

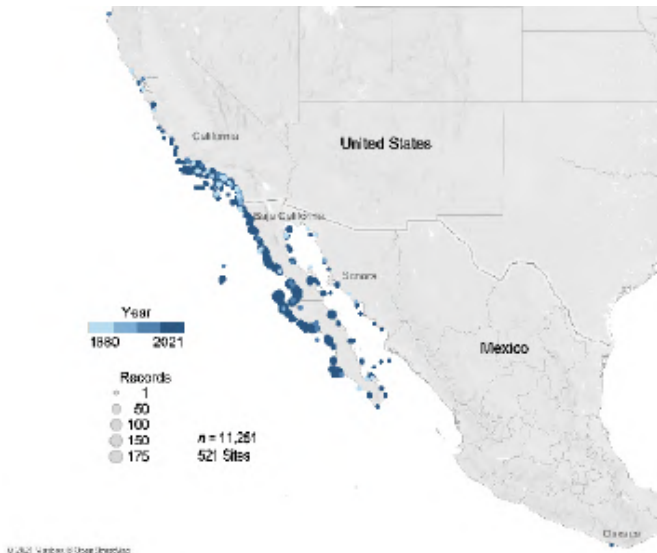


▼ Documenting the presence of giant sea bass in the region of Isla Natividad, Baja California Sur.
Photo by Isaí Domínguez.

Rewriting the Story of the Giant Sea Bass

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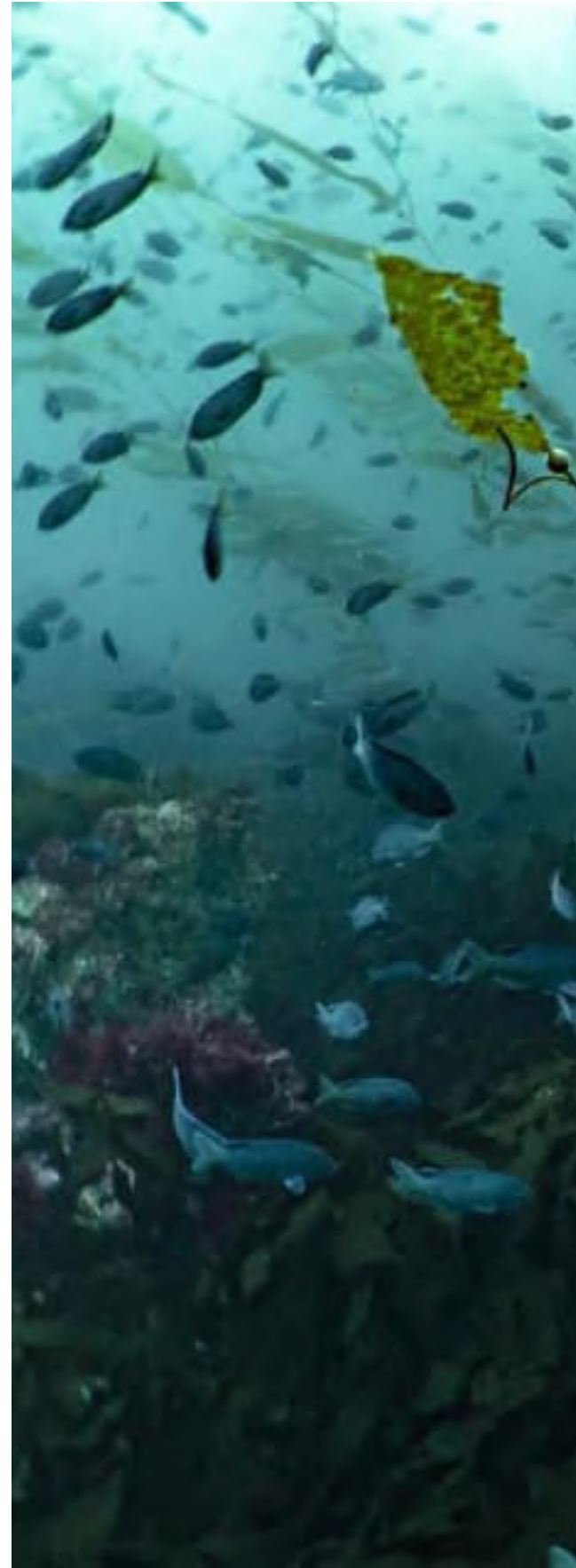
World Map of Ocean Biodiversity

T when we started this research project in March 2017. Social interactions were part of the daily routine and face masks were only common in hospitals. International news were a colorful mosaic of topics and not a single global health emergency topic.

