Gepara

Speculative evolution

by Sijbren Reitsma

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Gē Parállēlos

About

While the planet shares Earth's physical characteristics, its distinct galactic position might result in differences in evolutionary patterns. For instance, local starlight variations or cosmic radiation levels could affect pigmentation, photosynthesis processes, or even behavior in native species.

The similarities in composition and structure don't necessarily mean identical landmass layouts or tectonic activity. Unique distributions of metals, minerals, or fossil fuels may exist, possibly affecting technological and cultural development.

This project can explore speculative evolution, planetary science, and cultural anthropology under slightly altered conditions. The aim is to create a world that feels plausible while inspiring curiosity and creativity.

Welcome to Gē Parállēlos! (Parallel Earth in Ancient Greek)
The planet is largely the same as Earth in terms of characteristics: the same composition, the same distance from the sun and moon, the same atmosphere, rotation, gravity, etc. The main difference is that it is located in the Perseus Arm of the Milky Way. This is, of course, fictional, but the principles applied in this project will be kept as realistic as possible.

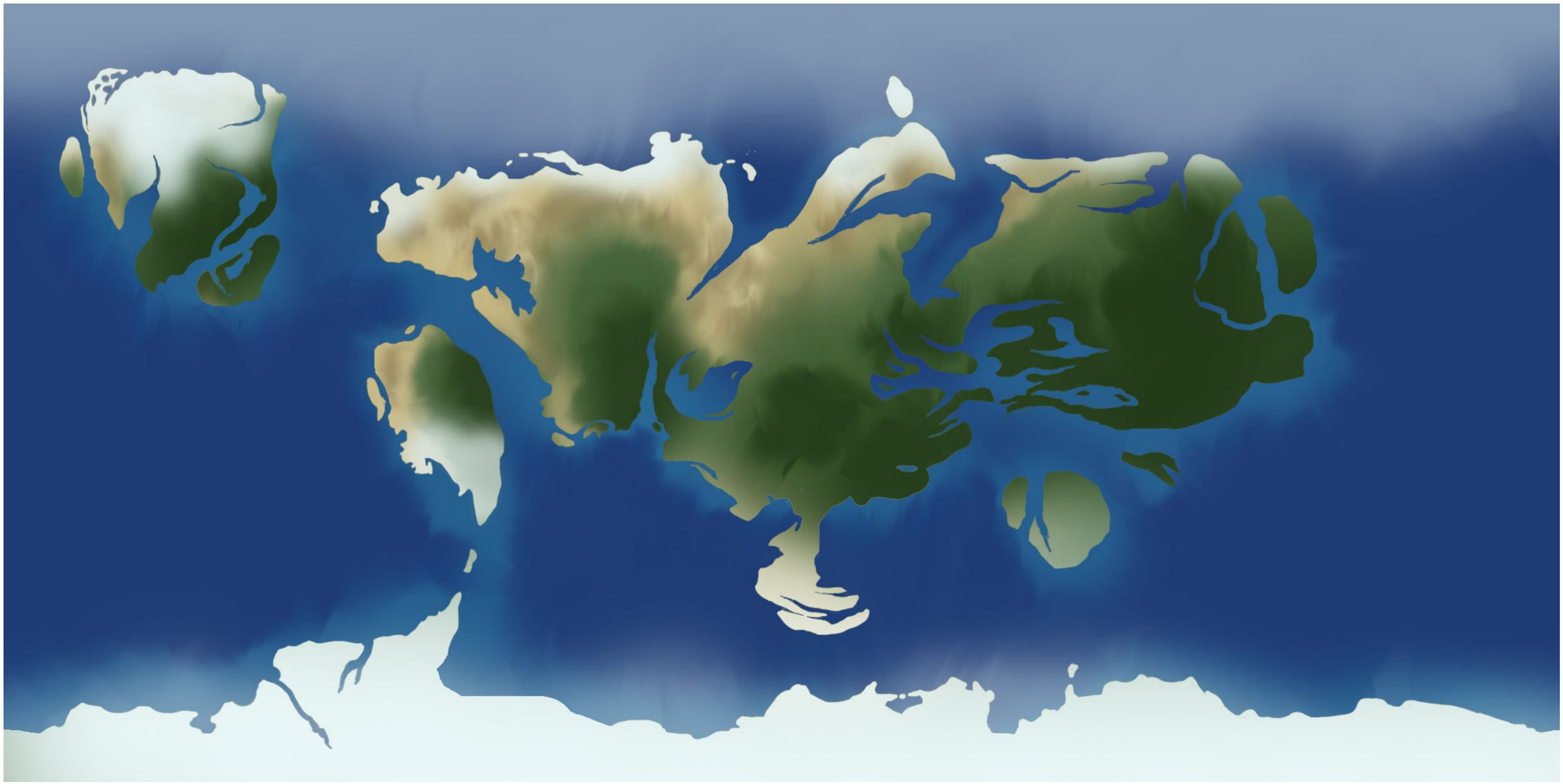
While the main focus is on the organisms of Gē Parállēlos for the story I'm making lore about humans exploring the planet. I will do this in the form of quasi-lore.

Quasi-lore is defined as a story that does not fully, or entirely explain its history, but instead motivates the audience to draw their own conclusions, and expand upon the story itself. You could think of it as looking at the ruins of a society. Some of the remains may be destroyed or alien, because of the incomplete information. Therefore, this motivates you to look deeper, drawing conclusion to things that may, or may not have a connection.

Gē Parállēlos

Even the map rudemently looks like the one of earth.
This is by design this.

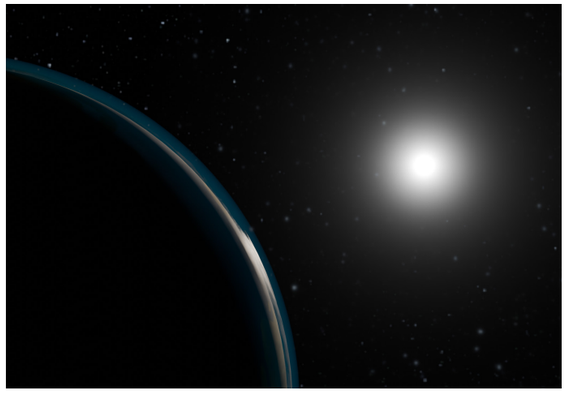
When you relate to it you can understand it beter.
So even with an alien planet there are similarities



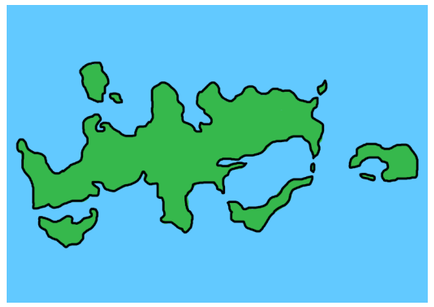
Gē Parállēlos

The planet

Welcome to Gē Parállēlos! (Ancient Greek for “parallel Earth”). The planet shares most of the same characteristics as Earth: the same composition, the same distance from its sun and moon, the same atmosphere, rotation, gravity, etc. The main difference is that it is located in the Perseus arm of the Milky Way. While this is, of course, fictional, I aim to make the principles applied in this project as realistic as possible.



I also created a map for this planet. For this, I did extensive research in the field of geography, specifically studying Pangaea, the supercontinent. Initially, I started making a map, experimenting with shapes, but I wasn’t satisfied with the results. My first thought was to use noise in Blender to generate a map, as I planned to render it on a planet. However, this approach didn’t work because I also wanted to display it as a flat map, so I continued in Photoshop.

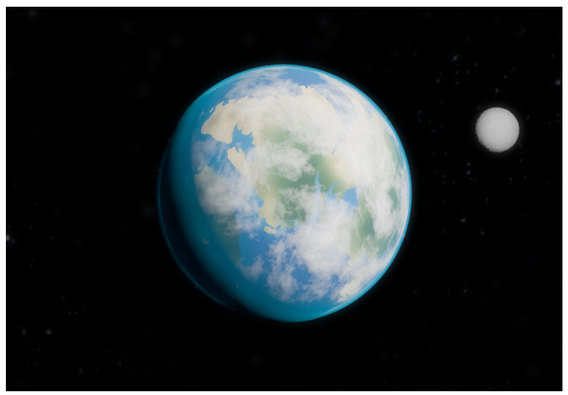


At first, I envisioned a planet consisting of jungle and desert at the center. Later, I realized this didn’t feel right.

I had Friends around me, and they showed me a YouTube video that helped a lot. The video discussed recreating Pangaea. Using that approach, I was able to create a realistic world map with deserts, jungles, mountains, and rivers in their appropriate locations.

To make the map feel less static, I added some inlets and islands, which finally made me satisfied. Afterward, I carefully reviewed everything to ensure it was accurate.

I then applied this map as a texture to a planet, and the result looks quite good!



Ecosystem

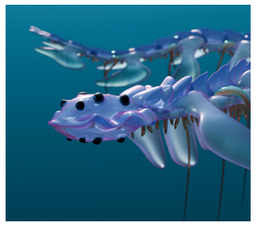
This world is populated by various animals that fill different niches within their habitats. It was a bit of a puzzle in some areas, as I wanted to showcase a variety of creatures. The animals share many similarities with those on Earth: jellyfish, fish-like creatures, siphonophores, mollusks, and more. However, since this is another planet, it shouldn’t look too much like Earth, though this is largely intentional for now due to my limited experience. In the future, I’d like to create other planets where life is drastically different. For now, this Earth-like setup allows for drawing strong parallels between species.

At the bottom of the food chain are algae and plankton-like lifeforms, followed by more noticeable creatures like worm-like organisms, filter feeders, corals, and seaweed.

Above them are animals such as small insect-like creatures, tiny jellyfish, primitive fish, and a few generalist snails.

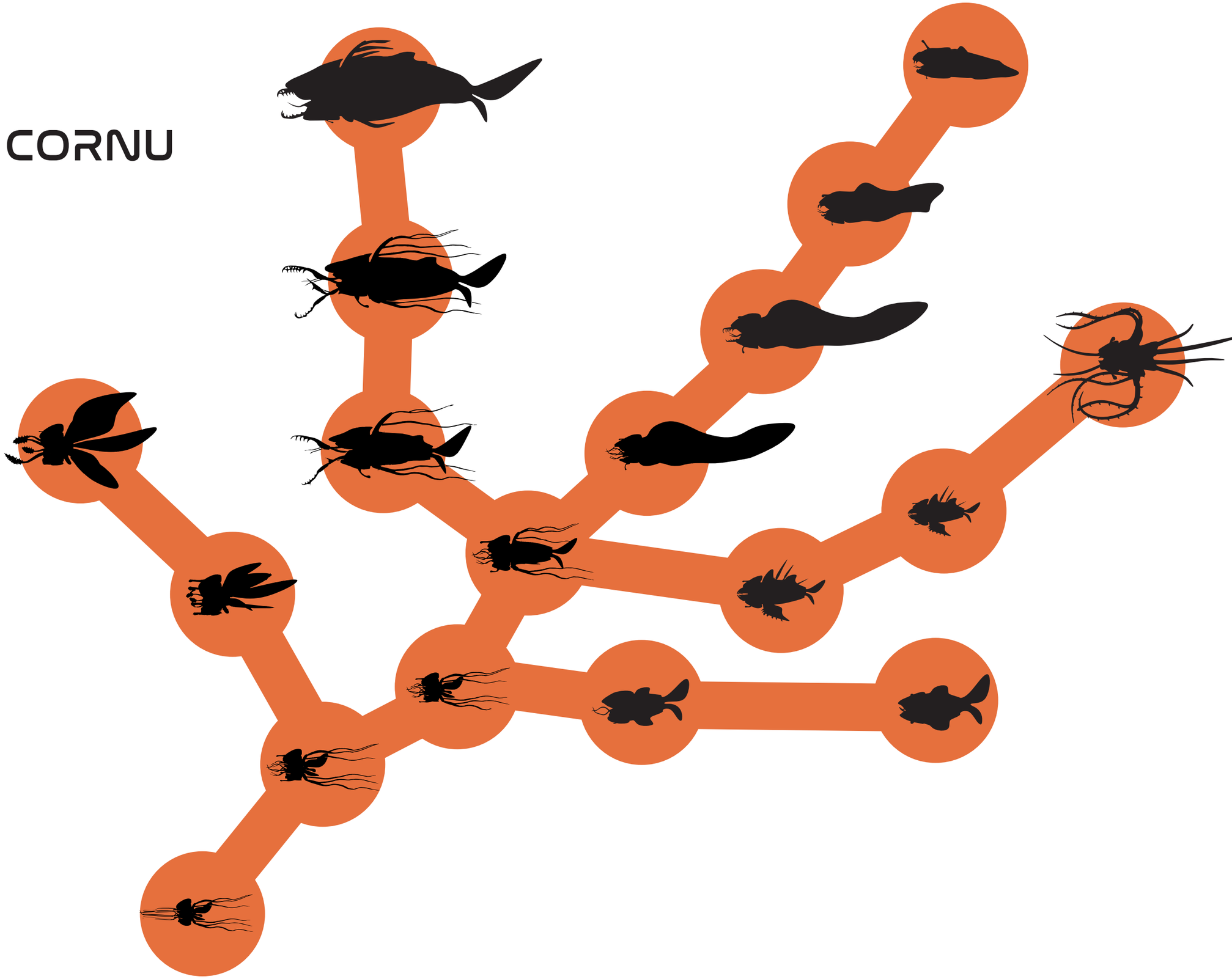
Predators and scavengers sit higher up, along with a few algae eaters. The predators have diverse and dangerous traits, such as tentacles, beaks, or stealthy hunting methods. In turn, other animals have developed unique defensive strategies, like armor, venom, or bodyguards.

At the top of the food chain are the apex predators—animals with the best adaptations. These are not just the largest predators but also creatures with little to no competition, effectively having no natural enemies.



I’ve expanded the marine ecosystem with new creatures, and I plan to do the same for the land environment, though not in this phase. However, I’ve designed a creature that serves as one of the early pioneers for life on land.

GELATA CORNU

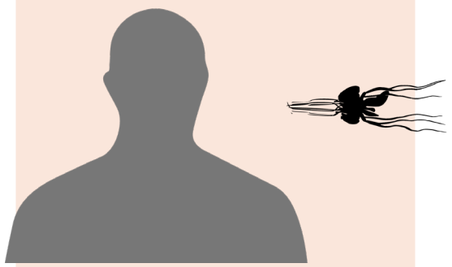


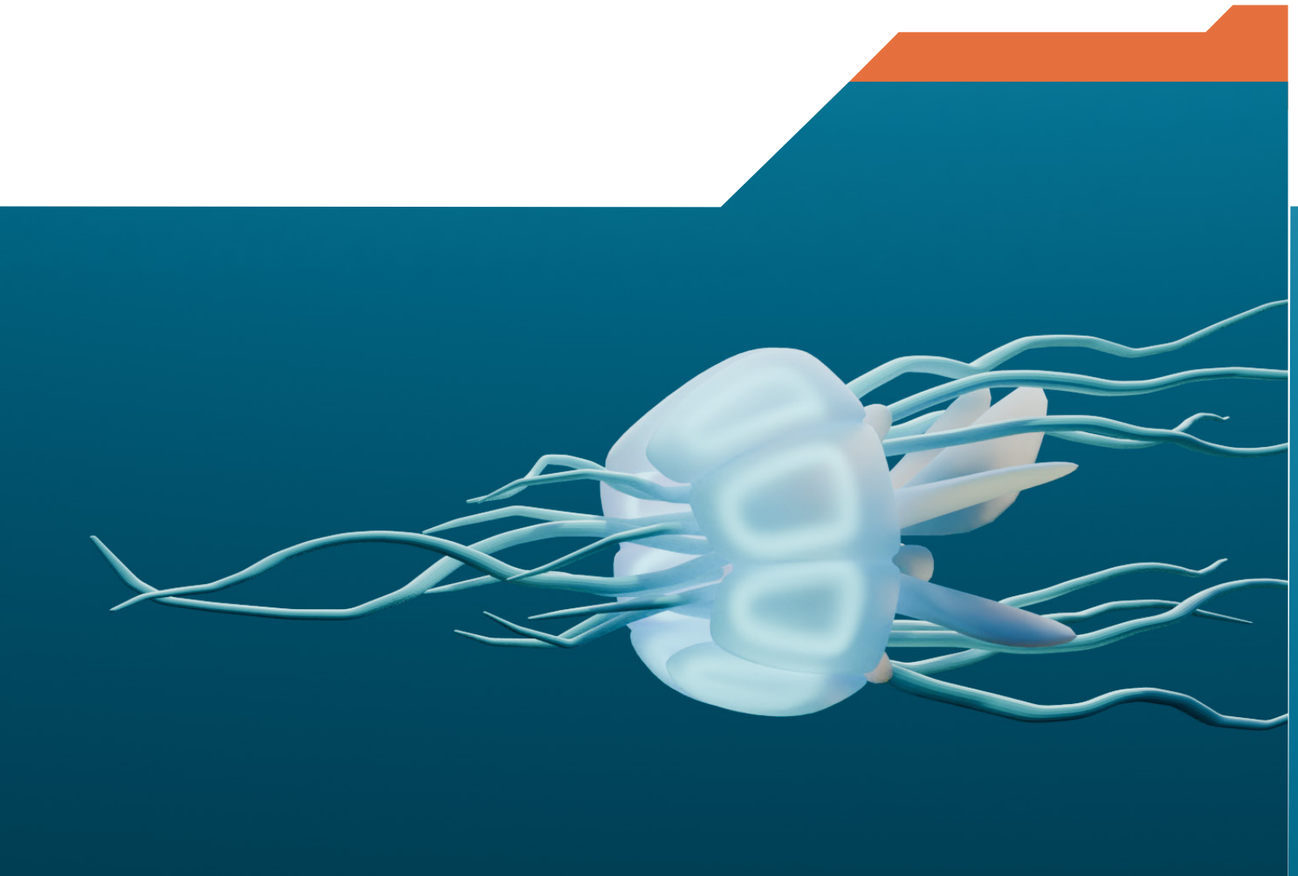
Gelata cornu

Valventamant

The origins of the family date back approximately 500 million years from this point on [planet name]. At this time the jellyfish-like organism was passively feeding on smaller creatures. One striking difference from earth jellyfish is its digestive tract. This creature has a complete digestive tract, at its mouth it has tentacles that are longer relative to its body in order to catch more food.

