THE TWILIGHT ZONE

200–1,000 METRES

Beneath the bright and busy Sunlight Zone (0–200 metres) lies a gloomy, blue-tinged world. Undisturbed by wind or wave, the waters of the Twilight Zone move on their own mysterious currents and are home to many strange creatures.

ATLANTIC WOLFFISH

Named after their sharp and protruding teeth, Atlantic wolffish are found down to 500 metres deep in the Twilight Zone. Sometimes growing up to one and a half metres (about the size of a bathtub), these eel-like bony fish have a small tailfin, and a single dorsal fin running the entire length of their bodies.

The sharp teeth at the front of the wolffish's large and immensely strong jaws are used to snatch prey, which include shellfish, crustaceans, brittle stars, sea urchins, sea snails, shrimp and sea stars. Towards the back of their mouths are rows of blunt teeth – perfect for crushing protective shells to get to the soft meat inside.

Wolffish prefer to live and hunt near to or on the seabed. They also like areas with lots of scattered rocks where they can hide in dark crevices, waiting for prey to reach striking distance.

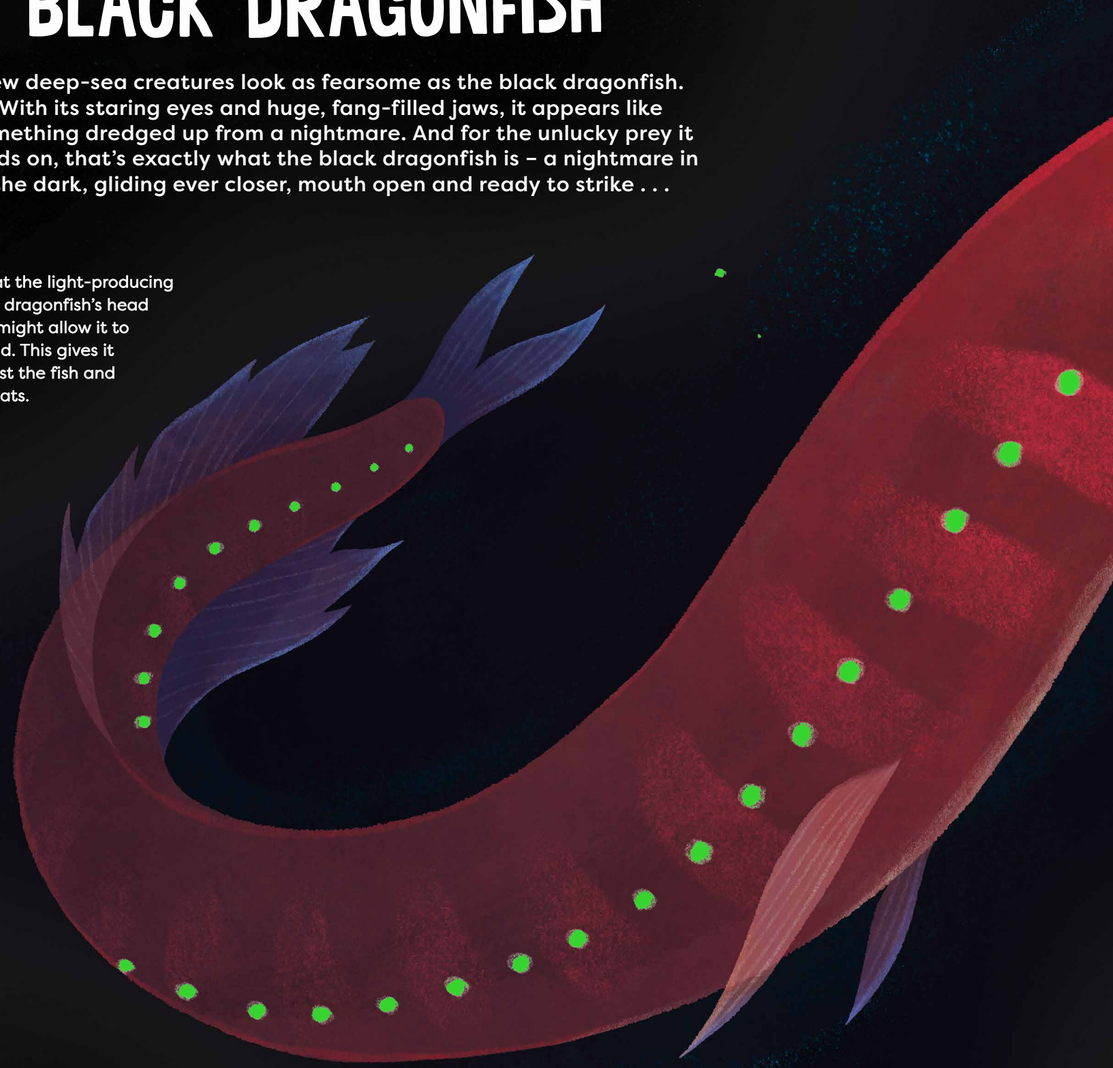
WOLFFISH PRODUCE A NATURAL ANTIFREEZE PROTEIN THAT KEEPS THEIR BLOOD FLOWING EVEN IN THE FROSTY WATERS OF THEIR NORTH ATLANTIC HOME.

