



## List of coastal fishes of Islas Marías archipelago, Mexico, with comments on taxonomic composition, biogeography, and abundance

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### Abstract

The first comprehensive list of 318 coastal fish species recorded from the Islas Marías Archipelago, Mexico, was compiled from recent fieldwork, archival museum collections, and literature references. The jacks (Carangidae, 18 species) and the labrisomid blennies (Labrisomidae, 16) were the most speciose families. Most recorded species occur throughout the tropical eastern Pacific (160 species), while a significant proportion have wider ranges in the eastern Pacific (39), eastern Pacific and Indo-Pacific (39), eastern Pacific and Atlantic (3), or are circumtropical (39) in distribution. Three species occur in the Northeast Pacific, twenty-five are endemic to the Pacific coasts of Mexico, five are endemic to the Gulf of California, and three are endemic to Islas Marías. *Cephalopholis panamensis* (Epinephelidae), *Epinephelus labriformis* (Epinephelidae), *Mulloidichthys dentatus* (Mullidae), *Stegastes flavilatus* (Pomacentridae), *Acanthurus xanthopterus* (Acanthuridae), *Pseudobalistes naufragium* (Tetraodontidae), and *Sufflamen verres* (Tetraodontidae) were the dominant conspicuous species observed during underwater surveys in 2010. The absence or low abundance of commercially valuable shark, ray, and grouper species throughout the archipelago is discussed.

**Key words:** Islas Marías, Mexico, tropical eastern Pacific, coastal fishes, Gulf of California

### Introduction

The Islas Marías (also known as Islas Tres Marías) are an archipelago of four volcanic islands (María Madre, María Magdalena, María Cleofas, San Juanito) located 90–120 km offshore of Nayarit, Mexico. The islands are home to a variety of coastal habitats, including rocky and coral reefs, rhodolith beds, rocky pinnacles, and soft-bottom embayments. The Islas Marías were declared a national biosphere reserve in 2003 and then became part of the Natural World Heritage Serial Site (UNESCO) Islands and Protected Areas of the Gulf of California in 2007 (CONANP-SEMARNAT 2010). Isla María Madre is the only one of the four islands that is currently inhabited, as a federal penal colony was established there in 1905 (CONANP-SEMARNAT 2010). Consequently, much of the archipelago has restricted access and likely serves as a *de facto* marine reserve.

The islands are significant biogeographically as they represent one of only a few offshore archipelagos in the tropical eastern Pacific (TEP) and they lie near the intersection of the Cortez and more southerly TEP biogeographic provinces (Panamic or Mexican depending upon definition; Walker 1960; Hastings 2000; Hastings *et al.* 2010; Robertson & Cramer 2009). They are considered a part of the Gulf of California (Brusca *et al.* 2005; Hastings *et al.* 2010), because they lie within a geological/geophysical definition of the Gulf (i.e., north of a line drawn from Cabo San Lucas, Baja California Sur, to Cabo Corrientes, Jalisco).

Knowledge of the ichthyofauna of these islands is scarce and is based on a single published account of collections made in 1957 (Ricker 1959) and two recent overviews of the fishes of the region (Pérez-Jiménez *et al.* 2005; CONANP-SEMARNAT 2010). Here, we present the first comprehensive list of coastal fishes from the Islas Marías