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Appendix C:

Mammal Skull Identification Key & Activity

1. Presence of Upper Incisors

- Upper incisors present, vary in number
 - go to Slide 2



- Upper incisors absent
 - go to Slide 24



2. Presence of Diastema

- Diastema present
 - go to Slide 3

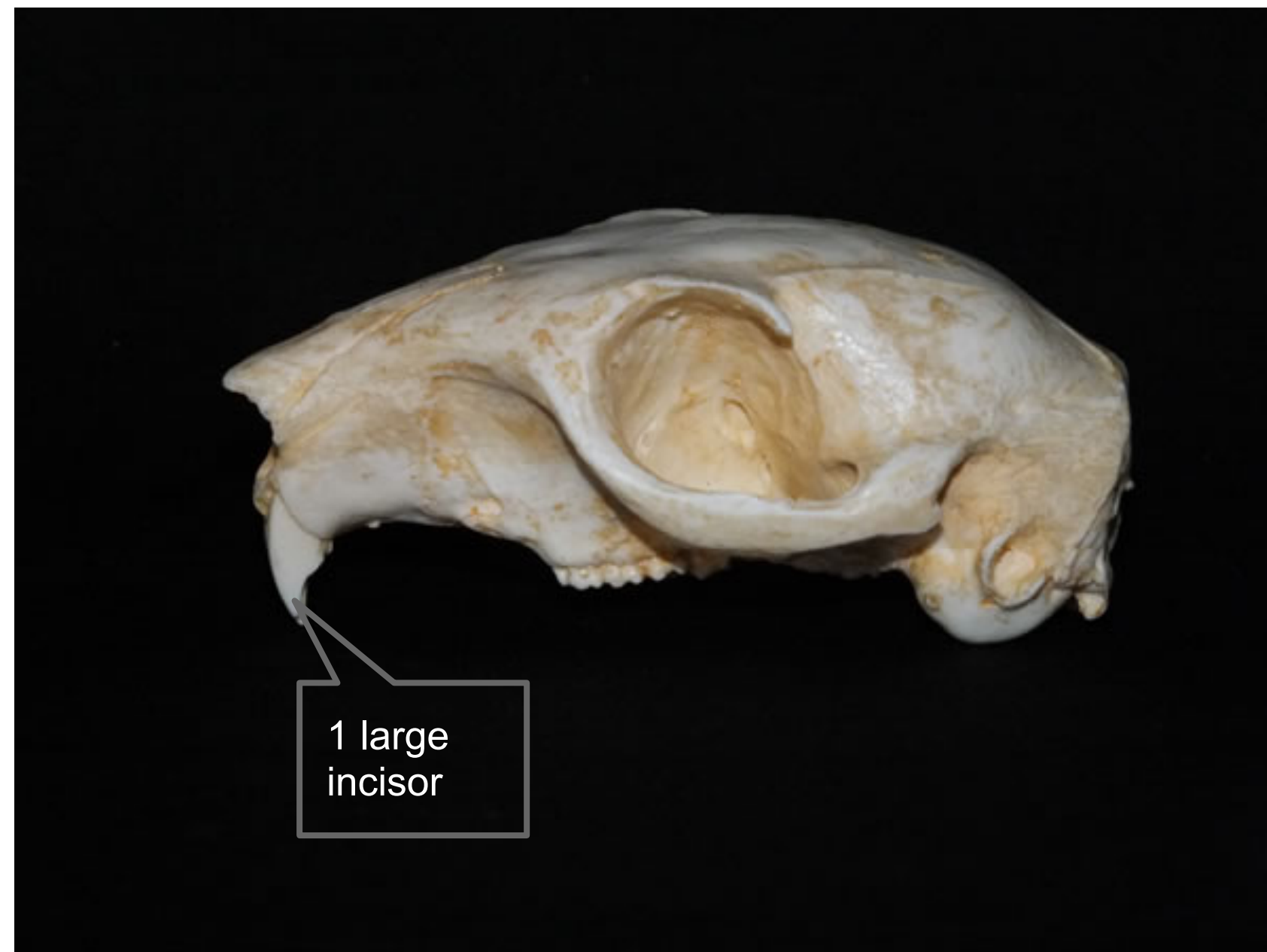


- Diastema absent
 - go to Slide 10

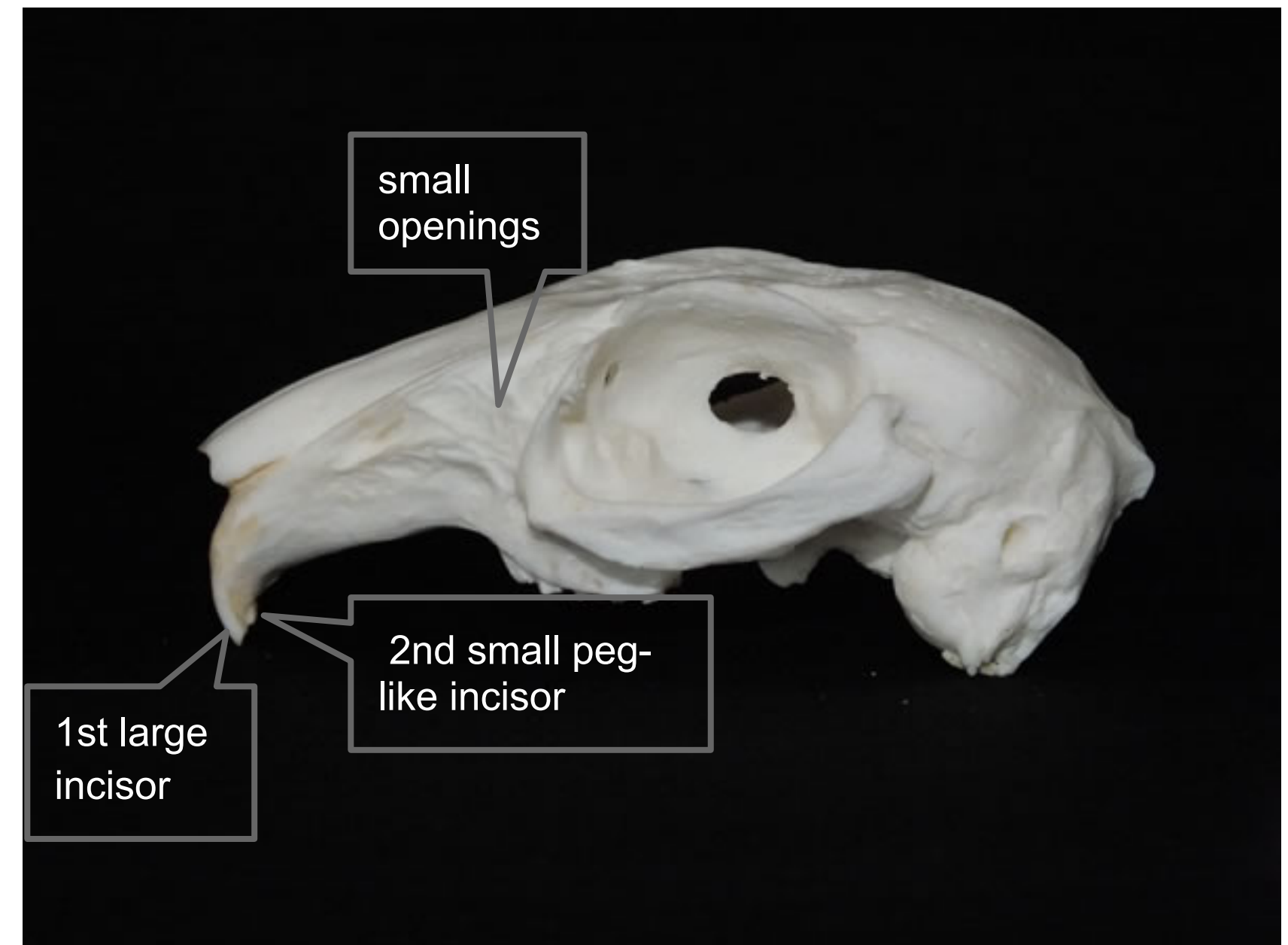


3. Rodentia vs Lagomorpha

- 1 incisor on each side of upper jaw
 - go to slide 4



- 2 incisors on each side of upper jaw
 - go to slide 9



4. Presence of Postorbital Process

- Sharply pointed postorbital process is present
 - go to slide 5
- Postorbital process absent or not sharply pointed
 - go to slide 6



