Precambrian life history:between facts and interpretations

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The Precambrian time spans between 4.6 and 0.543 billion years before present. It has been thought that during the time life emereged as bacteria and evolved into eucarya, then, into muluticellular animals.

Until recently, there have been very few fossils found of the period. Recent progress, however, in mass spectrometry and other techniques enable us to find out isotopic as well as bio-markers providing information on existence of life as well as their rough taxonomic positions. Also geologists and paleontologists have been succeeded in finding new body fossils and trace fossils.These data all contribute in drawing a rough outline of the important steps of evolution of life during the period.

However, because of still very scarce information collected, inference about the life of the period is drawn on the basis of the principle, present is the key to the past. Thus, for example, the enigmatic Ediacaran fossils at the latest Precambrian time is interpreted by superficial similarity with the living metazoan animals, whereas the post Cambrian metazoan fossils have been classified mainly on the sound basis of diagnostic features characterizing each classificatory category like phylum, order, etc. In many other cases, situation is similar. In the present talk, I would like to re-examine the basis for the classificatory interpretation of the Precambrian fossils in order to refine their interpretation in future.