

Vertebrate Study Guide

Mixini aka Hyperotreti

Cephalaspidomorphi

Chondrichthyes

Osteichthyes

Amphibia

Anura = Salientia

Caudata = Urodela

Gymnophiona

Reptilia

Rhynchocephalia (tuatara)

Crocodylia

Squamata

Testudines = Chelonia

Aves

Anseriformes: swan, duck, goose

Apodiformes: hummingbird, swift

Charadriiformes: gull, awk, plover,
avocet, sandpiper

Ciconiiformes: heron, egret, stork,
ibis

Columbiformes: dove, pigeon

Falconiformes: hawk, vulture,
eagle, falcon, osprey, kestrel

Galliformes: peafowl, quail, turkey,
pheasant, chicken

Passeriformes: wren, crow, tit,
robin, finch, sparrow, swallow

Piciformes: toucan, woodpecker,

Psittaciformes: parrot, cockatoo,
lori, parrakeet, budgirigar

Strigiformes: owls

Mammalia

monotremes

marsupials (Metatheria)

placentals (Eutheria)

Cetartiodactyla: deer, camel,
giraffe, bison, cattle, goat,
sheep; whale, porpoise, dolphin

Chiroptera: bats, flying fox

Carnivora: dog, cat, bear, otter,
skunk, raccoon, cheetah; sea
lion, walrus, seal

Insectivora: shrew, mole

Lagomorpha: rabbit, hare, pika

Perissodactyla: horse, ass, zebra,
tapir

Primates: lemur, loris, monkey,
Hugh Grant, gorilla, chimp

Afrotheria: elephant; sea cow,
dugong, manatee, aardvark

Rodentia: rat, porcupine, squirrel,
beaver, mouse, gerbil, coypu,
hamster, capybara, chipmunk

aestivation *vs* hibernation

altricial *vs* precocial

amniotic eggs

amplexus

anapsid *vs* diapsid *vs* synapsid

apocrine gland

arrector pili

basking

buccopharyngeal exchange

incisor canine pre- molar

carnassial apparatus

cecum

cloaca

collagen

countercurrent mechanism

plumage

diastema

eccrine gland

ectothermic

embryonic diapause

endothermic

estrus

gestation period

crop / gizzard

carnivores *vs* herbivores

hermaphroditism

heterodont dentition

homothermic

incubation period

keratin

lateral line system

mammary mammary

marsupium

metamorphosis

It has been argued that lungs originally evolved not as a device for invading the land but as a means of staying in the water. Explain.

Enumerate the major problems confronting a formerly aquatic animal on land. Describe how amphibians have adapted to the land.

Describe how reptiles have completed the successful invasion of the land begun by amphibians.

What features of reptiles have enabled them to be the first real conquerers of dry land among the vertebrates? What features prevent them from exploiting all terrestrial habitats?

monogamous

mucous glands

neotenic larvae

neoteny

nonamniote

omnivores

oviparous *vs* ovoviviparous

panting

parthenogenesis

photoperiod

polyandrous/polygynous

pelage *vs* plumage

preening

protandry/protogyny

quadruped

ram ventilation

rete mirabile

ruminant

sanguivores

sebaceous gland

secondary palate

sudoriferous gland

swim bladder

syrinx

therapsids

torpor

tympanic membrane

urostyle

vibrissae

viviparous

Contrast the cursorial origin of avian flight with the arboreal origin of avian flight.

Flight has contributed enormously to the success of birds — but at a high cost. What features of birds are imposed by the requirements of flight? What limitations does flight impose on birds?

Describe the critical adaptations of mammals that have enabled them to dominate the planet since the end of the Age of Reptiles.

Identify the unique characteristics of mammals and describe how each has contributed to the evolution of endothermy in this class of vertebrates.

Describe the characteristics of a “perfect” parasite.