5. Eastern Gray Squirrel vs Woodchuck

- Postorbital process points back < 90
 - Eastern Gray Squirrel



- Postorbital process points out at 90
 - Woodchuck



6. Muskrat vs Other

- Skull less than 90mm long
 - **Muskrat**



- Skull more than 90mm long
 - go to Slide 7



7. Beaver vs Porcupine

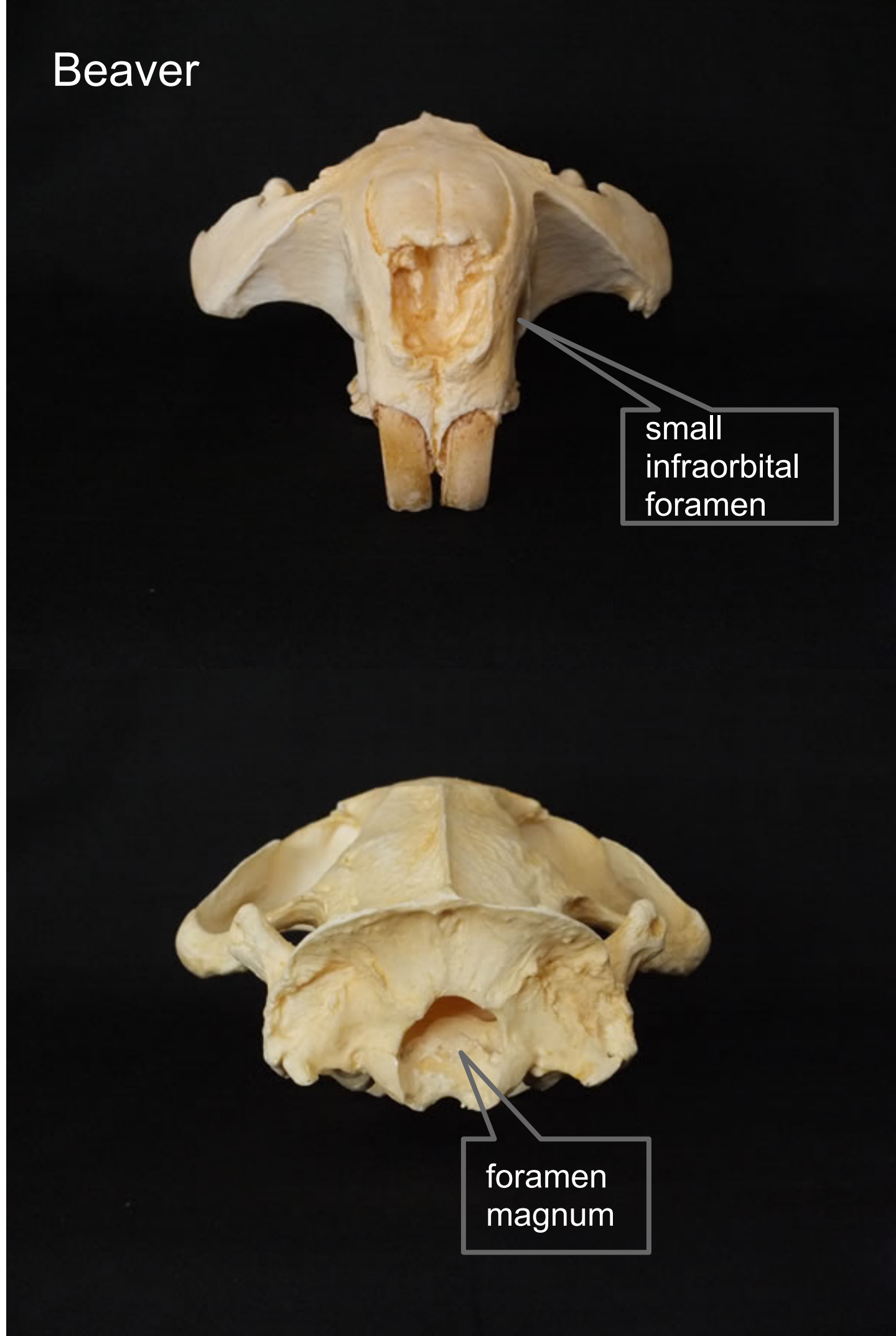
- Auditory Tubes present
 - **Beaver**



- Auditory Tubes absent
 - **Porcupine**

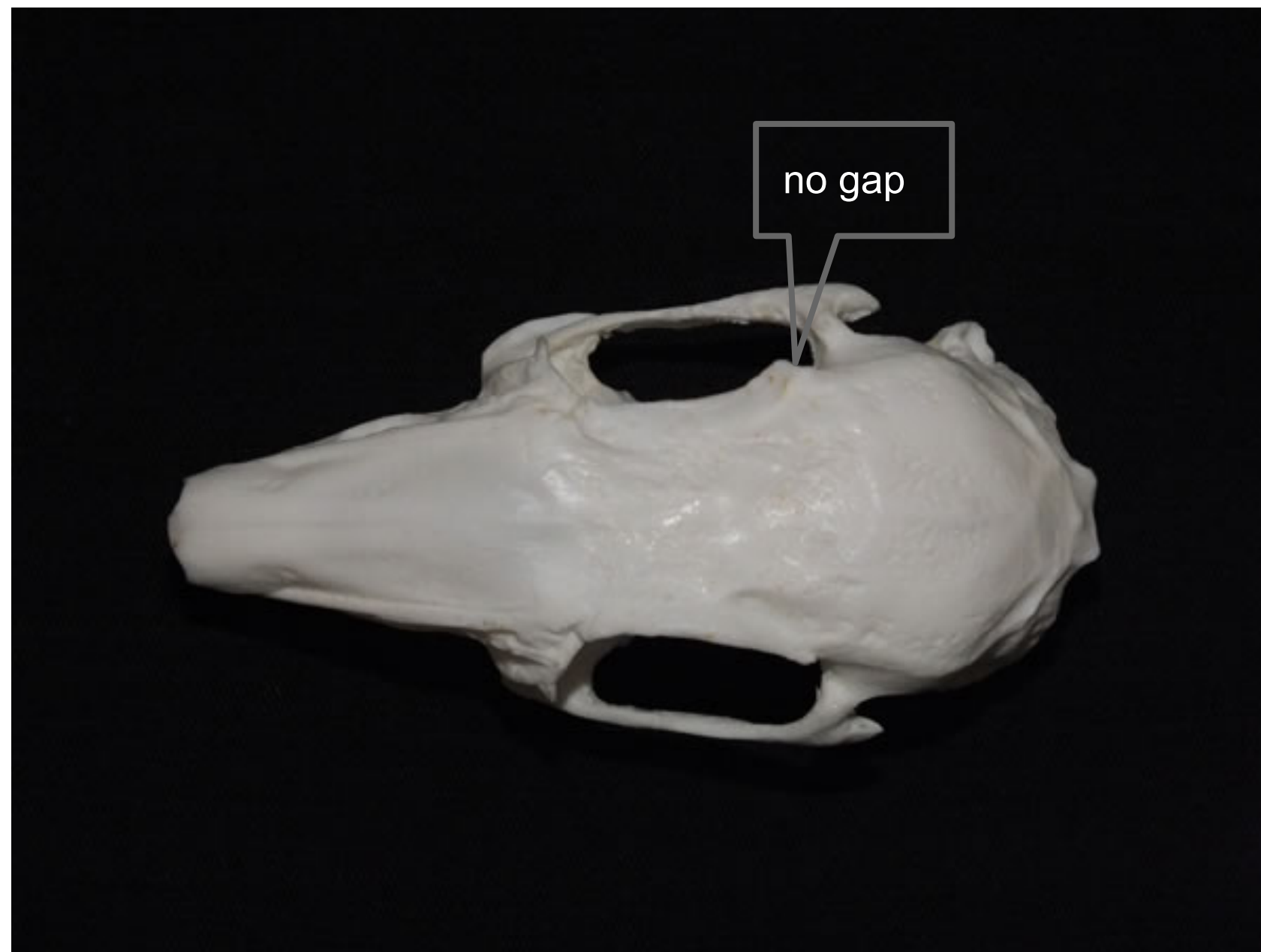


8. Beaver vs Porcupine



9. Eastern Cottontail vs White-tailed Jackrabbit

- Postorbital process with no gap
 - Eastern Cottontail
- Postorbital process with gap
 - White-tailed Jackrabbit



10. Virginia Opossum vs Carnivora

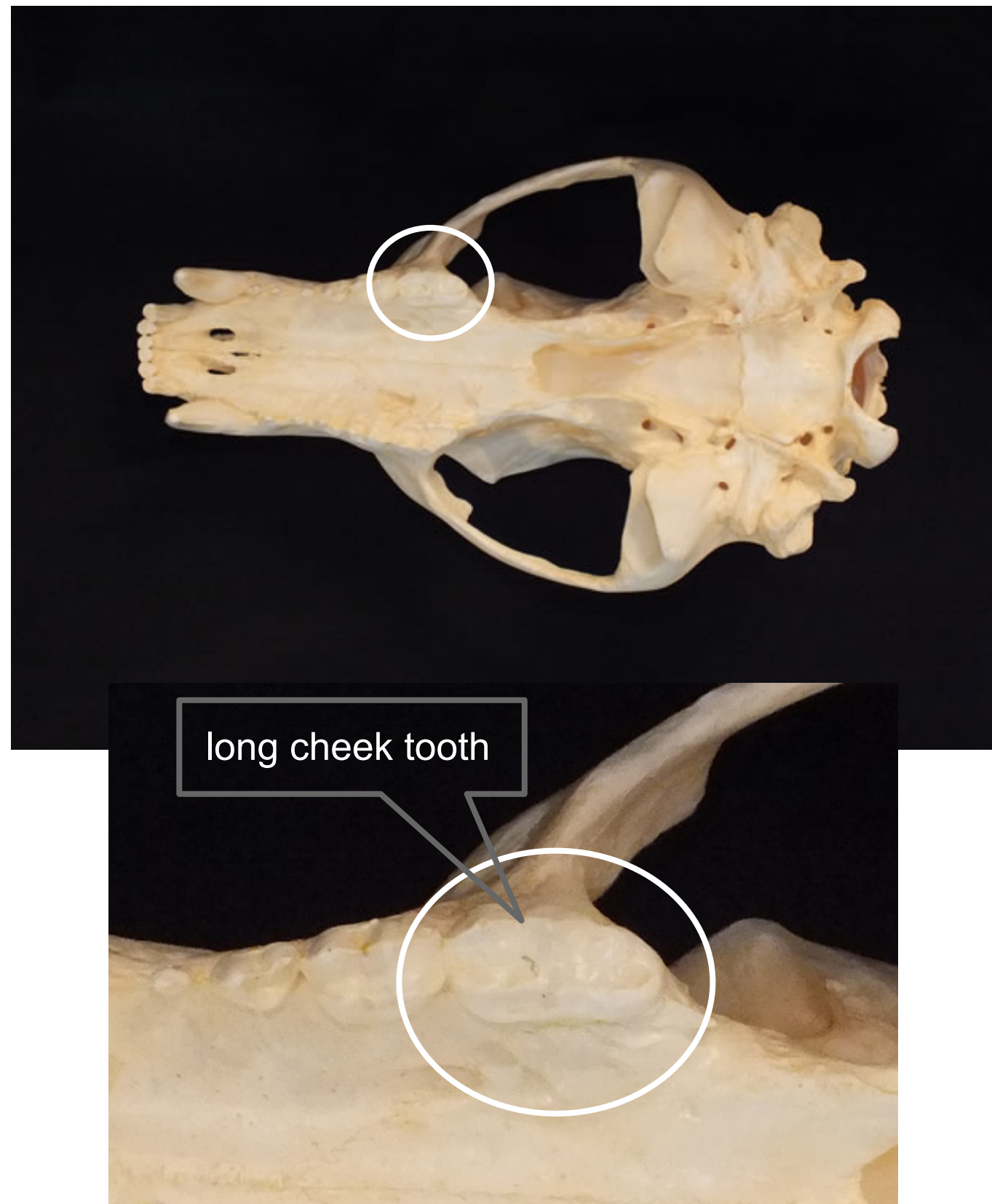
- 1 canine and 5 incisors on each side of upper jaw
 - Virginia Opossum

