

Name _____

Score: _____/100

**EPOB 3770—Vertebrate Zoology—Spring 2005
Examination III—Mammals**

Instructions.--Please glance over the entire exam before you begin so that you know what's coming and can budget your time efficiently. Please write legibly. Nothing is meant to be tricky. Questions? Please ask me.

COMPARE AND CONTRAST (5 points for each correct, complete answer).—

mammal vs. mammal-like reptile

Inner cell mass vs. trophoblast

Eutheria vs. Theria

SHORT-ANSWER (5 points, maximum). Indicate the phalangeal formula of a typical Triassic cynodont therapsid,

DEFINITIONS (3 points for each correct, complete definition).-- Define each of the following terms, in the context of the zoology of mammals. (Often examples are useful in a complete response.)

epipubis—

allantoic circulation—

docodont—

baculum—

estrous—

malleus—

Chicxulúb—

epiphysis—

musculus compressor mammae—

convergent evolution—

PHYLOGENETIC TREE (3 points for each correct response, 30 points maximum).—In the space below draw a simple phylogenetic "tree" to depict evolutionary relationships among the following taxa:

Merriam's shrew (Insectivora: Soricidae: *Sorex merriami*)

Synapsida

Macropus rufus (Macropodidae—red kangaroo)

little brown bat (Chiroptera: Vespertilionidae: *Myotis lucifugus*)

Ptilodus (Allotheria: Multituberculata)

common opossum (Marsupicarnivora: Didelphidae: *Didelphis virginiana*)

chimpanzee (Primates: Hominidae: *Pan troglodytes*)

spiny rat (Hystricomorpha: Echimyidae: *Echimys* sp.)



OUTLINE/LIST (2 points for each correct response). In the space below, list 10 “landmarks” (key words, phrases) relevant to a “concept map” centered on the assertion that “mammals are clever reptiles with a fancy integument. (In other words, list 10 points in an argument that the integument is a central feature of the mammalian condition.)