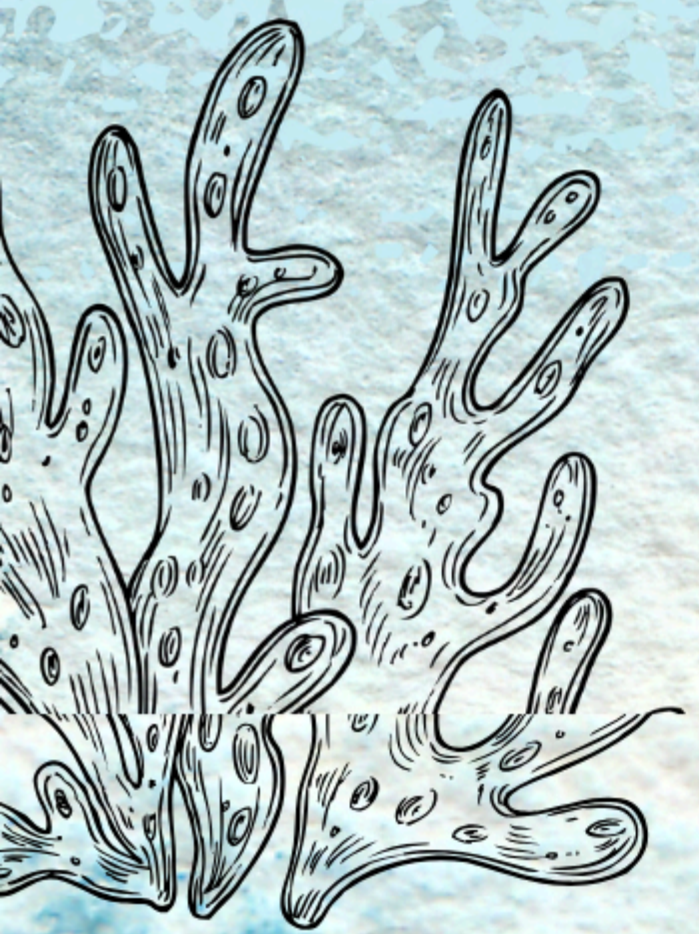
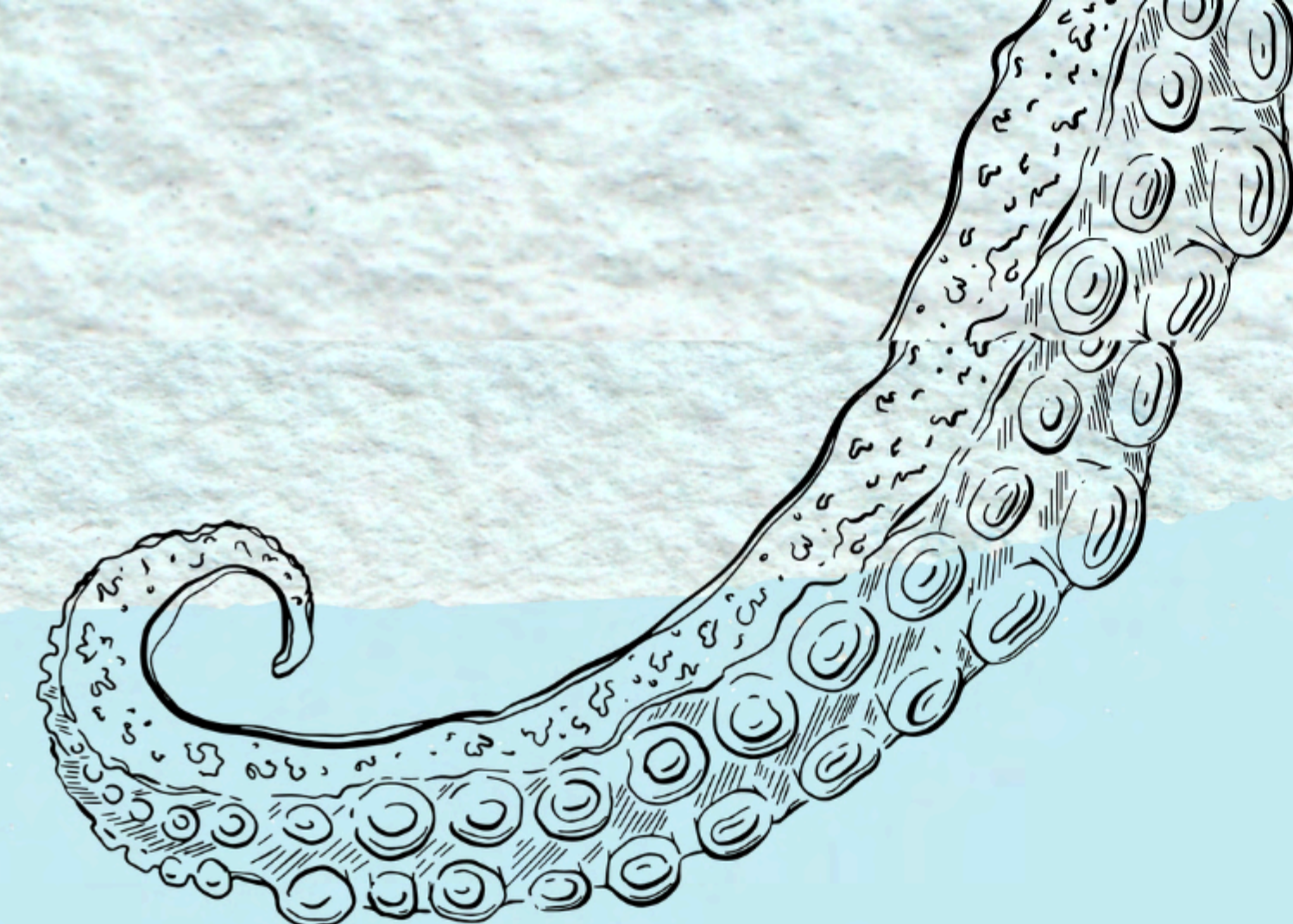
