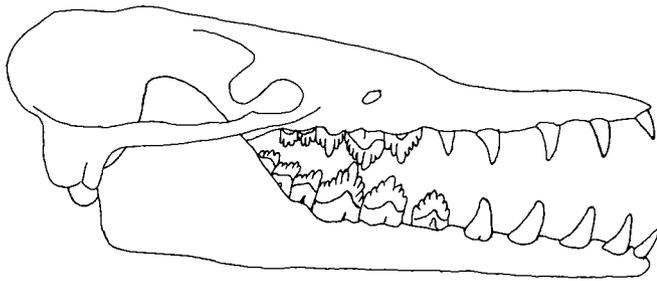


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Cetacea

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The majority of fossil whale species reported from Africa were collected in Eocene rocks of Egypt and belong in the primitive cetacean suborder Archaeoceti. Most were collected or described in the scientific literature before or around the first part of the Twentieth Century, and some of the primary literature is out of date. Recent publications dealing with specimens from India (Sahni and Mishra 1972, 1975; Satsangi and Mukhopadhyay 1975) have probably not referred extensively enough to the literature on north African Tethys fossils. The studies by Dames, Fraas, Stromer, and Andrews have described most of the archaeocetes of the world, the majority of which were found in Egypt. These species have figured prominently in theories on the origin and evolution of the order Cetacea. In marked contrast, the post-Eocene cetacean record of Africa is scanty and undoubtedly biased by a lack of field work in appropriate rock units.

A discussion of the fossil whales, dolphins, and porpoises of Africa must consider that in life these animals, the fossil remains of which are now found in rocks on the African continent, were inhabitants of the marine waters surrounding it and the fresh water on it. Whether these cetaceans were fluvial, near-shore, or pelagic, their distribution was not necessarily influenced by the same dietary, climatic, or geographic constraints as was the dispersal of the terrestrial animals of Africa. Cetacean systematics is sometimes biased by the land mass on which fossils are found, without full consideration of the ancient ocean basin in which they lived. Therefore, distributions of fossil marine mammals (listed in summary works like Simpson 1945; Romer 1966) should more correctly be recorded as Eocene of Tethys instead of Eocene of Egypt, or Miocene of North Atlantic instead of Miocene of Europe. The fossil record of cetaceans is now too incomplete to recognize and document precise, limited distributions. The safest initial assumption is that a species was probably distributed throughout an ocean basin or water mass rather than having a restricted distribution near a continental margin.

The orientation of this essay must be termed "gradistic," as the limited fossil evidence is insufficiently documented and interpreted at present to be quantified or subjected to cladistic analyses.

Some Morphological Specializations of Cetacea

The following characterization is based on many general and summary works on the history and morphology of the Cetacea, especially those of Miller