Order Rodentia

BIOL 140

Class Mammalia

Closest to rabbits and hares

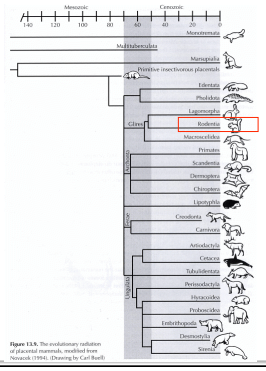
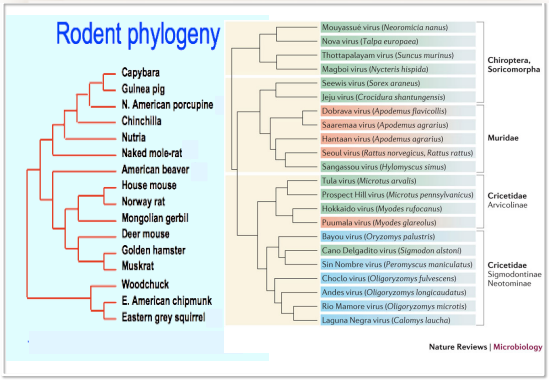


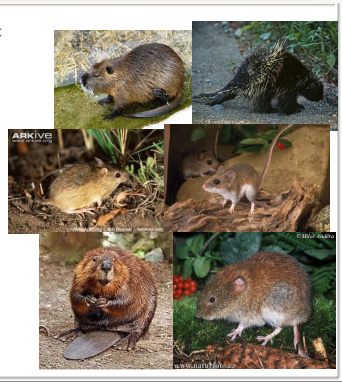
Figure 13.9. The evolutionary radiation of placental mammals, modified from Novacek (1994). (Drawing by Carl Buell)

Order Rodentia



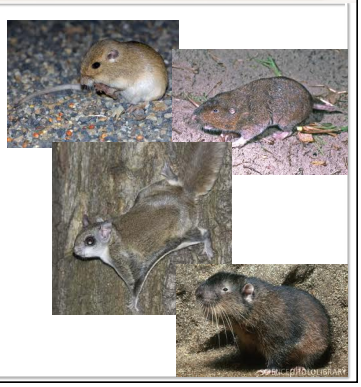
Order Rodentia

- 9 Pacific Northwest rodent families
  - Myocastoridae
    - Nutria
  - Erethizontidae
    - Porcupines
  - Dipodidae
    - Jumping mice
  - Cricetidae (Muridae)
    - Mice, rats, voles
  - Castoridae
    - Beavers



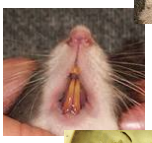
Rodent Families

- Heteromyidae
  - Pocket mice
- Geomyidae
  - Pocket gophers
- Sciuridae
  - Squirrels, chipmunks
- Aplodontidae
  - Mountain beavers



Characteristics

- Extra large incisors
  - 2 in each jaw
  - Ever growing
  - Yellow to orange enamel
  - Stay sharp
    - Dentin on back soft
    - Gnawing wears to sharp wedge
- Diastema
  - Large gap in rodent jaws between incisors and molars
    - No canines or premolars



Characteristics

- Young mostly altricial
  - Helpless, require parental care
  - Beavers, porcupines, nutria
    - Precocial
      - Ready to feed and defend themselves

Nutria

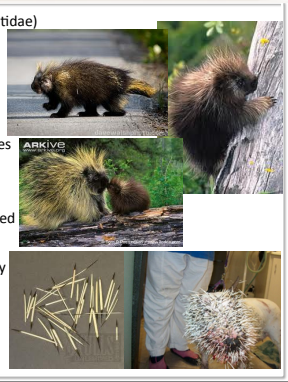
- *Myocastor coypus* (Family Myocastoridae)
- Introduced from S.A.
- 26-55"
  - 5-25 lbs.
- Grayish brown w/long scaly, sparsely-haired, cylindrical tail
- Flat head w/small ears and eyes
  - White patch on muzzle tip
- Webbed hind feet – 4/5 toes in webbing

Nutria

- Semi aquatic – rivers/lakes/ponds/ marshes
  - Water surface must not freeze in winter
  - Require emergent/submerged vegetation
- Eat large amounts of wetland vegetation
- Dens in bank – 1 opening above water, 1 below
- ~2 litters/year @ 1 year old
  - 3-8 precocious young

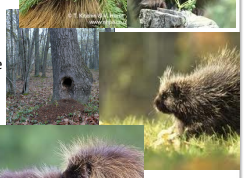
North American Porcupine

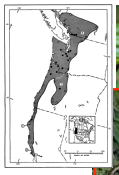
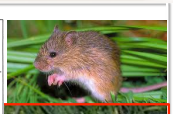
- *Erithizon dorsatum* (Family Erethizontidae)
- "spiny pig"
- 21-37" / 7-40 lbs.
- Long, light tipped guard hairs
  - Mostly yellowish to brown
  - May have gray patch between eyes
- Long claws for climbing
- Possess quills for defense
  - 30,000 modified hairs – stiff/barbed
  - Lower head and lash with tail
    - Dislodge from porcupine easily
    - Barbs swell
- Found in many habitats
  - Mostly forests, tree plantations
    - Also grasslands, tundra



North American Porcupine

- Strict herbivores
  - Young soft bark - favorite
    - Also leaves, buds, twigs, salty things
    - Slow but capable climber
  - Strip branches clean
  - May chew bones/antlers for calcium
- Mostly nocturnal
  - Dens in cave, under rocks, in hollow tree or log
  - May sleep in feeding tree for days
- Roadkill most common fatality
- Male urinates on female in courtship
- Single precocious porcupette born
  - Quills soft for birth – harden in hours



Mice (Cricetidae)

- 9 Species of mice in PNW
  - From 5 genera
- Know those in red with asterisk (*)
  - Western Jumping Mouse
    - *Zapus princeps*
  - Pacific Jumping Mouse*
    - *Zapus trinotatus*
    - 8-10", long (4-6") bi-colored tail
      - For leaping counter-balance
    - Dark brown stripe down back, reddish tan sides, white belly
    - Long hind feet
    - Long hibernators – awaken by soil temp (all at once)
    - Can jump 3' straight up
  - Western Harvest mouse
    - *Reithrodontomys megalotis*