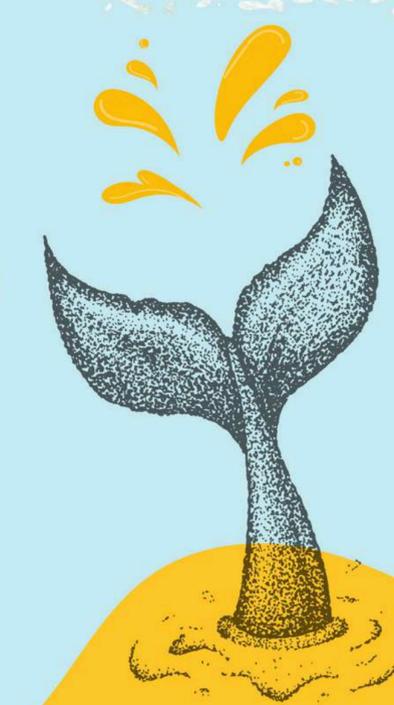
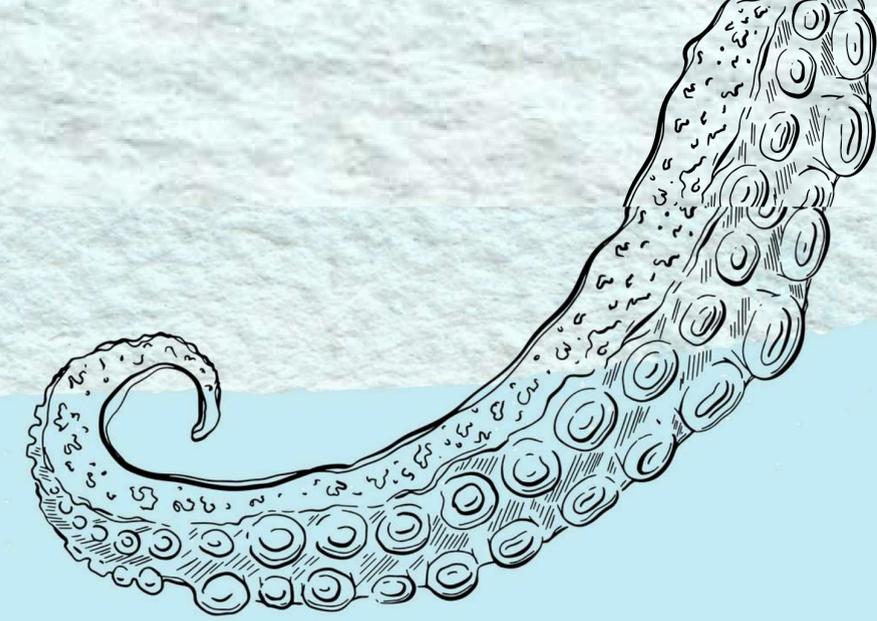
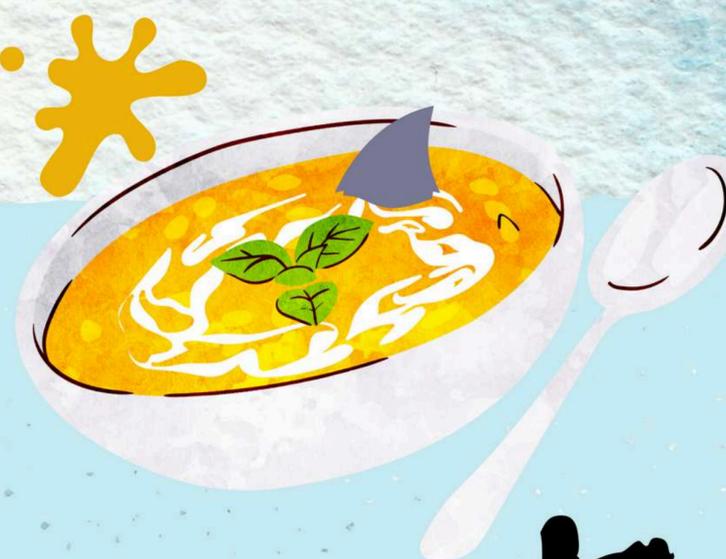


August 2025

not just soup

shark stories,
turtle tales
& more...

Issue 8



Dear Reader,

Whenever I look out at the ocean, I am filled with awe, curiosity, but also, quite strangely, a sense of belonging. Not the kind I feel when I bump into a tribe of like-minded humans or when I am welcomed into a house ruled by cats. No, this is different...deeper...older. Like tugging at a memory that isn't even mine, reaching back to our origins. For the ocean is where it all began. Whether or not we live close to the sea, our connection to the ocean goes far beyond this lifetime.

I was reminded of this recently when I finally watched *Moana* (*flabbergasted at myself for waiting this long to watch it*). Plankton-sized spoilers ahead: One of my favourite scenes was when Moana's grandmother returns as a spiritual guide in the form of a giant manta ray, shortly after she passes away in the human realm, guiding her through her journey, bringing her closer to the ocean, helping her become a wayfinder. I now know that Hawaiians have sacred connections to some marine creatures, including the manta ray, and this, in turn, has shaped their ecological and economic relations with the sea.

We scientists and researchers often like to believe we've got the ocean all figured out - satellites, maps, data loggers, peer-reviewed papers with labyrinthine titles. Maybe we have, to an extent. But what we *don't* know, i.e., the knowledge held in oral storytelling, myth, and the deep currents of human-ocean relationships, is perhaps *far greater*.

One of my favourite movies- *Black Panther: Wakanda Forever* (*which, with its breathtaking cinematography and background score, was emotional for many reasons*) deviated from the original Marvel Comics by swapping its Greek mythology-inspired Atlantis to give us, instead, a Mesoamerican-inspired underwater kingdom of Tlālōcān, rooted in Aztec and Mayan mythology! I remember my jaw dropping as I gawked at the huge movie screen through my 3D glasses, at the sheer grandiose and at the blue-skinned and gilled Tlālōcān people, but most of all, at their ruler Namor (*who also goes by K'uk'ulkan, or the feathered serpent god of Yucatan Mayan legend*)...

In Marvel Comics lingo, he is what we call a *mutant*, and in DCU lingo as a *metahuman*. He can breathe underwater *and* on land, has ankle wings for flight, and is much stronger than ordinary Atlanteans or other fellow Tlālōcāns. I was impressed at how Namor would go to any lengths to fiercely protect his undersea community. Watching him rise from the ocean, determined to defend his home against the destructive greed of surface dwellers, I found myself unexpectedly on his side.

These two cinematic worlds- one of Moana's warmth and the other, of Namor's wrath- capture contrasting human relationships with the sea: reverence and kinship on one hand, fear and conflict on the other. This issue of *Not Just Soup* is a humble attempt to wade back into those waters, to remind ourselves that our lives, our ambitions, our science itself, mean little if we forget the oceanic connections that shaped us... to remember that we owe the ocean more than we can ever repay...and that our ancestors knew this long before compasses and submersibles, and carried it with them.

