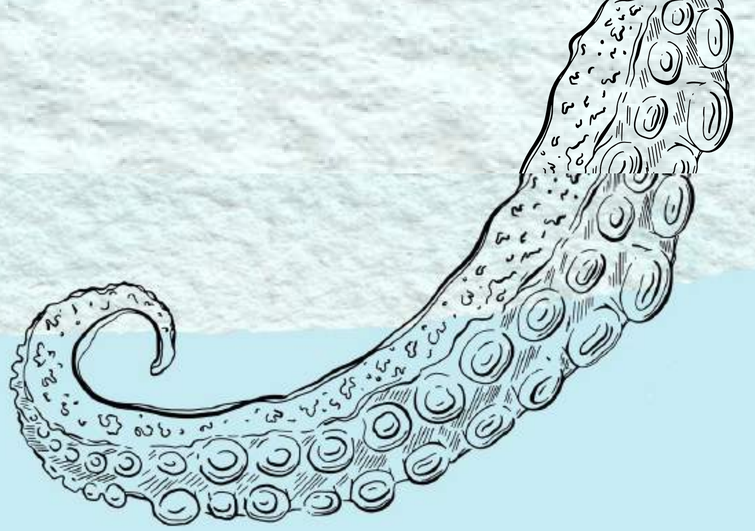
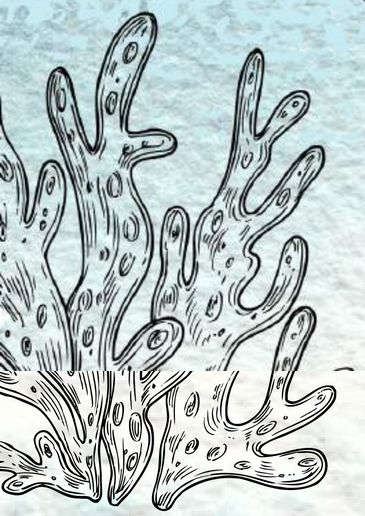


October 2024

not just soup



shark stories,
turtle tales
& more...

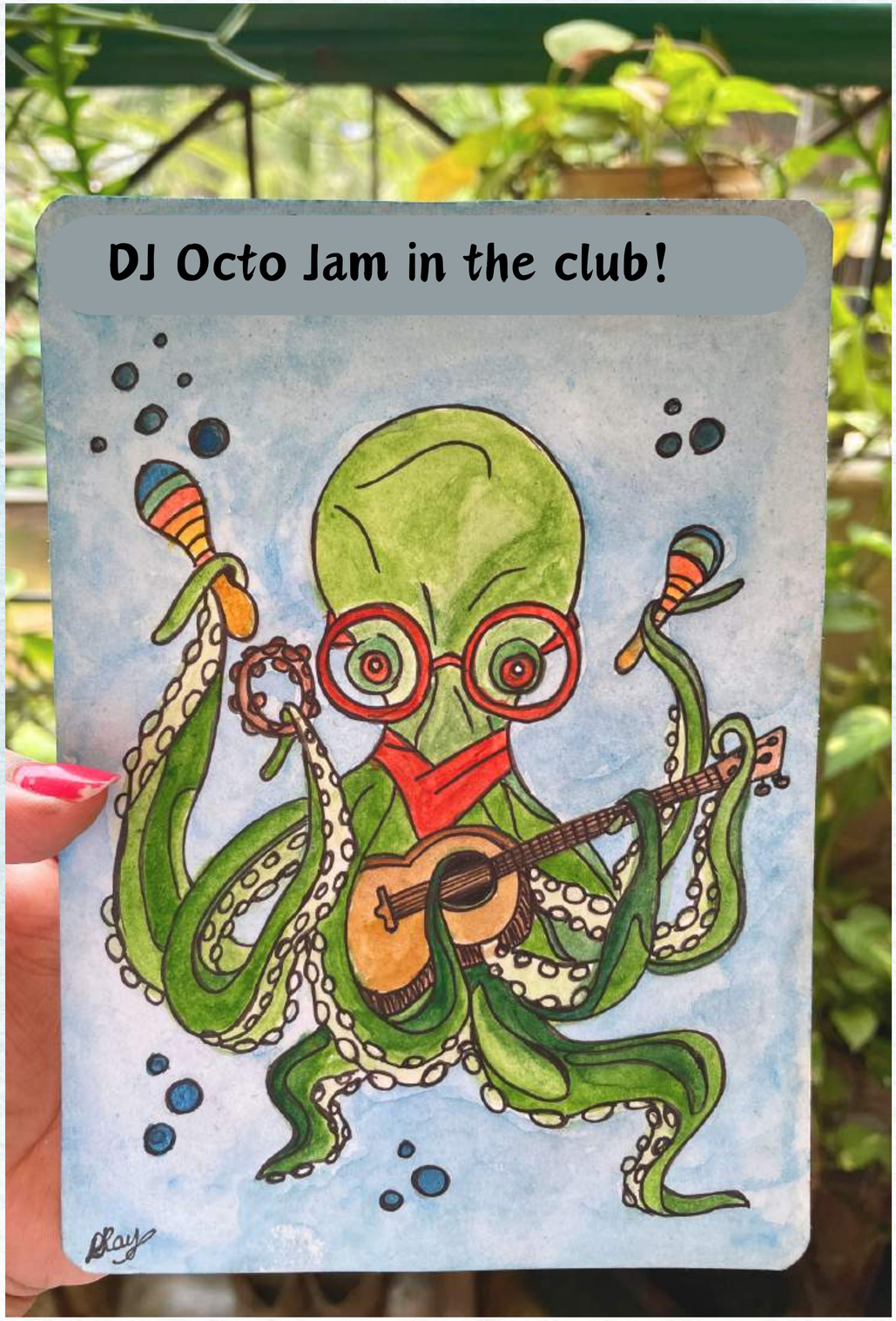
Issue 6

Dear Reader,

I have been reading and fangirling over Sherlock Holmes for as long as I can remember. It is no surprise then, that I loyally wait every Tuesday to put on my headphones for a new podcast episode of *Sherlock & Co.*, available on various streaming platforms. A few weeks back, a three-part episode called '*The Lion's Mane*' was aired. I listened to it intrigued, for three Tuesdays, as it drew me into its vortex of suspense and thrill. The biggest jellyfish species in the world, the venomous lion's mane, plays a pivotal role in a crime adventure! Not to give you any monumental spoilers, but the episode made me re-visit the conundrum that these floating beauties pose to the marine world. Read about it in the Pearls of Fishdom feature.

This brings me to another ridiculously outlandish creature of the sea- the octopus, which often makes memorable appearances in pop culture as the Kraken, (*originating from Norwegian sailor folklore*), enthralling sci-fi buffs like me. The Kraken can be found in a whale's chunk of sailors' myths and psyche and was even seen as recently as 2006, in Disney's *Pirates of the Caribbean: Dead Man's Chest.* Friendly neighbourhood Spiderman fans out there might recognise Dr Otto Octavius, or Doctor Octopus from the Marvel Cinematic Universe, who fiendishly uses four mechanical tentacles when fighting. We may find an awfully high number of alien characters and villains in films and TV series that mostly misconstrue the nature of the octopus perhaps unwittingly. But did you know my first memory of an octopus? Oswald, the kind-hearted and polite anthropomorphic blue cartoon octopus from *Nickelodeon*! Do you remember him? Octopuses have been revered by many cultures worldwide and we talk more about this tentacled trickster in the Reef Logbook feature.

Sea creatures may not have mythical powers as we may find in old tales, but I would say they have a much more powerful grip over the human imagination, pop culture, science and spirituality even today. Not Just Soup is also about this fabulous ethnoscience of the marine world. Read on to get to know these mischievous, misunderstood and marvellous creatures of the ocean better...



