

Lab 6 – Order Rodentia, Family Sciuridae

Need to know

Cynomys spp—ID based on skull

Cynomys ludovicianus—ID based on skin, n. history

C. leucurus—ID based on skin, n. history

Glaucomys sabrinus—ID based on skin or skull, n. history

Marmota flaviventris—ID based on skin or skull, n. history

Sciurus niger—ID based on skin or skull, n. history

Spermophilus spp—ID based on skull

Spermophilus armatus—ID based on skin, n. history

S. elegans—ID based on skin, n. history

S. lateralis—ID based on skin, n. history

S. tridecemlineatus—ID based on skin, n. history

Tamias spp—ID based on skull

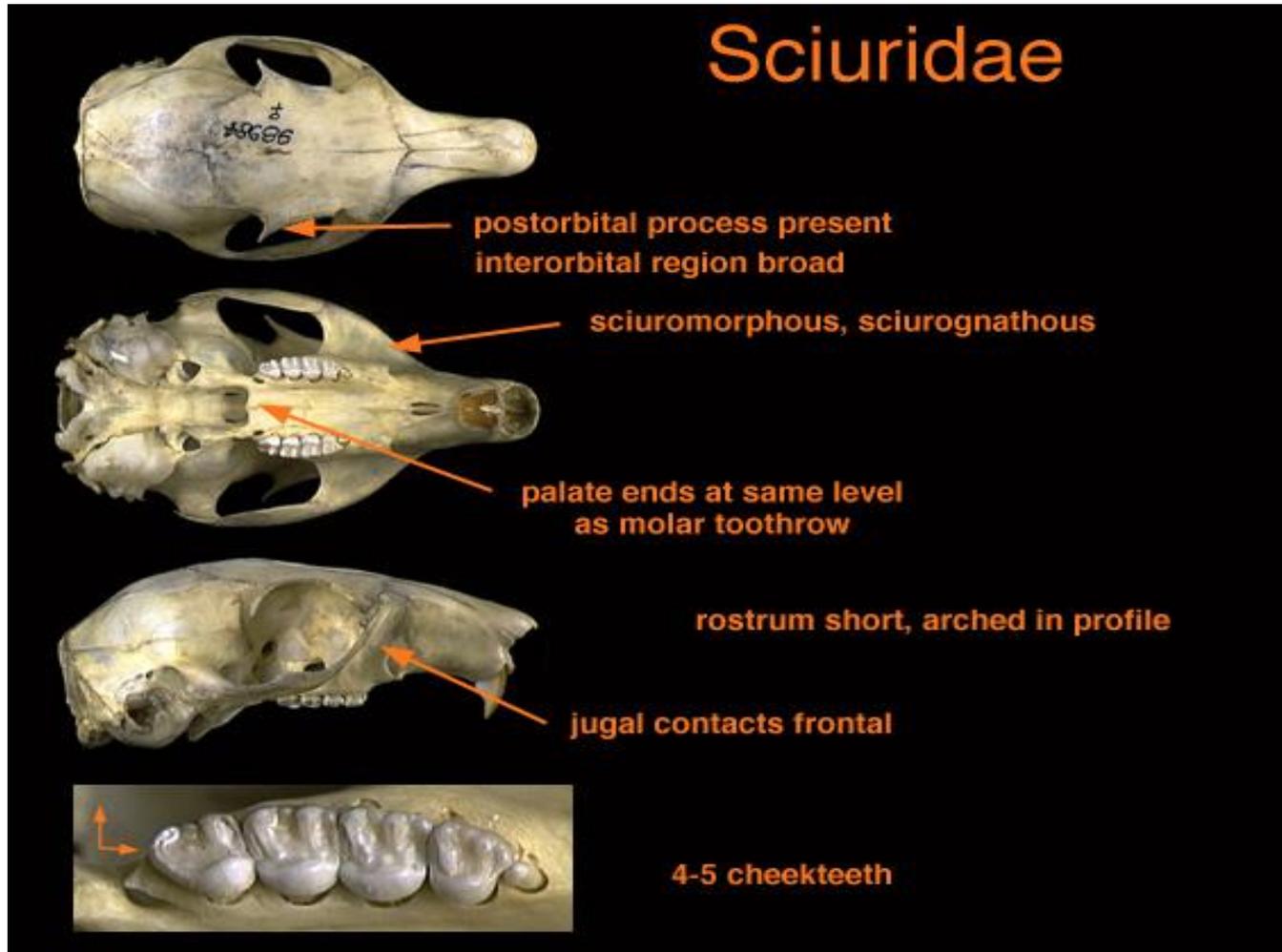
Tamias amoenus—ID based on skin, n. history

