

THE
ILLUSTRATED
ENCYCLOPAEDIA
OF UGLY
ANIMALS

Sami Bayly

 **LOTHIAN**
Children's Books

A Lothian Children's Book

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Contents

Introduction

7

Amazon River Dolphin

9

American Manatee

10

Antarctic Scale Worm

13

Asian Sheepshead Wrasse

14

Atlantic Mudskipper

17

Atlantic Trumpetfish

18

Australian Brush-turkey

21

Australian Ghost Shark

22

Australian White Ibis

25

Aye-aye

26

Bald-headed Uakari

29

Black Musselcracker

30

Black Rain Frog

33

Black Snub-nosed Monkey

34

Blobfish

37

Bornean Orangutan

39

California Condor

40

Chinese Softshell Turtle

43

Cretonotos gangis

44

Fangtooth Moray

47

Gelada Baboon

48

Giant Anteater

51

Goblin Shark

52

Greater Sage Grouse

55

Hairless Chinese Crested Dog

56

Hammer-headed Fruit Bat

59

Hellbender

60

Helmeted Guineafowl

63

Helmeted Hornbill

65

Humpback Anglerfish

66

<u>King Vulture</u>	<u>Northern Bald Ibis</u>	<u>Sea Lamprey</u>
69	89	108
<u>Largetooth Sawfish</u>	<u>Northern Ground-hornbill</u>	<u>Southern Cassowary</u>
70	90	111
<u>Malayan Tapir</u>	<u>Ocean Sunfish</u>	<u>Southern Elephant Seal</u>
73	93	112
<u>Maleo</u>	<u>Proboscis Monkey</u>	<u>Star-nosed Mole</u>
74	94	115
<u>Mandrill</u>	<u>Purple Pig-nosed Frog</u>	<u>Surinam Toad</u>
77	97	116
<u>Marabou Stork</u>	<u>Red-lipped Batfish</u>	<u>Tardigrada</u>
78	98	119
<u>Mexican Mole Lizard</u>	<u>Reticulate Stargazer</u>	<u>Turkey Vulture</u>
81	101	120
<u>Monkey Slug Caterpillar</u>	<u>Saiga Antelope</u>	<u>Vulturine Guineafowl</u>
82	102	123
<u>Naked Mole Rat</u>	<u>Santiago Giant Tortoise</u>	<u>Whitemargin Unicornfish</u>
85	105	124
<u>North Sulawesi Babirusa</u>	<u>Sarcastic Fringehead</u>	<u>Wild Turkey</u>
86	107	127
	<u>About the author</u>	
	128	



Introduction

The Illustrated Encyclopaedia of Ugly Animals is a celebration of the beauty in 'ugliness'.

