

Ontogenetic shifts in dietary composition of the American alligator in Southern Louisiana

Andrew J. Parks*¹, Natasja C. van-Gestel¹, Andres Rodriguez-Cordero¹, Abbie Ince-Hendrickson¹, Nelly Rubio-Rayas¹, Sergio A. Balaguera-Reina² and Llewellyn D. Densmore¹

¹Texas Tech University, Department of Biological Sciences, PO Box 43131, Lubbock, TX 79409, USA (andy.parks@ttu.edu)

²University of Florida IFAS Fort Lauderdale Research and Education Center, 3205 College Avenue Fort Lauderdale, FL 33314, USA (sergio.balaguera@ufl.edu)

Abstract: American alligators (*Alligator mississippiensis*) play a significant role as apex predators in the aquatic ecosystems of the American Southeast. They have been shown to affect community composition, impact the populations of other species, and induce trophic cascades. The diet of the American alligator varies across its range, and intraspecific niche specialization is known to occur within populations due to prey availability and habitat heterogeneity. Many studies have examined the diet of this species throughout its range using gastric lavage techniques, but here we use the more reliable method of obtaining data on dietary composition from necropsied individuals to resolve variability across all age groups. We evaluate the extent of resource partitioning and dietary overlap in a local population of *A. mississippiensis* based on age group and sex in southern Louisiana, and whether these animals undergo an ontogenetic shift from invertebrate prey to vertebrate prey. We collected stomach contents from 97 animals at Rockefeller Wildlife Refuge during the summers of 2017 and 2018, and classified ingested food items based on taxonomic groups (insect, arachnid, crustacean, fish, reptile, bird, and mammal). We used a non-metric multidimensional scaling (NMDS) ordination plot to define the significance in dietary variation and overlap between different age groups and sex. Overall, we found that juveniles specialized on ingesting insects and crustaceans, and we found no partitioning between sexes. Our results underline the importance of closely examining local dietary differences between age groups of an apex predator to better understand its impacts on the greater ecosystem.

Keywords: Diet, Alligator, Niche, NMDS

Type of presentation: Poster

Thematic area: Research and Knowledge (Natural History)