

Guide to Fossil Groups



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Fossils can be formed when a plant or animal is buried for millions of years and becomes replaced by minerals. Use this guide to find out more about each type of animal: when it lived, what it ate, and which major group (or Phylum) it belonged to.

Find more nature guides or get in touch with our museum scientists for help with identification: museum.wales/collections/on-your-doorstep

005



Trilobites

Extinct

Phylum: Arthropoda (Trilobita)
Habitat: Marine
Date: 520 - 250 million years ago.

Trilobites were a major part of early marine life. They have a flattened segmented body like a woodlouse. Some were predators, others scavenged, or fed on debris. They were free swimming animals. Size between 3 mm and 70 cm.



Ammonites

Extinct

Phylum: Mollusca (Cephalopoda)
Habitat: Marine
Date: 200 - 66 million years ago

Ammonite shells are usually coiled in a flattened spiral. The animal inside had tentacles like a squid. They were related to nautilus and squid. They were free swimming predators. Size from 3 mm to 1.8 m across.



Graptolites

Extinct

Phylum: Graptolithina
Habitat: Marine
Date: 500 - 350 million years ago

These were colonial animals that floated in deep oceans, and fed on tiny particles filtered out of the sea-water. Each serration on the branches contained a microscopic animal, or zooid. Colonies were usually less than 10 cm across.



Bryozoans

Phylum: Bryozoa
Habitat: Mostly marine
Date: 500 million years ago to the present day.

These are tiny filter-feeding animals which are linked together into larger colonies (similar to corals). Individual animals, or zooids, are less than 1 mm, but colonies may be up to several metres across.



Bivalves

Phylum: Mollusca (Bivalvia)
Habitat: Marine + Freshwater
Date: 500 million years ago to the present day.

Bivalves have two asymmetrical shells attached by a hinge joint. Some bivalves burrow in the seabed, others are attached to rocks, or may be free-swimming. They are mostly filter-feeders. Size from a few mm up to 1.3 m



Brachiopods

Phylum: Brachiopoda
Habitat: Marine
Date: 540 million years ago to the present day.

Brachiopods (unlike bivalves) have two shells of different shapes which are symmetrical. They are also completely different to bivalves internally. They are filter-feeders, either burrowing or attached to the sea floor. Size from 1 mm to 35 cm.

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Crinoids

Phylum: Echinodermata
Habitat: Marine
Date: 480 million years ago to the present day

Crinoids (sea-lilies) have a long stalk with a small cup-shaped body on top. Many tentacle-like arms filter their food from the sea water. Crinoid skeletons often break up after death, so only small stem sections are found. Complete animals can be up to a metre tall.



Belemnites

Extinct

Phylum: Mollusca (Cephalopoda)
Habitat: Marine
Date: 230 - 66 million years ago

Bullet-like belemnites are common fossils, but are only the solid inner parts of the animal which looked much like a squid. They were swimming predators, eating crustaceans and other molluscs. Size from 3 cm to 70 cm long.



Corals

Phylum: Cnidaria
Habitat: Marine
Date: 535 million years ago to the present day

Corals may be either solitary or colonial, and sometimes form reefs. They are filter-feeders attached to the sea-bed. The individual soft-bodied polyps may be from 1 mm to 12 cm across. Colonies may grow to several metres across.



Gastropods

Phylum: Mollusca (Gastropoda)
Habitat: Marine, freshwater & land
Date: 500 million years ago to the present day

Gastropods, or snails, usually live in a coiled shell. They have many different feeding methods, from grazing to predation. Size from less than 1 mm to 90 cm



Echinoids

Phylum: Echinodermata
Habitat: Marine
Date: 450 million years ago to the present day

Commonly known as sea-urchins. They move slowly over the seabed grazing on algae. Most varieties have spines which can also be found as fossils. Size from 3 to 30 cm.



Ichthyosaurs

Extinct

Phylum: Vertebrata (Reptilia)
Habitat: Marine
Date: 250 - 90 million years ago

Ichthyosaurs were active predators in the sea whilst dinosaurs lived on land. They used their tail and paddles to swim, and had huge eyes. Usually only single teeth or bones are found as fossils. Complete animals could be from 70 cm to 20 metres long.