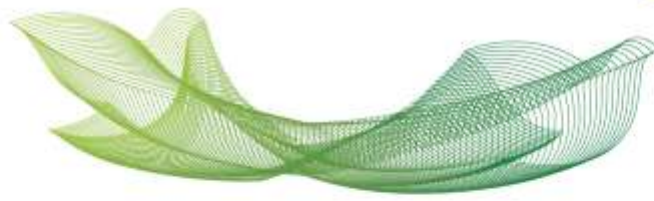




Tipo	Periódico
Título	Methanolic extract of <i>Rhinella schneideri</i> (Anura: Bufonidae) poison causes ultrastructural changes in nerve terminals of phrenic nerve-diaphragm preparations in mice
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Programa/Curso (s)	Programa de Pós-Graduação Stricto Sensu em Ciências da Saúde
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Formato da produção	Vários
Resumo	<p><i>Rhinella schneideri</i> (or <i>Bufo paracnemis</i>), popularly known in Brazil as cururu toad, is also found in other countries in South America. The cardiovascular effects of this poison are largely known and recently was shown that it is capable to affect the neuromuscular junction on avian and mice isolated preparation. In this work, we used transmission electron microscopy to investigate the ultrastructure of the motor nerve terminal and postsynaptic junctional folds of phrenic nerve-hemidiaphragm preparations incubated for either 5 or 60 min with the methanolic extract of <i>R. schneideri</i> (50 µg/mL). In addition, the status of the acetylcholine receptors (AChR) was examined by TRITC-α-bungarotoxin immunofluorescence location at the endplate membrane. The results show that 5 min of incubation with the gland secretion extract significantly decreased (32 %) the number of synaptic vesicles into the motor nerve terminal, but did not decrease the electron density on the top of the junctional folds where nicotinic receptors are concentrated; however, 60 min of incubation led to significant nerve terminal reloading in synaptic vesicles whereas the AChR immunoreactivity was not as marked as in control and after 5 min incubation. Muscle fibers were well-preserved but intramuscular motor axons were not. The findings corroborated pharmacological data since the decrease in the number of synaptic vesicles (5 min) followed by recovery (60 min) is in accordance with the transient increase of MEPPs frequency meaning increased neurotransmitter release. These data support the predominant presynaptic mode of action of the <i>R. schneideri</i>, but do not exclude the possibility of a secondary postsynaptic action depending on the time the</p>



	preparation is exposed to poison. Rev. Biol. Trop. 66(3): 1290-1297. Epub 2018 September 01.
Fomento	