

STOMACH CONTENTS OF *BASILOSaurus CETOIDES*: IMPLICATIONS FOR THE EVOLUTION OF CETACEAN FEEDING BEHAVIOR, AND EVIDENCE FOR VERTEBRATE FAUNA OF EPICONTINENTAL EOCENE SEAS

SWIFT*, Camm C., Department of Biology, Loyola Marymount College, Loyola Boulevard at West 80th Street, Los Angeles, California, 90045-2699, U.S.A.; BARNES, Lawrence G., Section of Vertebrate Paleontology, Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, California, 90007, U.S.A.

Direct evidence for the diet of fossil animals is rare but, occasionally the fossilized stomach contents are found that can indicate the precise nature of the food of once-living animals. A fossil skeleton of a large basilosaurine basilosaurid archaeocete whale, *Basilosaurus cetoides* (Owen, 1839), has been found with a mass of bones and teeth that indicate the diet of the animal. The whale skeleton was found in the Late Eocene Yazoo Formation in Scott County, Mississippi, and it has the large, double-rooted cheek teeth and large and elongate lumbar and caudal vertebral centra that typify the species. The stomach contents, excavated from within the rib cage of the skeleton, are an ovoid mass, light yellow in color, measuring approximately 15 by 25 cm, with small fish bones exposed on the surface. Sectioning with a rock saw revealed that the internal structure of this mass is a fine-grained, calcareous matrix with hundreds of small bones. Part of this mass was dis-aggregated with hydrochloric acid, and the resulting residue includes body bones of teleost fishes and teeth of small sharks.

The remains within the *Basilosaurus cetoides* skeleton belong to fishes and sharks ranging up to approximately 50 cm in length, suggesting that the archaeocete was an active predator. Probably, in a manner analogous to feeding methods of the living killer whales (*Orcinus orca*), fishes were actively caught by the archaeocete, bitten into pieces, and swallowed. Fishes are the principal food of most groups of living toothed whales (Odontoceti: Delphinidae, Phocoenidae, Platanistidae, Iniidae, Pontoporiidae, Lipotidae), and of some living baleen whales (Mysticeti: minke whales, *Balaenoptera acutorostrata*; humpback whales, *Megaptera novaeangliae*). The ubiquitous occurrences of piscivory among cetaceans and the revelation that archaeocetes ate fishes, indicate that fishes were probably the typical food of the ancestral cetaceans.

Occasional fossil teeth of various sharks and a few rare bones of teleost fishes have been found elsewhere in the Yazoo Clay, and this fossil record would otherwise indicate that such animals are rare in the formation. The stomach contents of the *Basilosaurus cetoides* indicate the presence of taxa that would otherwise remain unknown elements of the Late Eocene fauna and provide additional information about the paleoecology of the formation.