The Mexican Caribbean Spiny Lobster

(Panulirus argus)

slowfishcaribe.slowfood.com
We want to express special thanks to the fishers of the fishing cooperatives (SCPP by its Spanish acronym) of the Banco Chinchorro and Sian Ka’an Biosphere Reserves, who for generations have lived and worked in a close relationship with the environment, respecting the territory and its wealth and preserving it for the future generations. Thanks to the following fishermen cooperatives: SCPP Cozumel - María Elena, Sian Ka’an, SCPP José María Azcorra - Punta Herrero, Sian Ka’an, SCPP Vigia Chico - Punta Allen, Sian Ka’an, SCPP Andrés Quintana Roo - Chinchorro Bank and Xcalak, SCPP Langosteros of the Caribbean - Banco Chinchorro, SCPP Banco Chinchorro - Banco Chinchorro.

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Why this publication?

This publication is an easy-to-use educational handbook for those consumers who want to approach the Mexican Caribbean territory in an attentive, respectful, and sustainable way.

Whether they live permanently in the region or are visiting for the first time, it is important that people understand the region’s resources and know how to use and savor them responsibly, respecting natural systems and the people who work with them every day.

To live in a territory, to explore and discover it, must involve tasting its typical gastronomic products and flavors, and forming relationships with cooks and chefs whose creations are interpretations of the local biodiversity.

This is why getting to know the spiny lobster is crucial for anyone who wants to experience the true flavor of the Mexican Caribbean. And if we want the region to have a future in which our children and grandchildren have the opportunity to enjoy such delicacies as the Caribbean spiny lobster, we need to promote a consumption model that respects natural cycles, reproduction phases, minimum fishing sizes, and closed seasons, and that rejects the purchase of illegally fished lobster.

This handbook can teach you how to choose and enjoy good, clean and fair lobster!
Biodiversity

Biodiversity is the greatest promise for the future of humanity. Without it, the foundation for human life on this planet is lost, along with the very soil on which civilizations and cultures have been shaped and formed as the result of human adaptation to the natural environment.

Defending, protecting, and promoting biodiversity is the only way forward; it is a moral duty that we, the generation that inhabits this historic moment, must take on for those who will come after us and live on this planet Earth, a planet that, today, we are trampling, hurting, and mistreating.

We live in an era in which cuisines and great chefs are receiving much attention from the media and the public, but there is a risk that we might lose contact with the origins of raw materials and with the work of a multitude of small-scale producers whose labors provide the necessary and irreplaceable basis of any dish. As citizens we must be aware that the gastronomic heritage of a country lives in the hands of these small-scale producers who are also the ones who take care of the environment, keep marginal communities alive, save soils from erosion, and protect biological, cultural, and food diversity.
What is Slow Food?

Slow Food is an international organization that works to defend food biodiversity, spread an appreciation of taste, and unite producers and customers. The health of the planet depends on the decisions that we make about what we eat. Slow Food promotes sustainable agriculture and knowledge about food and its origins. The organization has more than 100,000 members and supporters in more than 160 countries. Slow Food promotes foods that are good to eat (i.e. delicious and healthy), clean for the environment, and fair for producers and consumers, emphasizing the work of producers and providing consumers the truth.

For more information about Slow Food, visit www.slowfood.com

We are working to defend food biodiversity, spread taste education, and strengthen the linkages among producers and consumers.
What is the ark of taste?

The Ark of Taste is a catalogue of products that belong to the culture and the traditions of the whole world and that are in danger of disappearing. The Ark was created to point out the existence of these products, spread awareness about the risk of their disappearance, and invite everybody to do something to protect them: look for them, buy them, eat them, describe them, help producers to produce them, and, when the products are wild species in danger of extinction, preserve and monitor them and help their reproduction.

The idea is to rediscover these resources and to value them. The Ark of Taste includes plants and animals but also processed products because, together with plant and animal biodiversity, many traditional cheeses, cured meats, breads, and sweets are in danger of being lost. These products are all unwritten expressions of knowledge accumulated by communities and artisans; they capture complex wisdom, practices, and skills that have been transmitted across generations.