The female wolffish lays thousands of eggs at once, and they can take anywhere between three and ten months to hatch. It's the male that guards the eggs (which, at around five and a half millimetres in diameter, are some of the largest fish eggs in the natural world), waiting until they hatch as fully formed young. From then on, these young wolffish must fend for themselves, and only a small number will survive to reach adulthood.

BLACK DRAGONFISH

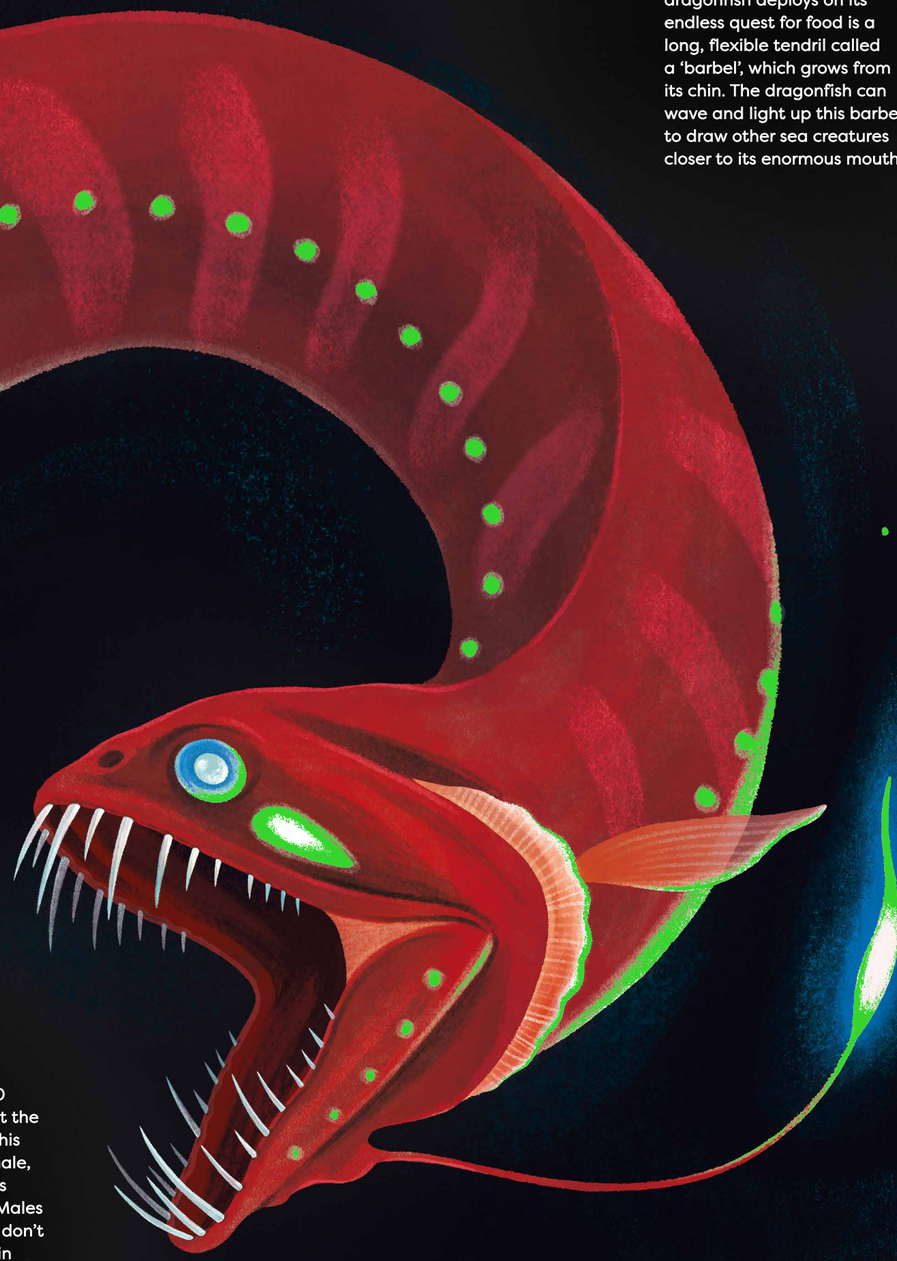
Few deep-sea creatures look as fearsome as the black dragonfish. With its staring eyes and huge, fang-filled jaws, it appears like something dredged up from a nightmare. And for the unlucky prey it feeds on, that's exactly what the black dragonfish is – a nightmare in the dark, gliding ever closer, mouth open and ready to strike . . .

