A46 Identification of Osteological Remains From the Ironclad U.S.S. *Monitor*

David R. Hunt, PhD, Smithsonian Institution, Dept of Anthropology/MRC112, 10th and Constitution Avenue/NMNH, Washington, DC 20013-7012; David Krop, MA, Mariners' Museum, 100 Museum Drive, Newport News, VA 23606; Kathleen Sullivan, MAC, Mariners' Museum, 100 Museum Drive, Newport News, VA 23606; Jeremy Jacobs, MS, Smithsonian Institution, National Museum of Natural History/VZ, 10th and Constitution Avenue, Washington, DC 20013; John Ososky, MS, Smithsonian Institution, National Museum of Natural History/VZ, 10th and Constitution Avenue, Washington, DC 20013; and Charley Potter, BS, Smithsonian Institution, National Museum of Natural History/VZ, 10th and Constitution Avenue, Washington, DC 20013*

The goal of this presentation is to expose attendees to the possible misidentification of human remains as marine mammal remains.

This presentation will impact the forensic science community by cautioning against misidentification of human remains as turtle remains.

In 2001, National Oceanic and Atmospheric Administration (NOAA) archaeologists and United States Navy salvage divers recovered the main steam engine from the Civil War ironclad U.S.S. *Monitor* which sank off the coast of North Carolina in 1862. The engine was then transferred to The Mariners' Museum (TMM) in Newport News, VA, for documentation, conservation, and exhibition. Additional artifacts like the ship's 120-ton revolving gun turret and personal items were recovered in 2002. The archaeological collection now totals nearly 1,500 artifacts. While surveying this collection, museum conservators discovered an unprovenienced bone. The size and morphology of the bone was quite similar to a human phalanx, having what appeared to be a dual-faceted proximal articulation with tapering diaphysis from the preserved articular end to a widening distal articular end that was broken at the neck of the distal diaphysis. Sixteen sailors perished during the sinking of the U.S.S. *Monitor* and there was some concern that this bone was remains from a lost sailor; however, TMM conservators also discovered the incomplete remains of a sea turtle concreted to the ship's main engine. Portions of the head, carapace, and appendages were documented and removed for conservation. As a result, TMM conservators questioned whether the particular unprovenienced bone was human or non-human in origin.

The possible phalanx, as well as the recovered turtle bones, was brought to the Smithsonian Institution for examination. Human hand and foot elements from the anatomical series were compared to the bone. The morphological structure was more similar to a medial hand phalanx than to a foot phalanx, but there were no clear indications of lateral ridges for the flexor tendon insertion and the cross section of the diaphysis was more oval in shape than the more typical "D" shape of the human proximal and medial phalanges.

For sea turtles, there are six species possibilities along the Atlantic Ocean coast. From examination of the turtle bones from the U.S.S. *Monitor*, the lower jaw and humeri were most diagnostic for the loggerhead turtle (*Caretta caretta*). Using the mandible from the turtle remains for size comparison, digit bones from similar-sized specimens in the Amphibian and Reptile Osteological collections were reviewed and it was established that the bone is extremely similar to the medial phalanx from the front flipper of a loggerhead turtle. Thus, the bone in question is considered to be from a loggerhead turtle and likely the same turtle found in the engine room. DNA analysis would be necessary to confirm association.

Although a situation such as this investigation would be exceedingly rare in "normal" forensic settings, the results of this comparative examination show that there are elements of turtle species that are highly similar in morphology to human elements. In coastal regions where marine turtle species skeletons may be found, it should be noted that these remains may be misinterpreted as human.

Bone Identification, Skeletal Morphology, Human vs. Non-Human