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## A new species of *Didogobius* (Teleostei: Gobiidae) from the Canary Islands

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### Abstract

*Didogobius helenae* is described from the Canary Islands. It has a sensory papillae pattern that is consistent with the current diagnosis for *Didogobius*, but lacks all head canals and pores that are present in other members of the genus. Pores, in general, are replaced by large papillae. The species is defined by first dorsal fin VI; second dorsal fin I,10; anal fin I,9; pectoral fin 16–17; pelvic fin I,5 and disk shaped; lateral scales 28–30, cycloid at anterior, becoming ctenoid posteriorly; cycloid scales present on belly and posterior breast; predorsal region, cheek, operculum and base of pectoral fin without scales; lower most scale on the caudal fin-base with elongate, thickened ctenii along the upper and lower posterior edges. Color in life consists of four mottled, wide brown-orange bars separated by narrower white bars on the trunk, the cheek whitish with 5 more or less circular blotches of orange, outlined in dark brown and a black spot on ventral operculum. A key to the species is provided.

**Key words:** Gobiidae, new species, eastern Atlantic, *Didogobius helenae*

### Introduction

While studying the fishes of the Canary Islands, from 1976–2000, two specimens of a new gobiid fish were collected in 1993 on the island of Lanzarote, in depths of 49 m. With over 100 dives conducted between 1993 and 2000 on Lanzarote, Fuerteventura, Gran Canaria and El Hierro, only one additional specimen was collected, again on Lanzarote in 2000 at a depth of 61 m. The species lacks head canals and pores. Within the eastern Atlantic, Mediterranean and Ponto-Caspian regions eight genera lack head canals in all species (*Aphia*, *Lebetus*, *Lesueurigobius*, *Caspiosoma*, *Benthophiloides*, *Benthophilus*, *Anatirostrum*, *Economidichthys*) and two genera have head canals lacking in at least one species within the genus (*Padogobius*, *Knipowitschia*) (Miller 1986, 2004). None appear related to the canarian species, based solely on this character. All differ on a number of additional lateral line characters: four genera (*Padogobius*, *Benthophiloides*, *Benthophilus*, *Anatirostrum*) possess interorbital papillae, a greater number of transverse rows (7–8 vs. 6) and a different number of transverse rows under row *b* (0,2,3 vs 1); two (*Knipowitschia*, *Economidichthys*) possess interorbital papillae, fewer transverse rows (2–5 vs 6) and suborbital row *a*; two (*Lebetus*, *Lesueurigobius*) have a longitudinal papillae pattern; *Aphia* possesses suborbital row *a*, fewer transverse rows (4 vs 6), a great number of transverse rows under row *b* (2 vs 1) and *Caspiosoma* possesses both a greater number of transverse rows (7 vs 6) and rows under *b* (2 vs 1).

A preliminary molecular tree presented at the American Society of Ichthyologists and Herpetologists meetings (Rüber & Van Tassell 2006), which included the new species, suggested a close relationship to *Chromogobius*, *Didogobius*, *Millerigobius* and *Zebrus*. Those genera were described in detail by several authors (Miller 1966; Bath 1971; Scepka & Ahnelt 1999; Van Tassell 2001; Schliewen & Kovačić 2008; Bogorodsky *et al.* 2010).

In comparison to *Chromogobius*, *Didogobius*, *Millerigobius* and *Zebrus*, the new species has several features that support its placement within *Didogobius*. Those features, while not exclusive to *Didogobius*, include: 1) a sensory papillae pattern consistent with the diagnosis for *Didogobius* as presented in Schliewen & Kovačić (2008); 2) the absence of the posterior oculoscapular canal; 3) absence of the preopercle canals as in the original diagnosis proposed by Miller (1966) and 4) the presence of isolated papillae, one opposite the lower end of row *z* and another midway between the former and the upper end of row *e*, as in the type species, *D. bentuvii* (illustrated in Miller,

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