

A Name for the Age of the First Metazoans

Ron Pridgen

Get ready to pen in a new geological time period on your favorite geologic time chart. The International Commission on Stratigraphy (ICS), has determined that it is necessary to name a new time period to precede the Cambrian period. The first new geologic time period named since 1891, is now called the Ediacaran period. It is named for the 570,000,000-year-old type locality in the Ediacara Hills, of the Flinders Ranges of Australia. This is where the first fossil assemblage of the oldest of metazoans (multi-cellular animals) of Pre-Cambrian age was found.

The new period begins at somewhere between 610 and 635 million years ago (mya), and ends where the Cambrian period begins 542 mya. Another site in the Flinders Ranges called, Enorama Creek, has a postglacial carbonate layer that serves as the baseline for the Ediacaran period.

The late Proterozoic Eon of Pre-Cambrian time was a time of extensive glaciation, possibly covering the whole Earth at times. A recent theory proposes that during this time, most surviving life forms were those that could live in the vicinity of hydrothermal vents, located in water under the ice. You may be familiar with the modern ecosystem communities of unique life forms that have been found around deep-sea hydrothermal vents. Life at the vents proceeds without the benefit of solar energy. The communities thrive on an energy base derived from the chemical, mineral, and heat brews that spew from the vents. There would have been hundreds, or possibly thousands of hydrothermal vent communities spread around the globe, under the ice. Separated as they were by tens, to hundreds of miles, there was great opportunity for evolution to do its work. Life forms living at the world's scattered hydrothermal vents, could have been free to evolve their own solutions to life's problems.

When this glacial period ended, life forms found new opportunities away from the vents. The myriad living things, which had evolved in so many diverse ways, can now interact and compete. We thus may owe life's early diversity to this time of glaciation. This may explain why the Ediacaran period became metazoan life's first grand flowering.