DJ Octo Jam in the club!!

"I pick up the guitar, I put on my favourite paint
Judge me all you like, but I know I ain't any saint
I'm gonna rock and roll with 'Highway to Hell'
I don't care if it pushes Old Clam further into his shell!"

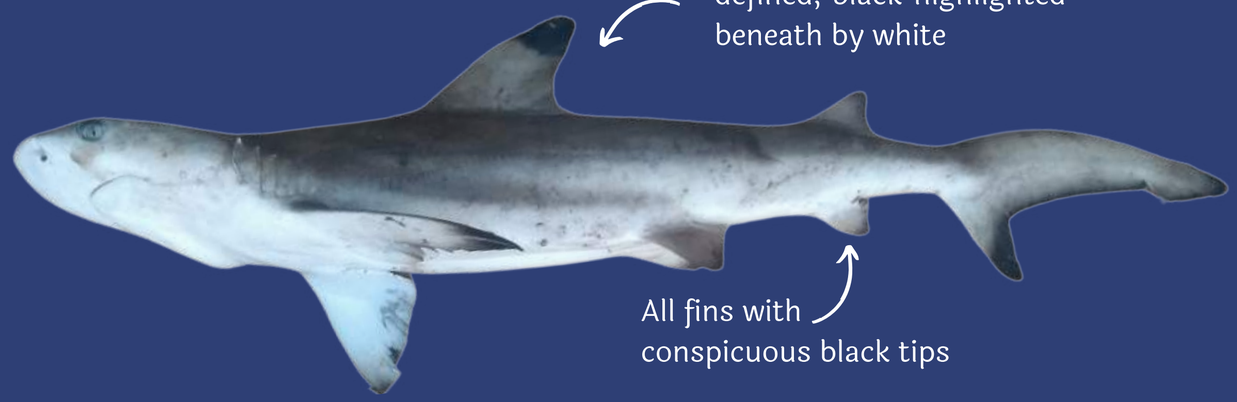
~Debangini

Know your Shark

Blacktip reef shark

Blacktip reef shark

(Carcharhinus melanopterus)



Habitat and Distribution

Wild Life(Protection)Act, 1972

Sch I

IUCN Red List

VU

Catch

Habitat

Diet

Infographic: Debangini Ray *Source: Sharks and Rays of Malvan (2024), Dakshin Foundation*

BLACKTIP REEF SHARK

Carcharhinus melanopterus

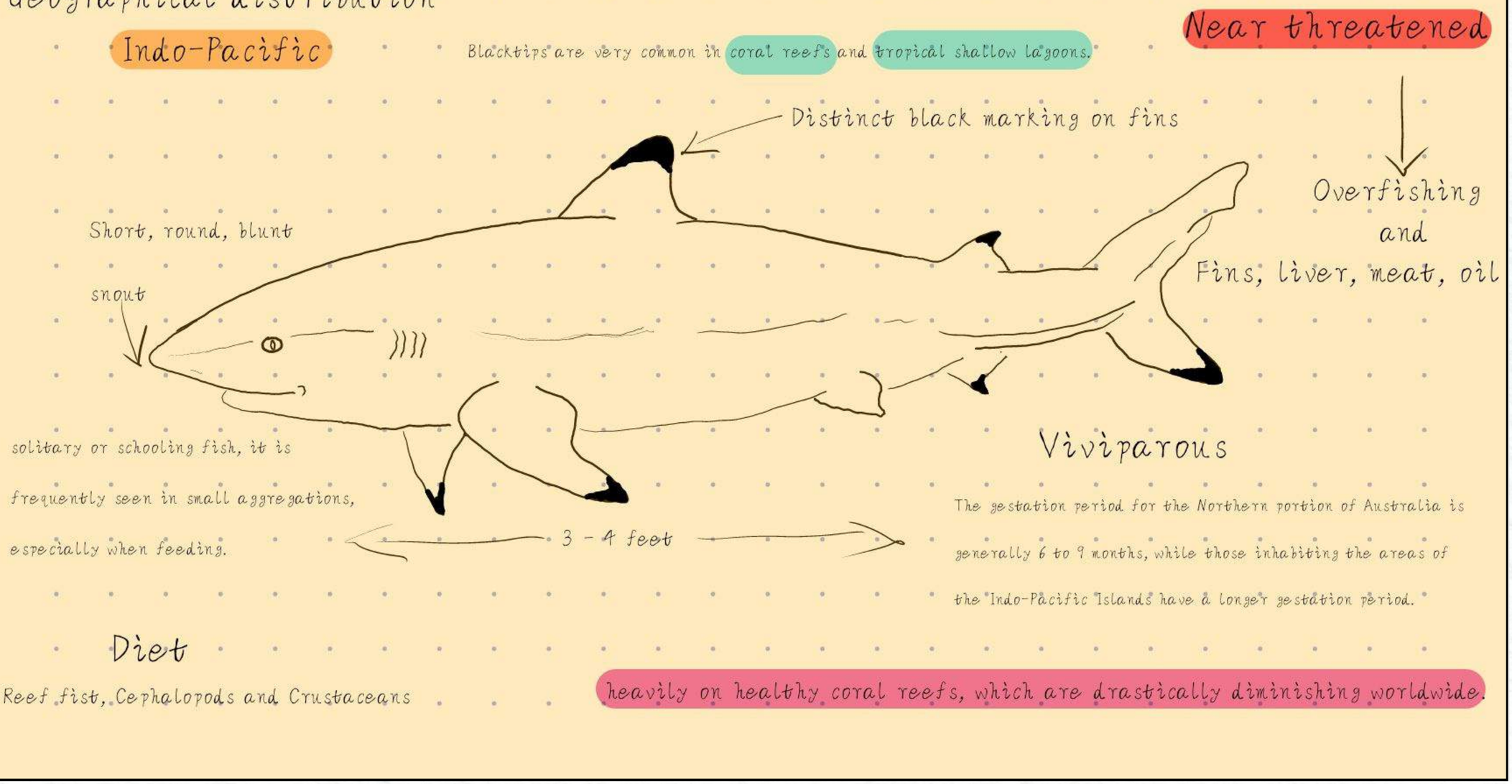
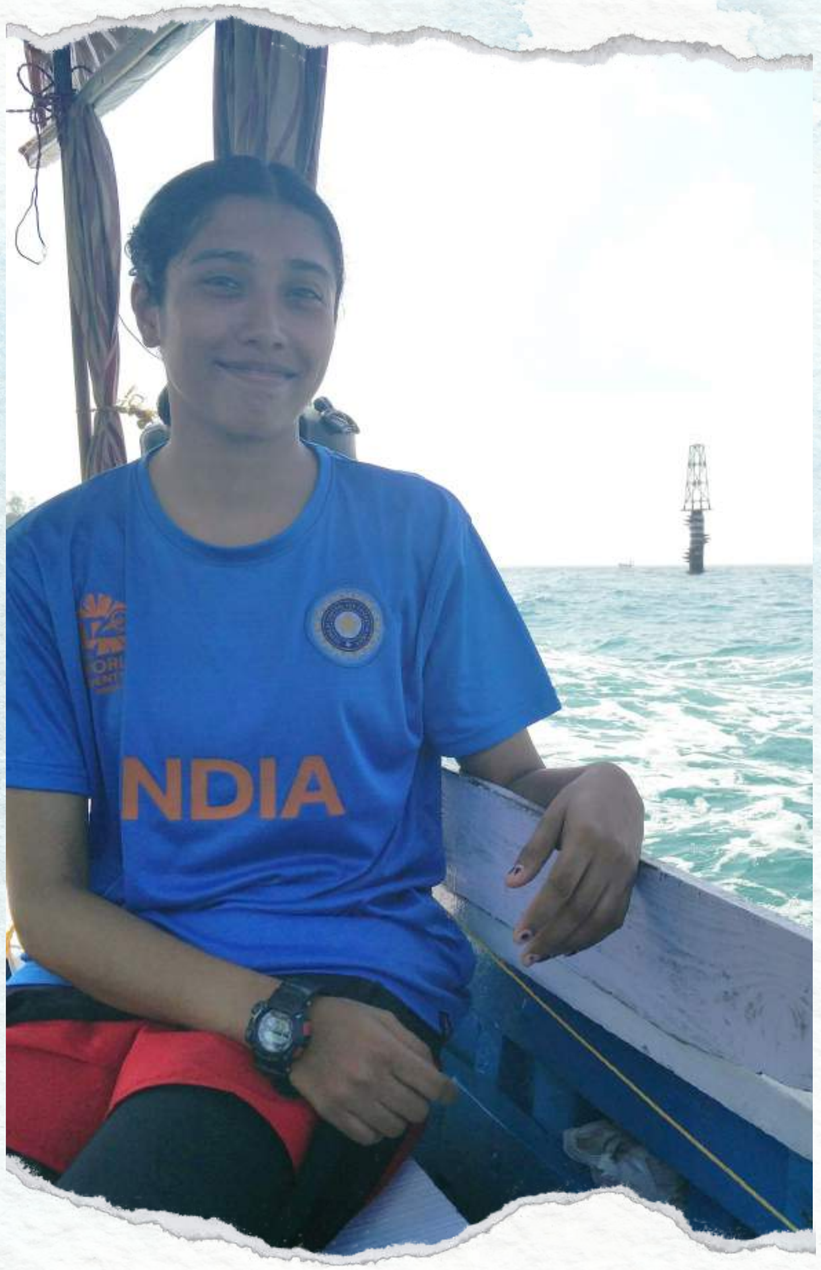


