

INTO THE ABYSS

Exploring the Unknown Depth of Marine Life



• ALIA AZWA BINTI KAMAL

• SHARIFAH NURAINI BINTI GULAM

INTRODUCTION

Welcome to Into the Abyss: Exploring the Unknown Depths of Marine Life.

This AR Field Guide invites you on an exciting journey beneath the ocean's surface — into the mysterious world where sunlight cannot reach and extraordinary creatures thrive in complete darkness.

Through Augmented Reality (AR) technology, you will experience the deep sea like never before. Simply scan the AR markers in this book using your mobile device to see 3D models of fascinating marine animals come to life. Watch them move, glow, and interact while learning interesting facts about how they survive in extreme conditions.

This AR Field Guide aims to make learning about marine life fun, engaging, and educational. As you explore each page, you will uncover the hidden wonders of the deep ocean and gain a better understanding of the unique creatures that live there.

DIVE INTO THE UNKNOWN!

Journey beneath the ocean's surface and explore a world where sunlight fades and extraordinary creatures thrive in darkness. Into the Abyss takes you on an unforgettable adventure into the deep sea, where mystery and wonder await at every turn.

With the power of Augmented Reality (AR), bring the deep ocean to life! Scan the markers in the book with your device to watch 3D marine creatures move, glow, and interact, all while learning fascinating facts about their survival in extreme conditions.

Perfect for curious minds, this AR Field Guide makes learning about marine life fun, immersive, and educational. Unlock the secrets of the deep and discover the hidden wonders of our planet's oceans!

Developed by:

Alia Azwa binti Kamal & Sharifah Nuraini binti Gulam

Project Supervisor:

Ahmad Rizal bin Ahmad Rodzuan

HOW IS AR WORK?

1. Open the Website

- Go to the AR webpage link using your phone or computer browser.

2. Allow Camera Access

- Tap “Allow” when asked so the website can use your camera to detect the AR marker.

3. Point the Camera at the Marker / Image

- Aim your camera at the given marker or image. The system will scan and recognize it.

4. View the AR Object

- Once detected, a 3D model or animation will appear on your screen – over the real-world image.

5. Interact with the AR Object

- You can tap, rotate, or zoom the object to explore it in detail.

6. Move Around for Better View

- Move your device to see the AR object from different angles for a more realistic experience.

Tip !! :



Look for this symbol on the pages – these images can be scanned to explore hidden content.

BEGIN THE JOURNEY.

Dive into the depths and explore.