For more information about the Ark of Taste, visit www.fondazioneslowfood.com/en/what-we-do/the-ark-of-taste/
What are the Slow Food Presidia?

The Presidia projects, active since 1999, are designed to help artisan producers sustain endangered high-quality products, protect unique regions and ecosystems, recover traditional processing methods, and safeguard local animal breeds and plant varieties. Each Presidium is supported by a community of small-scale producers and provides technical assistance to improve production quality, promote new outlets in the local and national market, and organize exchanges with producers at an international level through major Slow Food events.

Each Presidium has a shared set of production protocols, an important tool that guarantees complete traceability as well as artisanal methods and high quality. These regulations require that producers eliminate or reduce chemical treatments, use methods that respect animal welfare, defend local animal breeds and plant varieties, use ecological packaging as much as possible, and favor the use of renewable energy.

For more information about the Slow Food Presidia, visit www.fondazioneslowfood.com/en/what-we-do/slow-food-presidia
What is Slow Fish?

With fishing, just as with agriculture, Slow Food firmly believes that each individual can help to change the mechanisms of a globalized food system based on the intensive exploitation of resources.

By rediscovering the distinctive and forgotten flavors that the globalized market tends to wipe out, and by creating new or updated recipes, Slow Fish tries to recover the traditional wisdom of fishing communities (which often still engage in old fishing practices), the diets of past generations, and the known and unknown resources in rivers, lakes, and seas. These things are all part of our history and identity.

In this spirit, the international Slow Fish campaign launches and collaborates with initiatives that promote artisanal fishing and neglected fish species, and that inspire reflection on the state and management of the sea’s resources. To have any chance of success, this reflection must begin at the local level.

For more information about Slow Fish, visit www.slowfood.com/slowfish
What is Slow Fish Caribe?

To address the critical aspects of artisanal fishing around the world, Slow Fish has a range of regional initiatives. One of these regional projects is Slow Fish Caribe.

Since 2017, the project has been working on the coast of Quintana Roo, Mexico, which is home to the Sian Ka’an and Banco Chinchorro Biosphere Reserves; and in the Colombian Archipelago of San Andrés, Providencia and Santa Catalina, home of the Seaflower Biosphere Reserve. The aim is to promote the sustainable use of marine and coastal resources in the Caribbean’s complex, fragile, biodiverse coral reef ecosystems, which are suffering from overexploitation.

Thanks to the support of local partners, a strong network is being developed for exchanging experiences at the regional level. The key elements are the diversification of production, the promotion of products that express the territory’s identity, the strengthening of production processes linked to artisanal fishing, and the processing and marketing of Slow Food Presidia products (the Providencia Black Crab and the Banco Chinchorro and Sian Ka’an Spiny Lobster) and other products central to traditional gastronomy.

The project—Slow Fish Caribe: Strengthening conservation models and sustainable use in Caribbean protected linked to Slow Food—is financed by the European Union, is part of the “EU Biodiversity for Life” initiative, and is being implemented by Slow Food in partnership with the Fundación Activos Culturales Afro (ACUA) and the Corporación para el Desarrollo Sostenible del Archipiélago de San Andrés, Providencia y Santa Catalina (CORALINA) in Colombia, and the Colectividad Razonatura and Amigos de Sian Ka’an in Mexico.

For more information about Slow Fish Caribbean, visit www.slowfood.com/slowfish
Slow Fish Caribe partners in Mexico

Colectividad Razonatura A.C. is a non-profit organization that supports and promotes sustainable development and ecosystems conservation, encouraging the participation of and collaboration with local communities. Razonatura A.C. was conceived and developed in Mexico by an interdisciplinary team of professionals in biology, engineering, and social sciences with experience in research and applied projects, with the aims of providing development alternatives for the responsible use of natural resources and promoting social equity in balance with the natural environment.

