AWESOME

FOSSILIZED AMBER

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This amber-trapped mosquito is likely from the Early Miocene period. It was found in the Northern Cordillera area of the Dominican Republic. Photo by Didier Desouens; online via Wikimedia Commons. License: $\underline{CC\ BY-SA}\ 4.0$ Click on the image for a better view.

Is it possible to find insects in amber (resin from trees)? Absolutely. Is it possible to revive organisms encased in fossilized amber? The answer to that question is surprising.

In 1991, microbiologists at California Polytechnic State University found a bee in amber. There was nothing unusual about that.

Wood resin (not wood sap) is the source of amber. Because it is soft and sticky, when it oozes, the fossilized tree resin (which we know as amber) can contain insects and/or plant/animal material which became stuck in the resin eons ago.

These inclusions, among other things, make amber an interesting object for study. In this photo, by Emmanuel Boutet, we see droplets of resin from a Spruce tree. (License: <u>CC BY-3.0</u>)



<u>Dr. Raul Cano</u>, while working at Cal Poly, claims to have isolated something more than just an insect in resin. He isolated a *bacterium* inside the bee's abdomen - and then *revived* it! Other scientists are attempting to duplicate Cano's results.

Isolating and reviving bacteria, however, is very different from reviving an extinct animal. Dr. Cano says:

It has been known for some time that, because of their size, structure and composition, some bacteria can survive as spores for long periods, much as seeds outlive a plant. That is not true of complex organisms.

We can *study* <u>fossilized</u> complex organisms, however. Jurassic-age fossils have been located throughout the world. <u>Three areas</u> in particular, featured at U. C. Berkeley's web site, have produced extraordinary finds.

The <u>Blue Nile Gorge</u> (near the <u>Ethiopian Rift Valley in Africa</u>), Solnhofen (in Germany) and <u>Berlin-Ichthyosaur (in the U.S.</u> where pioneering <u>female geologists explored</u>) have become treasure houses for <u>paleontologists</u>.

Other Jurassic finds (in France, England, central Russia, the Rocky Mountains and elsewhere) have also supplied priceless materials for scientific study.

Let's examine one of the most important in greater detail.

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Media Stream



Wood Resin Causes Amber

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Location of Best Jurassic-Age Fossils

Image online, courtesy University of California at Berkeley.

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Blue Nile Gorge - Jurassic-Age Fossils

Photo online, courtesy University of California, Berkeley.

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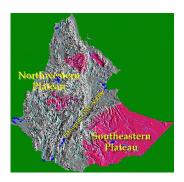


<u>Jurassic-Age Fossil Hunting - Blue-Nile Gorge</u>

<u>Image online</u>, courtesy University of California at Berkeley.

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Location of Ethiopian Rift Valley

Image online, courtesy University of California at Berkeley.

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<u>Pioneering Female Geologists: F. Bascom and A. Alexander</u> Image online, courtesy Gateway Science Museum, California State University at Chico.

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