



Lampi

MARINE NATIONAL PARK

GUIDEBOOK

*The only Marine National Park
in Myanmar*



Lampi
MARINE NATIONAL PARK

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FOREWORD

As the President of Istituto Oikos, an Italian-based non-profit organisation working to safeguard biodiversity through responsible management of natural resources and the adoption of more-sustainable lifestyles, it is my pleasure to introduce readers to this special guidebook. This compact and wonderfully informative publication provides invaluable insights into the unique natural, cultural and historical resources of Lampi Marine National Park, the first and only marine national park in Myanmar and the spectacular Myeik Archipelago. Istituto Oikos is fortunate to have been working to support Lampi's conservation objectives since 2010, when research projects were launched to document the Park's rich and varied biodiversity. Since this time, the programme has worked closely with the Myanmar government, local community and other actors to produce a General Management Plan as well as an Ecotourism Plan for the Park. This guidebook benefits enormously from the fruits of these efforts, which are available for download together with details of wider project activities from the website www.lampipark.org. The guidebook is also privileged to benefit from literally decades of collaboration between the esteemed anthropologists Jacques Ivanoff and Maxime Boutry, and the Moken 'sea-gypsies'. In the pages that follow, Jacques and Maxime explain why Lampi and its surrounds are the 'Motherland' of the Moken, and describe their fascinating relationship with both individual species and wider ecosystems. Istituto Oikos is committed to working with all stakeholders, especially local communities, the business sector and government agencies, to sustainably manage the Park's resources and promote Lampi as a working model, providing lessons for replication throughout the region. It is in this context that community-based ecotourism is an especially promising economic activity, promoting conservation through socio-economic development. This publication is the first guidebook for the Park and Myeik Archipelago, and serves as a key tool to promote ecotourism, as well as educate and inform national and international visitors about the Park. This is also the first visitor guidebook for any of Myanmar's protected areas following the approval of the Union government's distinctive Ecotourism Policy and Management Strategy for Protected Areas. I sincerely hope other guidebooks follow, and urge all readers to visit as many of Myanmar's protected areas as they can, to learn more about the Country's precious and irreplaceable natural and cultural resources.



DR. ROSSELLA ROSSI
PRESIDENT ISTITUTO OIKOS

FOREWORD

It is my great pleasure to introduce you to this special guide book of Lampi Marine National Park, outlining collective information about some 20 islands in the magnificent Myeik Archipelago. Lampi, one of Myanmar's most cherished National Parks, was declared an ASEAN Heritage Park in 2003. This special status recognises Lampi's unique qualities, its diversity and outstanding values. In order to ensuring special measures are put in place to maintain ecological processes and preserve the diversity of species in their natural habitats, ASEAN Heritage Parks have a critical responsibility to support "opportunities for outdoor recreation, tourism, education and research to make people recognize the importance of natural resources." It is in this spirit of education that I am delighted to share this informative guidebook with you. The main Lampi Island, its smaller surrounding islands and outlying seas, embrace a wonderful variety of habitats including evergreen, mangrove, beach and dune forests, coral reefs and seagrass beds. As you read this guidebook, you will learn these ecosystems are home to a rich diversity of flora and fauna, including: 195 plant species of evergreen forest; 63 species typical of mangrove forest; 23 mammals; 237 birds; 22 reptiles; 10 amphibians; 42 fish; 42 crab; 50 gastropods; 41 bivalves; 35 sea-cucumber; 73 types of seaweed; 11 sea-grasses; and, 333 plankton species. In addition to its unique biodiversity, Lampi has exceptional cultural value as the "Motherland" of the Moken Sea-gypsies. I am especially pleased this guidebook provides comprehensive information to help Park visitors learn and understand the heritage of these people and their special relationship with this extraordinary environment. I sincerely hope that all readers enjoy the rich content of this guidebook, and I would like to express my profound gratitude to Istituto Oikos for their technical support to bring this publication together and the Italian Agency for Development Cooperation for their financial contribution. I would also like to extend my sincere thanks to all the individuals and partners who have collaborated with Istituto Oikos and contributed their knowledge and ideas to the many work programmes and activities being implemented in the Park, and that will enable us to hand these gifts of nature and cultural heritage to our future generations.



DR. NYI NYI KYAW - DIRECTOR GENERAL
FOREST DEPARTMENT - MINISTRY OF NATURAL RESOURCES &
ENVIRONMENTAL CONSERVATION

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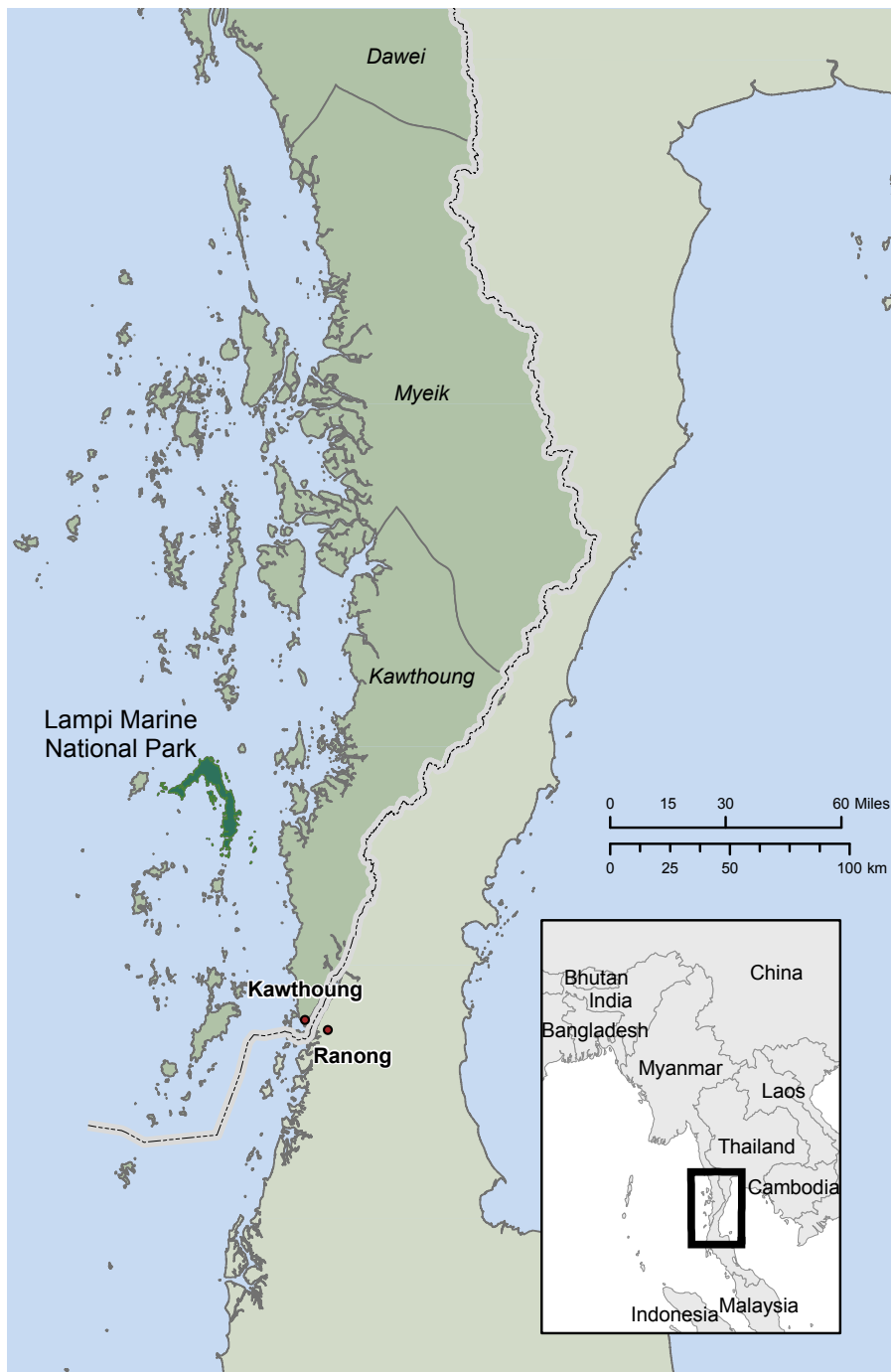
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WELCOME TO THE MYEIK ARCHIPELAGO

The Myeik Archipelago, located in the Tanintharyi Division, the most southern division of Myanmar, comprises 800 islands distributed along 600 km of coastline in the Andaman Sea. The Archipelago forms a single large transboundary marine ecosystem, together with the other 40 neighbouring islands located in Thailand. The islands, made primarily of limestone and granite, were formed by a combination of tectonic movement and volcanic activity. Ranging in size from very small to hundreds of square kilometres, they are covered mainly by tropical lowland wet evergreen forests with a high biodiversity and surrounded by an extensive coral reef system.

The Myeik Archipelago contains most of Myanmar's coral reef, along with some

of its best preserved mangrove forests and seagrass meadows, making it of high global importance for marine and coastal conservation.

It includes important sites for wildlife, including breeding beaches for sea turtles, aggregation sites for marine life like manta rays at Black Rock, and group roosting sites, like the so called Plain-pouched Hornbill island.

The Myeik Archipelago includes one Marine National Park (Lampi), two shark reserves, three small crabs protected areas and two Locally-Managed Marine Areas (LMMAs).

TIPS: MERGUI VERSUS MYEIK

Mergui was the name given by the British to the southernmost part of Myanmar. These days it is referred to as Myeik, which is the phonetic translation of the original name used by the locals.



LEGEND

-  **PARK BOUNDARIES**
and protected sea area (5 nautical miles)
-  **BEACHES**
sandy beach and above beach
-  **CORALS**
-  **RIVERS**
-  **PEAK**
-  **MANGROVE FOREST**
-  **EVERGREEN FOREST**
-  **SEMI-EVERGREEN FOREST**
-  **DUNE FOREST**
-  **HORNBILL**
nesting sites and sightings
-  **FLYING FOXES**
nesting sites and sightings
-  **SEA TURTLES**
nesting beaches
-  **MOKEN SPIRITUAL SITES**
-  **VILLAGES**
-  **PARK FACILITIES**
office and toilet house
-  **VISITOR CENTRE**
-  **LODGE**
-  **SNORKELLING SITES**
-  **KAYAKING TOUR**
-  **WALKING TRAILS**

Locality: Tanintharyi Region
(Boke Pajin Township)

Size (km²): 205

Altitude (m. asl): 0 - 455

Habitat types:
Evergreen Forest, Mangrove
Forest, Beach and Dune
Forest, Sea Grass Beds,
Coral Reefs



LAMPI MARINE NATIONAL PARK

Lampi Marine National Park (MNP), designated in 1996, comprises Lampi, the biggest island of the Park and the core of the site, and about 20 smaller islands in its surroundings.

Lampi island is 205 km² and is oriented in a north-south direction, with a length of 48 km and a maximum width of about 6 km; it is generally hilly, presenting a rocky coast with sandy beaches, bays and inlets.

The area is covered by tropical lowland wet evergreen forest in the interior, mangrove forest along rivers and fresh-water sources, and beach and dune forest along

the coast.

The Park protects a rich biodiversity, with more than 50 terrestrial and marine endangered species; the whole area is rich in coral reefs, seaweed and seagrass beds which serve as important habitats for molluscs, crustaceans, echinoderms, fishes and it is home to whale species, dugong and sea turtles.

The protected area provides food, water and energy sources to the local population. Spiritual and cultural values are attributed to the site by Moken sea gypsies who consider Lampi as a “Mother island”.

Socioeconomic and demographic pressures are at present the main threats to the natural and cultural values of the Park.



TRAVEL TIPS

GETTING TO LAMPI

Lampi can be reached from either Myanmar or Thailand. From Myanmar, the quickest way to reach Kawthaung is by plane. A number of airlines offer domestic flights from Yangon, which can take 2 hours (with one stop in Dawei) or 2 hours and 40 minutes (with stops in Dawei and Myeik). Cost is around US\$ 210-250 for a return ticket. Improvements to the road between Yangon and Kawthaung have recently been made, but at the time of writing, there are no details of any regular transport services. The road journey from Yangon is long and involves 2-3 overnight stops.

From the Thailand side, Kawthaung is

reached via Ranong. The border crossing involves a long-tail boat-ride to Kawthaung that takes approximately 20 minutes and costs around 250 Thai Baht.

VISA AND PERMITS

To reach Lampi, international visitors require special permits, which are arranged through licensed tour operators. For live-aboard cruises, permits will be arranged as part of the service provided by your tour operator. Tours must be booked at least two weeks in advance of travel to obtain the travel permit in time for your trip.

ACCOMMODATION

At present, accommodation for international tourists is limited to live-aboard boats. Companies that provide live-aboard

tours are listed on [p. 74](#) of the guidebook. Some other options may become available: please check the Lampi website for any news and developments.

Domestic visitors, who do not require visas or permits to visit Lampi, can book Lampi tours through local tour operators.

MONEY MATTERS

Only Myanmar Kyat and Thai Baht are accepted in the Myeik Archipelago and Lampi Marine National Park.

WHEN TO VISIT

The best season to visit Lampi is from October to May during the dry season. From December to March, it is high season, with pleasant northeast winds, hot and sunny weather during the day and cool temperatures overnight. This is a great time of year for sailing and fishing. Between April and May it is very hot, with little wind. There is great diving and migratory whales can also be seen during these months. From June to September the Park is effectively closed, with heavy rain, strong winds and rough seas. Occasional showers can still occur in October and November.

MOBILE PHONES & INTERNET CONNECTION

Although there is no mobile phone coverage in Lampi Marine National Park, some limited signal and internet access (only MPT) can sometimes be made from the Park's Visitor Centre.