For more information about Razonatura, visit www.razonatura.org

Amigos de Sian Ka’an A.C. is a non-profit organization that was founded in 1986 as a response by society to ensure the viability of the newly created Sian Ka’an Biosphere Reserve in Quintana Roo, Mexico. Over the years, the organization has extended its work to the whole of Quintana Roo state, in the eastern Yucatan Peninsula and the Mexican Caribbean. The organization works to preserve the integrity and functionality of the ecosystems of the Yucatan Peninsula, promoting socioeconomic development in the communities that live there and influencing their culture and environmental policies through a science-based approach. It is the leading conservation and sustainable development organization in the Yucatan Peninsula, with a superb technical and management team, and it works in partnership with various civil society stakeholders.

For more information about Amigos de Sian Ka’an, visit www.amigosdesiankaan.org
Slow Fish Caribe partners in Colombia

Fundación ACUA is an organization that promotes sustainable development among Afrodescendant communities by helping them reclaim and highlight the cultural and natural assets of the areas where they live. It is committed to creating change in order to bring about more effective inclusion in the economic, social and political life of these communities’ countries.

Corporación CORALINA is a public sector corporation whose territorial jurisdiction includes the Archipelago of San Andrés, Providencia and Santa Catalina, Colombia. It is the highest environmental authority in the Archipelago and has functions related to the protection, conservation, and sustainable use of renewable natural resources and the environment; scientific research and technology transfer; and regional land and marine resource use planning to mitigate or neutralize pressures resulting from the inappropriate exploitation of those resources.

It works to integrate indigenous island communities and their ancestral management practices into processes for the conservation, protection, and sustainable use of renewable natural resources and the environment, and to promote, in cooperation with national and international entities, the creation of suitable technologies for the use and conservation of the archipelago’s resources and environment.

For more information about Fundacion Acua, visit www.programaacua.org
For more information about Corporación Coralina, visit www.coralina.gov.co
The Mexican Caribbean spiny lobster
(Panulirus argus)
Spiny lobster
(Panulirus argus)

- Antennule
- Antenna
- Eye
- Spines
- Carapace (Cephalothorax)
- Legs
- Tail (Abdomen)
- Pleopods
- Telson
The Slow Food Presidium
The Banco Chinchorro and Sian Ka’an Biosphere Reserves (the latter of which was declared a UNESCO World Heritage Site in 1987) lie along the coast of Quintana Roo, Mexico, the cradle of the Mayan civilization. The two marine areas comprise a complex system of beaches, small bays, mangroves, and coral formations that provide important habitat for many animals and plant species typical of the Caribbean. This extraordinarily beautiful ecosystem contains great biological and cultural richness and is part of the Mesoamerican Barrier Reef, the second largest barrier reef in the world. It is home to the Caribbean spiny lobster (Panulirus argus), known in the local Mayan language as chakay (“red fish”).

This crustacean, which is endemic to the wider Caribbean, lives in the crystalline waters of the reef at depths up to 100 meters and feeds primarily on small mollusks. It is covered in a rigid spiny armor and is reddish brown with yellow and black spots. It has five pairs of legs along without pincers and a total of four antennae. The spiny lobster has a complex development cycle: over the course of 20 months it goes through eleven stages, from egg, through several larval stages, to adulthood. At each stage, the lobster lives at a different depth and distance from the shore. It is considered an adult when it reaches sexual maturity at around 20 months of age and has a tail length of 13.5-14 centimeters or a cephalothorax length of 8 cm.
The spiny lobster fishery, which is legally open off the coast of Quintana Roo from July 1 to February 28, is the primary source of income for artisan fishers in the biosphere reserves. Six groups of fishers have stopped fishing with hooks and nets, replacing them with snares and loops to avoid bycatch and non-selective harvest of lobsters.

They have adopted a sustainable and selective technique based on the collective management of the fishing zones and the use of artificial shelters called casitas. The fishers dive to collect the lobsters from these shelters as well as from natural refuges, freeing breeding females and any individuals smaller than the legal minimum size.

