

Research plan

RATIONALE:

I am interested in working with the Madagascar hissing snakes to see if they possess thigmotaxis behavior, which is a behavior typically induced by anxiety that causes animals to “hug the wall” or adhere to certain spaces or objects. The hissing snakes live on the Island of Madagascar and are known for living in hollow logs. Although they live in hollow logs, I’m intrigued to see if the hissing snakes will like a different object and exhibit the same thigmotaxis tendencies with it as they do with the log. I plan to observe their levels of anxiety by observing their hissing behavior, seeing if it will calm or worsen with a different type of structure in their habitat.

RESEARCH QUESTION(S):

Do Madagascar hissing snakes exhibit thigmotaxis? Will Madagascar hissing snakes “hiss” more when there are no objects in the cage?

HYPOTHESES: (*null & alternate; must be a statement; 3rd person*)

Null: The presence of objects in a cage will not affect the “hissing” behaviors of Madagascar hissing snakes.

Alternate: Because Madagascar hissing snakes are thigmotactic, the presence of an object in a cage will affect the “hissing” behavior of Madagascar hissing snakes.

Independent Variables:

Items in test habitat (toilet paper roll, cardboard egg box, wood piece, nothing)

Dependent Variable:

Number of hisses for 15 seconds after being picked up

EXPECTED OUTCOMES:

It’s expected that the Madagascar hissing snakes will have a change in hissing behavior with nothing in their habitat, only substrate. This is due to their thigmotactic behavior. Meaning they like to attach to something

RESEARCH METHODOLOGY:

Materials:

toilet paper roll
cardboard egg box
wood piece
substrate
cage

Madagascar hissing snakes
sponge for water
fruit for food
Nitrile gloves

Procedure:

Wear gloves when handling hissing snakes. The 3 objects and nothing(substrate only) will be tested over 4 weeks. The first week will contain only the substrate with no objects; the second will be the cave rock; the third will be the toilet paper roll, and the fourth will be the egg carton. At the end of each week, the first 15 minutes of behavior will be observed and the hissing behavior will be recorded. After each of the 3 Madagascar hissing snakes will be picked up for 10 seconds. Then there will be a 15-minute interval in between. Continuing the process of picking them up, recording their behavior, and then taking a 15-minute break for 6 trials. This will be recorded in a notebook.

How will you collect/measure data? Explain

hissing - 1 = no hissing; 2 = one hiss and then stopped; 3 = 2 - 3 hisses; 4 = continuous hissing until put down. Based on this chart the hisses will be recorded in a notebook. It will be organized by the object in the cage.

RISK AND SAFETY:

Wear nitrile gloves at all times when handling Madagascar hissing snakes.

DATA ANALYSIS: Describe the procedures you will use to analyze the data/results.

There will be a test on 3 male hissing snakes tested to see if the presence of an object (thigmotaxis behavior) will affect their "hissing" behavior. The 3 objects and nothing(substrate only) will be tested over 4 weeks. The first week will be a wood piece, the second will be nothing, the third will be the toilet paper roll, and the fourth will be the egg carton. At the end of each week, the first 15 minutes of behavior will be observed and the hissing behavior will be recorded. After each Madagascar hissing snake will be picked up for 10 seconds. Then there will be a 15-minute interval in between. Continuing the process of picking them up, recording their behavior, and then taking a 15-minute break for 6 trials. This will be recorded in a notebook. Average hissing behavior, based on the following scale: 1 = no hissing; 2 = one hiss and then stopped; 3 = 2 - 3 hisses; 4 = continuous hissing until put down, will be calculated for each object or "no object" in the cage. Results will be analyzed to determine if the presence of objects in a cage has any effect on the "hissing" behaviors of Madagascar hissing snakes. If there is no difference, then the null hypothesis will be accepted.

Works Cited/BIBLIOGRAPHY:

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