

PhD Dissertation
Department of Environmental Science and Policy
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Title: The taxonomy and phylogeny of the Squalodontidae (Cetacea, Odontoceti), and implications for the fossil record of whales

Dissertation Director: Dr. Mark D. Uhen

Committee: Dr. Stacey Verardo, Dr. Geoffrey Gilleaudeau, and Dr. Olivier Lambert

ABSTRACT

The Squalodontidae is a family of archaic odontocetes, or toothed whales, with a nebulous taxonomy and phylogenetic position. The family has long been considered a “wastebasket” containing many fragmentary cetacean fossils, and most species within the family are poorly understood by paleontologists. This dissertation research produced the comprehensive review of the Squalodontidae by (1) removing species named from fragmentary material, (2) revitalizing the taxonomy of the most significant species within the family, *Eosqualodon langewieschei* and *Squalodon grateloupii*, and (3) placing the Squalodontidae into an analysis of evolutionary relationships. The results of these studies have elevated the Squalodontidae from wastebasket status, and clarified the evolution of key traits within the Odontoceti.