

Subphylum: Trilobita

completely extinct subphylum; 4,000 fossil species

earliest arthropod group

appeared **before** the "Cambrian Explosion"

named for the division of the body into 3 longitudinal lobes

most 2-7 cm; largest 70 cm (~2.5')

all marine; no freshwater fossils are known

highly specialized marine bottom dwellers (**benthos**) from shallow flats and reefs to deeper waters

a few may have been free-swimming or planktonic

dominated marine **benthos** for 300 Million years

flourished during Cambrian and declined by Ordovician became extinct at end of Permian (

Body consists of a **head** (cephalon), **thorax**, & **pygidium**

all three divided into longitudinal lobes in cross section → "**trilobite**"

head

Animals: Arthropoda - Trilobites; Ziser Lecture Notes, 2012.10

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distinct head with pair of **antennae** and **compound eyes**

heads of many were armed with long sharp **spines**

not sure of any specialized mouthparts

thorax

2-29 segments

segments added as animal grew

each segment had pair of **biramous** appendages

→ one portion a walking leg

→ the other part with a fringe of filaments; probably **gills**

base segment of each leg had **bristles** or teeth

→ probably used to grind food and move food toward mouth

pygidium

posterior end of several fused segments

Animals: Arthropoda - Trilobites; Ziser Lecture Notes, 2012.10

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Ecology & Feeding

trilobites were among the most prominent ancient marine animals

trilobites were able to dig into bottom sediment to find food or to conceal themselves from predators

could also roll up like pill bugs for protection

some may have been herbivores on seaweeds or beds of algae

others may have fed on small invertebrates; sponges, bryozoa

still others may have been filter feeders

Animals: Arthropoda - Trilobites; Ziser Lecture Notes, 2012.10

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