Rudimentary finns start to develop.





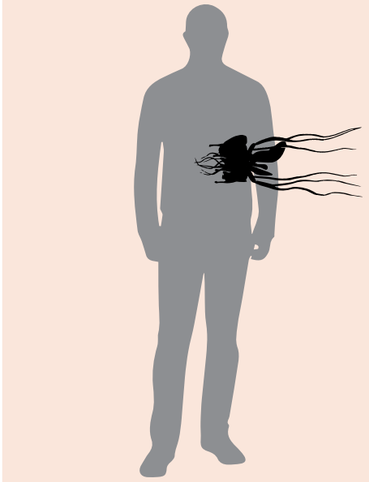
Gelata cornu

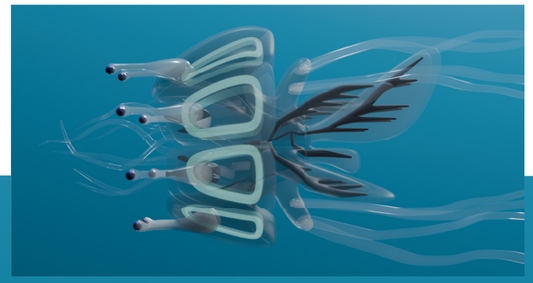
Lagelaven Oculus

As the Jellyfish like creature starts to spread throughout the oceans of [planet] one species starts to explore vast open reefs, competition is higher in the newly discovered ecosystem. Due to natural selection, larger more active hunters. Another way for them to thrive are eyes. It is believed to be developed from light sensitive cells at the front of its ancestors.

In order to hunt more efficiently its simple neurological system starts to form gradually in to a brain.

For better structured finns the species also developed a soft tissue skeleton. The once large tentacles from its mouth have become significantly smaller to reduce drag.



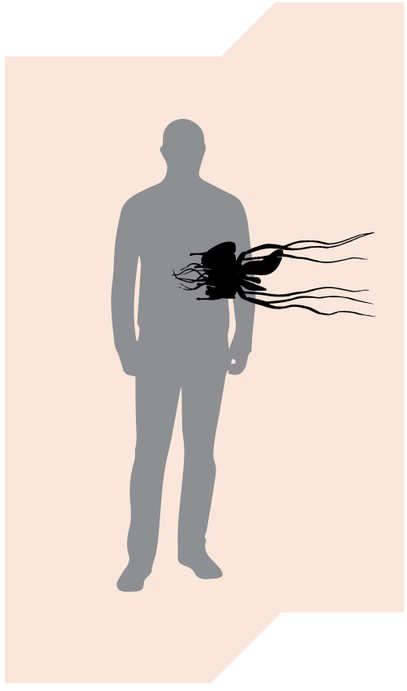


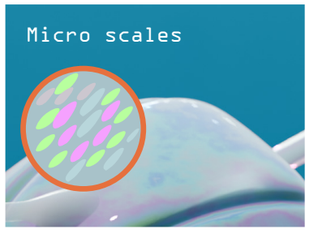
Gelata cornu

Lagelaven Oculus

The half Jellyfish half fish its called among the scientists. This is because it doesn't only fill the niche of a generalist fish, it also developed scales, although microscopic in size. This acts as better armor against predators and environmental threats. It's neuro toxin became even more potent. Due to migration of langer creatures.

With heat sensitive structures microscopic projectiles will be ejected if it ditects a certain temperature change. They might be small but they are enough to paralyze 20 adult men.





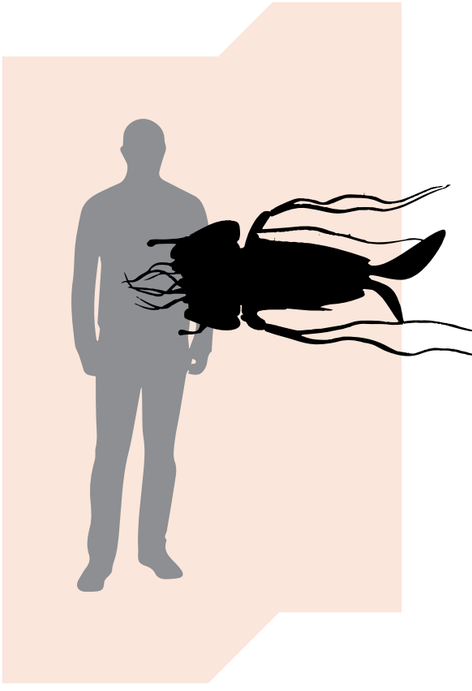
Gelata cornu

Ferator

The ferator developed a more streamlined and elongated body plan favoring its fin powered movement. In these species agility is key and it now became a sizable predator for its era. The skeleton has become more robust to help it remain in its shape.

With its size its brain also has become bigger but it also developed better decision making skills.

Later adaptations favor smaller eye stocks. Because these structures are often targeted by creatures. It now has dominant eyes and eyes that are much smaller like the spiders of our world.



With it's lack of larger tentacles the species adapts by developing tentacles with hook like structures to latch on to prey. This will further contribute to it's rise to dominance.

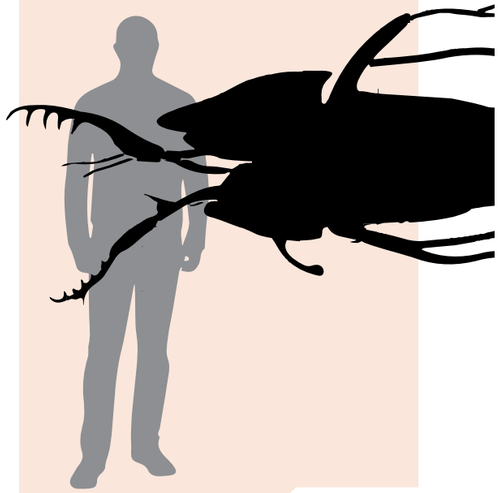
Gelata cornu

Gelataucibus

A now more streamlined creature poses a significant threat to marine life. The hook-like structures become larger. With now four tentacles with large proto jaws that resemble jaws. The lower jaws are for catching prey, these are built for speed. The larger upper jaws are capable of bone crushing force.

The back tentacles have become a huge deterrent to any creature attempting to sneak up on it.

Pack hunting behavior is seen in certain reefs. With complex hunting strategies involving driving larger prey to a trap where others of the species lay in wait to strike at the right moment. But in other environments individuals tend to hunt alone.



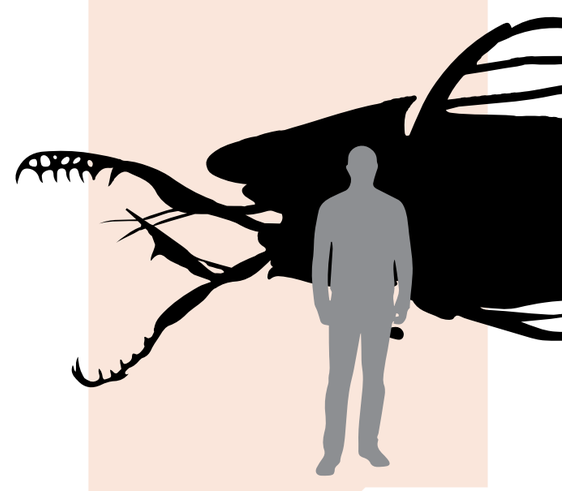
Gelata cornu

Acaucibus Dominentur

A now colossal beast of these oceans. Reigns supreme over the open seas. It has no natural predators. The skin of this creature has become thick and more rough. At this stage its belly area has become brighter and its back and upper region more dark colors in order to blend in with the sky and the depths of the ocean. With its lower jaws growing larger over time it now has the ability to catch prey larger than itself.

Another feature is its harpoon tentacles shooting out from its mouth with tremendous force due to its strong muscles. This also contributes to its main hunting strategy. When hunting for quick prey it can surprise its meal and reel in its kill or damage it.

The upper jaws have become even more robust. Functioning as both a deadly weapon and a striking display feature to scare off any competition. It has been observed that male creatures use this in mating rituals. More often than not triggering a fight to the death.

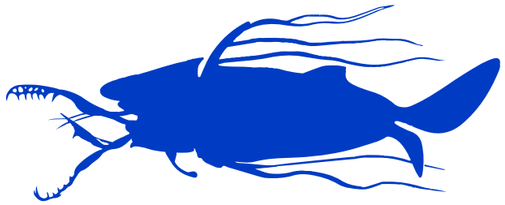


Gelata cornu

Evolutionary arm race

The biggest competition for the acudo is the terrorbeak, a massive marine predator. The evolutionary arm race triggers adaptations from both creatures. For the Acudo it means it develops it's large tentacle like jaws and harpoon teeth. For the Terrorbeak it means greater armor and sharp beak.

This means they will compete until one of them evolves to become stronger then the other.



Gelata cornu

Hunting

-

Gelata cornu

[Unknown]

Imagine you are in a submarine on a mission at the bottom of the sea. You see a massive shadow approaching in the distance. All of a sudden you see a set of massive jaws appearing! There is no time to react on time... You hear a crash, quickly followed by an alarm going off! The large shadow uninterested in its catch swims away.

This was a first hand account by researcher Hans Markstein. The only way he could escape is due to the emergency systems working. A marble of human engineering.

The creature documented is a leviathan of these seas. Not yet understood.

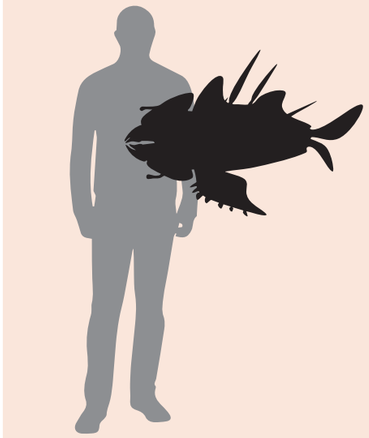
Only sighting

Gelata cornu

Plectra Gela

Alongside the development of large quills this creature also developed a different moth structure, these are better equipped for eating the more armored creatures.

These quills are poisonous to the extent where they stun predators. For smaller creatures this could mean death.

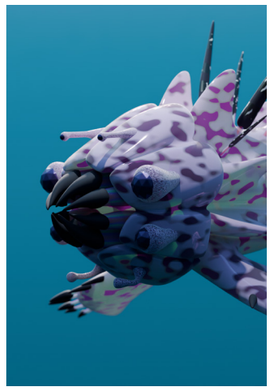


Gelata cornu

Plectrax Gela

These brightly colored creatures are as their colors reveal extremely poisonous. One sting from one of its quills are enough to kill an adult terror beak.

It often feeds on other poisonous organisms so that it can incorporate their poison into it's own body for a seriously lethal dose. This might seem far fetched but even animals on earth get their poison from other animals, like the poison dart frog wich gets it's poison from certain ants.

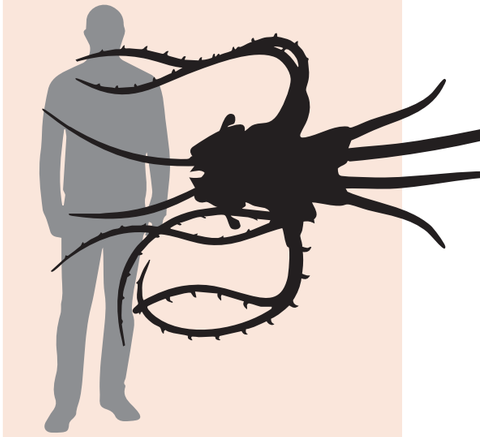


Gelata cornu

Plectra Gela

A large Cephalopod like creature except this one stems from the poisonous Plectra Gela. This species has put more energy in developing its quills into strong tentacles for catching prey in the large reef like areas.

Instead of suckers, this animal has teeth like hooks running along its tentacles.

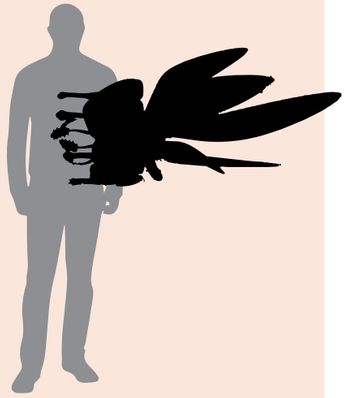


Gelata cornu

Lentarmis

In more plankton and algae rich environments the species adapted more of a filter feeder way of living. By extending its arms with paddle-like structures the creature collects floating particles. When it has gotten enough it brings its tentacles back to its mouth. A trait seen in earth's sea cucumber like Cucumaria miniata.

Its movement is now much slower than its predecessor.

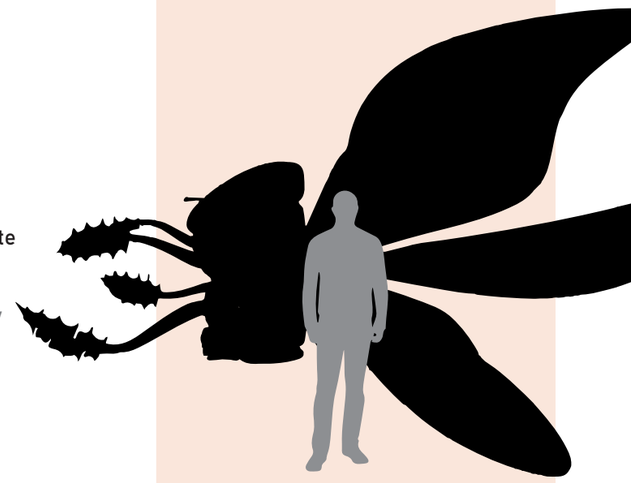


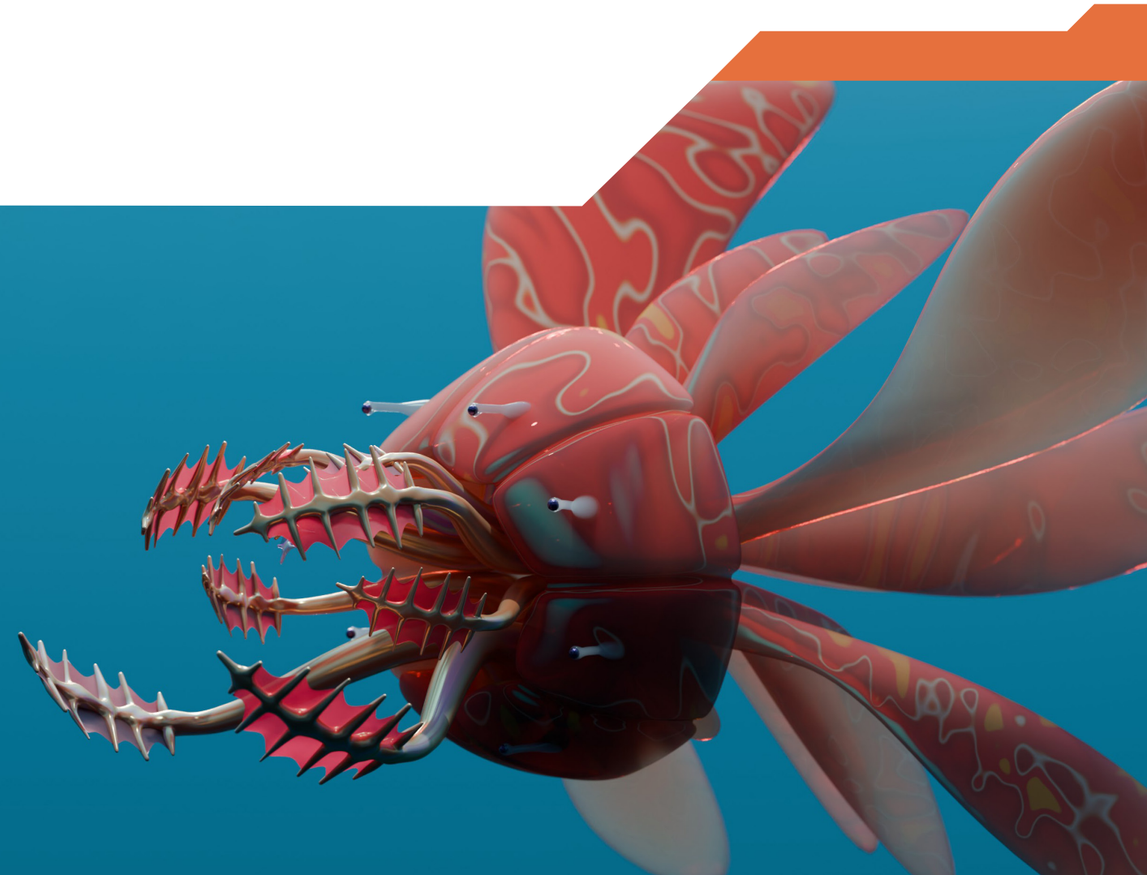
Gelata cornu

Lentarmos

This creature has extremely large paddle like arms wich it can filter out particles in te ocean. this is an extremely effective way of feeding. thats why this animal can grow quite large.

