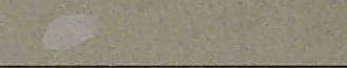
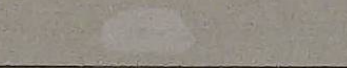
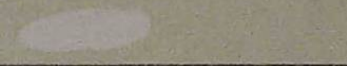
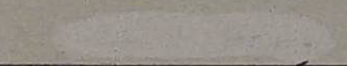
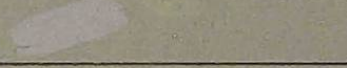
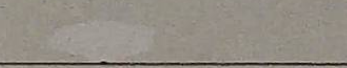
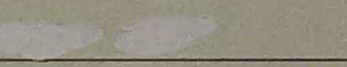
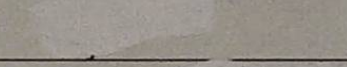
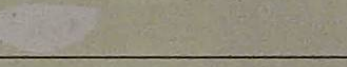
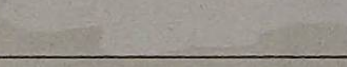
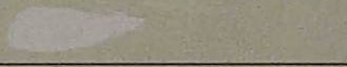
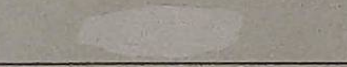
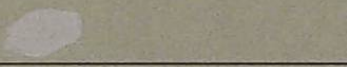
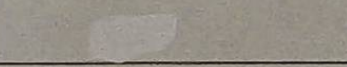


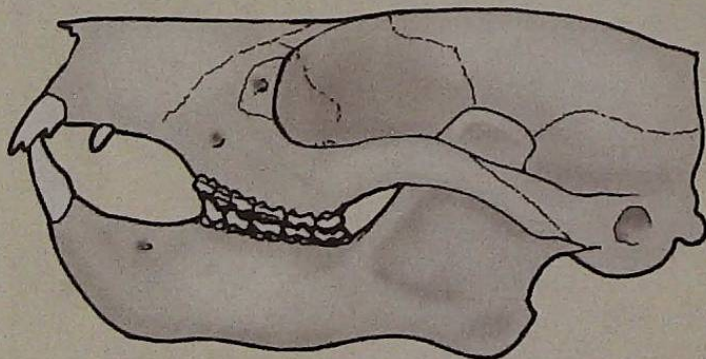
# LAB EXERCISE 12.1

NAME \_\_\_\_\_

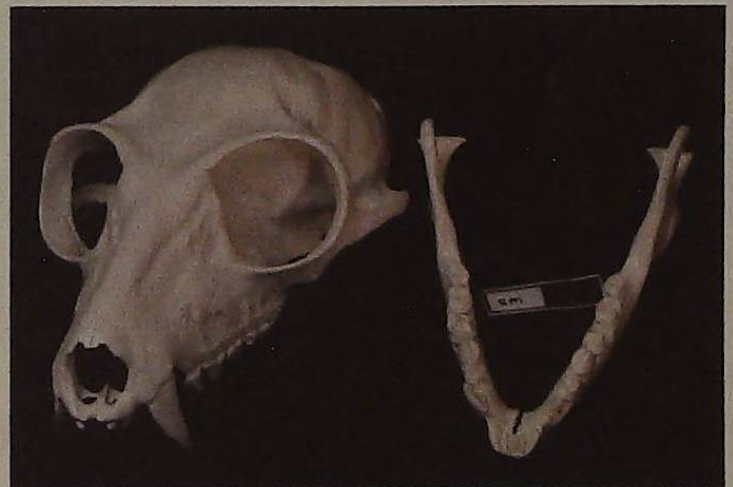
SECTION \_\_\_\_\_ DATE \_\_\_\_\_

1. Compare the illustration of a Plesiadapiform primate (*Plesiadapis*, below) (*Atlas* p. 260; br. ed. p. 32) with the skull (or the photo below) of a strepsirhine (*Atlas* p. 102; br. ed. p. 8).
  - a. Fill out the chart below. Refer to Table 12.2 for body parts that are not shown in the accompanying illustration or photo.

