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The Effects of Large vs Small Wave Stimuli on the Swim Distance of African Clawed Toads (Xenopus laevis)

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Abstract

The aquatic amphibian, African Clawed toads, also named Xenopus laevis, have been used to conduct experiments to analyze their sensory system. Toads use their lateral line system to detect water movement on the surface of the water to locate and catch their prey. This experiment analyzes the toad's sensory system and the effectiveness of large and small wave stimuli on the toads' ability to detect and swim to their prey. The purpose of this experiment was to determine whether the swim distance of African Clawed toads is longer with large wave stimuli or small wave stimuli. Toads were put in an octagonal, glass-bottom aquarium where experiments were conducted using plastic rods and a motor to create wave stimuli. All experiments were recorded on video and analyzed by each frame to find similar trends in the data. The toad's swim distance was found by using a Delphi program to digitize the stimulus origin, initial, and final positions of the toads during testing. Statistical analyses for the data was calculated using Stat graphics.

Data Analysis of this study is pending.

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