Its movement is now even slower but predators tend to stay away from it.

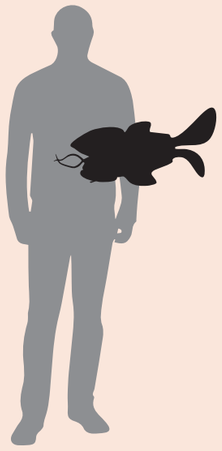




Gelata cornu

Papilio caudam

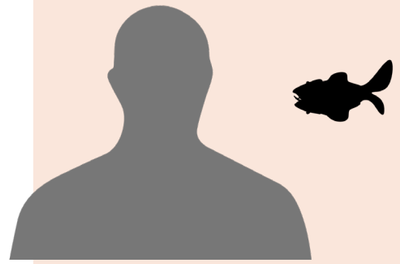
This former jellyfish-like creature has adapted its body for swimming more like an earth fish. It's tail resembles the wings of a Butterfly, these are remaining characteristics of its radial symmetry from the ancestors of this creature.



Gelata cornu

Mare papilionem

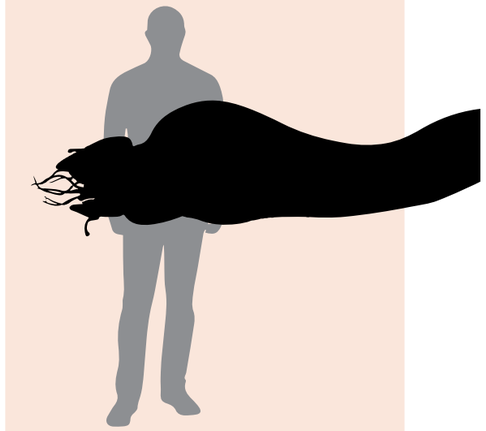
The tails show signs of merging at the base. The now much smaller and agile fish lives in massive schools to survive from predators.



Gelata cornu

Gelguis

A now more streamlined acuatic animal that hunts in the coral reefs. Trading in defence for agility in the most narrow parts of the sea.

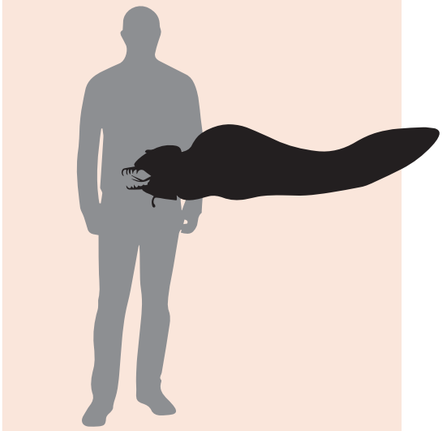


Gelata cornu

Gelguis Algae

After the adaptation of a earth eal-like body plan this ambush predator also developed a camouflaged skin and convergently evolved jaws.

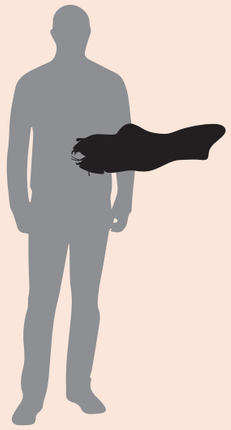
This creature migrated much more to inward the continents.



Gelata cornu

Gelg fin

This smaller creature with the body plan of a small fish lives in the mangrove areas where it's mostly safe from the larger predators. Its jaws are much smaller in ratio to it's body size.



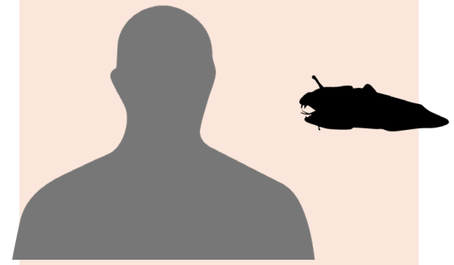
Gelata cornu

Gelg Leaper

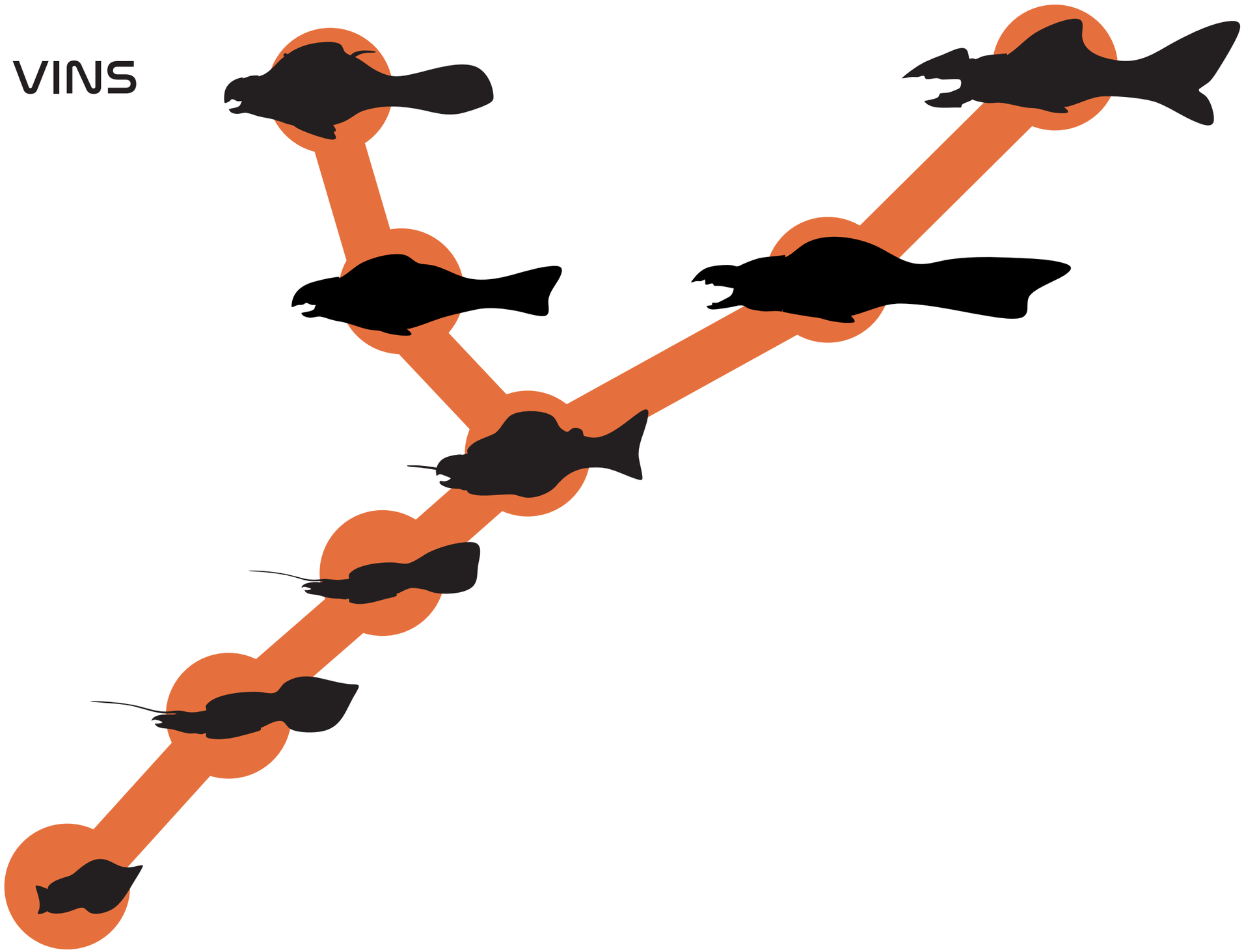
This small trailblazer found a way to live on land to avoid predators. Although it still needs the water to control its body heat, only being able to stay on land for a limited amount of time.

It repurposed its 4 front fins to be legs. The upper fins have become the back legs, these have a great jumping strength. The lower fins serve as it's frontal legs and mostly remain finlike. This might be strange anatomy but makes sense due to it's robots that stem from ancestors.

It's offspring still needs to grow up in the water. The Jellyhopper cant remain on the land for long.



ROSTUM VINS

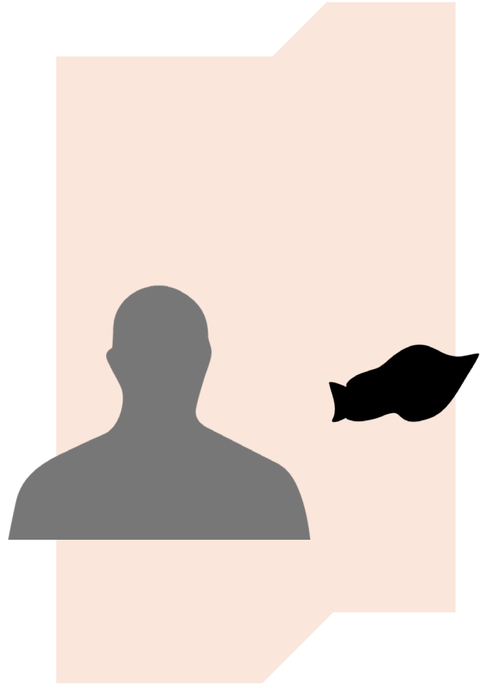


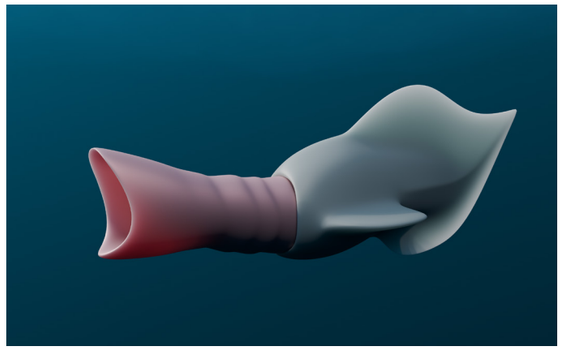
Rostum fins

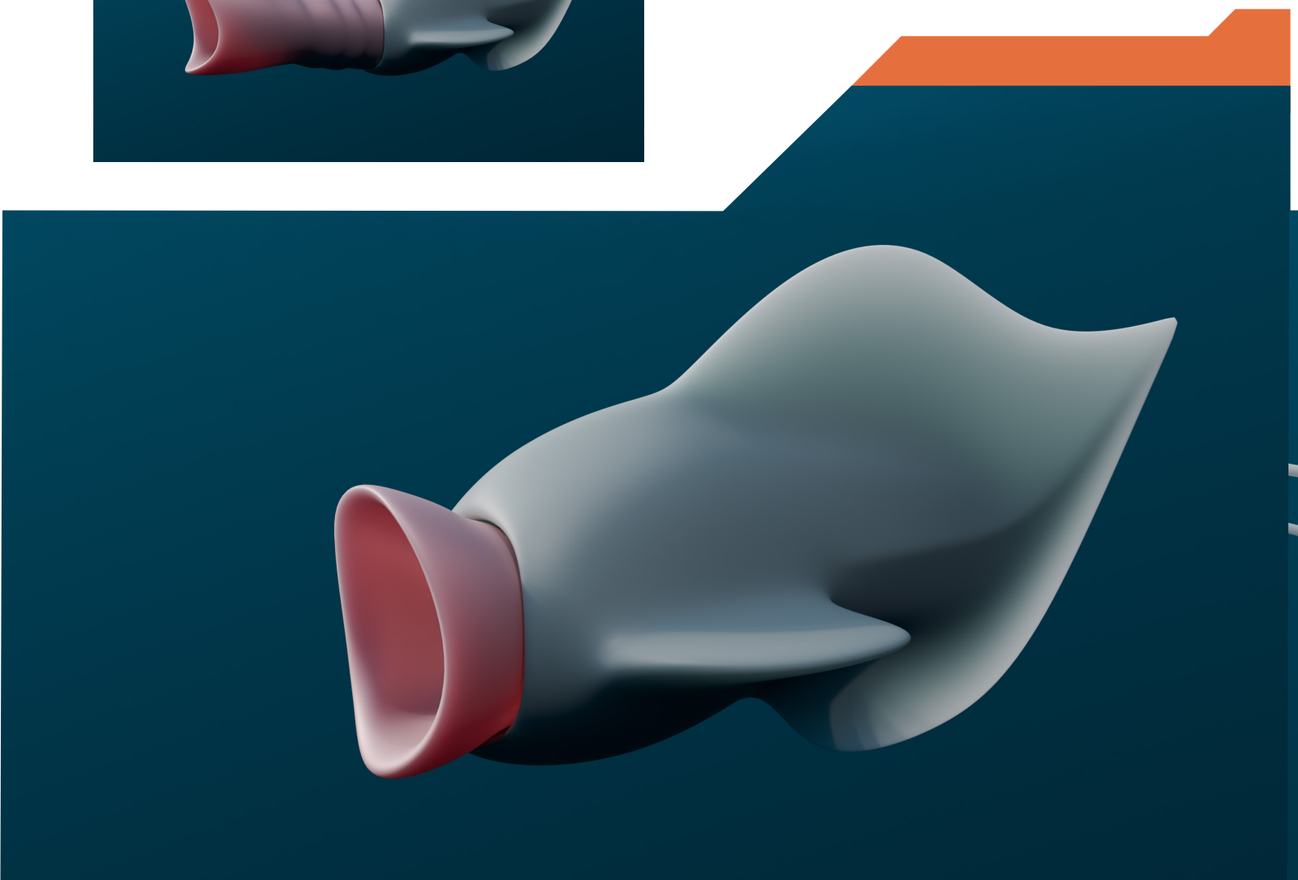
Finsal

This passive plankton feeding organism has some mobility with a small tail. This feature is derived from it's ancestors larvae state. This once stationary organism has come a long way, yet it has no way to sense anything.

It can extend it's mouth to create a vacuum.





