



## San Dieguito

Octavio Aburto-Oropeza, Margarita Caso, Richard Cudney-Bueno, Brad Erisman, Exequiel Ezcurra, Lorenzo Rosenzweig, Carlos Sánchez-Ortiz, Francisco A. Solís-Marín, and Vivianne Solís-Weiss

This group of shallow banks harbors several seamounts and reefs, product of the volcanic cone that formed San Diego Island, a small island between the larger San Jorge and Santa Cruz. In the shallowest part, the San Dieguito seamount (25°10'N, 110°44'W) lies 5 to 10 m below the surface of the water, two nautical miles southeast of the island of the same name. The El Rifle seamount runs along a line of shallow rocks, 1 to 2 m deep, in a southwest direction from the western tip of San Diego Island. It descends onto a sandy bottom towards the San José channel to the west and towards the deep gulf basin to the east.

The immersions in the submersible

produced scanty information on deep water reefs. Below the shallow waters, at depths below 30–40 m, the rocky habitat disappears into gently-sloping sandy bottoms, where we could not locate steep slopes from where to dive deeper. In spite of this, we were able to observe dense groups of spotted rose snapper (*Lutjanus guttatus*), green jacks (*Caranx caballus*), conger eels, scorpionfishes, and several species of manta rays belonging to the families Dasyatidae and Rajidae.

### **Shallow zone**

In the surface water, the shallow platform of the San Dieguito reefs (10–11 m deep) revealed a rich and diverse community of

Sea star *Pharia pyramidatus*.  
Photo © Lorenzo Rosenzweig.

echinoderms, typical of coral reefs. In this habitat more than 15 species of starfish, ophiurans, sea urchins, and sea cucumbers cluster in complex micro-habitats. The most typical species of the reef zone are the sea urchins *Toxopneustes roseus* and *Arbacia incisa*, the red starfish *Mithrodia bradleyi*, the starfish *Eucidaris thourarsii*, and the ophiurans *Ophioderma variegatum* and *Ophionereis perplexa*. The sandy areas that surround the reef zone shelter a cryptic fauna like the fragile sea urchin *Lovenia cordiformis*, also called sea mouse because of its appearance, and the sand dollar/heart urchin *Brissus obesus*.

We also observed some sabelid tubes in the sand, as well as a specimen of *Bispira* (a filtrating sessile polychaete, quite similar to the sabelids). There were many sea urchins of the genus *Diadema*, all of them very small, and we saw a large,

black nudibranch, and two polynoids. We also collected a blue, relatively small medusa (4 to 5 cm long), commonly known as "Portuguese man-o-war" (probably *Physalia utrilculus*).

Flower sea-urchin *Toxopneustes roseus*.  
Photo © Lorenzo Rosenzweig.

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Surgeon-fish *Prionurus punctatus*, a colorful species of herbivorous fish, congregate in schools to feed on the filamentous algae that cover the rocks of the reef. Photo © Octavio Aburto-Oropeza.