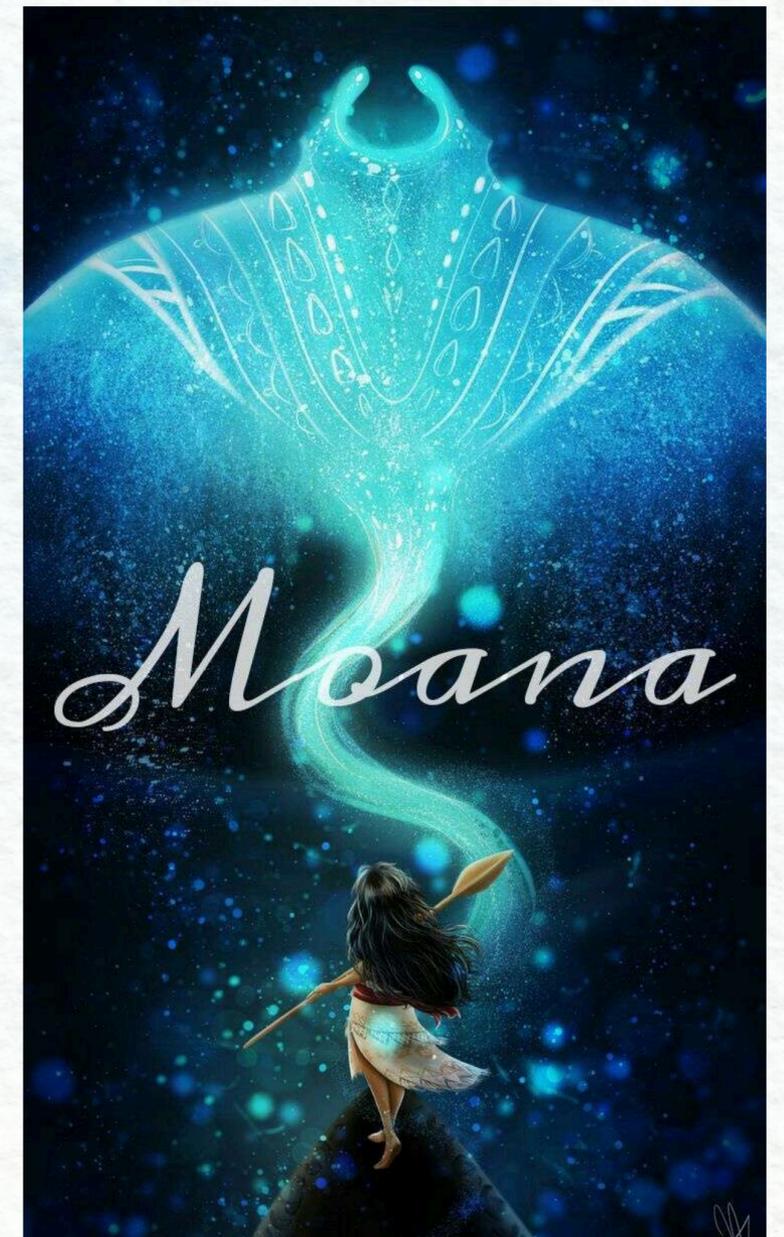
As Grandma Tala says in *Moana*: "The sea is a mirror. You see yourself in it..."



K'uk'ulkan in Yucatan Mayan folklore



Tenoch Huerta as K'uk'ulkan in Wakanda Forever



Grandma Tala as manta ray guide in Moana



*“The sky lights up, bedazzled with the wisdom of
my ancestors as I sail homebound...
It makes me long to explore lost islands that were
never found.
For after all, I’m a wayfinder, all the currents have
led me here, and this is where I belong...
To all the wild waves, ocean stars, living corals
and whalesong...”*

~Debangini



Species Spotlight



Reef manta ray (*Mobula alfredi*)

This enigmatic ray is one of the largest of its species, spotted often on coastal and oceanic reefs, where it pauses motionless at cleaning stations to have parasites removed by cleaner wrasses.

One of the more interesting quirks of the reef manta ray is perhaps cyclone feeding. When manta rays congregate in high numbers in dense plankton, they often circle in a patch of food together, forming a large, swirling cyclone of mantas that can be made up of hundreds of individuals. *Quite the scene!*

Ovoviviparous in nature, it also has one of the slowest rates of reproduction of all sharks and rays, not maturing until 8-17 years of age. It may only reproduce every four years, meaning that one mom may only have 4-7 pups during her lifetime! This fact further turns things against their favour- reef manta rays are categorised as Vulnerable by the IUCN, and have also been listed on Appendix II of CITES to restrict their international trade.

Why?

Overfishing- the bane of most marine wildlife's existence! These rays are widely caught in commercial and artisanal fisheries, and are particularly susceptible to purse-seine and gillnet fisheries. Humans in Asia also seem to have an obsession with their gill plates

Reef manta ray *Mobula alfredi*

VU

- Life span:** up to 45 years
- Size:** up to 5 metres wide
- Diet:** plankton, small bony fish
- Habitat:** wide distribution in tropical and subtropical waters of the Indian and Pacific Oceans, but not the eastern Pacific



unfortunately believing that they can be used as traditional medicine (*which, as you might have rightly guessed, they cannot, as far as existing knowledge goes*).

Additionally (*quite some time back, though*), humans tried to villainise the manta ray in movies (*isn't that what we do best with creatures?*). **The Sea Bat (1930)** and **Devil Monster (1936)** portray manta rays as hostile and scary sea monsters. Having cephalic fins (*that resemble horns*) doesn't help matters for the manta ray, as humans, fearful as they always are, have labelled them as 'devil fish' or 'devil ray' because of the horn-like appearance. Apparently, Satan is everywhere.

But psssst... did you know that most traditional fisherfolk in Hawaii would never harm a manta ray? Hawaiians believe that a manta ray ("hāhālua") is an *aumakua*- a god-like creature that takes an animal form and serves as a spiritual guardian, swimming alongside canoes to guide fishermen safely or appearing in times of danger to provide protection. In a way, (*as you may have seen in the movie Moana*), they believe it to be the embodiment of their ancestors watching over them.

Further reading:

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<https://saveourseas.com/worldofsharks/species/reef-manta-ray>
2. Manta Ray Advocates Hawaii. (2025, April 28). Manta rays myths and legends around the world.
<https://mantarayadvocates.com/manta-rays-myths-legends/>



Images: IMDb



Researcher's Isle

Tete-a-tete with Sharon Pradhan



Tell us about your current work.

I am currently working as a Programme Associate at Dakshin Foundation, and I'm involved in the long-term monitoring of olive ridley turtles. My work mainly involves trying to understand how rising temperatures (*due to climate change*) affect the sex ratios in the ridley populations. Previously, I carried out my Master's dissertation work at IISc, Bengaluru, in collaboration with Dakshin, where I examined the effects and transfer pathways of heavy metals and microplastics in olive ridley eggs and hatchlings. In addition to the sex determination work, I am also completing some remaining parts of my thesis.

What has your journey been like till this point?

