CYTOTOXIC AND ANTIBACTERIAL PROPERTIES OF CANE TOAD (*Rhinella marina*) BUFADIENOLIDES EXTRACT AGAINST *Salmonella typhimurium* AND *Staphylococcus aureus*

JAN CELSO CRUZ CASTRO

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ABSTRACT

CASTRO, JAN CELSO C., Department of Biological Sciences, College of Arts and Sciences, Central Luzon State University, Science City of Munoz, Nueva Ecija, Philippines, **JUNE 2019, CYTOTOXIC AND ANTIBACTERIAL PROPERTIES OF CANE TOAD (*Rhinela marina*) BUFADIENOLIDES AGAINST *Salmonella typhimurium* AND *Staphylococcus aureus***

Adviser: JAY G. MERCULIO, M.Sc.

Rhinella marina, a species of toad that are very common in the Philippines possesses bufadienolides which is suspected for having different biological activities like antibacterial activity and cytotoxic activity and in response, a study was conducted to determine the toxicity of the *R. marina*'s bufadienolides by undergoing brine shrimp cytotoxicity assay. The antibacterial property of the *R. marina*'s poison against *Salmonella typhimurium* and *Staphylococcus aureus* was also evaluated using the toad's pure bufadienolides and bufadienolides dissolved using hexane as treatments.

Cytotoxic analysis of the toad's bufadienolides exhibited an LC_{50} of 555.277 ppm which is considered to be light toxic wherein LC_{50} of 500 to 1000 µg/ml is classified as light toxic.

Pure bufadienolides of *R. marina* possess light antibacterial activity against *S. typhimurium* in the first 18 hours of incubation period. Similarly, pure bufadienolides of *R. marina* showed mild or potent antibacterial activity against *S. aureus* at 6 hours, 12 hours and 18 hours of incubation period. However, Bufadienolides that are dissolved with hexane exhibits a significant decrease in antibacterial activity.

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