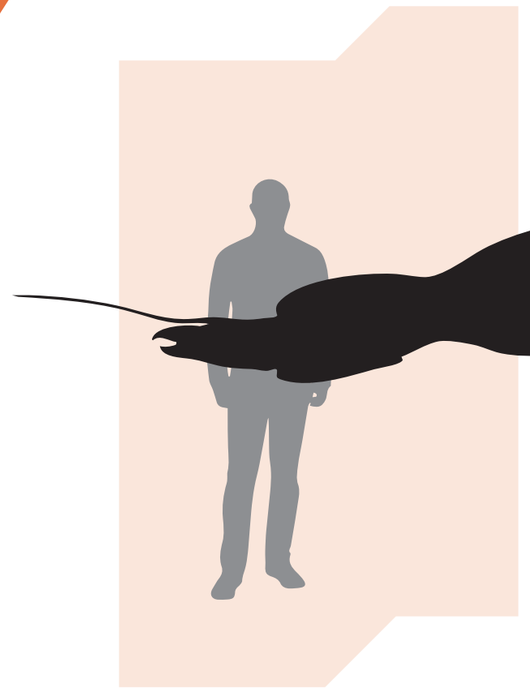


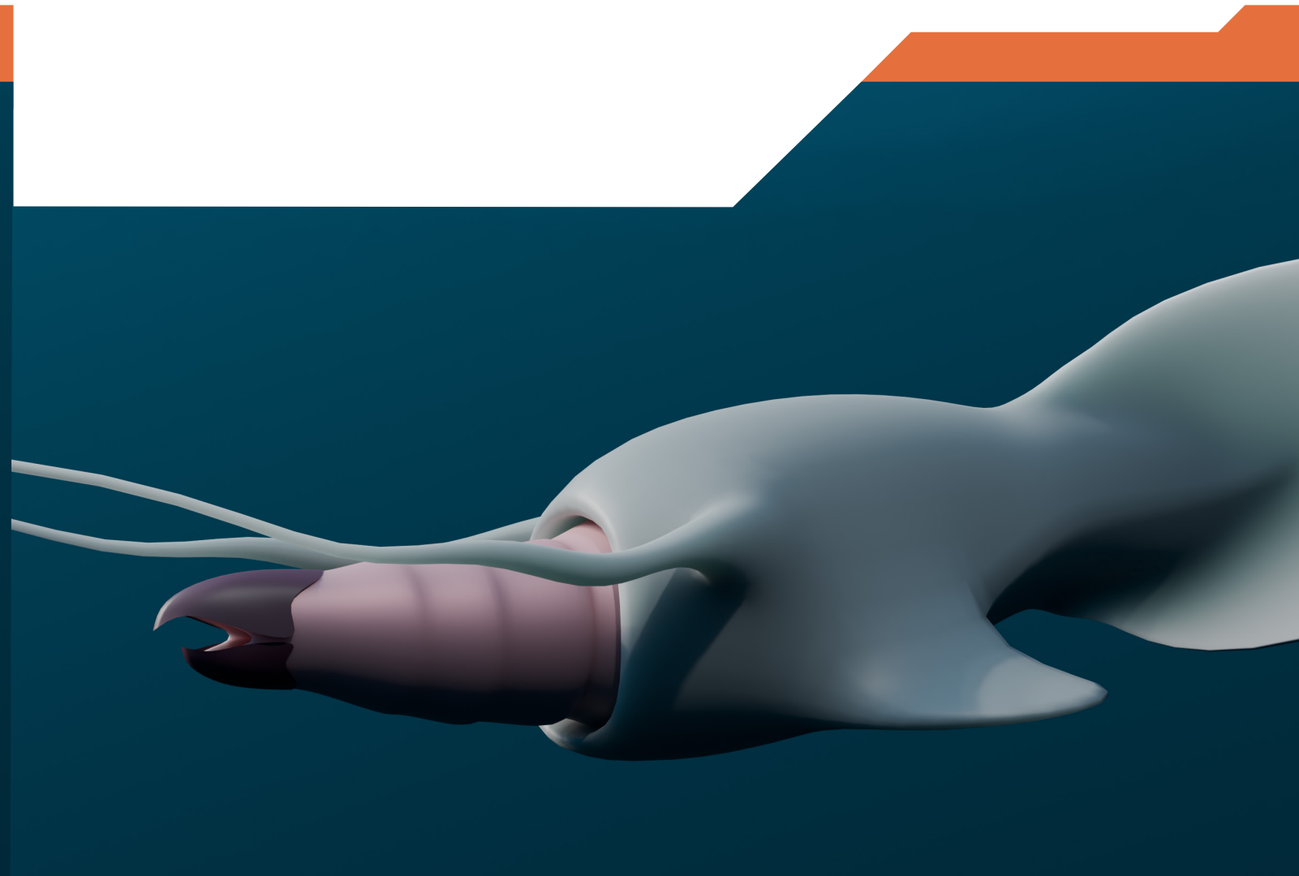
Rostum fins

Vermaw

Creatures of the deep often have strange adaptations to survive in the dark. This fish never developed eyes, relying on large feeling tendrils. When it senses something a big worm like mouth shoots out from it's body. This creature often envelopes its prey whole, digesting it slowly.

A beak allows them to scavenge on the seafloor and bite through creatures with larger shells.





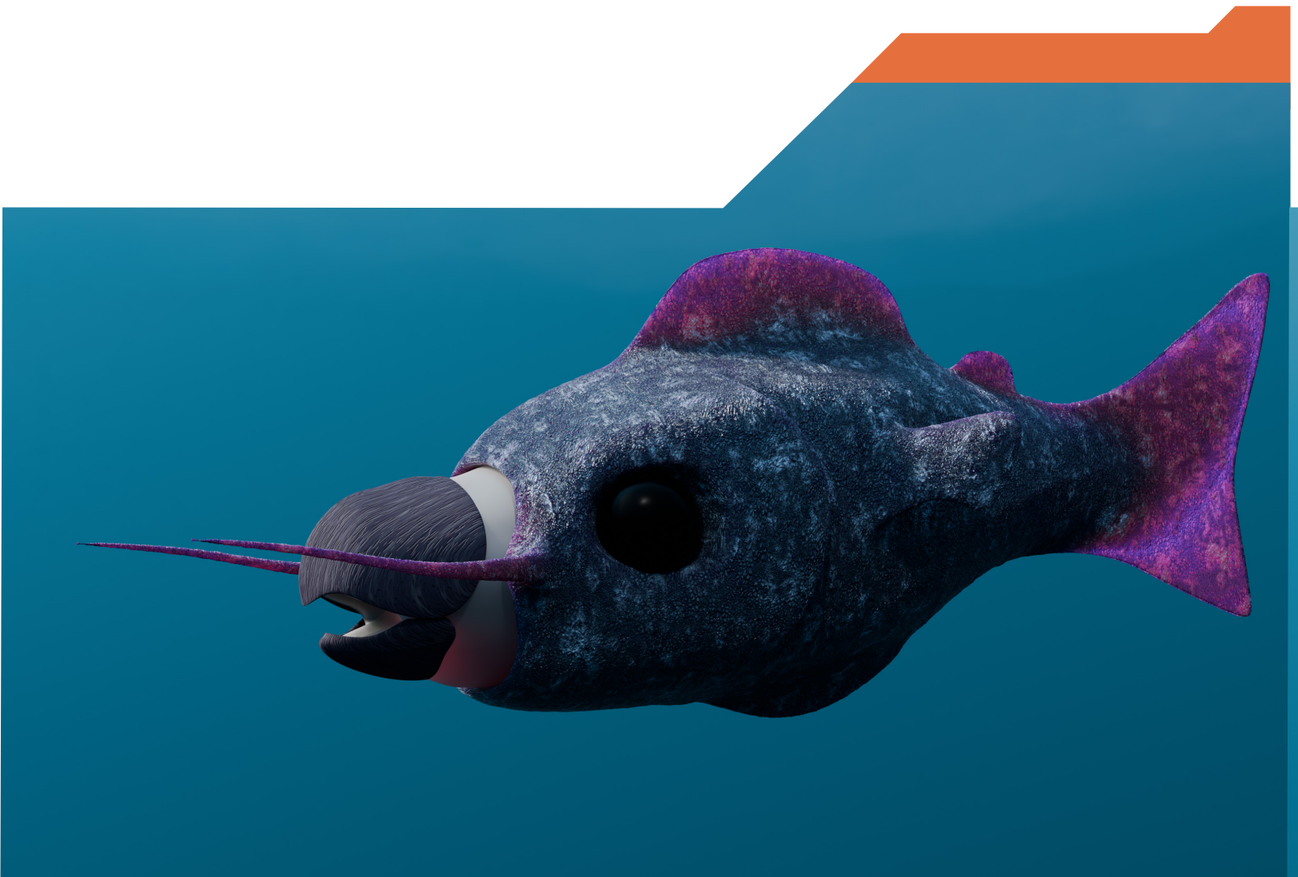
Rostum fins

Rosmagnum inglu

A large creature with similar characteristics as the Vermaw. Only this one is quite large. Due to it migrating to the waters above, this creature developed pigment and a thicker skin.

To compete in this new eco system the light receptive cells formed into eyes. It's opportunistic diet allows it to feed on both algae rich satalyte sponge and smaller organisms.

It is not adapt to feed on other bigger creatures.

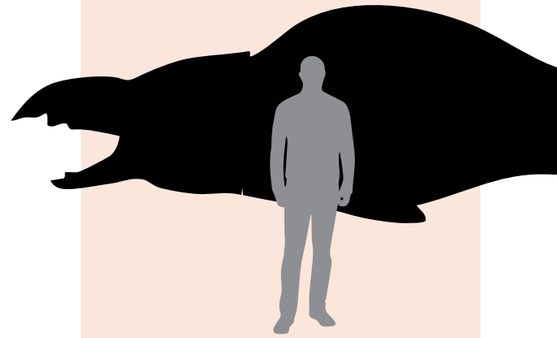


Rostum fins

Rosmag formido

A large marine predator equipped with thick keratin plates as armor and a reinforced beak.
In order to compete with the highly successful pack hunting jellyfish fish, this creature of carnage developed these traits in a fairly quickly. Now this sharp beaked being is the natural predator of the Acudo and other way around.

It lost its way to shoot out it's ability to shoot out its beak favouring brute force and swimming speed instead of ambush tactics.

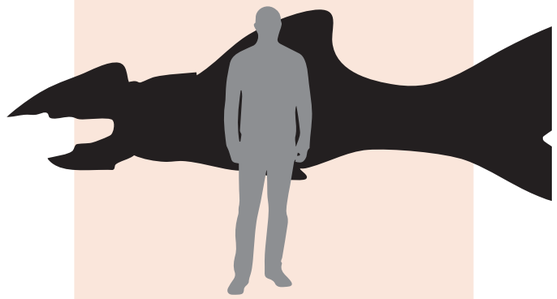


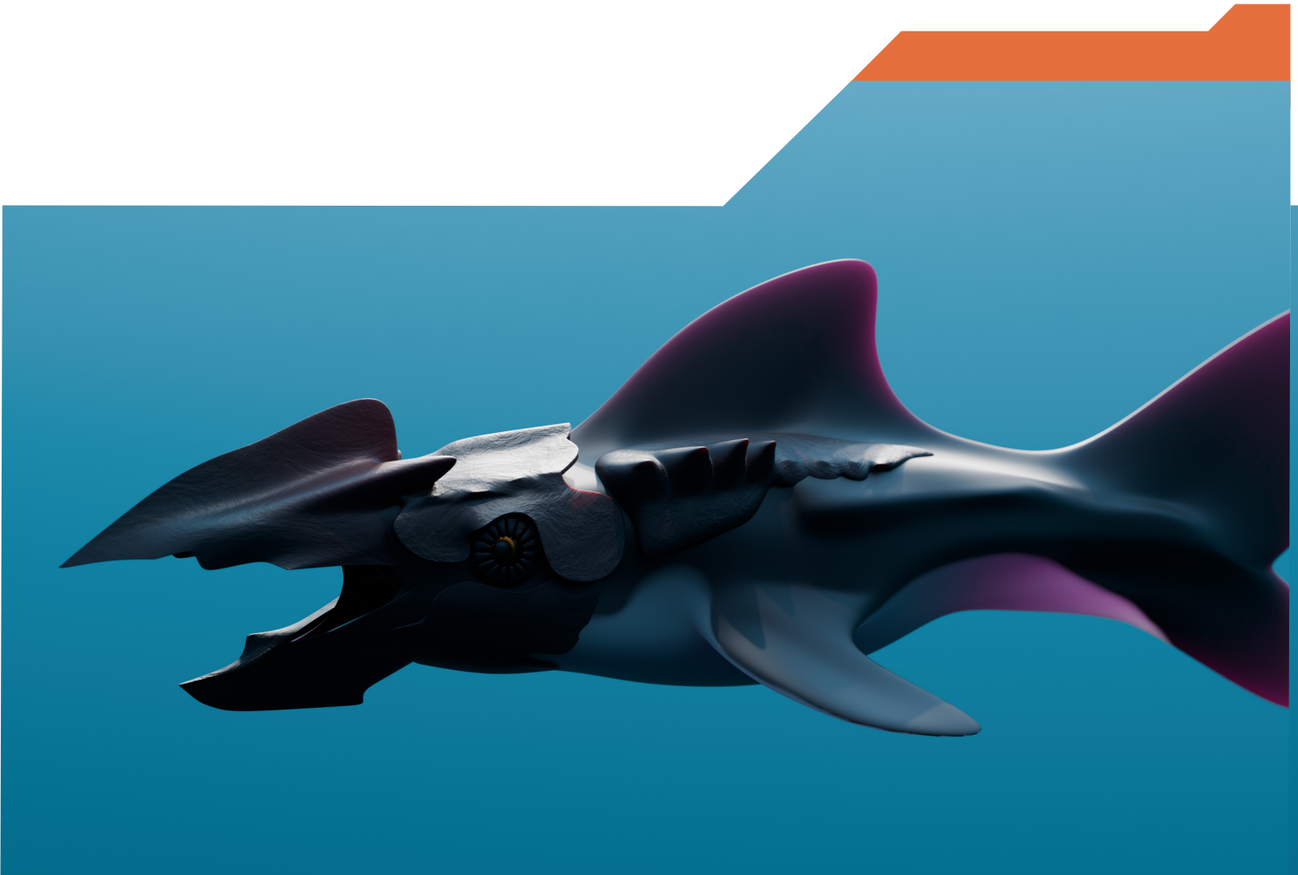
Rostum fins

Rosmag pavor

A dark purple creature shark like creature, except this creature has a large hooked beak. This might look intimidating but it is more for show and to deter larger predators. Although you wouldn't want to be on the receiving end of it's beak.

It feeds on creatures much smaller then itself .



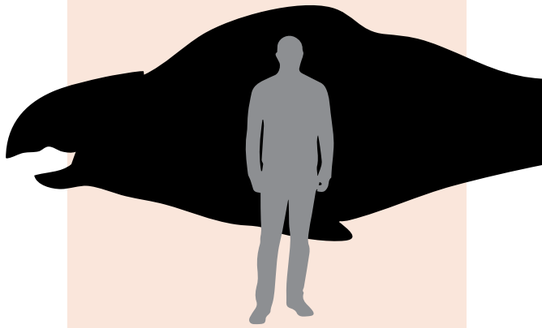


Rostum fins

Pulchori

This majestic creature feeds purely on plant matter. With its beak well equipped to break down satalyte plants and rib kelp.

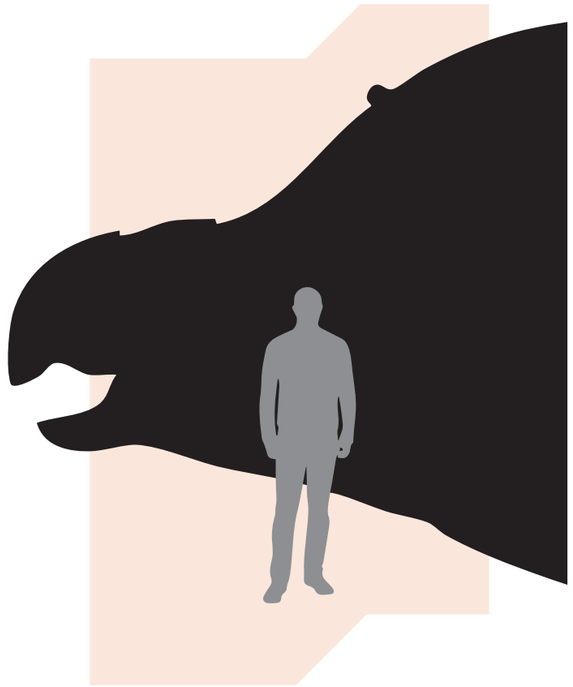
It has adapted a lifestyle of quick evasion of predators.

