



Cephalopods

The cephalopod family includes squids and octopuses, and is an ancient form of marine life that dominated the seas several million years before fish had evolved. There are now around 800 species of cephalopod, which can be found living in every ocean on Earth.

The word cephalopod means 'head-feet' in Greek, which reflects their anatomy. Their size is recorded by the length of their body cavity, called a mantle, which sits behind the head. Their large brains and advanced senses make them sociable creatures able to communicate with one another - they sometimes even shoal with fish for company.

Cephalopods can change the colour and pattern of their bodies to camouflage

themselves or ward off predators. They have sucker-like tentacles, and move by taking in water and shooting it out to move forward by jet propulsion.

Cephalopods produce ink and, when threatened, they release an inky cloud to confuse predators. Some can produce a ghost-like cloud a similar size, shape and colour to their own body, which acts as a decoy and gives the cephalopod a chance to escape.

Key to plate

2. Whin-lash squid

1: Long-armed squid

Chiroteuthis veranvi Mantle length: 12.5 centimetres

Mastigoteuthis microlucens Mantle length: 10 centimetres This slow-moving, alien-like squid fives The long, whip-like tentacles of this at depths of up to 2.4 kilometres.

3: Angel octopus Velodona topata

Mantle length: 16 centimetres This deep-sea octopus lives at depths squid are covered in tirry sticky suckers. between 200-700 metres.



Turtles, Tortoises

Turtles are members of an order of reptiles called Testudines, which also includes tortoises and aquatic terrapins. This name refers to the hard shell that all its species possess, as a testudo in ancient Rome was a hard screen or shield that soldiers used to protect themselves. Little of the modern turtle's anatomy has changed from its prehistoric ancestors', who date back more than 220 million years, making turtles and tortoises more ancient than all snakes, lizards and crocodiles.

Turtles' shells are attached to their bodies, and so their protective armour can never be taken off or left behind. Land-dwelling tortoises have higher, domed shells, whilst aquatic species have flatter shells. To hide inside their shells, some species fold their head alongside their shoulder, whilst others retract their neck and head backwards. Box turtles have a hinsed bony plate that allows their shells to close completely.

Males will often perform elaborate courtship rituals to impress females, who lay shelled eggs after mating. The temperature that the eggs are kept at affects the sex of the hatchlings (a trait shared with crocodiles and some lizards).

Key to plate

1: Green sea turtle
Chekoin mydds
Length: 150 centimetres
This large sea turtle is a herbivore,
feeding mostly on seagrasses.
Populations of green sea turtles can be
found in tropical waters of the Atlantic
and Pacific oceans.

2: Painted turtle
Chrysensy picto belili
Length: 25 centimetres
Also known as the firebelly turtle, this
species spends long hours basking in
the sun, particularly early in the day
It is common sight to find several
painted turtles piled on top of one
another on a lot

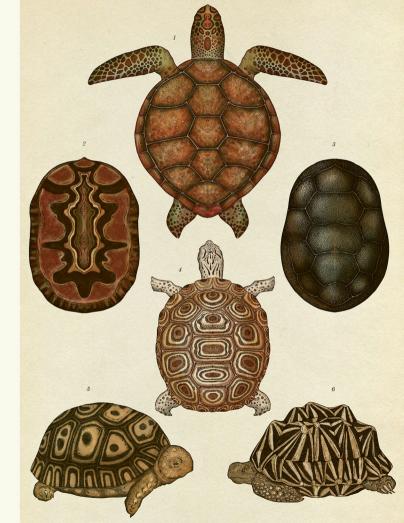
3: Blanding's turtle
Emydoidea blandingii
Length: 20 centimetres
This turtle has a plastral hinge that
forms a protective hatch at the front
of its shell, it is omnivorous feeding on
a range of foods such as bernies, fish
and frops.

Diamondback terrapin
 Molademys tempin
 Length: 15 centimetres
 The mild-mannered diamondback
 terrapin lives in bracishi lagoons, tidal
 marshlands and sandy beaches in
 east-coast America. The species nearly
 became extinct due to over-hunting
 and destruction of its habitat.

5: Leopard tortoise Geochelone pardolls Length: 50 centimetres The leopard tortoise is a large tortoise found in savannah habitats in Africa, where it can live for up to 100 years. Its grasping toenails make it an agle walker, strong swimmer and surprisingly good dimber:

Geochelone elegans Length: 28 centimetres The Indian star tortoise has a high tolerance of water, and so can be found in places that experience monsoon seasons its dome shape allows it to easily self-right.

6: Indian star tortoise



Habitat: Arctic Tundra

Around the North Pole is a cold barren area called the tundra. This habitat is one of the most difficult places to survive on Earth due to its freezing temperatures, high winds, lack of shelter and scarcity of food and water. The ground is permanently frozen (a condition known as permafrost), which makes it difficult for trees and plants to grow. This means there is little vegetation for animals to feed on.

Cold-blooded reptiles and amphibians are not at all suited to this environment, but mammals can survive because they are warm-blooded and have evolved to grow warm furry coats that keep them from freezing. The thick coat of some Arctic mammals changes colour through the seasons for camouflage, turning white for the snowy winter and a darker colour through the summer.

Staving warm in such a cold habitat uses a lot of energy, and consequently many of these mammals, such as the Arctic wolf and polar bear, are carnivorous predators, feeding on protein-rich meat.

Polar bears are perfectly adapted to living in the icy tundra around the North Pole. They are classed as aquatic mammals and are master-swimmers, able to travel up to 320 kilometres in the water. Their white coat is made up of clear, hollow hairs which keep them warm in the Arctic water and dry out guickly when they are back on land.

Key to plate

1: Polar bear Ursus maritimus Length: 215 centimetres The solitary polar bear travels far and wide in search of food, as the Arctic ice melts in the spring and freezes in winter. It has been known to cover territories of 1,000 kilometres from north to south. To protect its paws on

2: Muskox Ovibos moschatus Length: 210 centimetres The sociable muskox lives in small groups of five or six in the summer when food is plentiful and the weather is mild. In winter, these groups form large herds of up to 60 creatures for warmth and protection.

3: Arctic wolf Canis lupus arctas the ice, the soles of its feet are furred. Length: 109 centimetres The Arctic wolf lives in a family pack with a defined social hierarchy; the alpha pair - who are often the parents by running at speeds of up to of those lower down in the pack's

hierarchy - are at the top. The pack works together to hunt and care for any young pups.

4: Arctic hare Lebus arcticus Length: 56 centimetres The Arctic hare eats woody plants, buds and grasses, and uses its keen sense of smell to find food that is buried beneath the snow, It is fast and agile, and can escape its predators 64 kilometres per hour.