T. minimus—ID based on skin, n. history

Tamiasciurus hudsonicus—ID based on skin and skull, n. history

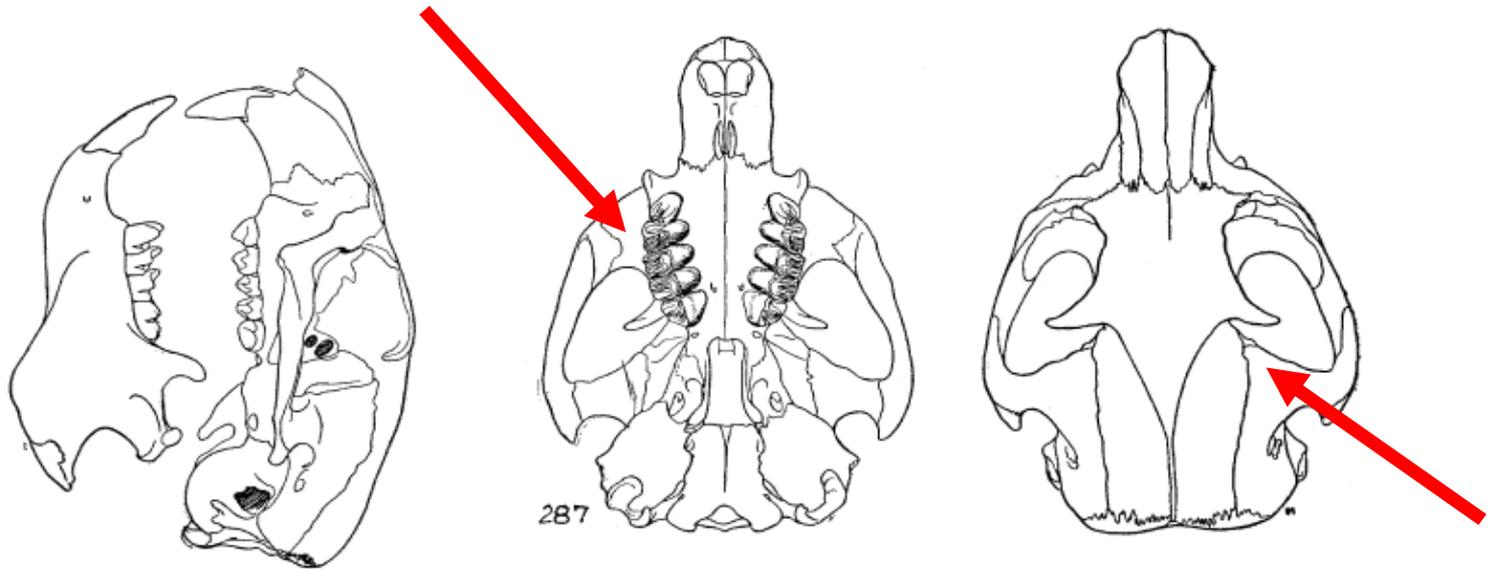


Order Rodentia, Family Sciuridae—squirrels



- 1) Reduced infraorbital foramen
- 2) Postorbital processes conspicuous and pointed

***Cynomys* spp—prairie dogs**



- 1) Anterior view of skull similar to Marmota, with postorbital processes at 90° from frontals
- 2) Rows of cheek teeth converge posteriorly (not parallel)

C. ludovicianus

(black-tailed prairie dog)

- 1) Yellowish pelage**
- 2) Relatively long, black tail**

Natural history

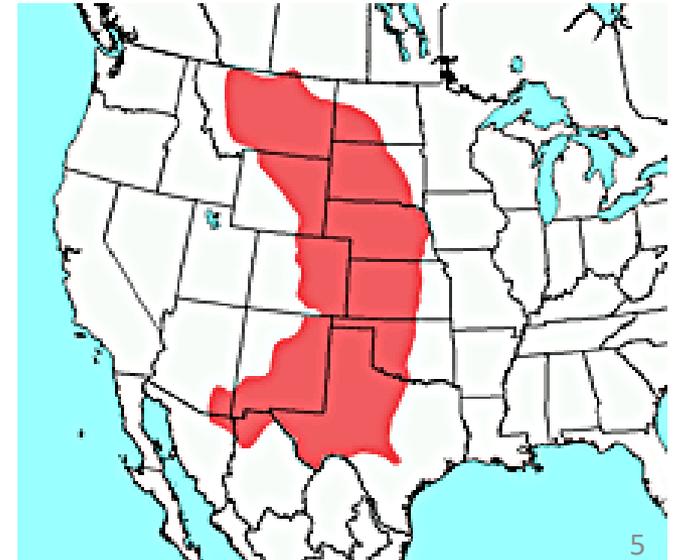
--Shortgrass prairie specialist

--Does not hibernate

--98% range collapse between ~1900 and 2000; historically about 5 billion individuals, now about 1.5 million (i.e., 0.05% of historic numbers)