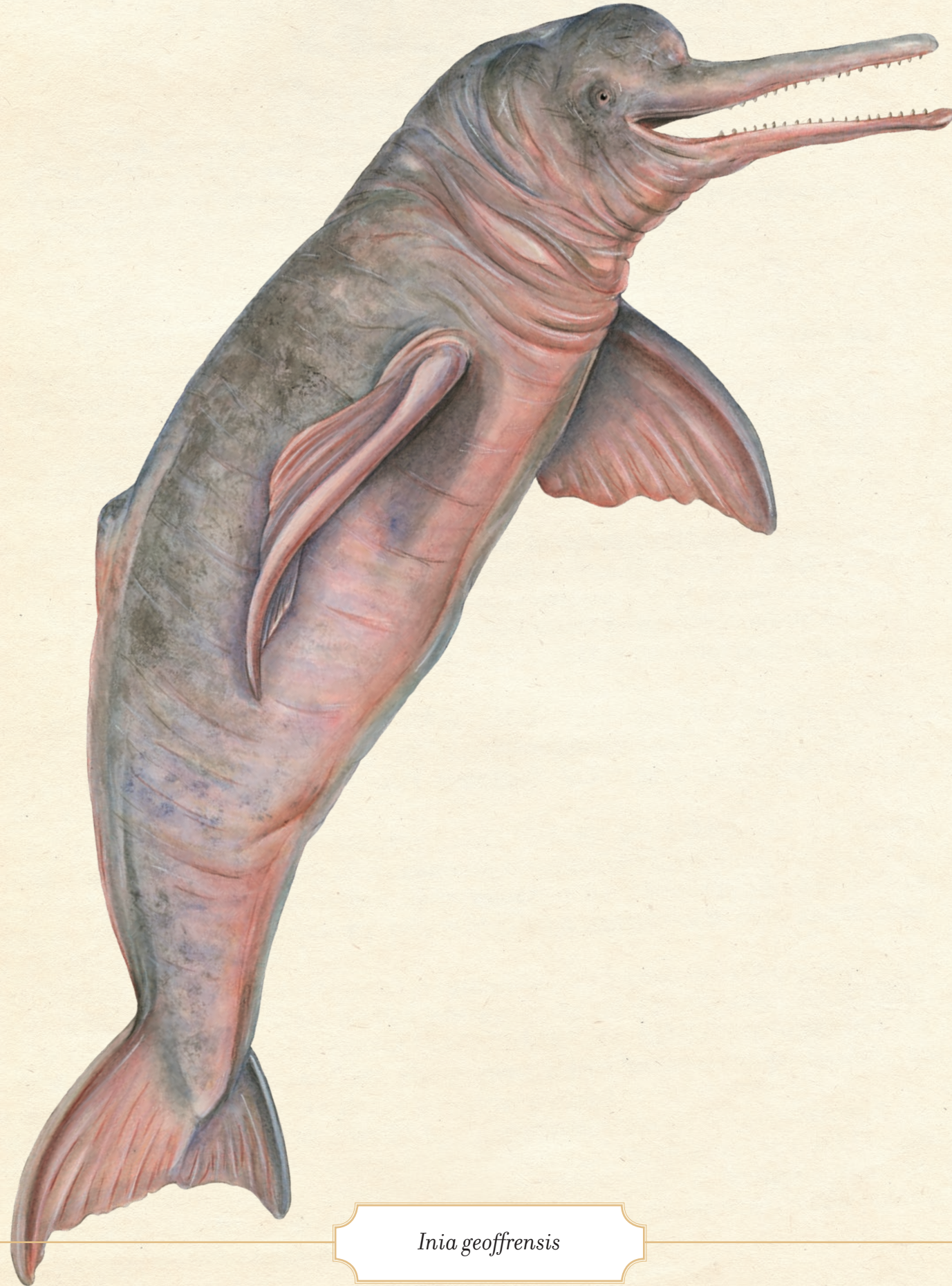
Regardless of whether or not we find these animals appealing to look at, they play an important role in our environment. The attributes that we see as 'ugly' almost always have a purpose or function that the animals have adapted over many years to assist them throughout their lives and with their survival.

Ugliness is, of course, subjective. It was through painting these sixty animals in scientific detail that I truly discovered the beauty they all encompass. I don't believe our contemporary human definition of 'ugliness' can be applied to the animal kingdom, (just as it should not be applied to our own society).

Whilst researching these weird and wonderful species, I quickly discovered how many of them were in fact endangered or falling critically low in population, and that without them our amazing and diverse ecosystems would cease to function.

I hope that by the end of this book you will find your perception of beauty challenged, learn something new to tell your family or friends, and most importantly, find an 'ugly' creature to love.

Sami Bayly



Inia geoffrensis

Amazon River Dolphin

Inia geoffrensis

(in-e-a geo-fren-sis)



Description

These tubby, pinkish dolphins can reach a length of 2.5 metres for males and 2 metres for females. They get pinker as they get older and it is thought they developed this adaptation to match the muddy waters of their surroundings. Another possibility is that due to excessive fighting, their scar tissue begins to show through, developing a pinker tinge.

The noticeable bulge on their heads is used for echolocation. The dolphins send out sounds through the water, which bounce back to them when they hit something. The returning sounds are processed through the lump. This technique helps the dolphins work out the size and distance of potential prey. Their chubby necks allow them to turn their heads up to 90 degrees in any direction, which helps them when hunting for food.