START

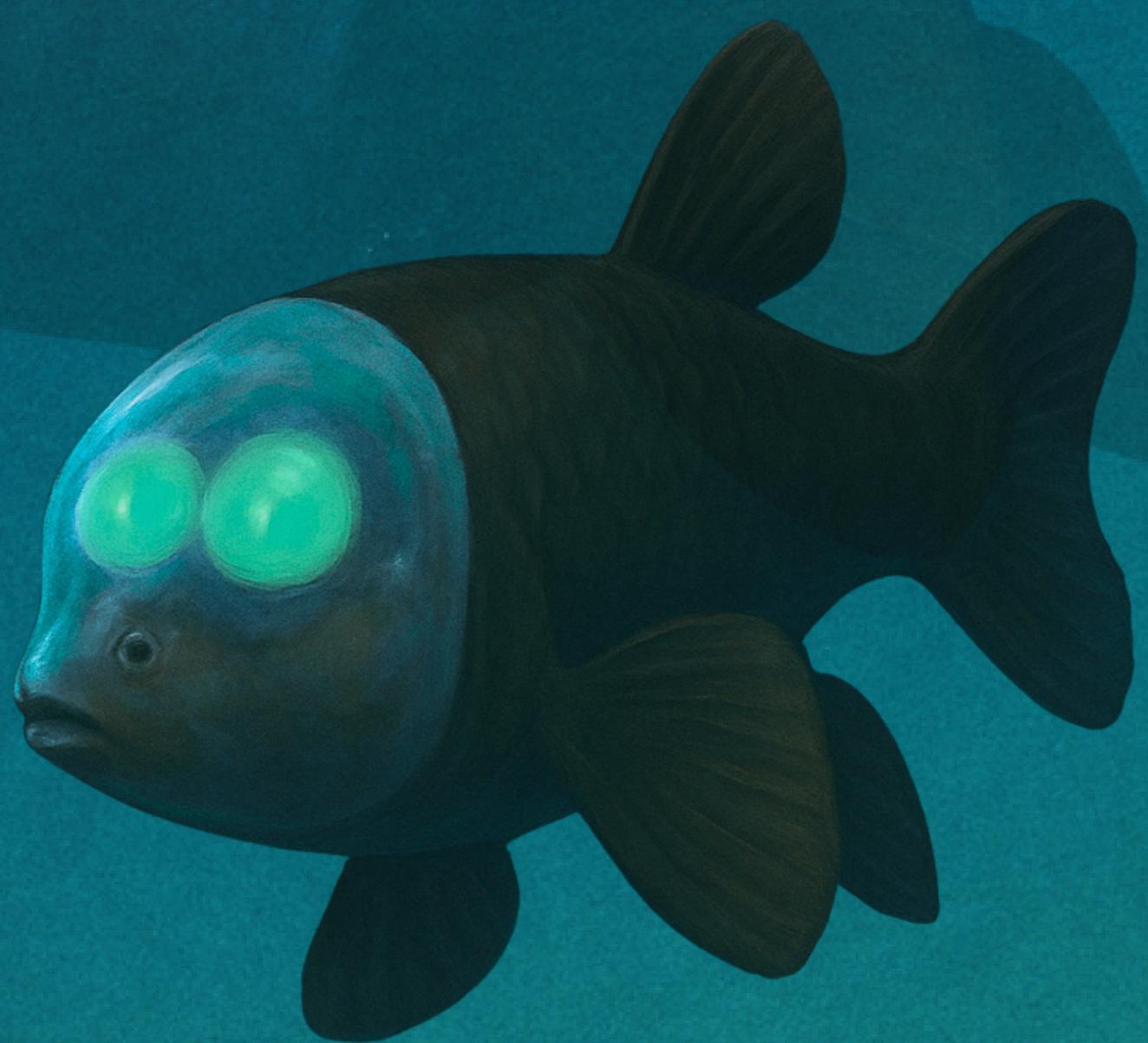


DID YOU KNOW?