--Reduce economic returns from cattle (~\$14 per steer per year)

--Keystone species "hunted" by people



Cynomys leucurus
(white-tailed prairie dog)

- 1) Yellowish pelage
- 2) Relatively short, white tail
- 3) Black “eyebrows”

Natural history

- Steppe specialist
- Hibernates
- Occurs in colonies smaller than *C. ludovicianus*
- Least imperiled species of prairie dog



***Glaucomys sabrinus*—northern flying squirrel**



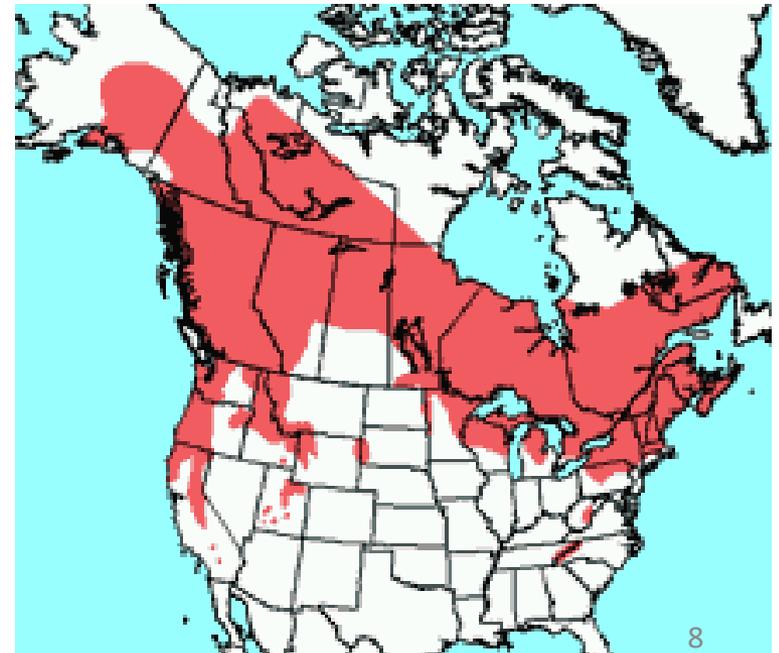
- 1) Conspicuous notch anterior to postorbital processes**
- 2) Zygomatic arches not flattened; no zygomatic plate⁷**

Glaucomys sabrinus
(northern flying squirrel)

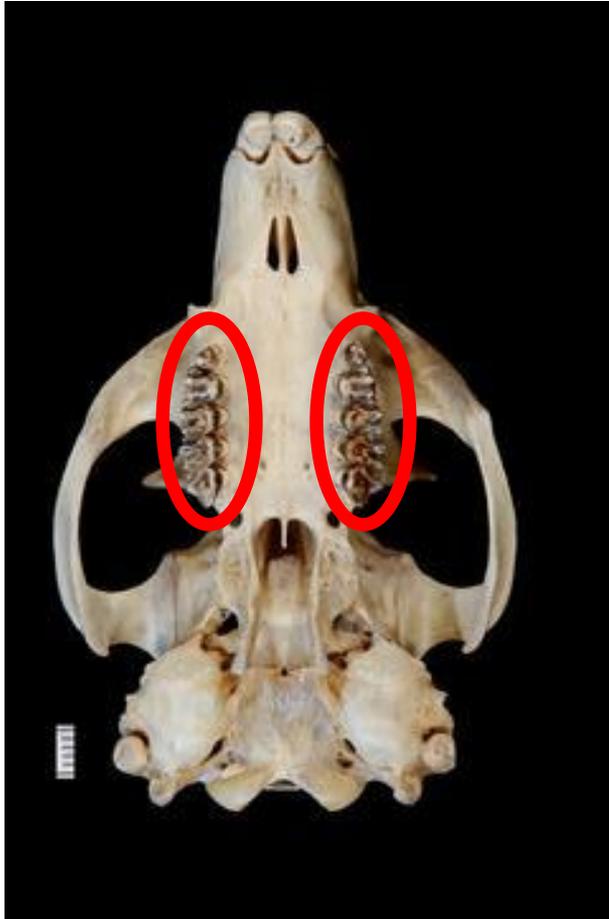
- 1) Thick, gray pelage
- 2) Patagium extends between wrists and ankles
- 3) Well-furred, dorso-ventrally flattened tail

Natural history

- Strictly nocturnal
- Share nests and huddle in winter
- Can glide between 5 and 25 m
- Eats fungus