Conservation Status

DATA DEFICIENT

Due to the lack of recent research into the Amazon river dolphin, their population size and trends are not well understood. They have been recorded as abundant in some areas, but this is not a reliable measure of their numbers as it doesn't take into account the full range of their habitat.

Despite this lack of information, it is clear these dolphins face threats from humans, for example when fishermen accidentally catch them, or destroy their habitat through netting. They have even been used as bait or deliberately killed because they eat the other fish that fishermen want to catch.

A technique called 'explosive fishing' has been used in rivers containing these dolphins. It involves throwing bombs into the water to kill fish

and has had a negative impact on the dolphins. Local people are reluctant to hunt the Amazon river dolphin and will only utilise their body parts if they find a dolphin that is already dead. When this happens, they use the dolphin's fat and oil for medicinal remedies, and their teeth and eyes as love charms.



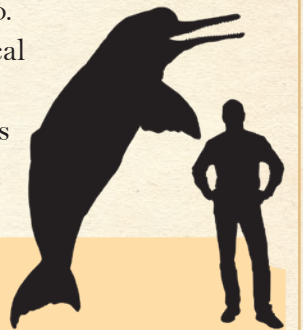
Diet

These mammals survive on any species of fish they find near the riverbed, but they have also been known to use their sharp teeth to eat turtles, crabs and even piranhas!

Location/Habitat

Like their name suggests, these dolphins are found in the Amazon River, which runs through Brazil, Colombia and Peru. They can also be found in the Orinoco River, running through Colombia and Venezuela. It is possible their distribution extends to rivers in Bolivia and Ecuador too.

Amazon river dolphins enjoy tropical freshwater rivers, ponds and lakes. They also spend time in forest areas that flood during rainy seasons.



Fun Facts

- Amazon river dolphins are known as being very inquisitive and friendly, even playing with local kids in the water.
- They were thought to be blind because of their tiny eyes. In fact, they utilise them and have even been known to gaze into a human's eyes when confronted.
- They are the largest river dolphin species.
- Female dolphins are called 'cows' and males are known as 'bulls'.

American Manatee

Trichechus manatus

(tri-kek-us man-a-tus)

Description

This slow-moving, docile sea cow may appear to have missed out in the beauty department, especially with its pudgy, hairy body, paddle-shaped flippers and wrinkly, grey skin covered in algae. However, all of these 'misfortunes' are actually adaptations that make the manatee better suited to its environment and diet. Their paddle-shaped limbs come in handy to help propel them along the sea floor, so they use less energy while travelling and feeding. Their skin ensures they blend into their environment, protecting them from predators.

The bristly hairs on their bodies and around their mouths are sensory features which help them assess their surroundings through vibrations in the water. American manatees rely on this adaptation because of their poor eyesight. These hefty mammals will reach up to 2.5 metres and weigh in at an average of 200–600 kilograms.

Conservation Status

VULNERABLE

The biggest threat facing the American manatee is human. Due to their large size and the fact that they live in shallow, sometimes highly populated waters, manatees are frequently struck by negligent boat drivers. Manatees are also hunted for their skin, bones and by-products.

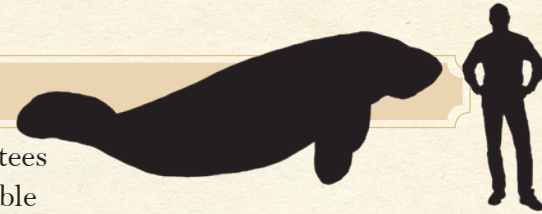


Close Relations

Although manatees are water dwellers, they are closely related to elephants. However, when they were first seen by the colonist and explorer, Christopher Columbus, he thought he was looking at the mythical mermaid.

Diet

American manatees use their malleable top lips to feed on a variety of sea grasses, algae, roots and mangroves. They use this separated-lip adaptation to isolate individual plants and uproot them from the ground. The manatee does not have a typical set of teeth but only some molars at the back of their jaw. These will regrow when they become worn down.



Location/Habitat

There are four subpopulations which make up the American manatee population, all of which are found in Florida and Georgia in the United States. They are also sometimes found in South American countries, such as Mexico and the Bahamas. Like other migratory animals, manatees travel to find warmer water as the seasons change. They live at depths ranging 0.4–6 metres, in channels, canals, creeks, lagoons and seagrass beds.