HEALTH ISSUES

The same recommendations made for Myanmar are valid for Lampi Marine National Park. Visit: www.nc.cdc.gov for more information.





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NATURAL RESOURCES



COASTAL AREAS

THE DUGONG AND GREEN TURTLE'S GARDEN: SEAGRASS

Seagrasses are terrestrial plants, which have completely adapted to a life in the sea. Seagrasses fulfil numerous functions, which stabilize the seabed, providing food and habitat for other marine organisms, maintain water quality, and preserve habitats for fish and invertebrate species that are exploited by local fishermen.

Seven species of seagrass have been documented in the Archipelago (*Cymodocea rotundata*, *Enhalus acoroides*, *Halophila ovalis*, *Halodule pinifolia*, *Halodule uninervis*, *Syringodium isoetifolium*, *Thalassia hemprichii*).

Seagrass beds in Lampi Marine National Park exhibit a discontinuous distribution, occupying different bays for a total surface of 5.2 km². The percentage of seagrass cover can vary from 5% to 80%. They are generally found on reef flats with sandy substrate at different depths (<1 m to 4-5 m), but also stay in intertidal rock/coral substrates or in muddy substrate adjacent to a mangrove forest.

Large meadows occur in the intertidal band between the beach and the coral reefs. On the outer edge of the meadow, toward the reefs, the seagrass is less dense and scattered amongst coral rubble, macrophytic algae and patches of bare sand.

The periodic sea level variation creates an intertidal band that, in some bays, can extend for thousands of meters. Seagrass may be exposed for several hours during the day, providing a fascinating dynamic landscape.

Seagrass generally needs clear and shallow water. Off Lampi island, they mainly occupy the eastern inlets which are less

exposed to wave and wind action from the southwest monsoon, which brings strong storms across the Andaman Sea from May to September. Instead, coral reefs provide some protection from the milder Northeast monsoon. In Lampi Park, the distribution of seagrass is mainly limited by the availability of bays sheltered from monsoons. However, seagrasses are also limited by climate change and human factors: terrestrial vegetation removal and coastal operations can cause siltation of some bays, while overfishing enhances urchin populations that are major grazers of seagrasses.

The eastern and southern part of the island hosts the wider seagrass coverage. At Ke Aw bay there is one of the largest and most varied seagrass beds, characterised by mixed seagrass species. The dominant species here is *Halophila ovalis*, one of Dugong's favourite seagrass species and, indeed, evidence of dugong feeding trails have been observed in this bay in 2011, confirming the presence of the "sea cow".

The bay is also a favourable habitat for a rich population of sea cucumbers, which are of high economic value. Green Turtles also inhabit the seagrass meadows, which are their main source of food island.



THE BEST BEACHES OF LAMPI

The best sandy beaches of Lampi are located on the western side of the Park, each and every one is a treasure! If you are lucky, you can see monkeys sitting on the beach leisurely snacking on crabs.

Bulet Aw is one of the most beautiful beaches of Bo Cho island and can be reached through a 30-minute walk from Makyone Galet village. It is a great place to rest and take in the beauty of the Archipelago, wonder along the sandy shore-line, or take a swim.

One of the longest, most accessible and stunning white beaches is on the south-

west side of Lampi island. It stretches from the casuarinas forest at the mouth of the mangrove tourist river. At low-tide, when all the sandy beach emerges, you can walk for almost an hour to a nearby small island. You will find yourself walking on a long sandy strip, without footprints and with turquoise waters to both sides.

Another extraordinary beach to the north is on Wa Ale island. Here you may come across turtles tracks between December and March. This beautiful wide beach is surrounded by hillsides of tropical evergreens and at low-tide has an interesting rock passage-way at the southern end of the beach. On Wa Ale island, waves can be strong at times.

A SIREN IN THE SEA: Dugong

The Dugong, *Dugong dugon* (photo), also known as “sea cow”, is the only marine mammal that feeds entirely on plants, almost exclusively on sea grass. Activity patterns are determined by tidal movements, with dugongs resting in deeper waters until it is possible to move towards the shallow sea grass beds. They move slowly, using the front flippers and the thick bilobed tail. Dugongs are very difficult to observe in the wild, but evidence of their existence can be found by searching for feeding trails on sea grass beds. In the Park, feeding trails have been observed on the east coast of Lampi island, in an area where *Halophila ovalis* (one of the Dugong’s favourite sea grass species) is dominant. Evidence of Dugong around some islands of Myeik Archipelago (Sular, La Ngan, Bo Lut) has been confirmed by local people. Unlike most other marine mammals, they cannot hold their breath for long periods of time: dives last around 1-3 minutes. They sometimes breathe by standing on their tail with their heads above the water. This curious behaviour, combined with the presence of pectoral mammary glands evoking human breasts, have probably played a key role in the inspiration of ancient tales of mermaids. Dugongs can live up to 70 years or more.

Status and conservation:

the Dugong is listed as Vulnerable by IUCN Red List. Many populations are severely depleted or almost extinct. Hunted worldwide for its meat and medicinal use, in Myanmar (protected by Law since 1994) the local consumption is not so widespread and the main threat is accidental entrapment by gill-nets.



LIFE IN THE SEA: Sea turtles and the Green Turtle

Very limited information is available on the status of sea turtles in Lampi. According to the available data, three species of sea turtles are reported to inhabit the Park and surroundings, specifically: Green Turtle (*Chelonia mydas*), Hawksbill Turtle (*Eretmochelys imbricata*) and Leatherback Turtle (*Dermochelys coriacea*), although the last two are considered extremely rare. Local people report that many beaches of the Park were used in the past by marine turtles as nesting sites, but recently nesting signs were detected in only a few areas. The Green Turtle is the only herbivore (plant eater) among the 7 living species of sea turtles in the world. She eats primarily sea grasses and algae. Sea turtles are very long lived animals, with Green Turtles reaching sexual maturity between 25-40 years. The females can lay eggs 3 to 5 times in one season at roughly 12-14 day intervals; a clutch size is between 85 and 200 eggs, depending on the age of the female. Surprisingly, the turtles that are born at a specific site are “imprinted” on it and will come back to the same site for nesting, from their foraging ground, which may be hundreds to thousands of kilometers away.

Status and conservation:

the Green Turtle (photo) is listed as endangered by the IUCN Red List, due to over fishing, egg selling and killing in fishing gear. The species is caught for food all over the world, including Myanmar, where it is also known as the “soup” turtle.





MARINE LIFE

In the shallow waters of Lampi Marine National Park, coral gardens provide shelter to a wide range of coral and rocky reef-associated tropical fish. Here it is possible to observe wrasses, damsel fish, gobies, cardinal fish, groupers, butterfly fish, snappers, surgeon fish, parrot fish, angel fish and scorpion fish.

In the deeper water, schools of fusiliers, groupers, snappers and emperor fish, together with sharks and large rays, can be seen, although, due to intensive over-fishing with destructive methods, their presence is rapidly decreasing. If you are lucky, while cruising, you can spot the Indo-Pacific Bottlenose Dolphin and the Indo-Pacific Humpback Dolphin.

While snorkelling in Lampi waters you will encounter many different and fascinating creatures of the sea. You can see sponges, meet an octopus and at night squid and nautiloids come closer to the water's surface to feed.

Simply walking on the mudflat at low tide you can enjoy coloured starfish, but watch out for the sea urchins! You can also easily spot sea cucumbers, amazing creatures belonging to the same group as starfish and sea urchins (echinoderms). More than 30 different species of sea cucumbers are found in Lampi area, representing a very profitable market, with prices reaching tens of dollars per kg for species like the sandfish *Holothuria scabra*. Unfortunately, the uncontrolled fishing of sea cucumber is leading to over-exploitation and needs urgent regulation.

At sunset with a low tide walking on the exposed mudflat you can see Moken women busy collecting shells like turban, tops and hammer oyster, while Moken men are



searching for pearl oyster in deeper water. Many molluscs such as the Commercial Top, the Dog Conch, the Maculated Ivory Whelk and the Green Turban found in Lampi Park are of economic importance as a food resource, for traditional decoration and shell jewellery, and for export to Thailand. The beautiful Tiger Cowrie (*Cypraea tigris*) is also collected for the shell market, as well as the Giant Clam, which has high commercial value for both its flesh and shell.

Lampi waters are rich in plankton which

play a very large role in the ecology of the ocean. Phytoplankton are the primary producers of the sea while zooplankton feed on it; jellyfish, small fish and prawn, which in turn are eaten by larger fish, who then consume zooplankton.

Seaweeds are present on the rocky shores or where coral reef flats mix with sandy or muddy beaches. Red algae are the most abundant, but green, brown and blue-green algae are also present. *Catenella* which is known as "Kyauk Pwint" in Myanmar, is a popular seafood item.

GET WET: SNORKELLING

In the wide northernmost bay of Lampi island, the western “horn” of the bay protects a diverse and richly abundant coral community of hard corals sprinkled with giant clams. Here you can find pillow-shaped finger corals, table corals and massive bommies (coral outcrops) with stands of the blue coral *Helipora*. Numerous small, colourful fishes swarm around the edge of the reef.



CORALS OF LAMPI ISLAND

Lampi is an “inshore island” habitat, which means that corals that live in the waters around Lampi island do not generally experience the crystal-clear oceanic waters people tend to associate with coral reefs. In fact, most species of corals do not rely on the symbiotic algae in their tissues for basic nutrition, but love to eat the organic particles that float in the productive coastal waters around them. Lampi’s corals are among this group; many of them have large, colourful polyps. Soft corals are also abundant, thriving in the plankton-rich water that offers such a bounty to the mouths of hungry coral.

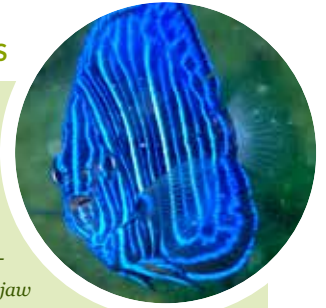
The best-developed hard coral communities around Lampi are on the northern and western coasts, where water from the Andaman Sea swirls around rocky bays and small islets. Large stands of staghorn and blue corals line the headlands, interspersed with thickets of stubby finger corals and large bommies. On the northern and southern/western coasts, wide sandy bays often have bands of coral on rocky bars below the low tide mark, protecting the beaches from the storms of the monsoon season.

The eastern coast of Lampi is composed of a crumbly mudstone, which provides poor support for reef development, and erodes quickly to form shallow, muddy embankments where hard corals struggle to grow.

Lampi’s coral reefs support a fantastic array of life – fishes, crustaceans and molluscs. Many of the coral species at Lampi are so-called “framework” species, which means they create complex 3-dimensional habitats, with plenty of hiding places for a multitude of small fishes.

The group of small islands in the middle of Lampi’s southern site are surrounded by fringing reefs formed by large boulder corals growing one on top of the other, forming vertical walls around the edges of the islands. These walls are adorned with an array of staghorn and table corals, as well as some dramatic gorgonian fans. Often, schools of jacks and rainbow fusiliers will swarm around the edge of the reefs; cuttlefish, brittle stars and colourful cowrie shells can be encountered around and between the corals.

CORAL REEF FISHES



Butterfly fish, Surgeon fish and Angel fish are among the most attractive members of the coral reef ecosystem because of their vivid coloration, often with striking patterns, which provide visual cues to other fish. They all have laterally compressed bodies to reduce their visibility to predators, allowing them to dart and rapidly change direction. Coral reef fish have evolved a variety of specialisations, such as jaw and snout forms, that allow them to nip off coral polyps, without being hurt by the heavy armor, spines and toxins developed by the corals.

Due to their close association to the coral reef habitat, these fish are good indicators of living coral health. At the same time, they also help to maintain the health of the reef, by grazing on algae, which prevents the coral from being smothered.