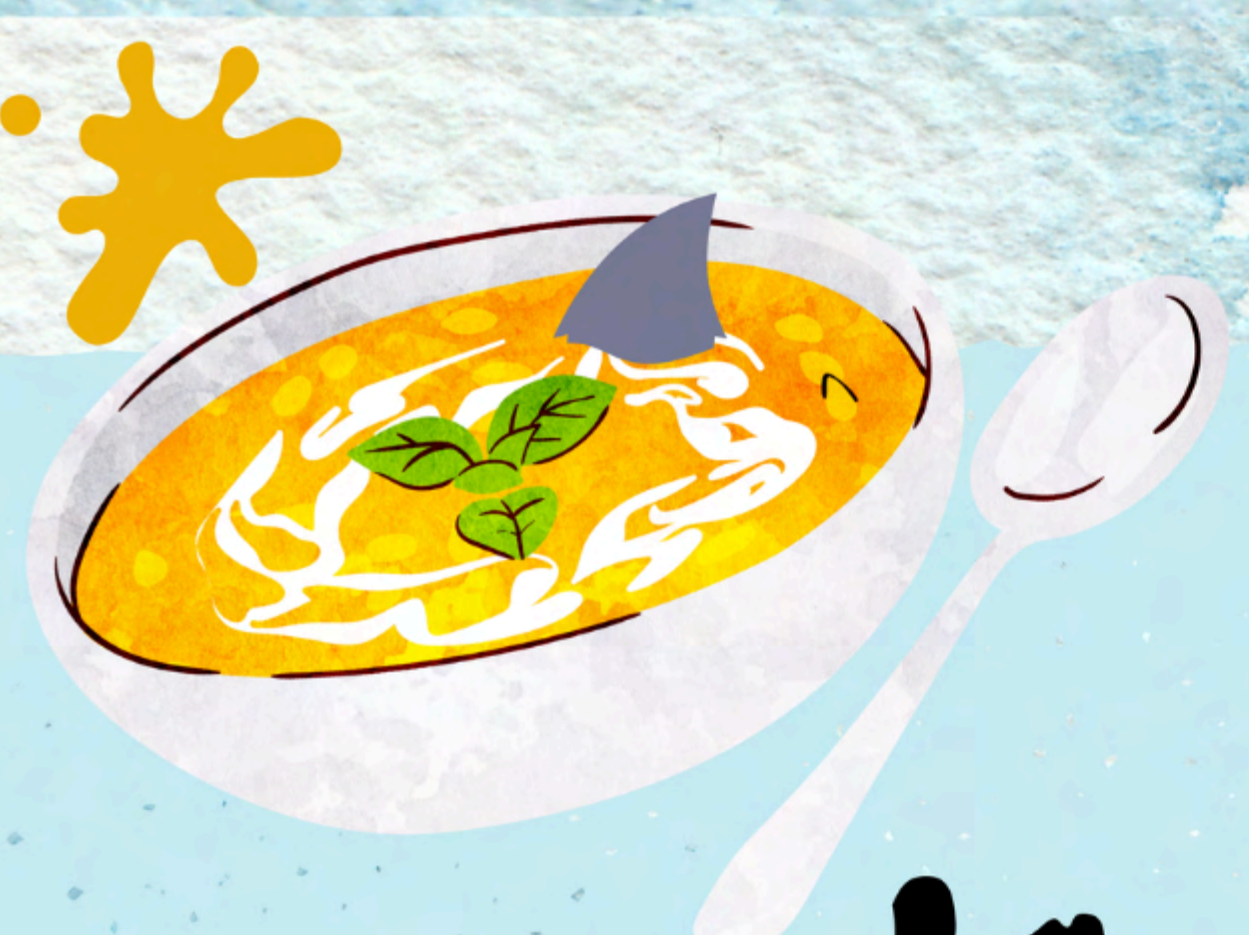
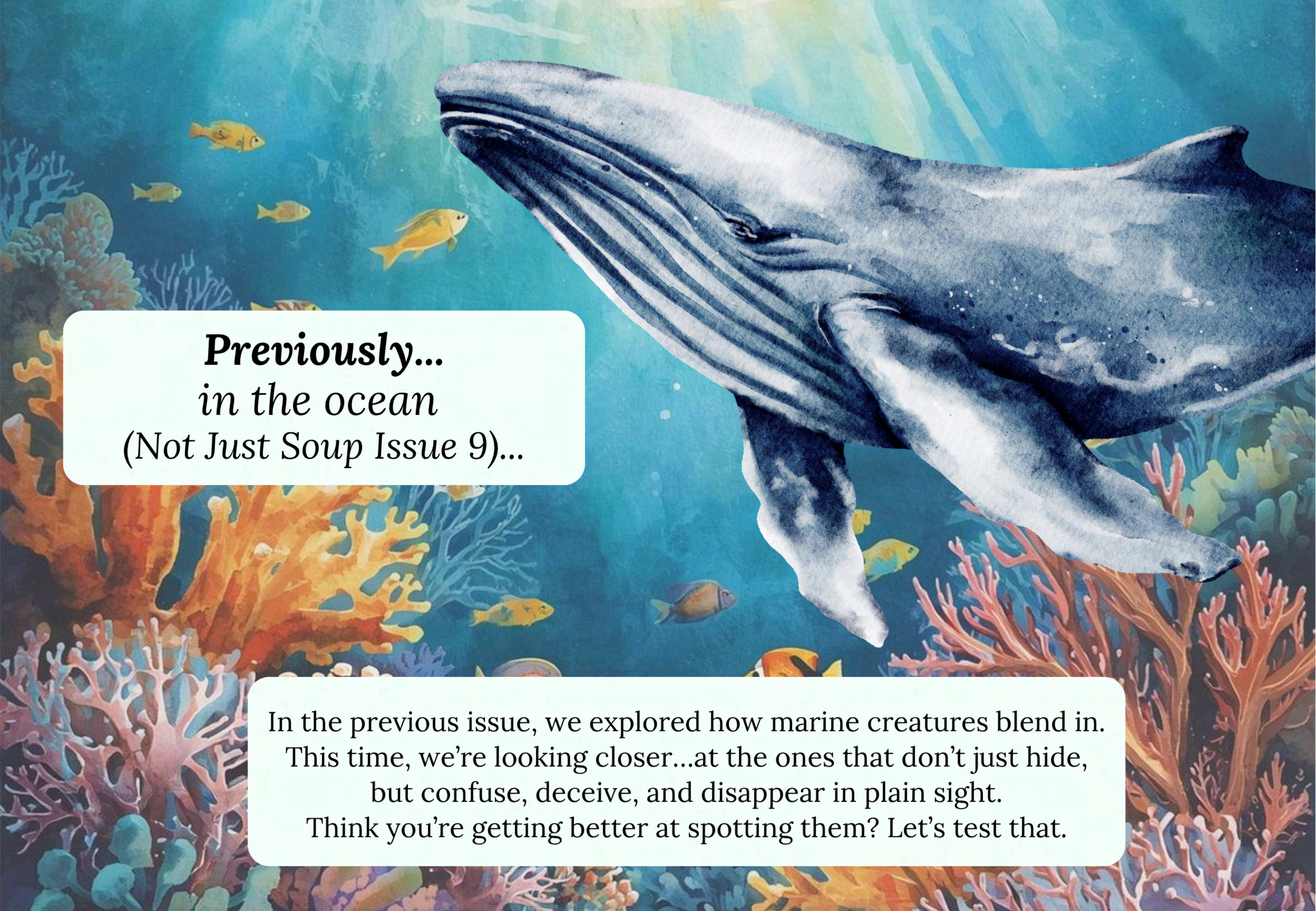


