

# **LOBSTERS AND INSECTS**

## **THE EVIDENCE**

## First lobster fossil-110 million years old.



*Photo: National Autonomous University of Mexico as found in (Jaggard, 2007)*

110 million year old lobster fossil found in Mexico, and it was the same genus as lobster fossils found in Africa. Geologic theory of continental drift shows North America and Africa would have been much closer during this time.

*(Jaggard, 2007)*

Arthropod fossils with hard exoskeletons and jointed legs date to 500 million years ago



Lobster exoskeleton and jointed legs

## Ant Mandibles (Jaws)



Photo: Fir0002/Flagstaffotos

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## Ant with exoskeleton and jointed legs



Photo: Luke Elstad, MN

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## Lobster Mandibles (Jaws)



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500 million year old fossil of a  
“Walking Cactus” with a worm-like body, but also hardened limbs and  
jointed legs



Photo: Gianni Liu, Retrieved from <http://www.livescience.com/12953-walking-cactus-insects-arthropods-evolution.html>



Geologic evidence from the Cambrian period (544-500 million years ago) tells us that all life was in the ocean.

*What does the evidence tell us?*

- Using comparative anatomy, we know that lobsters (and all crustaceans) and insects share **homologous** structures that are common to all **arthropods**.
- These **homologous** structures (hard exoskeleton, jointed legs, mandibles) indicate that they were inherited from a common ancestor.
- The “walking cactus” fossil may indicate the transition to arthropods.
- Geologic evidence of continental drift supports the fossil evidence.
- Geologic evidence shows that life originated in the ocean, and land arthropods must be evolved from marine arthropods.