*Most **butterfly fish** (*Chaetodontidae*) have a dark band obscuring the eye, and often have a false eye spot in contrasting colours near the tail, to confuse predators. They are characteristically pair-forming. In many species, pairs are stable for at least three years, and some may pair for life.*

***Surgeon fish** (*Acanthuridae*) are named for the sharp, sometimes venomous, blade-like caudal spines ahead of the tail, resembling a surgeon’s scalpel, which may be used in defence.*

***Angel fish** (*Pomacanthidae*) (photo) may be hermaphrodites: if the male is removed from the community, the dominant female switches sex, or if a community becomes too large, one female may switch sex to become male and create a new group.*

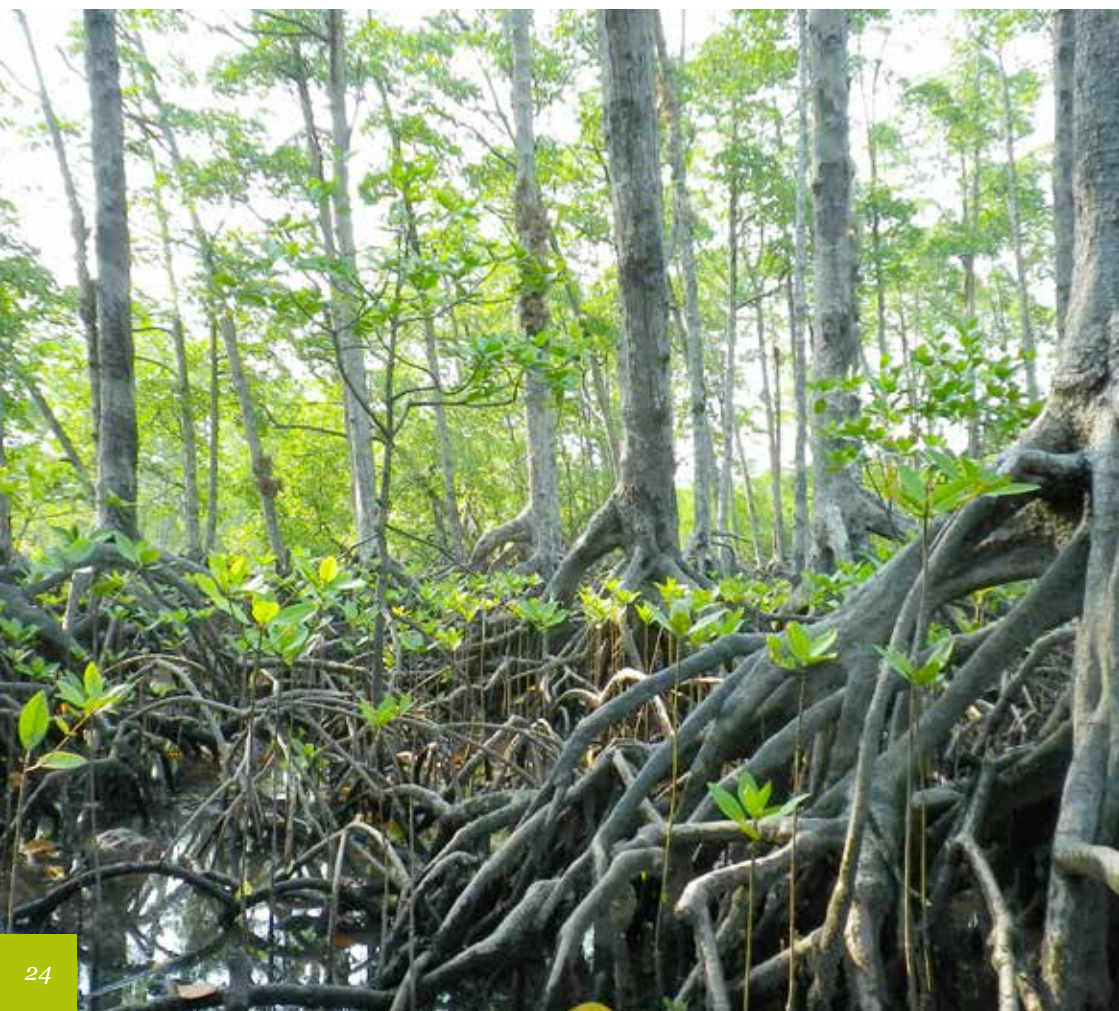


EXPLORING THE MANGROVES

The mangrove forests in the Park are among the best conserved in Myanmar, with high diversities of mangrove species and a high ecological value.

Mangroves are trees or large shrubs growing in areas where fresh waters mix with ocean water. These habitats are subjected to regular tides, variable salinities, droughts, powerful storms and heavy rains during the monsoon season.

To be able to survive in such a harsh and changing environment, mangroves have evolved peculiar ecological adaptations to tolerate salinity, to remain regularly submerged and to resist strong cyclones and tsunamis. Many mangrove species have developed aerial roots (*pneumatophores*) that emerge from the water to bring oxygen to the other submerged roots. Some mangroves have developed *propagules*: the seed germinates inside the fruit and remains nourished by the mother plant until it falls as a seedling (*propagules*)



that can promote rapid colonisation and dominance in the harsh environment.

The pristine mangrove areas in Lampi MNP are located at Labi Chaung, Khe Chaung, Mi Gyaung Aw and Thit Wa Aw on the west coast and in Bulet Aw on the east coast of Lampi Island.

A mangrove survey conducted in the Park in 2010 recorded over 60 species associated with mangrove forest. The *Rhizophora apiculata* community and the *Bruguiera cylindrica* community are found in the Park, well correlated to the level of tidal zone and the sediment types. Dominant species of mangroves are *Rhizophora apiculata* and *Rhizophora mucronata*, species that in the seashore where salinity is very high are the only ones present.

Four mangrove species recorded in the Park are listed by the International Union for Conservation of Nature (IUCN) as threatened: *Sonneratia griffithii*, *Heritiera fomes*, *Aegialitis rotundifolia* and *Brownlowia tersa*.

One of Lampi's most unique places is a mangrove river known as the Tourist River. Its extensive beaches and dune trees provide a continuous border to the mangrove and evergreen forests, creating a unique and panoramic beauty.

The mangrove river plays a crucial role as a nursery for coral reef fish, and is also a habitat for many species of molluscs and crustaceans. On the aerial roots of the mangroves, it is easy to spot the mudskipper fish (*Periophthalmus spp.*), an amphibious fish that can use its pectoral fins to walk on land.

Here it is possible to observe many species of birds and, if you are lucky, to spot the Reticulated Python (*Malayopython reticulatus*) hanging from a branch.



PADDLING IN THE MANGROVES: CANOEING AND KAYAKING

Kayaking through Lampi's serene and majestic mangroves is one of the highlights of any Park visit. Lampi Park has two perennial rivers located on the western side of the main island, the so called "crocodile" and "tourist" rivers. These two rivers are home to Lampi's best conserved mangrove forests. As you paddle along the rivers, deeper and deeper into the jungle, a mass of seemingly impenetrable, sprawling root systems extend as far as the eye can see. Lit by shafts of sunlight penetrating

a dense forest canopy, these wonderfully enchanting ecosystems are home to a rich variety of bird, reptile and marine life – so have your cameras ready for chance sightings!

This activity is a special experience as kayaking provides the opportunity to quietly explore the winding creeks while listening to bird song and other jungle sounds. High-tide is the best time to visit as this allows deeper exploration of narrow passages. Paddling 1-2 hours after sunrise or 2-3 hours before sunset are also great times to enjoy the richest colours, the shimmering, dancing sunlight and to marvel at the intricate reflections mirrored in the glassy waters around you!

PYTHONS IN THE MANGROVES

Reticulated Python, Malayopython reticulatus (photo) gets its name from the distinctive color and reticulated pattern on its scales, useful to hide hatchlings from predators (hawks, wild pigs, other snakes, monitor lizards) and to hunt for food without being seen. The great length, about 10 meters, makes this species the longest living snake in the world! Occurring in a wide range of habitats and often associated with water, the Tourist River on Lampi island is a good location to try to observe it, wrapped on tree branches. Pythons feed mainly on small to medium mammals, constricting and suffocating their prey before ingesting. Females show an interesting maternal care for their offspring: usually laying 25 - 80 white, soft-shelled eggs, which they incubate by wrapping their bodies around them, thus preventing the eggs from getting too warm or too cool. In the Park there is also the Burmese Rock Python (Python bivittatus). A specimen was found in March 2015 in a cave on Bo Cho Island, representing a new species record for the Park. One of the five largest species of snakes in the world, the Burmese Python is mostly found in forested areas including mangroves. It is a good climber and an excellent swimmer, with the ability to stay submerged for up to half an hour.



Status and conservation:

pythons are listed as Vulnerable by IUCN Red List. Giant pythons have historically been killed to supply the leather market, as well as for traditional medicine, and captured for the pet trade.



BRIGHT COLOURS THROUGH THE MAHERS: Kingfishers

With their typical bright blue, green and orange plumage, Kingfishers are small to medium sized, unmistakable birds and characteristic members of the Parks' coasts and rivers. Many species live along the sea coast, on wooded seashores, as well in mangroves, estuaries, along river courses and also visit coastal villages. Kingfishers have a swift and direct flight; they pass by in a flash, before the observer has time to notice their presence, but they are often easy to hear due to their characteristic call. Most Kingfishers are patient, still-hunters that forage by watching from a perch: if they catch sight of a suitably sized prey in the shallows, they plunge directly into the water to capture it. The size of prey (fish, crabs, insects etc...) is closely related to the size of the bird and to its bill length. The large size and long, heavy bill of Stork-billed (Pelargopsis capensis) and Brown-winged Kingfisher (Pelargopsis amauroptera) is associated with the diet of crab and fish. Resident all year round, many species of Kingfisher are solitary except when breeding and highly territorial. Kingfishers are generally monogamous and it is common for a pair to breed for more than one season, nesting in tunnels carved out in mud where 2-3 eggs are laid. When hatched, most Kingfishers are bald and blind with a 'spikey' appearance until their feathers grow.

Status and conservation:

although the population is considered declining, the Black-capped Kingfisher, Halcyon pileata (photo) is not threatened due to its large distribution area. Easy to observe in Lampi.





HIKING THE FOREST

BEACH AND DUNE FOREST

This type of forest is found along narrow strips on beaches and dunes throughout the coast. The largest sites are found in the localities of Baik Aw (Tourist river), Balaik Aw and Bawin Aw. It typically comprises pure stands of *Casuarina equisetifolia*, and *Dillenia* and *Calophyllum* species. Here it is easy to spot many species of shorebirds and to observe the Long-tailed Macaque busy breaking crabs, oysters and other molluscs with stones.

EVERGREEN FOREST

The evergreen forest is the dominant vegetation type in Lampi Park, characterised by a high diversity of plants. About 200 tree species have been recorded until now but many more could be added with further studies. 17 tree species found in the Park are threatened according to IUCN categories.

The evergreen forest, so called because it consists of broadleaved trees that retain green foliage all year round, is divided into different layers.

THE EMERGENT TREES LAYER

contains a small number of very tall trees, such as *Terminalia* spp., which grow above the canopy. Typical animals of this layer are flying foxes, hornbills and eagles.

THE CANOPY LAYER

contains the majority of the largest tree; in the interior of Lampi it is possible to observe large trees over 26 meters in height, and valuable tree species like *Dipterocarpus*, *Shorea*, *Vatica* and *Hopea*. The canopy often supports a rich flora

of epiphytes including orchids, mosses and lichens. This layer also plays host to a great variety of fauna species: birds like parrots, lora, bluebird, leafbird, minivet; mammals like Sunda Colugo, squirrels, Dusky Langur; reptiles like the Reticulated Python and the Olive Tree Skink, and arboreal amphibians like the Common Tree Frog.

THE UNDERSTORY LAYER

consists of smaller trees, shrubs and herbs that do not require the light intensity of the canopy trees. The understory is much more complex and dense, with well-developed bamboo and canes, which are difficult to pass through. Here you can spot many species of passerine birds such as bulbuls

and drongos, many insects and reptiles like the flying dragon.

The forest floor receives a minimal amount of sunlight and is therefore relatively clear of vegetation. The more open areas allow for the easy movement of larger animals, like the Lesser Mouse-deer, the Wild Pig, the Sunda Pangolin, civets, tortoise and lizards; birds like babblers, doves, pigeons and pheasants.

THE FOREST FLOOR

also contains many forms of fungi and moulds promoting the rapid decaying of organic materials, and many species of mites, millipedes, centipedes, springtails, beetles and earthworms that further breakdown the composting materials.



MOKEN FOREST'S RESOURCES

MOKEN CLASSIFICATION	MOKEN NAME	LATIN NAME	USE
pokon (tree)	ut	<i>Eugenia sp.</i>	bark: caulk, food, fruits
Kaé (wood)	batu	<i>Terminalis foetissima</i>	planks
	sisian	<i>Dipterocarpus grandiflorus</i>	caulk and planks
	kianthong	<i>Hopea spp.</i>	dugout boat hull
	tèngan bunga	<i>Hopea ferrera</i>	dugout boat hull
	tègan	<i>Hopea odorata</i>	dugout boat hull
	khalot	<i>Shorea</i>	dugout boat hull
	tchatit	<i>Shorea ou Lauracea</i>	dugout boat hull
	kasèt	<i>Shorea curtis</i>	dugout boat hull
	tebuj	<i>Shorea latifolia</i>	dugout boat hull
	gudung	<i>Tibranan menispermea</i>	dugout boat hull
	phan	<i>Artocarpus lanceifolius and A. rigidus</i>	dugout boat hull
	dungun	<i>Heritiera javanica</i>	dugout boat hull
	djagé	<i>Anisoptera</i>	dugout boat hull
	mat	<i>Adenarnhera microsperma</i>	dugout boat hull
	desark	<i>Vatica cinerea</i>	oar
	mata ékan (œil de poisson)	<i>Canthium diccocum</i>	tool handle
	alah	<i>Ficus, cf. F. superba</i>	shelter for spirits (good and bad)
	djamao	<i>Eugenia grandis</i>	planks
	djabo	<i>Cordia sebastiana</i>	beam of the bottom of the Dugout boat
	ganing	<i>Dyospiros martabanica</i>	edible fruit and beam
tékon	<i>Heritiana littoralis</i>	tool handle and stirring stick	
kaun (bamboo)	betun	<i>Bambusa sp.</i>	floor or deck in boards
kwaj (rope, strap)	sésèn	<i>Daemonorops sp., Calamaus sp., Plectocomia sp.</i>	rope, strap, basket making, rattan
	bubong	<i>Daemonorops sp., Calamaus sp., Plectocomia sp.</i>	rope, strap
	telèng	<i>Daemonorops sp., Calamaus sp., Plectocomia sp.</i>	rope, strap
	sekè	<i>Pandanus unicornitus</i>	rope, basket string, rattan, sail, roof
Other palm trees	tselah	<i>Nipa fructicans</i>	leave: roof
	kibuang	<i>Oncosperma tigillaria</i>	flower: wedding ceremony; stem: boathook
	palaj	<i>Zallaca sp.</i>	stipites: food and straps
	koman	<i>Zallaca rumphii</i>	stipites: hull plating
Miscellaneous	jot	<i>Daemonorops sp.</i>	deck or floor

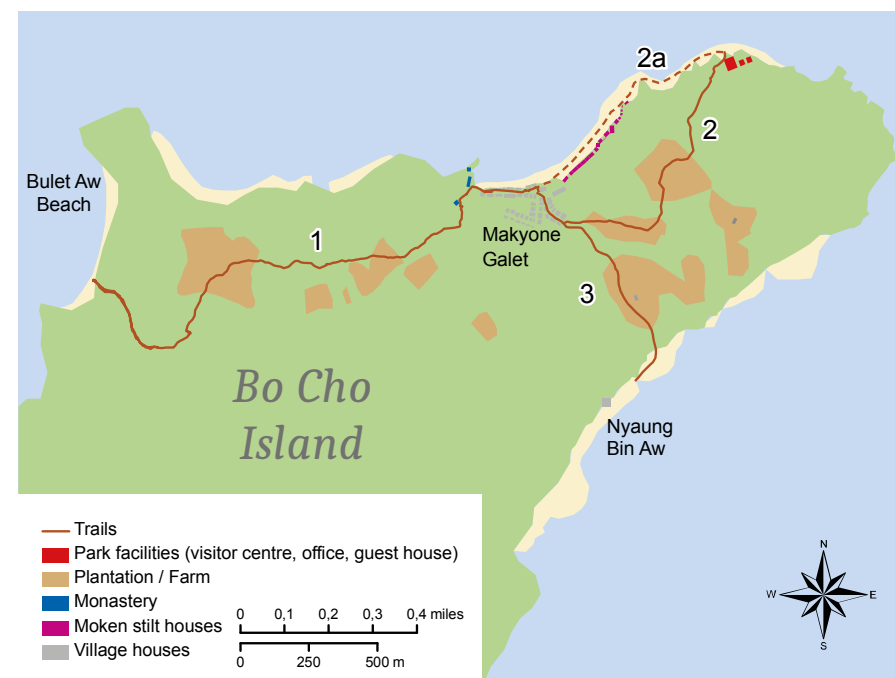
WALKS ON THE WILD SIDE: TREKS AND HIKE IN THE JUNGLE

Bo Cho island offers jungle hikes of varying difficulty and length.