Scientists believe that the light-producing 'photophores' on the dragonfish's head and around its eyes might allow it to see a little way ahead. This gives it an advantage against the fish and crustaceans that it eats.



BLACK DRAGONFISH BABIES ARE TRANSPARENT AND HAVE EYES LOCATED ON THE END OF STALKS, WHICH CAN BE UP TO HALF THE LENGTH OF THE BODY.

Another weapon the female dragonfish deploys on its endless quest for food is a long, flexible tendril called a 'barbel', which grows from its chin. The dragonfish can wave and light up this barbel to draw other sea creatures closer to its enormous mouth.



Female black dragonfish can grow up to around 40 centimetres – that's about the height of a bowling pin. This is much larger than the male, which usually only reaches around five centimetres. Males are dark brown, and they don't have the female's fins, chin barbel and long teeth.

JAPANESE SPIDER CRAB

Creeping and crawling across the seabed off the southern coast of Japan are true giants of nature. With a leg span of up to almost four metres (that's about the length of an average car) and a shell that can grow to 40 centimetres, the Japanese spider crab is the largest of all the arthropods. It's also the second heaviest, after the American lobster. They have eight legs that they use to walk with and two clawed legs at the front called 'chelipeds'.

The hard, thick shell does more than protect the crab from attack by predators such as sharks and octopuses – it also provides camouflage. The spines and bumps on the shell's surface help the crab blend into the rocky seafloor, making it much harder to spot. Sometimes they disguise themselves further by attaching sponges, seaweed or sea anemones to their spiky shells, wearing them like fancy hats.

Every now and again, as they grow, spider crabs shed their exoskeleton (that's the shell and protective plates covering their legs) and grow a new one. This moulting process can take several hours. The new shell is thin and soft, and takes about a week to thicken and harden properly – leaving the crab temporarily vulnerable to attack. After moulting, the new shell can be up to 20 per cent larger.

IF THE SPIDER CRAB'S LEGS ARE PULLED OFF BY A PREDATOR, THEY CAN GROW BACK.

Japanese spider crabs are omnivores and spend most of their time searching the seafloor for all kinds of nourishment. They graze for algae, scavenge dead animals, and use their claws to force open mollusc shells to get at the meat inside.

THE JAPANESE NAME FOR THE SPIDER CRAB IS TAKA-ASHI-GANI, WHICH MEANS 'TALL LEGS CRAB'.