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Bythaelurus tenuicephalus n. sp., a new deep-water catshark (Carcharhiniformes, Scyliorhinidae) from the western Indian Ocean

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Abstract

A new dwarf deep-water catshark, *Bythaelurus tenuicephalus*, is described based on one adult and one juvenile male specimen from off Tanzania and Mozambique in the western Indian Ocean. The new species differs from its congeners by its slender head and snout, which is only slightly bell-shaped in dorsoventral view without distinct lateral indention. All other *Bythaelurus* species have distinctly bell-shaped snouts with a strong lateral indention anterior to outer nostrils. Compared to its congeners in the western Indian Ocean, *B. tenuicephalus* **n. sp.** also has broader claspers in adult males (base width 2.1% TL *vs*. 1.5–1.8% TL). It further differs from *B. clevai* by attaining a smaller maximum size and having a color pattern of fewer and smaller blotches, larger oral papillae, a shorter snout, and broader claspers without knob-like apex and with a smaller envelope and a subtriangular (*vs*. subrectangular) exorhipidion. Compared to *B. hispidus*, the new species has a longer snout, a longer dorsal-caudal space, broader clasper without knob-like apex, and fewer vertebral centra. In contrast to *B. lutarius*, *B. tenuicephalus* attains a smaller maximum size and has a blotched (*vs*. largely plain) coloration, numerous (*vs*. lacking) oral papillae, shorter anterior nasal flaps, a longer caudal fin, a shorter pelvic anal space, and shorter and broader claspers.

Key words: Scyliorhinidae, *Bythaelurus*, new species, Valdivia, deepwater, western Indian Ocean

Introduction

The deep-water catshark genus *Bythaelurus* was originally erected as a subgenus of *Halaelurus* Gill, 1862 by Compagno (1988) to distinguish between deep-water species with bluntly rounded snouts and soft bodies (subgenus *Bythaelurus*) and shallow to moderately deep-water species with pointed snouts and firm bodies (subgenus *Halaelurus*). *Bythaelurus* was subsequently elevated to full generic rank, however, there is disagreement in the literature about when and by whom the elevation was done. McCosker *et al.* (2012) indicate that the subgenus was elevated to generic rank by Compagno & Didier (2002), whereas Last & Stevens (2008) state that this was done by Compagno (2005). However, *Bythaelurus* had been used as a generic name by Compagno (1999) and Soto & Mincarone (2004) already. Actually, *Bythaelurus* was first used as a genus name by Herman *et al.* (1990) who differentiated between the genera *Halaelurus* and *Bythaelurus* based on tooth morphology. *Bythaelurus* was subsequently formally elevated to generic rank by Hovestadt & Hovestadt-Euler (1995) based on the results by Herman *et al.* (1990).

Bythaelurus species are exclusively found in deep waters below 200 m depth and mainly occur in the Indian and western Pacific Oceans, whereas only one species is known from the eastern Pacific and no species from the Atlantic (Weigmann, in press). The genus currently contains the following nine valid species: *Bythaelurus alcockii* (Garman, 1913), *B. canescens* (Günther, 1878), *B. clevai* (Séret, 1987), *B. dawsoni* (Springer, 1971), *B. giddingsi* McCosker, Long & Baldwin, 2012, *B. hispidus* (Alcock, 1891), *B. immaculatus* (Chu & Meng, 1982), *B. incanus* Last & Stevens, 2008, *B. lutarius* (Springer & D'Aubrey, 1972). However, the validity of *B. alcockii* is uncertain as the available descriptions (Alcock 1896; Alcock 1899; Garman 1913; Fowler 1941) provide few information and the holotype and only known specimen is apparently lost (Compagno 1984a; Akhilesh, pers. comm. 2014). Generally, the taxonomy and biology of *Bythaelurus* species are poorly known and so far only few studies have

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