The lobsters are sold whole and usually alive. Their meat is highly appreciated among local chefs, who often serve it raw, marinated in lemon juice, as traditional ceviche. It is also grilled or prepared according to many other local recipes.
Presidium activities

The Presidium is made up of six fishing cooperatives that have adopted sustainable and selective techniques and that have exclusive fishing concession within the Banco Chinchorro and Sian Ka’an Biosphere Reserves. To improve marketing, these cooperatives, in partnership with the Mexican association Colectividad Razonatura and the CONABIO and CONANP public institutions, have created the collective brand “Chakay.” The use of a traceability system and a collective brand that identifies the product’s origin and guarantees socioeconomically and ecologically fair and sustainable practices add value to the product, benefiting the local fishing communities and the ecosystem that sustains them.

The Presidium was formed in 2017 as part of the Slow Fish Caribe project. It seeks to support sustainable, artisanal fishing methods such as those used by Chakay, and to promote the consumption of the spiny lobster from the biosphere reserves in Quintana Roo’s restaurants. The Presidium also facilitates dialogue among fishers of lobster and other species endemic to the Caribbean, in order to spread good practices throughout the region. In addition, tourist cooperatives and fishers coordinate activities to give people an opportunity to learn about the fishers’ lives and techniques.
Production area

The Banco Chinchorro and Sian Ka’an Biosphere Reserves on the Caribbean coast of Quintana Roo, Yucatan Peninsula, Mexico.

The protagonists

219 fishers gathered in six cooperatives (SCPP Cozumel - María Elena, Sian Ka’an, SCPP José María Azcorra - Punta Herrero, Sian Ka’an, SCPP Vigia Chico - Punta Allen, Sian Ka’an, SCPP Andrés Quintana Roo - Banco Chinchorro and Xcalak, SCPP Langosteros del Caribe - Banco Chinchorro, SCPP Banco Chinchorro - Banco Chinchorro).
Selecting your lobster: what to buy and how to choose
Sustainability: then and now

In recent decades, the lobster fishing cooperatives of Quintana Roo have made a series of improvements to their methods, making them more sustainable and environmentally friendly.

We must reward the efforts of the Quintana Roo lobster fishers by choosing sustainable lobster!

Before: Nets were used, which caused damage to the sea floor, the coral formations, and the deep zones. In addition, improper nets were used, making the fishing activity non-selective.

Now: Only free diving is authorized, limiting the capture depth to less than 20 meters. This allows a proportion of the adult reproductive population to complete their life cycle, since they release eggs in the deep zones.

Before: Fishers worked in whatever area of the cooperative’s fishing concession they desired, mainly in reef areas.

Now: Fishers must fish within their own “fields,” portions of the sea that the cooperative grants to individual fishers who must manage them responsibly.

Before: Hooks were used, which killed the lobsters at the moment of extraction it from the refuges, preventing proper selection and release of individuals according to sex and size.

Now: Loops and snares are used, which allow for the extraction of live lobsters, even from natural refuges. Once captured, the lobsters are measured and analyzed so that juveniles and females with eggs can be released immediately.

Before: Juvenile and adult lobsters depended on natural shelters to protect themselves from predators. The fishermen looked for them among the corals and sponges with the risk of hurting other species of the coral reef ecosystem.

Now: The cooperatives have installed casitas, artificial shelters that are integrated into the underwater environment in certain areas. These structures provide the lobsters with protected places to aggregate and grow, and facilitate the fishers’ work, guaranteeing selectivity.
Legal versus illegal lobster

Along the coast of Quintana Roo, only six fishing cooperatives have the legal right to fish for spiny lobsters within the Banco Chinchorro and Sian Ka’an Biosphere Reserves. Learn the differences so that you know which lobster to choose:

The fishers of the authorized cooperatives:

- Transmit wisdom and knowledge about fishing from generation to generation, as well as to groups of fishers from other regions and countries.
- Have been custodians of the environment for decades and are aware of the importance of caring for it properly.
- Are constantly trained about improvements in sustainable and environmentally friendly fishing techniques, and help with monitoring.
- Respect the mandatory closed season from March 1 to June 30.
- Record and disseminate capture data.
- Collaborate with environmental authorities and marine protected areas.
Fish poachers:

- Overexploit lobster populations, taking as many lobsters as possible.
- Do not respect the mandatory closed season, when the lobsters are in the midst of their reproductive cycle.
- Fish without paying attention to the destruction of coral reefs, which damages the marine and coastal environment.
- Catch and sell undersized lobsters and females with eggs, without respect for the life cycle of this species.
- Put the future of fishing activities and fishing communities at risk.
- Drive down the price of lobster on the market.