- 1 canine and 3 incisors on each side of upper jaw
 - go to Slide 11

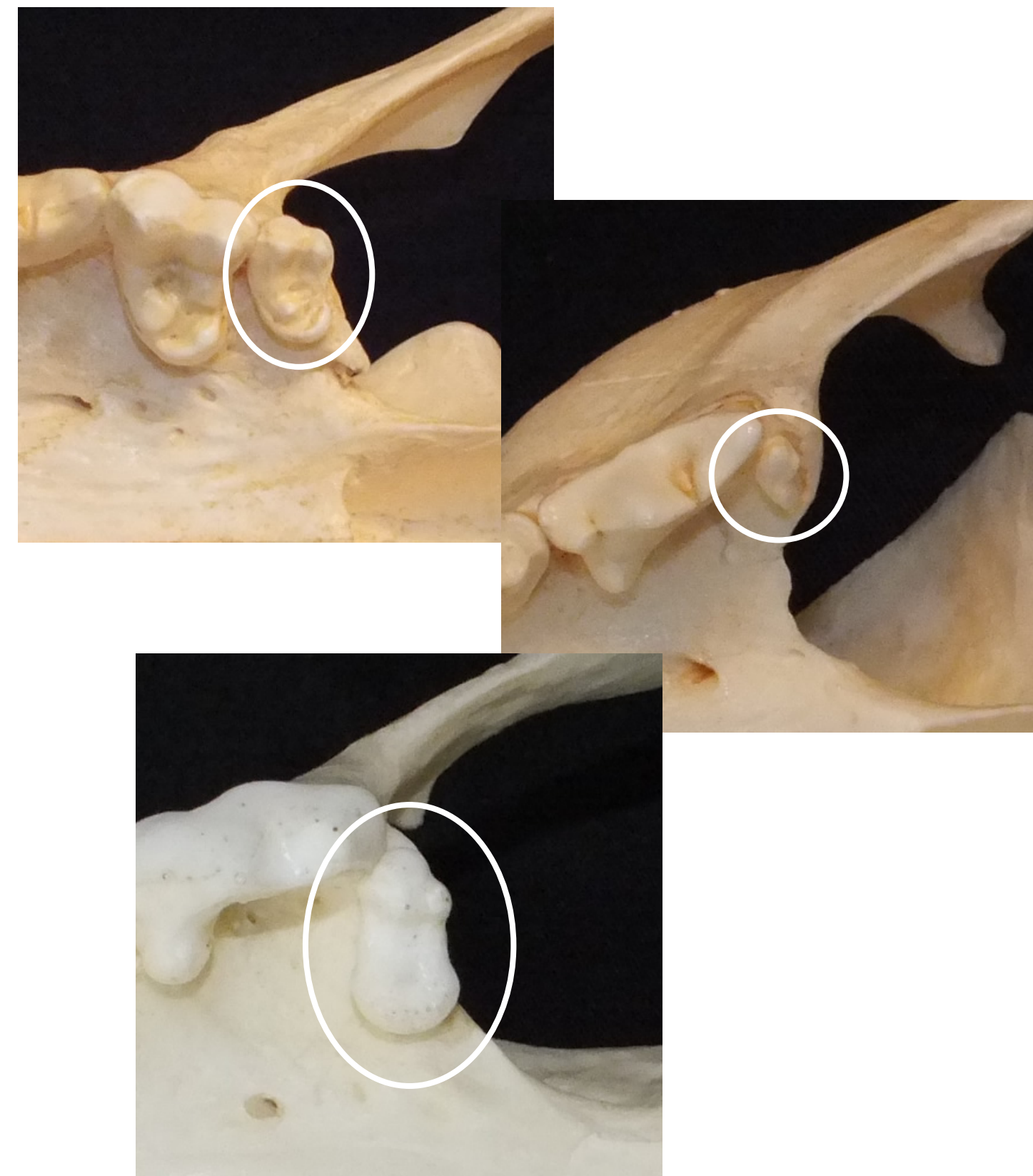


11. Black Bear vs Others

- Last upper cheek tooth is longer than wide, skull large
 - **Black Bear**



- Last upper cheek tooth is wider than long
 - go to 12



12. Number of cheek teeth: 3, 4, 5 or 6

- 3 cheek teeth in upper jaw
 - go to 13



- 4,5 or 6 cheek teeth in upper jaw
 - go to 14



13. Bobcat vs Canada Lynx

- Small foramen anterior to orbit, clearly visible in dorsal view
 - **Bobcat**



- Small foramen anterior to orbit, not clearly visible in dorsal view
 - **Canada Lynx**

