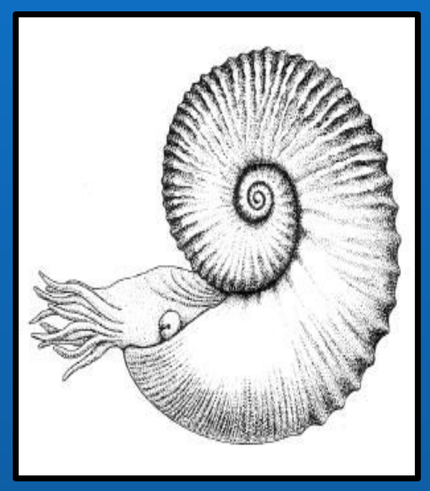
Ancyloceratina

Heteromorph Ammonites:

Ammonites were a diverse group of sea-dwelling spiral shelled molluscs first arising in the Devonian thought to be most closely related to modern cephalopods [1] [4]. Ammonites survived three mass extinctions, finally dying at the K/Pg Extinction. Ammonites ancestrally have a planospiral (simple spiral) shell structure (we call these monomorphs), but throughout their history they have also developed more strange and complex shell forms [1] [4]. These ammonites are called Ancyloceratina or heteromorph ammonites, and they first arose in the late Jurassic, becoming more common and geographically diverse during the Cretaceous [1]. While Ancyloceratina are ancestrally heteromorphs, there are some species that are convergent monomorphs.

Retrieved from Fossil Mall

Paleontologists knew very little about Anocycloceratina until new recent advances in tools and techniques for extracting fossil specimen allowed them to safely extract these more complex fossil ammonites.



Monomorph [4]

Ancycloceratina [4]

Caspianites wassiliewskyi:

- Heteromorphic origin of the monomorph Deshayesitoidea [2].
- Crescent-like cross section replaced in the first whorl [2].
- Reduced first umbilical lobe and the return of a four-lobed structure, transitioning to a planospiral shell [2].
- Appearance of umbilical perforations [2]

The crescent-like cross-section of the first whorl in the suborder Ancyloceratina is reduced to a rounded cross-section. A five-lobed primary suture is typical for most ancyloceratids, though it may be unstable [3].

Caspianites [3]

Deshayesitoidea
Retrieved from Ammohildo

Anatomy:

Not much about Ancyloceratina anatomy can be determined from the fossil specimen. However, we do know that Ancyloceratina is most commonly five-lobed [2]. We also know that they had strange shell forms, commonly uncoiled [1]. Their strange uncoiled spiral shape would be far less advantageous to swimming than the tightly coiled planospiral shape [1]. Because of this, we believe that heteromorph ammonites would have been very poor swimmers [1]. Ancyloceratina also had a lot of variety in shell shape [2].

Retrieved from Ebel-k

Prey and Predators:

Most Ancyloceratina were planktonic, rather than benthic or nektonic [2]. They preyed on plankton while they themselves were preyed on by marine reptiles such as mosasaurs [1].

Lauren Brann, Scott Spause, Yuewen Chen

Geol 204 The Fossil Record

Spring 2019 Section 0103