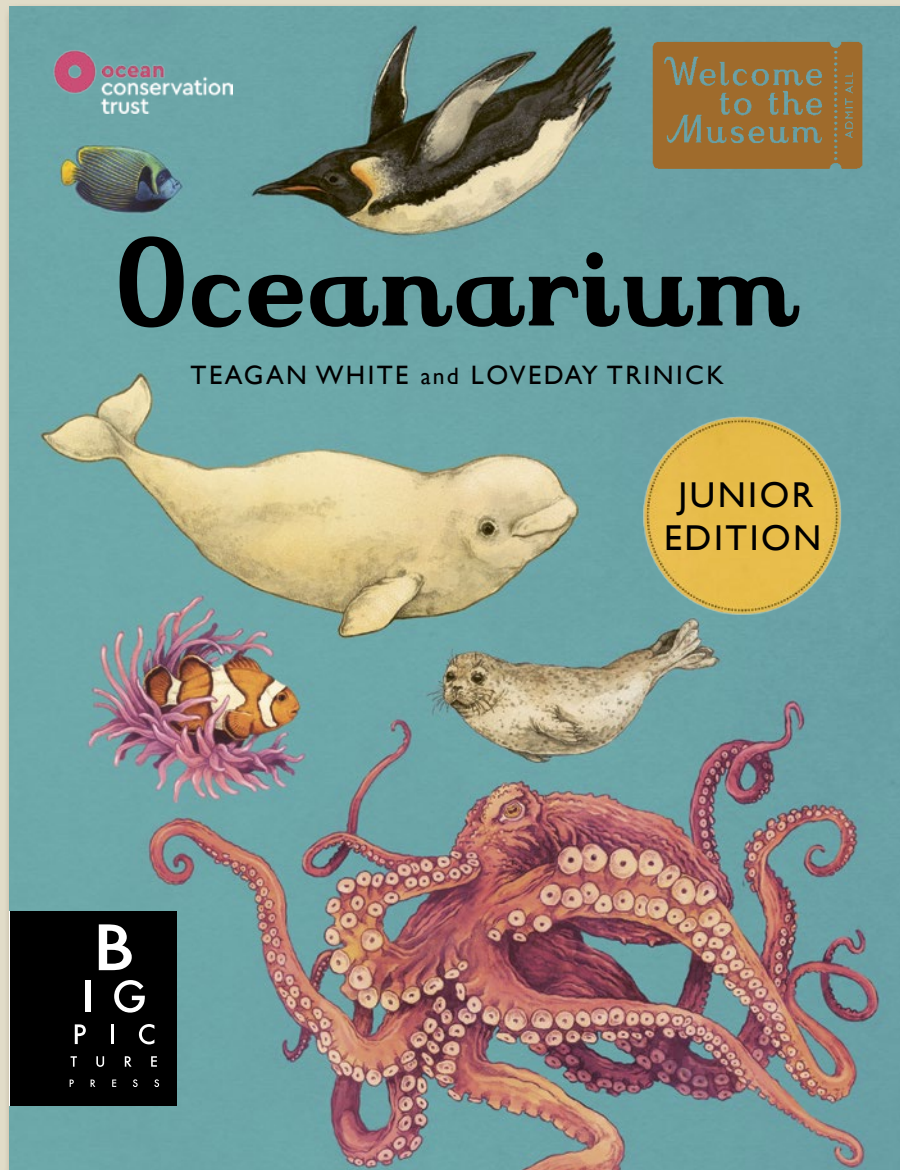


Oceanarium (Junior Edition)



Written for younger children, more readers than ever can discover the wonders of the animal kingdom in the *Oceanarium Junior*.

- Cover finishes: matt lam, spot UV and foil
- Abridged format makes this the perfect alternative to the large-format book, and offers an alternative price point for consumers.
- Beautiful vintage-inspired artwork by award-winning artist Teagan White
- Published in conjunction with the National Marine Aquarium, part of the Ocean Conservation Trust.

