



TRILOBITES

First Draft

22.07.06

A fossil is a rock containing the preserved evidence of once living animals or plants. Fossils are found in sedimentary rocks (e.g. limestone, chalk and sandstone) as the fossil forms when the animal is buried in sediment (usually under water). Its soft parts rot away but any longer lasting hard parts will gradually be mineralised and turn to stone.

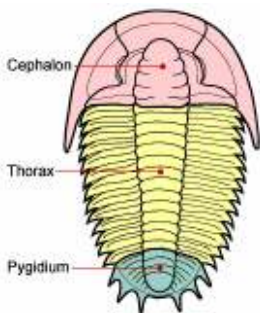
Trilobites were hard shelled, many legged creatures, many of which roamed the sea floor for nearly 300 million years, becoming finally extinct about 250 million years ago. Dinosaurs had yet to appear when the last trilobites died!

Trilobites show a HUGE diversification of types - already 15,000 different species have been identified and new species are STILL being unearthed every year. They ranged in size from 1mm to over 700mm (well over 2 feet in length). Visit the Manitoba Museum in Winnipeg, Canada to see one 720mm long by 400mm wide! Most types probably existed as predators or scavengers on organic debris, though some were particle feeders. They occupied marine habitats as diverse as tropical reefs to deep polar oceans.

The name trilobite refers not to the 3 main parts of the body (see diagram below) but instead to 3 lobes running the length of the animal. The central axial lobe contained all the major organs. The numerous fine, jointed legs and antennae are only very rarely preserved in fossils. Trilobite fossils have been found on all continents - in areas where seas once existed OR where sea floor rocks have been raised in continental plate movements (e.g. Morocco's Atlas Mountains). No fresh water forms have ever been found - trilobites were only sea creatures. Some sea bed rocks show neat tracks left by crawling trilobites.

When fearful of attack, trilobites used their hard exoskeleton and their ability to 'enroll' to protect themselves from predators. Rolling up into a ball shielded the delicate antennae, legs and soft under surface (see drawings below).

Trilobite moving along sea bed



cephalon

thorax

pygidium

A trilobite's 3 body parts

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Trilobite eyes

Many people are, rightly, intrigued by the eyes visible on trilobite fossils. Predator species clearly had a need for eyes sensitive to motion and trilobites developed one of the earliest sophisticated visual systems in the animal kingdom. Trilobites showed huge variation in eye design - from large, highly complex compound eyes with up to 15,000 separate lenses per eye and 360 degree visual field to species with eyes raised up on stalks in species that lived amongst organic debris. However, some species, living in deep, dark ocean conditions had no eyes, whilst the fossil record shows that other species appear to have gradually lost theirs (secondarily eyeless species).

Crystals trilobites

Trilobites have been part of the Crystals collection since the company first started. We aim to keep several species permanently in stock, adding special smaller collections of rarer types from time to time. Our buyers are particularly fond of trilobites, finding them intriguing, amusing and intellectually challenging (to identify!). One of our especial challenges is when a trilobite expert announces that our species labelling is incorrect - some of them have collected many hundreds and are hoping to find a new one on our shelves. Needless to say, we rarely argue!!

Buying in Morocco (where most of our trilobites come from) presents challenges and rewards that are unique to North Africa. Finding exactly what we want as the temperature relentlessly rises ever higher and the sand starts to swirl through the air... The rewards though are worth it with customers of all ages revelling in the chance to hold such an important and intricate complete fossil in the palm of their hand.

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