SKULL FEATURES	PLESIADAPIFORM	STREPSIRHINE
Postorbital bar		
Position of orbits: lateral or forward-facing?		
Relative size of braincase (compared to face)		
Prognathism: length of snout relative to cranium		
Form of incisors and incisor size relative to canines and molars		
<b>POSTCRANIAL FEATURES</b>		
Nails versus claws*		
Opposable big toe?*		
*not observable from photos, but information is in this chapter		



*Plesiadapis* skull



Ring-tailed lemur

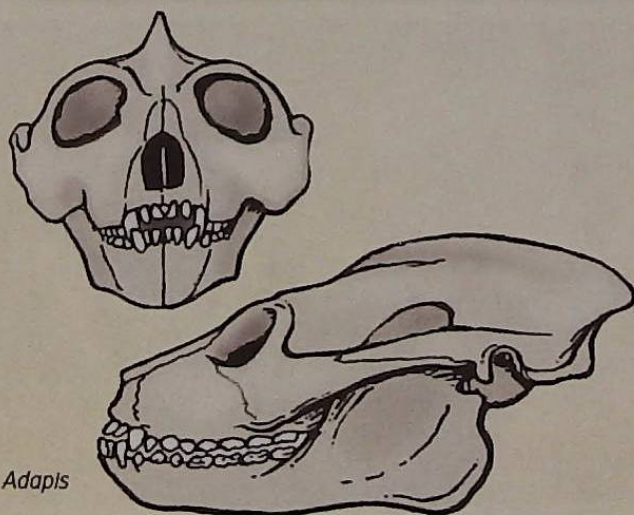
b. Why do some researchers consider plesiadapiformes to be members of the primate order?

c. Which of the plesiadapiform features are decidedly unlike those of primates?

2. a. Compare the fossil and living forms listed below, using a combination of specimens and accompanying illustrations and photos on this page and the next. (*Adapis*: Atlas p. 265, br. ed. p. 37; Ring-tailed lemur: Atlas pp. 102; *Necrolemur*: Atlas p. 267, br. ed. p. 39; Tarsier: Atlas pp. 112–113; *Eosimias*). If you can't determine a specific feature, put a "not obs" (not observable) in the blank. Figures 10.5 and 10.6 may also provide useful information.

SKULL FEATURE	ADAPIS (ADAPOID)	LEMUR* (LEMUR)	NECROLEMUR (OMOMYOID)	TARSIER (TARSIVUS)	EOSIMIAS
Postorbital bar?					
Postorbital closure?					
Position of orbits					
Relative size of braincase					
Snout length relative to cranium					
Fused mandibular symphysis?					
Size of anterior versus posterior dentition					

\*Other strepsirhine skulls may be substituted for the lemur.



*Adapis*

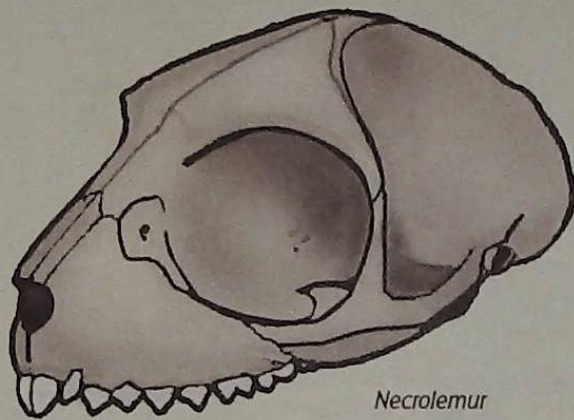


Ring-tailed lemur

LAB EXERCISE  
**12.1** (CONT.)