April 2026

not just soup

shark stories,
turtle tales
& more...
Issue 10





Previously...
in the ocean
(Not Just Soup Issue 9)...

In the previous issue, we explored how marine creatures blend in. This time, we're looking closer...at the ones that don't just hide, but confuse, deceive, and disappear in plain sight. Think you're getting better at spotting them? Let's test that.

Dear Reader,

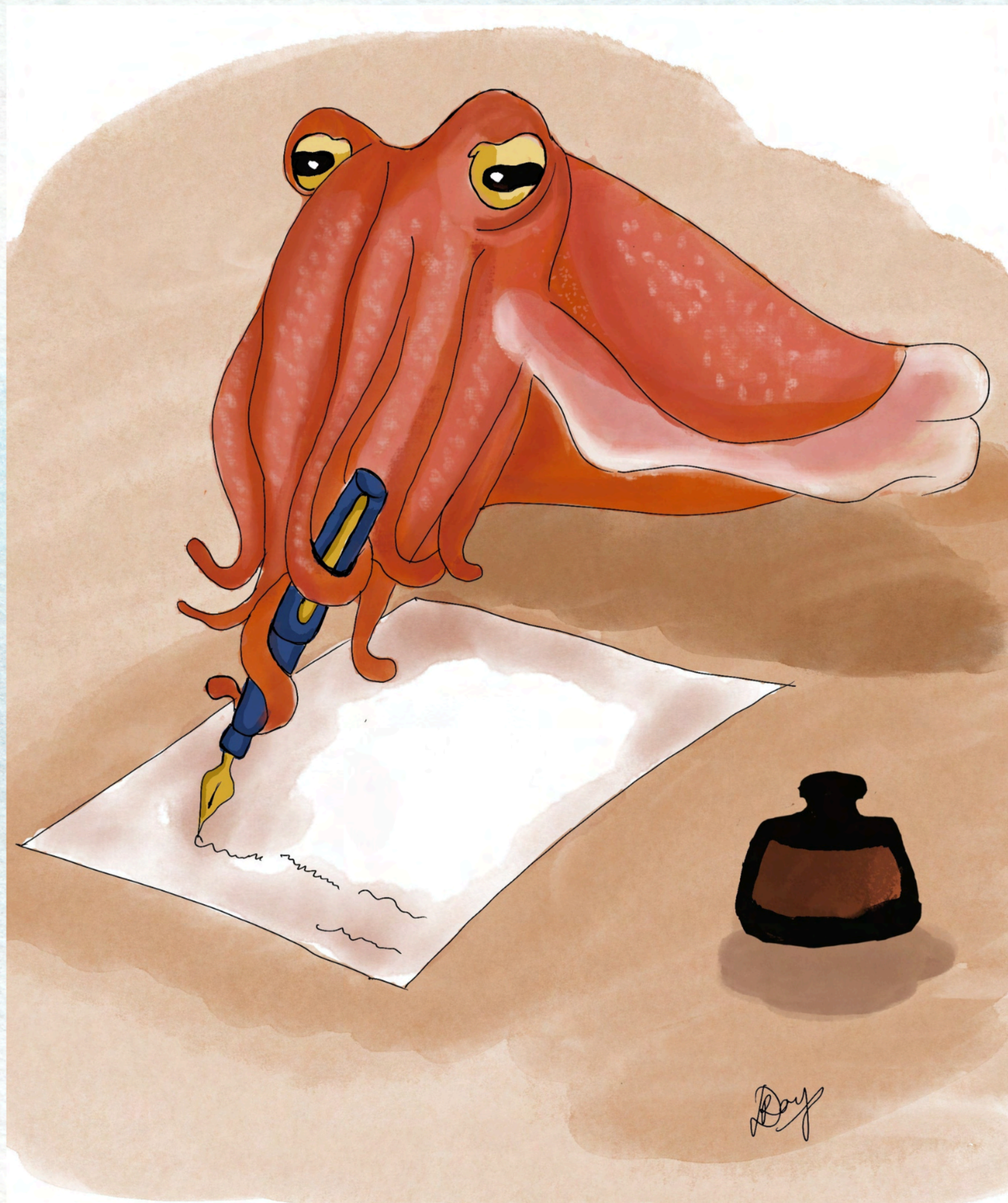
Camouflage, as a concept, wasn't something I learned from reefs or field guides. It started at home... trying and failing to find my black cat during games of hide-and-seek. She would melt into the shadows under the bed, a cloud of darkness with only two emerald-green eyes giving her away. As a child, I thought this was some superpower. Magic. Later, we were visited by checkered keelbacks, which would slink through our drainage channels, their bodies merging with the wet concrete and water, until they decided to raise their heads when I unintentionally went too close, trying very hard to scare me. Once, a pair of unblinking, judgmental eyes met mine, which were squinting in disbelief, wondering how an extension of a fallen tree bark could suddenly come alive. It, of course, later revealed itself to be an Oriental garden lizard, seamlessly blending with the cracks and textures of the log, very slowly blinking its saucer-like eyes as if mildly offended by my confusion. Back then, I thought camouflage was all about becoming invisible.

It wasn't until the Andamans that this idea began to expand. I was lying on warm sand surrounded by beach dogs in Havelock, staring fixedly at one spot for no apparent reason as my mind drifted. I thought I was looking at an empty shell. Then the shell moved. A tiny hermit crab peeped out...tentatively, looking curious...and just like that, I was completely dumbfounded, and, very quickly, completely in love. As I got up and began looking more closely, I realised that every shell I had ignored moments ago had a live resident inside it! Camouflage, it turned out, wasn't just about disappearing. It was also about misdirection.

But why bother? Trying so hard to look like something you're not feels like a very human habit... reserved for first dates, unexpected job interviews, or convincing your food delivery person that you definitely have guests over when you've ordered dessert for the fifth time in a day. Surely, there must be a compelling evolutionary reason for this elaborate performance.

Remember the story of the "*wolf in sheep's clothing*"? We grew up thinking the wolf was the villain. But really, it was just... survival strategy! In the ocean, this strategy has a name: *aggressive mimicry*. It is an imitation to lull a target into a false sense of safety, only to have that target learn that it is not at all safe abruptly and dramatically. Take frogfish and anglerfish, for instance. They are masters of deception (order Lophiiformes)...and mostly look like someone just slapped an ice cream cone out of their hands onto the ground. These guys don't chase their prey...they jiggle fleshy lures like yarn in front of cats...and wait perfectly still for prey to fall for it.

And then there are the overenthusiastically territorial ones, like the dusky damselfish, darting around well above the reef bottom and aggressively defending patches of algae as if they own the entire ocean. They'll charge at anything- divers, fish, passing shadows... with all the confidence and righteous swagger of someone who has just moved on from their ex and is



absolutely thriving. Elsewhere, the flamboyantly dressed sea slugs parade around in colours that scream “do not eat me,” and octopuses wave their tickling tentacles to disappear right under your nose- the literal pioneers of ‘ghosting’.

So, my dear friends, the ocean is a stage... in fact, it is an elaborate theatre of illusion, and its sea-tizens are magicians, con artists, performers, and survivalists in their own right. Of course, one issue wasn't enough to unravel all of this. So we continue this saga...

Until then, I trust you'll know when to blend in... and when to look a little closer. :-)

*“She hides in loops and inky swirls,
in half-finished thoughts and drifting curls,
a creature built not to be seen...
who doodled herself in between.”*

~ Debangini Ray



Pearls of Fishdom



Dodging the sea police: Learn it from the best

Jarima Bara

In the ocean, visibility can be a liability. Survival hinges not just on strength or speed, but also on the ability to remain unnoticed. Camouflage in many marine animals is subtle, context-dependent, and often easy to overlook, making it a perfect example of blink-and-miss adaptations in the marine realm.

Several shark species rely on patterns that disrupt their body outline rather than conceal them entirely, a strategy termed as disruptive colouration. Juvenile tiger sharks, for instance, exhibit bold vertical stripes along their flanks. While striking at first glance, these markings blend seamlessly with the shifting bands of light created by waves in shallow coastal waters. The stripes break up the shark's silhouette, making it difficult for predators or prey to track a single form. Zebra sharks use a similar strategy early in life, sporting high-contrast bands that help them blend into the complex textures of reef habitats before gradually transitioning to a more uniform pattern as adults.



Mako shark

Another widely used strategy is countershading. Species such as mako sharks are darker on their dorsal surface and lighter on the underside. This colour gradient allows them to blend in whether viewed from above against deeper waters or from below against the bright, sunlit surface. Though simple in appearance, countershading is one of the most effective camouflage techniques in the open ocean and is seen across a wide range of marine predators.

Rays take camouflage a step further by disappearing! Many stingrays and guitarfishes rely on sand burial, settling into the seabed and gently fanning sediment over their bodies until only the eyes or spiracles remain visible. Their flattened shape and colouration closely match sandy substrates, making them nearly indistinguishable from their surroundings.

Together, these camouflage strategies reveal how sharks and rays exploit light, pattern, and habitat to their advantage.



Images by Garima Bora and Karan Baradia

Octopuses are incredibly smart creatures!



They are able to solve complex problems



Hey Ariel! Do you wanna grab a drink with me?



And escape difficult situations

Uh, err...where did she vanish?



Wish we had such superpowers...

Straight from the Field



When Your Outfit Is... Garbage!