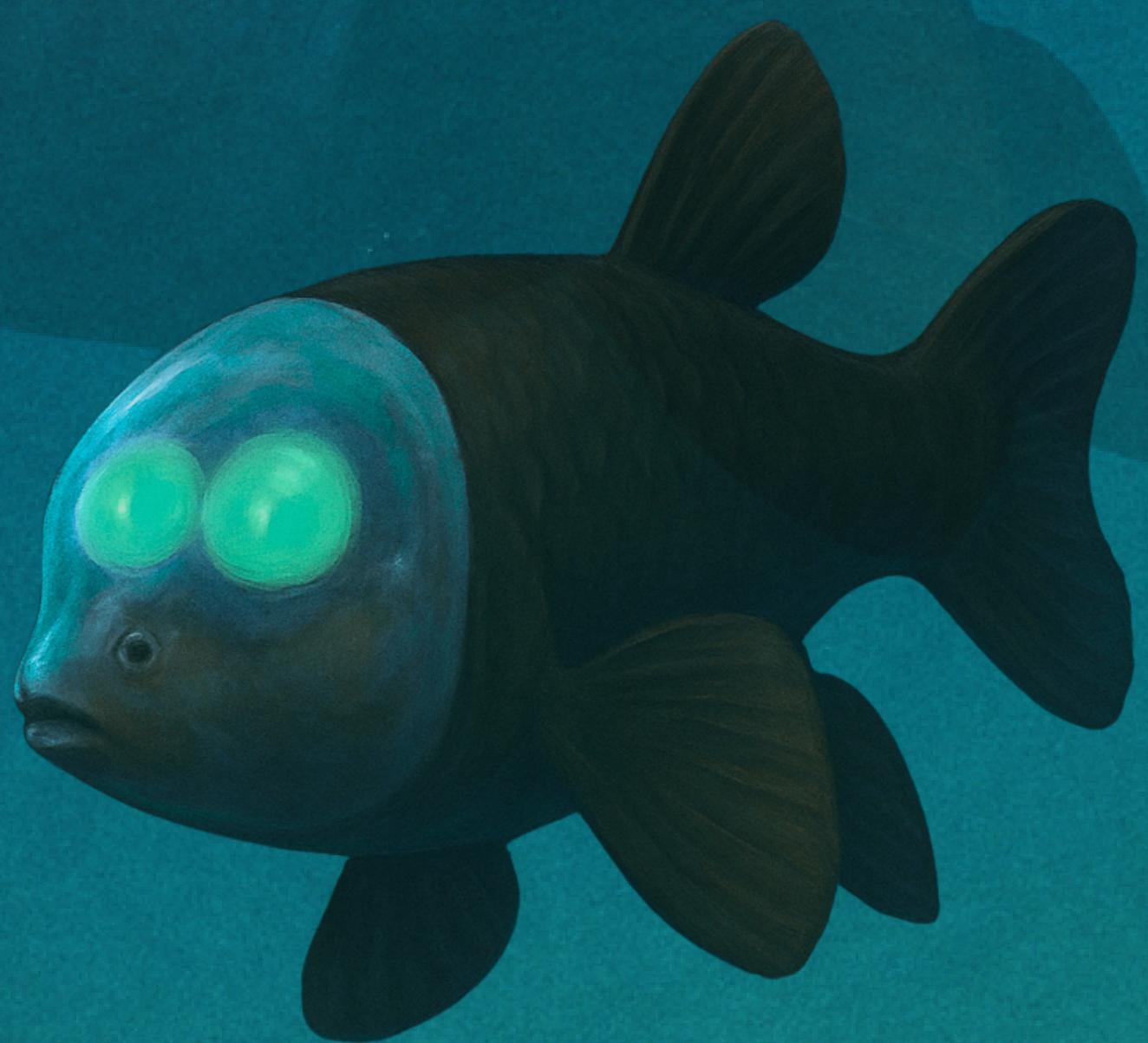


Fun Fact: It spots the shadows of jellyfish above even in the darkest places!

INTERESTING FACT



This is the Barreleye Fish (**Macropinna microstoma**), seen around 600-800 meters deep. “My head is see-through, and my eyes glow!” Its transparent head is filled with jelly, and its glowing green eyes can rotate to see prey above—through its own forehead!



BARRELEYE FISH (*MACROPINNA MICROSTOMA*)

DID YOU KNOW?

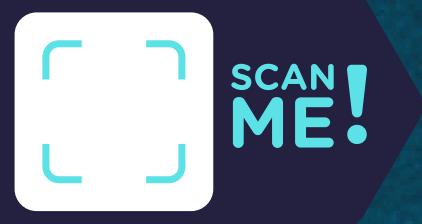


FunFact:
It has no muscles!
It lets the ocean
do the work while
it relaxes

INTERESTING FACT



Blobfish (*Psychrolutesmarcidus*), found 600–1,200 meters deep. “I’m not ugly I’m just underpressure!” It looks squishy on land, but in the deep ocean, it’s just right. It doesn’t swim it floats and waits for snacks!



BLOBFISH
(PSYCHROLUTESMARCIDUS)

DID YOU KNOW?



FunFact:
Its blinking
light trick is called
the 'burglar alarm
'strategy

INTERESTING FACT



the Atolla Jellyfish (*Atolla wyvillei*), at 1,000-4,000 meters deep. “When I’m attacked, I light up!” It flashes red and blue lights in the dark ocean to scare predators or call for help.



ATOLLA JELLYFISH (ATOLLA WYVILLEI)

DID YOU KNOW?



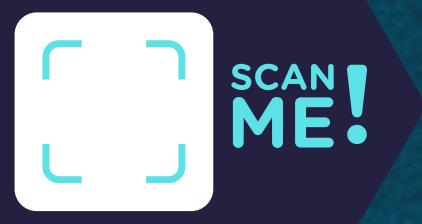
FunFact:

It lives so deep
that it doesn't even
need ink it's
already pitch
black!

INTERESTING FACT



Meet the Dumbo Octopus (*Grimpoteuthis spp.*), living at 3,000-7,000 meters deep. “If I flap my fins like ears and float like I’m flying!” With its round head and big floppy fins, it looks like a cartoon flying underwater in the darkest parts of the ocean. !



DUMBO OCTOPUS (GRIMPOTEUTHIS SPP.)

DID YOU KNOW?



