

Underwater Paleontology: Recovery of a Prehistoric Whale Mandible Offshore Georgia

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Abstract

During the fall of 2006, scientific divers from University of Georgia, Athens (UGA) and the National Oceanic and Atmospheric Administration (NOAA) were conducting a reconnaissance dive at JY reef approximately 20 nautical miles offshore Georgia. During this dive, a large subfossil bone was discovered partially embedded in the reef. On subsequent dives, loose sand was removed from around the bone and a small section was recovered. This bone fragment was carbon dated at the Center for Applied Isotope Studies to approximately 36,000 years before present. However, since the bone was determined to be much larger than originally thought; not readily recoverable; and would require extensive excavation, a bottom disturbing permit was required. After approximately one year of discussions with multiple state and federal agencies, the United States Army Corps of Engineers issued a permit for excavation. Excavation began in the summer of 2008 and involved cutting through fossilized shell beds before reaching softer, but hard packed silt. Divers worked diligently with hammers, chisels and knives to cut away the overburden and carefully remove the sediment immediately around the bone. After numerous dives, the bone was recovered in sections totaling approximately 1.5 m in length. The bone has been visually identified as a mandible from an Atlantic Gray whale, a species that is now extinct. Ongoing work including visual study and DNA extraction is being conducted to verify the species. A joint UGA and Emory University team is currently working to professionally restore the bone and prepare it for display.

