**Life After a Snowball Earth: The Emerging Fossil Record of the Cryogenian Period**

The Cryogenian Period, a time of climatic extremes, remains one of the most important but poorly understood intervals in the history of life. This period of time is characterized by two global glaciations of different lengths: the older, longer Sturtian glaciation (>50 million years duration), and the younger and shorter Marinoan glaciation (~10-15 million years in length). Their glacial deposits are capped by carbonates thought to reflect rapid and severe global warming in the aftermath of glaciation. In our recent work, we have shown that these cap carbonates yield diverse assemblages of microfossils, including testate amoebae, monothalamous foraminifera, and the remnants of cyanobacteria. These fossils have been found in the Rasthof Formation of Namibia, the Kakontwe Formation of Zambia, the Taishir Formation of Mongolia, and the Ikiakpuk Formation of Arctic Alaska, all of which are interpreted as caps of the Sturtian glaciation. Fossils from these units are found in the acid insoluble residues of the carbonates and in thin section. This emerging fossil record reveals that during the glacial interlude, this time of extreme global warming, there was a thriving biosphere characterized by both cyanobacterial primary producers and benthic eukaryotes. The discovery of eukaryotic fossils changes our view of evolution and ecology during the Cryogenian Period, an interval of intense global climate change.