Mohammed Serfas Khan



I was in the Lakshadweep Islands for fieldwork. As a *dweepukaran* (islander), the islands are not just my field site but my home as well. The beaches of this place are an integral part of my life; I am familiar with their moods, sounds, and silence. One evening after a long day of work, I decided to take a stroll on the beach as I normally tend to do.

I passed by some hermit crabs crawling on the sand. I have grown up seeing these tiny crabs as a boy and learned how important they are to our ecosystem. They sweep up the organic matter on the beach, relying on empty shells to protect themselves, and regularly change the shells as they outgrow them.

That evening, however, when I looked closer, something felt wrong.

I saw a hermit crab inside the narrow neck of a broken glass bottle instead of inside a natural shell. As I let my eyes wander a bit further, I saw a few more hermit crabs feeding on pieces of plastic, mistaking them for food. Nearby, a plastic can was lying on the sand. As I inched closer to get a better look, I saw a painful sight. Inside the can, several hermit crabs were trapped. They had probably crawled in, searching for shelter, but couldn't get out. Many of them had already died. This is such a tragedy. Hermit crabs are meant to forage for shells, not plastic waste.

They are not meant to eat plastic or die trapped inside garbage generated by humans. These crabs were not killed by predators or by natural processes, but because of what humans chose to leave behind.

Plastic waste is a curse, particularly on a small and delicate island ecosystem such as ours. It's not just the hermit crabs that suffer. Over time, this will destroy the entire island's biodiversity, impacting beaches, reefs, fish, birds, and eventually our own human lives.





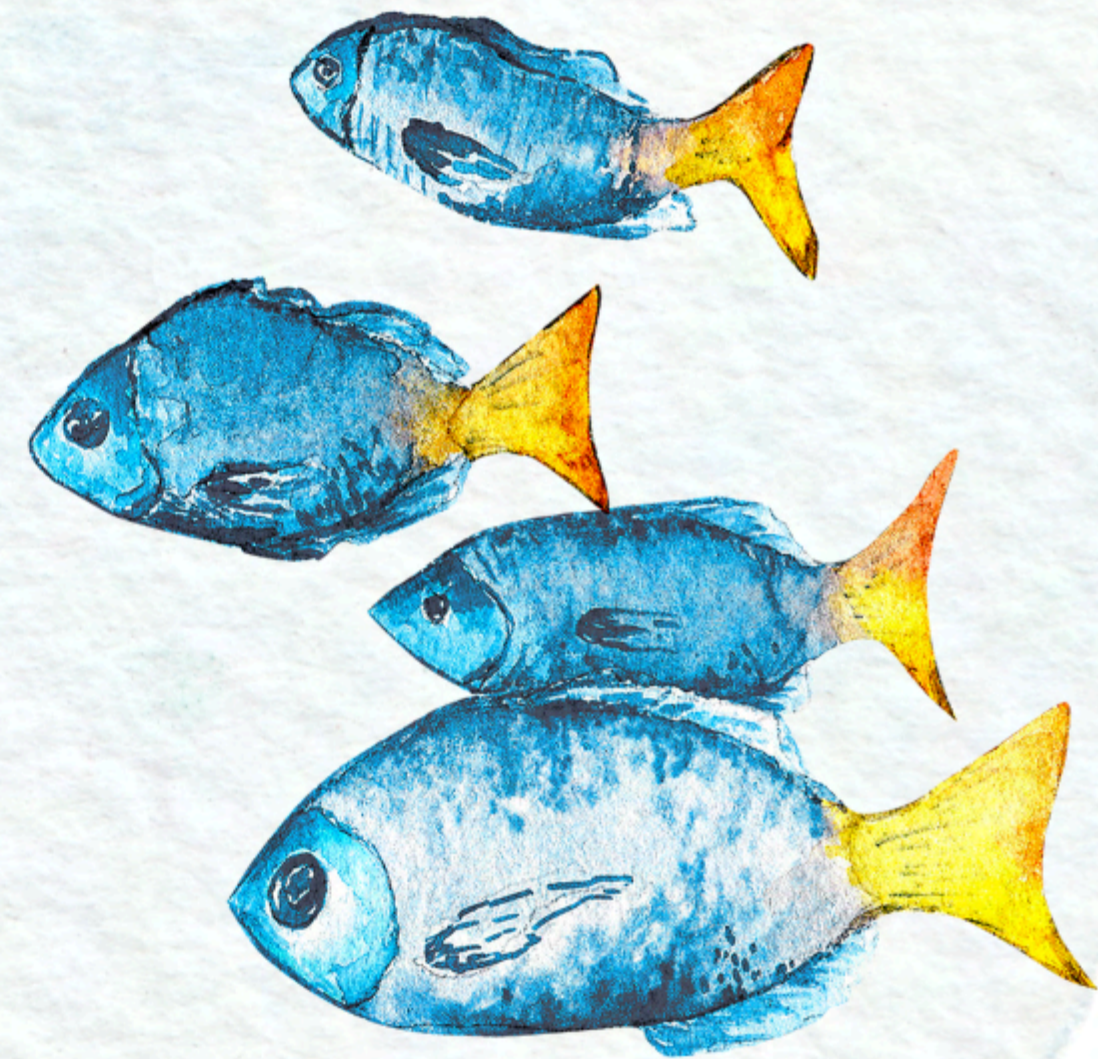
pop culture quiz

Think you can spot the science hidden in your favourite films? Let's see!
(Answers at the end of the newsletter!)

1.

In Finding Nemo, Hank the octopus can change colours and textures instantly. Which real-life superpower does this refer to?

- A. Countershading
- B. Chromatophore colour change
- C. Deep-sea bioluminescence
- D. UV patterning



2.

Tamatoa, the giant crab in *Moana*, uses shiny objects to distract and confuse. In nature, which strategy is closest to Tamatoa's "bling camouflage"?

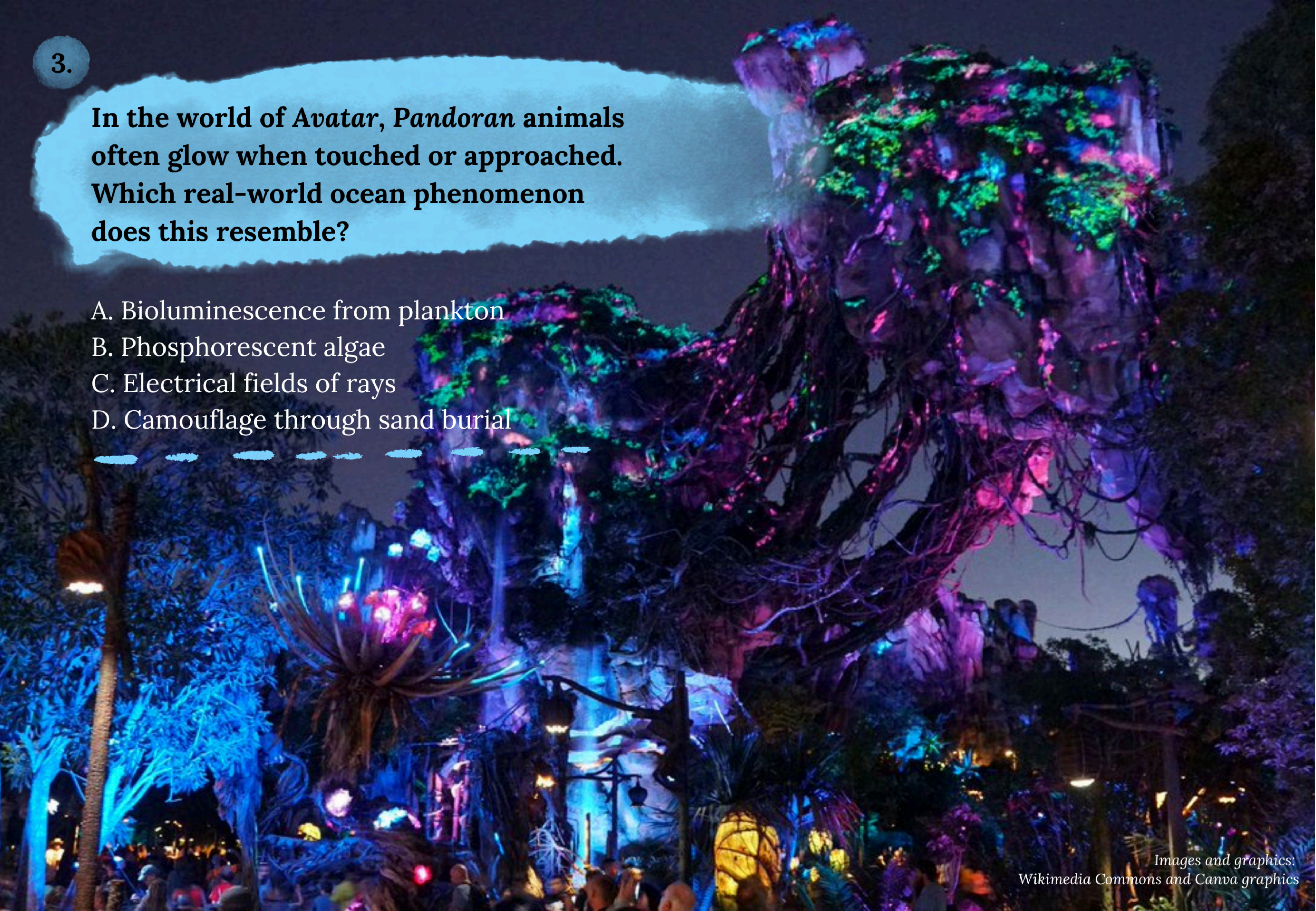
- A. Startle display
- B. Mimicry
- C. Dazzle camouflage
- D. Transparency

