TRILOBITA

phylum : Arthropoda

sub-phylum : Trilobitomorpha

Trilobites were a group of extinct primitive Arthropods included in the sub-phylum Trilobitomorpha. The body is divided longitudinally into three lobes and hence the name Trilobita.

This subphylum contains about 17 genera and 4000 species. All of them were extinct.

Harpes ungula

Place of existence

They were marine as the fossils were found along with the marine animals.

Time of existence

They live during the palaezoic era for a period of 300 million years. Theye were abundant during the begeinning of palaezoic era in the Cambrian and ordovician periods.

But they become enxtinct by the end of paleozoic era in Permian period.

Trilobita

Phylum : Arthropoda
Sub phylum : Trilobitomorpha

* Trilobites were a group of extinct primitive arthropods included in the sub phylum Trilobitomorpha.

* The body is divided longitudinally into three lobes and hence the name Trilobita. This subphylum contain about 11 genera and 4000 species.

Place of Existance:-
They were marine & the fossils were found along marine animals.
Time of Existance:-
palaeozoic era for a period of 300 million years

Probable Ancestor
* There are two views regarding the ancestor of Trilobita
* Trilobita was originated from Tetracephaloso-mita.
* According to polyphyletic theory of Riggs and manton, protoannelida was the ancestor for Trilobita.
* Trilobita was the ancestor for Cheli cerata.
* chelicerata includes Arachnida (scorpion, spider, etc). and Xiphosura (Limulus)

TRILOBITE

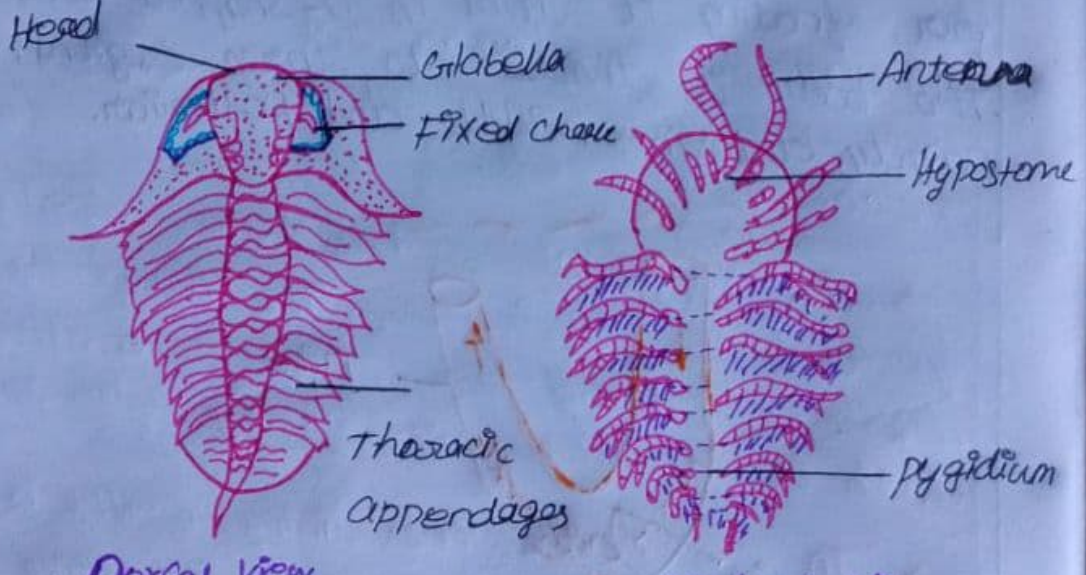
Structure:

* As the name indicates the body is divided longitudinally into three distinct lobes, namely an axial lobe in the central region and two pleural lobes on the sides.

* Father, the body is segmented transversely and has three regions, namely Cephalon, thorax and Pygidium.

* The Cephalon is semicircular. It consists of central central convex ridge known as glabella and the lateral portions called cheeks, Each Cheek is divided into two portion by a facial suture.

* The portion between glabella and suture is known as fixed cheek and the other portion lying near the border of cephalon is called free cheek.



Trilobite

Life History of Trilobite

* The earliest developmental stage was called protaspis. It was circular or oval in shape.

* It had an anterior cephalon and a posterior abdomen.

* The cephalon is large with 5 segments in its axial part. The abdomen is small. It developed into adult by the increase in the number of segments and size.

