Higher taxonomy of mammals

Class Mammalia
  Subclass Prototheria
    Order Monotremata
  Subclass Theria
    Infraclass Metatheria
    7 Orders
    Infraclass Eutheria
    21 Orders
Order Monotremata

Tachyglossidae

Tachyglossus

Ornithorhynchidae

Ornithorhynchus

Zaglossus
Monotremes are very different from other mammals

- Lay eggs
- No nipples for lactation
- Teeth absent (except juvenile platypus)
- Electrosenory ability in bills and beaks
- No auditory bullae; cochlea of inner ear curved, not coiled
- Shoulder girdle retains primitive structure with rigid connections between shoulders and sternum
- Epipubic bones
- Cervical ribs
- Males with ankle spurs and poison glands
<table>
<thead>
<tr>
<th>Metatheria vs Eutheria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Metatheria</strong></td>
</tr>
<tr>
<td>Bifid Uteri</td>
</tr>
<tr>
<td>Birth through pseudovaginal canal</td>
</tr>
<tr>
<td>Bifid Penis (some)</td>
</tr>
<tr>
<td>Anterior scrotum</td>
</tr>
<tr>
<td>Very altricial young</td>
</tr>
<tr>
<td>Marsupium or pouch (most but not all!)</td>
</tr>
<tr>
<td><strong>Eutheria</strong></td>
</tr>
<tr>
<td>Fused Uteri</td>
</tr>
<tr>
<td>Birth through vaginal canal</td>
</tr>
<tr>
<td>Non-Bifid penis</td>
</tr>
<tr>
<td>Posterior scrotum</td>
</tr>
<tr>
<td>Precocial or moderately altricial young</td>
</tr>
<tr>
<td>Development in uterus</td>
</tr>
</tbody>
</table>
IDing Marsupials

- Fenestrated palate
- Inflected angular processes
- Number of upper incisors usually higher than lower incisors (Not in Vombatidae)
- Premolars 3/3, molars 4/4 (primitive)
- Relatively small braincase
- Epipubic bones
Orders of Marsupials

- Didelphimorphia (S Am, N Am)
- Microbiotheria (S Am)
- Paucituberculata (S Am)
- Dasyuromorphia (Aust)
- Peramelemorphia (Aust)
- Notoryctemorphia (Aust)
- Diprotodonta (Aust)
Didelphimorphia

- American opossums
- One Family: Didelphidae
- Range: US south through South America
- Terrestrial, arboreal and semiaquatic
- 5/4 incisors

Didelphis virginiana

Marmosa murina
Microbiotheria

- Monito del monte
- One family: Microbiotheriidae
- One living species: *Dromiciops gliroides*
- Range: South-Central Chile
- Arboreal, possum-like
- More closely related to Australian marsupials than other S Am marsupials

*Dromiciops gliroides*
Paucituberculata

- Shrew-opossums
- One family: Caenolestidae
- Range: western South America, mostly in Andes
- Terrestrial, insectivorous

*Rhyncholestes raphanurus*
Dasyuromorphia

- Marsupial Carnivores
- Three Families:
  - Dasyuridae: Range of carnivores; includes quolls, Tasmanian devils, dibblers
  - Myrmecobiidae: termite-eating numbat
  - Thylacinidae: Tasmanian wolf; extinct
- Range: Australia, Tasmania, New Guinea
- 4/3 incisors
Dasyuromorphia

Dasyuridae

Tiger quoll
*Dasyurus maculatus*

Southern dibbler
*Parantechinus apicalis*

Tasmanian devil
*Sarcophilus harrisii*
Thylacinidae

Tasmanian wolf
*Thylacinus cynocephalus*

Myrmecobiidae

Numbat
*Myrmecobius fasciatus*
Peramelemorphia

- Bandicoots and bilbies

- Three Families:
  - Thylacomyidae: bilbies
  - Peramelidae: bandicoots
  - Chaeropodidae: pig-footed bandicoot (extinct)

- Range: Australia, Tasmania, New Guinea

- 4-5/3 incisors

- Chorioallantoic placenta

Greater bilby
Macrotis lagotis

Northern Brown Bandicoot
Isoodon macrourus
Notoryctemorphia

- Marsupial moles
- One family: Notoryctidae
- Range: Central and Western Australia
- Fossorial, live in deserts
- Very large, spade-like claws

*Notoryctes typhlops*
Diprotodontia

- Largest Order of Marsupials
- 11 Families:
  - Phascolarctidae: koalas
  - Vombatidae: wombats
  - Phalangeridae: brushtail possums and cuscuses
  - Burramyidae: pygmy possums
  - Pseudocheiridae: ringtailed possums, greater glider
  - Petauridae: gliders, striped and Leadbeater’s possums
  - Tarsipedidae: honey possum or noolbenger
  - Acrobatidae: feathertail glider and possum
  - Hypsoprymnodontidae: musky rat kangaroo
  - Potoroidae: bettongs, potoroos, rat kangaroos
  - Macropodidae: kangaroos and wallabies
Diprotodontia

- Named for single pair of lower incisors
- Large range of sizes from small possums to the larger kangaroos
- Terrestrial, semifossorial, and arboreal
- Range: Australia, Tasmania, New Guinea, Indonesia
Diprotodontia

Phascolarctidae

Koala
*Phascolarctos cinereus*

Vombatidae

Northern hairy-nosed wombat
*Lasiorhinus krefftii*

Vombatus ursinus
Diprotodontia

Phalangeridae

Mountain pygmy possum
*Burramys parvus*

Common brushtail
*Trichosurus vulpecula*

Burramyidae

Cuscus
*Phalanger*

ARKive
Diprotodontia

Pseudocheiridae

Common ringtail
*Pseudocheirus peregrinus*

Greater glider
*Petauroides volans*
Diprotodontia
Petauridae

Sugar glider
*Petaurus breviceps*

Striped possum
*Dactylopsila trivirgata*

Leadbeater’s Possum
*Gymnobelideus leadbeateri*
Diprotodontia

Acrobatidae

Feather-tail glider
*Acrobates pygmaeus*

Tarsipedidae

Noolbenger or honey possum
*Tarsipes rostratus*
Diprotodontia

Potoroidae

Long-footed potoroo
*Potorus longipes*

Hypsiprymnodonodontidae

Musky rat kangaroo
*Hypsiprymnodon moschatus*

Burrowing bettong
*Bettongia lesueur*
Diprotodontia

Macropodidae

Gray kangaroo
*Macropus giganteus*

Yellow-footed rock wallaby
*Petrogale xanthopus*

Lumholtz tree kangaroo
*Dendrolagus lumholtzi*