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Effect of Calcium Supplement on Eyesight of Western Tiger Salamanders

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Introduction

Calcium supplements are a necessary component to the diet of reptiles, but there is evidence to suggest that the addition of calcium in an amphibian's diet may cause eye damage and can result in blindness.

The objective of this study was to determine if calcium supplements are harmful to the eyesight of amphibians.

Methods

- 20 Western Tiger Salamanders were caught late September and raised to terrestrial stage.
- All environmental parameters were kept constant including temperature, humidity, diet, and enclosure set up.
- Once all subjects were eating consistently and observed to be healthy, 10 test and 10 control subjects were chosen at random.
- Test subjects received prey items treated with a calcium spray and control prey items were untreated.
- Feeding protocol was maintained from November to March.

- To test eyesight, each subject was offered a non-moving prey item approximately 2 inches from the subject's eye.
- Reaction time was recorded. Both group averages and individual reaction times were reported.

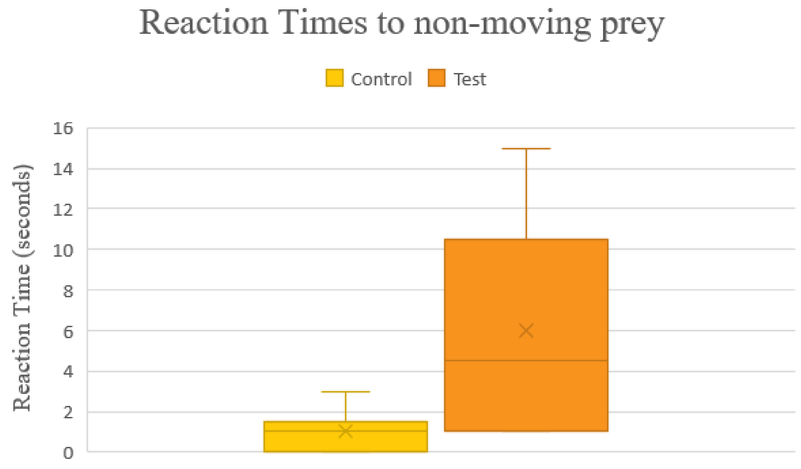
*example of subject habitat

Results

Average reaction Times to non-moving prey in seconds:

1.4	5.5

P-value = 0.0243



Discussion

Average of the reaction times for the test group were significantly higher than that of the control group.

The reaction times of the test group varied significantly more. This could be a result of ratio of calcium to body weight, genetics or error.

This study will be continued to gain more accurate and quantifiable results by looking at the effects on the subjects' kidneys.

Acknowledgements

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