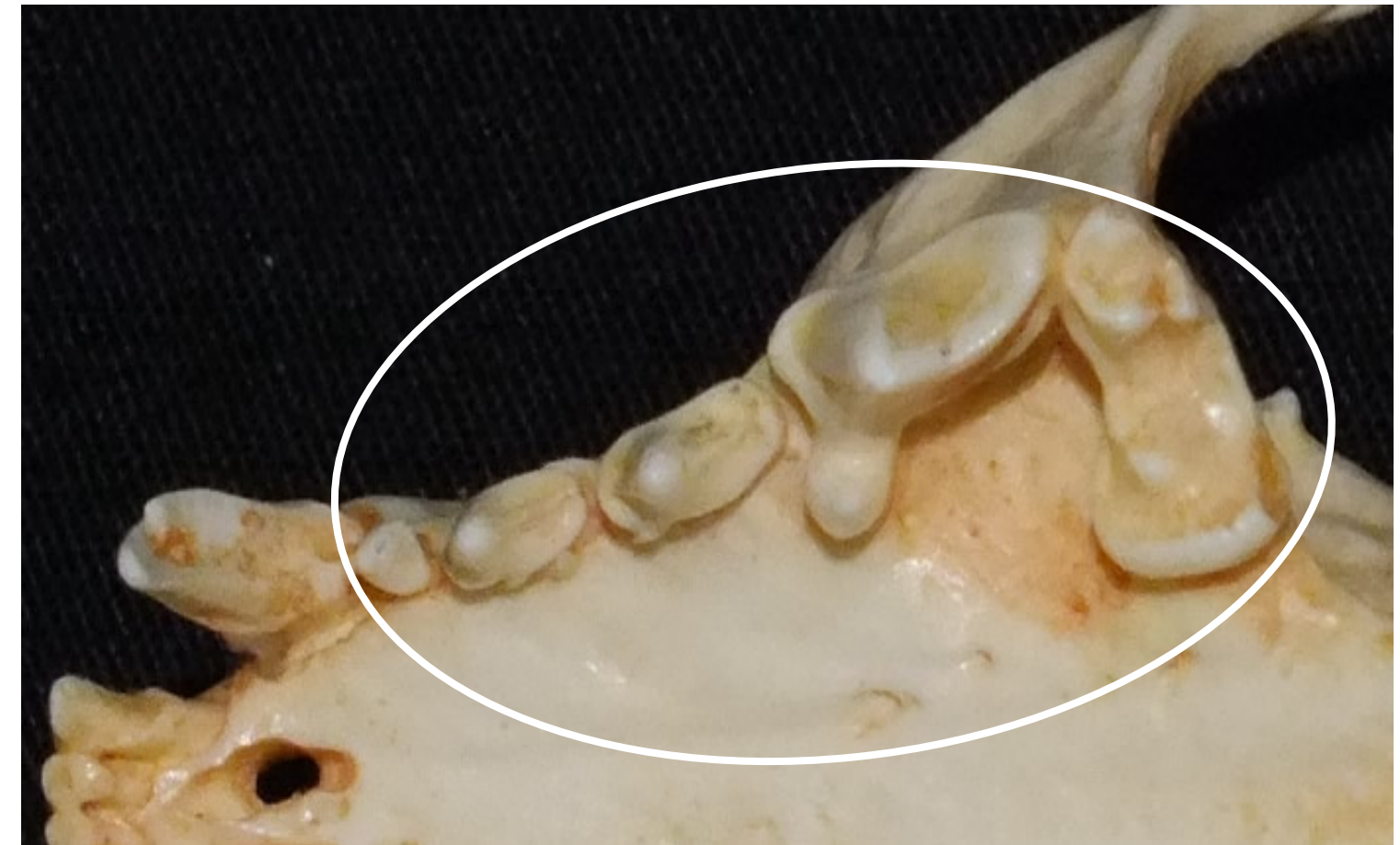


14. Number of cheek teeth: 4, 5 or 6

- 4 cheek teeth on each side of upper jaw
 - go to Slide 15

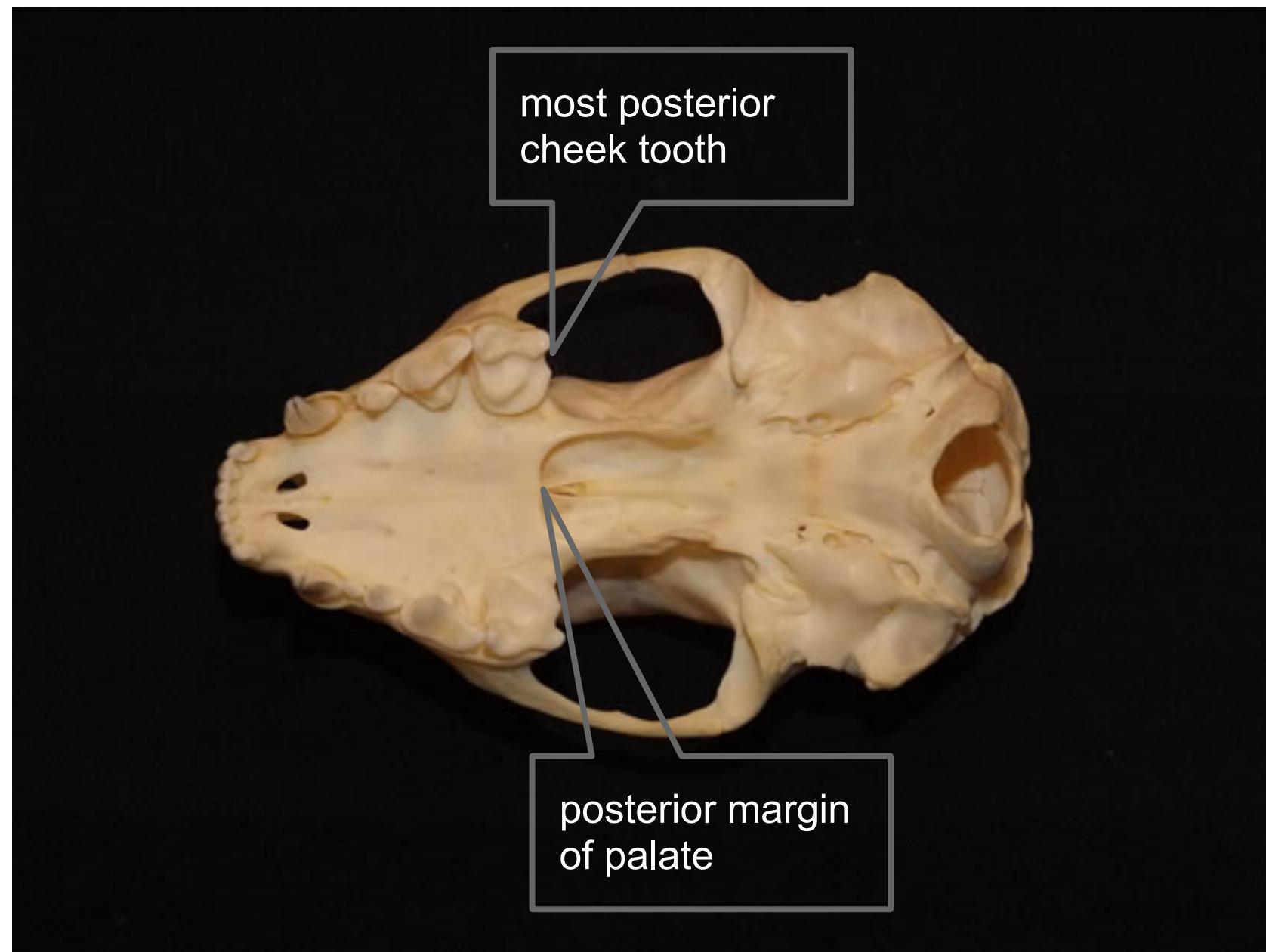


- 5 or 6 cheek teeth on each side of upper jaw
 - go to Slide 16

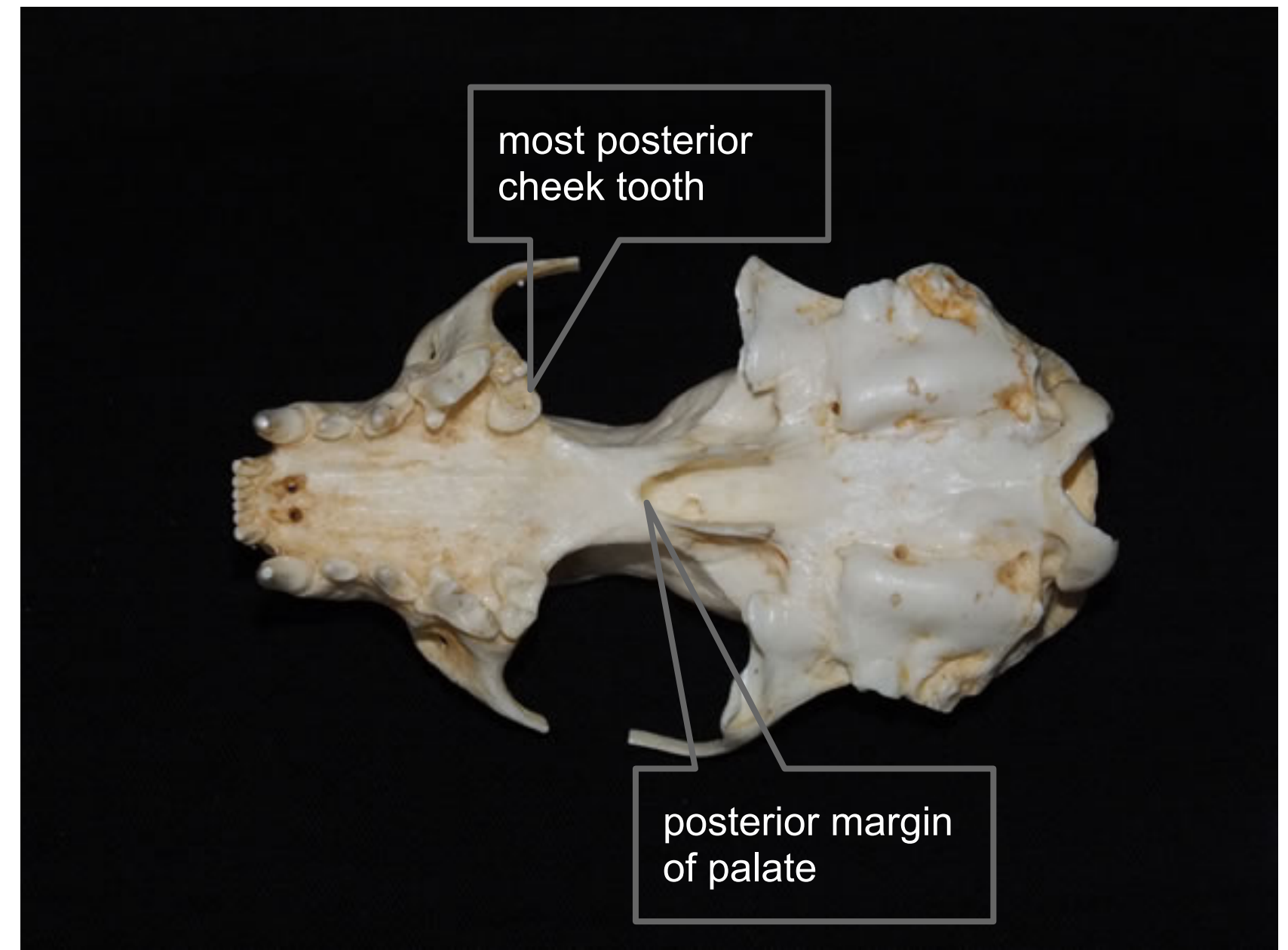


15. Striped Skunk vs American Mink

- posterior margin of palate is even with last upper cheek tooth
 - **Striped Skunk**



- posterior margin of palate is well beyond last upper cheek tooth
 - **American Mink**