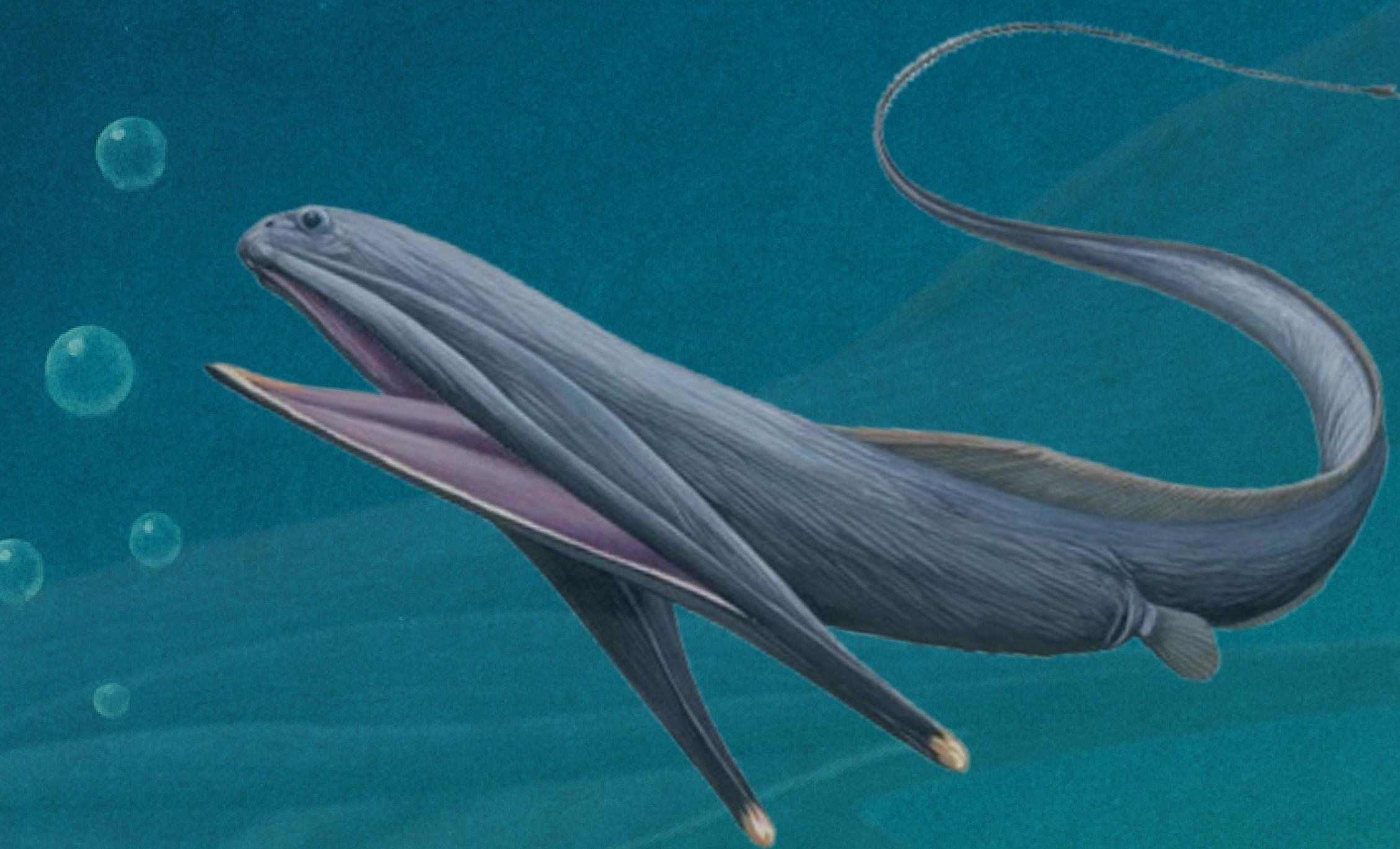
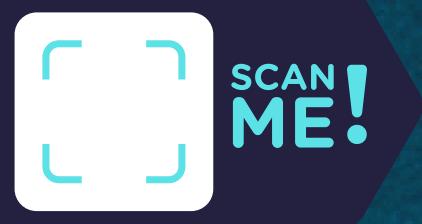
FunFact:

It can unhinge its jaw like a pelican and has a glowing tip on its tail!

INTERESTING FACT



Say hi to the Gulper Eel (**Eurypharynx pelecanoides**), found 500-3,000 meters deep. “My mouth is bigger than my body!” It has a long tail and a balloon-like mouth that can open wide enough to swallow prey much larger than its head.



GULPER EEL (EURYPHARYNX PELECANOIDES)

DID YOU KNOW?

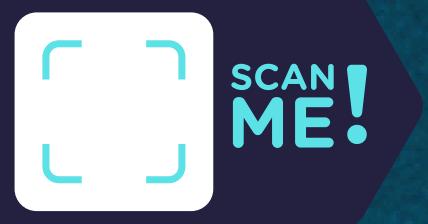


FunFact:
It was only
discovered in
2005, and it has
eyes but it blind !

INTERESTING FACT



Meet the fuzzy Yeti Crab (**Kiwa hirsuta**), found around 2,200 meters deep. “I grow food on my claws!” This crab waves its hairy arms to grow bacteria, which it later eats—like farming under water.



YETI CRAB (*KIWA HIRSUTA*)

DID YOU KNOW?



FunFact:

Despite the name,
it doesn't drink
blood it eats
drifting bits of
ocean goo!