It was quite **the** journey, to be very honest! My Master's dissertation was the turning point that introduced me to the world of turtles. I was always interested in marine biology, but this gave me a clear direction for what I needed to do to achieve my goals. I got to experience a lot of things in the process – from planning fieldwork, walking the beaches in the night, dissecting dead turtles (*I had permits!*), getting chased by deer, witnessing my first turtle nest, to experiencing the wonders of two *arribadas*, it has been an adventurous and exciting ride!

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

While initially, there were not many challenges, a few unexpected ones did pop

up eventually - one such being turtle necropsy. I knew I would have to cut open a turtle to collect samples for my study, but I hadn't fully anticipated what the experience would actually entail.

Picture this - it is nighttime, and there's no moon- you're working in almost complete darkness with only a head torch for light. It is the middle of January, so it's also cold and misty. In front of you lies a decomposing turtle, and the smell is intense (*as the internal organs have begun to rot*). You have to extract your samples from inside the dead turtle. The smell also attracts blood sucking flies and mosquitoes, and there is always the possibility of wild boars nearby, so you have to keep your senses alert for any movement!



You can write to Sharon at sharon@dakshin.org or connect with her on Instagram @ [sha.p](https://www.instagram.com/sha.p)

Despite all this, I was fortunate to have incredible support from my colleagues and field staff who were always there and helped me with any challenge I faced. What felt like a major hurdle once has now turned into one of the most unforgettable parts of my journey.

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

One of the most valuable things you can do early on is to find a good mentor whose interest aligns with yours. For me, this was very helpful. I would also like to recommend volunteering for conferences and workshops. They give excellent networking opportunities, learning from experts, and exploring different areas. Two practical (*life*) skills that would definitely help someone interested in marine sciences would be swimming and diving. Getting scuba certification can also open up more field-based opportunities and help you engage better with the marine environment that you want to study. Finally, stay curious and keep asking questions!



Let's meet some sea gods!

~Debangini



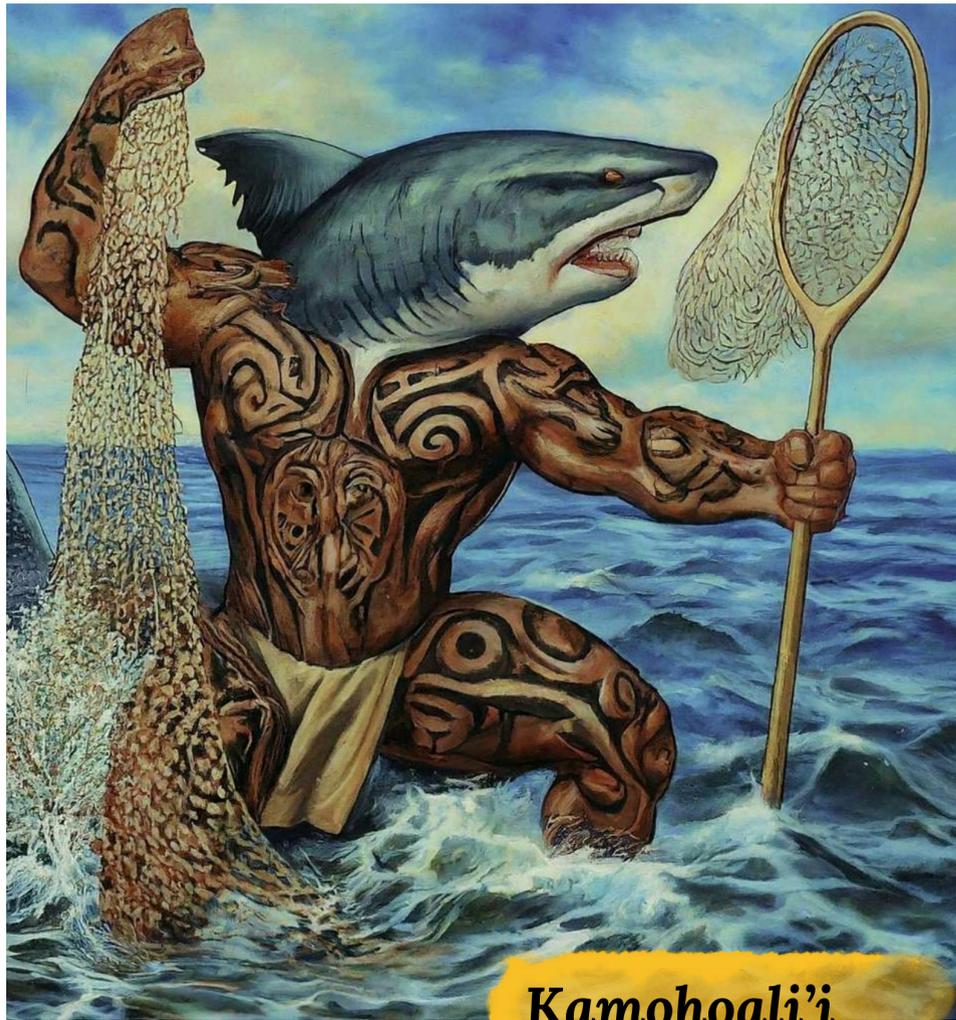
Humans once had far more personal (*and frankly, dramatic*) relationships with nature- the kind where the sea wasn't just an expanse of blue, but a stage for gods, monsters, and mysteries. For many communities, the ocean was a living force: magical, moody, generous, terrifying- sometimes all at once. Some creatures were adored, others feared, a few worshipped, and plenty still remain in the “*not quite sure what that is, but best not poke it*” category.

Even today, cultural beliefs protect certain species: a whale tied to a community's mythology might be left undisturbed, its survival written into song and ritual rather than policy.

And then there are the sea gods- the spiritual embodiment of human-ocean relationships. Across the world's pantheons, we'll find hundreds of marine deities, from the benevolent to the bizarre. For this issue, we're spotlighting two unlikely stars: *the shark and the octopus*.

Why?

Because their divine alter-egos offer a fascinating glimpse into human imagination, and remind us that long before hashtags and field guides, people were making sense of the sea through stories and songs.



Kamohoali'i



Nanaue

Deeply woven into the fabric of Hawaiian mythology and sometimes known as the god of all sharks, **Kāmohoali'i** is the most renowned of the ancestral shark gods of Hawaii. He is often depicted as a shapeshifter, capable of transforming between human and shark form. Kāmohoali'i is said to lead lost sailors home, with some legends saying that he even guided the first people to Hawaii.