16. Number of cheek teeth: 5 or 6

- 5 cheek teeth on each side of upper jaw
 - go to Slide 17

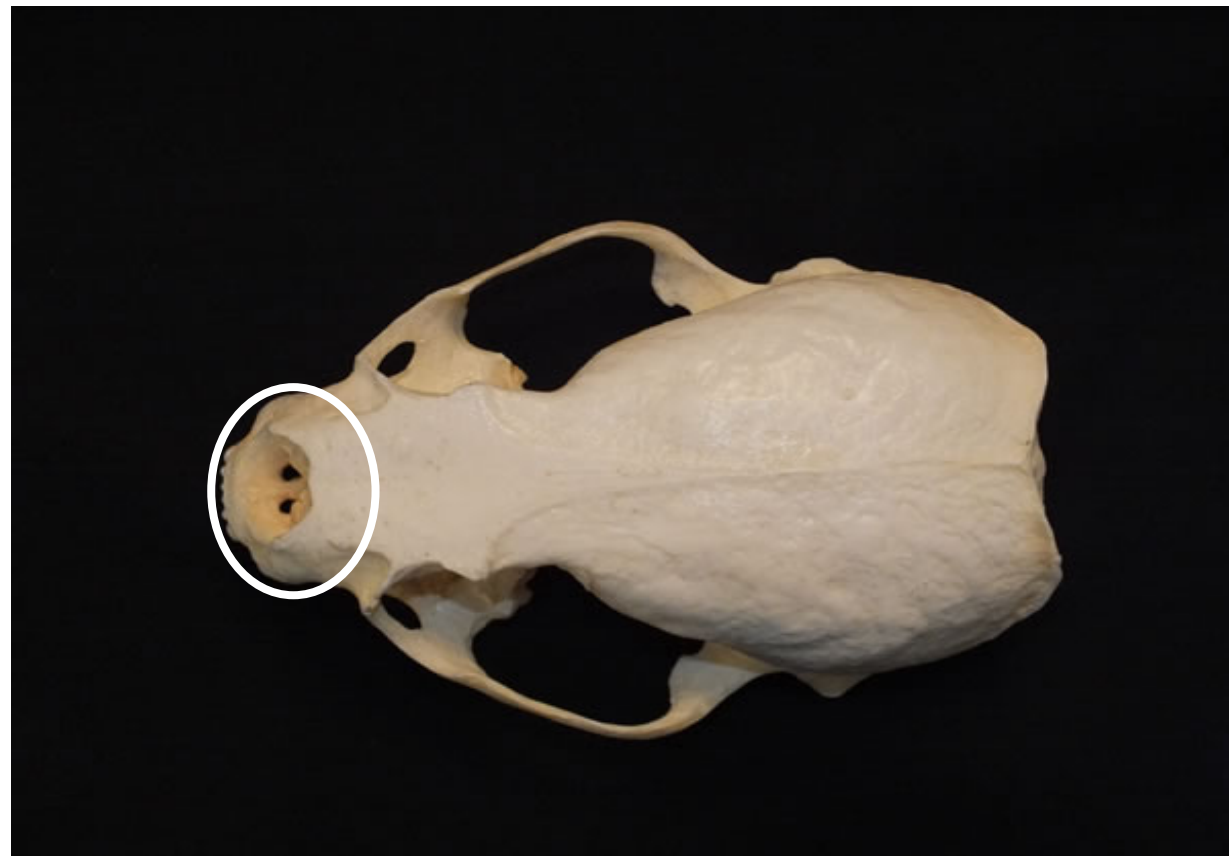


- 6 cheek teeth on each side of upper jaw
 - go to Slide 20



17. Rostrum Width vs Length

- Rostrum wider than long
 - go to Slide 18



- Rostrum longer than wide
 - go to Slide 19



18. Northern River Otter vs Wolverine

- Larger infraorbital foramen and no sagittal crest
 - Northern River Otter



- Smaller infraorbital foramen and large sagittal crest
