



Dominant - Trilobites and brachiopods
Diversification - Skeletons and shells
First appearance - Vertebrate fossils as fragmentary plates, trilobites, fish, brachiopods, echinoderms and molluscs

Early Life

The Ediacaran is the first new period-level interval of geological time to be created in the Standard Global Chronostratigraphic Scale for well over 100 years. It takes its name from the Ediacara Hills in the northern Flinders Ranges in South Australia. The Ediacaran Period covers an interval of about 88 million years from the end of the Marinoan glaciation 630 million years ago to the beginning of the Cambrian Period 542 million years ago. The Ediacaran Period is famous for its association with the Ediacara biota, marking the first appearance of large, architecturally complex organisms in Earth history. The marked and rapid increase in abundance, size and diversity of life-forms during the Australian Ediacaran shows that it was a period of major evolutionary change.



Dickinsonia costata (length 1.5cm) and *Tribrachidium heraldicum* (holotype) (diameter 2.5cm) © Jim Gehling, South Australian Museum



Living stromatolites Shark Bay WA © Amy Prendergast



Fossil stromatolites Mintheena Gorge Pilbara © Mary Gee

First Life – living rocks, living fossils

Stromatolites first appeared in the fossil record between 2.7 billion years and 3.465 billion years ago. Stromatolites are laminated mound-like sedimentary structures which form over time as single-celled filamentous cyanobacteria bind layers of sediment grains together. Fossil stromatolites from the Pilbara in Western Australia are some of the earliest evidence of cellular life on Earth. Stromatolites were the Earth's first reef-building organisms and still exist today in places such as Hamelin Pool - Shark Bay, Western Australia.


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