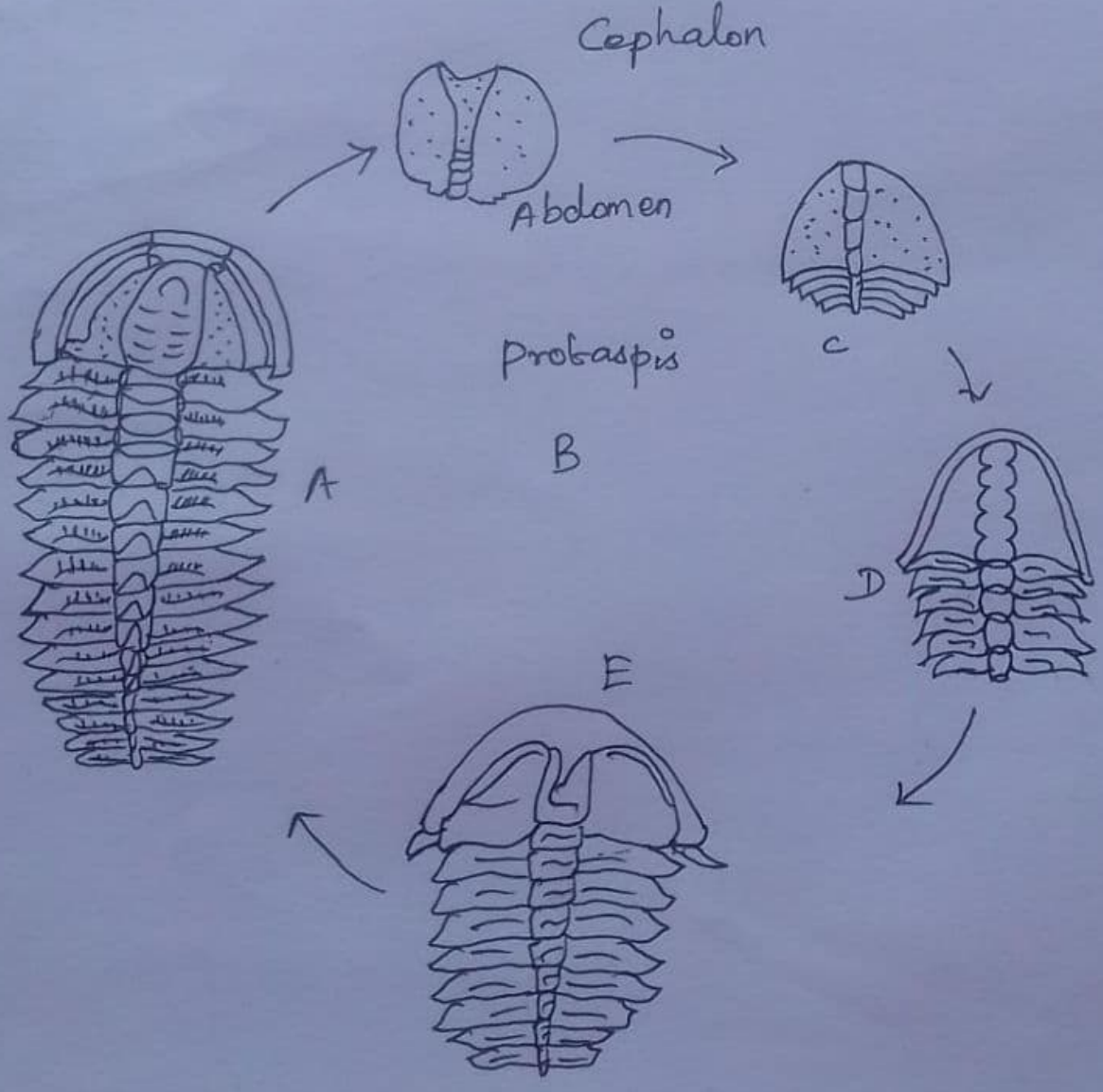


Fig : Life history of Trilobite

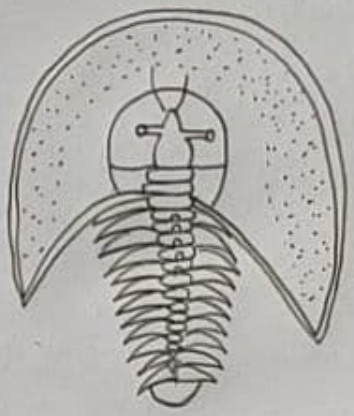
Trilobita.

Affinities:

Trilobites were the primitive arthropods. The possessed many primitive characters and they resembled Xiphosura and crustacea in many aspects.

Primitive characters:

1. presence of innumerable number of thoracic and abdominal appendages.
2. Arrangment and nature of appendages.



