Detection limit for multiplex species specific PCR. Ten fold dilutions of quantified myxospore samples for *Cystodiscus axonis* and *C. australis* using *Cystodiscus* internal transcribed spacer rDNA specific primers. Reactions were run in triplicate and visualised on a 2% agarose gel stained with Gel Red (Biotium, Australia).