The shortest walk is from Makyone Galet to Nyaung Bin Aw village (trail n. 3), a Karen village on the south-eastern side of the island. This walk takes around 15 minutes each way. Another walk is from Makyone Galet to the Park visitor centre. If the tide is out, this walk can easily be done along the beach past the Moken houses (trail n. 2a). Alternatively, it can also be done through the forest (trail n. 2, 45 minutes), or as a circular walk taking in both the forest and the beach. The forest walk (trail n. 1) passes through both primary

forest and local orchards where betel-nut and cashews are harvested. One of the suggested trails in Bo Cho Island is the one that starts from Makyone Galet and takes you through dense forest to the wonderful Bulet Aw beach (trail n. 1), where you can rest, wander along the shoreline looking for turtle tracks or take a swim. From Bulet Aw you can be collected by boat to return to your cruise or Makyone Galet, retrace the walking trail back to Makyone Galet or follow the coastline back to Makyone Galet. This latter option takes around 1-2 hours and can only be done at low tide; it involves some rock-scrambling and rock-hopping and should only be attempted by the adventurous!

Local guides accompany all treks, sharing information and stories about the forest and explaining about local wildlife.



INSIDE THE CAVES

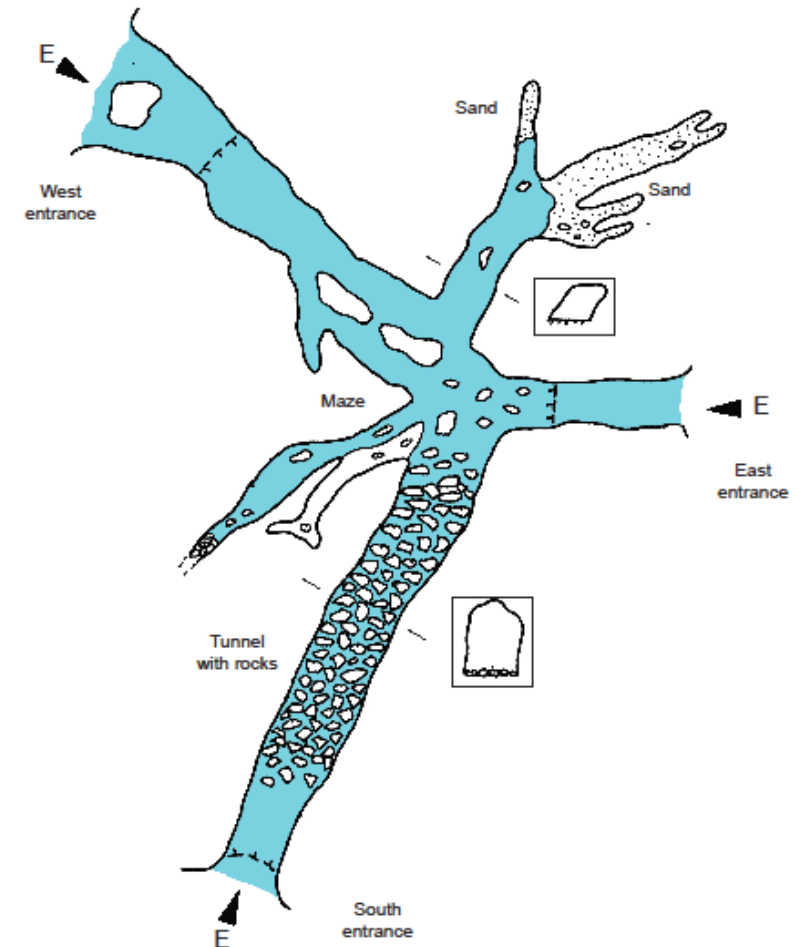
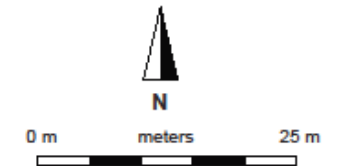
The islands in vicinity of Lampi host several sea shore caves. They are formed in Mesozoic Granite or Quartzite with passages oriented along the major bedding lines. This is surprising since caves are usually known from limestone which exists mostly in patches in the Myeik Archipelago. A cave easy to visit is Kyun Thone Lone Gu located at the tiny island just 20 minutes of boat drive from Makyone Galet, in south-west direction. It consists of maze like passages of 214 m length [see figure] and has a beautiful variety of water filled tunnels, upper chambers and sandy beaches inside. Access is by snorkeling into one of the three entrances. Most sea shore caves have single chambers or passages of 20-40 m length. They develop by a combination of weathering and dissolution and end

abruptly. Such chambers are protected from wind and rain and provide therefore a perfect shelter for bat colonies of typically 50-100 bats. During a bat study of the University of Yangon in the archipelago in 2003 twenty eight different bat species were identified. The systematic study of caves, related rock types and cave fauna is the main objective of the Myanmar Cave Documentation Project which recently started in the Myeik Archipelago. The multidisciplinary team consists of speleologists and experts who are organized in European Caving Societies. After a first investigation in 2016, extended expeditions are planned for the coming years. Of special interest are Anchialine caves. These have highly adapted fauna due to the mixture of saline water with limestone in secluded pools.



MAP OF KYUN THONE LONE GU SOUTH-EAST OF LAMPI

Kyun Thone Lone Gu
Myeik Archipelago / Tanintharyi State / Myanmar
N 10.678900 / E 98.171061 / ca. 0 m asl
Length: 214 m
Surveyed by Myanmar Cave Documentation Project
15.02.16 at 12 pm to UIsv1 Grade 6-4-A
Drawing: J. Dreybrodt



WILDLIFE SPOTTING

Many globally threatened vertebrates are present in Lampi Park, comprising a variety of fish, amphibians, reptiles, terrestrial and marine mammals, and birds. Most of the amphibians and reptiles found in Lampi, like arboreal snakes and giant frogs, are restricted to evergreen and mangrove forests in good conditions. The Flying Dragon inhabits the mangrove habitat at Tourist River site. Three species of sea turtles are also present in the Park and surroundings [see box p. 19]. Moreover, about 20 species of mammals are recorded in Lampi, 7 of which threatened. Until few years ago, it was possible to spot on the main Lampi island footprints of two elephants, that in remote times were brought here as guardians of the Park.

A BIRDS' PARADISE

Lampi is a birdwatcher's paradise, with over 250 species of birds recorded until now, 19 of which threatened, including the Plain-pouched Hornbill and the Wallace's Hawk Eagle.

Many shorebirds choose the seashore for feeding and roosting, while at low tide a variety of herons and egrets feeds on the exposed mudflats.

Terns and raptors are spotted flying over the open sea, searching for fish as food.

Mangroves are the preferred habitat for specialized birds, like the Mangrove Pitta and the Mangrove Whistler. Here you can also spot the colourful kingfishers, rapidly flying over the water.



AN ELUSIVE PRESENCE IN THE WATER:

Small-clawed Otter

The Asian Small-clawed Otter, Aonyx cinereus (photo) is the world's smallest otter, weighing less than 5 kg. It has an elongated silhouette that makes it highly mobile through the water. As the common name suggests, the species can be distinguished from other otters by small claws. Preferring shallow waters with abundant food sources and vegetation, along rivers, streams, estuaries, coastal wetlands, mangroves and rice fields, they feed mainly on crabs, molluscs and other invertebrates and fish. Otters are playful and social animals, and often travel and forage in family groups of up to 12-13 individuals. They are monogamous with both parents contributing to the raising of their offspring. Although difficult to observe in the wild, their presence in Lampi is well confirmed, and they have been sighted at Kyun Kantlant, along the north-east coast of Lampi Island.

Status and conservation:

the Asian Small-clawed Otter is listed as Vulnerable by the IUCN Red List. Major threats are: destruction of habitats, reduction in prey due to over-exploitation, pollution and hunting for pelts and organs, which may be used in traditional medicines.



LITTLE ELF OF THE FOREST:

Lesser Indo-Malayan Mouse Deer

Mouse Deer, also known as Chevrotains, are small, secretive mammals found in dense tropical forests. Both the used common names are well chosen, with "chevrotain" meaning little goat in French, and "mouse deer" suggesting a species resembling a mouse and a deer.

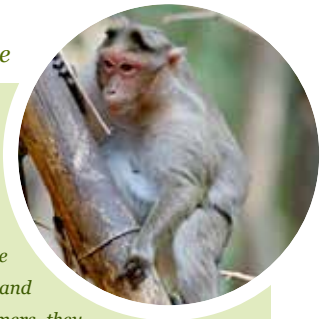
The Lesser Indo-Malayan Mouse Deer, Tragulus kanchil (photo) is the smallest known hoofed mammal. Crepuscular, they are selective ruminants, picking mainly fruits and young leaves. Walking in the forest of Lampi, it is not difficult to see signs of their presence: they travel regularly along the same paths, connecting resting places and feeding areas, leaving on the ground clear tracks and typical pellet groups. The Lesser Indo-Malayan Mouse Deer is highly variable in coloration, which has led to the description of a great number of subspecies, including Tragulus kanchil lampensis (Miller, 1903), the validity of which is still openly debated.

Status and conservation:

major threats are hunting and habitat loss. In Lampi Park Mouse Deer is considered one of the most preferred wild meats, thus hunted for local consumption and to sell to visiting fishing boats.

SENTINELS ON THE BEACH: Long-tailed Macaque

The Long-tailed Macaque, Macaca fascicularis (photo) is also known as the "Crab-eating Monkey", even if the exploitation of crabs is practiced only by the population living along the coasts. They are generally omnivorous. This common name is well suited to those living in Lampi, where Long-tailed Macaques prefer waterside habitats. They forage mostly on the ground for shrimps and crabs and use stones to break open oysters and other molluscs. Excellent swimmers, they catch fish by snatching them out of streams with their hands. The most impressive characteristic is the extraordinarily long tail up to 70 cm in adult males. Long-tailed Macaques are organized in social groups containing 5-100 individuals. Each group sleeps in its own tree, with a preference for those overhanging the river: if they are threatened by predators they can simply escape by dropping into the water.



Status and conservation:

although heavily hunted for meat and trophies, the species is not under threat thanks to its tolerance of a broad range of habitats.



THE SECRET LANGUAGE OF DOLPHINS

Dolphins are a group of fully aquatic, highly social and gregarious mammals. They can communicate very effectively via echolocation: they generate clicks of different ultrasonic frequencies and then interpret returning signals to obtain a mental picture of the environment to detect their prey and predators. At least two species of dolphin regularly frequent Lampi waters: the Indo-Pacific Bottlenose

Dolphin (*Tursiops aduncus*) and Indo-Pacific Humpback Dolphin (*Sousa chinensis*). The first is found from near shore sand flats to deeper open waters. The hydrodynamic shape and the powerful flattened tail allow for speeds of up to 40 km/h. The second is typically found in warm coastal waters less than 20 m deep, in groups of 20-30 individuals. It moves slowly, generally less than 5 km/h, and has a large hump at the base of the dorsal fin.

Status and conservation:

Indo-Pacific Bottlenose Dolphin is classified as Data Deficient, the Indo-Pacific Humpback Dolphin is classified as Near Threatened by IUCN Red List. Threats: accidental entanglement in fishing nets which leads to drowning, injury from illegal dynamite fishing, hunting.

THE ARMoured FOREST'S INHABITANT: Sunda Pangolin

The Sunda Pangolin, *Manis javanica* (photo) is a medium-sized mammal with scaled armour, covering the whole body except the ventral parts. It is covered by 900-1000 scales. When feeling threatened, a Pangolin can roll into a ball to protect its soft underparts. Pangolin feeds on ants and termites: it might eat around 200,000 ants or termites per day using the excellent sense of smell to locate the colonies among litter and rotten wood, or climbing on trees using the prehensile tail. It has a very long tongue (up to 25 cm!) covered with sticky saliva, but no teeth. To prevent ant bites while feeding, the Sunda Pangolin has special muscles that allow it to close its nose and thick eyelids to protect the eyes. It is nocturnal and solitary. Baby pangolin are carried across the base of the mother's tail until, at 4 months old, they begin to walk and forage independently.