Illustration: K Irfan Ali

Read more: Blacktip Reef Shark, Sharks and Rays of India

Researcher's Isle

Meet Nina Simon



Tell us about your current work.

I am currently working as a Research Associate at the Centre for Ecological Sciences in Prof Kartik Shanker's lab, for an Indo-French project between IISc and Observatoire Océanologique de Banyuls-sur-Mer. The project focuses on monitoring coral reefs in the Andaman Islands using novel methods such as Autonomous Reef Monitoring Structures (ARMS) and Baited Remote Underwater Video Stations (BRUVS). I currently work on documenting the differences in outcomes between the various methods used and the synergistic effect of using these methods to document the fish diversity of coral reefs.

What has your journey been like till this point?

It has not been easy; there were times I wanted to quit but did not, because quitting was not an option. I have learnt to become patient, tolerant and more accepting of adversities. When you work with the ocean, you are at the mercy of the forces of nature. Being well-planned yet creative and flexible to come up with alternative methods to achieve the goal has been essential in my research experience. My need to document everything in as much detail as possible has come in handy at several points in my journey. Being a marine biologist has made me value "preparation" before the study, everything that happens after has tested the resilience in me, like all things of the ocean.

What are some of the challenges you have faced along the way or continue to face?

I constantly fight inhibition when attempting something new. It is always greater than the actual task at hand, be it planning a survey or learning to use new software. I actively put all my energy into starting the task as soon as possible, after which I break the task into a daily "to-do list" and always turn up for accountability checks, be it a short chat with a concerned peer or a review meeting with a mentor.

I sometimes find it hard to manage time between research and personal projects. Apart from the tasks assigned, there are always those smaller but equally significant tasks required like applying for permits to do surveys etc. These can eat into personal time as well as mental space. Accounting for some buffer time when planning tasks helps. I sometimes had to prove my professional capabilities being a woman more often than my male colleagues. I have had to remind myself that how people view me as a woman has nothing to do with the work I am assigned, and there is no requirement from my side to convince them of my capabilities beyond the task that is to be executed.

Advice you would want to give to those who want a career in marine research and conservation...

Take time to identify what truly drives you, whether it's a concept or a study organism, an ecosystem, or a specialised skill. In the meantime, never turn down an opportunity that moves you closer to the sound of the waves. The roads may be winding, but the horizon is always clear and ever-constant. When the chance to pursue your dream presents itself, step out of your comfort zone and give it the effort it deserves. Prepare for adventure: living out of bags, sunburns, dehydration, the constant taste of seawater, sleepless nights and, more often than not, long hours in front of a computer.

You can write to Nina at ninatabitha@gmail.com and follow her on Instagram @nina.tabitha.simon

Pearls of Fishdom

Sting Operations of the Ocean

Listen to the riveting three-part episode 'The Lion's Mane' from the Sherlock & Co. podcast on **Spotify** or **Apple Podcasts.**

Jellyfish blooms are infamous for their direct negative effects on human enterprise; specifically, they interfere with tourism by stinging swimmers, fishing by clogging nets, and aquaculture by killing fish in net pens and power plants by clogging cooling-water intake screens. They can also have devastating effects on fisheries by feeding on zooplankton and ichthyoplankton, and, therefore, are predators and potential competitors of fish. Note that it is the 'blooms' that have negative impacts, jellyfish in themselves are an essential part of many food chains. By feeding on smaller creatures such as fish larvae and eggs, jellyfish help to control species' populations and maintain the balance of the ocean's ecosystem. Jellyfish are often prey themselves for other jellyfish! For example, lion's mane jellyfish feed on the smaller moon species, which are often spotted entangled in lion's manes' tentacles.

Recent studies clearly indicate that jellyfish blooms are exacerbated by anthropogenic pressure such as the increasing structures associated with exponential growth in shipping, aquaculture and coastal protection. These provide a habitat for benthic life stages and have also been instrumental in an increase in the alien jellyfish population that has started to wreak havoc on local biodiversity and ecosystems. It has been further found that the higher incidence of jellyfish hazards was mainly clustered in perturbed, semi-enclosed temperate seas, e.g., the East Sea (Japan), Mediterranean Sea and the Yellow Sea that are exposed to multiple stressors, like rapid warming. Jellyfish have ecological advantages over fish by exploiting ecological spaces opened by anthropogenic disturbances. Indeed, through their large, water-laden bodies moving through the water sufficiently slowly, they increase prey contact rates. This, together with their high potential for growth and reproduction, favours them to functionally replace several overexploited commercial stocks of planktivorous fishes.

Read more:

- *Lee, Sun-Hee & Tseng, Li-Chun & Ho, Yoon & Ramírez-Romero, Eduardo & Hwang, Jiang-Shiou & Molinero, Juan Carlos.* (2022). *The global spread of jellyfish hazards mirrors the pace of human imprint in the marine environment*. *Environment International. 171. 107699. 10.1016/j.envint.2022.107699.*
- *Purcell, Jennifer & Uye, Shin-ichi & Lo, Wen-Tseng.* (2007). *Anthropogenic cause of jellyfish blooms and their direct consequences for humans: A review*. *Marine Ecology Progress Series. 350. 153-174. 10.3354/meps07093.*

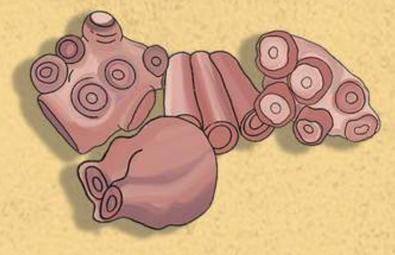
Concept based on Liz Climo comics

From the Galley

Octopus curry straight from Lakshadweep

Appal Pottiche

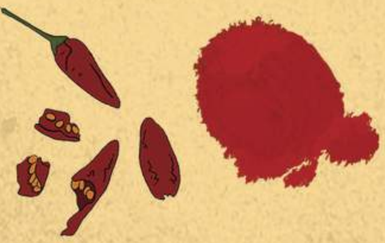
Ingredients:



1. Octopus (chopped) - 1 kg

2. *Surkka* - 300 ml (homemade vinegar)

3. Any refined oil - 200 ml



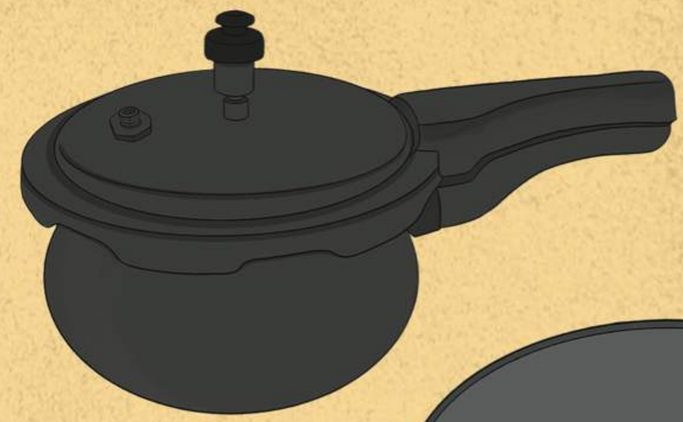
4. Red chillies (ground) - 200 g

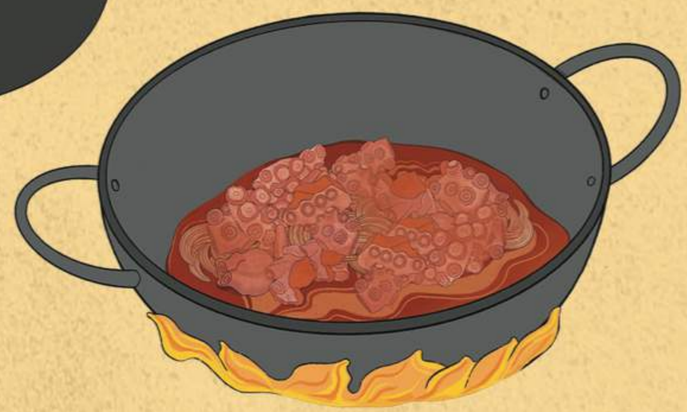
Instructions:

1. Cook octopus with a small amount of water in a pressure cooker.

2. Sizzle the pressure-cooked octopus in a pan with ground chillies and *surkka* for 20-30 min.

3. As the water evaporates, add some oil to season and cook for 5 more min to dry and *appal pottiche* is ready. Salt is usually not added in *appal pottiche*.

