

Biol. 452AA
Quiz 3, Spring 2009

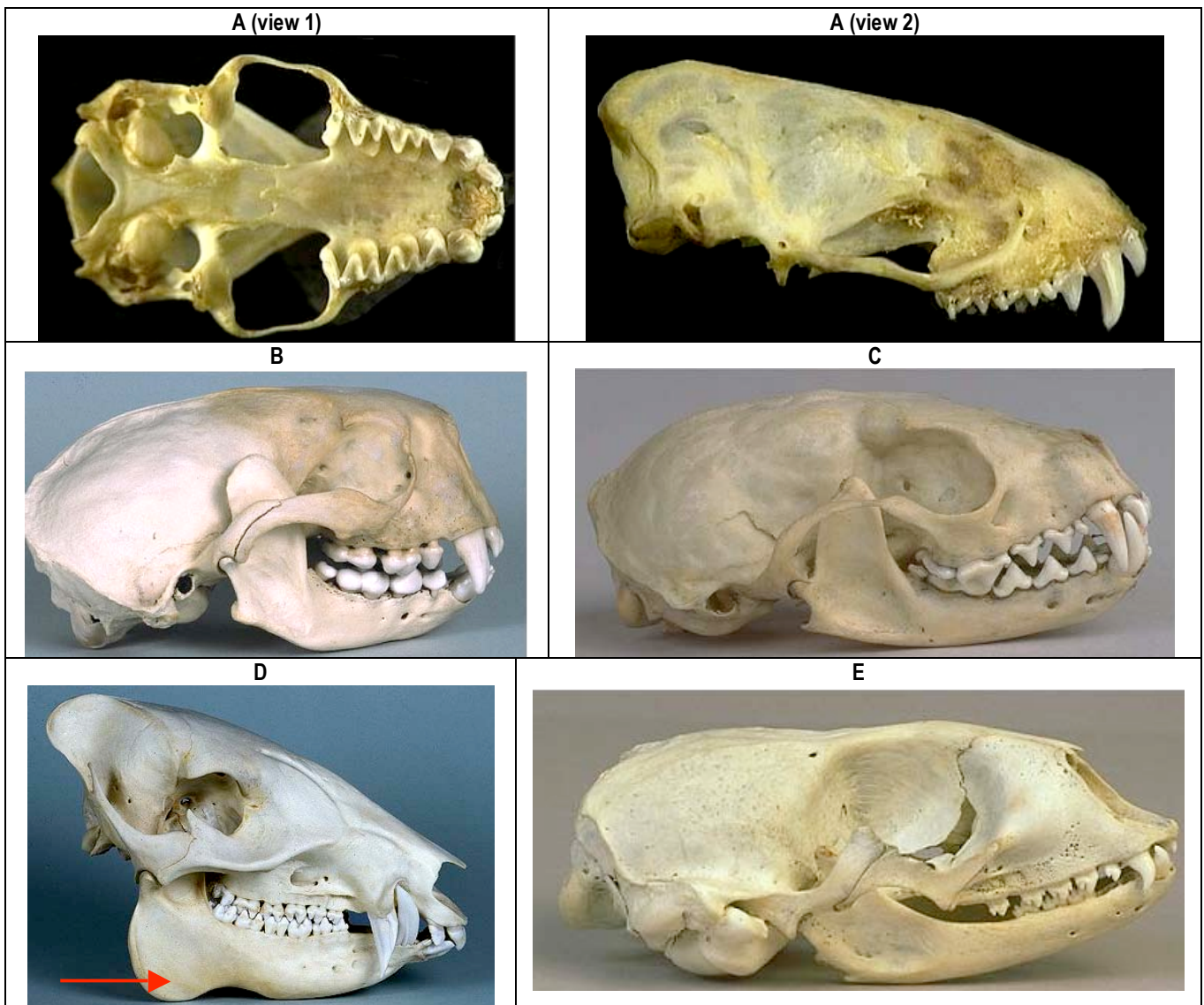
1. Use the mammal skull key to identify the specimen in A. Write out the steps you followed as well as the specimen letter:

1B, 2B, 5A, 6B, 8B, 9B, 10A, SPECIMEN I

2. How many Orders of mammals are present amongst these skulls (A-E)? Give the number. 3

3. Name the structure at the arrow on skull D. Angular process

4. Name the Order of mammals in which specimen C belongs. Carnivora



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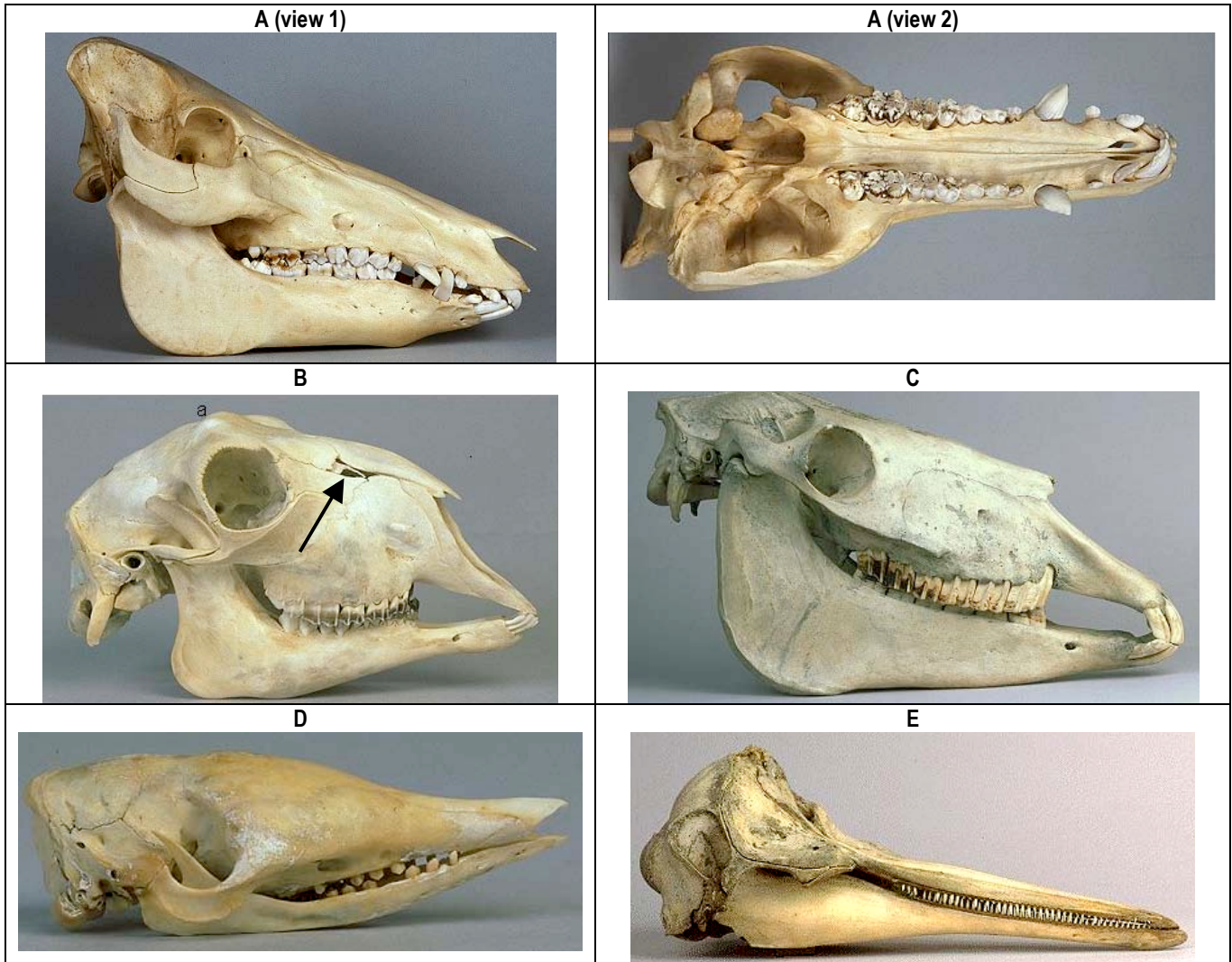
1. Use the mammal skull key to identify the specimen in A. Write out the steps you followed as well as the specimen letter:

