



## Range, sexual dimorphism and bilateral asymmetry of rostral tooth counts in the smalltooth sawfish *Pristis pectinata* Latham (Chondrichthyes: Pristidae) of the southeastern United States

TONYA R. WILEY<sup>1</sup>, COLIN A. SIMPFENDORFER<sup>1,2</sup>, VICENTE V. FARIA<sup>3,4</sup> & MATTHEW T. MCDAVITT<sup>5</sup>

<sup>1</sup>Mote Marine Laboratory, Center for Shark Research, 1600 Ken Thompson Parkway, Sarasota, Florida 34236, USA.  
E-mail: twiley@mote.org

<sup>2</sup>Current address: James Cook University, School of Earth and Environmental Sciences, Townsville, Queensland, 4811, Australia.  
E-mail: colin.simpfendorfer@jcu.edu.au

<sup>3</sup>Iowa State University, Department of Ecology, Evolution and Organismal Biology, Ames, Iowa, USA.

<sup>4</sup>Current address: Universidade Federal do Ceará, Instituto de Ciências do Mar, Fortaleza, Ceará, Brazil.  
E-mail: vicentefaria@gmail.com

<sup>5</sup>National Legal Research Group, Inc., Charlottesville, Virginia, USA. E-mail: mtmcdavitt@aol.com

### Abstract

Rostral tooth counts of *Pristis pectinata* specimens from museum collections, research surveys, and fisheries activities were examined to provide information on sexual dimorphism, bilateral asymmetry, and to aid in the resolution of the taxonomic uncertainty that surrounds the Pristidae. Counts were taken from 105 smalltooth sawfish captured in Florida and Georgia, USA, from 1834 to 2007. The number of rostral teeth present was 22 to 29 per side and 45 to 56 in total. These counts were more constrained, and mean values lower, than historically reported for this species in the literature. *Pristis pectinata* rostral tooth counts exhibited sexual dimorphism, with males on average having more rostral teeth than females. Bilateral asymmetry in rostral tooth counts was displayed in 73% of individuals, with no consistent side on which the greatest count occurred. No significant difference between left and right side rostral tooth counts was found.

**Key words:** rostral teeth, endangered species, systematics, taxonomy

### Introduction

Seven species of sawfish are currently recognized worldwide (Compagno 1999, 2005) and all are considered critically endangered by the World Conservation Union (IUCN 2006). All species are protected from international trade under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendix I, except for *Pristis microdon* which is protected under Appendix II. In the USA *P. pectinata*, the smalltooth sawfish, was once distributed throughout the Gulf of Mexico and along the Atlantic coast (Bigelow & Schroeder 1953). However, decades of capture in fisheries and loss of nursery habitats to coastal development, coupled with low reproductive potential have seen the population decline to less than 5% of its original size (Simpfendorfer 2002). Today, *P. pectinata* are found regularly only in the waters of southern Florida (Seitz & Poulakis 2002; Poulakis & Seitz 2004; Simpfendorfer & Wiley 2005). The population on the east coast of Florida was considered to have been extirpated (Snelson & Williams 1981), but is now known from a few recent records (Wiley unpublished data). In recognition of the extinction risk for the species, the National Marine Fisheries Service listed *P. pectinata* as Endangered under the US Endangered Species Act in 2003.