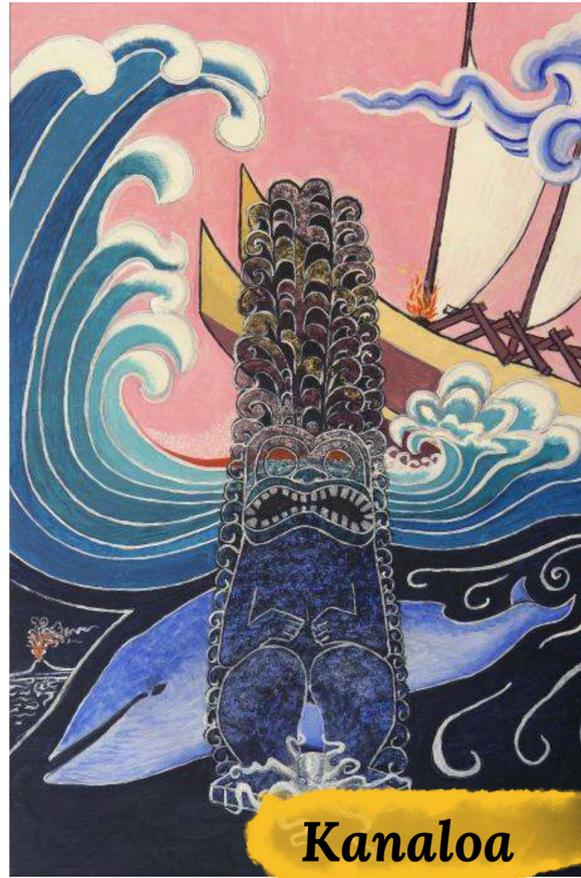
Kamohoali'i had a child with a human woman, Kalei, named **Nanaue**, a demigod who is half shark and half man. According to legend, Nanaue's shark instincts awoke after eating meat, leading him to shape-shift and prey on unsuspecting swimmers.

King Shark from James Gunn's *The Suicide Squad*, portrayed as a somewhat endearing, somewhat villainous metahuman, is also based on this god. King Shark is depicted having super healing abilities, and while his recovery may be faster than real sharks, many species have demonstrated incredibly fast healing of wounds. Researchers are even studying the genes of sharks to see if this rapid healing factor can be used in the treatment of people.



Dakuwaqa

In Fijian mythology, **Dakuwaqa** is a prominent shark deity. Dakuwaqa is primarily known as a protector, appearing as a fierce sea monster, guarding the islands and ensuring the safety of fishermen; as a result, worshipped by them for protection. Fishermen also believed that appeasing Dakuwaqa would ensure a safe and bountiful catch. The reverence for Dakuwaqa highlights a different aspect of the human-shark relationship – one of dependence and respect for the ocean's power.



Kanaloa

In Hawaiian mythology, the most important deity was the beneficent creator god Kāne. In stark contrast to Kane was **Kanaloa**, an evil god of darkness and the dark ocean depths, envisioned as a black, poisonous squid or octopus. Yet, fishermen and voyagers often invoke Kanaloa for protection and guidance during their maritime endeavours, recognising his role as a guardian of the seas. Notably, one of Kanaloa's remarkable abilities lies in his connection to healing. He is prominently featured in LEGO's *Bionicle* series. His symbolism is highlighted by the distinctive pattern in his eye known as the *Aka Web* or *the Web of Life*.

Rokobakaniceva, the giant octopus goddess, is deeply woven into the spiritual fabric of Fijian folklore, symbolising power, respect, and balance. As a guardian of the sea, Rokobakaniceva's influence extends into modern cultural practices, closely linked with the protection of marine life, reflecting the islanders' enduring reverence for the ocean. Depicted as a colossal octopus, she is described as having piercing, intelligent eyes reflecting wisdom and camouflage.



Rokobakaniceva



Akkorokamui

Akkorokamui is a gigantic part-human-part-octopus monster from Ainu and Shinto folklore, which is believed to lurk in Funka Bay in Hokkaidō, Japan. According to Shinto mythology, the creature is bright red in colour. The 19th-century account by John Batchelor in his book, *The Ainu and Their Folklore*, states that the creature was 120 meters in length.

Akkorokamui is also characteristically described with the ability to self-amputate, like several octopus species, and regenerate limbs. This unique ability has led the Ainu to believe that it possesses powerful healing qualities. Therefore, they have faith that presenting a tribute to Akkorokamui can aid in the recovery of injured limbs.

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3. Bowling, T. (2021). King of the sharks!. Florida Museum – Florida Program for Shark Research. Available at <https://www.floridamuseum.ufl.edu/sharks/blog/king-of-the-sharks/>
4. Mythus Wiki. (n.d.). Kāmohoali'i. Myth and Folklore Wiki. <https://mythus.fandom.com/wiki/K%C4%81mohoali%CA%BBi>

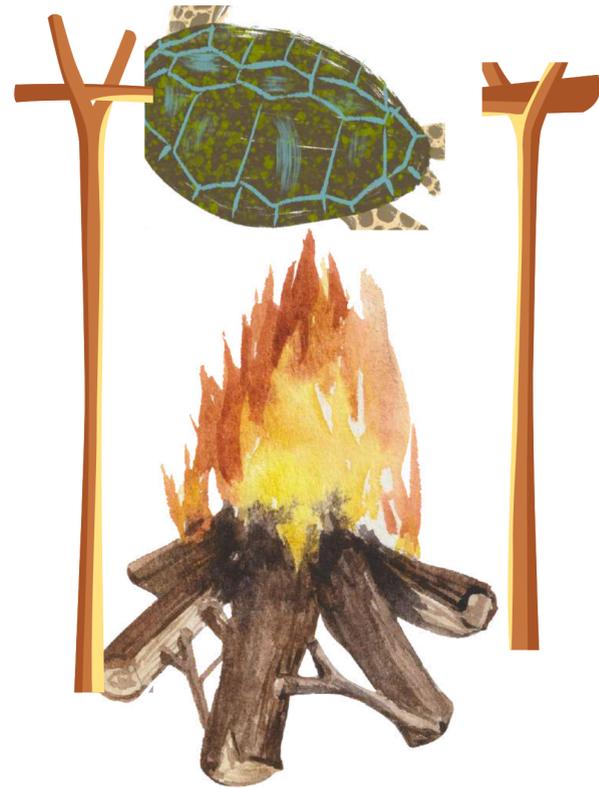


From the Galley

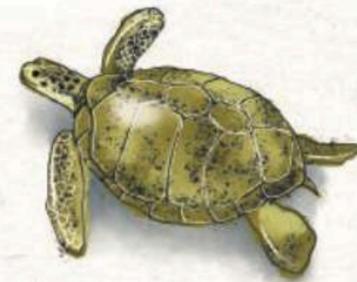


great andamanese recipe
to cook a turtle

This recipe was documented by British anthropologist EH Man and included in the book 'From Sea to Surwa' by Madhuri Ramesh and Chandralekha C.



- Cut a cylinder of bamboo and heat it gently over a fire to temper it
- Fill the warm cylinder with pieces of half-cooked turtle (green turtles were preferred but hawksbill meat was also used)
- Once again, rotate the cylinder slowly over the fire so that it does not crack open
- Once the meat stops steaming, take it off the flame, split the bamboo open with an *adze*
- Scoop out the turtle meat and consume immediately
- Otherwise, plug the mouth of the bamboo cylinder with a bunch of leaves and set aside. The cylinder of turtle meat can be reheated before it is consumed



Source: Ramesh, M and Chandralekha C. 2024. From Sea to Surwa: Recipes from Andaman Islands. Azim Premji University, Bengaluru. 64 pp.