Status and conservation:

the Sunda Pangolin is Critically Endangered on the IUCN Red List. A major threat is poaching, because its flesh is considered a delicacy and powdered pangolin scales are erroneously thought to hold high medicinal and aphrodisiacal qualities.

FLYING THROUGH THE FOREST: Sunda Colugo

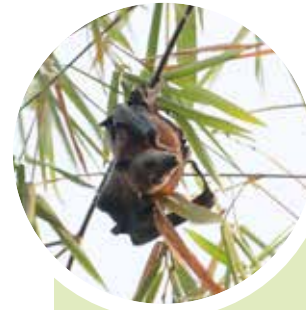


You can spot Sunda Colugo, *Galeopterus variegatus* (photo) while gliding in open areas or high in the canopy between tall trees of tropical rainforest over a distance of 100 m with a loss of less than 10 m in elevation! Sunda Colugo cannot truly fly, but instead glide with the aid of a membrane (named patagium) that extends from the neck along the limbs to the tips of fingers, and expands for planning. Strictly arboreal, mostly active at night, it feeds on young leaves, flowers and fruits. The teeth are highly specialised: there are no teeth at the front of the upper jaw and the two pairs of lower front teeth look like combs, useful for straining or grooming. The female gives birth to a single offspring, that is born underdeveloped (weighting around 35 g) and spends the first six months of life clinging to the mother's belly. The young do not reach full size until two or three years old.

Status and conservation:

this species is probably declining due to habitat loss and traditional hunting.

A TRUE-FLYING MAMMAL: Island Flying Fox



Flying Foxes (photo) belong to "fruit bats", a large group of bat species with a dog-like muzzle and very large eyes, useful to see well at night (they lack echolocation like the other bats). The Island Flying Fox (*Pteropus hypomelanus*) is the smallest among the 60 species in the genus *Pteropus* (relatively small, with a wingspan of 1.2 m!). This species lives in colonies, roosting during daytime on small offshore islands and near coastlines, leaving at dusk in large numbers (hundreds or thousands) and traveling to feed at mainland locations, returning early in the morning to sleep. During the gestation period, pregnant females form a separate colony. They feed on nectar and fruits and they disperse seeds dropping them while flying and eating, thus playing a key role in the forest regeneration.

Most of the 20 species occurring in Southeast Asia have distributions limited to remote islands. In Lampi Park a roosting site of about 2,000 individuals is located in Than dar Ni island, in the Gregory Group.

Status and conservation:

rated as Least Concern by the IUCN Red List. Major threats are deforestation and overexploitation due to hunting by humans for food.

A DINOSAUR IN THE FOREST:

Water Monitor Lizard

The Water Monitor Lizard, *Varanus salvator* (photo) is a reptile characterized by a small head, long neck, powerful long tail, bifid tongue and rounded pupils, reaching a total length of up to 3 meters. As the common name suggests, this species is semi-aquatic. In Lampi it is quite easily sighted both in the evergreen forest and in mangroves.

It is an excellent swimmer and can remain submerged for a considerable time. It is also an agile climber, preying on bird's nests. It consumes from insects to other lizards, small mammals, fish and crabs. They actively pursue their prey by swimming, climbing or running after them. They are shy and would rather stay away from humans, but their bites and scratches could be dangerous, causing exposure to bacterial infections.

The Monitor Lizard is called "Phoot" in Myanmar meaning a mean person who does not contribute to its community. The origin of the offensive meaning could be because people fear their domestic animals becoming prey to the lizards.

Status and conservation:

the main threat comes from hunting: skin is used in the leather trade, meat is eaten, and fat is used in traditional medicine.



THE MOST COMMON BIRD OF PREY:

Brahminy Kite

The Brahminy Kite (photo) is the most common bird of prey of the Myeik Archipelago, where it breeds in large numbers. With its sharply contrasting plumage, the Brahminy Kite is unmistakable: adults have a reddish brown plumage and a contrasting white head and breast. The Brahminy Kite occupies a wide range of habitats including estuaries, mangroves, beaches, rivers and coral reefs. It is primarily an opportunistic scavenger, feeding mainly on dead fish and crabs, but occasionally hunts live prey (including reptiles, small terrestrial mammals, bats and birds), by soaring over water or still-hunting from a prominent perch. It may also attempt to steal prey from other birds, behaving like a thief (kleptoparasitism) and taking advantage of dolphins herding fish to the surface. The Brahminy kite is normally seen alone or in pairs, but many birds can congregate around abundant food sources and roost communally on large and isolated trees. A night roost of over 100 individuals has been found on Ko Pawth Island in Lampi Park, breeding in January-March, and the first juveniles can be found flying at the end of March. The untidy nests are generally built of sticks, grass and seaweed, arranged in a fork of branches on tall trees, often mangroves. Breeding pairs re-use the same nests in successive years.

Status and conservation:

the Brahminy kite is generally common throughout its extensive range, where it benefits from human activity, and consequently is classified as Least Concern on the IUCN Red List.



SECRETIVE PRESENCE IN THE FOREST: Civets

Civets are a group of small to medium-sized carnivores with a long and slender body shape, short legs and long tail. Active at night, they tend to have large eyes. Some species are largely terrestrial, while others spend nearly their whole lives in trees. They communicate by scent marking: civets have a perineal scent gland that produces a substance with a strong musky odor persisting for at least 3 months! In Lampi, two species are recorded: the Small-toothed Palm Civet, *Arctogalidia trivirgata* (photo) and the Common Palm Civet, (*Paradoxus hermaphroditus*).

The first is strictly arboreal, with three black stripes on its back, giving rise to the latin name (*trivirgata*). The second has a shorter tail, a distinct pale mask on the nose and additional rows of spots on its flanks. It sleeps during the day in trees, but it is more often active on ground than the Common Palm Civet.

Status and conservation:

although not in danger because of wide distribution and tolerance of different habitats, the Small-toothed Palm Civet is locally hunted for meat.



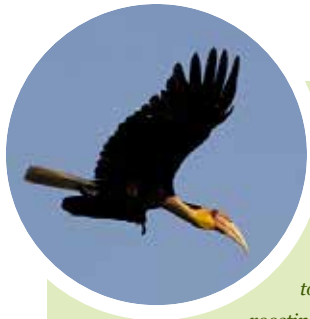
NICOBAR PIGEON: the Dodo's surviving relative

The Nicobar Pigeon, *Caloenas nicobarica* (photo) is a heavily-built bird, with bright coppery-green plumage and long iridescent feathers on the head and upper neck. It regularly migrates large distances between oceanic islands. Genetic analyses have suggested that the Nicobar Pigeon is the Dodo's closest living ancestor. Despite its wide distribution, the Nicobar Pigeon is generally scarce throughout its range. It can be found mainly on small wooded islands, where it feeds on fallen fruits and seeds. Pairs typically mate for life, nesting in colonies. It is spotted around the small Gregory islands, which are also roosting sites for over 300 Pied Imperial Pigeons.

Status and conservation:

Near Threatened (IUCN Red List). Colonial nesting habits make the species vulnerable to disturbance. Threats: habitat destruction, trapping for food and pet trade.





HORNBILLS: *the coloured farmers of the forest*

Hornbills are easily recognized by their oversized bills surmounted by a coloured casque. The casque is a hollow structure, responsible for their typical loud nasal calls. They live up to 30-40 years and all species are monogamous. When nesting, the female seals herself into a natural cavity and leaves only a narrow slit, probably to avoid predator attacks. At sunset, when hornbills are reaching the roosting sites, a typical noise is audible at over a kilometer far away: wingbeats produce a loud whooshing noise, with species-specific differences in the sound. Four species of Hornbill are recorded in Lampi: Great Hornbill (*Buceros bicornis*), Oriental-pied Hornbill, (*Anthracoceros albirostris*), Bushy-crested Hornbill (*Anorrhinus galeritus*) and Plain-pouched Hornbill, *Rhyticeros subruficollis* (photo).

Status and conservation:

the Plain-pouched Hornbill (photo), classified as Vulnerable (IUCN Red List), has a very small and rapidly declining population, due to severe hunting and deforestation. It is well represented in Lampi, which could become an important conservation site at international level.

Where in Lampi?

Two main roosting sites are known, at Ko Pawth and Bo Cho Islands. A good time to see them is at sunset, when flocks of birds arrive to roost.

RAPTORS IN THE DARK: *owls and owlets in Lampi Park*

Owls are a group of nocturnal birds. Special adaptations make owls efficient predators: sensitive and directional hearing helps to locate prey in complete darkness; the ability to fly silently allows owls to catch their prey by surprise. Their diet can include insects and other invertebrates, fish, reptiles, amphibians, birds and small mammals. After eating, owls regurgitate pellets, which contain the indigestible parts of their prey. Despite their reputation as ruthless killers, Myanmar people love owls and they are respected as a wise animal. Some people keep small figurines of a couple of owls in their house, with the belief that the spirit of the owl will give them protection and luck. In Lampi nine different species of owls and owlets are recorded in the open and dense forest.



Status and conservation:

classified as Vulnerable by IUCN Red List, White-fronted Scops Owl, *Otus sagittatus* (photo) is known only from Tanintharyi Region in Myanmar, south-west Thailand and Peninsular Malaysia. Forest loss, degradation and fragmentation are the greatest threats.

LAMPI ISLANDS:

a rest stop along the migration flyway



Twice a year, billions of birds travel vast distances across the globe. Typically, these journeys (called migrations) follow a predominantly north-south direction, linking breeding grounds in arctic and temperate regions, with non-breeding sites in temperate and tropical areas. Many species (like cars on a highway) migrate along well-established routes known as flyways. Myeik Archipelago is at the middle of the East Asia/Australasia flyway. This imaginary and invisible way extends from Arctic Russia and North America to the southern limits of Australia and New Zealand. Some birds pass through Lampi during peak migration from September to November and on the return flight (towards breeding sites) from March to April. Many others go no further and make the Park area region their winter quarters. Birds moving along the East Asia/Australasia flyway use a number of stopover for refuelling. Large numbers of migratory waterbirds (those birds dependent on wetlands) tend to follow the coastlines during migration, often congregating in big numbers at undisturbed sites along the coast or at remote islands. At low tide, the exposed mudflats of the island of the Myeik Archipelago provide abundant food for many migratory shorebird species (plovers, sandpipers, snipes, curlews, herons, gull and terns) and, at high tide, they rest undisturbed using mangrove trees.

Which birds should you look out for in Lampi during migration?

Here are just a few:

- Grey heron (*Ardea cinerea*) winter visitor
- Chinese Pond Heron (*Ardeola bacchus*) winter visitor and passage migrant
- Greater Sand-plover, *Charadrius leschenaultii* (photo) winter visitor
- Grey plover (*Pluvialis squatarola*) winter visitor
- Eurasian curlew (*Numenius arquata*) rare in winter, observed mainly in march, suggesting that it is mainly a passage migrant
- Whimbrel (*Numenius phaeopus*) is the commonest wader of the Myeik Archipelago in winter and in spring
- Bar-tailed Godwit (*Limosa lapponica*) winter visitor
- Common Redshank (*Tringa totanus*) common winter visitor
- Common Greenshank (*Tringa nebularia*) common winter visitor
- Pallas's Gull (*Larus ichthyaetus*) passage migrant
- Whiskered Tern (*Chlidonias hybrida*) and White-winged Tern (*Chlidonias leucopterus*) winter visitors and passage migrants
- Roseate tern (*Sterna dougallii*), Common tern (*Sterna hirundo*) wintering species but larger numbers passing though during migration periods.



WALKING ON THE BEACH: *the Beach Thick-knee*

The Beach Thick-knee (photo) is a very large and distinctive ground-dwelling shorebird, with a large head, a stocky body and sturdy legs. Its common name comes from its swollen-looking 'knees', which correspond to its ankle joints. The Beach Thick-knee's head is strikingly marked with white stripes across a black face, with prominent, very large, bright yellow eyes. As its common name suggests, the Beach Thick-knee is typically found in coastal habitats, on a variety of sandy, muddy and rocky beaches, including the beaches near mangroves, river mouths and coral reefs. Mainly active at night or at dawn and dusk, moving slowly with occasional short runs, it tends to fly off into the distance ahead of the observer. Essentially sedentary, the Beach Thick-knee is usually seen alone or in pairs. The Beach Thick-knee feeds mostly on crabs, using the massive and slightly upturned beak as a hammer to open its prey, and sometimes washes its food before swallowing it. A monogamous species, the Beach Thick-knee breeds in isolated pairs. A single egg is laid just above the high tide line on the open beach, where it is vulnerable to predators and human disturbance. The nest consists of just a shallow scrape in the ground. Once the young have hatched, both parents care for them until they reach 7-12 months old.

Status and conservation:

the Beach Thick-knee is listed as Near Threatened following the IUCN Red List, due to small population and to the pressure from development and disturbance on its breeding habitat.



PHOTO: Scarlet Minivet
Pericrocotus flammeus

ESSENTIAL TIPS TO BIRDWATCHING IN LAMPI

Lampi Marine National Park, assessed as an "Important Bird and Biodiversity Area" in 2004, is home to more than 250 species of bird.

WHERE TO GO?