Remember to buy spiny lobster only from authorized cooperatives and ask restaurants to do the same!
Many tourists arriving in the Mexican Caribbean want to try lobster, but when they read the restaurant menu, the decision is based mainly on the price and they choose the most economical lobster. In many cases, this is not Caribbean spiny lobster (Panulirus argus), but Atlantic lobster (Homarus americanus). Atlantic lobster usually arrives frozen, and therefore has lost some of the distinctive sensory characteristics associated with freshness and the natural environment from which it comes. In addition, the consumption of Atlantic lobster leaves few benefits for local communities.

Some chefs mistakenly think that the Atlantic lobster yields more meat than the Caribbean spiny lobster, due to the presence of large pincers in the former. However, yield tests of both species have shown that spiny lobster is higher yielding than Atlantic lobster in terms of the relationship of the price per kilogram of whole lobster to the net weight of the meat that is extracted.

Understanding these differences will allow you to make informed choices!

**Local lobster**
*(Panulirus argus)*

**Foreign lobster**
*(Homarus americanus)*

When in the Caribbean, eat local lobster! It is fresher and richer, and consuming it contributes to the local fishing economy!
Size matters!

Unfortunately, “baby lobster” is still being offered in some places. Avoid it!

It is important to know that taking lobsters whose tail length is less than 14 cm is prohibited. The smallest specimens should not be taken because they are juveniles that have not reproduced and still need to complete their life cycle in order to sustain the population.

When you eat a baby lobster, you are engaging in an illegal act and endangering the future of the Caribbean spiny lobster and the local communities.

As a consumer, your actions can have a huge impact. Be responsible and choose only local lobsters of an appropriate size!
Given the need to know how to identify the good, clean and fair lobster of the Slow Food Presidium, the fishing cooperatives of Banco Chinchorro and Sian Ka’an, together with organizations that promote the Slow Fish Caribe project, have designed a Narrative Label for the Presidium.

The Narrative Label is an alternative label that allows producers to communicate directly to consumers, telling about the quality of their product and their work. It allows producers who want to be transparent to share important information and stories regarding their production practices.

In addition to the information required by law, the Narrative Label for the Banco Chinchorro and Sian Ka’an Lobster Presidium provides information on:

- The species, describing the characteristics of Panulirus argus
- The territory, highlighting the importance of fisheries management in marine protected areas
- Fishing techniques, emphasizing the importance of sustainable methods
- Closed seasons
- Suggested uses and safe conservation
- Keep an eye out for the Narrative Label and Presidium lobster!
Closed seasons? Yes, please!

Closed seasons are a fisheries management strategy to ensure that populations reproduce and that juveniles can grow and complete their life cycle. Dates are established depending on the period when the reproduction and fertility of a particular species peak. Fishing, buying, and selling a given species during the closed season is prohibited (although the sale and purchase of product caught and frozen during the previous open season is allowed).

In 1990, the Mexican environmental authorities established a closed season for lobster fishing, which takes place from March 1 to June 30. During this period, fishers invest their time in preparing infrastructure and some engage in other activities, including those related to tourism. Within each cooperative there is a monitoring committee that is responsible for ensuring compliance with the internal rules among the partners, including respecting the closed season.

Given the great effort and investment that fishers make toward their future, it is imperative that consumers support them by ensuring that lobsters that have been poached or caught during the closed season are not purchased.
Tourism: a sustainable alternative

The state of Quintana Roo has a strong tourism economy. Evidence of this is the fact that the city of Cancún, which was a small town in 1971, now hosts almost 8 million tourists every year. Recently, in the face of the inevitable degradation that many areas affected by mass tourism have suffered, the adoption of low-impact tourism, ecotourism, and sustainable tourism models has been promoted.

