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SPECIAL SECTION: ELASMOBRANCH LIFE HISTORY

Introduction to a Special Section: Life History Characteristics of Elasmobranch Fishes from the Western North Atlantic Ocean

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Humans have harvested elasmobranchs in the waters of the western North Atlantic Ocean since at least the 16th century (Borhegyi 1961). In that time, fisheries for elasmobranchs have waxed and waned. However, it is now widely acknowledged that most elasmobranchs share *k*-selected life history characteristics, such as relatively slow growth, late maturity, and low fecundity, that make sustainable fisheries possible only through careful management (Walker 1998). In 1993, the National Marine Fisheries Service implemented a fishery management plan for selected shark species inhabiting territorial waters of the United States within the western North Atlantic Ocean (Stone et al. 1998). As a result, stock assessments have been conducted to monitor the status of the managed species. However, accurate biological information, such as reproductive rates, fecundity, and age at maturity, are required for these assessments to be reliable (Cortés 1998).

With the exception of the little information gleaned from the anatomical investigations, developmental studies, and faunal synopses of the late 1800s and early 1900s (e.g., Jordan and Evermann 1896), virtually nothing was known about the life histories of elasmobranchs until the 20th century. In the early to mid-1900s, a small group of biologists, most notably Henry Bigelow, Eugene Gudger, William Schroeder, and Stewart Springer, began reporting life history information from anecdotal sources and direct observations. The first detailed studies providing information on the life history of specific elasmobranch species in the western North Atlantic Ocean appeared in the 1950s (e.g., Springer 1950; Backus et al. 1956). Since that time there has been a progressively growing body of literature on the life histories of elasmobranchs in this region, and we now have at least a rudimentary understanding of the biology for some of the more commonly encountered and/or commercially important species.

Through the generous support of the Mississippi Chapter of the American Fisheries Society, the University of New England, and the University of Southern Mississippi Gulf Coast Research Laboratory, a symposium entitled “Life History Characteristics of Elasmobranch Fishes from the Western North Atlantic Ocean” was held on 28 January 2012 at the 20th meeting of the Southern Division of the American Fisheries Society in Biloxi, Mississippi. Representatives from over 15 universities, federal and state agencies, and private organizations participated in the symposium. Its objective was to provide a forum in which biologists could share recent findings regarding the age, growth, reproduction, and habitat utilization of various elasmobranchs inhabiting waters off the East Coast of the United States and within the northern Gulf of Mexico. What follows are eight contributions to our knowledge of the life histories of elasmobranch fishes in the western North Atlantic Ocean that were presented at the symposium.

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REFERENCES

- Backus, R. H., S. Springer, and E. L. Arnold Jr. 1956. A contribution to the natural history of the White-tip Shark, *Pterolamiops longimanus* (Poey). *Deep-Sea Research* 3:178–188.

- Borhegyi, S. F. D. 1961. Shark teeth, stingray spines, and shark fishing in ancient Mexico and Central America. *Southwestern Journal of Anthropology* 17:273–296.
- Cortés, E. 1998. Demographic analysis as an aid in shark stock assessment and management. *Fisheries Research* 39:199–208.
- Jordan, D. S., and B. W. Evermann. 1896. The fishes of North and Middle America: a descriptive catalogue of the species of fish-like vertebrates found in the waters of North America, north of the isthmus of Panama. U.S. Government Printing Office, Bulletin of the United States National Museum 47, Washington, D.C.
- Springer, S. 1950. Natural history notes on the Lemon Shark, *Negaprion brevirostris*. *Texas Journal of Science* 3:349–359.
- Stone, R. B., C. M. Bailey, S. A. McLaughlin, P. M. Mace, and M. B. Schuze. 1998. Federal management of US Atlantic shark fisheries. *Fisheries Research* 39:215–221.
- Walker, T. I. 1998. Can shark resources be harvested sustainably? A question revisited with a review of shark fisheries. *Marine and Freshwater Research* 49:553–572.