Marmota flaviventris—yellow-bellied marmot



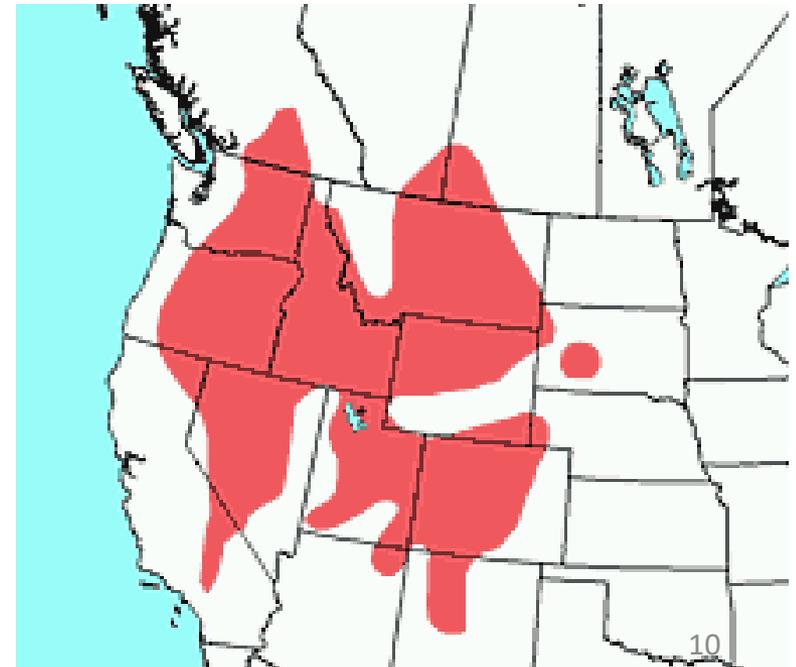
- 1) Rows of cheek teeth parallel or nearly so
- 2) Postorbital processes protrude at 90°

Marmota flaviventris
(yellow-bellied marmot)

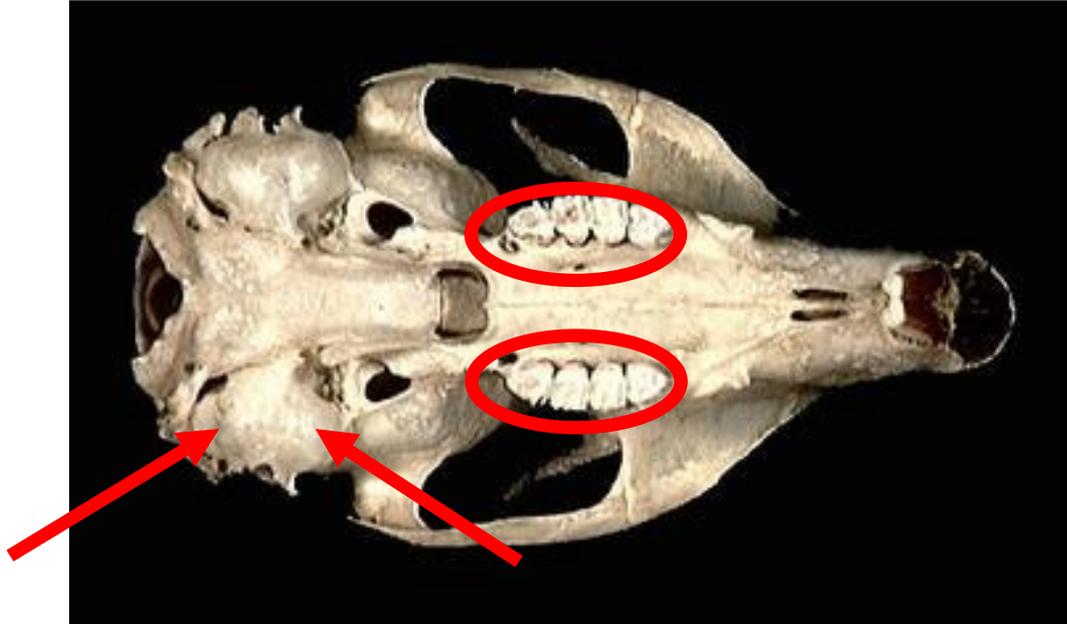
- 1) Grizzled dorsal pelage with yellow-brown ventral pelage**
- 2) Sides of neck are bright yellow**

Natural history

- Folivorous**
- Hibernates 8-9 months/year**
- Often found on rock slides or talus slopes**



