



## A new species of ladyfish, of the genus *Elops* (Elopiformes: Elopidae), from the western Atlantic Ocean

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### Abstract

This paper describes *Elops smithi*, n. sp., and designates a lectotype for *E. saurus*. These two species can be separated from the five other species of *Elops* by a combination of vertebrae and gillraker counts. Morphologically, they can be distinguished from each other only by myomere (larvae) or vertebrae (adults) counts. *Elops smithi* has 73–80 centra (total number of vertebrae), usually with 75–78 centra; *E. saurus* has 79–87 centra, usually with 81–85 centra. No other morphological character is known to separate *E. smithi* and *E. saurus*, but the sequence divergence in mtDNA cytochrome *b* ( $d = 0.023–0.029$ ) between *E. smithi* and *E. saurus* is similar to or greater than that measured between recognized species of *Elops* in different ocean basins. Both species occur in the western Atlantic Ocean, principally allopatrically but with areas of sympatry, probably via larval dispersal of *E. smithi* by oceanographic currents.

**Key words:** allopatry, sympatry, vertebrae, mtDNA, meristics, Caribbean Sea, Gulf of Mexico

### Resumen

Este trabajo describe *Elops smithi* y designa un lectotipo para la especie *E. saurus*. Estas dos especies de peces pueden separarse de las otras cinco especies de *Elops* por una combinación de los números de vértebras y branquispinas. Morfológicamente pueden distinguirse una de la otra sólo por el número de miomeros (larvas) o de vértebras (adultos). *Elops smithi* tiene 73–80 centra (número total de vértebras), usualmente con 75–78 centra; *E. saurus* tiene 79–87 centra, usualmente con 81–85 centra. Ningún otro carácter morfológico es conocido para separar *E. smithi* y *E. saurus*, pero la divergencia en la secuencia del citocromo *b* del mtDNA ( $d = 0.023–0.029$ ) entre *E. smithi* y *E. saurus* es similar a, o mayor que aquella medida entre las especies reconocidas de *Elops* de océanos diferentes. Ambas especies se encuentran en el Océano Atlántico occidental, mayormente alopatricamente pero con áreas de simpatria probablemente originadas por la dispersión larval de *E. smithi* por corrientes oceanográficas.

### Introduction

The ladyfishes or tenpounders (genus *Elops*) are widely distributed in tropical-subtropical, marine and coastal waters. Six species of *Elops* are recognized worldwide (Eschmeyer & Fong 2008), but the taxonomy of the group is poorly known and some authors recognize fewer species (Nelson 2006). Taxonomic uncertainty of *Elops* is exemplified by the ladyfish, *E. saurus*, currently recognized as the only species of *Elops* in the western Atlantic Ocean. A large collection ( $n = 440$ ) of larvae from this area, revealed a bimodal distribution of myomere counts, which indicated that two morphs existed (Smith 1989). Smith identified *Elops saurus* as a high-count morph (79–86 total myomeres) and he assigned *Elops* sp. as a low-count morph (74–78 total myomeres). He also reported that the preanal myomere counts were distinct (76–80 v. 68–72, respectively). Although he found no additional morphological characters to diagnose *Elops* sp., he regarded these two