In fishing communities, for example, ecotourism service cooperatives (created by fishers themselves or their families) have been created to generate income from activities other than fishing. An exemplary case is Maya Ka'an, a tourist destination that promotes community and regional development, promoting sustainable production projects in Mayan communities.

In Maya Ka’an, in order to generate more income for the Presidium fishers, the Punta Allen tourist cooperative and Vigía Chico fishing cooperative have designed a tourism experience that allows people to learn about the art of fishing the Caribbean spiny lobster and engage with the majestic biodiversity of the Sian Ka’an Biosphere Reserve. Interacting with fishing communities and cooking and tasting lobster dished with local cooks are some of the activities that tourists can participate in.

For further information visit: mayakaan.travel
Cooks and recipes

Lobster recipes
Cook: Ma. Guadalupe Cocom González

Food and the way we eat are an essential part of our identity and an expression of the territories in which we live. Gastronomy is the result of local histories and ecosystems and, in each territory, cooks and chefs (whether traditional or professional) play a fundamental role in the safeguarding food biodiversity. They are the greatest interpreters of their regions.

Cooks all over the world enhance local products with wisdom and creativity, celebrating the work of fishers, farmers, and other custodians of biodiversity. They maintain and pass on local gastronomic traditions and artisanal knowledge, form direct relationships with producers and consumers (through work, collaboration, solidarity, and friendship), and spread awareness about the need for sustainable consumption practices.

For all of these reasons, it is essential to value and make visible the work of cooks and chefs. It is with great pleasure that we present their work in promoting the spiny lobster, the territory, and the hard work of the fishers.

Enjoy the meal!
Punta Allen Caribbean Ceviche

Ingredients:

- Spiny lobster
- Xcatic chili (güero chili)
- Lemon
- Purple Onion
- Garlic
- Cilantro
- Salt
- Tortilla chips
- Pepper
- Avocado

Preparation method:

1. Cut the lobsters in half and extract the meat from the tail.
2. Cut the meat into small pieces.
3. Squeeze plenty of lemon juice in a deep dish.
4. Crush a head of garlic and mix with the lemon juice.
5. Add salt and pepper to the mixture.
6. Once the mixture is ready, add the lobster meat and mix. Let it rest so that the meat is “cooked” in the lemon juice mixture (at least 30 minutes).
7. Cut xcatic chili (güero chili) in small squares, wrap in aluminum, and place over charcoal for 10 minutes (it is best to devein the chilies first).
8. Similarly, cut purple onions into squares, wrap in aluminum, and place over charcoal 10 minutes.
9. Meanwhile, chop cilantro and add to the lobster meat that is marinating with the lemon juice mixture.
10. When they are ready, remove the chili and chopped onion from the coals and add them to the ceviche.
11. Mix all the ingredients...and it’s ready! Serve the ceviche caribeño with some delicious tortilla chips and avocado.
Butter lobster

Ingredients:

Spiny lobster   Salt
Garlic          Olive Oil
Lemon           Butter
Pepper

Preparation method:

1. Prepare a mixture of lemon juice, crushed garlic, salt, and pepper
2. Cut the lobster legs and antennas (both small and large) into small segments.
3. Split each lobster in half and wipe the interior clean.
4. Marinate the lobster in the mixture of lemon and garlic from step 1. Let stand for 10 minutes.
5. Meanwhile, finely chop some garlic.
6. After 10 minutes, place the lobster with the lemon mixture in a pan to start cooking, and cover the pan.
7. In another pan, fry the chopped garlic in olive oil and, after 3 minutes, add approximately 250 grams of butter. Mix well until completely melted.
8. Once the mixture of butter, garlic, and olive oil is ready, separate a little bit into a bowl for dressing the lobster later.
9. Fry the precooked lobster in the mixture of butter, garlic, and olive oil.
10. Serve lobster with a drizzle of the reserved butter, garlic, and oil.