NAME \_\_\_\_\_

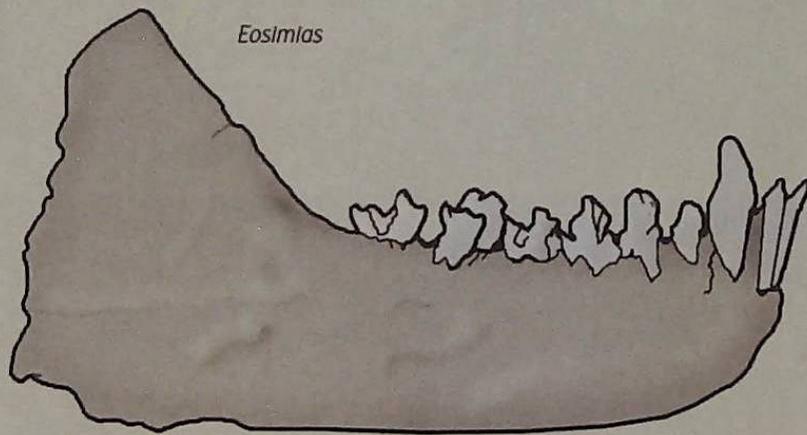
SECTION \_\_\_\_\_ DATE \_\_\_\_\_



*Necrolemur*



*Tarsier*



*Eosimias*

b. Using lab specimens or the accompanying photos, look at the relative size of orbits of the tarsier versus those of a monkey (at right) and a lemur (see photo from question #1, previous page). What can we tell about the activity patterns (diurnal versus nocturnal) from fossilized remains?

\_\_\_\_\_

c. Adapoids are thought to be ancestral to what modern forms?

\_\_\_\_\_

d. Omomyoids may be ancestral to what modern forms?

\_\_\_\_\_

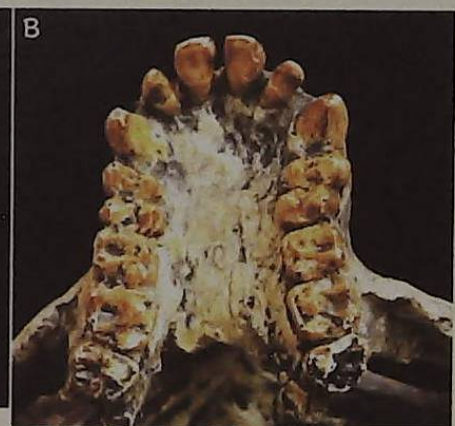
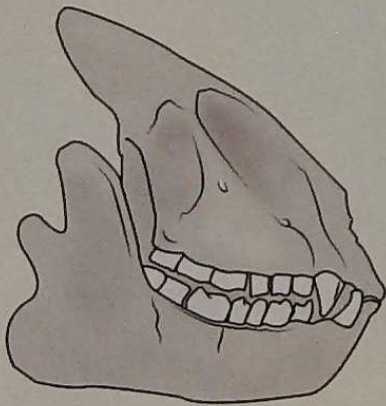


Capuchin monkey

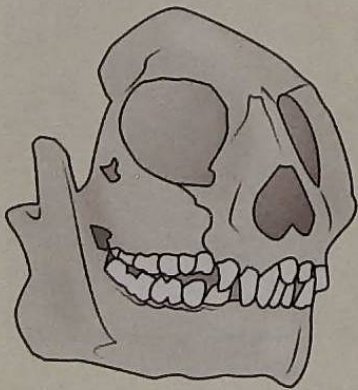
3. Compare the skulls of the Fayum primates *Apidium* and *Aegyptopithecus* to a New World monkey, an Old World monkey, and an African ape.
- a. Fill out the chart below using specimens or the accompanying photos and illustrations (use capuchin photo on p. 289) (*Apidium*: Atlas p. 272, br. ed. p. 44; *Aegyptopithecus*: Atlas p. 272–273, br. ed. p. 44–45; chimpanzee: Atlas pp. 140–142). Again, not all features will be visible from the photos alone. Figures 10.5, 10.6, and 10.8, as well as Photo 10.2, may provide useful information.

SKULL FEATURES	APIDIUM	CAPUCHIN MONKEY (OR OTHER NEW WORLD MONKEY)	AEGYPTOPITHECUS	VERVET (OR OTHER OLD WORLD MONKEY)	CHIMPANZEE (OR GORILLA)
Postorbital closure?					
Dental formula					
Length of snout					
Molar form* (bilophodont versus Y5 pattern)	NA	NA			
Form of ear region (bony tube?)					

\*If actual specimen is available



*Aegyptopithecus* (A) skull and (B) dental arcade



*Apidium*



Vervet monkey



Chimpanzee