Sciurus niger—eastern fox squirrel



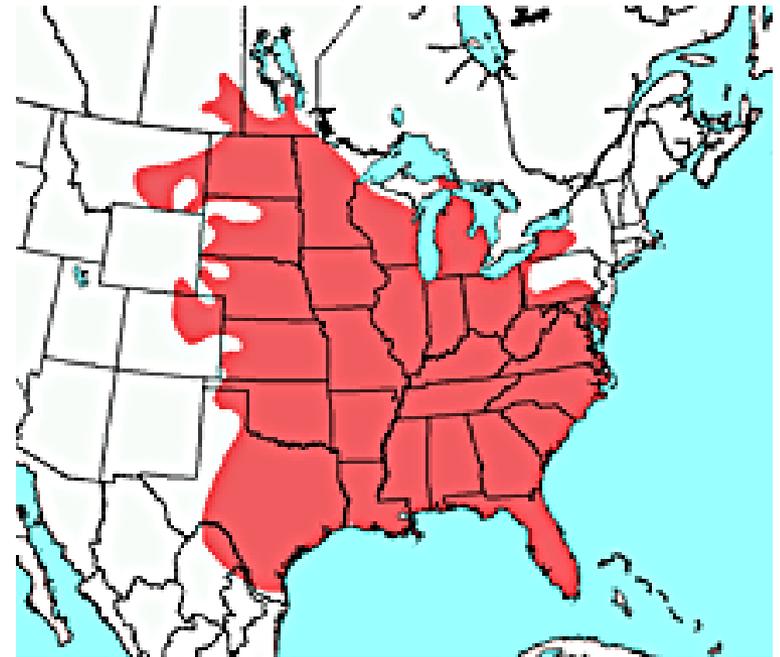
- 1) Four upper cheek teeth
- 2) Two transbullar septae

Sciurus niger
(eastern fox squirrel)

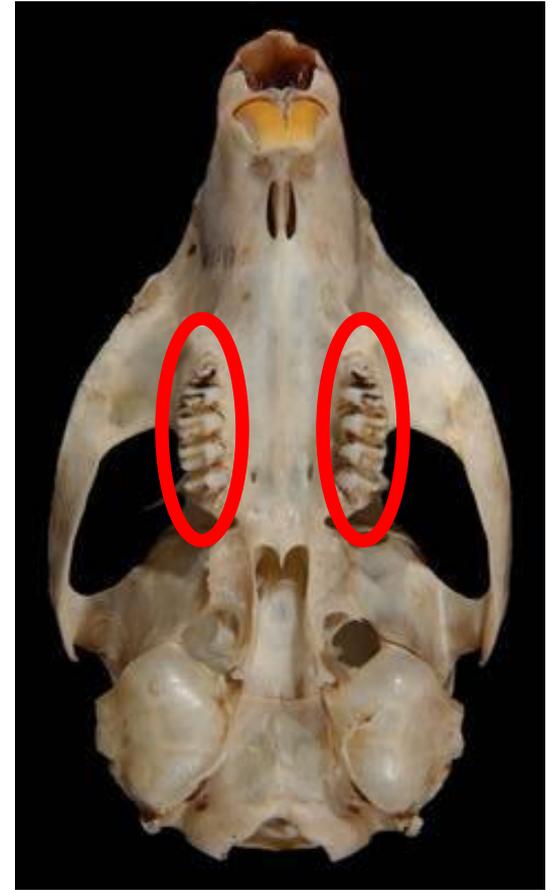
- 1) Orange pelage
- 2) Bushy, fox-like tail

Natural history

- Granivorous scatter hoarder
- Small game species
- WY populations: combination of range expansion & introduction to CO
- Bones glow under UV light



Spermophilus spp.



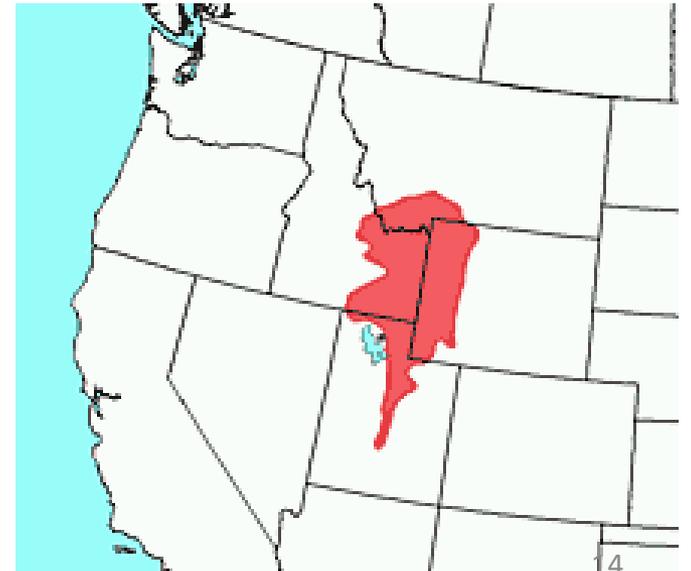
- 1) Flattened zygomatic plate
- 2) 5 cheek teeth per side

Spermophilus armatus
(Uinta ground squirrel)

