

**Mammal Capture and Marking Assignment
(Mammal Capture Lab)**

Using information from the assigned readings (Arenz 1997, Powell and Proulx 2003), answer the following questions regarding the capture, handling, and marking of mammals. Answer each question completely in a brief paragraph, using complete sentences. Points will be deducted for the use of sentence fragments or failure to answer all parts of each question. Assignments are due 24/25 October at the beginning of the lab period. *5 points per question—30 points total.*

1. What side-effect to ketamine hydrochloride did Arenz (1997) document in 10% of the fox squirrels he restrained with this method? What did he suggest to mitigate this side-effect?
2. Following Arenz (1997), if you used ketamine hydrochloride to restrain fox squirrels, what dosage would you use? Why? How long should you wait for a squirrel to recover before releasing it? Why?
3. According to Powell and Proulx (2003), why should you consider trap performance when selecting a method for capturing wild mammals?
4. Powell and Proulx (2003) identified a number of specific live-traps. Choose a specific trap type and discuss its benefits and limitations for capturing a specific mammal species. Are there any issues with the trap that should be taken into consideration before using it (e.g., dangers to target or non-target animals)?
5. In what situations might you use uniquely numbered or colored ear tags to mark mammals? Identify and discuss 1 advantage and 1 disadvantage of using ear tags to mark mammals.
6. Describe 2 methods (1 permanent and 1 non-permanent) of marking small terrestrial mammals for field studies. Why might you choose one method over the other?

EXTRA CREDIT (3 points): What is capture myopathy and why is it of concern to biologists conducting field studies of large mammals? Although myopathy is mentioned in Powell and Proulx (2003), you are expected to identify and cite at least 1 other source (not websites) that discusses myopathy. Follow *JWM* guidelines (see class website—Bison Range lab—for guidelines) when citing your source.

References:

Arenz, C. L. 1997. Handling fox squirrels: ketamine-hydrochloride versus a simple restraint. *Wildlife Society Bulletin* 25:107-109.

Powell, R. A., and G. Proulx. 2003. Trapping and marking terrestrial mammals for research: integrating ethics, performance criteria, techniques, and common sense. *ILAR Journal* 44:259-276.