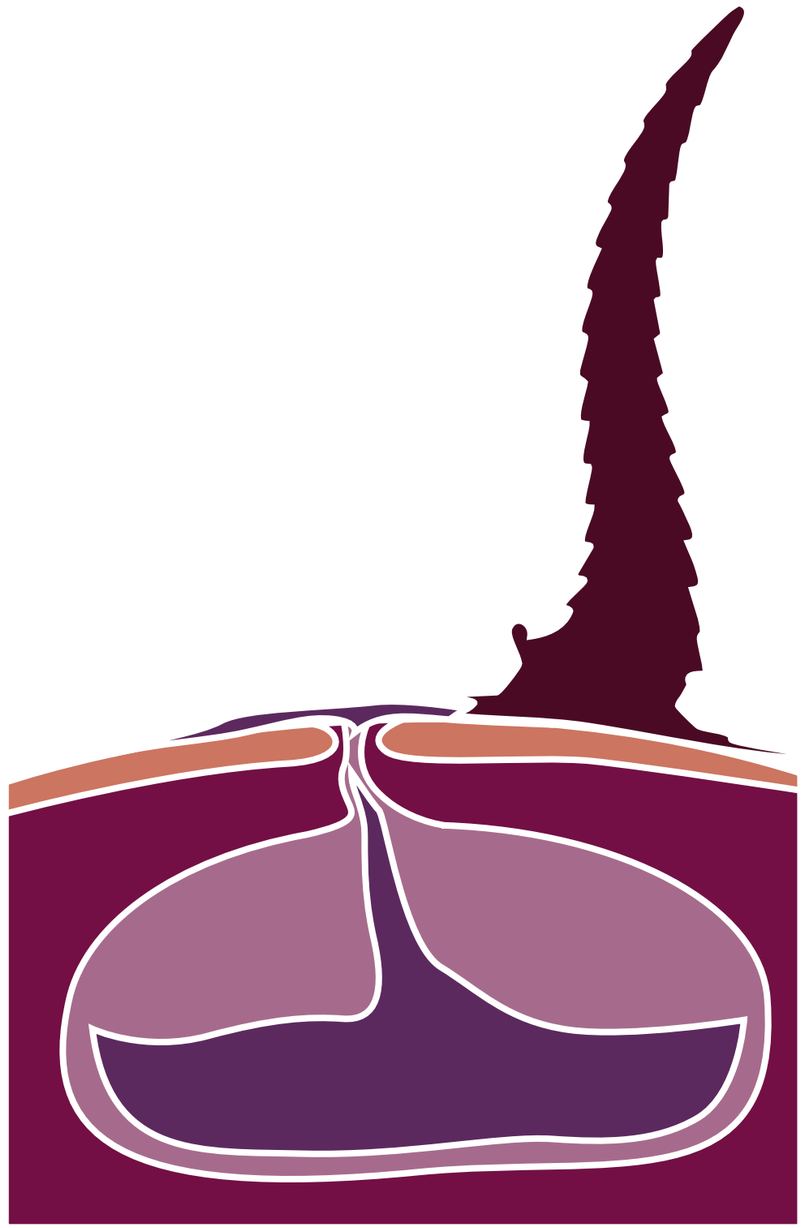


Rostum fins

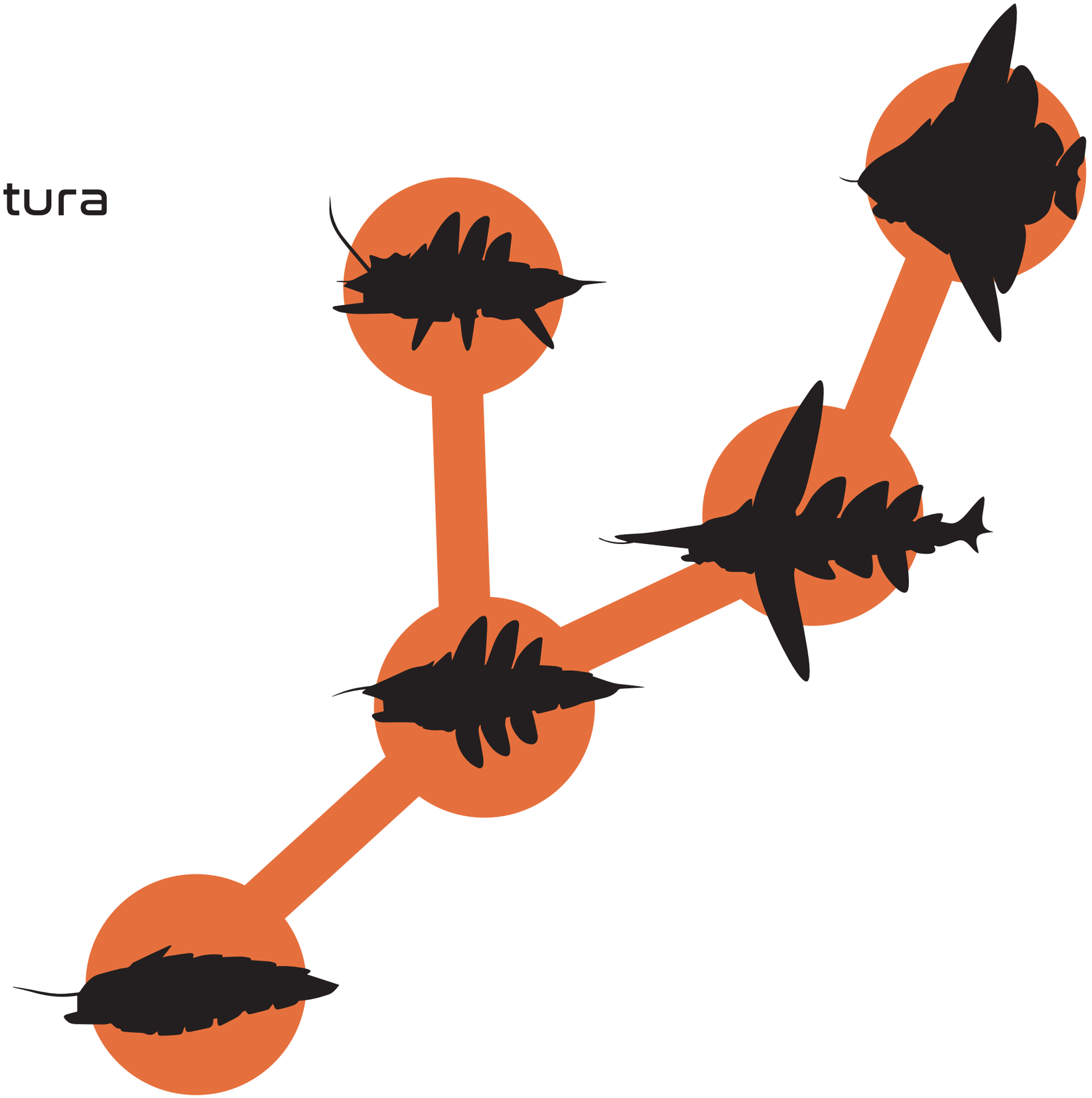
Roscircu

This unique creature has an interesting survival strategy. Mainly it secretes a protein rich substance from it's pores, this attracts the whip slugs that have segmented shells that act as whips against predators. This mutual symbiotic relationship is a fascinating example of extreme adaptation if evolution is unchecked.





Articulata creatura

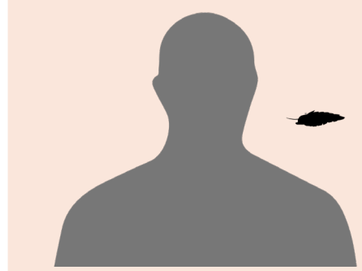


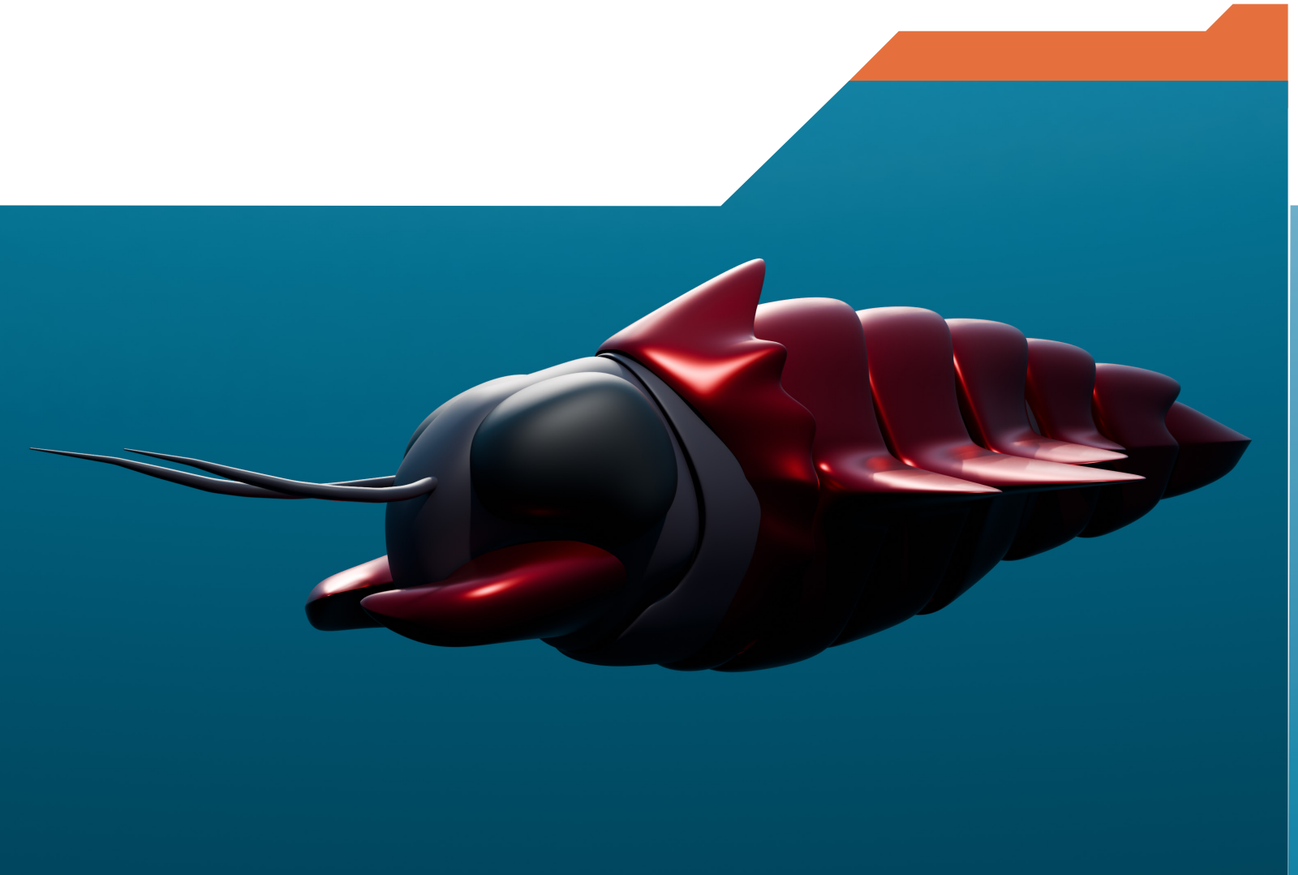
Articulata c

Minipurpur

A small segmented creature that has a red shell. One of the most abundant creatures at the bottom of the food chain. Most of it's defence is in the sharp blades on its shell.

It has a strong resemblance to earths anomalocaris



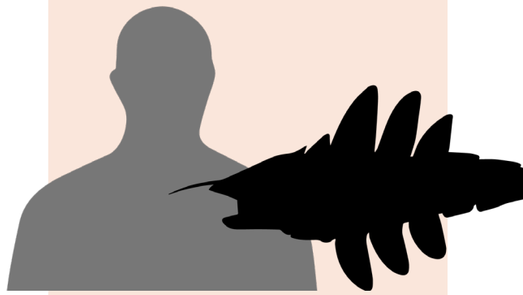


Articulata c

Corium testa

Due to the large populations this creature has turned into a fierce predator at it's own right. Evolution favored individuals to adapt for a hunting lifestyle. Being a larger creature means trading in defence, the plates on it's body have become much softer making it a fast swimmer.

A true apex predator.

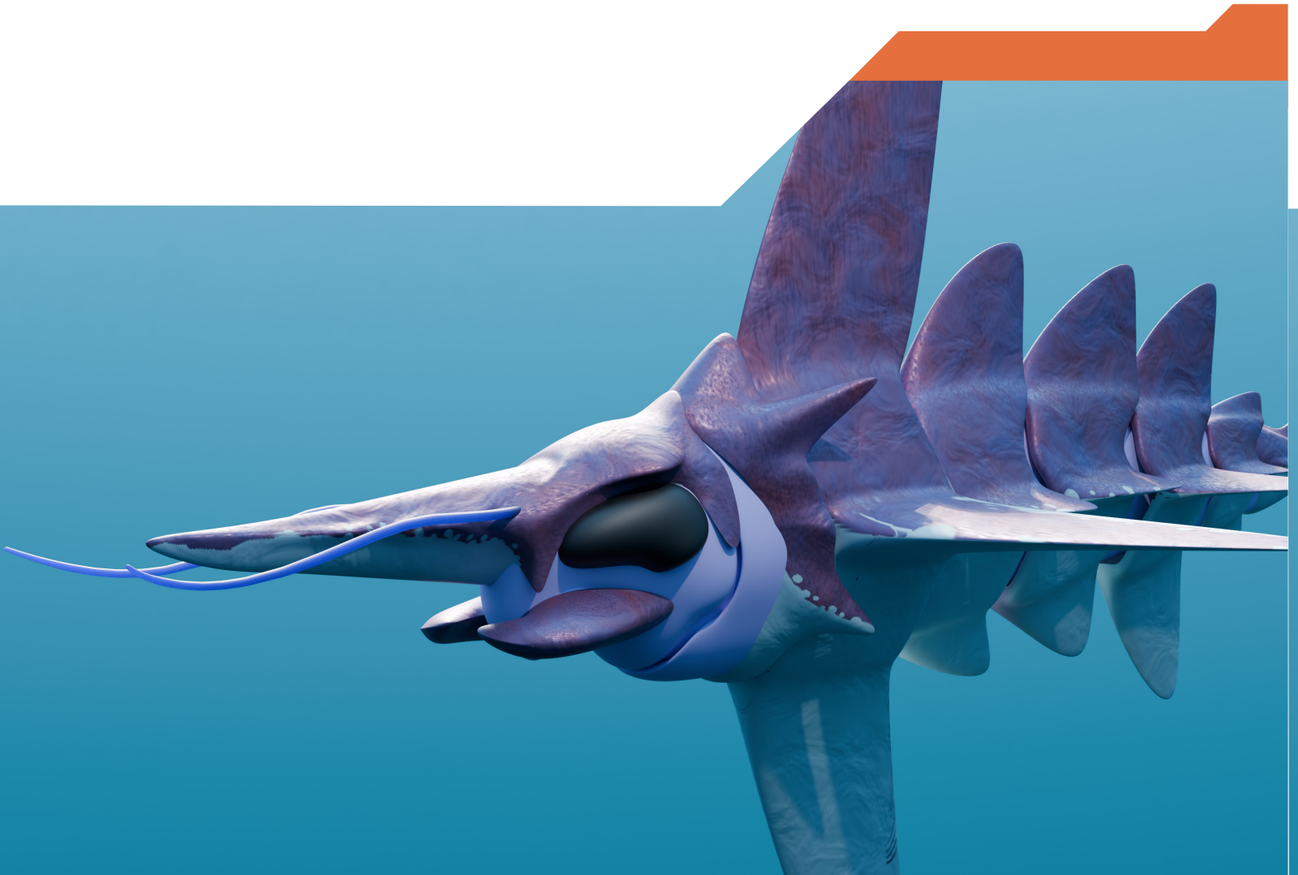


Articulata c

Xiculata

Build for speed, this large arthropod hunts schools of butterfly tails* and glass shells* alike.

Predators like the acado better think twice because this creature doesn't only have speed at it's side it also has a devastating point on its head, much like earths sword fish or narwal.



Articulata c

Adarti

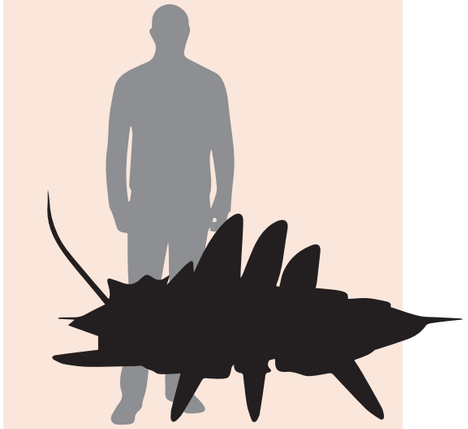
Sometimes evolution takes defence to the max. This arthropod-fish isn't known for it's speed. Relying more on thick plates. It needs to feed on algae on a constant basis.

Articulata c

Keraxicia

Near the coral reefs, it looks like a rock is moving on the sea floor. When you get closer it reveals itself to be a large arthropod like creature. This lumbering beast has a whole ecosystem on its back. Especially the yellow glob coral that grows on the shells of the creature like barnacles, at a certain point it damages the animal.

Sometimes the animal is overtaken by these parasitic organisms.

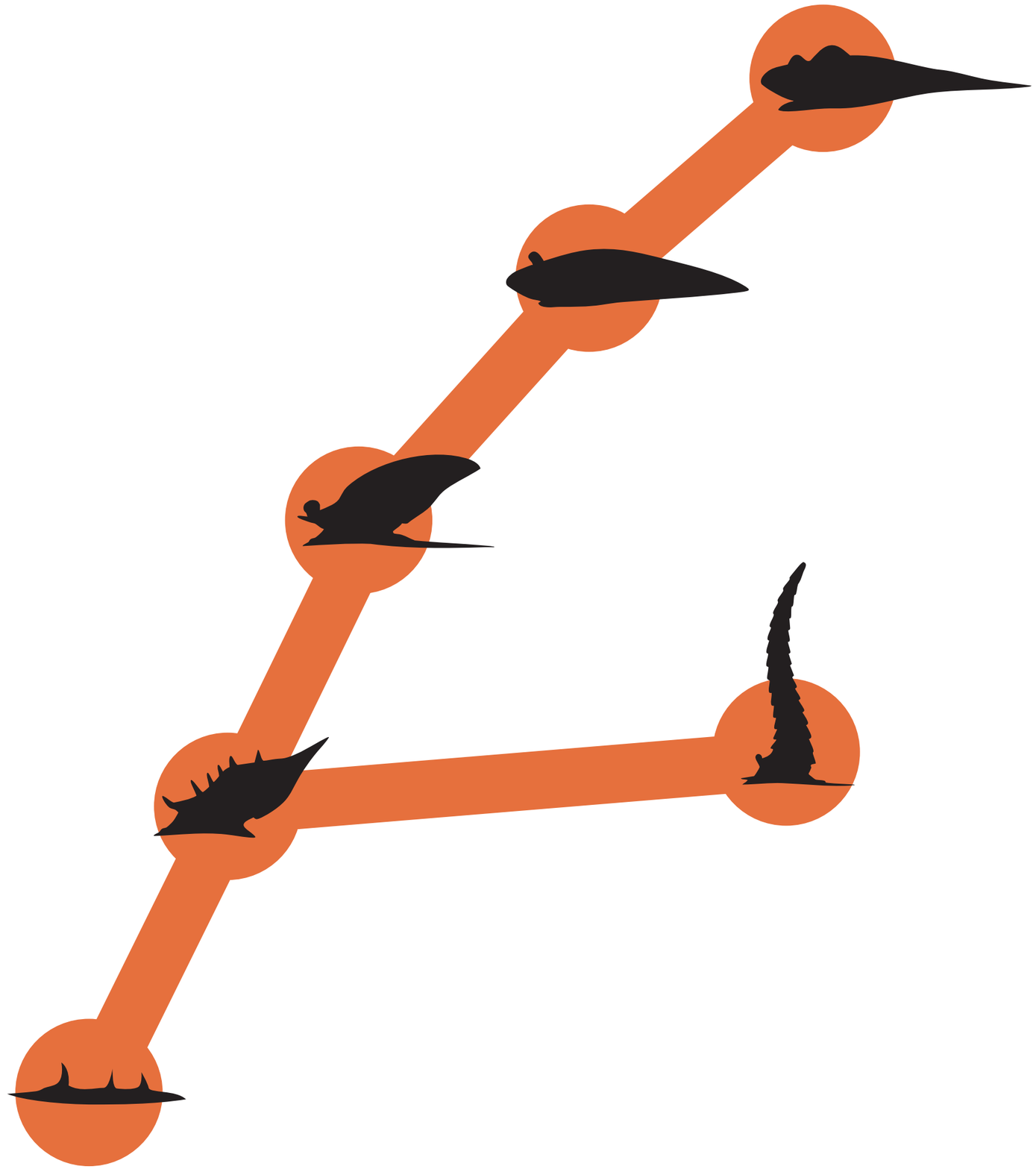


Articulata c

Death

Even if the glob coral is removed it will still leave a mark on the creature, leading to death.