- 1) Grayish-brown pelage with some yellow on body
- 2) Tail is blackish

Natural history

- Omnivorous
- Occurs in mountain meadows and forest edges
- Hibernates



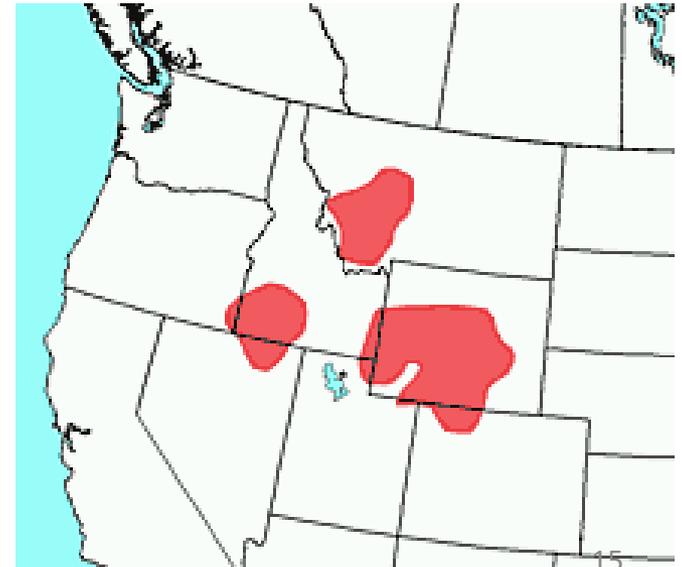
S. elegans

(Wyoming ground squirrel)

- 1) Grayish pelage typically without yellow**
- 2) Tail doesn't differ in color from body pelage**

Natural history

- Omnivorous**
- Females live in colonies; males are mostly solitary**
- Occur in well-drained shortgrass prairie and sagebrush steppe**



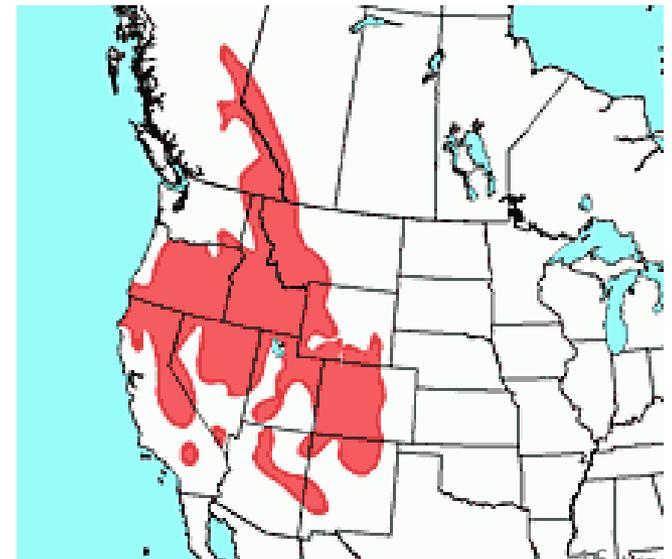
S. lateralis

(golden-mantled ground squirrel)

- 1) Chipmunk-like, but stripes do not extend to eyes
- 2) Yellow on face and cheeks
- 3) White eye ring

Natural history

- Omnivorous
- Occurs in mountain meadows and forest edges
- Hibernates
- “Asocial”



S. tridecemlineatus
(thirteen-lined ground squirrel)

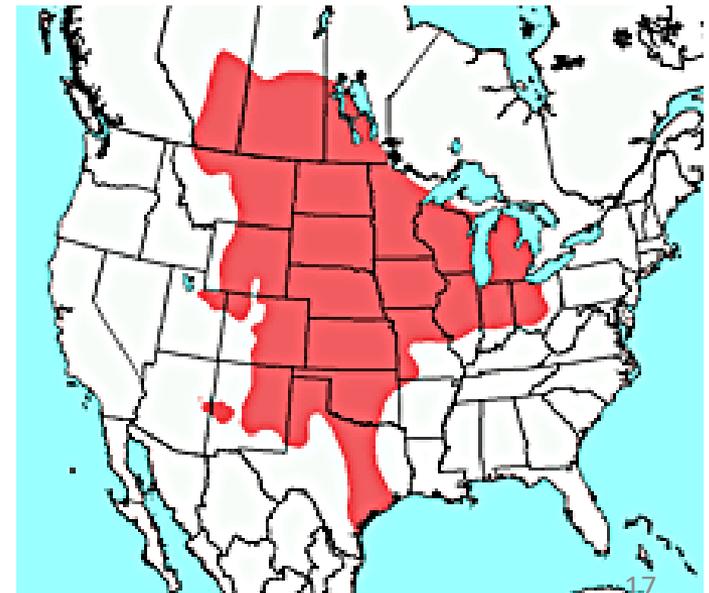
- 1) Thirteen rows of alternating stripes and spots on dorsum**
- 2) Pelage yellow and black**
- 3) Yellow eye ring**