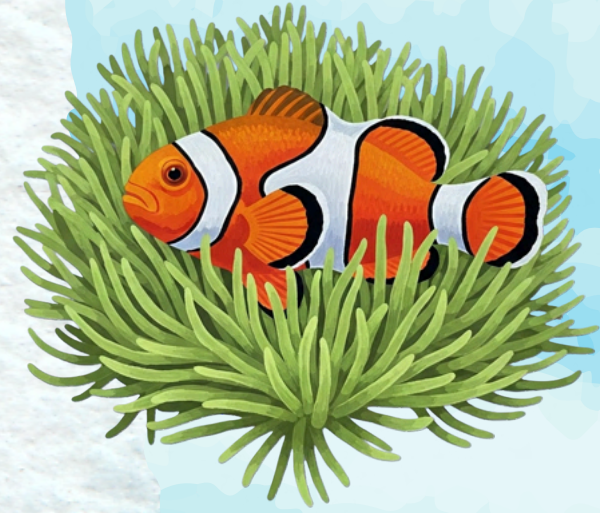


3.

In the world of *Avatar*, Pandoran animals often glow when touched or approached. Which real-world ocean phenomenon does this resemble?

- A. Bioluminescence from plankton
- B. Phosphorescent algae
- C. Electrical fields of rays
- D. Camouflage through sand burial





Reef Logbook



Mixed Species Groups:

Why do some fish hang out with the wrong crowd?

Debangini



Have you watched *Bridgerton*? Women dressed their absolute best, drifting through crowded ballrooms, trying to attract well-suited bachelors. Men trotting about with a strange sense of confidence, assessing, judging, and bowing. And then, in the same space, are the women who want absolutely nothing to do with this whole spectacle and dramedy and would much rather go home, read a book, or stare at something joyful... maybe at a poodle...or a poodle gazing at a muffin, or something like that. These women try their best to mingle with the crowd, but for very different reasons- they would rather be invisible or disappear entirely just to avoid being approached by someone. I have a strong suspicion that this idea was picked up by some fish species long before we did.

Underwater, on coral reefs, fish rarely swim alone. Instead, they form shifting, restless crowds... colourful, chaotic, and often completely mismatched. Surgeonfish cruise alongside parrotfish, fusiliers weave through schools of damselfish, and species that don't look, move, or behave alike still choose to travel together. At first glance, it almost looks social. Like a very elaborate underwater gathering where

everyone has shown up uninvited but decided to stay anyway. Not unlike the carefully chaperoned social scenes of Regency-era England, where presence in a crowd was less about choice and more about being seen, whether you liked it or not.

But this isn't about friendship or social networking. It's about not being singled out.

Predators, unlike awkward men at Regency balls, don't get overwhelmed by social cues, but they do rely heavily on focus. In a mixed-species group, that focus becomes harder to maintain. Different body shapes, sizes, colours, and swimming styles overload a predator's visual system, making it difficult to lock onto one individual. This phenomenon is called the **confusion effect**, and it does exactly what it promises. It confuses. And disrupts and delays. And sometimes, that tiny delay is all it takes for a fish not to become lunch. Stripes, spots, and sudden directional changes amplify this effect. In a crowd, outlines blur, movement overlaps, and the individual disappears into the collective.

If that wasn't enough, these groups come with another advantage - vigilance. If you've ever met Professor Alastor (Mad-Eye) Moody from the Ministry of Magic in the U.K, you'll know he lives by one rule: *constant vigilance*. Reef fish, it turns out, are excellent students of this philosophy. When multiple species move together, there are simply more eyes scanning the reef. Someone always notices something first- a shadow or perhaps, a sudden flicker. With more eyes scanning the reef, predators are detected earlier, giving the group time to respond. Even species with poorer vision benefit from the alertness of others, reacting to sudden shifts in behaviour that signal danger.

Teamwork is dream work, friends! It's less "*every fish for itself*" and more "*if one of us panics, we all panic*", and that works out surprisingly well. By playing group hide-and-seek, fish reduce the risk of surprise attacks from below, behind, above or from anywhere out of the blue! We've all seen enough underwater movies to know that the ocean does not believe in fair play.

Now, have you ever lived with flatmates? Everyone uses the same kitchen at the same time, but no one is really cooking the same meal. Someone's chopping vegetables, someone's frying eggs, someone's just standing there trying to choose a playlist while figuring out what to cook. It looks coordinated... maybe even choreographed... chaos. Sometimes, when one flatmate is unwell, another might share what they've made or bring back extra food from a diner.

