

# First record of *Gorgona guitarfish*, *Rhinobatos prahli*, from the Gulf of Tehuantepec, Mexican Pacific

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*The capture of two Gorgona guitarfish, Rhinobatos prahli, in the Gulf of Tehuantepec represents the first record for the species in Mexican waters and its northernmost range extension in the eastern Pacific.*

**Keywords:** *Rhinobatos*, guitarfish, Mexican waters, distribution, Gulf of Tehuantepec

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## INTRODUCTION

Little information exists on the biology, ecology and geographical distribution of the Gorgona guitarfish, *Rhinobatos prahli* Acero & Franke, 1995. It has been recorded from few localities from north-western Costa Rica to northern Peru, but scarce data makes it difficult to establish whether its occurrence is continuous across this range. The poor information available on this species led to an assessment of 'Data Deficient' by the International Union for Conservation of Nature (IUCN, 2011), thus it is necessary to better document its distribution and abundance (Kyne, 2007). In this context the present report expands the distribution of the Gorgona guitarfish northwards to the Gulf of Tehuantepec in southern Mexico (Figure 1).

The Gorgona guitarfish belongs to the group of batoid elasmobranchs called 'guitarras' by Mexican fishermen. It is characterized by a brown upper surface, including both dorsal fins and the caudal fin, and with more-or-less regularly dispersed small white spots (sometimes ringed with dark-brown); a pale area on each side of the rostral cartilages; a yellow border on the lower half of the caudal fin; a pale underside (ventrum); underside of the snout with black blotches at its tip and sides; with edges of disc in light-brown; a tail with approximately 20 light-brown blotches (Figure 2); approximately 70–80 small denticles from the nape to the origin of the first dorsal fin; several small denticles on each shoulder (Acero & Franke, 1995; Compagno, 1999; Robertson & Allen, 2008).

## MATERIALS AND METHODS

During September 2005, two individuals of *Rhinobatos prahli* were observed (one photographed) at the Chipechua fishing

camp (16°02'3"N 95°22'6"W), in the western Gulf of Tehuantepec where there is an area characterized by a wide continental shelf. Chipechua Bay has a range along the coast of approximately 8 km; its coast is rocky and steep, while the bottom offshore is rocky and sandy, with depths varying from 4 to 36 m (Gentier, 1982). Specimens were captured by monofilament gill-nets deployed in the small-scale fishery operating from this camp. Other, more abundant guitarfish such as *R. glaucostigma* were also landed in the fishery. The individuals were identified using keys by Jiménez-Prado & Béarez (2004) and Robertson & Allen (2008). Total length was measured and sex was determined for both, but state of maturity could only be determined for the male. The two individuals were not preserved.

## RESULTS

The two individuals differed from other species of *Rhinobatos* recorded from the area by presenting a brown colouring dorsally, with approximately 100 white spots (many ringed in dark-brown) more-or-less regularly dispersed over its surface.

An annotated list of published records of this species in the eastern Pacific is shown in Table 1. The female reported here measured 77 cm total length (TL), but it was not possible to determine maturity. The male measured 71 cm TL, the clasper measured 10 cm long and presented adult characteristics such as rotation, open rhipidion and calcification. Unfortunately, preservation and disposition in a scientific collection of both individuals was not possible, because the fishermen sold their entire catch, and only the female was photographed (Figure 2).

## DISCUSSION

The individuals reported here were within the size range reported for the species from the coast of Colombia in the eastern Pacific (50–90 cm TL) (Payan *et al.*, 2010), which