Natural history

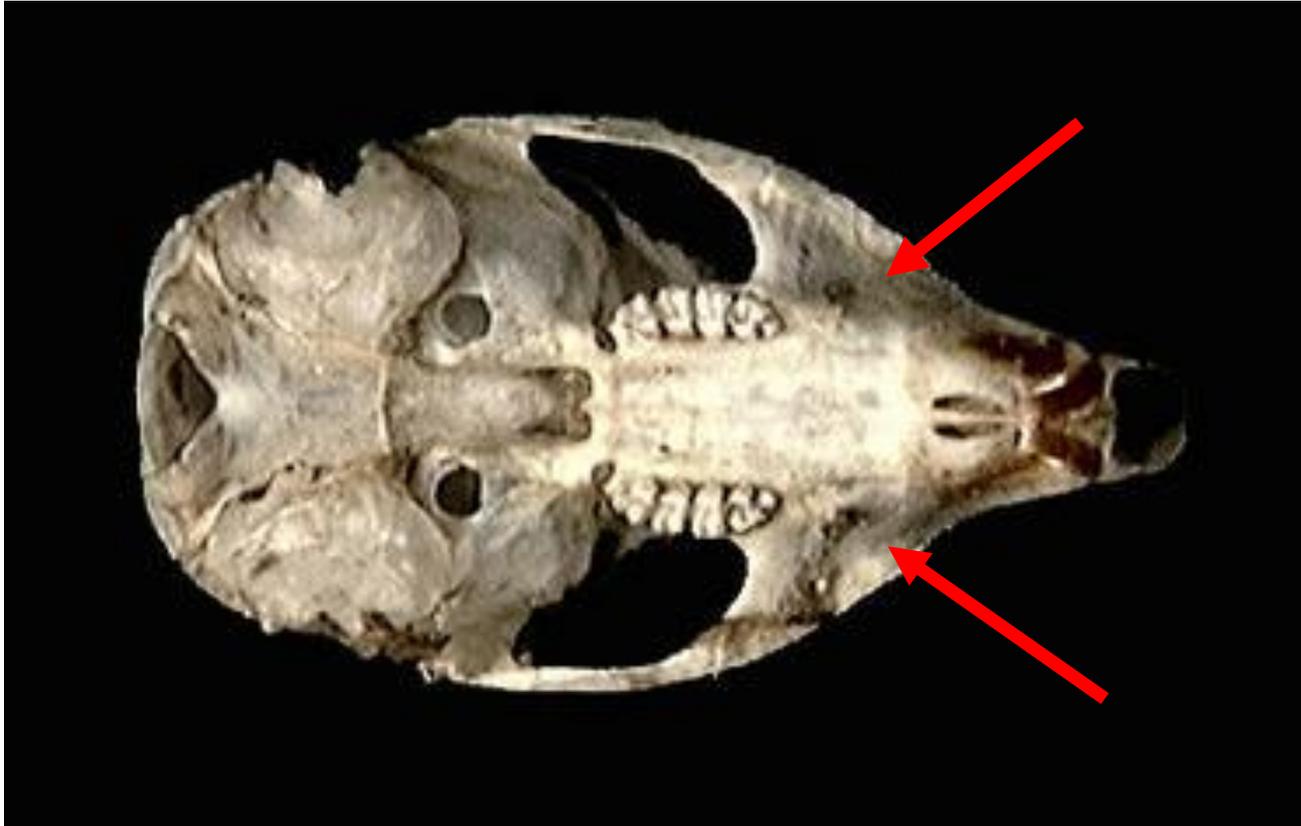
- Omnivorous**
- Hibernates**
- Up to 90% of offspring are eaten before hibernation begins**
- Avoids wooded areas; prefers open, short-grass sites**



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Tamias spp.



- 1) Infraorbital foramen pierces zygomatic plate; a hole rather than a canal
- 2) 5 upper cheekteeth; P1 small and peglike

Tamias minimus* and *T. amoenus
(least chipmunk, yellow-pine chipmunk)

- 1) Stark black and white stripes that extend onto face
- 2) *T. minimus*; smaller, proportionally longer tail

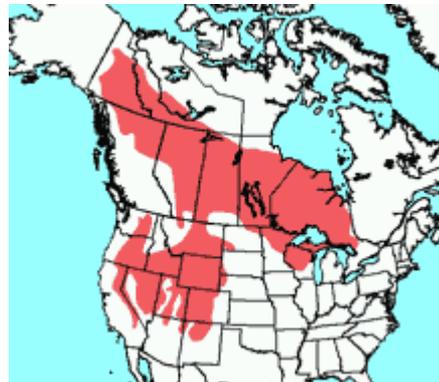


Natural history

- Both species omnivorous (eat bird eggs and other small mammals along with seeds, fruits, fungi, etc)
 - Important seed dispersers
- Both species hibernate – torpor, wake up to eat every 5-7 days
- *T. minimus* is most widely distributed chipmunk, also the smallest.



