

Plasticity of blood and liver biomarkers in *Physalaemus nattereri* exposed to agricultural systems

Environmental Monitoring and Assessment

Rhayane Alves Assis^{a,b} 0000-0001-6750-5490 . Wadson Rodrigues Rezende^b 0000-0002-4366-3715 . Cirley Gomes Araújo dos Santos^{a,b} 0000-0002-6979-0106 . Marcelino Benvindo-Souza^{a,c} 0000-0001-9008-6087 . Nathan Pereira Lima Amorim^a 0000-0003-4459-3242 . Rinneu Elias Borges^d 0000-0003-0719-5181 . Lilian Franco-Belussi^e 0000-0003-1938-8423 . Classius DeOliveira^b 0000-0002-2029-7900 . Lia Raquel de Souza Santos^a 0000-0003-3700-813X

^aInstituto Federal Goiano, Laboratório de Ecotoxicologia e Sistemática Animal, Rio Verde, Goiás, CEP 75901-970, Brasil

e-mail: rhayane.assis@unesp.br; wadson_rodrigues_@hotmail.com; cirleygomesrv2014@hotmail.com; marcelinobenvindo@gmail.com; nathanamorim@hotmail.com; lia.santos@ifgoiano.edu.br

^bUniversidade Estadual Paulista “Júlio de Mesquita Filho”, Departamento de Biologia, São José do Rio Preto, São Paulo, CEP 15054-000, Brasil

e-mail: classius.oliveira@unesp.br

^cUniversidade Federal de Goiás, Instituto de Ciências Biológicas, Laboratório de Mutagênese, Goiânia, Goiás, CEP 74690-900, Brasil

^dUniversidade de Rio Verde, Rio Verde, Goiás, CEP 75901-970, Brasil

e-mail: rinneu@unirv.edu.br

^eInstituto de Biociências, Universidade Federal do Mato Grosso do Sul, Campo Grande, Mato Grosso do Sul, CEP 79002-970, Brasil

e-mail: lilian.belussi@gmail.com

*Corresponding author:

Rhayane Alves Assis, rhayane.assis@unesp.br

Supplementary material 4. Mean percentage of MN and ENAs in 2000 cells/animal (n = 10 animals per treatment) in *P. nattereri* erythrocytes collected in a sugarcane plantation area in *in situ* analysis and post-exposure in the laboratory.

MN and ENAs	Mean±SE	
	Exposure	Post-exposure
Micronuclei	0.035± 0.013	0.000±0.000
Binucleated cells	0.030± 0.013	0.015± 0.010
Nuclear buds	0.550± 0.112*	0.135± 0.030
Anucleated cells	0.030± 0.013	0.005± 0.005
Lobed nuclei	0.960± 0.217*	0.115± 0.022
Notched nuclei	1.220± 0.312*	0.265± 0.071
Reniform nuclei	0.750± 0.144*	0.145± 0.034
Segmented nuclei	0.180± 0.056	0.135± 0.030

Mean±SE (standard error) values *p<0.05, significant difference according to the *Mann-Whitney U* test.