 - Wolverine



19. Fisher vs American Marten

- Skull Length greater than 95mm
 - Fisher

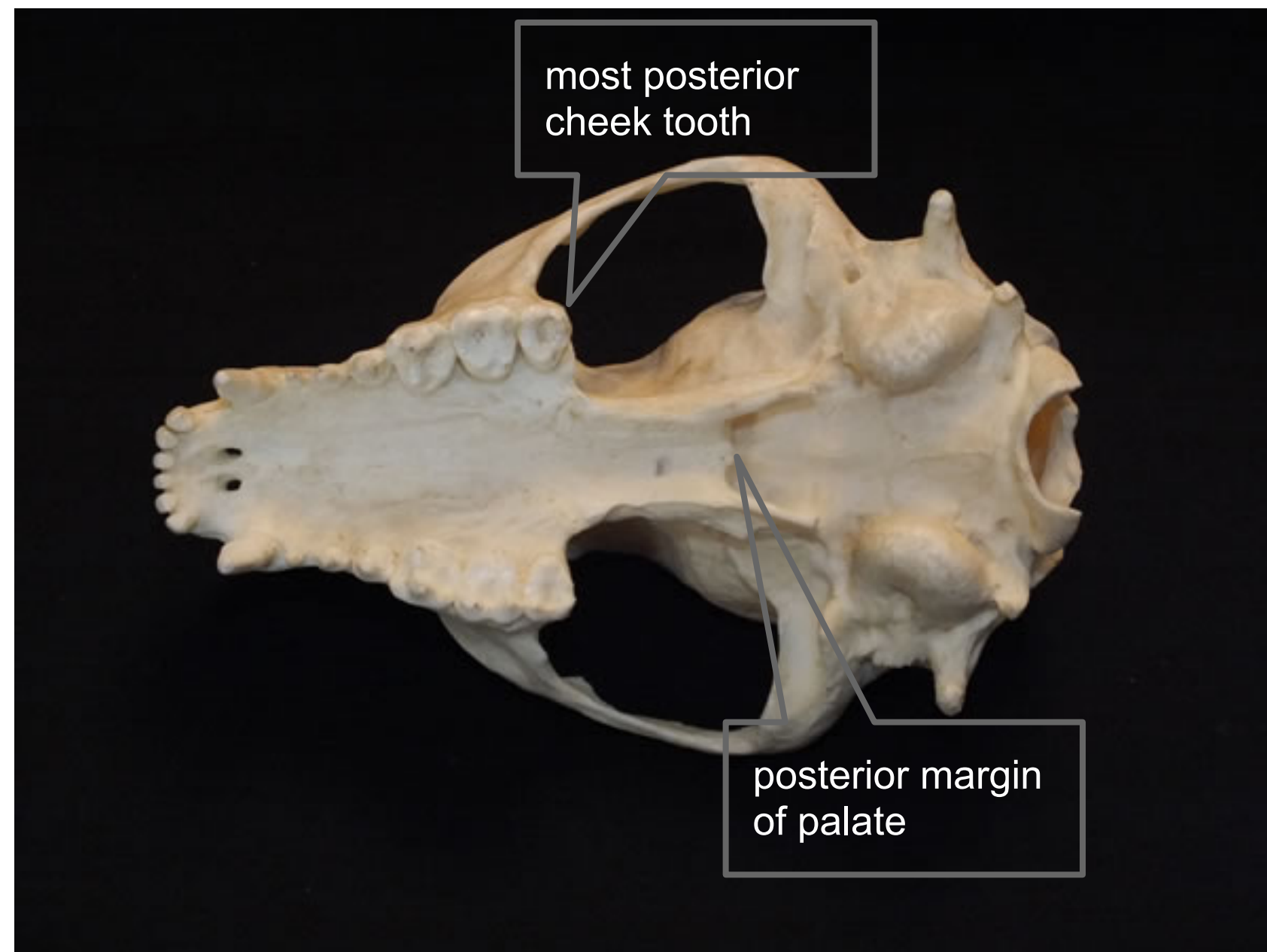


- Skull Length less than 95mm
 - American Marten

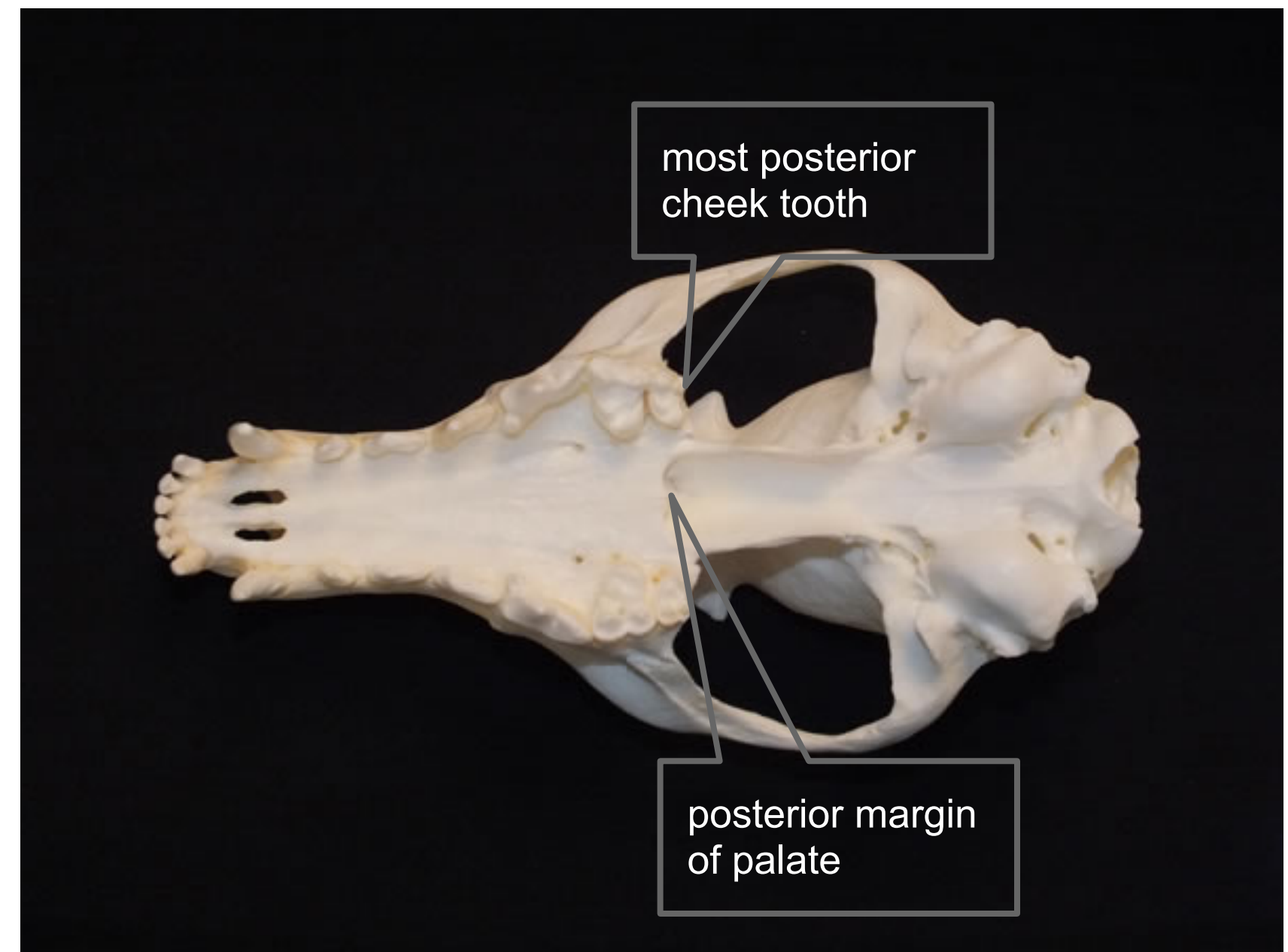


20. Raccoon vs Canidae

- posterior margin of palate is well beyond last upper cheek tooth
 - **Raccoon**

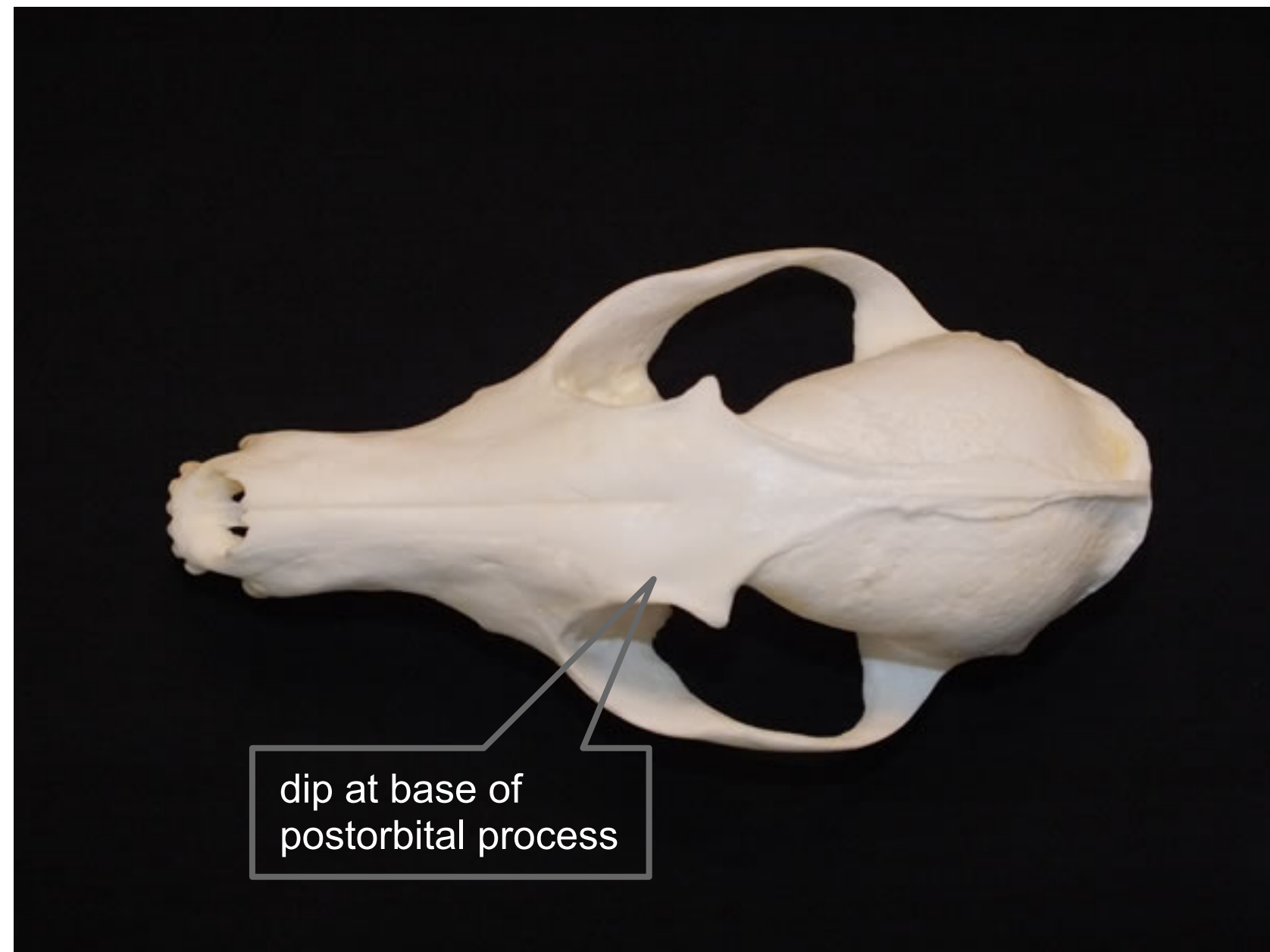


- posterior margin of palate is even with last upper cheek tooth
 - go to Slide 21