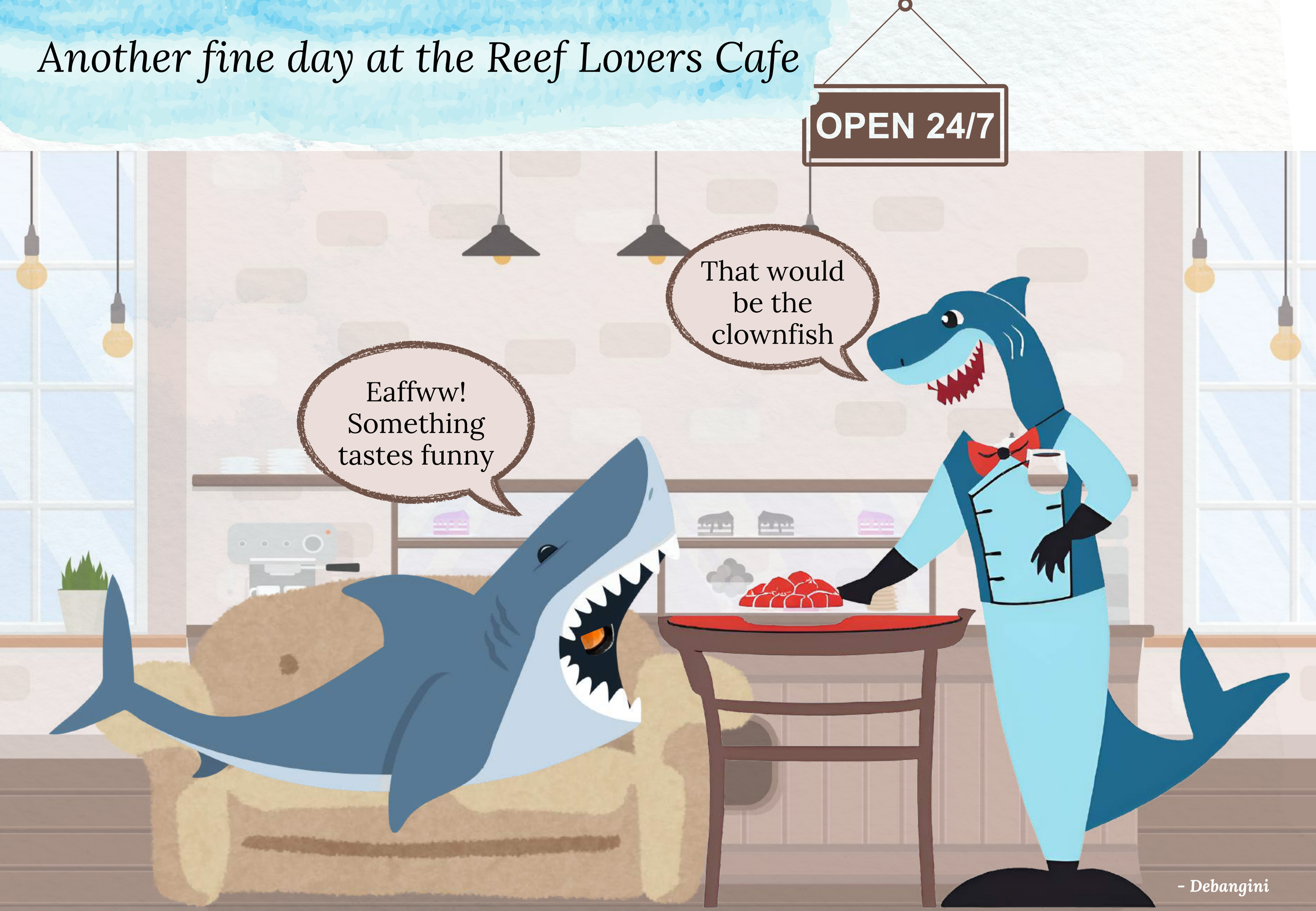




Source: *Fish from the Future Calendar* 2023, **Dakshin Foundation**

Illustration by Vidushi Chahal

Another fine day at the Reef Lovers Cafe

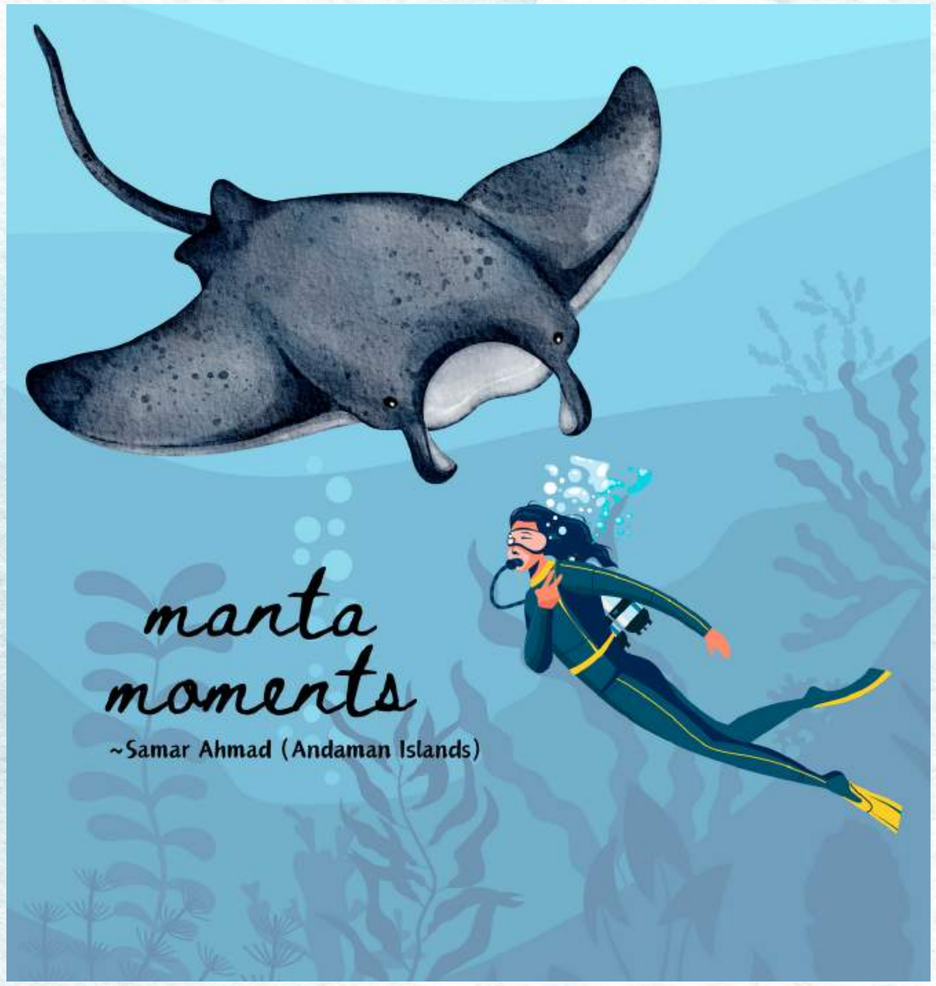


- Debangini

Straight from the Field

Manta Moments

~Samar Ahmad



As my dive buddies and I arrived at our dive site at the Twin Islands, South Andaman, we caught a glimpse of a fin slicing through the shallow reef. At first, I thought it was a shark fin, and I was spellbound, until someone on the boat shouted, "Manta, manta!!"

Immediately, we strapped on our masks and snorkels, threw on our fins in a frenzy, and jumped into the water. After a hurried 30-metre swim toward the shallow reef, we spotted the curved pectoral fins around the wide mouth of a reef manta ray. The manta was heading straight for us before gracefully swerving away at about 10 metres away. It was a majestic moment, witnessing one of the ocean's gentle giants in all its glory.

The reef manta ray (Mobula alfredi) is one of the largest and most iconic marine species, belonging to the Mobulidae family. Found across tropical and subtropical waters of the Indian and West Pacific Oceans, they can reach a wingspan of up to 5m. (16ft.), and weigh up to 700kg. As filter feeders, they glide through the water with their mouths wide open and cephalic fins extended, funnelling water through their mouths and over their gills to filter out plankton and krill using the tiny, specialised gill rakers that line their mouths.

Soon after, we returned to the boat and prepped for our survey dive. During the dive, while scanning for pelagic fishes at a depth of around 6 metres, I was stunned to see not one or two, but three reef mantas swimming toward us, just 2 metres below the surface. One of them, with a pair of remoras (small marine fish that form a mutualistic relationship with mantas and sharks, attaching to their hosts for protection, easy transportation and in turn clean their skin of bacteria and parasites) clinging to its underwing, seemed particularly curious and came within 2 metres of me. With my camera in hand, and this 3-metre-wide giant just two arms' lengths away, I froze!

The moment is vividly etched in my memory, though I wish I could've captured it to share the magic of that experience with others. Reef manta rays, currently listed as Vulnerable by the IUCN, face growing threats due to the rising demand for their gill rakers in illegal trade. Encounters like these drive me to share stories of these incredible creatures and encourage others to study their habitats and those of many lesser-known species.

Samar is a certified open water diver with over 75 hours of logged dives and is building ReefLog, India's marine citizen science initiative under the Marine Flagships Programme at Dakshin Foundation. She also assists researchers at Prof. Kartik Shanker's lab with underwater data collection and analysis in the Andaman Islands. You can follow her on Instagram at @sammmy__ahmad.

Reef Logbook

October is for the Octopus:

Let's get to know these masters of disguise

Illustration by Prabha Mallya

What has three hearts, blue blood, no bones and shapeshifting powers? If you're thinking vampire or demon, I'll stop you right there. This creature will grab way more eyeballs than your quirkiest supernatural character.

Ah, I see a glimmer of realisation dawn on your faces! Yes, I am indeed talking about the odd old octopus, with its eight tentacles (which seem to have minds of their own), elongated and round head (which makes you want to do a little boop) and dazzling patterns and colours all over their bodies (which makes you wonder who their fashion designers are).

Did you know that octopuses (and yes, that's the plural) are renowned escape artists? Perhaps the most popular is the story of Inky, who escaped from his New Zealand aquarium tank back in 2016, successfully dashing for freedom, slithering across the aquarium floor, and down a 50-meter drainpipe to the sea. One viral internet video shows an octopus squeezing itself through a hole in a ship to return to its ocean home. There is also a rather well-known tale of an octopus that escaped the deck of a trawler in the English Channel and was found hours later hiding in a teapot. This talent of octopuses was also charmingly referenced in Pixar's Finding Dory in 2016.

Contrary to such fun facts, the octopus has been feared for a long time along with being looked at with fascination, which may be why they are often reimagined as villains. But hey, fun fact- in many cultures from South America to the Pacific Northwest, to the Polynesian Islands, octopuses were traditionally revered as divine protectors and spiritual guides? There are even some traditional beliefs that octopuses control the weather and have the power to heal the sick. Na Kika is the ancient octopus god of the Gilbert Islands and is said to have helped build the Pacific islands. In Hawaiian culture, the god Kanaloa would most commonly take the form of an octopus.

There is a certain tranquil yet eccentric, fearsome yet funny vibe that these guys give off, do you feel the same? Write to us with your favourite octopus thoughts; better still, send us your octopus drawings and we will share them on our social media!

Sources:

1. *Nuwer, R. (n.d.). Ten Wild Facts About Octopuses. Smithsonian Magazine. Retrieved September 12, 2024, from https://www.smithsonianmag.com/science-nature/ten-wild-facts-about-octopuses-they-have-three-hearts-big-brains-and-blue-blood-7625828/*
2. *Toner, H. (2019, October 1). Octopus Legends and Urban Myths. Nature. https://www.pbs.org/wnet/nature/blog/octopus-legends-and-urban-myths*

Sea Board

Indian Wildlife Ecology Conference (IWEC) 2024

Dakshin Foundation organised the ***Ecology and Conservation of Marine Flagship Species and Critical Coastal Habitats of India symposium*** at the Indian Wildlife Ecology Conference (IWEC) 2024 held at NCBS, Bengaluru. The symposium was chaired by Dr Naveen Namboothri (*Programme Head, Sustainable Fisheries and Livelihoods*), Chandana Pusapati (*Science Manager, Marine Flagships*) and Tanmay Wagh (*Senior Programme Officer, Sustainable Fisheries and Livelihoods*). The symposium focused on highlighting contemporary studies as well as recent advances and challenges in marine ecological research in India. The oral presentations consisted of topics ranging from coral reef ecosystems, marine megafauna, fisheries, elasmobranchs and intertidal organisms.