Many shorebirds (plovers, sandpipers, heron and egrets) use the seashores for feeding on the exposed mudflats at low tide. Walking on the seashore, it is possible to see Beach Thick-knee, Whimbrel, Bar-tailed Godwit, Common Redshank, Common Greenshank, and terns and raptors (White-bellied Sea-eagle and Lesser Fish-eagle) searching for fish.

Mangrove forests represent a suitable habitat for kingfishers (Collared Kingfisher, Ruddy Kingfisher, Black-backed Kingfisher), and for a few specialised birds like the Mangrove Pitta, Mangrove Whistler, Ashy Tailorbird and Copper-throated Sunbird. Just walking the trails connecting Makyone Galet to the west coast of Bo Cho island is enough to appreciate the variety of birds that the ev-

ergreen forest supports. Pheasants, hornbills, broadbills, woodpeckers, leafbirds, babblers, barbets, trogons, cuckoos and flowerpeckers are common; bulbuls, drongos, cuckoo-shrikes and flycatchers are also well represented.

WHEN TO VISIT THE PARK?

The beginning of the year is a good time to visit the Park, when the resident birds start breeding and become more active and conspicuous. Many migratory birds, mainly shorebirds, pass through Lampi islands during peak migration from September to November and on the return flight from March to April, using the area as stop-over sites. Visiting the Park between November and March is a good compromise between the number of bird species to see and favourable climatic conditions for visitors.

EQUIPMENT

A good pair of binoculars (7-10x) and a field guide to the birds of the area are the essential tools for the birdwatcher. It is possible to download a complete bird checklist of Lampi Park at www.lampipark.org.



PHOTO: Oriental Pied Hornbill
Anthracoceros albirostris

LAMPI
MARINE NATIONAL PARK

HUMAN HISTORY





MOKEN ORIGINS

The Moken, Sea Nomads of the Myeik Archipelago, are the northernmost group of the Austronesian migration, probably beginning from Taiwan around 5,000 B.C. and colonising an area of several million square kilometres. We can trace the Moken departure from the Riau-Lingga Archipelago (Indonesia), back to approximately the 16th century. From there on they expanded by separating from the dominant “Malay” group, becoming “Proto-Malays”, which includes all the nomads of the insulindian archipelago. They created a large network from the Riau to the Myeik Archipelago, where they have flourished. A small network of groups has developed empowering themselves and settling in estuaries, mangroves and islands.

Centuries of interaction with other populations provided the Moken with a stock of cultural and technical knowledge (‘latencies’). The archipelagic environment offered a relative tranquility from the mainland civilisations, so the Moken could test some of these ‘latencies’. The Moken culture blossomed with its flagship item, the kabang boat, representing the microcosm of a society, and with the emergence of the great ceremony of the lobung spirit poles. It also enabled the expression of their ideology: sea-hunting (and land hunting too), non-accumulation, non-violence, egalitarianism, the refusal to learn and thus to attend school.

This archipelagic Eldorado permitted the distribution of gathering areas between five mother-islands, each inhabited by a flotilla, which is more or less an extended family, where every kabang is a nuclear family.

This division into sub-groups helps to

maintain a demographic balance (Moken were never more than 5,000 individuals) and a relative tranquility. Indeed, the Myeik Archipelago was far from the grip of surrounding civilisations until the annexation of the Tenasserim region by the British in 1826. Even then the Myeik Archipelago’s islands remained a remote place, and the British could only place taxes on Moken products through Chinese intermediaries (*toké*). Rapid changes began in the 1980s, when thousands of Burmese migrated to central and lower Burma, including the Archipelago, fleeing political unrest and economic distress.

MOKEN CULTURE’S FOUNDATIONS

During British rule, which ended in 1947, missionaries and officers started to study the Moken, with the view to either convert them or make them taxable by the Crown.

Both initiatives fell short, only a few Moken were converted and they were too mobile to be controlled.

ORIGIN OF THE NAME

The meaning of Moken is believed to be derived from a kabang boat called *mo*, and *okèn* meaning “salted water”.

In reality, the origin of the name is revealed by the often told epic poem of Gaman, which offered Moken society its identity. Gaman is a Malay hero, leading the transition from yams (symbolized by the queen Sibian who represents hierarchy and land) to rice for the Moken, which makes him the first *tokè*. Gaman, by committing adultery with the Queen’s sister (named Kèn) led the Moken at sea, condemned by the queen to be thrown – *mo* – in the water.

Mo-kèn became their name
[\[see box Gaman p. 48\].](#)



EXTRACT FROM THE EPIC POEM OF GAMAN

"I tell you, Gaman, you have turned towards the front and you have made Sibian sick. My heart and my soul suffer as if needles stung them. My young sister has stolen the dish of her older sister, the bowl of her older sister. She tore out the hair on the head of her older sister. You, young sister, who lives on the boat

of which the broadsides of the hull are made of stipites, reflect well. I condemn my young sister to fall into the sea. May she become immersed in it, she who is called Kèn! And now you can do what you want with my husband. Remain together both of you if you want to, but take her parents and Kaèt with you. Never come back again to my earth. Take the entire group with you, the young ones, the old ones, and the uncles. I forbid you to live here any longer."



The social unit among the Moken is the nuclear family. Alliances are of exogamic nature: the men go to another subgroup to find a wife to bring back to his own group, while building the kabang boat. Once the boat is done, they return to the group of his wife. Exogamy is a major vector of mobility and the boat its vehicle, the shelter of the nuclear family, which is ideally composed (terminologically at least) of two parents and five children. This number refers to specific animals: four turtle species and the dugong. The first born (*laton*) is associated with the Leatherback (*Dermochelys coriacea*), the largest living sea turtle, the second (*penvov*) with a smaller Hawksbill Turtle (*Eretmochelys imbricate*), then the third (*kalah*) and fourth (*koyat*) born are associated with the smallest turtles Loggerhead turtle (*Caretta caretta*) and Green Turtle (*Chelonia mydas*), with the youngest associated with the dugong (*Dugong dugon*).

A SUSTAINABLE EXPLOITATION OF ARCHIPELAGIC RESOURCES REFLECTED IN ALL STRATA OF THE SOCIETY

The nomadic life shapes the Moken's economy and their practices in harmony with the environment. Moken live on their kabang during the dry-season, roaming the islands in search of valuable products (pearls, bird-nests, sea cucumbers, turbos, trochus shells and mother-of-pearl) to exchange for rice and other goods. Despite these exchanges, they avoid contact as much as possible with surrounding dominant societies (Malay, Thais, Burmese).





This is made possible thanks to a quasi-exclusive relationship between a Moken subgroup and their intermediary (*tokè*) who does not only manage the exchange of goods, but also protects and takes care of them. Men are in charge of collecting tradable products and are responsible for the relationship with outside contacts. Women are the guardians of self-subsistence, a tradition symbolised by the foreshore. The balance of the meal depends on the harmony of the couple, just like the boat could not work without a couple. The harvest usually takes place by women and children, especially during major full moon tides when the foreshore is largely uncovered for about five days. They look for sand worms (especially *Gephyrean - Phymosoma japonicum*), mantis shrimps (*Stomatopod*) and small shells. They also collect vegetables as well as other “leaves” and yams (*Dioscorea alata*, cf. *glabra*, *hispidata*) from the nearest fringes of the forest, along with wood and leaves necessary to build temporary houses for the rainy season. The interior of the forest (*kotan*, “the

interior”), like the sea, is reserved for men, where they hunt and fell trees for building boats [see box *Kabang*, p. 56]. At sea they hunt for turtles [see box *Turtles*, p. 54], rays (imbricated stingray and manta-rays), dugongs and sometimes sharks. In the forest, they prefer to hunt animals such as mousedeer and wild boars. Hunting is a highly symbolic activity: the Moken believe animals may possess a ‘spirit’ (*katoy*) or a ‘soul’ (*manga*) that determine which animals can be hunted or not. Dolphins (*loma*) and whales (*nani*) are not harmed because they have a ‘soul’ and represent the double (soul) of dead shamans and mediums [see box *Dolphins and cetaceans*, p. 53] so their appearance may command a respectful silence. A species of monkey (*Semnopithecus obscurus*) is also considered a double, probably representing an ancestor. It is referred to as *Ebab* (“grandfather”, “male ancestor”) by the Moken and therefore is not hunted. Hunted animals with a ‘spirit’ include the wild pig on land, turtles and manta rays at sea, and some birds.

POPULATION, RESOURCES AND RITUALITY: THE MOKEN TODAY

The transition between the nomadic dry-season and the more sedentary monsoon is marked by an annual ceremony, called “making the spirit poles” (*bo lobung*). This ritual is of primary importance and preserves the history of Moken society, remembering all the stages, the “Malay” past, the “slavery” past, etc. Three animals have a primary importance in the spirit poles ceremony: the wild pig, the turtle and chicken. The chicken, as a domesticated animal, recalls a sedentary lifestyle and attachment to the Malay world, the wild pig, a forest animal, is associated with the agricultural past of the Moken, while the turtle, a coastal and marine animal, represents the element in which the Moken live. During the ceremony, Moken renew the contract made between humans and ancestors. The spirit poles represent firstly, the founding ancestors of the subgroup and secondly, the settlement of an ideal family of seven people. The “sacred men” are at the foot of the spirit poles to welcome the spirit, give them offerings and play with them. Moken make a new deal after “reimbursing their debt” to the ancestors who protected them from evil spirits during the dry season. However, if the ancestors did not fulfil their role (for example if many deaths happened in one group), Moken may not present them with offerings and may not perform the *bo lobung* ceremony. This ceremony used to be the occasion to gather all the flotillas of one subgroup from their homeland. In the course of the 1990s and with the development of the fishing industry, many Burmese came to the islands and married

Moken women. Following the introduction of compressor boats which employed many Moken men who stayed away for longer periods, searching for pearls, sea-cucumbers and shells, the Moken society soon suffered a reduction in the number of local men. The resulting marriages between local Moken women and Burmese fishermen became a natural progression. Moken traditional resources became scarce, and the nomads and their *tokè* tried to adapt: from sea-cucumbers to manta-rays and sharks, and from sharks to squids (*mimik* in Moken). Squid fishing, now the main activity of the Moken, began in the 2000s, principally engaging women on Moken secondary boats (*sampan*). With a greater reduction of resources, progressively all the Moken concentrated their efforts on squid fishing. At one person per *sampan*, which is towed on site by motorised boats generally owned by the *tokè*, the Moken use a line equipped with a fishing jig. During the 2000s, Moken also lost most of their *kabang*, which as a symbol of non-accumulation, was not suitable for storing squid in iceboxes. The need for ice also required more regular returns to the village. Pressure from the government, the military and missionaries to control the Moken resulted in the adoption of a sedentary lifestyle that became an obligation. Hence, the northern and southern subgroups were removed from the mental map of the Moken, partly because they could no longer participate in the *lobung* ritual. This leaves only the “centre” of the archipelago to accommodate the Moken, a centre that includes three sub-groups: Lengan (separated from its parent island Domel), Lebi (Pu Nala/Lampi) and Nyawi (St. James).
To learn more about the Moken please visit www.lampipark.org and www.mokenspirit.com

MOKEN AND THE LAMPI MARINE NATIONAL PARK

Lampi and the village of Makyone Galet are key places for the Moken in the recent history of the Archipelago. The designated 1996 Year of Tourism saw the development in Makyone Galet of a “Salone Ideal Village” – Salone being the Burmese exonym for Moken. This was a first attempt by the government to settle all the Moken from the Myeik Archipelago in one place. Burmese settlers were forced to move out, a village of bamboo huts aligned in rows was constructed, each row supposed to shelter a different Moken subgroup. However, the Moken would not stay and over the years the village has seen repeated attempts at a variety of relocation processes for both Burmese and Moken. In the meantime, the anticipated tourism development did not occur. In 2004 the government organised a Salone Festival for tourists. Again, this did not work to engage the Moken people

with tourism and the festival did not continue in following years.

Over a period of twenty years (1980-2000), the five sub-groups present in the Archipelago were reconfigured under the pressure of the Burmese, and sometimes the Burmese army, who gradually took possession of the islands.

In Makyone Galet there are now two communities from two different Moken sub-groups: Jait at the eastern part of the village, and Lebi (Lampi) at the opposite side. Lampi (and Makyone Galet village) is a privileged place to acknowledge and valorise Moken know-hows regarding natural resources’ management and their environment. As Moken society lives in accordance with its environment, managing the park also means taking into account Moken culture as a crucial element of its diversity. Eventually, the Lampi Marine National Park may be a valuable alternative to favour integration, a place of equal contact with the ‘outside’, a place where Moken can take an ethnic breath.



DOLPHINS AND CETACEANS



While moving from island to island of the Myeik Archipelago, dolphins are cheerful companions that sometimes accompany the boats. Most people are delighted by the show, but this is not the case for the Moken. Silence falls instantly at the appearance of dolphins leaping out of the waves; Moken must then pour fresh water into the seawater that is considered to be alive, and whose strength is reduced by the blandness of fresh water, while they recite some invocations. Like sharks and other “monsters” haunt the nightmares of Western people, nomads seem more concerned with reptiles and marine mammals. The silence from the Moken is more a mark of respect than fear, because dolphins are the doubles of the Moken officiants (mediums and shamans) and their coming is a sign of communication between two worlds. Caution is therefore necessary.

During the fifth month of the lunar calendar, the month of the great spirit poles ceremony, cetaceans (whales especially) come in pairs to some islands of the archipelago, believed to be for the mating season. The Moken associate their visit with fertility and rebirth; so we see a link between the onset of the rainy season, the function of shaman, activating its function in the fifth month (for the spirit poles ceremony) and the emergence of shamanic doubles that come back to haunt the waters of the archipelago, in the shape of sperm whales. The dolphins, which are present in every season, are the image of potao “elders”.