Fun Facts

- American manatees can feed for up to 8 hours a day, consuming an average of 33 kilograms of food. That's a lot of seagrass!
- Pirates would eat dried manatee meat, known as 'buccan', so often that they later became known as 'buccaneers'.
- Since they are mammals, manatees must hold their breath while underwater. Although the average submersion time is 4 minutes, they can stay under for up to 18!



Trichechus manatus

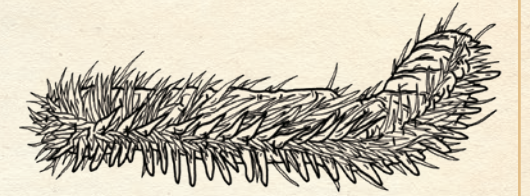


Eulagisca gigantea

Antarctic Scale Worm

Eulagisca gigantea

(yool-a-gis-ka gi-gant-e-a)



Description

Antarctic scale worms are 20-centimetre-long marine worms belonging to a class called *polychaetes*, more commonly known as bristle worms. It is not known exactly what purpose the brush-like bristles on their sides serve, but there are a number of suggested functions related to defending themselves against predators, helping them move across seabeds or assisting in swimming. From a distance, they appear to be beautiful creatures with an intricate, gold ribbon-like appearance. But on closer examination, they're actually quite terrifying!

The scale worm's most incredible evolutionary adaptation is what appears to be its 'head'. What looks like an eyeless face is actually a retractable mouth. Scale worms keep this mouth tucked away and covered up and will expel it from their body only when feeding.

its survival. Due to their deep-sea habitat, it is believed that scale worms are threatened by similar dangers as blobfish and batfish (found on pages 37 and 98), for example trawling or changes in water temperature due to global warming.

Diet

As they reside in deep-sea waters, there is little information known about their diet or feeding methods and habits. Scientists assume they feed on other deep-sea animals, but it is unclear which ones. Because of their large mouth and teeth, it is thought they are quick and aggressive hunters. Fortunately, they pose no threat to humans because we cannot reach their habitats unless we are in heavily protected equipment, like submarines.

Conservation Status

NOT EVALUATED

Very little is known about the scale worm's conservation status or the potential threats to

Location/Habitat

Scale worms are usually found in hydrothermal vents in the Southern Ocean waters near Antarctica.

Fun Facts

- The teeth-like scales that cover the scale worm's body are known as elytra.
- Scale worms were first discovered in 1939 and were put on the World Register of Marine Species but not much has been documented about them since.
- Their class, *polychaetes*, is named for the Latin phrase 'many bristles'.
- The collective name for a group of worms is a bed.
- Scale worms are a recent discovery and it is now thought there could be around 16,000 undiscovered species of marine worms, compared with the 8,000 of them that are known.



Asian Sheepshead Wrasse

Semicossyphus reticulatus

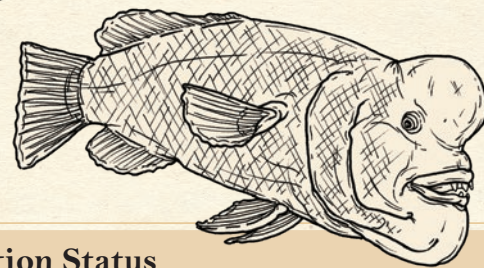
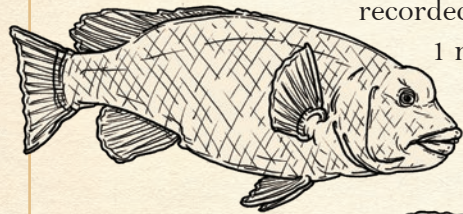
(semi-kos-e-fus re-tik-you-la-tus)

Description

The most noticeable feature of the wrasse is their bulbous head and chin. While very little is known about the purpose of these bony growths, it is suspected they might be useful in attracting a mate during breeding season.

Another incredible attribute is that a female can change into a male halfway through her life. The purpose behind this is still not fully understood, but scientists believe it is an evolutionary solution to reduce the risk of population decline by ensuring that there will always be a mate to reproduce with.