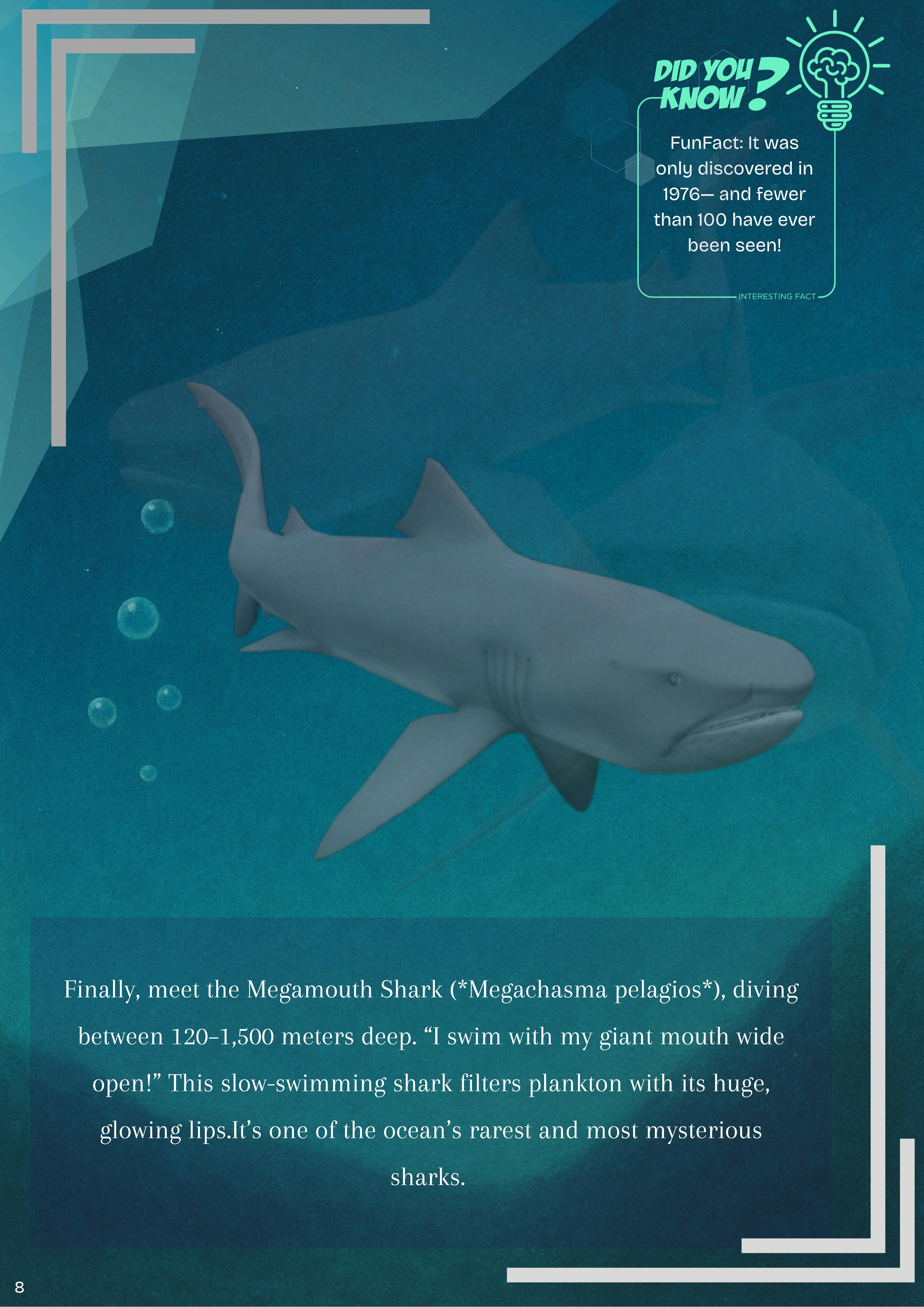
INTERESTING FACT



This is the Vampire Squid (**Vampyroteuthis infernalis**), living between 600–900 meters deep. “I don’t bite—I just glow and go!” It uses glowing lights and wraps itself in webbed arms to escape danger like a deep-sea superhero.



VAMPIRE SQUID (*VAMPYROTEUTHIS INFERNALIS*)