DUGONG: the gate between nature and culture

In a nuclear family [see p. 49] the youngest child is associated with the dugong, considered by Moken to be an intermediary between humans and animals. Dugong have pectoral breasts similar to human ones, particularly visible during breastfeeding. The dugong lives close to man, and therefore it makes sense that it is the youngest child, often the last to leave home, that it represents. It is the perfect representative of animality (as opposed to sociality), a symbol of a return to nature. It is the guardian of the passage from culture to nature. The youngest children are potentially incestuous (as echoed by Moken myth such as Gaman or the Incestuous Dugong) as they are the last to remain with parents, a dangerous proximity. In oral texts, the youngest has a special place and a transformative power. Dugong meat is consumed but only in certain circumstances, which are also applied to turtles. It is a sort of social cannibalism, connecting man to his mythical primordial unity. First, they come from salt water, creative and powerful but also dangerous because it is a passage to the afterlife. Moreover, it is within the seas that shamans and ritual masters are reborn. The ocean, place of rebirth and transformation, provides an inverted picture of the man, which is why, although the dugong has ears, Moken must speak loudly to not be heard; that is why one comes back physically transformed from a long journey; this is also why the intrepid traveller who reached the mystery of the ocean in the myth holds the key of sacred knowledge.



TURTLES: the mythic kin of Moken

If turtles appear when aboard a Moken boat, as the reaction is not one of respect as with dolphins, but one of excitement for the hunt. Moken are former hunter-gatherers who became divers and collectors, for whom turtle is a real prize shared by all members of the flotilla after its capture. This animal is considered a mythical symbol of Moken origins.

The four-legged animal is reminiscent of mammals, but it lays eggs that are considered equivalent of women for the Moken: the terms binay, “woman”, and bunay, “turtle eggs”, are intentionally similar. Moken are fond of turtle flesh but also of eggs, which they exchange. Like turtles, eggs are enjoyed as a delicacy by the Moken. The way that small turtles roam at birth to the sea is another similarity between men and turtles, living symbols of the Moken who left earth to live on the sea. However, in traditional myths, turtles are the “sisters” of the Moken, who did not have time to climb aboard the boat after the primordial flood. Staying at sea therefore, also changes this mythical symbol from male to female, because at sea the turtle is the wife, the daughter, the mother, or rather the femininity of sea that gives life. This is exemplified by the Moken saying: “Moken are born, live and die on a boat and the umbilical cord of their children plunges into the sea.” The turtle is a highly symbolic animal and is ritually consumed. Only Moken men harpoon the turtles: symbolically it means men eating their women, understandable if one considers the urge to eat the beloved as the mark of a desire. Certainly excessive, but almost universal.

DUSKY LEAF MONKEY, the “grand-father” (ebab)

In the Myeik Archipelago two monkey species are present, the dusky leaf monkey (*Trachypithecus obscurus*) and the crab-eating macaque (*Macaca fascicularis*). They are considered by the Moken as very different from one another.

The macaque (kla in Moken) is hunted for food, usually with a one-point spear (lèm) while out on the beach, or it is sometimes killed by dogs. However, dusky leaf monkeys (obuan) are highly respected by the Moken, who see them as representatives of a parallel world that should not be interfered with. The obuan monkey is seen as powerful and considered a great warrior. But the obuan monkey is also the holder of culture, since it is associated with rice. Moken believe monkeys cultivated rice before men made it their own, and since then rice is the only reward the obuan desires. On the island of Surin (Thailand) where some Moken live, visitors are welcomed by the “monkey rock”, a pile of stones and a lighthouse for the Moken. Monkeys would come there to meet in council and pray to the great deities for the help in withstanding the onslaught of the waves. In Surin, once an obuan monkey jumped from one tree branch to another one that broke, and the monkey was severely hurt. The Moken rushed, raised the monkey very delicately, and called it “grandfather” (ebab). The “grandfather” monkey lived among the Moken on a boat, until regained his health. He was fed with rice and everyone came to visit him. These monkeys are considered a double, probably an ancestor, as it is called ebab by the Moken.



THE MISCHIEVOUS MOUSE DEER

The Lesser Mouse Deer (bitchong in Moken) is probably the most hunted prey in the forest. However, Lesser Mouse Deer are not subjected to organised hunts like wild-boars, but may be captured by dogs while the Moken are hunting for other resources. The Lesser Mouse Deer does not possess a spirit (katoy), however it is well represented in traditional tales and is equivalent to our mischievous fox in European tales.

Tale of the mischievous Mouse Deer

We'll tell you about the Mouse Deer, but you must pay attention! The ancestor Buhum took his axe one day and went off with his son to cut down a tree, a *Hopea odorata*, in order to make a boat hull. They were sweating blood and water while they hollowed out the tree, when suddenly a Mouse Deer appeared and jumped onto the hull.

- 'No Grandfather!' The Mouse Deer cried, 'you will never be able to achieve anything if you continue doing things in that way. You really don't know what you're doing, you've made a mistake and you will not succeed Grandfather.'

The father and the son tried to catch the Mouse Deer who jumped from the bow to the stern of the boat and then ran off into the forest. For the next three days the Mouse Deer returned to insult the grandfather, who angrily took the shavings of the tree he was chopping and threw them at the cheeky animal. The father asked, 'Hey, are you suffering now, Mouse Deer?'

The Moken believe that since then, the Mouse Deer has had the mark of the wood shavings on its back, and if you capture one, you must return it to the forest because it will have a bad smell.

But the Mouse Deer returned, this time teasing a tiger, who wanted to eat him. The Mouse Deer dragged the tiger into the sea where there were giant clams that nipped at its feet.

- 'The water is rising! The water is rising!' cried the tiger.

- 'Eh! Well then, tiger, you are going to die' replied the Mouse Deer.

The tiger called for help but before long, the water entered his mouth every time he opened it. When the tiger died, the Mouse Deer went back into the forest and met another tiger:

- 'Ah! You have mocked me and you have lied to me. Then you will die with me, I'll eat you.'

The Mouse Deer fled the tiger and ran into the forest, where he met a python. He played on his red pipe for him:

- "Tetete".

- 'Give me the pipe or I'll denounce you to my master.'

But the Mouse Deer caught the serpent in his mouth and beat him, tearing out his eyes and throwing them on top of the tiger. Again he fled into the forest where he met the elephant, who threatened to kill the Mouse Deer if he did not stop playing tricks on everyone. The Mouse Deer insulted him and the elephant went running after him.

- 'You can't kill me because I run faster than you. Let's go and look for a tree. We will hit it and the first one who makes it fall down is the winner.'

They soon found a suitable tree and started bashing away at it. But the elephant had flat feet and that stopped him hitting the tree, so the Mouse Deer won the bet. Then he met some men who wanted to exchange fish for wood. The Mouse Deer brought them some branches with big thorns on them. The men put the wood on their shoulders and the thorns jabbed them severely. Soon, the tiger, the elephant and the men started chasing the Mouse Deer. When he reached the river, he cried out to the crocodile.

- 'Oh, crocodile, my friend, take me to the other side.'

The Mouse Deer was able to safely cross to the other side of the river, but the men had dogs who followed the Mouse Deer. When they reached him, the dogs climbed on to the crocodile and defecated all over him, which angered the crocodile so he ate all of them.



KABANG, the Moken boat



The centrepiece of the enigmatic Moken society as a silent guardian of the past and future, representing a magical bond between the forest, the sky, sea and earth, the kabang is a mythical microcosm, the Moken's history book, recounting its emergence from its Malay and coastal chrysalis. For example, the organisation of the thwart reminds the Moken of the Malay boats, and spirits who still live on the kabang are Malay and not Moken ancestors. The boat tells their history in relation to the Malay world. However, offsetting this geo-historical proximity, the indentations of the hull are there to mark their cultural differences: it is Moken men who have an indented boat. Beyond their technical function as a step to climb onto the boat, these indentations, found on the front and the back of the hull symbolise a "mouth that eats the sea" and "a back that rejects it", representing the very meaning of non-accumulation, important in Moken society.

Extract of Gaman epic poem, the symbolic meaning of the kabang's indentations

- What has happened tonight Kèn? I am your father and I want to know. Sibian condemned you to fall into the sea. You who is named Kèn, your body will be submerged (lemo Kèn) that will give Moken. You stole your elder brother!

- [Sibian, queen of the Moken] Father and mother! I want your boats to have a mouth that eats and a large open back. With these boats, Moken, you will live on the sea and later Kèn will remember the words of Sibian. She will remember the story and my sentences. I do not want you here!

Physical and social mobility depend on the boat; this is the boat that brings spouses together; it is also the space of love excesses and transgression of sexual taboos (adultery and incest). It is the attachment of the child to his mother, symbolised by the boat's streaks named "mother" and "child" that grow and form the technical superstructure of the boat and the social context of human relations.

LOCAL COMMUNITIES

LAMPI VILLAGES

Only Moken people were living in the Lampi area until the 1970s when opponents of the military regime reached the remote islands of the Archipelago.

The whole area remained completely isolated until 1997, when it was opened to tourism and business, under special permits and strict regulations.

During the 1990s the Archipelago had security problems, due to the presence of pirates and insurgents who often caught Thai and Malaysian fishing boats to collect ransom or illegal taxes. With the increased presence of the army and navy, the Archipelago became safer and since then it has attracted additional fishing boats and more migrants, coming mainly from the Tanintharyi coast, some from Mon state and a few from other areas of Myanmar (primarily Yangon and Ayeyawaddy Delta). At present, five permanent human settlements are located inside Lampi Park area: Makyone Galet, Nyaung Bin Aw, War Kyunn, Ko Phawt and Sittat Galet.

Makyone Galet and War Kyunn are officially recognised villages, Ko Phawt and Sittat Galet were until 2008 only temporary camps, now becoming more permanent, while Nyaung Bin Aw has only recently been established.

With an increase in tourism and business opportunities, the population size of the area has dramatically increased through several flows of migration in the last 15 years. Primary schools are present in Makyone Galet and War Kyunn.





WAR KYUN

the biggest village is a fishing village established on the small island of War Kyun (east of the main Lampi island). In 1987 the company Annawarsoe established a private fishing company including a fish processing plant and ice factory. The business was regularly achieving good levels of profit and expanding internationally, until it was temporarily closed in 2014 due to a drastic decline in the quantity of fish caught.

MAKYONE GALET

was created after the designation of the Park in 1996, due to the resettlement of Moken people from the main Lampi island to the northern coast of Bo Cho island. The name Makyone Galet is from the Burmese language and refers to the channel that separates Lampi from Bo Cho. The settlement was initially thought to be a Moken village, also for tourism purposes, but also some Bamar settlers were allowed to build their houses, in order to oversee the administration of the village and organise the tourism business. The Moken people live along the coast while the Bamar are settled in the interior. The village gradually

began to attract other kind of investors, more interested in fisheries, agriculture and timber.

NYAUNG BIN AW

is a Karen village recently established on the south-eastern side of Bo Cho island, opposite Makyone Galet, comprising a few households and a couple of shops.

KO PHAWT

is a fishing camp, first noted in 2008 when 8 households were found to live permanently on the island during the winter and summer seasons, specifically to fish for squid, fish and sea cucumbers.

SITTAT GALET

is, as well as Ko Phawt, a fishing camp established in 2008 to run shops selling consumer goods to fishing boats and to fish squid and sea cucumbers. Most settlers come from Makyone Galet and from the coast. Some villagers recently settled here permanently. Many fishing boats take a break at the Sittat Galet for freshwater, food supplies, refreshment and to take refuge during bad weather.

HUMAN ACTIVITIES

Fishing is still the most important economic activity of the area.

Although fishing is prohibited inside the park boundaries, a variety of fishing equipment is being used by subsistence and commercial fishermen. Line net and set gillnet are used for prawn fishing especially in War Kyunn area; traps, bag and artificial prawn baits are used to catch squid all over the area.

Local fishers use vessels of small to medium size and they have frequent disputes with large fishing vessels illegally coming to catch near the shore, destroying their traps and nets as well as the spawning grounds.

The main market for the Lampi catches is Thailand.

The illegal practice of dynamite fishing is unfortunately still common and its destructive effects are visible on the corals.

SECONDARY OCCUPATIONS

Grocery, general stores and teashops are commonly found in the settlements.

Shopkeepers buy supplies directly from Kawthoung (border town in Myanmar) and/or Ranong (border town in Thailand) and resell to the local inhabitants and passing fishing boats.

Although done on a small scale with basic equipment, hunting is a very lucrative livelihood but with severe consequences on the biodiversity of the islands. Vegetables are mainly imported from Kawthoung; small-scale horticulture is practiced in Makyone Galet and War Kyunn. Recently, local people started to convert the natural forests of Bo Cho island into privately owned rubber plantations. Logging is illegal but rampant on the sites, especially during the rainy season when the transportation of logs from the forest to the boats is made easier by water streams.



BEYOND THE BEACH: COMMUNITY-BASED TOUR OF MAKYONE GALET

Explore Makyone Galet village with a local tour guide and learn more about this busy fishing village, the second largest settlement in the Park. The tour starts close to the jetty and meanders through the village, past shops, houses, tea-shops and workshops, to the pagoda where a short climb to the hill-top offers great views across the bay!

The tour takes around 1 hour and provides an opportunity to meet and chat with shopkeepers, fishermen, carpenters and other locals, while at work or over tea and

a snack in local tea-shops. During the tour you'll learn about village life including different types of work families are engaged in, how squid and fish are caught, what crops and products are grown on the island, as well as local access to health care, education and other community services. You will also learn about the history of the village and where it's various inhabitants originated from, the relationship between the Moken and other locals, and hear some local folk-stories.