The Asian sheepshead wrasse has been recorded to reach a massive 1 metre long and can weigh up to 14.7 kilograms.



Conservation Status

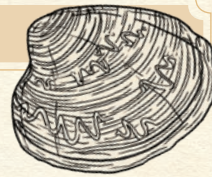
DATA DEFICIENT

There is little information about this species of wrasse but we do know the population is dwindling. It is likely that overfishing will negatively impact the population size of the Asian sheepshead wrasse if no limitations are put in place.

Recent research suggests household chemicals, if poured into a drain, can end up in the ocean and may have an effect on the reproduction rates and sexual organs of these fish.

Diet

Not a lot is known about the food sources of this wrasse species, but crustaceans and shellfish are thought to make up the majority of their diet. This could explain their unusual teeth, which are perfect for chewing through or opening shells.



Location/Habitat

Asian sheepshead wrasse are found in the cool seas surrounding Japan, China, North and South Korea. However, even there they are not commonly seen.



Fun Facts

- The term for animals that can change genders is 'sequential hermaphrodites'. It is mostly fish and gastropods that can do this.
- Data retrieved by scientists about this species can be unreliable as what is documented as female one day, may be documented as male another.
- Wrasse that are born female can develop into even larger male fish than wrasse that are born male.



Semicossyphus reticulatus



Periophthalmus barbarus

Atlantic Mudskipper

Periophthalmus barbarus

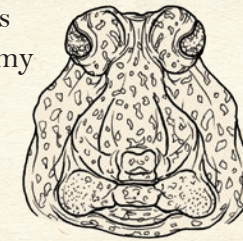
(peer-e-off-thal-mus bar-ba-rus)

Description

This territorial, amphibious fish is quite the looker. Their brown, slimy bodies can reach 15 centimetres long. Their shape has evolved to assist the mudskippers in crawling onto land for protection from predators, while also allowing them to live underwater.

The mudskippers' pectoral fins are shaped like limbs and enable them to effectively walk onto rocks and sand outside of the water. Perhaps, the most interesting aspect of their powerful bodies is what gives them their name. Using their long tails as a springboard, they can propel themselves forward in a jumping or skipping motion which helps them to both escape predators and also to get around.

Another interesting aspect of the Atlantic mudskipper is their eyes, which sit on the top of their heads, allowing them a 360-degree view of the world.



Conservation Status

LEAST CONCERN

Fortunately for the Atlantic mudskipper, their population is under very little threat. They also have a large, wide-spread range which means they are of least concern in terms of conservation.

Diet

Since this animal is able to hunt for food underwater and on land, they can be found feasting on a range of arthropods (an invertebrate

with an internal skeleton) and crustaceans, such as insects, worms and crabs.



Location/Habitat

Incredibly, the Atlantic mudskipper has evolved to live both in the water and out. On land, their gills close, keeping some water with them and activating an internal oxygenated chamber to ensure they can breathe. They are found along the west African coast or on the islands of the Gulf of Guinea, and prefer muddy, shallow fresh waters and the nearby platforms and rocks. They will spend their days darting back and forth between the water and land, keeping themselves wet and hydrated while searching for food.



Fun Facts

- In order to keep their eyes moist when outside of the water, Atlantic mudskippers have a flap of skin over their eyeballs to protect them.
- During mating season the males become more vibrant in colour.
- Males that live close to one another are quite competitive and will act aggressively towards each other, sometimes resulting in the death of one of them.
- There are 15 species of mudskipper, and the Atlantic has the largest population.
- Their scientific name, *Periophthalmus*, refers to their ability to see 360 degrees, and translates to 'round eye'.




About the author

Sami Bayly is a natural history illustrator based in Newcastle, Australia, who loves all things weird and wonderful. She finds the beauty in all animals regardless of their appearance, and hopes to share her appreciation with others.

The Illustrated Encyclopaedia of Ugly Animals is her first book.

To keep up to date you can follow Sami on Instagram

 @samibayly

Teachers notes and a full list of references can be found at
www.hachette.com.au/sami-bayly/the-illustrated-encyclopaedia-of-ugly-animals