

Biology 434
Marine Community Ecology
Exam 3b Study Questions - Marine Reptiles, Birds and Mammals

Chapter 9

Introduction

Give examples from each of the major groups of marine reptiles, birds and mammals.
What is convergent evolution and how is it distinguished from monophyletic evolution?
Why is convergent evolution a potential problem in studying the evolutionary relationships of organisms that appear, at first sight, to be very closely related?

Reptiles

What are the major adaptations found among marine reptiles?
Give a general summary of the food habits of sea turtles.
What are the major biological traits of the Galapagos Marine Iguana?

Birds

What are some general characteristics that different groups of seabirds share in common?
What are the major feeding strategies found in marine birds and what structures are modified to optimize a particular feeding style?

Mammals

What are the four major groups of marine mammals - all of which are descended from terrestrial ancestors?
What are the major characteristics of aquatic mammals?

Pinnipeds

What are pinnipeds and how are the two major groups of the Order distinguished?
What is polygyny?
Explain the two theories proposed to explain the evolution of the pinnipeds from terrestrial ancestors.
What climatic conditions existed that terrestrial ancestors of the pinnipeds may have taken advantage of to exploit the ocean?

Sea Otters

What characteristics of sea otters distinguish them from other aquatic mammals?
What group is thought to be ancestral to the sea otters?

Sirenians

What is this term derived from?
What are the only two groups of living sirenians?
Who may be the ancestors of the sirenians?
What are the major characteristics of manatees?

To what trophic level do they belong?
Describe the ecological habits of manatees.
What areas of the world are they found in?
How many species of manatees are known to exist?
How do dugongs differ from manatees?
Where would you go to study dugongs in their native habitats?

Whales and Dolphins

What mammals are referred to as the cetaceans?
What group animals are hypothesized to be the ancestors of the cetaceans?
How are members of the Suborder Mysticeti different from those in the Suborder Odontoceti?
What do great whales eat?
What is a baleen and what is its function?
Describe the process of bubble net feeding.
What species of whales are on the endangered species list (or very close to it)?
Describe the migration routes of the humpback and grey whales.
Is an "orca" a whale or a dolphin?
What is a pod?
Cite three or four examples of whale social behavior.
Describe echolocation in dolphins.

End