There is also an opportunity to visit the handicraft project set up by Istituto Oikos [see p. 61] and learn more about activities done with the local community to reduce their dependency and impact upon the Park's natural resources.



ENVIRONMENTALLY FRIENDLY SOUVENIRS

***Leave your green footprint in Lampi:
take home a unique Park souvenir and support the
local community with its recycling project!***

From locally produced waste (plastic bags, tins and rubber), the local community have started producing a range of handicraft products including original baskets and boxes, table mats, cushions, bracelets, necklaces and earrings.

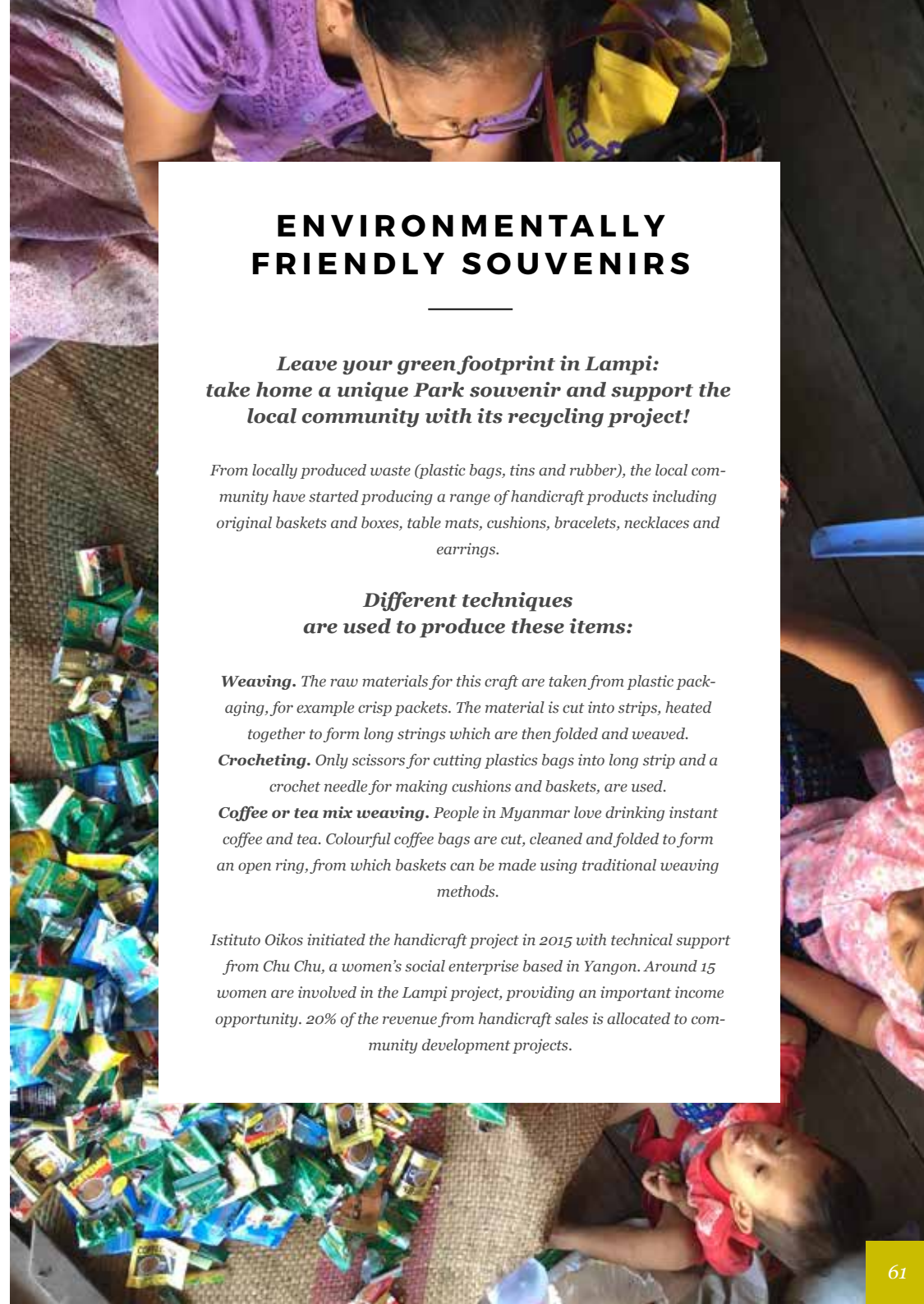
***Different techniques
are used to produce these items:***

Weaving. The raw materials for this craft are taken from plastic packaging, for example crisp packets. The material is cut into strips, heated together to form long strings which are then folded and woven.

Crocheting. Only scissors for cutting plastics bags into long strip and a crochet needle for making cushions and baskets, are used.

Coffee or tea mix weaving. People in Myanmar love drinking instant coffee and tea. Colourful coffee bags are cut, cleaned and folded to form an open ring, from which baskets can be made using traditional weaving methods.

Istituto Oikos initiated the handicraft project in 2015 with technical support from Chu Chu, a women's social enterprise based in Yangon. Around 15 women are involved in the Lampi project, providing an important income opportunity. 20% of the revenue from handicraft sales is allocated to community development projects.





BE A RESPONSIBLE TRAVELLER

DO

Do talk to the locals – Myanmar people are friendly, helpful and polite.

Do respect Myanmar people and their unique traditions.

Do smile and greet people saying “Mingalaba”.

Do ask for permission to take pictures.

Do support the local community by buying handicrafts and local products.

Do ask for a local guide to take you around the village and the jungle trails.

Do wear decent clothes when visiting local villages and religious sites, avoid short-shorts, mini-skirts, transparent or tights clothes.

Do remove shoes and socks before entering religious buildings and compounds. It is also polite to remove shoes (not socks) before entering a private home.

Do make sure you have good shoes for the jungle trail.

DON'T

Don't take any photos that may make people feel embarrassed.

Don't touch anyone on the head.

Don't give sweets, money or gifts directly to children, their parents do not appreciate this practice and this only leads to a begging mentality. If you want to give an appropriate donation ask your guide how this can be arranged.

Don't litter. If there are no litter bins immediately available, then please take your litter back to your boat or resort.

Don't kiss in public.

Don't buy or use illegal drugs.

Don't collect seashells along the beaches as many are used for habitation by marine species including snails, clams and crustaceans.

Don't enter the mangrove rivers with engine boats. Only kayaks and canoes are allowed.

Don't make bonfires on the beach.

Don't buy wildlife or wildlife products.

Don't pick or collect flowers or plants in the park.

Don't be noisy and loud in the forest – respect the wildlife!



LAMPI
MARINE NATIONAL PARK
CONSERVATION AND MANAGEMENT

PARK ORGANIZATION AND CONSERVATION ACTIVITIES

LAMPI INSTITUTIONAL FEATURES

Lampi Marine National Park is managed as a marine and terrestrial protected area with a zoning approach by the Nature and Wildlife Conservation Division (NWCD) of Forest Department - Ministry of Natural Resources and Environmental Conservation (MONREC). The Park headquarters, established in

2013 by NWCD in the coastal town of Boke Pyin, a 7-hour journey from Lampi, is responsible for carrying out the day-to-day management operations as set out in the Lampi Marine National Park Management Plan. Lampi Park is to be managed under this Plan predominantly for conservation, recreation, science and education. Consistent with these strategic objectives, and the purpose for which the Park was declared, Lampi is assigned to the IUCN Category II - National Park: Protected Area Managed Mainly for Ecosystem Conservation and Recreation.



Until 2013, Lampi was considered a “paper Park” because no office, facilities and staff were present. With the support of Italian NGO Istituto Oikos, a ranger house, a Park office and a Visitor Centre have been built inside the Park, allowing permanent staff to reside and work in Lampi.

Park staff consists of a Park Warden (based in Boke Pyin), Range Officer, Rangers, Foresters and Forest guards, involved in patrolling, field surveys, monitoring activities and an outreach program.

LAMPI MNP HAS 4 MANAGEMENT ZONES, NAMELY:

1) KEY RESOURCE ZONE

ecologically fragile areas where human impact should be strictly limited and controlled.

2) WILDERNESS ZONE

a wider, neighbouring zone of the Park enabling maintenance of natural system processes, where development is limited to simple structures for patrol staff, scientists and tourists. Roads and infrastructure development are banned except trails for wildlife viewing and patrolling.

3) CULTURAL ZONE

sacred and ceremonial sites for the Moken people, where unwanted visitation is limited or banned.

4) LOCAL USE ZONE

existing villages and surrounding areas where limited development is permitted if it is not detrimental to the special or unique values of the Park.



ENVIRONMENTAL MONITORING IN LAMPI

For many years the isolation of the Myeik Archipelago prevented the possibility of conducting scientific expeditions in the area. After the first surveys to Lampi conducted by FAO in 1983, WCS in 1995-96 and Ecoswiss in 2006-7, Istituto Oikos and the local partner BANCA, in collaboration with other organizations and with the support of NWCD - Forest Department, organised several surveys showing the high biodiversity of the area.

Park staff are now involved in regular ecological monitoring, such as counting of Plain-pouched Hornbill and Flying foxes, bird observations and mammal identification surveys through photo-traps.

DEVELOPMENT ACTIVITIES IN THE VILLAGES

Istituto Oikos works closely with communities in Makyone Galet, improving living conditions and access to basic services, and introducing alternative livelihood opportunities, which can benefit communities and reduce dependency and impact on natural resources.

ACCESS TO WATER

Lack of safe water is a major challenge for the local community, especially from March to April, before the monsoon. Istituto Oikos has improved the availability of water with a new community well and a distribution system, connecting over 158 families.



WASTE MANAGEMENT

Littering is a widespread concern in the Park and all surrounding islands. Istituto Oikos has facilitated a pilot waste management system entirely managed by the local community. Children and adults are also involved in Sunday Clean Up Campaigns.

SANITATION FACILITIES

Until recently only 18% of families in Makyone Galet had access to sanitation facilities. Istituto Oikos is supporting families in need by providing materials for toilet construction. In 2016, 55 families received sanitation kits.

ENVIRONMENTAL EDUCATION

Seminars and social campaigns are regularly organised to raise awareness on the role of the Park, its resources and threats, and promote responsible behaviours.

TOUR GUIDING & ENGLISH LANGUAGE TRAINING

Istituto Oikos organizes on-going training on ecotourism, hospitality, tour guiding and the English language to equip people with the skill sets to deliver tourism products and services.



AN INVESTMENT IN THE ENVIRONMENT IS AN INVESTMENT IN THE FUTURE!

Istituto Oikos is a non-profit organisation that has been working to safeguard biodiversity in Lampi Park since 2010. Our work involves supporting Park staff with regular patrolling activities and biodiversity surveys, and working closely with communities, improving their lifestyle while reducing impact on natural resources.

MAKE A DONATION TODAY TO SUPPORT AND EXPAND OUR WORK.

For further information and to make a single or regular donation, please visit the Lampi Park website

www.lampipark.org/donate

Your donation will directly support Lampi Park and its community.



A sunset over the ocean with a large sun between two dark islands. The sky is a vibrant orange and red, and the water is dark with small waves. The sun is a large, bright yellow circle positioned between two dark, silhouetted islands. The text "LAMPI MARINE NATIONAL PARK" is written in white, bold, uppercase letters, with a thin white horizontal line underlining "LAMPI". Below it, "VISIT LAMPI" is written in a smaller, white, uppercase font.

LAMPI
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For more information, please visit:

www.burmaboating.com

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learn about the Moken - an ethnic minority living in Ma Kyone Galet and chill out on the pristine beaches in this tropical paradise.

Intrepid offers two weekly departures from November through to April, which includes a night pre and post sailing in Nai Yang, Phuket, all transfers and all meals on board.

For more information, please head to www.intrepidtravel.com/trips/tssb or www.intrepidtravel.com/trips/tskb

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Moby Dick Tours Co Ltd is a long established Travel & Tour company in Myanmar with offices in Yangon and Kawthaung. They have been organising Island Safari Expeditions in the Mergui Archipelago for the past 5 years with their own vessel M/V SeaGypsy. They also have a fixed sailing schedule covering the sailing season October until May. Guests can also charter the vessels for shorter or longer Mergui Island Safari Expeditions. The vessels can accommodate up to 10 - 12 passengers.

For further information visit:

www.islandsafarimergui.com and www.islandtoursasia.com or send an e-mail to info@islandsafarimergui.com

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Owning and operating Mergui Princess and Ayar Princess boats in the Mergui Archipelago, Andaman Sea since 2003 with tours to islands near the border of Thailand (St. Luke, Andaman Club island, Lampi Marine National Park, Nyaung Oo Phee island, Cocks Comb island, Mac Leod (Kha Yin Khwa) island, 115 island, Great Swington. They are specialised in

customised Adventure Eco-tour packages. Accommodations inside the Park (Tents and Guest House) are available for local Myanmar people, while foreign visitors require special permits. For more information, contact:

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No. 165, 35th Street, Kyauktada, Yangon, Myanmar.

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Our kitchen prepares memorable meals that are a healthy blend of flavourful Asian and Mediterranean dishes.

For more information:

www.waaleresort.com

www.lampifoundation.com



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The Lampipi Marine National Park covers a group of islands in the Myeik Archipelago in the Tanintharyi region of southern Myanmar.

The Myeik Archipelago consists of over 800 islands dotted along 600 kilometres of coastline in the Andaman Sea.

The park is unique for its evergreen and mangrove forests, beaches and dunes, coral reefs, sea grass and its rich biodiversity, with over 1,000 recorded species. It was declared ASEAN Heritage Park in 2003.

www.lampipark.org