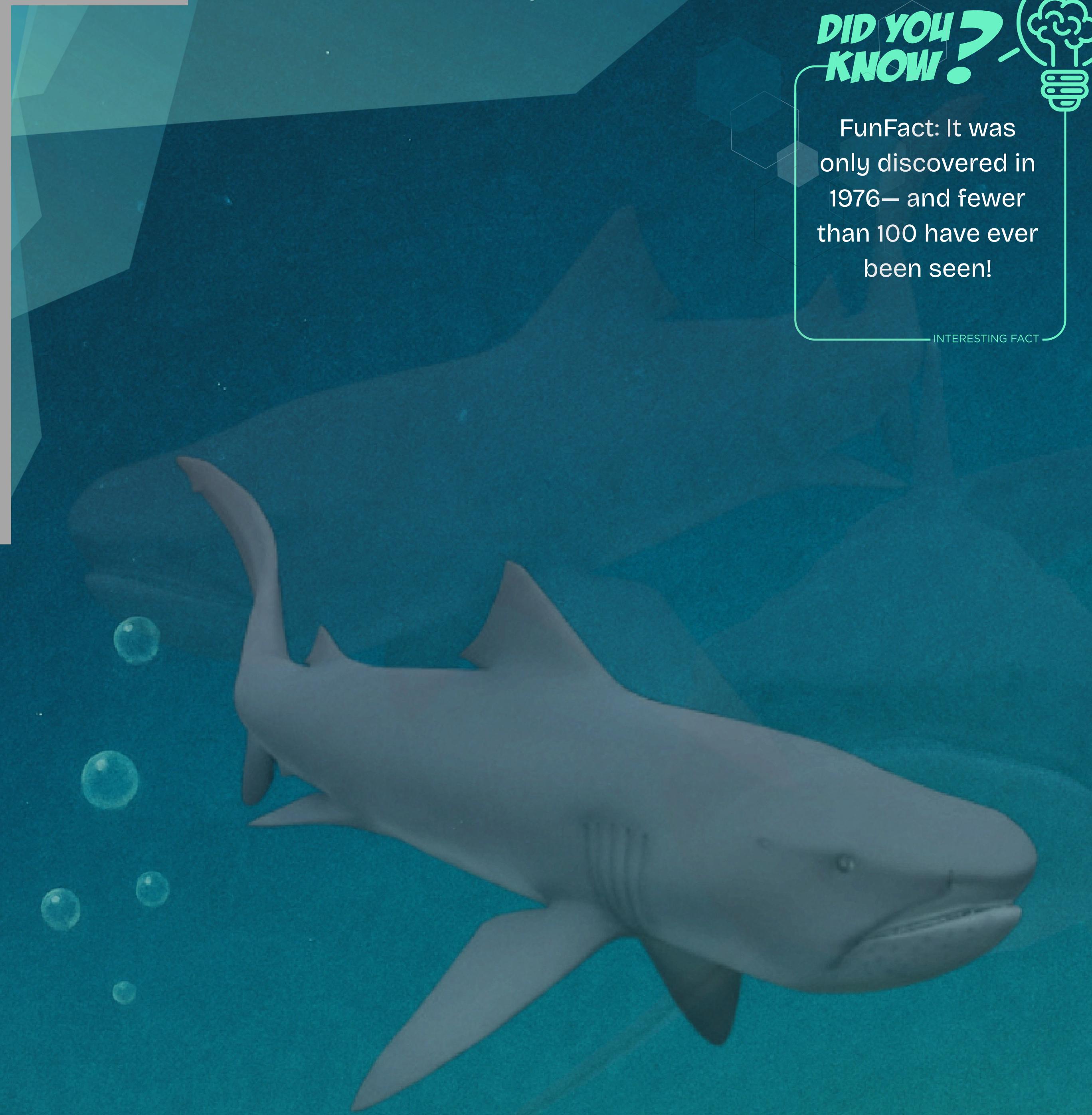


DID YOU KNOW?

