F33 Alligator Bites: Déjà Vu

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After attending this presentation, attendees will understand an applied methodology for analyzing animal (alligator) bite marks.

This presentation will impact the forensic community and/or humanity by examining and analyzing animal bite marks.

The range of the American Alligator (Alligator Mississippiensis) extends from the coastal swamps of the Carolinas to the tip of southern Florida, west along the Gulf Coast to the mouth of the Rio Grande. Alligators live in freshwater lakes, rivers, swamps, and brackish water. In competition, Florida's human population, currently at 12.5 million, is increasing by upwards of 900 a day. Urbanization of traditional alligator habitats has led to increased encounters of the dangerous kind.

Issues of non-cohabitability are reflected by the thousands of alligator related complaints received by the Florida Game and Florida Fish and Wildlife Commissions. During the 51 year period between 1948 and 1999, 419 alligator attacks on humans were documented with 10 of those resulting in fatalities. Contrast that to the 5 years from 2000 to 2005 when there were 107 reported alligator bites and seven fatalities. During the first half of 2006 there were an additional three deaths. Although the number may seem small the trend is problematic of ever increasing contact between the indigenous alligator population and humans.

This presentation will illustrate the cooperative effort between the Florida Fish and Wildlife investigators, Medical Examiner's staff, and the forensic odontologist in determining the identification of alligators' responsible for the deaths of two individuals based on traditional dental bite mark analysis.

The first case involved a 12-year-old male who was attacked and killed while playing with friends along a riverbank in Central Florida. The attack occurred near dusk and was, according to the investigative report, provoked by harassing the animal. Examination by the Medical Examiner showed near traumatic amputation of the left hand as a result of a bite at the wrist, avulsion of a large gluteal area and numerous contusions, skin tears and bite marks of the extremities, head, and torso. Cause of death was drowning. Trappers collected nine suspect alligators in the geographic region of the attack. The wildlife biologist dissected the heads and separated the jaws. With the victim on the gurney, the alligator dentitions were compared directly to the bite mark wounds on the victim's body. Eventually, one large male alligator measuring 10'6" and weighing 337 pounds was identified based on a positive match of the dentition directly to the bite mark wounds.

The second death occurred when a 23-year-old female was killed while snorkeling in a freshwater spring, also in Central Florida. The cause of death was drowning. She sustained bite marks, contusions, and injuries to the head, chest, abdomen, and arms. A large 11'5" 407 pound male alligator known to reside in that area was captured and brought to the Medical Examiner's office for evaluation. The victim had been released to the family and was not available for direct comparison of the dentition to the wounds. As a result, the more traditional bite mark analysis was utilized. The alligator dentition was duplicated in Alginate impression material and poured in dental stone. The models of the teeth were scanned on a flatbed scanner and imported into Adobe Photoshop 7. Photographs of the bite marks were sized 1:1, also in Photoshop, and a bite mark comparison was conducted. A successful identification was established.

In addition to the two cases presented by the author, four other fatalities caused by alligators have been reported in Florida in 2006. Cooperation between the Medical Examiner, Florida Fish and Wildlife investigators, and the forensic odontologist has resulted in the identification and removal of several dangerous and aggressive alligators from the population. This is not to suggest that alligators, by their very nature, are human predators and need to be eliminated. The circumstances involving negative interaction between humans and alligators appear, for the most part, to be accidental, protective, or provoked. People need to be respectful of the potential hazards and use common sense when encountering alligators.

Alligator Attacks, Forensic Odontology, Animal Bite Marks

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