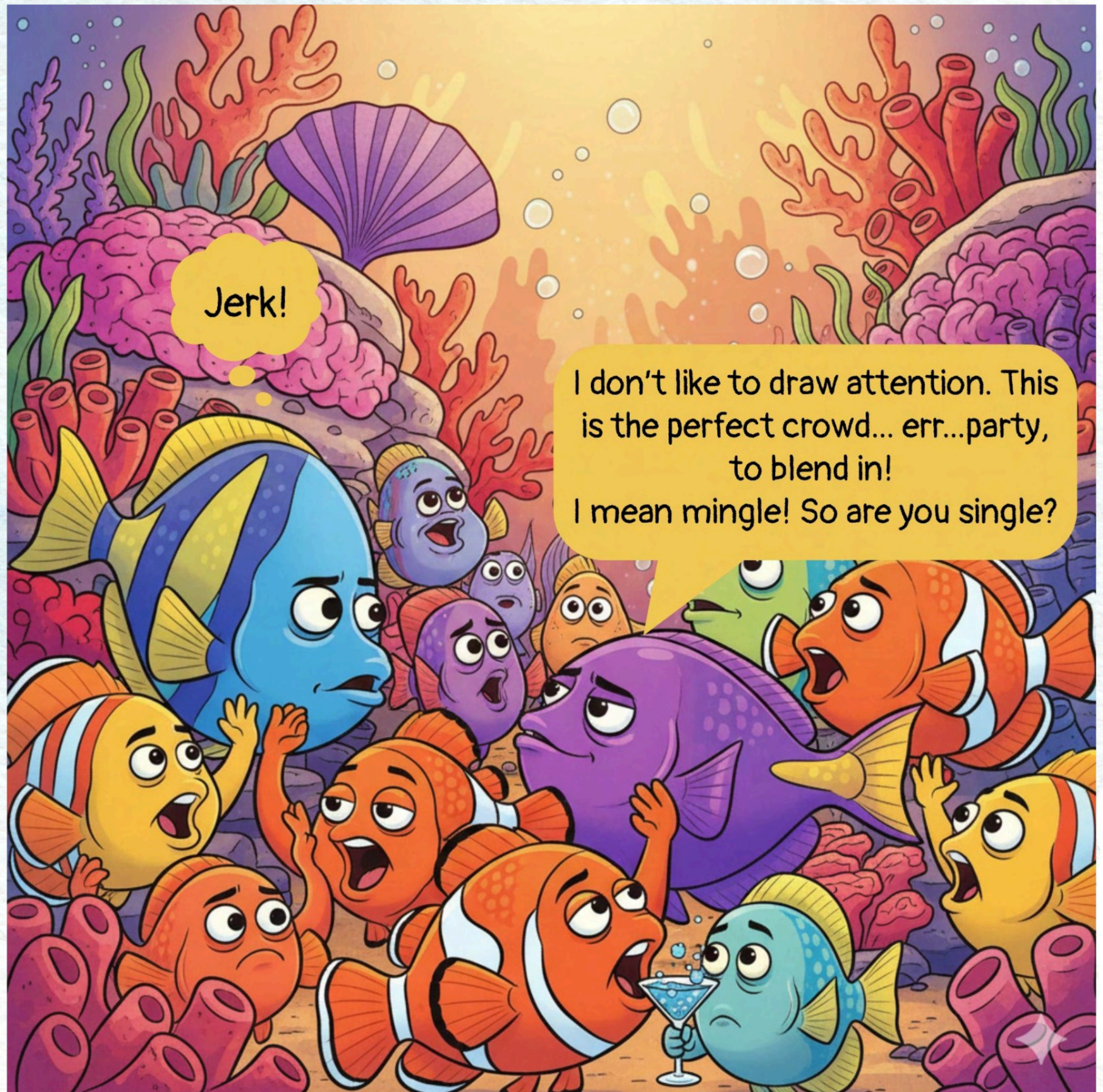
Reef fish operate in a surprisingly similar way.

Not everyone in a mixed-species group is competing for the exact same food. Within the same space, when certain fish feed, they disturb the substrate, flushing out small prey hidden in sand or coral. Some species graze algae off surfaces, others pick at tiny invertebrates, and some chase plankton drifting by. Everything circles back to not getting eaten.

At the end of the day, these extravagantly dressed reef dwellers are so finely tuned to their survival strategies that they've ended up fascinating the humans up here, inspiring an entire body of research trying to understand how something that looks so chaotic can work so well!

Further reading:

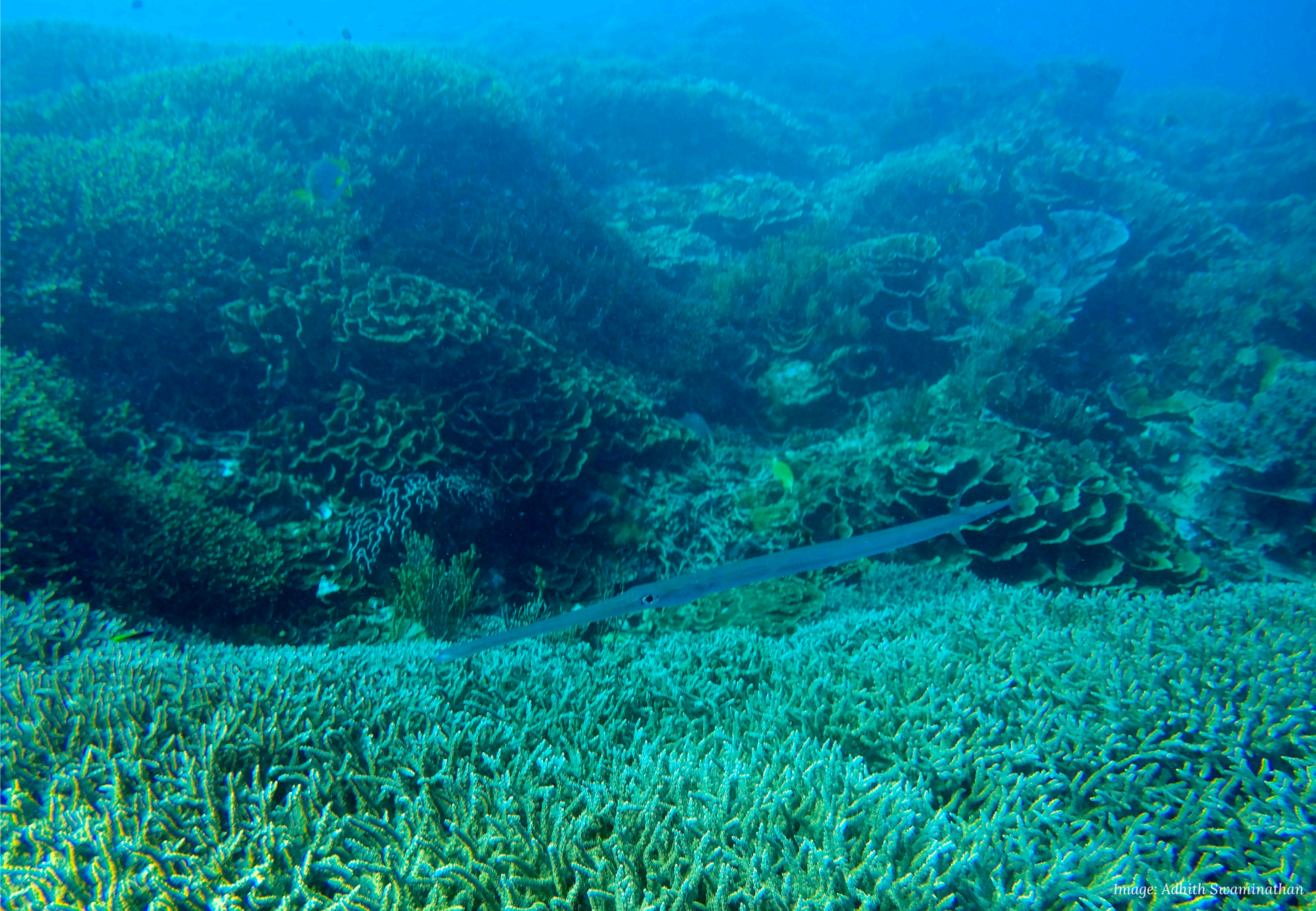
- Krause, J. & Ruxton, G. (2002). *Living in Groups*
- Helfman, G. S. (1981). *The advantage to fishes of hovering in heterogeneous groups: a model*
- Lukoschek, V. & McCormick, M. (2000). *A review of multi-species foraging associations in fishes. Journal of Fish Biology - studies on shoaling and mixed-species groups*



Now You See Me...?

Look for answers at the end of the newsletter











Sea Board



Building Ocean Champions in Odisha

As part of **Marine Animal Conservation Awareness Month**, a capacity-building session on sea turtles was held at the Turtle Interpretation Centre, Purnabandha (5 March), with Rahul MS from our team invited as a resource person. Students from Berhampur University and Ganjam Science College, along with Forest Department officials, participated. The session focused on building awareness and inspiring the next generation of marine conservationists.

