



El Cochi

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Located some four nautical miles south of Punta Baja, the extreme southern tip of Isla del Carmen, and some four miles east of Danzante Island (25°46'N, 111°11'W), these seamounts lie about 10 m below the surface in the shallowest part, and descend rapidly towards the Danzante Channel and the deep Gulf basin east of Isla del Carmen.

Shallow zone

The upper part of the seamount, at depths reachable by SCUBA diving, looked as if it had been ravaged by trawling nets. Despite being a rocky environment, the top part of the reef looks flat and devastated, suggesting the frequent razing of

the substrate by trawling nets. We were able to observe more evidence of the impact of these nets in this seamount as we made deeper immersions in the submersible.

The rocky zone (22 m deep) of the Cochi seamount is inhabited by species typically found in shallow zones. The purple sea stars (*Tamaria* sp.) are the dominant echinoderms in this landscape. Disturbing the rocks, it was possible to observe the small, irregular starfish (*Astrometis sertulifera*), which despite the difficulty in seeing it are quite abundant in this seamount, almost as much as *Tamaria*. *Astrometis sertulifera* reproduces asexually, dividing its body in two separate segments, a

phenomenon called “fisiparity,” and, for this reason, it is common to find individuals with arms of different lengths. The sea cucumber fauna is scarce and the most common species is *Holothuria impatiens* a common sea cucumber in the Gulf of California.

Deep zone

Most of the slopes of this seamount are formed by sandy inclines with some patches of rock and rubble. Large grooves, apparently created by the trawling nets for shrimp or other species, could be seen in the sand. It looked as if the bottom had been devastated by explosives or plowed like that of a farm. Fragments of dead gorgonians were found scattered on the bottom, around the grooves. In this sandy zone, we frequently observed the sea cucumber *Holothuria (Vaneyothuria) zaca*, a solitary species that lives in sandy seafloors.

Despite the apparent devastation, the

sandy slopes harbored a series of elasmobranchs like swell sharks (*Cephaloscyllium ventriosum*), stingrays (Dasyatidae), skates (Rajidae), and electric eels (Narcinidae), together with the whitefishes (*Caulolatilus affinis*) and other fish species belonging to the families Triglidae, Scorpaenidae, Congridae, Paralichthyidae, and Callionymidae.

At around 100 m deep, we came across a large patch of reef made up of several large rocks covered with gorgonians and perforated with small cavities and crevices. Protected from the disturbances that impact the shallow waters, this deeper part of the seamount housed many different species of reef fish. We observed popeye catalufas (*Pristigenys serrula*), pink surfperches (*Zalembeius rosaceus*; a species predominantly from the cold waters of the California Current and rarely seen in the Gulf of California), scythe-marked butterflyfish (*Prognathodes falcifer*), and dense groups of Limbaugh’s

Sea star *Asteropsis spinosa* in its typical rocky habitat. Photo © Carlos Sánchez-Ortiz.



damselfish (*Chromis limbaughi*). As we diverted the submersible's lights away from the catalufas, we could see them in the dim-lit penumbra as that they started their courtship ritual. We could observe several couples spiraling around one another. We tried to capture the scene on video, but unfortunately, they dispersed as soon as the light shone on them.

Surprisingly, though, we also saw gatherings of Gulf groupers (*Mycteroperca jordani*) and leopard groupers (*Mycteroperca rosacea*), living in the large cracks in the rocks. It was an unexpected discovery because both species are usually associated with shallow waters and are believed to be rare below 30 m. We also saw in the deep waters of this reef gold-spotted sand bass (*Paralabrax auroguttatus*; important for their commercial value), barred snappers (*Hoplopagrus guentherii*), and even a few California sheephead (*Semicossyphus pulcher*; a shallow water

species from the California coasts that follows the cold temperatures of deep waters into the Gulf). We also frequently saw rainbow basslets and other smaller sea basses (Serranidae).

Leopard grouper *Mycteroperca rosacea*
surrounded by the branches of a black coral.
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