Trilobite and Limulus compared

Affinity with xiphosura:

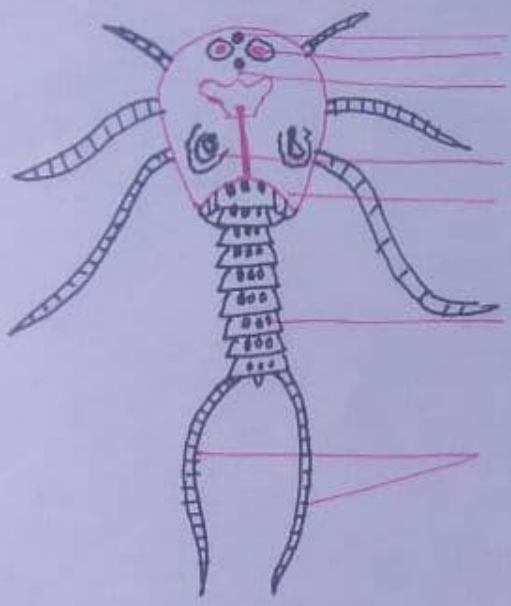
Xiphosura includes the living fossil limulus. Trilobita resembles xiphosura in the following Charaters:

* Body is divided into three lobes.
* cephalothorax bears laternal eyes.
* Appendages are biramous.
* presence of laternal spine in the pleura.
* Hence larva is called trilobito larva.

Affinity With Crustacea

* A few groups of crustacea such as phyllopoda, Leptostraca, Isopoda were present in the fossil beds where the trilobites were found.

* phyllopod crustaceans Apus and Branchipus resemble trilobites in the following character



An Apus a crustacean and a trilobite

* Presence of variable number of trunk segments
* presence of a prominent labrum
* presence of a single pair of antenna.

Conclusion

* Trilobite was definetely an arthropod.
* It was the most primitive arthropod.

Fossil evidence indicates that some phyllopod crustaceans occurred at the same time when trilobites flowrished. structural resemblances indicate that trilobites were the ancestors for phyllopod crustaceans.

Nautiloids:

* It is group of Molluscincluded in the class cephalopoda and the order Nautiloidea.
* This groups includes extinct as well as extant animals.
* The nautiloids are the Primitive cephalopods.
* They originated in the Cambrian Period of Palaeozoic era about 500 million years ago.

* Nautilus is marine. It has a spirally coiled shell formed of many chambers.
* The chambers are separated by septa which are perforated in the middle by a siphon. The chambers are filled with air.
* The junction between the chamber is known as suture. It is simple curved and smooth in Nautilus.
* Animals live in the outermost chamber of the shell.
* The body has two regions, known as head and trunk. The head has two eyes and ten tentacles; arms or absent.
* It lives in Indian and Pacific oceans.

AMMONOIDEA

* Ammonoids, constitute one of the most important clades of the most important clades of extinct invertebrate animals.

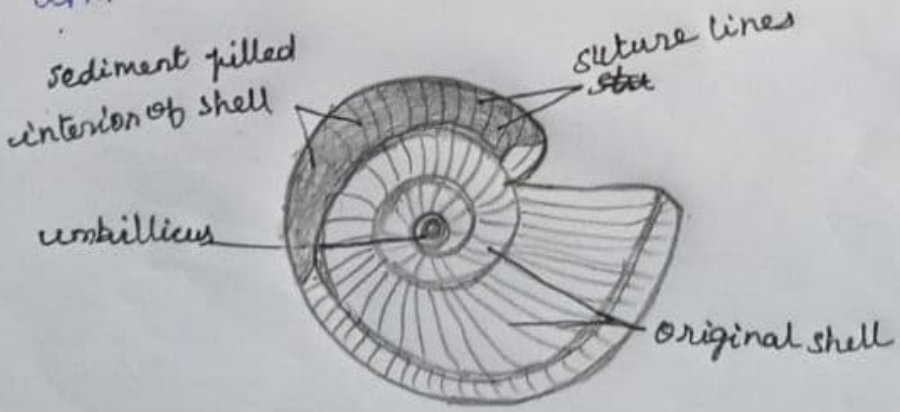
* Their lovly shells have long made them favourites of collectors and their fossils have been known since ancient times. For example pliny the elder.

* Hammonis cornu, or horn of Ammon, which is among the Ethiopia, has a golden yellow colour and is shaped like a ram's horn.

* The stone is guaranteed to ensure without fail dreams that will come true.

* Ammonoids originated in the Devonian period and have a fossil record that spans until the end of the Cretaceous period, when they went extinct.

* Examples of different shapes of ammonoids shells.



Ammonoidea

Belemnites

Phylum: Mollusca

class : cephalopoda

order : coleoidea

* Belemnites were a group of extinct mollusca included in the class cephalopoda.

* Belemnites were closely resembling sepia, Loligo and octopus. it is believed that they were the immediate ancestors for modern sepia, Loligo and octopus.

* they originated in the beginning of mesozoic era about 200 million years ago. they flourished well in the mesozoic era and all of them became extinct by the beginning of cenozoic era.

* they originated from nautiloids.

* morphologically, they were resembling the sepia and Loligo.

* They had 6 tentacles with hooks place of suckers of modern forms). They had ink gland like those of modern squids.