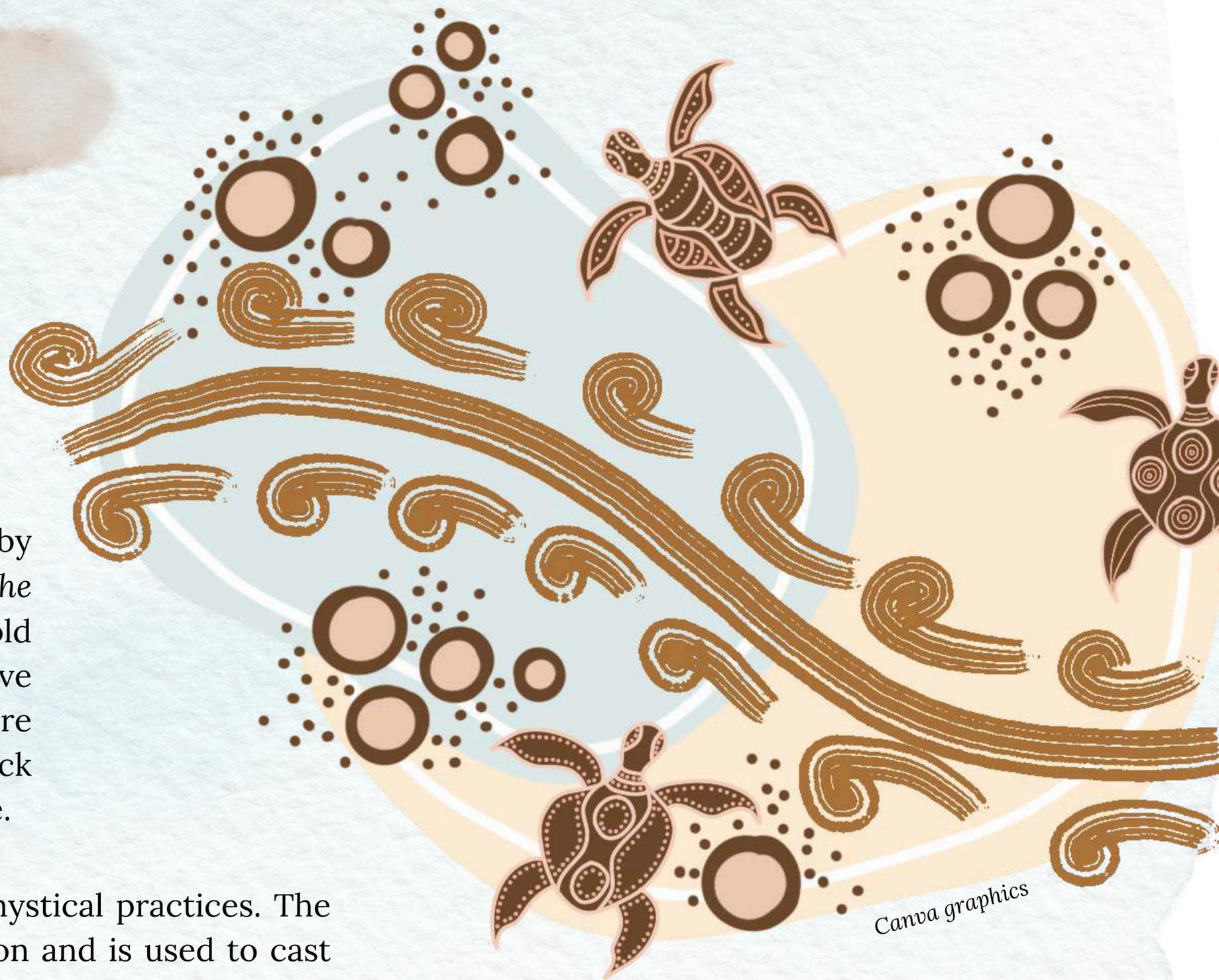
Bonus bite: the magic of turtles

Did you know that in some coastal cultures, sea turtles are not just food or flagship species, but carriers of supernatural power?

According to a 2024 ethnozoological study by Djando et al., traditional fishers in Benin (on the southern Atlantic coast of West Africa) hold diverse beliefs about sea turtles. While olive ridley, green, and hawksbill turtles are considered lucky encounters, the leatherback turtle is often seen as a harbinger of misfortune.

Only the carapace and the head are used in mystical practices. The carapace is believed to offer spiritual protection and is used to cast Vodoun spells (known locally as *kinlinsi*), ward off sorcery, and invoke ancestral spirits in the cult of *Egun-gun*. The head, when used with bones, is said to banish fear, embolden the spirit, and protect against bewitchment.

Turtles, in these traditions, are not just part of the sea; they're part of the spirit world.



Canva graphics

Source: Djando, L. A., Konan, K. M., & Kone, T. (2024). Ethnozoological use of sea turtles by traditional fishermen on the Beninese coast (West Africa): Implications for marine conservation. *Global Ecology and Conservation*, 51, e03265. <https://doi.org/10.1016/j.gecco.2024.e03265>

Straight from the Field



~K Irfan Ali



Of prawn hunts and jungli billis: Who says fieldwork isn't fun?

We had set out for the isolated West Bay in Little Andaman to begin our annual leatherback sea turtle monitoring work. Quite far from the comfort of our everyday lives, we carry limited rations- only what is absolutely necessary for us to survive out there. We build makeshift tents in the spaces between the forests and the beach, and to supplement our meals, we often turn to the streams nearby, spear-fishing freshwater prawns for dinner.

On one such cold night, under the starlit sky, we ventured into the stream with headlamps on and handmade spears in hand. The water was chilly, the rocks slippery, but our spirits were high. I was joined by Sushil and Thesorow, who are our senior field assistants, both experts at catching prawns with spears. As we slowly waded through the slow current, spearing a few prawns, we also did some opportunistic herping along the way, spotting frogs and the occasional snake.

Suddenly, Sushil shouted, “*Jungli billi! Jungli billi!*” I knew that this was the local name for the elusive Andaman masked palm civet. My heart skipped a beat.

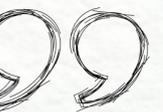




As I stared across the stream, two large, shining eyes stared back at me. It was my first-ever wild sighting of this shy, nocturnal creature, endemic to the Andaman Islands. The civet sat still for a few seconds, perhaps curious and cautious. Then, in a flash, it darted across the stream, climbed a nearby tree, and disappeared into the dark canopy. Its long tail helped it balance as it manoeuvred effortlessly through the branches, leaving us stunned and thrilled.

These civets are rarely spotted, and to witness one in the wild during our prawn hunt was truly an unforgettable gift from the wild. As we returned to our camp with our prawn catch, we all agreed that the real catch of the night was that fleeting encounter with the wild arboreal beauty, which we're still gushing over!

~ ~ ~



Wayfinders of the Island



The Karen Legacy

~Debangini



The Karen community, originally from Burma (now Myanmar), crossed the Andaman Sea nearly a century ago in search of refuge, settling first in the thick forests of Mayabunder in the 1920s. Today, they are rooted across eight villages in North and Middle Andaman, carrying with them a quiet legacy of resilience, adaptation, and sea-borne memory. Skilled deep-sea divers, Karen men and women have long worked with the tides, not only for sustenance, but increasingly in the water sports and diving industry. In fact, three of the best-known dive sites in the Andamans- **Dickson's Pinnacle, Jonny's Gorge, and Jackson's Bar**- are named after three Karen brothers!