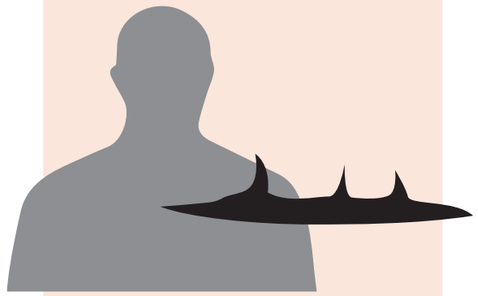
BITUMINE ORIS

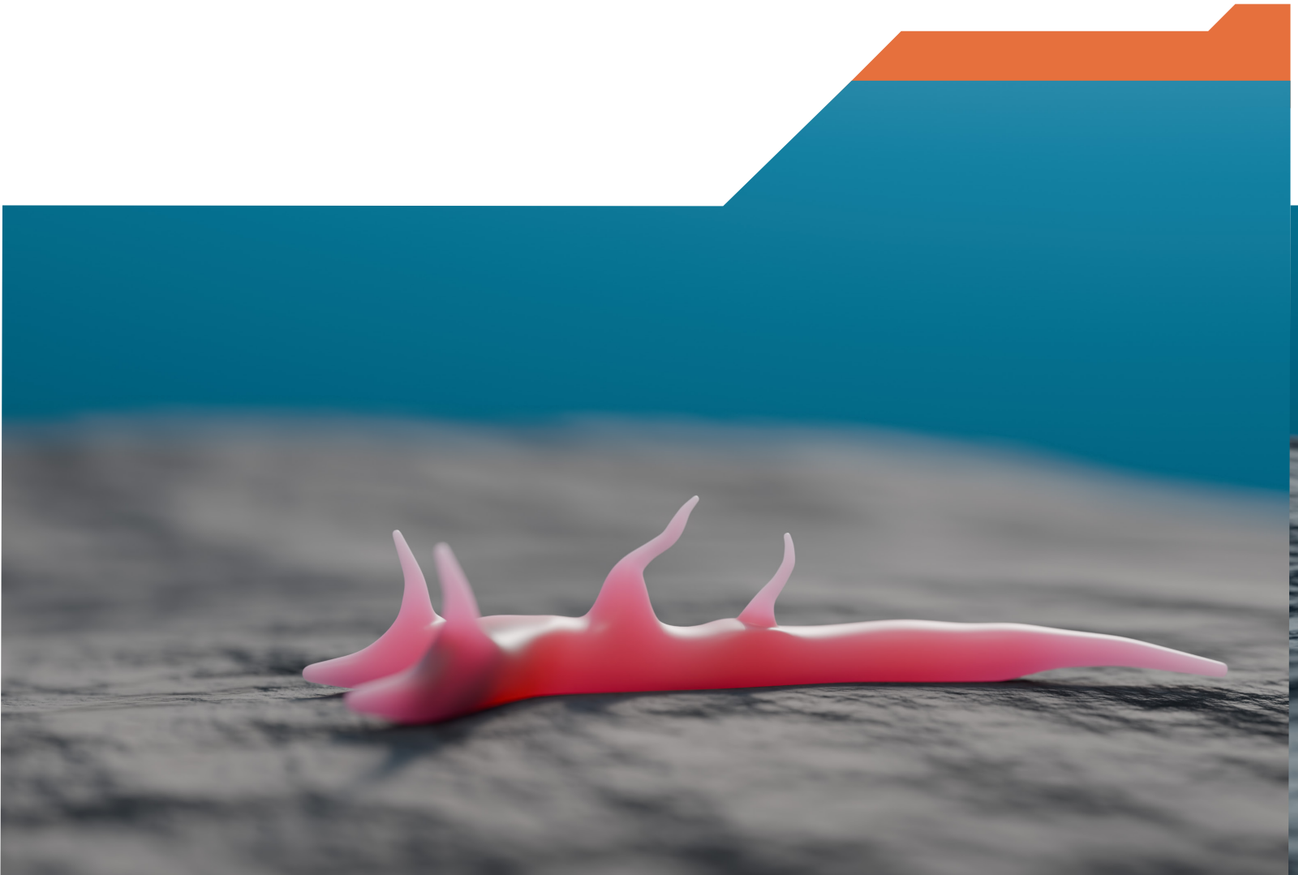


Bitumine oris

Radix vermis

This strange worm-like being has multiple mouths that are at the ends of its body. One of the strangest animals filling the scavenger niche. You can't miss it, because this creature seems to be on every part of this planet.

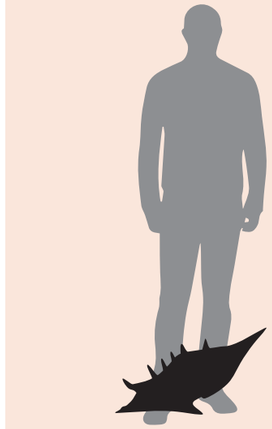


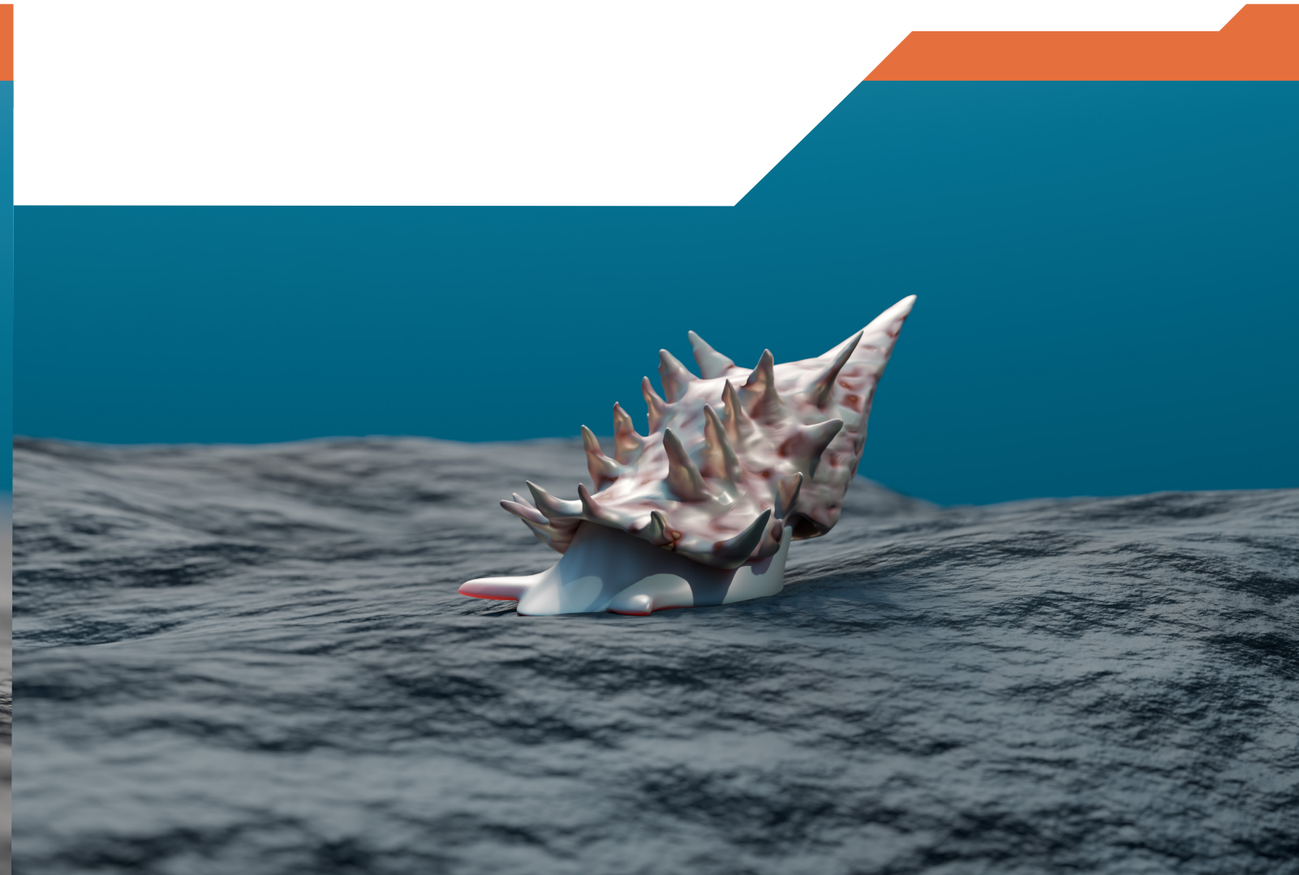


Bitumine oris

Alien sea snail

A sea snail with a shell

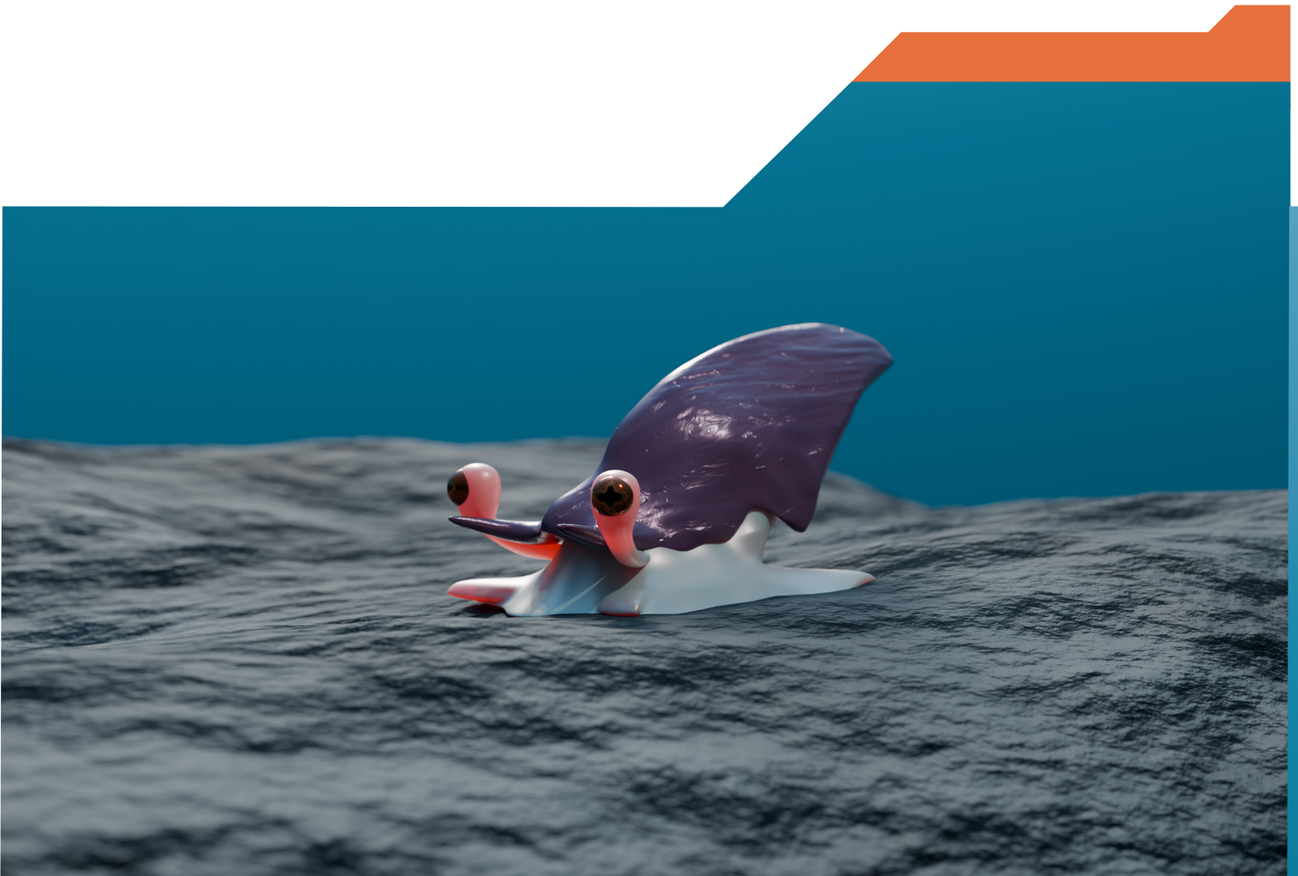




Bitumine oris

Big alien sea snail

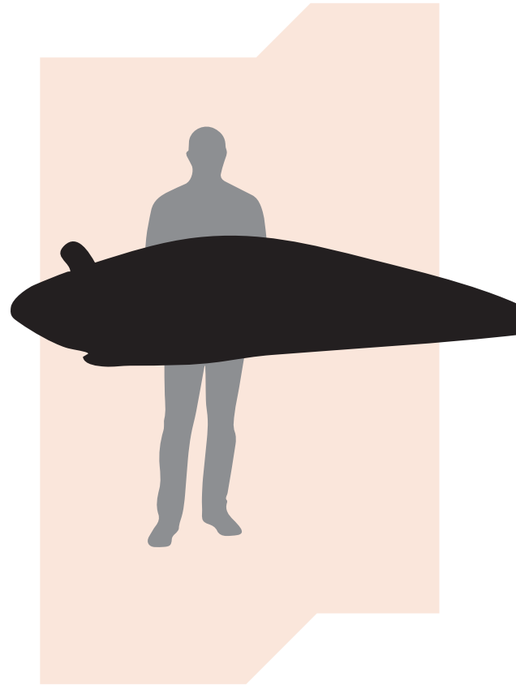
This sea snails foot trough evolution modified its foot to be more finlike. It's shell serves as a buoyancy mechanism to stay afloat. However, at this stage it won't get far but makes navigating easier.



Bitumine oris

Tristiqo

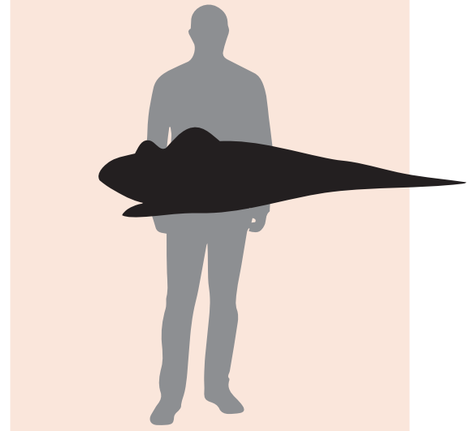
It's foot has completely developed into fins, while it's shell is purely for flotation much like primitive earth cephalopods.



Bitumine oris

Plana bitumine

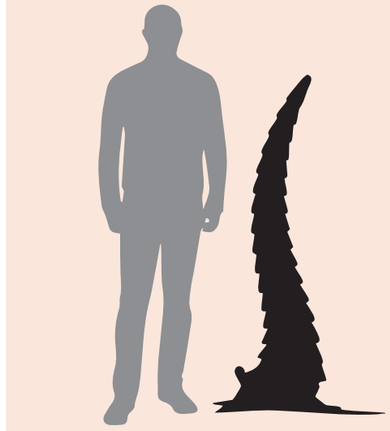
This smaller ambush predator almost perfectly fits the niche of earths stinging rays. A great example of convergent evolution.