Oceanarium (Junior Edition)

INVERTEBRATA

Jellyfish

Jellyfish wander the ocean drifting with the currents whenever the water takes them. Despite their name, they are not fish but invertebrates as they don't have a skeleton. Their soft, bell-shaped bodies are around 75 per cent water and contain neither brain nor heart. They have bioluminescent but can push themselves gently through the water by flapping their body (the bell) with water and contracting it back out again.

Along with coral and anemones, jellyfish belong to the group Cnidaria. All cnidarians are carnivorous and use stinging cells to catch prey and to defend themselves. Most jellyfish have long tentacles, which are lined with stinging-like stings. When jellyfish sting their tentacles into the water, the sting has venom and the victim the moment they brush against it. Several species of jellyfish are translocators, meaning other animals will not see the danger about until it's too late, whereas others use bright colours to attract prey. For instance, flower hat jellyfish have fluorescent-tipped tentacles, which may look like green algae to unsuspecting fish. The fish approach the tentacles in the hope of food but instead swim into a trap and sometimes some young fish and crabs seek shelter in the tentacles. They rely on a thick mucus coating to protect them or mucus drudge the tentacles as they sweep in the water.

Key points

- 1. **Blue jellyfish**
Bell diameter: 1.5m
Bell height: 1.5m
Tentacle length: 1.5m
The species is the largest jellyfish in the world.
- 2. **Sea nettle jellyfish**
Bell diameter: 1.5m
Bell height: 1.5m
Tentacle length: 1.5m
This is the largest jellyfish in the world.
- 3. **White-spined jellyfish**
Bell diameter: 1.5m
Bell height: 1.5m
Tentacle length: 1.5m
This species is the largest jellyfish in the world.
- 4. **Golden jellyfish**
Bell diameter: 1.5m
Bell height: 1.5m
Tentacle length: 1.5m
This species is the largest jellyfish in the world.
- 5. **Flower hat jellyfish**
Bell diameter: 1.5m
Bell height: 1.5m
Tentacle length: 1.5m
This species is the largest jellyfish in the world.
- 6. **Comb jellyfish**
Bell diameter: 1.5m
Bell height: 1.5m
Tentacle length: 1.5m
This species is the largest jellyfish in the world.



CHORDATA

Habitat: Rock Pool

Rock pools are the small pockets of standing left behind in the rocky holes of the shoreline at low tide. A very changeable habitat, rock pools vary in size from a few centimetres to a metre across. They are very shallow and warm, and their water temperature and oxygen levels can fluctuate wildly. They are also very exposed to the sun and wind, and their water can evaporate quickly. They are also very rich in nutrients, and they are home to a wide variety of life.

Key points

- 1. **Water penny beetle**
Length: 1.5cm
This species is the largest insect in the world.
- 2. **Dragonfly nymph**
Length: 1.5cm
This species is the largest insect in the world.
- 3. **Water penny beetle**
Length: 1.5cm
This species is the largest insect in the world.
- 4. **Water penny beetle**
Length: 1.5cm
This species is the largest insect in the world.
- 5. **Water penny beetle**
Length: 1.5cm
This species is the largest insect in the world.
- 6. **Water penny beetle**
Length: 1.5cm
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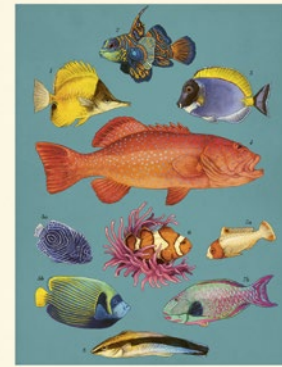
FISH

Coral Reef Fish

The coral reef is one of the most diverse and beautiful ecosystems in the ocean and the animals that live there all rely on it in some way for their survival. Coral reef fish often have beautiful patterns and bright colours which means they can blend in with their surroundings. They also have a variety of behaviours and some are very territorial. They are also very important to the reef as they help to keep it healthy.