Chaitanya Arjunwadkar, Senior Programme Associate, LTEO, gave a talk titled "***Unveiling the overlooked nature of sediment-laden algal turfs and their impact on coral reef functioning in island-attached fringing reefs of Andaman***" at the symposium, where he discussed the relationship between sediments and algal turfs and their effect on herbivory across two islands with different benthic compositions.

Our Programme Associate Garima Bora presented a poster titled "***Diet composition and variation in four commonly landed and threatened shark species in Maharashtra, India***" at the conference, based on her published paper. The study highlights the dietary patterns and variations across four shark species, focusing on their ecological roles and conservation status within Maharashtra's fisheries. Find the poster **here.**

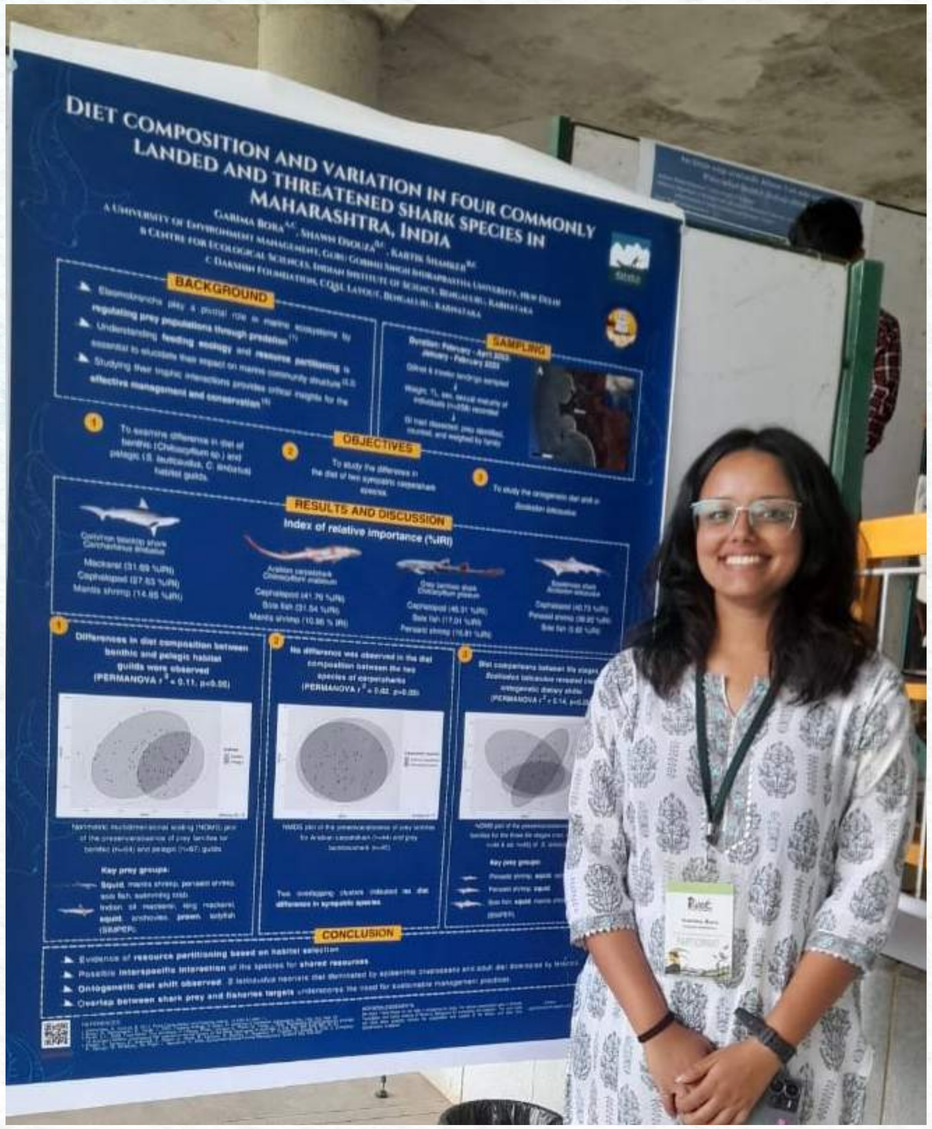


Image: Rahul MS

We also set up a stall at IWEC 2024, where we showcased a variety of outreach materials, including children's storybooks by Prof Kartik Shanker, ReefLog survey slates, and field guides on sharks, rays, gill fishes, and turtles. We had an opportunity to highlight our work on sea turtle conservation in Odisha, the Andaman Islands, and Lakshadweep, as well as citizen science programs and other initiatives that engage local communities in conservation and sustainable livelihoods. Additionally, we introduced our new Sharks and Rays of India website to the audience. The stall attracted several students, researchers and experts from the field, with an overwhelmingly positive response.

Images: Vidisha MK

World Oceans Day, 2024

On June 9th this year, Dakshin was invited to an event at Dolphin Aquatics at the Padukone Dravid Centre for Sports Excellence, Bengaluru, to celebrate World Oceans Day, where some of our marine ecologists were asked to speak to students and families attending an introductory scuba diving course at the facility. Akshta Joshi, Garima Bora, Rahul MS, and Vidisha MK attended the event and spoke about coral reef ecosystems, fisheries, sharks and rays, bycatch studies, turtle biology, and our work across the coastlines and islands of India. They also addressed broader marine conservation issues in the country and discussed how citizen science initiatives like ReefLog and the turtle photo ID project contribute to our understanding of the oceans and support conservation efforts.

Image: Vidisha MK

Source: @ecologyexplained, Instagram

Our Programme Associate, K Irfan Ali was featured in a reel by Ecology Explained where he talks about the life cycle and ecology of leatherbacks. ***Check out the reel here*!**