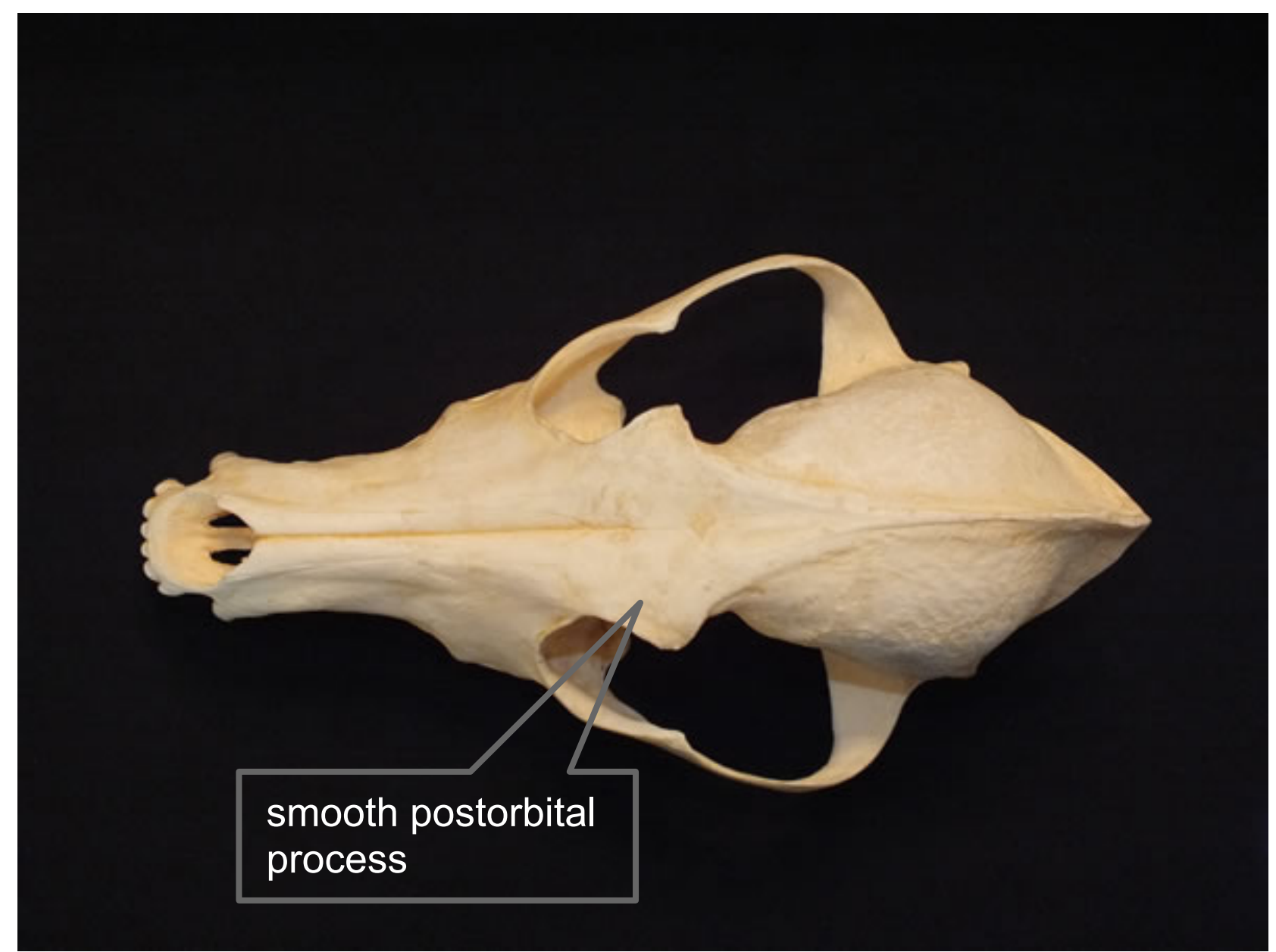


21. Red Fox vs other

- Slight dip in dorsal surface of postorbital process
 - Red Fox



- Mostly smooth dorsal surface of postorbital process
 - go to Slide 22



22. Canis skull length: Gray Wolf vs other

- Skull length 225mm or more
 - **Gray Wolf**



- Skull length < 225mm
 - go to Slide 23



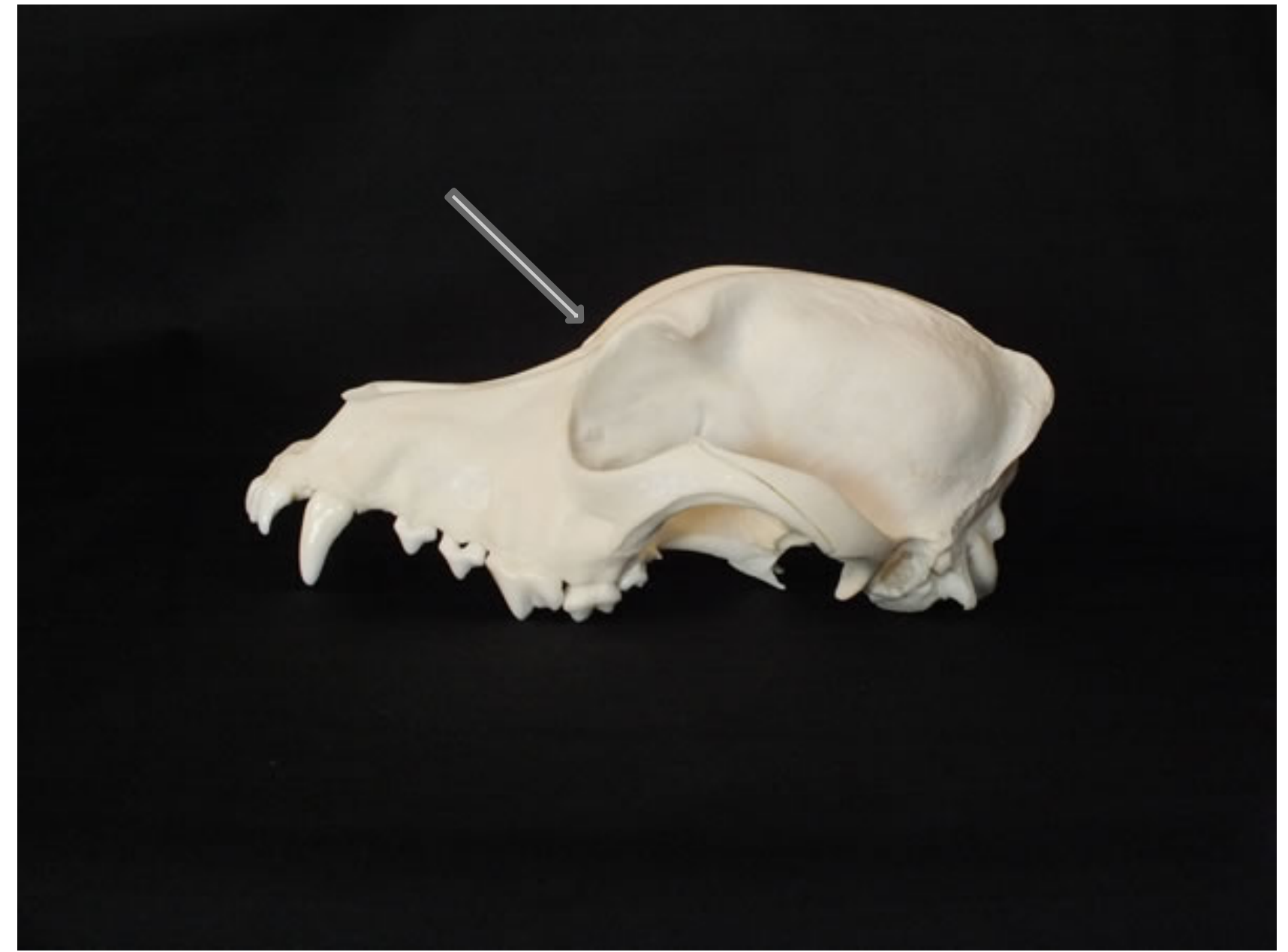
Note: not in our collection, however, a large Domestic Dog skull may have same length as Wolf: follow the same procedure used for Coyote vs Domestic Dog to separate a large Dog from Wolf