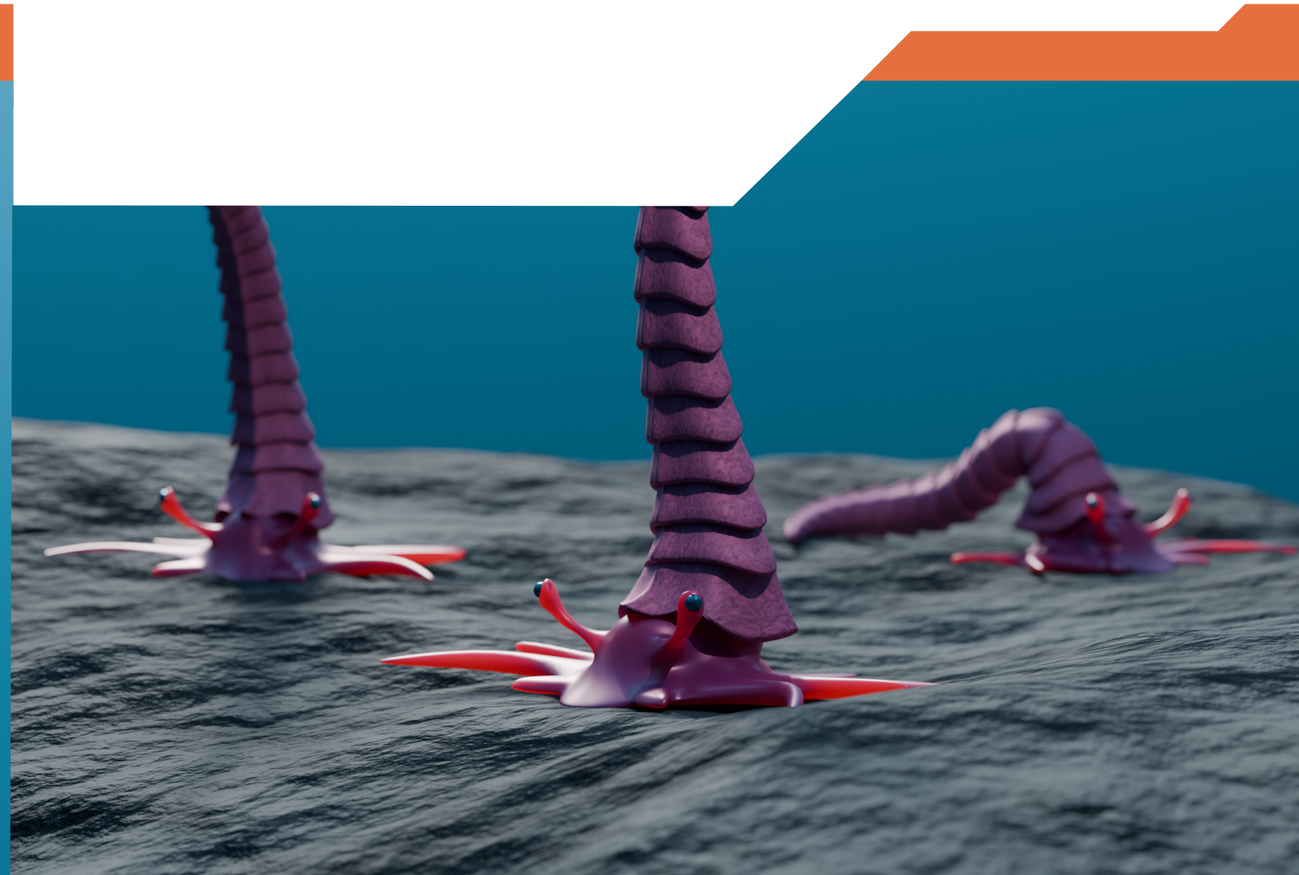


Bitumine oris

Flagellum testa

This strange Molusklike creature developed a segmented shell that serves as a whip to fight of predators. This way it can get much bigger.



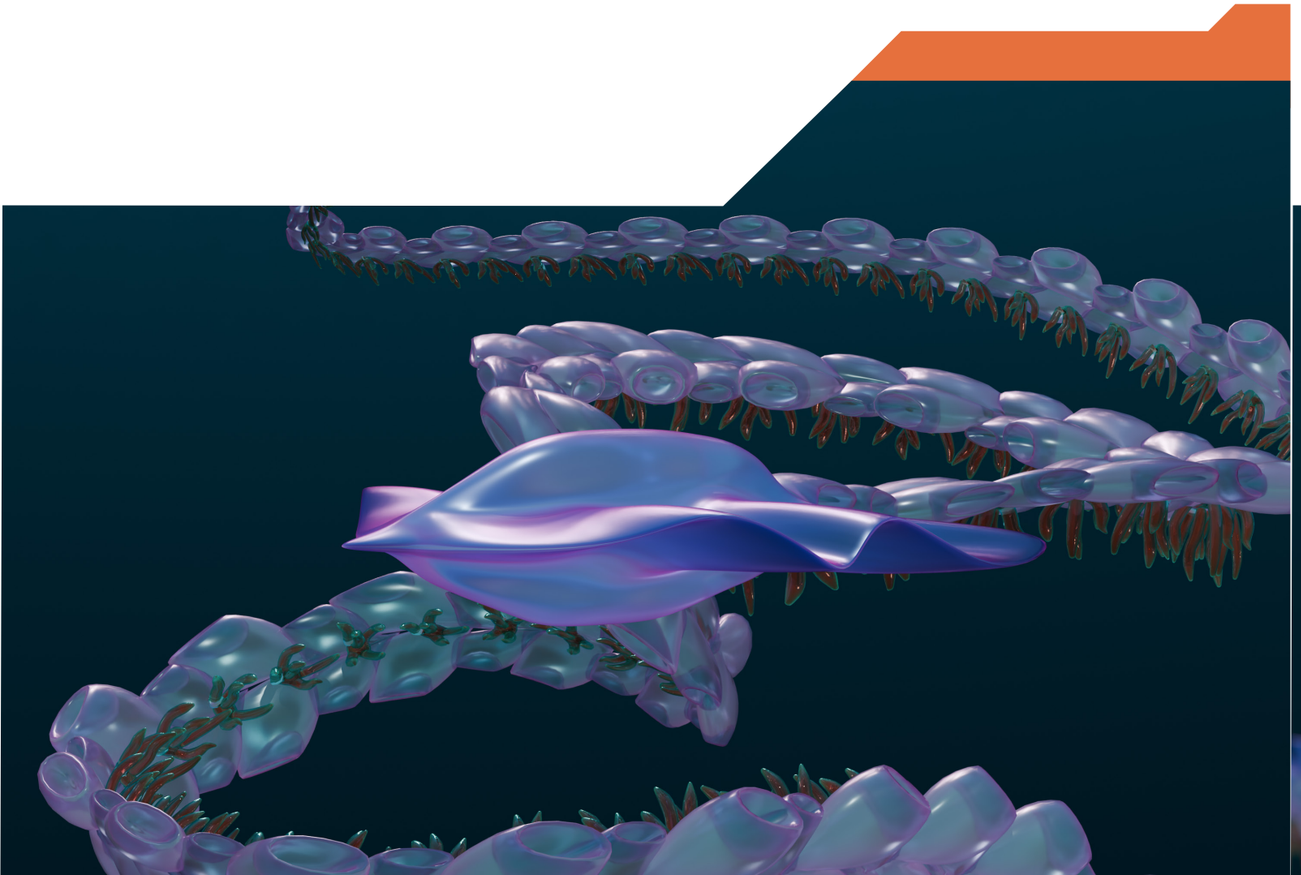


SIPHONEPHORE

Siphonephore

Ophiofilum

Towering, blind, chain-like organisms composed of specialized, interdependent zooids. Each segment performs distinct functions like feeding, reproduction, or locomotion, creating a self-sustaining, mobile colony.

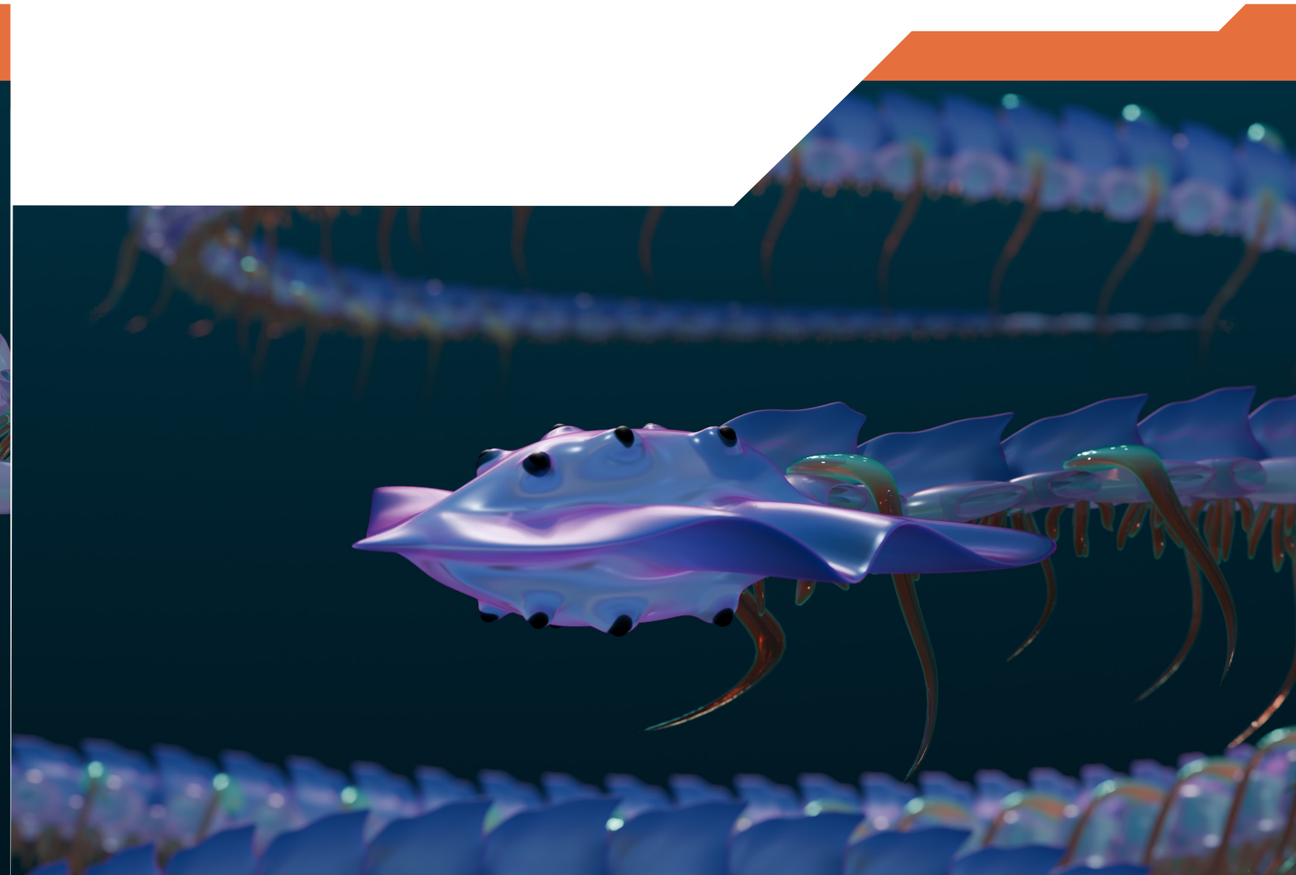


Siphonephore

Drakocyma

Modular predators that extend for kilometers, blending camouflage and ambush tactics. Their tentacle-like appendages are lined with specialized sensors and venomous barbs to capture and incapacitate prey.

With its dragon-like body it's sure to frighten even the bravest of explorers.



Siphonephore

Lamnocyma

For siphonophore-like creatures specialisation in individual units is often key. The different polyps have different functions.

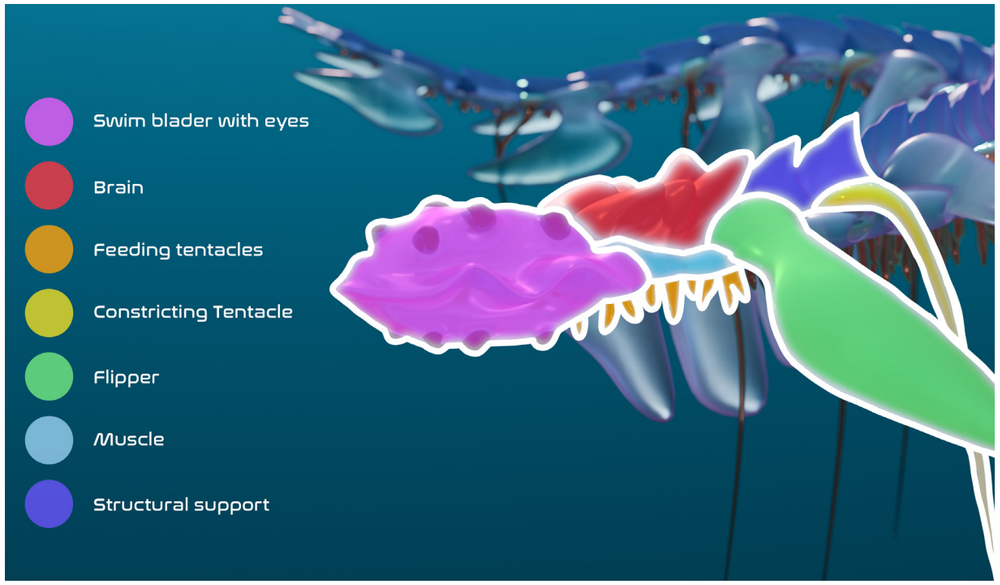
Like its ancestors it has an interlocking structure that acts as its muscles and skeleton.

The buoyancy bladder has become smaller with oculair cells. Growing on it.

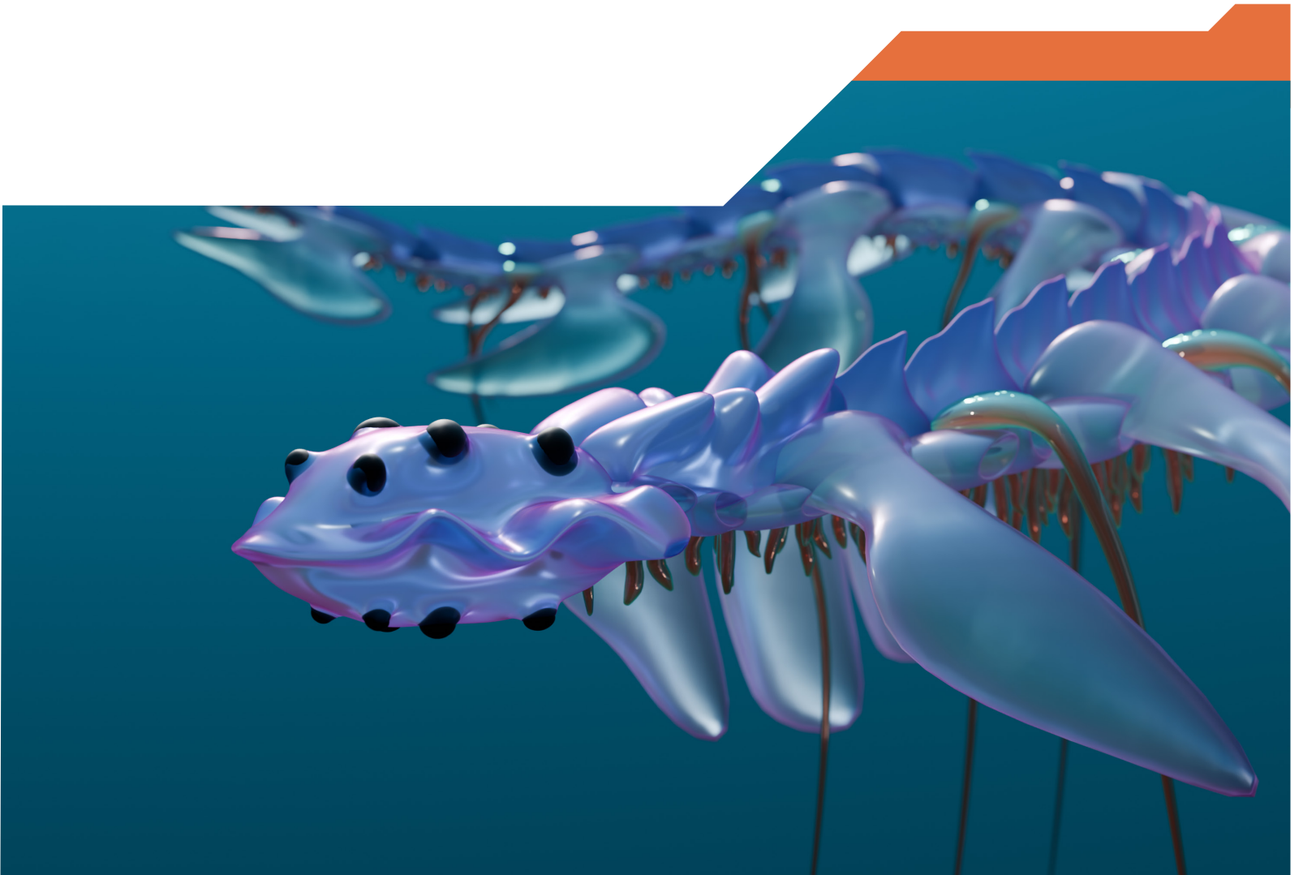
Behind the buoyancy bladder specialized cerebral matter polyps are present. These are linked to the ocolair cells and respond to them by emitting chemical signals to the rest of the polyps.