In 2004, when the tsunami struck Galathea Bay in Great Nicobar, our Karen field assistant **Saw Agu** sensed the danger of the unnaturally receding shoreline. His call to flee went unheeded, a decision that would prove fatal for all but him. He survived, wounded and stranded for 13 days, returning only with broken ribs and a story that became part of the island's collective memory.



More recently, **Naw Ruth** became the first woman dive instructor from the Karen community, forging a new path for young women to engage with the ocean, not just as a livelihood, but as guardians of a shared ecosystem.



And how can we forget **Mary Pee**? She's the first and only woman news correspondent from the Karen community who has won a gold medal in Journalism for her incredible work in covering the Andaman and Nicobar Islands, both at the State and Union Territory levels. She's currently working on her very own book on the history of the Karen people and their culture.

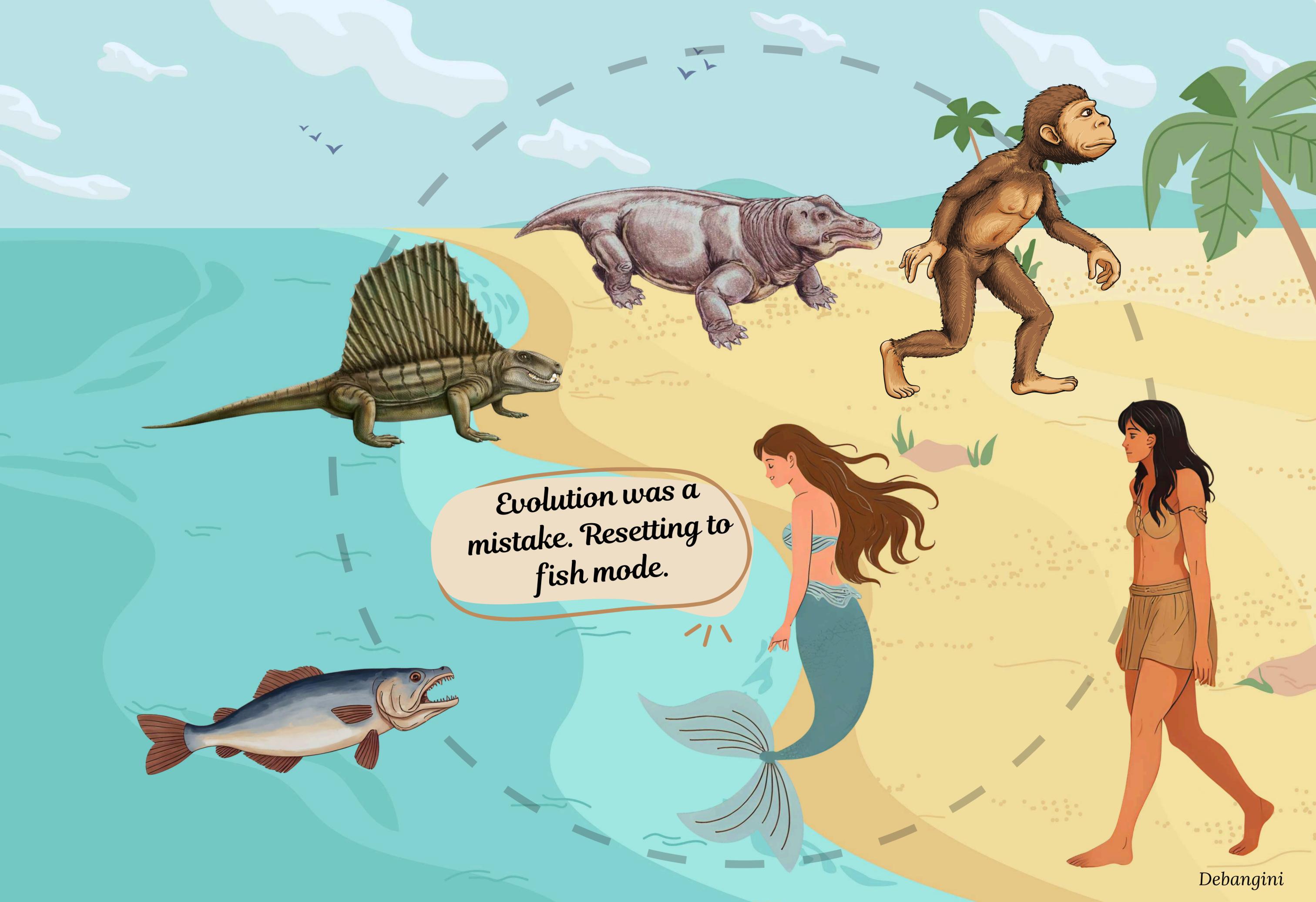


Since the early days of Andaman Nicobar Environment Team (ANET) in the 1970s, Karen knowledge, craftsmanship, and deep familiarity with the land and sea have formed the backbone of many field efforts (as boatmen, assistants, and field base staff). In 2014, these ties led to the formation of the Andaman Karen Crafts Cooperative Society, blending eco-livelihoods with a revival of cultural identity and biocultural heritage.



To download the full-resolution poster, visit our website at www.dakshin.org

Images: Adhith Swaminathan, Rahul Demello, Amit Adhikari and Mary Pee



Evolution was a mistake. Resetting to fish mode.



Sea Board



Taking **ocean literacy** to classrooms in South Andaman



ANET at the Andaman & Nicobar Book Fair 2025



Sea, Scales, and Sustainability: Summer Camp 2025

The Marine Flagships team conducted sessions across government schools in South Andaman this summer, as part of a long-term Ocean Literacy Programme designed for school students in the islands. The programme seeks to reconnect children with their local environment through interactive, place-based learning, using Treasured Islands, a specially developed environmental education resource tailored for the Andaman and Nicobar Islands.

The sessions explored key concepts under the broader theme of 'Oceans', combining presentations with hands-on, engaging activities, including an ecological Jenga game, a fun turtle introduction, and even a turtle-themed dance! Over 200 students participated in these sessions. These efforts are part of our ongoing commitment to nurturing curiosity, local pride, and environmental stewardship among young islanders.

The Andaman Nicobar Environment Team (ANET) was invited to participate in the Andaman & Nicobar Book Fair, organised by the National Book Trust of India in collaboration with the District Administration at Sri Vijaya Puram, in the Andamans.

It brought together readers, educators, and organisations passionate about knowledge sharing. Our team hosted multiple interactive sessions for junior and middle school students, offering a vibrant mix of storytelling, performance, and creative workshops.

In the session titled '*Ocean of Tales*', we introduced students to three key marine species- sea turtles, dugongs, and sharks- through engaging skits, fun facts, and a lively Q&A. The enthusiasm and curiosity from the children made the session truly memorable. Next came '*Fold and Fun: Paper Craft Time*', where students expressed their creativity by designing posters inspired by forests and oceans. The space buzzed with imagination and colour as young artists brought nature to life on paper. Our final session, '*Once Upon a Time... Let's Hear a Story!*' was a skit reflecting on the ecological and landscape changes in the islands over the past few decades. It encouraged students to think about how the places they live in have evolved, and what that means for the future.

