Citizen Science Project: Lemur Ethogram

How do you start a study of animal behavior? What kind of questions do you ask? Should you observe something first before asking a question about it?

The objective of this activity is to observe lemurs at your local zoo (or via a zoo webcam) and compile a comprehensive list of their distinct behaviors, also known as an **ethogram**. Ethograms are not a final research product themselves, but a stepping stone toward asking testable questions about animal behavior. The data that you will collect is very useful. Your ethogram can provide insight about lemur behavior that can help their zookeepers take even better care of them!

When you begin studying an animal's behavior, it is often best to start by simply describing the behavior rather than trying to figure out the function of the behavior right away. This is because it is easy to misinterpret the function of a behavior thanks to **anthropomorphism** (attributing human characteristics to animals). A good **ethologist** separates his or her own assumptions about an animal's behavior from what is actually observed.

MATERIALS:
1. Data sheets/templates (provided here).
2. Stop watch or timer.
3. Pen/pencil.
4. Internet access (if observing via zoo webcam).

STEPS:
1. **Collect Background Information**
   a. Common name and scientific name of the animal(s) you are observing.

   b. **Population description:** How many animals, what kind (is there more than one species?), male/female, infant/juvenile/adult/geratric, coat color/pattern, etc. Any other distinguishing characteristics.

   c. **Exhibit description:** name of zoo/exhibit, approximate size of exhibit, special features (moat, rock structures, vegetation, etc.). How does the exhibit compare to the animal's habitat in the wild?

2. **Observe - Ad Libitum (Record Everything!)**
   a. Observe the animals in the exhibit for about 10 minutes. Record everything you see using the worksheet provided. This will give you an idea of what behaviors are common, and help you to create your formal ethogram.

3. **Create Your Ethogram**
   a. Fill in the ethogram template with some of the most common behaviors you saw in your observation. Some examples are: rest, groom (self or other), vocalize, chase, retreat, eat/forage, drink, pace, jump/leap. ***NOTE:** You will need one ethogram template for each individual animal you observe.

4. **Collect Your Data**
   a. Choose an individual animal to focus on. Label your ethogram template so that you know which animal it applies to. Use a tick mark to record each occurrence of that individual's behaviors in one-minute intervals for 10 minutes.
   b. Repeat this process for each individual animal in the exhibit.

5. **Form Your Proximate & Ultimate Questions**
   a. Animal behaviorists ask proximate questions and ultimate questions about animal behavior. **Proximate** questions deal with the "how" aspect, or mechanistic causes of a behavior. **Ultimate** questions deal with the "why" aspect, or evolutionary and adaptive values of a behavior.
   b. Using the ethogram data you have collected, come up with one proximate question and one ultimate question about lemur behavior. Why do you think those questions are important?

6. **Form Your Hypotheses**
   a. Develop a testable hypothesis for each of your questions. (HINT: a hypothesis can be thought of as the statement form of your question).

7. **Report Your Work**
   a. Compile your data, your questions, and your hypotheses. If you did your ethogram activity at the zoo, ask a zookeeper if they would like the information you collected. If you did your ethogram activity via zoo webcam, contact that zoo and ask if you can send the information to them.

BACKGROUND INFORMATION SHEET

Common Name(s):

_____

_____

_____

Scientific Name(s):

_____

_____

_____

Population Description:

_____

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Exhibit Description:

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OBSERVATION SHEET

Use the lines to describe the exhibit. Use the blank space below to sketch the exhibit.

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ETHOGRAM TEMPLATE

Date: _____

Scientific Name: _____

Common Name: _____

Individual (distinguishing features):

_____

_____

_____

TIME (min.)								
0-1								
1-2								
2-3								
3-4								
4-5								
5-6								
6-7								
7-8								
8-9								
9-10								

Use the top row of spaces to list behaviors you think are most likely to be observed in the group of animals you are watching. List at least three so that your data has variety. The more behaviors you include, the better!

QUESTIONS & HYPOTHESES

Proximate Question:

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Proximate Hypothesis:

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_____

Ultimate Question:

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Ultimate Hypothesis:

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