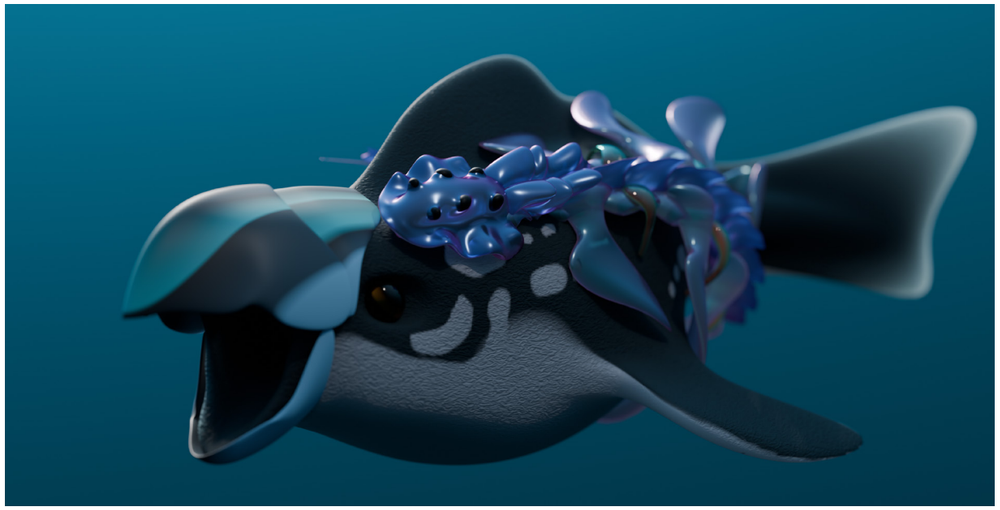
These consist of specialised tentacles that wrap around creatures, tiny tentacles for feeding with special enzymes.

And most interesting of all: fins. Chemically influenced by the “brain” this allow it to actively hunt.



Anatomy of the siphonephore





How it attcaks

The abys

In the making

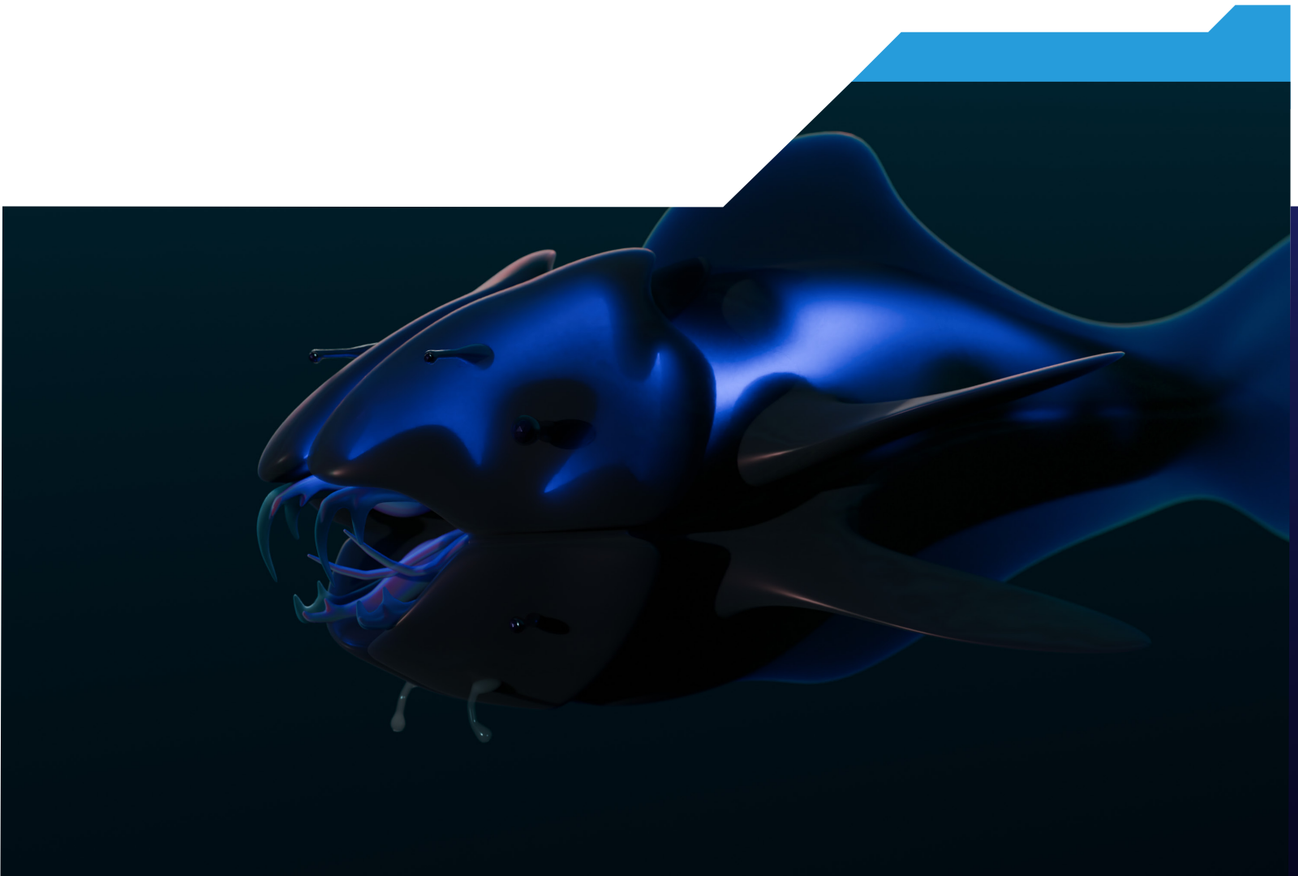
Lux gelly

[Entry coming soon]

The abys

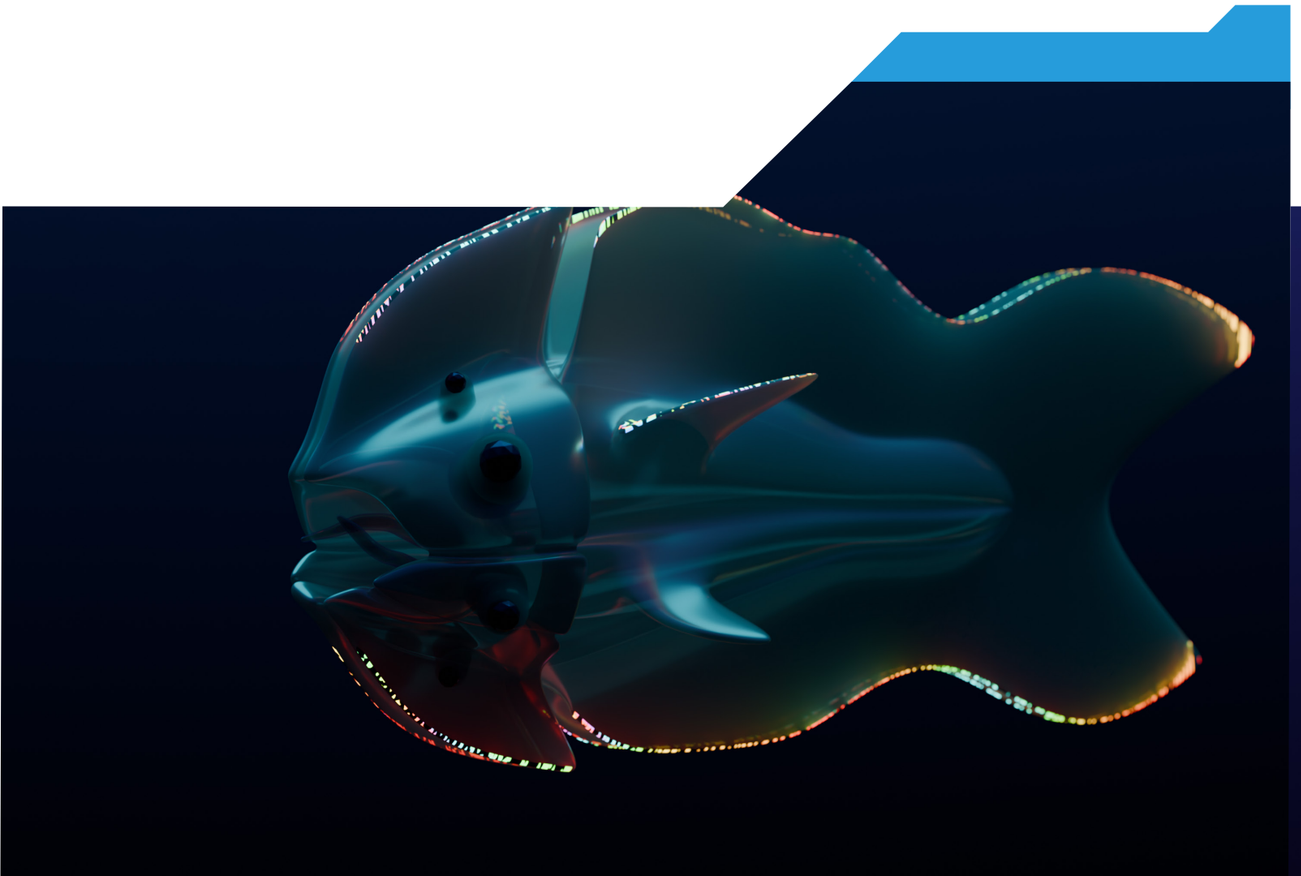
Triturare eal

[Entry coming soon]



Pectecis

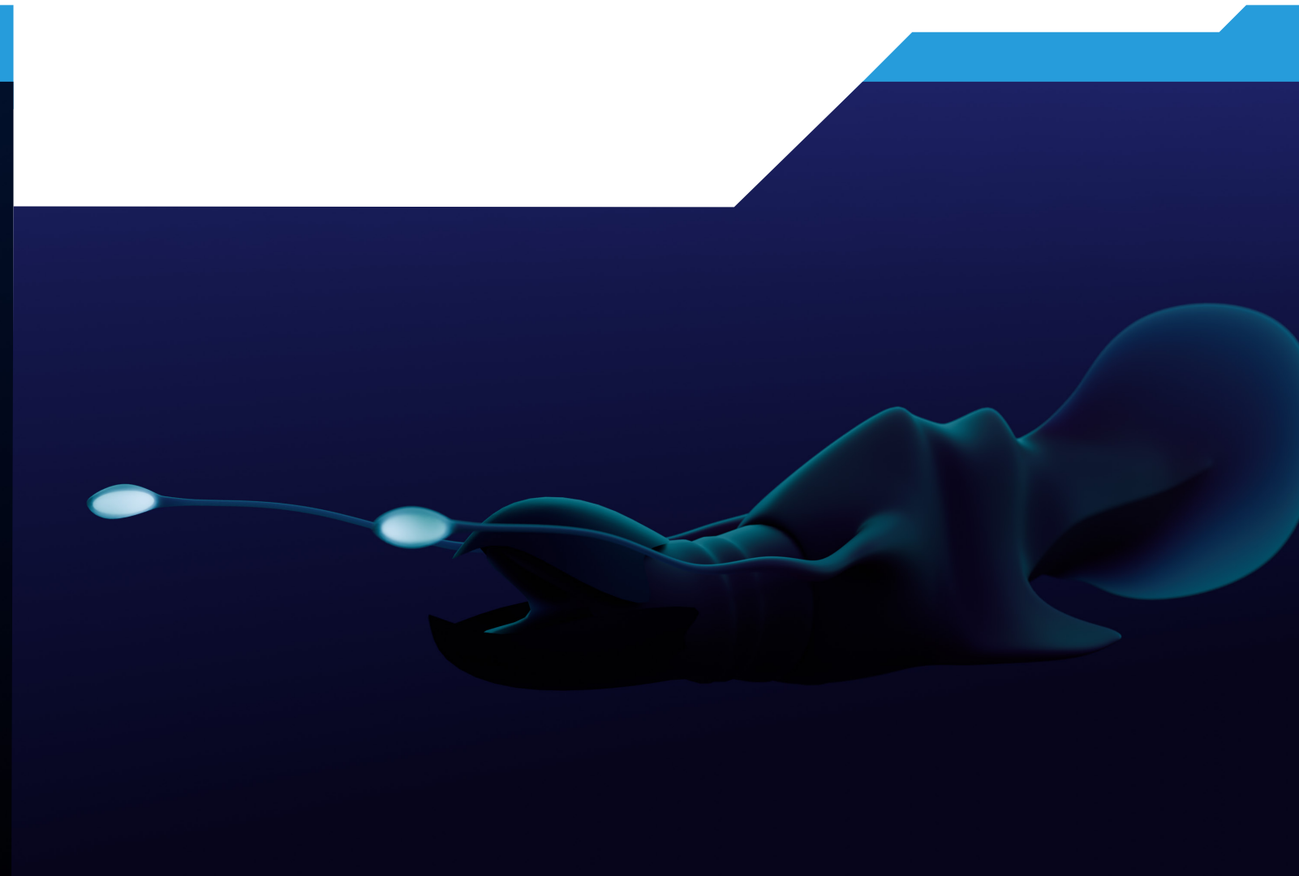
[Entry coming soon]



The abys

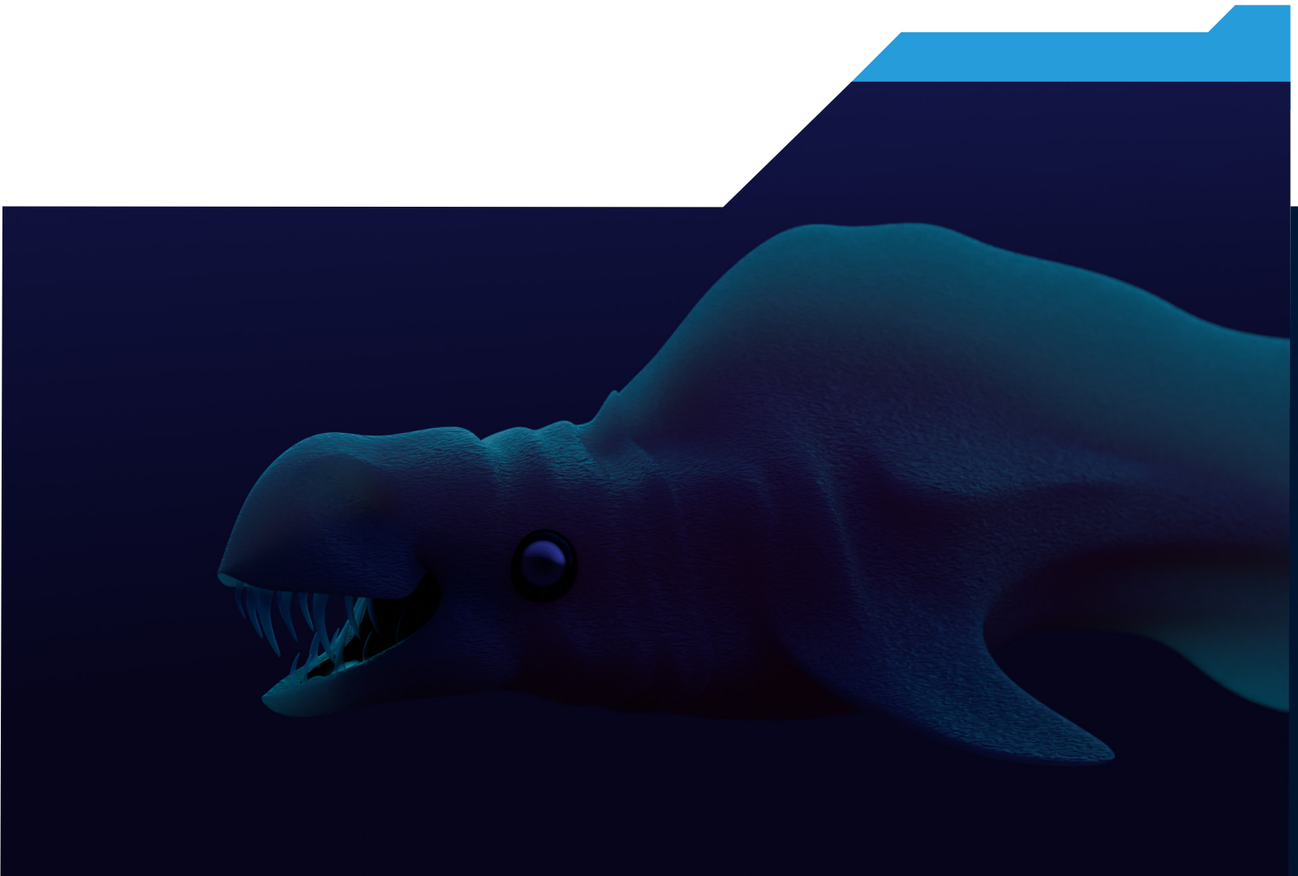
Luccaption

[Entry coming soon]



Mare Troglodytarum

[Entry coming soon]



Orcnox

[Entry coming soon]