



## A new species of chimaera, *Hydrolagus melanophasma* sp. nov. (Chondrichthyes: Chimaeriformes: Chimaeridae), from the eastern North Pacific

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### Abstract

A new species of chimaera, *Hydrolagus melanophasma* sp. nov. (Chimaeridae), is described from the eastern North Pacific. It is distinct from other eastern Pacific chimaeroids by the following characteristics: a large slightly curved dorsal fin spine extending beyond dorsal fin apex, a long second dorsal fin of uniform height throughout, large pectoral fins extending beyond the pelvic fin insertion when laid flat, trifold claspers forked for approximately one-quarter the total clasper length and a uniform black coloration throughout. The new species is compared to other eastern Pacific members of the genus *Hydrolagus* including *H. alphas*, *H. colliei*, *H. macrophthalmus*, and *H. mccoskeri*. Remote Operated Vehicle (ROV) video footage has identified and documented *Hydrolagus melanophasma* from the Gulf of California. ROV observations suggest that individuals typically occur over soft-bottom habitats or cobble patches with minimal vertical relief. This is in contrast to other eastern Pacific *Hydrolagus* species that tend to occur in areas of high rocky relief. The known distribution of this new species at present extends from southern California, U.S.A., along the Pacific coast of Baja California, Mexico, and into the Gulf of California.

**Key words:** Chimaeridae, *Hydrolagus*, Gulf of California, new species

### Introduction

The Chimaeridae (Holocephali: Chimaeriformes) is the most diverse of the three chimaeriform families, the other two being the Callorhynchidae and Rhinochimaeridae. The Chimaeridae are divided into two genera, which are distinguished by the presence, in *Chimaera*, or absence, in *Hydrolagus*, of an anal fin. The genus *Chimaera* has at least 11 species, while *Hydrolagus* has at least 21 valid species to date (Eschmeyer and Fricke 2009). Fourteen of the 21 *Hydrolagus* species are known to occur in the Pacific Ocean (Barnett et al. 2006, Didier 2004, Didier 2008, and Quaranta et al. 2006), with ten of those species having fairly restricted ranges in the Western Pacific. The Eastern Pacific by comparison has only four species of *Hydrolagus*: two of which are thought to be endemic to the Galapagos Islands, a third known only from the southeastern Pacific along the coasts of Chile and Peru, and the fourth, *Hydrolagus colliei* (Lay and Bennett, 1839), being the only described *Hydrolagus* species from the eastern North Pacific.

A second, undescribed species of *Hydrolagus* has long been recognized in the eastern North Pacific (Hubbs et al. 1979; Eschmeyer et al. 1983; Ebert 2003). This new species was first recognized as distinct in 1965 by the late Carl L. Hubbs (Scripps Institute of Oceanography) who collected two specimens along the Pacific coast of Baja California, Mexico. Subsequently, other specimens have been collected or captured on