Dakshin Foundation and ANET, in collaboration with the Deputy Director of Education (Science), Andaman and Nicobar Islands, brought a splash of science and sustainability into classrooms across South Andaman in the summer camp 2025!

Through a series of interactive sessions in government schools, students explored ocean zones, reptiles and their roles, and fisheries & waste management- all through hands-on games, activities, and discussions. From drawing bioluminescent creatures to playing "Tail the Fish" and simulating fisheries management, over 90 students engaged with their local environments in fun and thoughtful ways.

Meanwhile, in Bengaluru, a 3-day capacity-building workshop was held at CES, IISc, led by Imran Samad, Garima Bora, and Vidisha MK. The first two days focused on hands-on GIS training for ecological research, while the final day explored data management, visualisation, and policy. With 21+ hours of training, participants included researchers from the Marine Flagships team, as well as interns and researchers from the KS Lab, CES, and IISc.



Workshops on 'GIS application in ecological research', and 'Data management & visualisation' held at IISc, Bengaluru



champ...
before
you go...

Samuhik Pahal
सामूहिक पहल

हिन्दी

ReefLog: bridging depths – citizen science for marine life conservation in India

This piece shares the contours and challenges of implementing a citizen science project for marine life conservation in India.

By Samar Ahmad 5 mins read

Published On : 1 April 2025

Share Listen

In the April edition of *Samuhik Pahal*, Samar Ahmad dives into how citizen science is reshaping marine conservation in India. The piece even splashes in a few stories from her chats with Andaman dive centres- because who better to talk ocean mysteries than the folks who spend half their lives underwater?

[Read the article here](#)

Also, we have these really cool posters!
To download the full-resolution files, please visit our website www.dakshin.org

SHARKS OF INDIA

Sharks are diverse cartilaginous fish found in India's coastal, oceanic, and deep-sea waters, with over 100 species inhabiting various ecosystems like coral reefs and deep-sea trenches. As members of the subclass Elasmobranchii, they have cartilaginous skeletons, replaceable teeth, and advanced sensory systems for detecting prey. Sharks have thrived for over 400 million years, playing a critical role in regulating prey populations and maintaining balance in the food web. However, they face significant threats from overfishing, habitat degradation, and climate change, and their slow growth and low reproductive rates make them particularly vulnerable.

DIET

Sharks exhibit diverse feeding strategies, reflecting their role in marine ecosystems. The diets vary based on species, habitat, and adaptations. Apex predators like the Tiger shark (*Galeocerdo cuvier*), hunt fish, cephalopods, turtles, and even seabirds. Mid-level predators such as the Blacktip shark (*Carcharhinus limbatus*), feed on smaller fish and crustaceans. Filter feeders like the Whale shark (*Rhincodon typus*), consume plankton and small fish by straining water. Benthic feeders including Carpetsharks (*Chiloscyllium spp.*), target bottom-dwelling invertebrates using suction jaws.

REPRODUCTIVE BIOLOGY

Sharks reproduce through three main strategies: Oviparous species, like Zebra (*Stegostoma tigrinum*) and Bamboo sharks (*Chiloscyllium spp.*), lay protective egg cases known as mermaid purses; Viviparous species, such as Bull sharks (*Carcharhinus leucas*), nourish their pups via a placental connection and give birth to fully developed young; and Oviviparous species, like Tiger sharks (*Galeocerdo cuvier*), develop embryos in eggs within the mother, hatching internally before live birth. Due to their slow growth, late maturity, and low reproductive output, sharks are particularly vulnerable to overfishing.

DISTRIBUTION

Sharks in India inhabit coastal waters, coral reefs, open ocean, deep-sea trenches, and some freshwater systems. Coastal and reef species are agile and utilize camouflage and heightened electroreception to detect prey. Pelagic sharks have streamlined bodies and large fins for efficient long-distance travel. Deep-sea sharks adapt to extreme pressure and darkness using bioluminescence and sensitive vision. Some can also tolerate freshwater, migrating between rivers and marine habitats by regulating salt levels.

Whale Shark
Blacktip Reef Shark
Gulper Shark

BATOIDS OF INDIA

Batoids, a group of cartilaginous fish in the subclass Elasmobranchii, include rays, skates, wedgefishes, guitarfishes. Rays are recognized by their flattened bodies and pectoral fins, while wedgefishes and guitarfishes have elongated bodies and triangular snouts. Sawfishes are bottom-dwelling predators with unique toothed rostrums. Batoids play essential roles in marine food webs; most rays and sawfishes are benthic foragers, with some rays acting as filter feeders.

Despite their ecological importance, batoids are among the most threatened marine vertebrates, facing high risks from fishing for their fins, meat, and gill plates. Sawfishes, wedgefishes, and guitarfishes are particularly targeted in the shark fin trade. Bycatch and habitat loss further threaten their populations, and their slow reproduction and late maturity make conservation efforts crucial for their survival.

DIET

Batoids exhibit diverse feeding strategies based on their habitat and morphology. Benthic feeders like the Jenkins' whipray (*Pateobatis jenkinsii*) consume crustaceans and small fish from the seabed. Mid-water hunters, such as the Pelagic stingray (*Pteroplatytrygon violacea*), chase small schooling fish and cephalopods. Filter feeders like the Spinetail devil ray (*Mobula mobular*) use gill rakers to extract plankton from the water. Suction feeders, including the Widenose guitarfish (*Glaucostegus obtusus*), employ oral suction to unearth prey from sandy and muddy substrates.