As part of **MATSYAMELA 2026** (10–12 January) in Kavaratti Island, Dakshin Foundation set up a stall showcasing its publications, educational materials, and ongoing work in Lakshadweep, particularly around sustainable resource use and sea turtle conservation. The team also presented a **short play, Birishanjaar**, highlighting the importance of responsible use of island resources through simple, relatable storytelling. In addition, a book reading session of **Moonlight in the Sea by Kartik Shanker** was conducted for school students. The illustrated story, set in Lakshadweep, follows a young girl's connection with the ocean and her journey of curiosity and courage. The session saw active participation, with students especially enjoying the humour and vividly engaging with the narrative, many even asking if the story was real by the end.



Moonlight in Kavaratti



Strengthening turtle conservation in Odisha

Capacity-building training sessions were conducted in the Kujang and Rajnagar ranges of Rajnagar Division (12–13 January) for Odisha Forest Department staff. Rahul MS from the team led the theory sessions, while Bipro Behera facilitated hands-on training. The sessions covered key aspects of sea turtle conservation, including nest monitoring and relocation, mass nesting census, data collection, hatchery construction and management, and hatchling release. Outreach materials such as hatchery management posters and olive ridley monitoring handbooks were also shared to support ongoing efforts.

Children from Nuagaon, Podampeta, and Purnabandha came together at the Cyclone Shelter in Purnabandha for a screening of **'Bipro- A Conservation Legacy in the Making'** by **Ishwar Shaw**. The film follows the journey of Bipro Behera, who grew up supporting turtle conservation efforts and is now a key member of Dakshin Foundation's turtle team. The screening was attended by local students and Dakshin staff, and concluded with an interactive Q&A session on sea turtles and the film. Participants enthusiastically engaged with the discussion and received postcards from the filmmaker, making it a fun and memorable learning experience.



Bipro on screen



Strengthening elasmobranch identification on the coast

An **awareness session on elasmobranch species identification** was held at the Mangrove Cell's Range Forest Office in Malvan, bringing together the Dakshin team, researchers, and ground staff. Manas Manjrekar opened the session by linking elasmobranch diversity with the Wildlife (Protection) Act, 1972, followed by Dhanashree Bagade, who led a session on identifying the 26 protected species under the Act. Garima Bora from our team focused on species commonly encountered in Malvan's waters, highlighting their ecological roles and key identification features, with special attention to the whale shark, bowmouth guitarfish, and wide-nose guitarfish. The session reinforced the importance of building species identification skills for effective, on-ground conservation.

Meanwhile, on the shores of Odisha...



Image: Bipro Behera



Image: Rahul MS



Image: Ishwar Shaw

They returned, as they always do. And so did the goosebumps—it's a timeless event, after all!

This year's mass nesting was smaller than last year's remarkable eight-day arribada. The turtles chose Spit Island once again, a site that last witnessed this spectacle in 2022. Over four days, approximately 1.5 lakh turtles came ashore to nest. A team of 15–20 people worked through the nights to document and manage the event, quietly holding space for one of nature's most enduring rhythms.

Here are some postcards from Arribada 2026, Odisha.

MIXED SPECIES GROUPS OF REEF FISH IN THE ANDAMAN ISLANDS



Mixed-species groups are temporary alliances formed by various reef fish species. Such groups come together and dissolve with remarkable fluidity, creating a captivating spectacle beneath the waves.



Joint hunting association

Shoaling group of surgeonfish

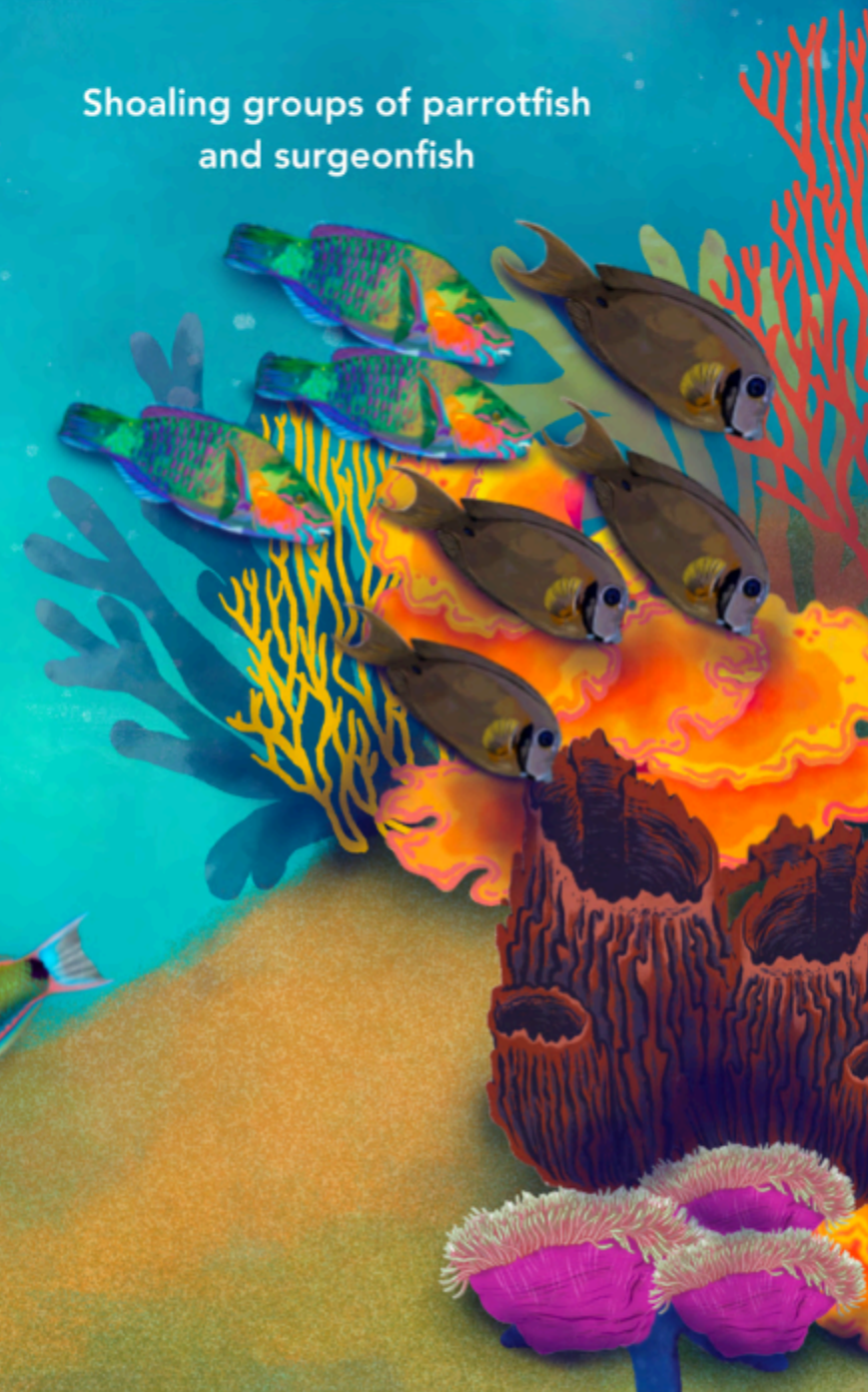


Seen throughout the water column and near the reef, these groups are a reflection of the intricate, ever-changing dynamics of cooperation and survival. Some associations, like the shoaling groups, may form for protection against predators or to overcome territorial damselfish, while participants of attendant groups gain foraging benefits by following fish that feed on the substrate and stir up invertebrates from the sand. These alliances not only provide essential benefits to the participating species but also contribute to vital reef processes such as herbivory, nutrient cycling, and biodiversity.