In December of 2017, we published in the *Mediterranean* magazine the launch of the *Mero Gigante* project, an initiative that seeks to generate scientific knowledge and provide technical information to fishers, managers and government agencies to develop management strategies aimed at the giant sea bass (*Stereolepis gigas*) in the Mexican seas. And so, we began to build the story that would forever change what we know about the giant sea bass. This species, in addition to being the largest of the coastal bony fishes that inhabit the coasts of the Baja California peninsula and California, is a top predator with an important function in coastal ecosystems. However, despite its large size, this species went unnoticed by science in Mexico until recently.

Before 2017, the scientific information, evaluations, records or gray literature of this species in Mexican waters were lacking. This absence of information was a decisive element for the International Union for Conservation of Nature (IUCN) to classify the giant sea bass as a critically endangered species. In the assessment, the IUCN concluded that the population is considered “Severely fragmented [as a result of overfishing], which has led to a continuous decline in mature individuals.” However, it acknowledges the lack of information on the Mexican populations. As a result of this project, now we know that the populations of this species in Mexican waters can represent three quarters of the total population.

◀ Distribution of the giant sea bass (*Stereolepis gigas*) from Humboldt Bay, California to the tip of the Baja California peninsula and the entire Gulf of California, based on 11,251 records obtained from scientific collections, independent assessments of fisheries, commercial and recreational fisheries, and global databases. Source: Ramírez-Valdez et al. (2021).



The giant sea bass is known as the “king of the kelp forests”, here dominating the scene among a large bank of blacksmith chromis (*Chromis punctipinnis*), in Isla Natividad, Baja California Sur. Photo by Maru Brito. ▼





Juan Carlos Villaseñor, a member of the project, diving in search of giant sea bass in the forests of Baja California. Photo by Isaí Domínguez. ▶



The project team during the expedition in Isla Natividad, Baja California Sur. From left to right: (top) Juan Carlos Villaseñor, Raziel Hernández, Kayla Blincow, Talullah Winquist, Ben Meissner, Jhonatan Castro and Sara Minarro; (below) Arturo Hernández, Arturo Ramírez, Jacobo Caamal, Antonio Gomez, Isaí Domínguez. ▼

At the beginning of the project, we feared not finding records, and therefore confirming the critical conservation status of this species. Fortunately, the reality was different. The collaborative network that we created between researchers from both sides of the US-Mexico border, non-governmental organizations, fishers, and government agencies has been key to obtaining records, fishing reports, and biological samples.

This information and the collaboration with Comunidad y Biodiversidad (COBI), fishing cooperatives Ensenada, Buzos y Pescadores de la Baja California, Pescadores Nacionales de Abulón, and the Asociación Pesquera Regasa, allowed the organization of a scientific expedition to register this species in its natural environment for the first time in Mexican waters. In this expedition, we documented the presence of giant sea bass in the rocky reefs and kelp forests of Punta Baja, Sacramento reef and Isla Natividad in the Baja California peninsula, thereby accomplishing one of the first objectives of the project.



The first results of our research suggest that the population of this iconic fish is probably higher than previously reported, especially in Mexico. This work incorporates the historical analysis of the fishery, spatial analysis of contemporary fishing and preliminary results of biological monitoring, as well as an exhaustive review of the geographic distribution of the species. Some of the most important findings of this work include that the so-called giant sea bass fishery collapse recorded by the United States fleet was actually a change in fishing regulations between the two countries, and that the Mexican commercial fleet has caught an average of 50 tons per year in the last 50 years. In addition, we will soon publish the age and growth analysis using otoliths, and the size distribution, among other important features of the life history of this species, which together with the fishing statistics, will allow recommendations to be made to improve the management of this species. In addition, we will actively participate in updating the assessment for this species, and with the new information available, in addition to the new IUCN assessment protocols, we are optimistic about the possible outcome. But that will be part of the next story.



▲ An aggregation of giant groupers on Isla Natividad, Baja California Sur. Photo by Maru Brito.



▲ The first record of a giant sea bass of the expedition was in August 2017. Punta Baja, Baja California.
Photo by Ben Fiscella.

This project has shown how symmetry across international borders in research and fishery data can create significant barriers to understanding the past and present status of a species like the giant sea bass of a transboundary species such as the giant sea bass, and hinder the implementation of sustainable practices. This is also an acknowledgment to all who have collaborated in this initiative, and an invitation to all together: fishing cooperatives, independent and recreational fishers, civil organizations, researchers, and government agencies. Let's continue collaborating to have more positive stories about the management of our marine resources. We invite you to support this and other initiatives that seek to improve the conditions of our marine resources. Visit us at merogigante.org

Finally, while it is true that the health emergency that the world is experiencing has impacted our lives and realigned our priorities, it is also true that we must continue to work on what is important while we resolve what is urgent. Having healthy oceans and well managed fisheries is very important.

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