Lagoon Fest, Lakshadweep

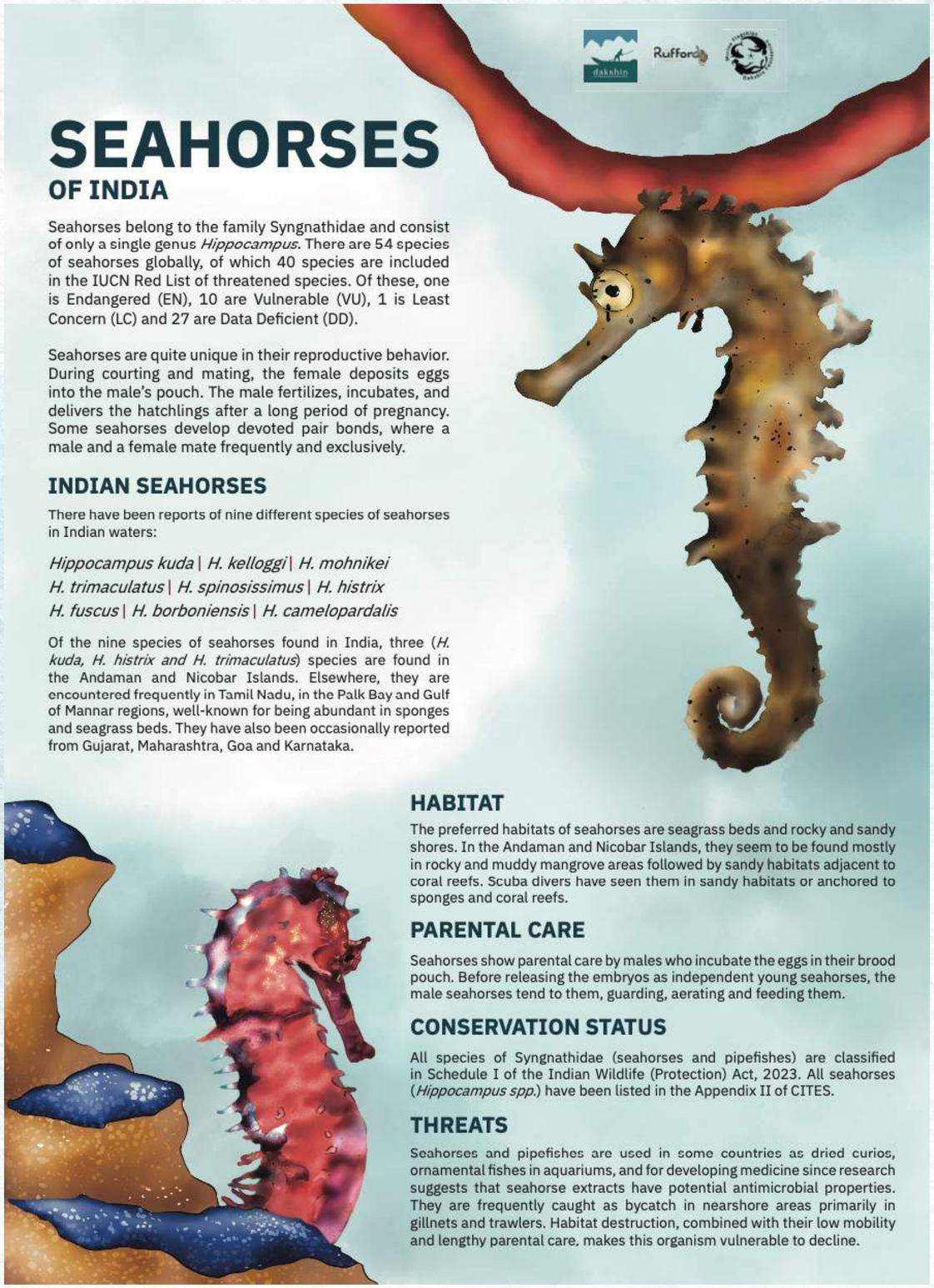
Image: Hafeera BK

A three-day Lagoon Fest was organised at Agatti Island, Lakshadweep, from 19th to 21st June 2024. Marine Flagships team led by Programme Associate Mohammed Serfas Khan AK set up an interactive and educational stall amidst the beach games, beach cleanups and competitions organised in the fest, to raise awareness about the unique marine ecosystems of Lakshadweep, focusing on key topics such as seagrass ecosystems and sea turtle conservation. At the heart of the display were detailed maps showcasing the distribution of seagrass beds across three islands—Agatti, Kadmat, and Kalpeni. These maps helped visitors understand the critical role seagrass plays in maintaining the health of the marine environment, especially as a habitat for numerous marine species.

Another key initiative at the stall was Dakshin's citizen science programme, which encourages local communities and visitors to contribute to a photo identification study on sea turtles across Lakshadweep. This program aims to foster greater public participation in monitoring and preserving the turtles of the islands.

The team wants to thank the Department of Environment and Forest, Lakshadweep, Lakshadweep Tourism, Village Dweep Panchayat, Youth Club of Agatti and all the dive centres in Agatti for making the festival a roaring success!

Image: Hafeera BK



Designed by Barkhaa Avinash

Our ongoing project on seahorses funded by The Rufford Foundation, titled ***'Assessment of the Conservation Status of Seahorses of Andaman and Nicobar Islands through Underwater Surveys and Local Ecological Knowledge (LEK)'*** kicked off in September 2023 and is set to conclude this month. The project team led by Dr Kartik Shanker, comprised of Jessica Barman, Mohan Banoth and Chandana Pusapati.

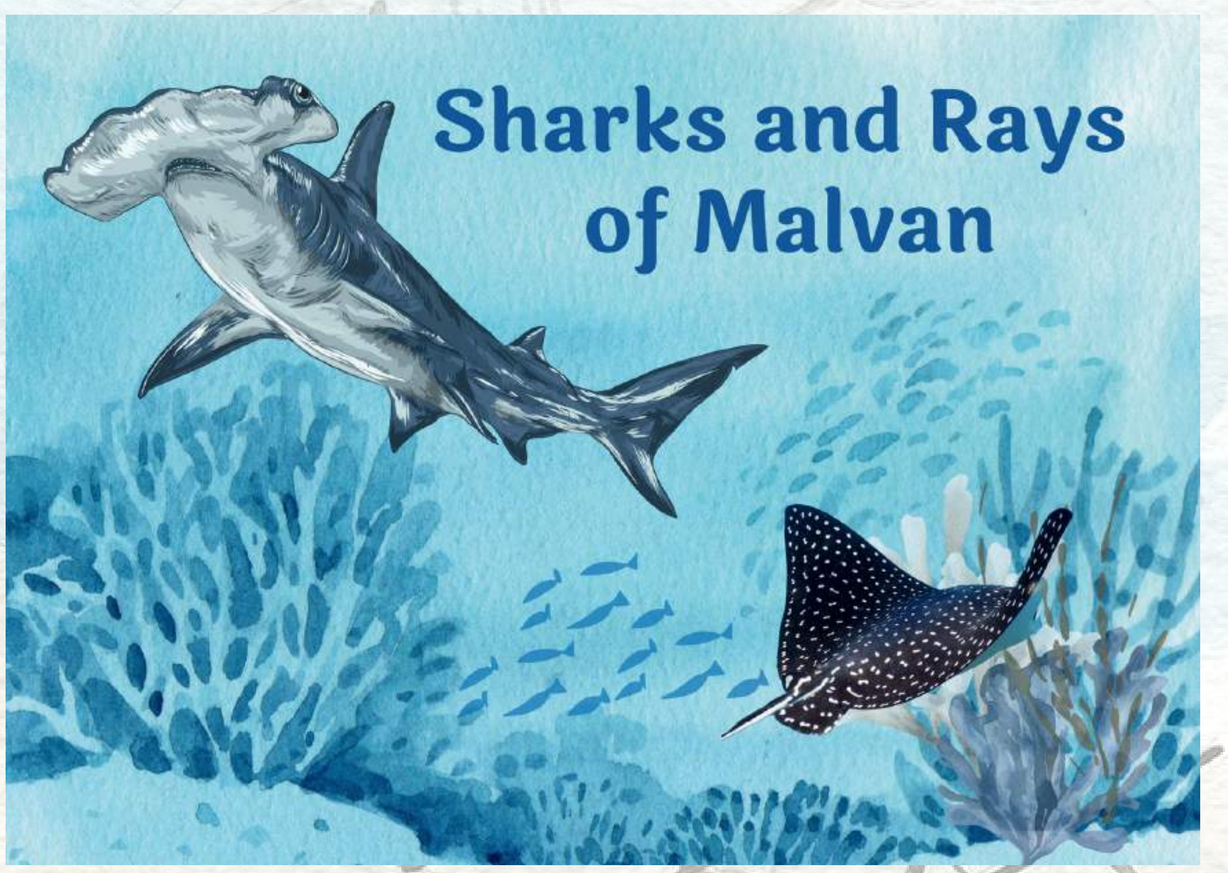
The project aimed to have a deeper understanding of seahorse habitats and patterns of occurrence and conducted a series of semi-structured interviews with local fishers and SCUBA divers, as well as comprehensive underwater surveys to achieve this. The Local Ecological Knowledge (LEK) shared by fishers and divers from the Andaman and Nicobar Islands were instrumental in providing valuable insights into the species, in addition to information on population trends and perceived threats to their survival.

Interestingly, data provided by divers have revealed that seahorses are often found amidst rubble, dead coral, broken sponges, and occasionally, anthropogenic debris. Observations from fishers suggested that trawling activities may have significantly contributed to the decline in seahorse populations, which were once abundant. Although most fishers claim to release seahorses back into the sea upon capture, the survival rates of these animals remain low.