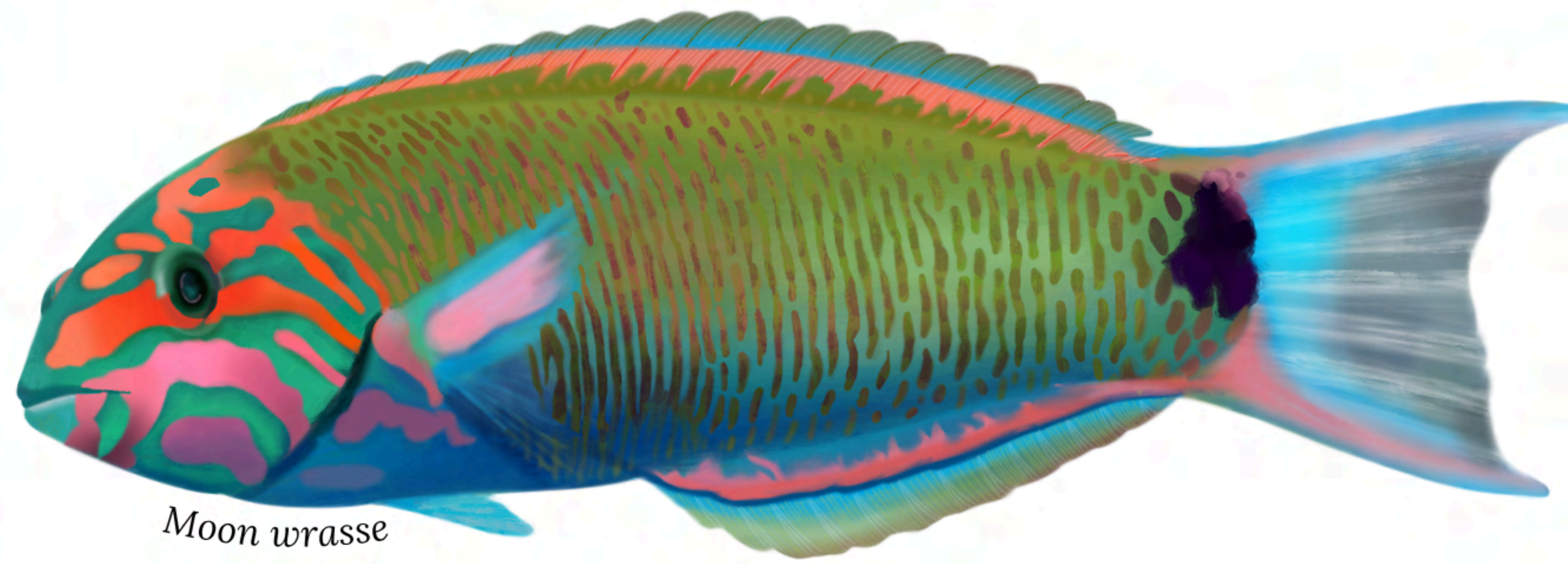
Stationary predator groups



Shoaling groups of parrotfish and surgeonfish



Attendant group



Moon wrasse



Oriental sweetlips



Blacktail snapper

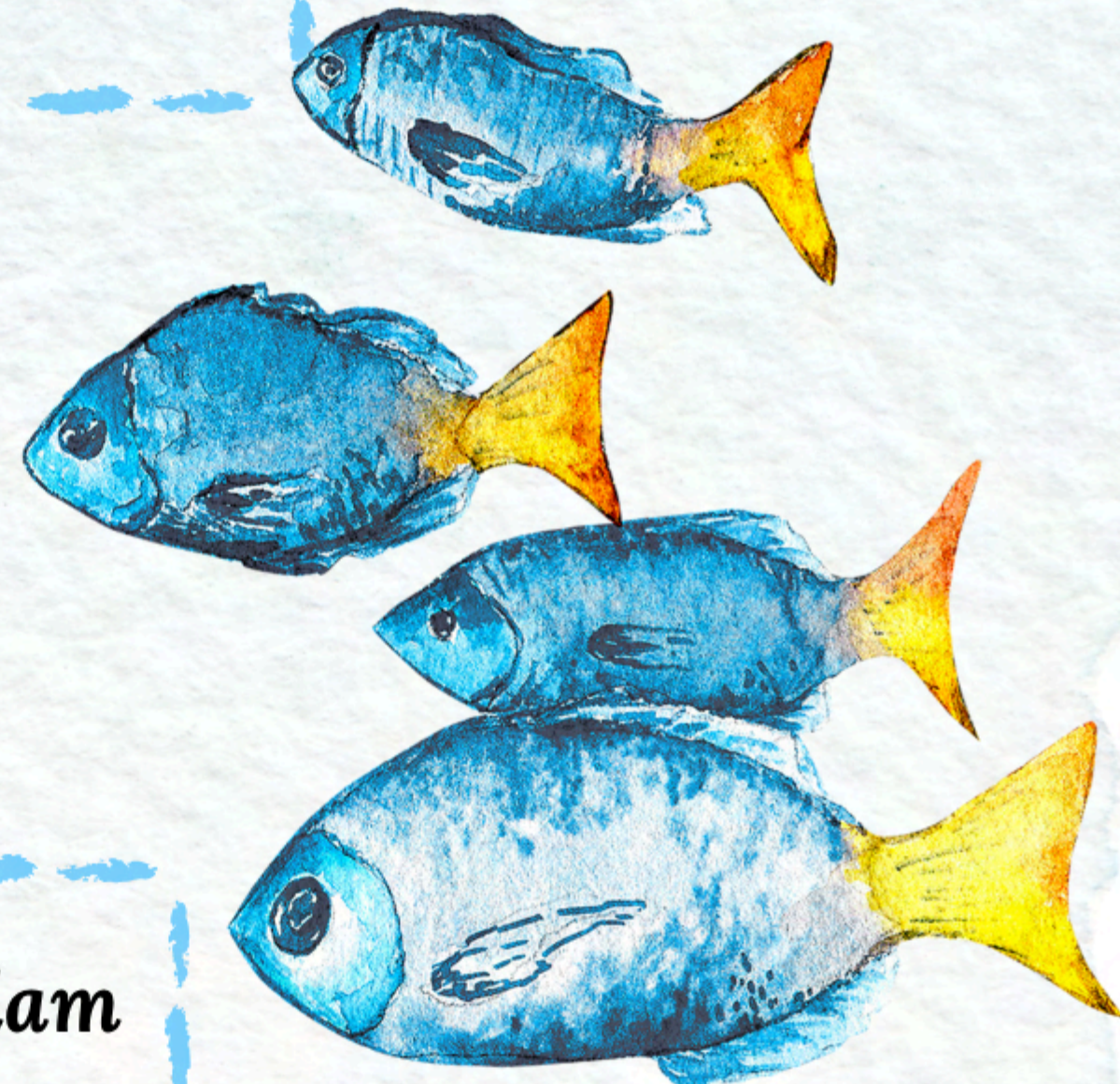
Let's appreciate some lovely fishy art straight out of our ReefLogbook: shoutout to Barkhaa Avinash!



How Did You Score?

Answers to the pop quiz:

- Q1- Answer: B
- Q2- Answer: C
- Q3- Answer: A



- Image 1: Maxima clam
- Image 2: Cornetfish
- Image 3: Ghost crab
- Image 4: Flatworm

Scorecard:

0-1 correct: Reef Rookie

You're just getting your fins wet! Keep exploring- the ocean has many secrets waiting for you.

2-3 correct: Camouflage Cadet

Whoa, underwater Sherlock! You could probably outsmart even an octopus at hide-and-seek. The reef approves.



'Now You See Me...'



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...

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