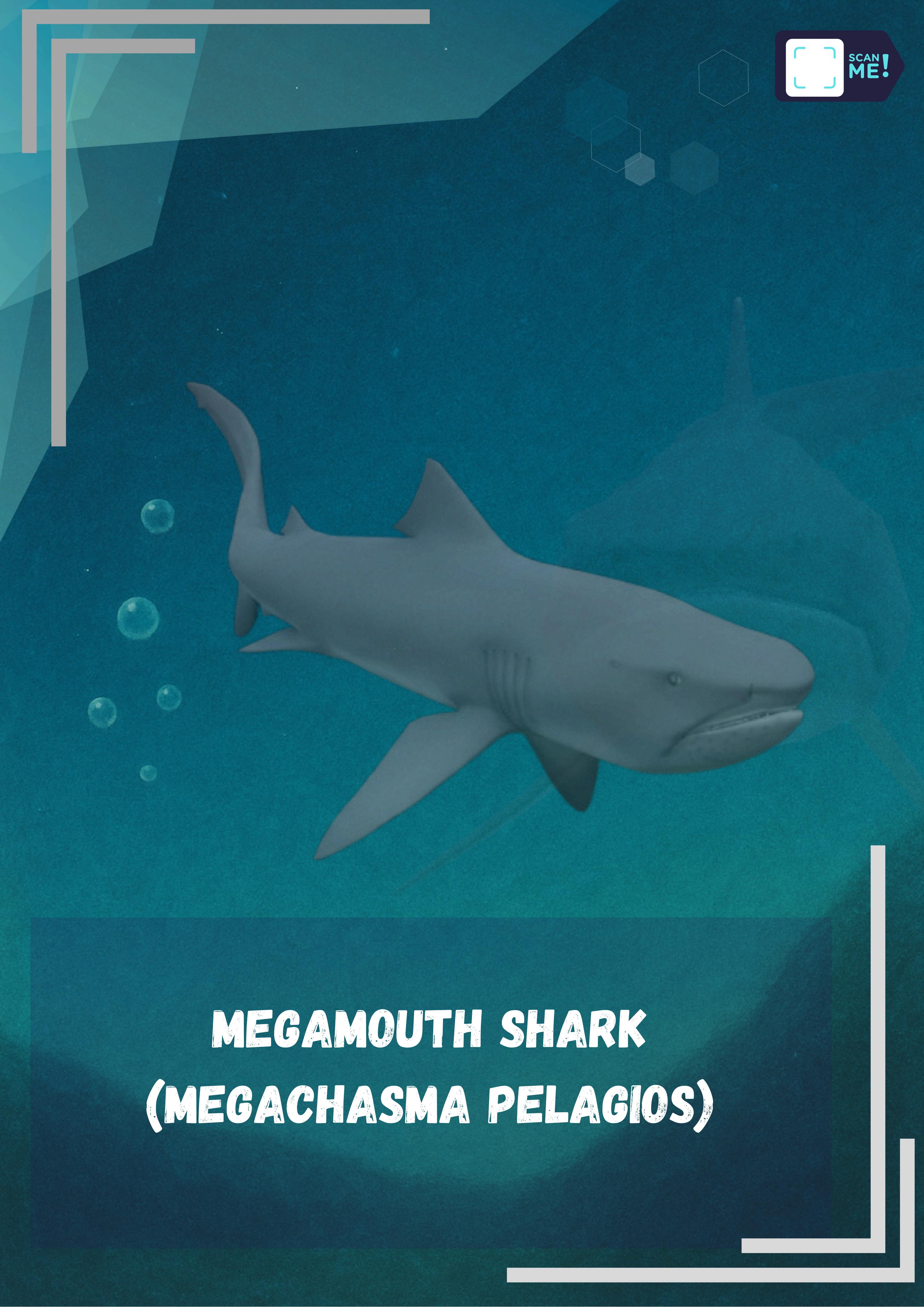
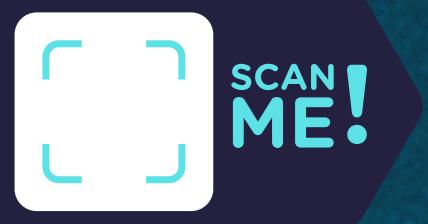


FunFact: It was only discovered in 1976— and fewer than 100 have ever been seen!

INTERESTING FACT



Finally, meet the Megamouth Shark (**Megachasma pelagios**), diving between 120–1,500 meters deep. “I swim with my giant mouth wide open!” This slow-swimming shark filters plankton with its huge, glowing lips. It’s one of the ocean’s rarest and most mysterious sharks.

A large Megamouth shark is shown swimming from left to right against a dark blue background. The shark has a light grey body, a wide mouth, and a hammerhead-like nose. Several small bubbles are visible in the water to the left of the shark.

MEGAMOUTH SHARK (*MEGACHASMA PELAGIOS*)

DID YOU KNOW?



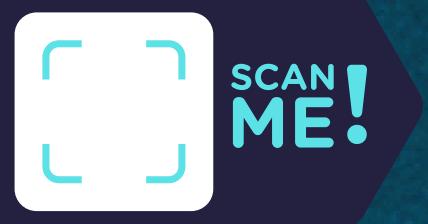
Fun Fact:

The male anglerfish is super tiny and actually fuses to the female like a for life!

INTERESTING FACT



Meet the Anglerfish (*Lophiiformes*), found at depths of 300-1,600 meters. “I light up the dark to hunt!” In the deep, dark sea, the anglerfish waves a glowing lure from her head like a built-in fishing rod. Small fish think it’s food and swim closer...and then *SNAP!* It’s dinner time!