Key points

- 1. **Longnose butterflyfish**
Length: 1.5cm
This species is the largest fish in the world.
- 2. **Parrotfish**
Length: 1.5cm
This species is the largest fish in the world.
- 3. **Clownfish**
Length: 1.5cm
This species is the largest fish in the world.
- 4. **Surf scorpionfish**
Length: 1.5cm
This species is the largest fish in the world.
- 5. **Blue tang**
Length: 1.5cm
This species is the largest fish in the world.
- 6. **Yellow tang**
Length: 1.5cm
This species is the largest fish in the world.



MAMMALS

Habitat: Kelp Forest

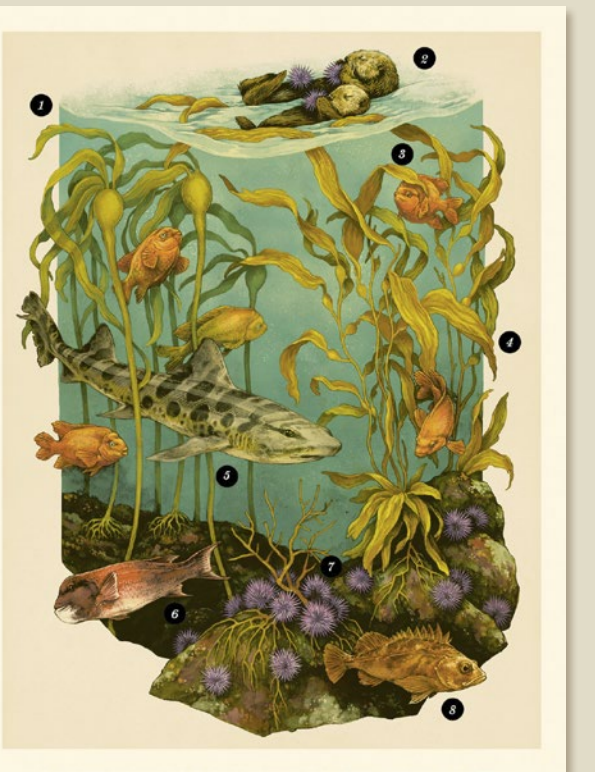
Kelp is a kind of seaweed that grows in cool coastal regions. Unlike plants on land, seaweeds have a holdfast instead of roots, which grips to the rocky seabed, ensuring the kelp is locked in place. Each holdfast has one or more stipes, or stalks, reaching up to the surface. Some types of kelp grow as tall as 45 metres, forming vast forests that tower above the seabed.

All ecosystems need a delicate balance between photosynthesising organisms (such as seaweed), herbivores and carnivores. In the kelp forest, this balance is best seen in the relationship between kelp, sea urchins and sea otters. Sea urchins graze on the kelp, making space for new plant growth. Sea otters then feed on the urchins, keeping their numbers down and ensuring they don't eat all the kelp.

Kelp forests are vulnerable to climate change as warming seas bring less of the nutrients needed for kelp growth and poor water quality reduces the light levels needed for photosynthesis. It is possible therefore that, as our ocean warms, kelp forests may move further north to cooler waters.

Key to plate

- 1. **California sheephead**
Length: Approx. 30cm
This species starts out as a female and turns into a male later in life.
- 2. **Giant kelp**
Length: Approx. 45m
Giant kelp can grow as much as 45cm a day, making it one of the fastest-growing organisms on Earth. When detached from the seabed, it floats in mats, giving shelter to many animals.
- 3. **Leopard shark**
Length: Approx. 1.6m
Young sharks are experts at finding straits and crevices under the sandy seabed and often visit kelp forests.
- 4. **Rockfish**
Length: 12-104cm, depending on species.
Some rockfish can live for around 100 years.
- 5. **Purple sea urchin**
Length: Approx. 10cm
These sea urchins are a threat to kelp forests. Since 2014, 95 per cent of the bull kelp forests in Northern California, USA, have been devoured by them.
- 6. **Sea otter**
Length: Approx. 1.5m
Sea otters are experts at finding straits and crevices under the sandy seabed and often visit kelp forests.



Pub Date	09/05/2024
Pub Price	£12.99
ISBN	9781800784895
H x W	246 x 189mm
Binding	Hardback
Age Range	7-9 years
Author	Loveday Trinick
Illustrator	Teagan White
Extent	80pp
Rights Available	World