Ecosystem Simulation of a Long-Tailed Lizard

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Purpose: The purpose of this project was to design a habitat for a long-tailed lizard that replicates its natural environment, providing appropriate temperature, humidity, and shelter for optimal health.

1. Procedures: We researched the natural habitat of long-tailed lizards, focusing on temperature and humidity requirements. We then constructed a habitat using a 20-gallon tank, coconut husk substrate, branches, rocks, and plants. Temperature and humidity levels were monitored and adjusted over several weeks.

2. Data: We recorded daily temperature, humidity levels, and the lizard's activity levels to assess the effectiveness of the habitat.

3. Conclusion: Our experiment demonstrated that when the habitat conditions closely matched the lizard's natural environment, the lizard displayed healthier activity levels. The project illustrates how accurate environmental replication can improve animal welfare in captivity.

4. ACKNOWLEDGEMENTS

We would like to thank our science teacher, Ms Tripathi, for her guidance. We also appreciate the advice of local pet store staff for insights on lizard care. We would also like to thank previous Harmony student Xavier Rodrigeuz, as without his knowledge of reptiles this would not have been possible.

5. INTRODUCTION

This project explores creating a naturalistic habitat for a long-tailed lizard. Long-tailed lizards, native to humid, forested areas, need specific conditions to thrive in captivity. We aim to mimic these conditions to observe how well the lizard adapts.

6. PURPOSE

Our goal was to construct a habitat that meets the temperature, humidity, and shelter needs of a long-tailed lizard, encouraging natural behaviors in a captive environment.

7. PROBLEM

What is the effect of habitat design on the well-being and activity levels of a long-tailed lizard in captivity?

8. HYPOTHESIS

If we replicate the natural environment of the long-tailed lizard with the correct temperature, humidity, and shelter, then the lizard will show increased natural behaviors and activity levels.

9. VARIABLES

Independent Variable: Temperature, humidity, and habitat design.

Dependent Variable: Lizard's activity and behavior.

Constants: Type of tank, substrate, and lighting.

Control Group: Baseline observations of lizard behavior before implementing optimal habitat conditions.

10. MATERIAL LIST

- *Enclosure Tank*
- *Moss*
- *MealWorms*
- *Long Tailed Lizard*
- *Soil*
- *Spray Bottles*
- *Heating Lamp*
- *Thermometer/Humidifier measurer tool*
- *Decorations*

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11. PROCEDURE

1. Set up a 20-gallon tank with coconut husk substrate.

2. Place rocks, branches, and plants to provide climbing and hiding areas.

3. Install UVB light and heat lamp, adjusting to maintain 75-85°F.

4. Measure and record temperature and humidity levels daily.

5. Introduce the lizard to the habitat and observe daily.

6. Record the lizard's behavior over two weeks.

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12. PICTURES

13. DATA TABLES

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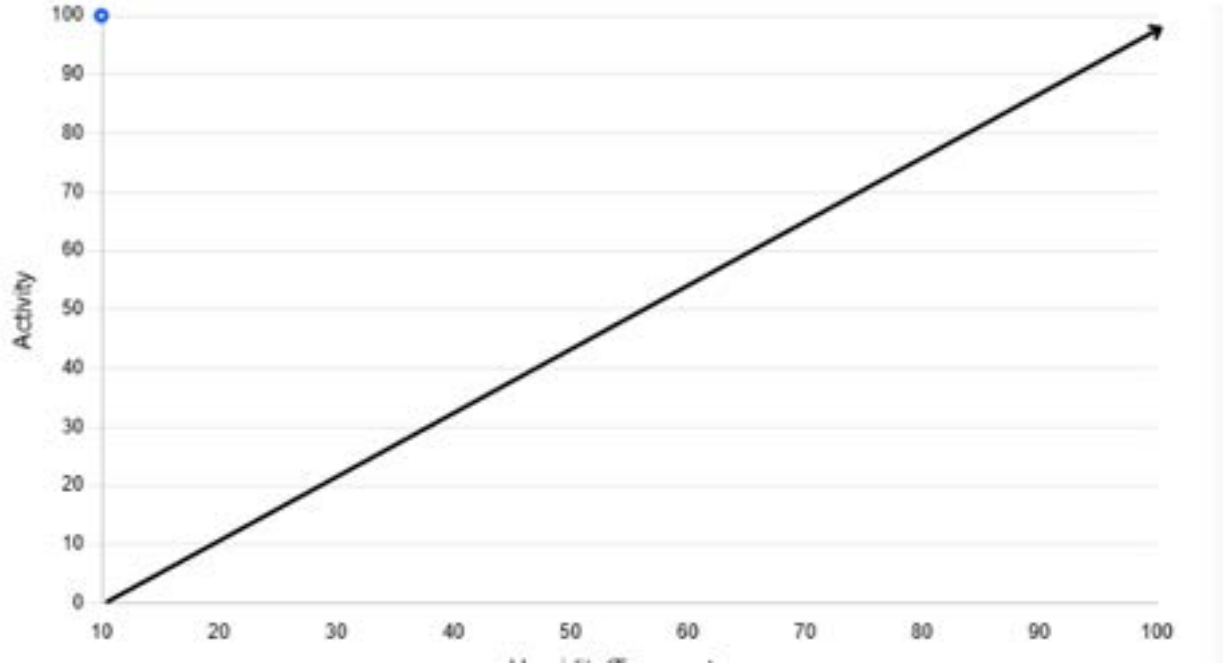
14. GRAPHS



Graph Title: Temperature and Humidity Levels over Time in the Habitat

X-axis: Activity levels of the lizard

Y-axis: Temperature (°F) and Humidity (%)

15. ANALYSIS

Summarize observations: The lizard was more active in areas that were warmer and more humid, suggesting that replicating the lizard's native environment improves its activity levels. The daily data supported our hypothesis that these conditions foster more natural behaviors.

16. CONCLUSION

Our project demonstrated that creating a habitat that closely resembles a long-tailed lizard's natural environment encourages more natural behaviors and appears to improve the lizard's quality of life. This project underscores the importance of habitat replication for the well-being of captive reptiles.

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