

**CURIOUS NEW ELEMENTAL ANOMALY IN AMBER**, Thomas D. Farron, [farronts@mail.uc.edu](mailto:farronts@mail.uc.edu), and Amanda M. Hunt, Ph.D., [huntad@ucmail.uc.edu](mailto:huntad@ucmail.uc.edu). Geology Undergraduate Research, University of Cincinnati Clermont College, U.S.A.

Neolithic people valued amber. We now study to learn about ecosystems of the past. Sap or resin that becomes amber may entrap animals, hair, feathers, plants, as well as particles from the soil or air. The most ancient amber is reported from the Carboniferous, and the Triassic, but it became more widespread during the Cretaceous. Current analytical technology has proven capable of discovering new data from both previously tested and untested samples across the spectrum of science. One state-of-the-art tool is the Niton XRF T3 GOLDD+ hand-held analyzer by Thermo-Fisher Scientific. Using X-Ray Fluorescence, the tool identifies the elemental composition of a sample in under two minutes. Amber from the Cretaceous of Southeast Asia was analyzed using this tool. Iridium, an anomalous element in amber, was detected in concentrations of between 10-15 ppm, with the highest concentration of 41 ppm in one sample. Iridium is rare on Earth, and is generally found in meteorites and in association with meteorite impact or major volcanic eruptive events. Detection in these samples may be indicative of a similar event.

**KEYWORDS:** Geology; Cretaceous; Amber