



Description of a new species of deepwater catshark, *Bythaelurus giddingsi* sp. nov., from the Galápagos Islands (Chondrichthyes: Carcharhiniformes: Scyliorhinidae)

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Abstract

We describe *Bythaelurus giddingsi* sp. nov. based on 7 specimens collected using the submersible *Johnson Sea-Link* from deepwater (428–562 m depth) areas of the Galápagos Islands. It is presumed to be endemic to the archipelago. The new species differs from its congeners in its coloration, the length of its anal-fin base, and in other morphological characters. The disjunct distribution of species of the widely-distributed Indo-Pacific genus *Bythaelurus* is discussed.

Key words: Ichthyology, systematics, Scyliorhinidae, *Bythaelurus*, new species, endemism, Galápagos

Introduction

In recent years, two of us (JM and CB) had an opportunity to survey the Galápagos ichthyofauna using the one-atmosphere submersible *Johnson Sea-Link*. Numerous new species and new locality records were obtained between the surface and 1000 m (McCosker, 1997; McCosker *et al.*, 1997; McCosker & Rosenblatt, 2010), including a not uncommon catshark (Figures 1 & 2) that was observed and collected at several locations in the Galápagos Archipelago. The Galápagos catshark specimens described herein have been noted prior to this description as *Bythaelurus* sp. (Compagno 2005a, Compagno *et al.*, 2005, Kyne & Simpendorfer 2007, Hearn *et al.*, 2009, McCosker & Rosenblatt 2010, Ruiz *et al.*, 2011).

Bythaelurus Compagno 1988 was first described as a subgenus of *Halaaelurus* Gill 1862, based on a number of shared morphological features, and contained *H. canescens* (Günther 1878), *H. dawsoni* Springer 1971, *H. hispidus* (Alcock 1891), *H. immaculatus* Chu & Meng 1982, *H. lutarius* Springer & D'Aubrey 1972, and *H. alcocki* Garman 1913 (Compagno, 1988). Compagno (1988) identified the following diagnostic characters of *Bythaelurus*: "Snout bluntly rounded, without a pointed, knoblike tip. Eyes not noticeably elevated on dorsal surface of head. Gill openings not elevated above horizontal head rim ... Skin thin, body soft. Precaudal pit shorter, 0.5–0.6 of snout-vent length. Clasper hooks absent (*H. canescens*) or few (*H. hispidus*); other species unknown. Postanal space 0.2–0.4 in anal base. Distance from anal origin to second dorsal origin 0.7–0.8 times second dorsal base. Anal posterior margin 0.7–0.8 times second dorsal base. Anal posterior margin 1.0–1.4 times anal anterior margin. Color uniform brownish, gray, or blackish, sometimes with a line of white spots but without a prominent color pattern of dark stripes or spots ... MP counts 28.2–33.9, DP counts 31.7–36.0, DP?MP ratios 0.9–1.2." Compagno (1999) later added *H. clevai* Séret 1987. Compagno & Didier (2002) elevated *Bythaelurus* to full generic rank in a species checklist that included *B. hispidus* and *B. immaculatus*, and Compagno (2005a, b) subsequently added *B. alcocki*, *B. canescens*, *B. dawsoni*, *B. lutarius*, and *B. clevai* in a more complete taxonomic checklist. *Bythaelurus alcocki*, a deepwater Arabian Sea species known only from the small type specimen, is considered a possible synonym of *B.*