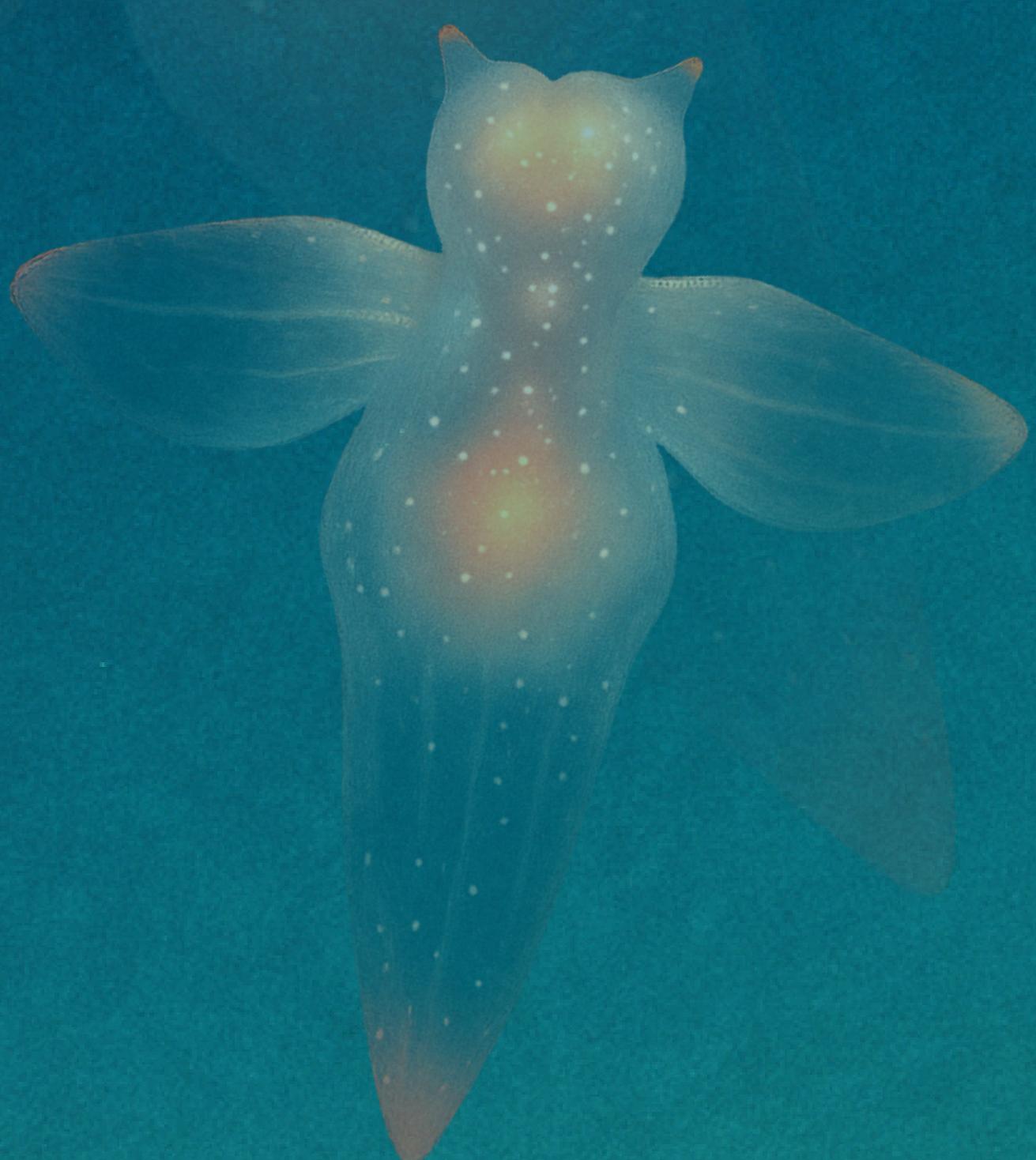
ANGLERFISH (LOPHIIFORMES)

DID YOU KNOW?



FunFact: It hunts seabutterflies and can out swim much bigger animals!

INTERESTING FACT



Meet the Sea Angel (**Clione limacina**), living 100 to 1,000 meters below the surface. “I’m tiny glowing, and graceful but I’m a hunter too!” This small glowing creature floats like a fairy, but it’s quick and catches prey with hidden hooks



SEA ANGEL (CLIONE LIMACINA)

GAME TIME !

DO YOU REMEMBER THE FACT?

Game 1: Match Look with Name

- Match each deep-sea creature's image with its correct name.

Game 2: Match Fact

- Match the correct fact to the correct deep-sea creature.

Game 3: Memory Game

- Match identical deep-sea creature cards to test memory.

Game 4: Fill Creature Name

- Type the correct name based on the creature image.



GAME TIME

This book marks the completion of a Final Year Project that focuses on the application of augmented reality as an interactive learning tool in multimedia education. The project combines visual storytelling, 3D modelling, and game-based interaction to create an engaging and immersive learning experience. Through the development of this AR-enhanced book, the project demonstrates how multimedia elements and emerging technologies can be effectively integrated to support user engagement, creativity, and knowledge retention.

In addition, this project reflects the practical skills acquired throughout the multimedia programme, including design, development, and user interaction principles. The work highlights the potential of augmented reality to enhance traditional learning materials by transforming them into interactive and meaningful educational experiences.