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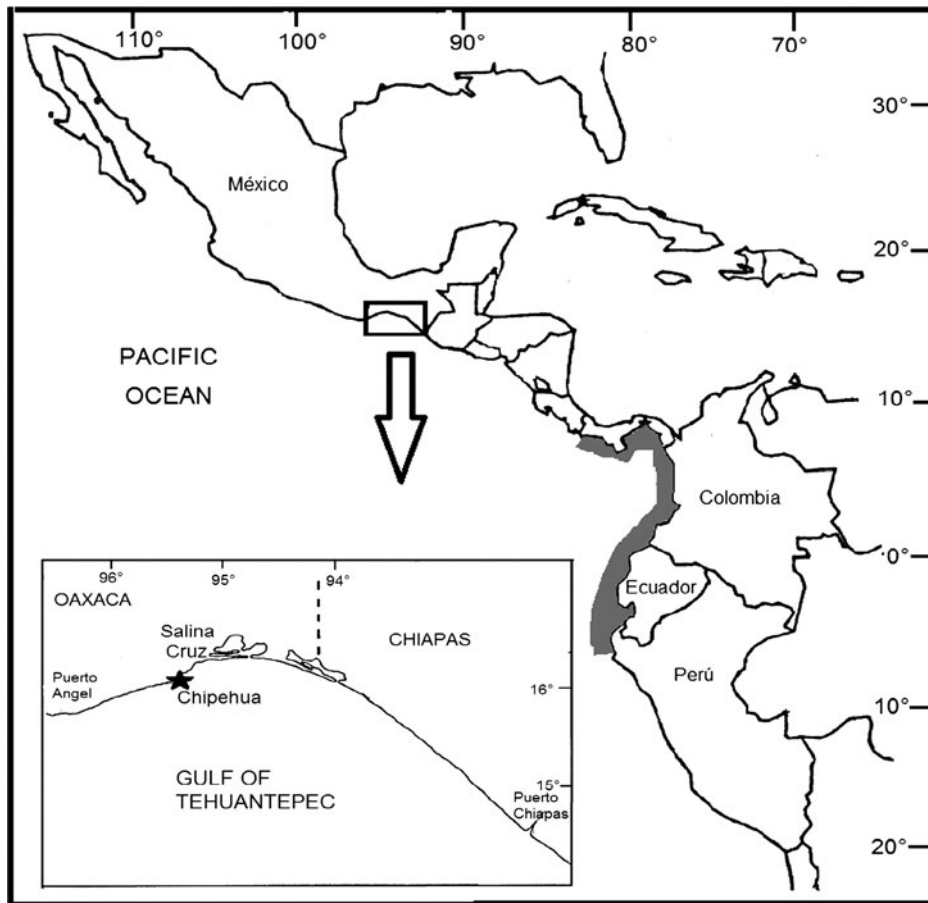


Fig. 1. Capture site of *Rhinobatos prahli* in the Gulf of Tehuantepec; grey area represents the former known distribution.



Fig. 2. Dorsal view of the female Gorgona guitarfish *Rhinobatos prahli* from Chipehua Bay, Gulf of Tehuantepec, Mexico.

were estimated from underwater photographs of specimens in natural habitat, and elsewhere in the tropical eastern Pacific (Table 1). Fishermen in the Gulf of Tehuantepec group all species of guitarfish common in the area (e.g. *Rhinobatos leucorhynchus* and *R. glaucostigma*) which represented 48% of all rays captured. These observations are obtained from the sampling of sharks and rays between September 2004 and August 2006, in which the specimens of Gorgona guitarfish described here were observed, and the fishermen said that this species is uncommon in the area, so it is possible that the frequency of occurrence of *R. prahli* may be low, with only occasional captures.

Table 1. Annotated summary of Gorgona guitarfish records from the eastern Pacific.

Year	Location	Total length cm	Sex	State of maturity	Literature cited
1995	Colombia (Isla de Gorgona)	81	Male	Adult	Acero & Franke, 1995*
1999	Ecuador (Santa Rosa and Puerto López)	60–75	Unknown	Unknown	Jiménez-Prado & Béarez, 2004
1999	Northern Perú (Puerto Pizarro, Tumbes)	71	Male	Adult	Béarez, 2000
1999	Costa Rica, Panamá (Golfo de Chiriquí)	Unknown	Unknown	Unknown	Robertson & Allen, 2008
2005	Ecuador (Puerto López)	78.2	Male	Adult	Béarez, personal communication, 2011
2005	Gulf of Tehuantepec	71	Male	Adult	Present study
2005	Gulf of Tehuantepec	77	Female	Unknown	Present study
2006	Colombia (Amargal)	Unknown	Unknown	Unknown	Payan <i>et al.</i> , 2010**
2007	Colombia (Pizarro, Chocó)	58.5	Female	Unknown	Payan <i>et al.</i> , 2010
2008	Ecuador (Puerto López)	76.5	Female	Adult	Béarez, personal communication, 2011
2009	Colombia (La Parguera)	50–90	Unknown	Unknown	Payan <i>et al.</i> , 2010**

\*, holotype; \*\*, observations of living individuals in their natural habitat.

The fishing area investigated in the Gulf of Tehuantepec shows characteristics similar to those reported by Payan *et al.* (2010), whose photographs showed living individuals of *R. prahli* in sandy and rocky environments near coral reefs at 18–24 m depth off the Colombian coast. In contrast, the holotype described from Gorgona (Island) National Natural Park, Colombia, was caught in deeper water at 70 m depth (Acero & Franke, 1995).

Heretofore, *R. prahli* had not been recorded in Mexican waters (Castro-Aguirre & Espinoza-Pérez, 1996) and the two individuals reported here (with voucher as the photograph of the female, Figure 1) represent the first as well as the northern-most record.

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