1B, 2B, 5A, 6B, 8B, 9A, SPECIMEN H

2. How many Orders of mammals are present amongst these skulls (A-E)? Give the number. 4

3. Name the structure at the arrow on skull B. Rostral Fenestra

4. Name the Order of mammals in which specimen E belongs. Cetacea



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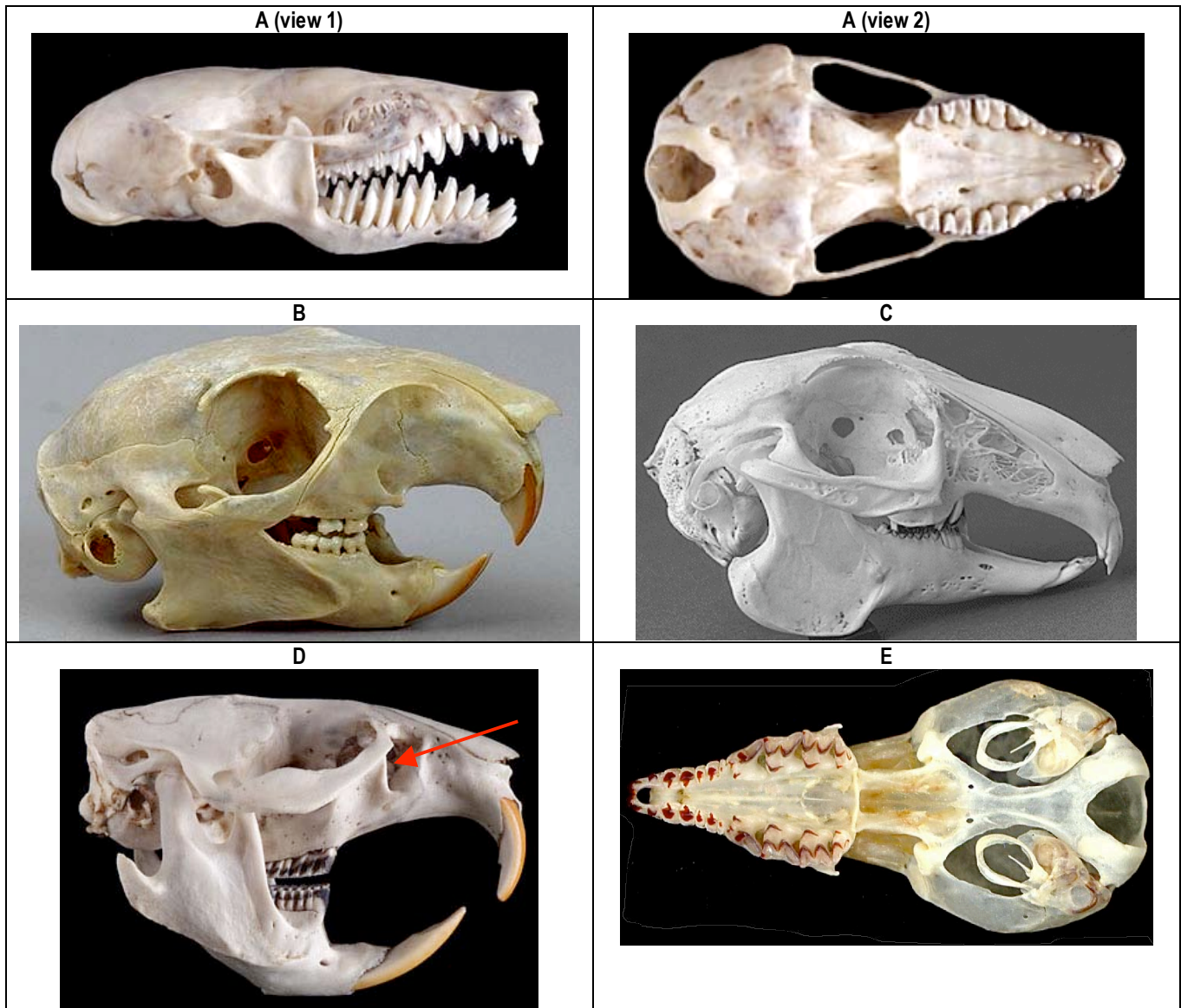
1. Use the mammal skull key to identify the specimen in A. Write out the steps you followed as well as the specimen letter:

1B, 2B, 5A, 6A, 7B, SPECIMEN F

2. How many Orders of mammals are present amongst these skulls (A-E)? Give the number. 3

3. Name the structure at the arrow on skull D. Infra-orbital canal

4. Name the Order of mammals in which specimen C belongs. Lagomorpha



Key to Mammal Skulls

1A	Teeth absent, rows of baleen in palate instead of teeth	Specimen A
1B	Teeth present; no baleen	2
2A	Teeth homodont, not differentiated (not even enlarged canines)	3
2B	Teeth heterodont (differentiated into 2 or more types)	5
3A	Nasal bones telescoped posteriorly; external nares directed vertically upward	4
3B	Nasal bones in normal position over top of rostrum; external nares at tip of rostrum & directed forward	Specimen B
4A	Teeth few or many; teeth usually conical & extend to tip of jaw	Specimen C
4B	Teeth numerous but rarely > 6 in either jaw at 1 time, squarish in shape	Specimen D
5A	No conspicuous gap between the teeth in the front & back of the jaws	6
5B	Wide diastema present between the teeth in the front & back of jaws	11
6A	Canine teeth not larger than any of the teeth preceding them	7
6B	Canine teeth much larger and longer than any of the preceding teeth	8
7A	Teeth pigmented; zygomatic arch absent; tympanum ring like, no tympanic bulla	Specimen E
7B	Teeth unpigmented; zygomatic arch present; tympanic bulla present.	Specimen F
8A	Incisors 5/4, 50 teeth total	Specimen G
8B	Incisors never more than 3/3, teeth never exceeding 44 total	9
9A	Canine teeth triangular in cross-section; lambdoidal and sagittal crests form a high T-shaped ridge; jaw teeth bunodont	Specimen H
9B	Canine teeth round, oval or laterally compressed; occipital crests less prominent & not as T-shaped; jaw teeth vary	10
10A	Cheek teeth usually with high-pointed cusps that are united to form a W-shape; incisors never > 2 above	Specimen I
10B	Cheek teeth shearing, grasping or grinding, never with sharp W-shaped cusps; incisors 1-3 above	Specimen J
11A	Incisors 1/1 or 2/1 (2 nd upper incisor tiny & set behind 1 st); 1st upper incisor enlarged	12
11B	Incisor number variable to absent; 1 st upper incisor if present, not enlarged	X
12A	Incisors 2/1; maxillary fenestration(s) present	13
12B	Incisors 1/1; no maxillary fenestration	14
13A	Maxilla with one large fenestration; jugal long projecting posteriorly; supraorbital process absent	Specimen K
13B	Maxilla with lattice-like fenestration; jugal short; supraorbital process present	Specimen L
14A	Jugal forms part of mandibular fossa	Specimen M
14B	Jugal does not form part of mandibular fossa	15
15A	Skull flattened, shallow; cheek teeth (except 1 st) rounded with distinctive points; auditory bulla flask-shaped	Specimen N
15B	Skull not noticeably flattened; no distinct labial projections on upper cheek teeth; auditory bulla not flask-shaped	16
16A	Infraorbital canal tiny, angled slit on rostrum; auditory canal of bulla long & directed out & up	Specimen O
16B	No basioccipital pit; auditory canal of bulla short & not directed upward	17
17A	Infraorbital foramen oval, > diameter of foramen magnum; moderately ridged cranium	Specimen P
17B	Infraorbital foramen < diameter of foramen magnum (in most)	18
18A	Mastoid part of bulla distinctly visible lateral to occipital region; infraorbital foramen on lateral surface of rostrum	Specimen Q
18B	Mastoid bone inconspicuous; infraorbital foramen not on lateral surface of rostrum	Specimen R