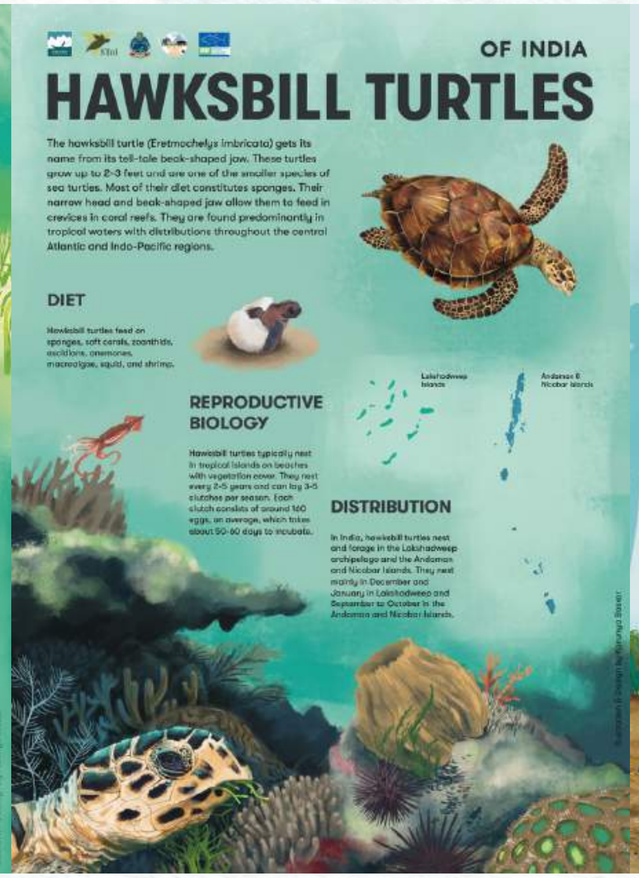
Download the poster ***here.***

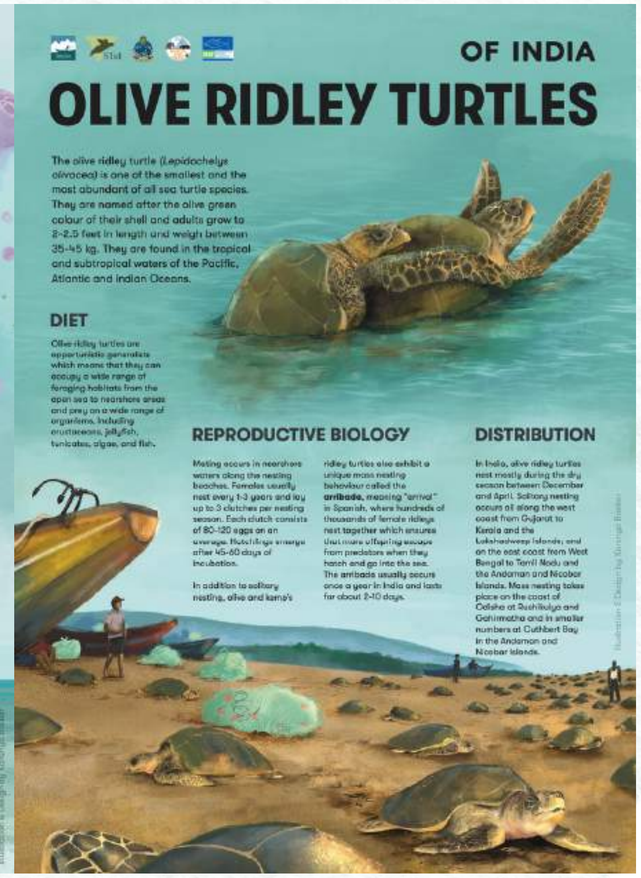
Check out what's washed ashore

We have created two field guides for Sharks and Rays, for Malvan (Maharashtra) and Lakshadweep Islands. You can download them *here.*



Check out these cool posters





Designed by Karunya Baskar

Download the high-resolution posters *here*.

Making Waves

News from the Coasts

1. Researchers on the Schmidt Ocean Institute's Nazca High Seas expedition were on their way to dive along an unexplored (and as yet unnamed) seamount when they came face to face with the flying spaghetti monster (*Bathyphysa siphonophore*)! What's that? **Read about it here.**

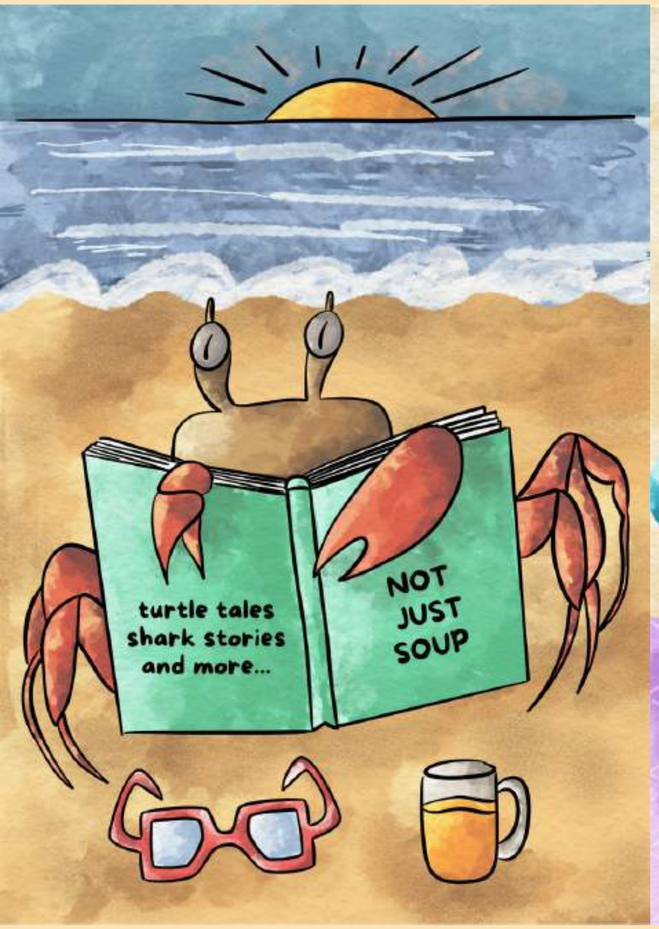
2. A carcass of a spade-toothed whale washed ashore in New Zealand, opening up opportunities for researchers to study the elusive whale. Only six samples of this species have been documented until now. **Read about this** exciting discovery which marine scientists have termed as "hitting the jackpot".

3. Closer home, a city-based trader was caught allegedly smuggling and selling sea fans, corals, at least 60 varieties of rare sea shells and other wildlife items after the authorities of the Wildlife Crime Bureau, Wildlife Justice Commission of India (WJC), Andhra Pradesh wildlife and district forest authorities conducted raids in Vijayawada, acting on a tip-off. **Here are the details.**

4. At least 10 species of marine mammals that are commonly found in Cambodia, including dugongs, Indo-Pacific humpback dolphins and endangered Irrawaddy dolphins, face an array of threats, including coastal development and unsustainable fishing practices. Since currently, data on marine mammal bycatch and strandings are lacking in Cambodia, the NGO Khmer Ocean Life has trained residents of coastal fishing communities about threats to marine mammals so they can participate in a citizen scientist network aimed at tracking bycatch and strandings. **Read more about this project.**

Don't forget to write to us!

Drop us an email with your feedback and suggestions.
Send us your artwork and articles on marine wildlife.
Share your work on marine research and conservation with us.
You may get featured in our next issue!



Not Just Soup

shark stories, turtle tales and more...

Stay updated on the marine world by subscribing to Not Just Soup!
You can also reach out to us at marineflagships@dakshin.org.

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Marine
Flagships