

Preliminary report on excavation of Ediacaran fossils in Namibia and early evolution of metazoans.

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Ediacaran type fossil biota lived about 600 Ma to shortly before the beginning of the Cambrian Period, which were found in Namibia in 1908 prior to the finding in Ediacaran Hill, Australia. Similar type of fossils is now known from more than 20 localities worldwide. In contrast to the true metazoan fossils, which are found immediately after the beginning of the Cambrian Period, they show peculiar forms. Their preservation in silici-clastic rocks makes it difficult to observe their morphology in detail. Therefore there is still hot debate as to the nature of these fossils.

On the other hand, molecular phylogenic data strongly implies that the metazoan origin should be traced back deep into the Precambrian time. Also it is now clearly demonstrated with fossil evidences, that at the beginning of the Cambrian Period, metazoan show diversity not only in phylum level, but also in order and lower levels, as beautifully documented and discussed by Walossek, for example, on arthropods. Further, recently, new finding of regularly arrayed polyp like structures were reported in the 1.5 Ga old silici-clastic rocks.

Provided that these Precambrian forms are real metazoan fossils, Fedonkin recently coined stimulating idea about cold climate prevailing the end of the Proterozoic functioned in favor of the evolution of metazoans.

In this presentation, I would like to report on our findings in Namibia and discuss about the hypotheses on the evolution of metazoan during the end of the Precambrian time.