Ancient blob-like creature of the deep revealed by scientists

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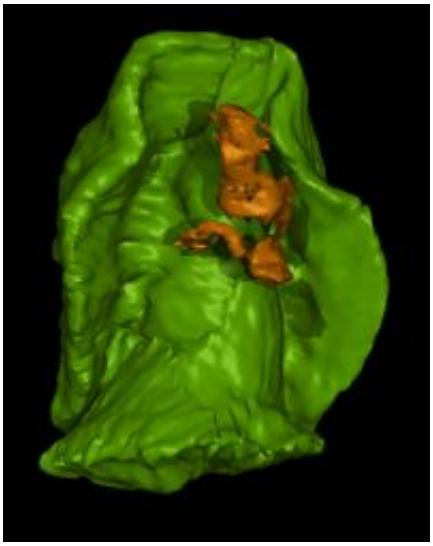

3D model of ancient sea creature

(PhysOrg.com) -- A unique blob-like creature that lived in the ocean approximately 425 million years ago is revealed in a 3D computer model in research published today in the journal *Biology Letters*. The model is helping researchers to understand what primitive species on early Earth looked like and how they might have evolved into the types of creatures that are on Earth today.

The scientists, from Imperial College London, have developed a detailed 3D model of the only known fossilised specimen in the world of a creature called *Drakozoon*. The specimen was found by one of the team

approximately 6 years ago in the Herefordshire Lagerstätte, one of England's richest deposits of soft-bodied fossils.

The research reveals that *Drakozoon* was a cone-shaped, blob-like creature with a hood and it probably had a leathery exterior skin. It appears to have survived in the ocean by attaching itself to hard surfaces such as rock. It was approximately 3mm long, and used filament-bearing tentacles to catch and eat organic particles in seawater. It pulled its hood down over its body for protection against predators, pulling it back again to expose its tentacles when danger passed.

Dr Mark Sutton, from the Department of Earth Science and Engineering at Imperial College London, says:

"Excitingly, our 3D model brings back to life a creature that until recently no one knew even existed, and provides us with a window into the life of *Drakozoon.* We think this tiny blob of jelly survived by clinging onto rocks and hard shelled creatures, making a living by plucking microscopic morsels out of seawater. By looking at this primitive creature, we also get one tantalising step closer to understanding what the earliest creatures on Earth looked like."

Scientists have debated what the first relatives of all creatures on Earth may have resembled and how their bodies evolved. Some scientists think the creatures had repeated units, similar to a caterpillar with its many segments and legs, while others think that their bodies were structured in more free-form ways, similar to slugs.

In today's study, the researchers analysed their 3D model and discovered that *Drakozoon* had eight deep ridges on either side of its body. They suggest that these deep ridges are the genetic remnants from a time when *Drakozoon* had a body made of repeated units, supporting the theory that the earliest creatures on Earth were also made of repeated units.

The study shows that *Drakozoon* was an early member of a major group of invertebrate species called lophophorates. The best known lophophorates are the brachiopods, a type of spineless shellfish that are some of the most common fossils from the Silurian Period. The team found their *Drakozoon* specimen clinging onto the fossilised shell of a brachiopod.

The researchers created their 3D model by physically slicing a fossil into 200 pieces. These pieces were individually photographed and the images were fed into a computer, which generated the 3D model for analysis by the scientists.

The researchers say it is very rare to find ancient soft bodied creatures intact because they normally decompose before they can be preserved in sediment. The soft bodied *Drakozoon* was perfectly preserved because it lived in an area that was covered in volcanic ash, following a volcanic eruption that instantly entombed it and other creatures living with it, keeping it intact for 425 million years.

More information: Mark Sutton, Derek Briggs, Derek Siveter, David Siveter, "A soft-bodied lophophorate from the Silurian of England", *Biology Letters*, Wednesday 4 August 2010

Provided by Imperial College London