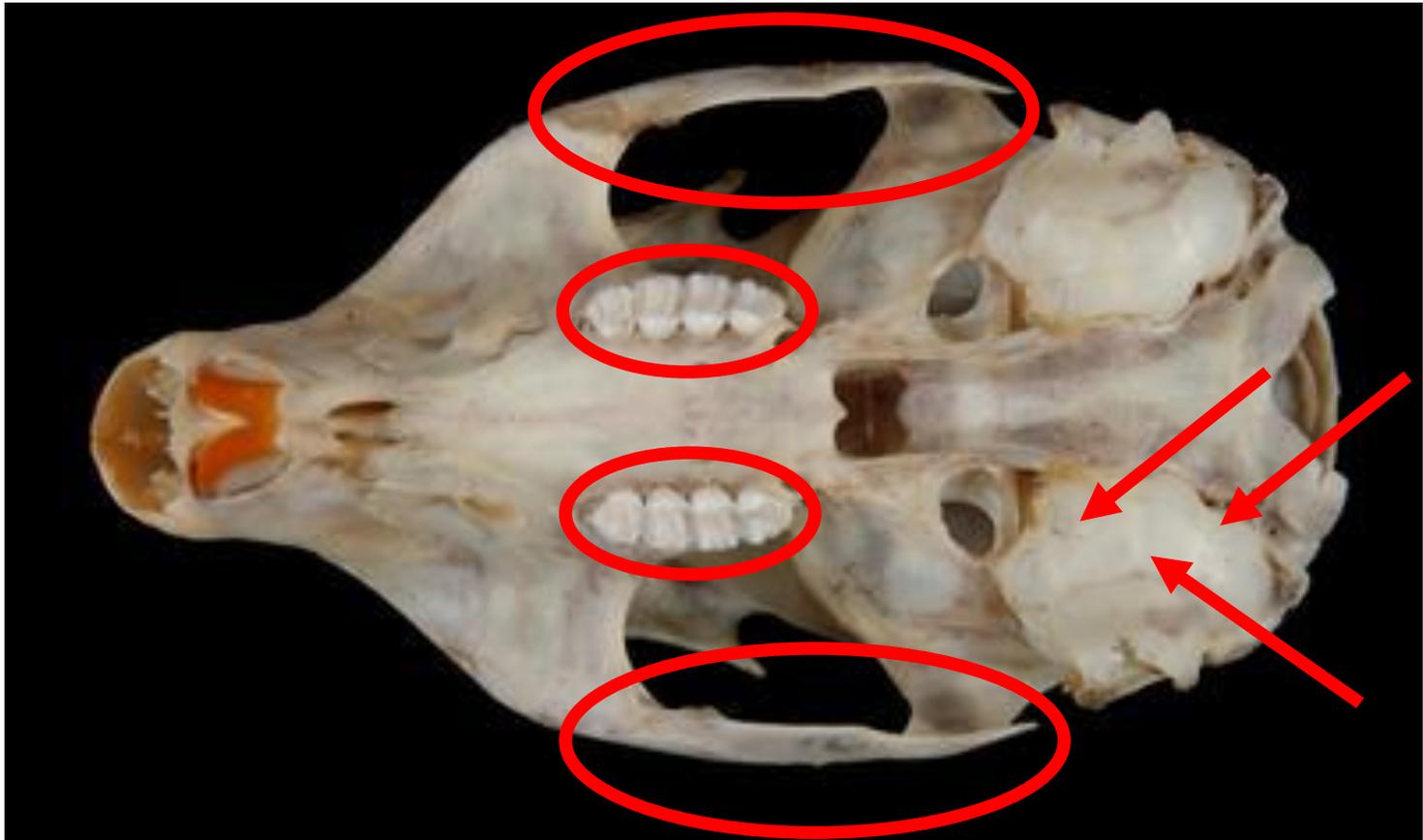
T. minimus



T. amoenus



Tamiasciurus hudsonicus—North American red squirrel



- 1) Zygomatic arches parallel or nearly so
- 2) 3 transbullar septae
- 3) 4 teeth in maxillary toothrow

Tamiasciurus hudsonicus

(North American red squirrel or pine squirrel)

- 1) Bicolored pelage, with white venter and reddish dorsum
- 2) White eye ring
- 3) Tufted ears

Natural history

- Typically found in coniferous forests
- Larder-hoarder

