Supplementary Material S1

Sampling and field data collection

Sampling was conducted in March 2005 at Clipperton Atoll; in Chamela Bay and Carrizales in February and September 2010; in the Marietas Islands and Isabel Island in October and November 2010; in La Boquita in September 2010, February 2012, and December 2013; and in the Marías Islands in September 2015. At each site, underwater visual censuses were performed along belt transects (4 × 25 m; 100 m^2) to record fish species composition, abundance, and body size. Body size was estimated in situ and classified into 13 size intervals, with the first four intervals defined in 5 cm increments (0–5, 5–10, 10–15, and 15–20 cm), followed by 10 cm increments up to >60 cm.. The biomass of each fish species was estimated using the following empirical equation:

$$B = aL^b \quad (1)$$

where B is biomass (g m^{-2}), L is the weighted average height, while a and b are constants for the length-weight relationship. The constants a and b were obtained from the FishBase database [1]. When constants were not available for a species, the constant of a species with the same genus and similar size and morphology was used. In contrast, corrections of the length-to-height ratio for certain constants were estimated from the furcal or standard length to standardize the total length. Finally, the biomass of each individual was multiplied by the total abundance and divided by the area of the sampled transect (50 m^2).

Table S1. Fish census numbers and sample dates for each study site.

Site	Code	Zone	Date	Samples point	Fish census
Clipperton Atoll	CLI	Oceanic	March 2005	6	18
Marías Islands	IMR	Coastal influence	September 2015	6	30
Isabel Island	ISA	Coastal influence	October 2010 November 2010	9	45
Marietas Islands	MAR	Coastal influence	October 2010 November 2010	6	30
Chamela Bay	CHA	Coastal	February 2010 September 2010	6	18
Carrizales	CAR	Coastal	February 2010 September 2010	2	6
La Boquita	BOQ	Coastal	February 2012 December 2013	3	19

References

1. Froese, R.; Pauly, D. FishBase. www.fishbase.org. **2025**, version (11/2025).