

Some common Bedfordshire fossils

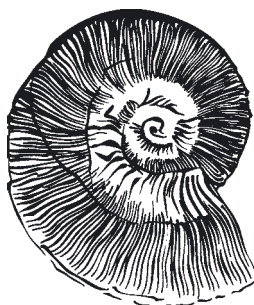
'Fossils' are the *remains, traces or impressions of plants and animals preserved in rocks.*

They can provide valuable information about the kind of animals that lived here millions of years ago, as well as information about Bedfordshire's environment. For example, the fossil of a marine animal tells us that the area in which we found it was once at the bottom of the sea, while a freshwater fossil indicates there was once a river or a lake present.

Sands tend not to preserve fossils (water moving through the sands dissolves the materials of which fossils are made), but many fossils have been found in Bedfordshire's clay and limestone quarries. Fragments of fossils scraped from other rocks by glaciers are found in the glacial till that covers much of Bedfordshire: bits of belemnite and the Jurassic oyster called *Gryphaea* are quite common.

Ammonite

- A *cephalopod*. Related to belemnites, and to modern octopus and squid.
- Ate slow moving animals and some corals
- Lived over coral reefs in the sea
- First appeared in the Devonian and became extinct at the end of the Cretaceous, so they are found in most of Bedfordshire's rocks.



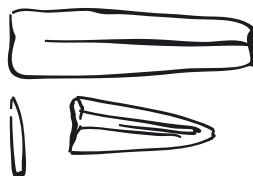
Fossil ammonites are used as markers for periods in the fossil record because the species present change over time.



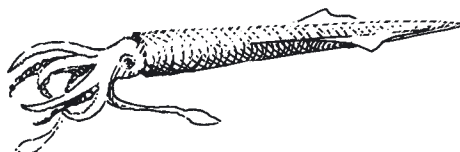
A living ammonite might have looked like this, a bit like the modern Nautilus.

Belemnite

- A *cephalopod*. Related to belemnites, and to modern octopus and squid. Ate small fish.
- Lived in warm seas from the Carboniferous to the Tertiary.



The fossils are fragments of a belemnite's hard central core. People once believed these to be lightning bolts or elf-shot, the arrows used by fairies.



PRESENT

QUATERNARY
2.6 million years

TERTIARY

65 million years

CRETACEOUS

146 million years

JURASSIC

208 million years

TRIASSIC

245 million years

PERMIAN

290 million years

CARBONIFEROUS

362 million years

DEVONIAN

408 million years

SILURIAN

439 million years

ORDOVICIAN

510 million years

CAMBRIAN

570 million years

PRE-CAMBRIAN

4.6 billion years



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Some common Bedfordshire fossils *continued*

Crinoid

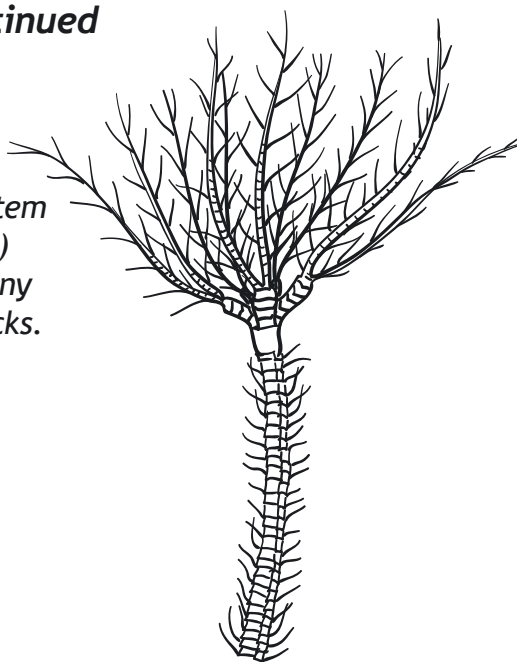
- Lived in shallow seas.
- Also called 'sea lilies', they look like plants, but are animals related to starfish and sea urchins.
- First recognisable crinoids appeared in the Ordovician, and there are crinoids living today.
- Feed by catching tiny particles of food on their arms. The food is then moved down the arm to the mouth at the top of the stem.



Bits of crinoid stem (called 'ossicles') are found in many Bedfordshire rocks.



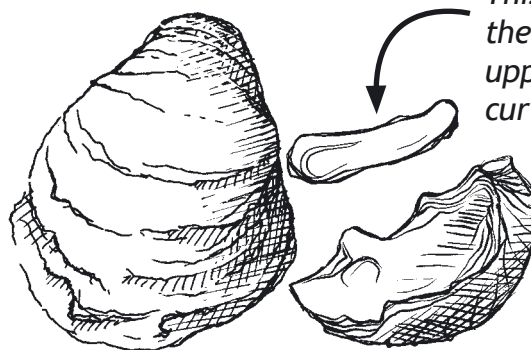
A more complete fossil, showing the top of the stem and the 'lily' flower made of arms covered with lots of rays on which food is caught and moved down to the mouth.



A live crinoid holds its arms out to catch food. The 'stem' leads to a holdfast that attaches the crinoid to the substrate.

Gryphaea

- Very common in Jurassic rocks, but some species survived until the Tertiary.
- Feed by filtering tiny particles of food from water pumped through their shells. Mussels and many other shellfish feed in the same way.
- Different shapes tell us about the ocean floor: the heavy shells of curved *Gryphaea* sank into mud to keep the animal stable. Flatter *Gryphaea* lived in more solid rocky or sandy places.



This is a bit of the thinner, flat upper shell of the curved Gryphaea.