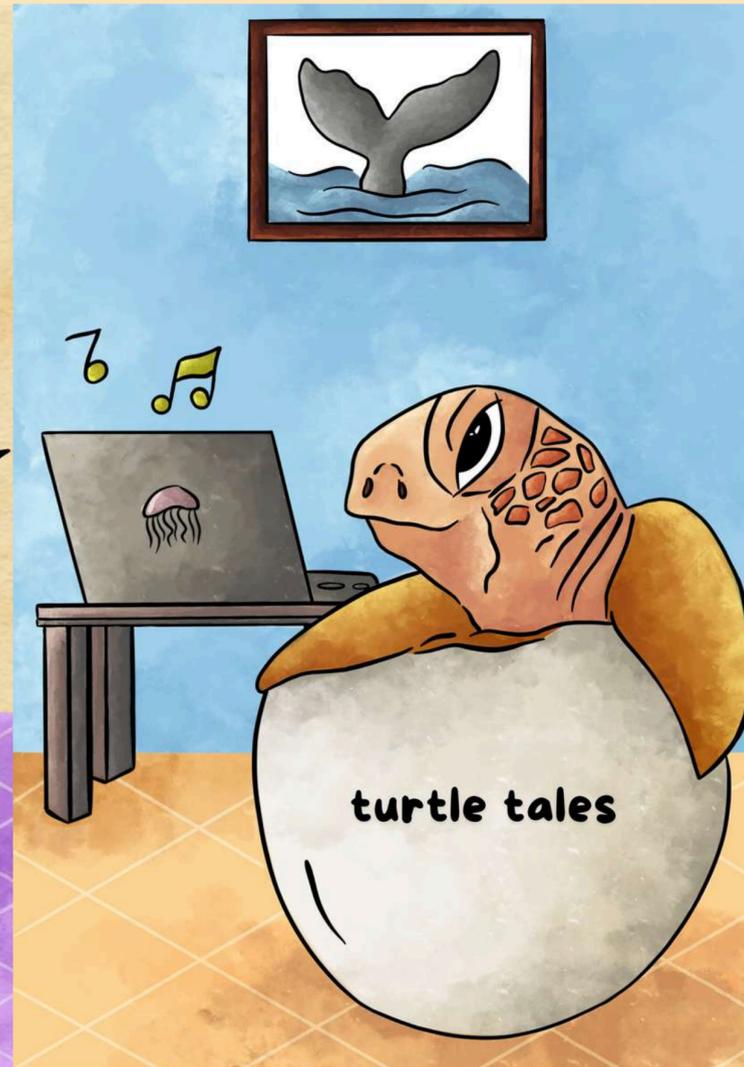
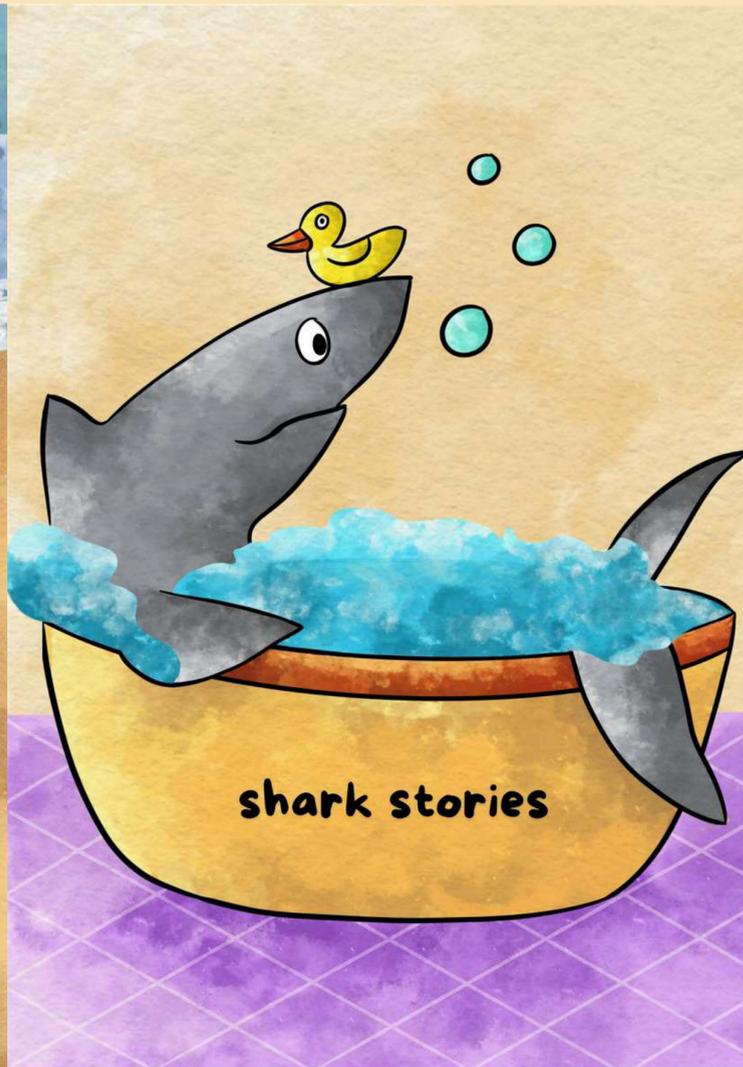
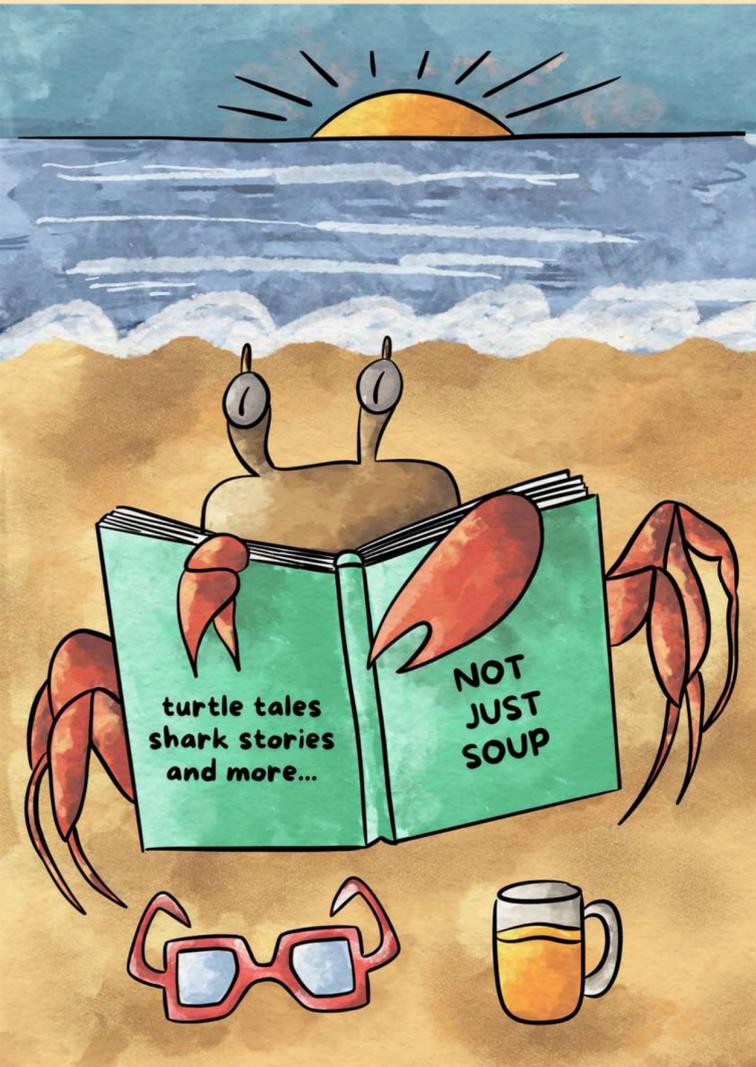
REPRODUCTIVE BIOLOGY

Batoids exhibit two primary reproductive strategies: oviparous species, such as the Indian ringed skate (*Oribraja powelli*), lay tough, leathery egg cases known as mermaid's purses, while ovoviviparous species, like the Bowmouth guitarfish (*Rhina ancylostoma*), retain embryos inside egg capsules that hatch just before birth without a placental connection. With their slow reproductive rates, batoids are highly susceptible to population declines.

Manta Ray
Widenose Guitarfish
Bowmouthed Lagoon Ray

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