23. Coyote vs Domestic Dog

- Forehead gently rising from rostrum
 - Coyote

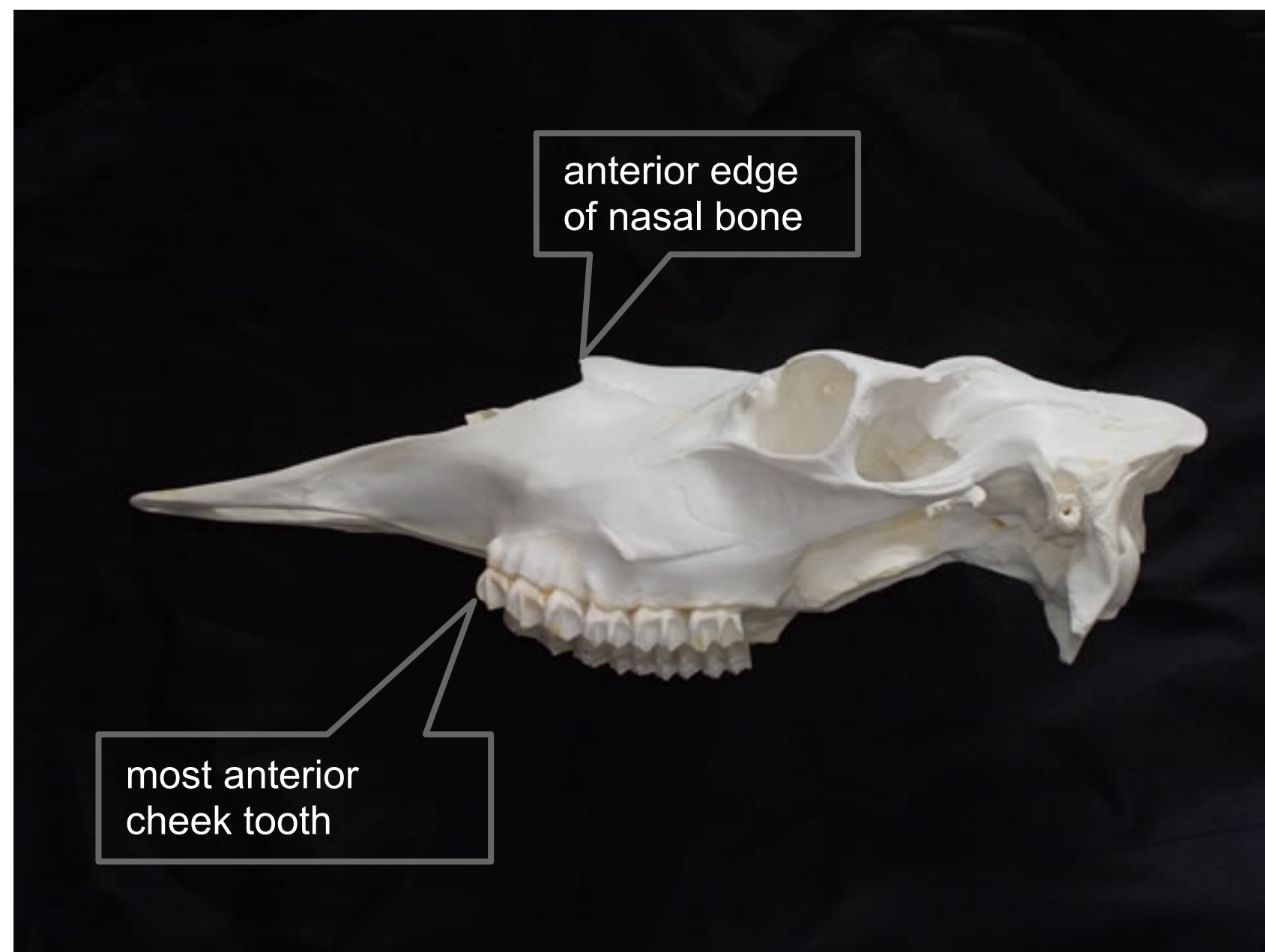


- Forehead rising abruptly from rostrum
 - Domestic Dog

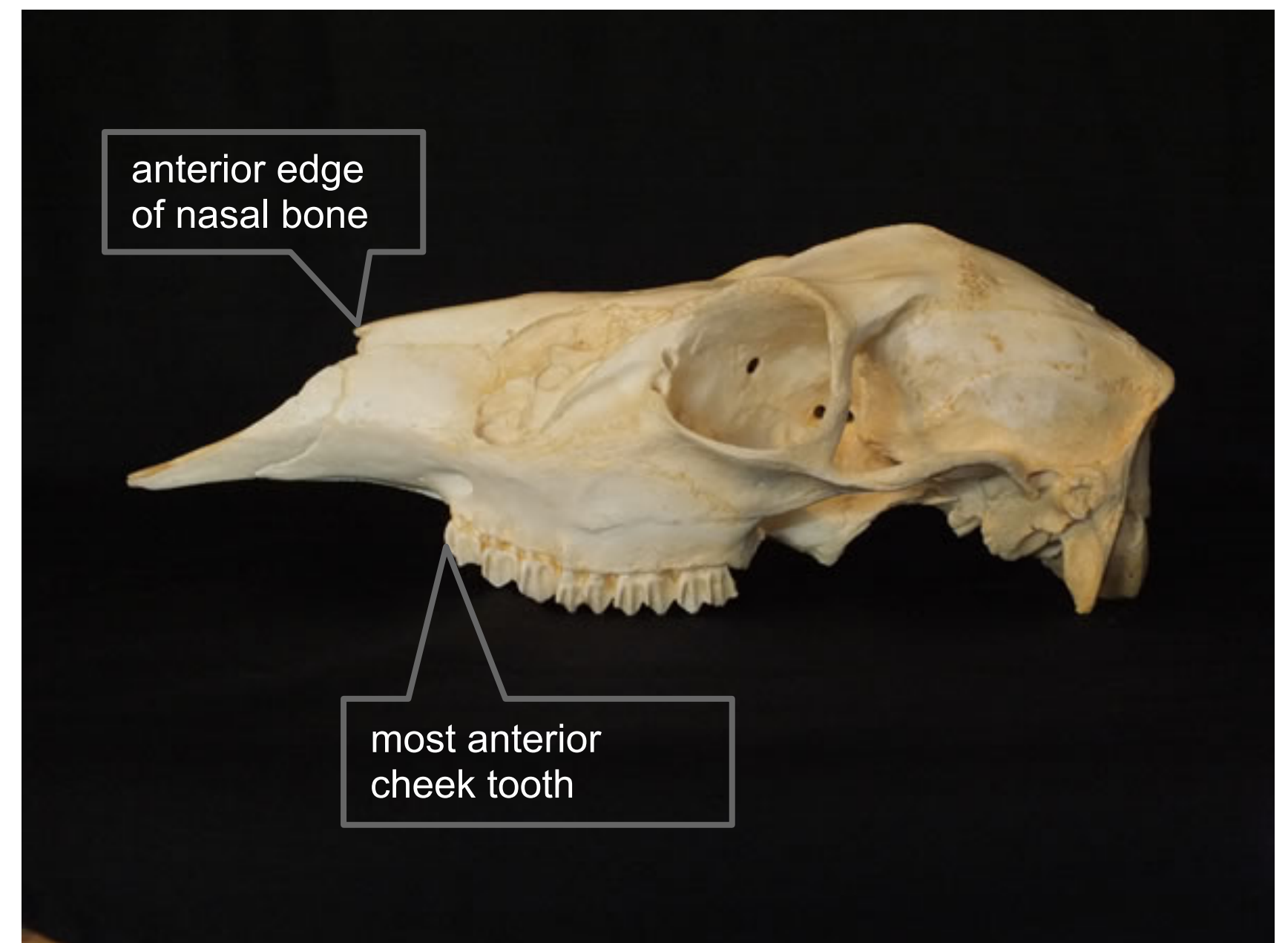


24. Moose vs others

- Short nasal bone, does not extend to most anterior cheek tooth
 - **Moose**



- Long nasal bone, extends beyond most anterior cheek tooth
 - go to Slide 25



25. White-tailed Deer vs Elk

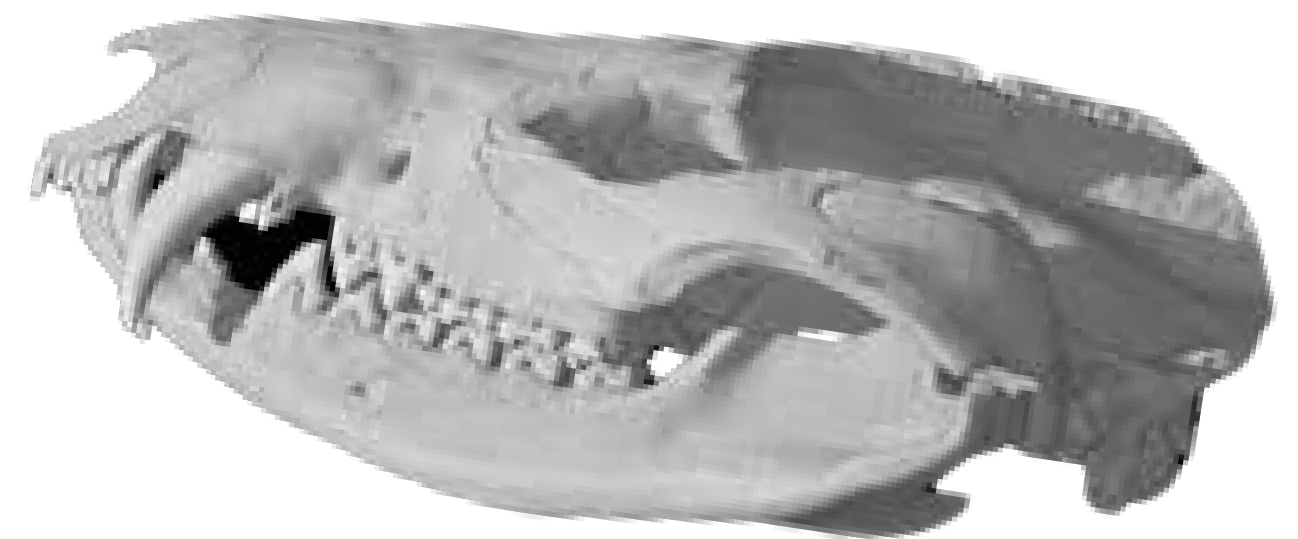
- Upper canine absent
 - **White-tailed Deer**



- Upper canine present
 - **Elk**



Practicing Dichotomous Keys: Mammal Skull Identification



Answers on final page

Skull # 1



Skull

2

Slight dip

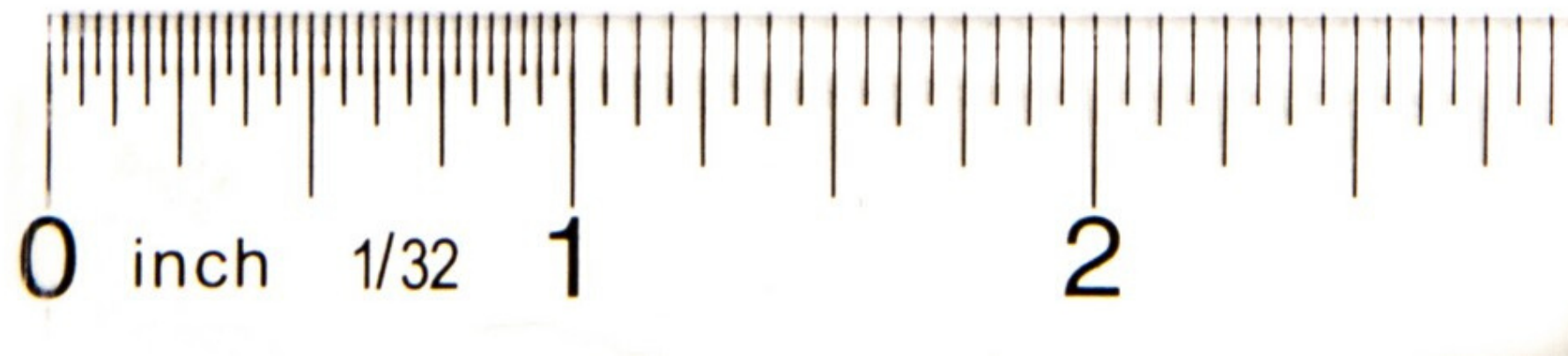


Skull

3



50 mm



Skull

4



125 mm

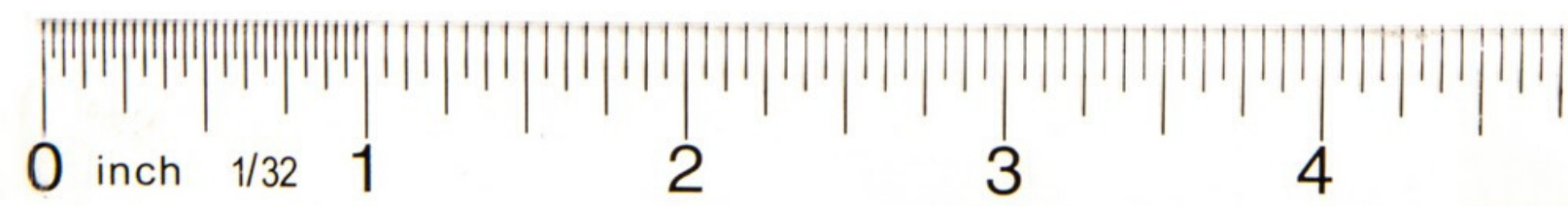


Skull

5



100 mm



Practicing Dichotomous Keys: Mammal Skull Identification Answers

1. Virginia opossum
2. Red fox
3. Muskrat
4. Fisher
5. Raccoon

