GIGANTISM IN NEOPROTEROZOIC CARBONACEOUS MEGAREMAINS, A POSSIBLE MARKER EVENT: EVIDENCES FROM THE BHIMA AND THE KURNOOL BASINS OF SOUTH INDIA

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The Neoproterozoic biosphere is represented by different divisions of kingdom plantae and animalia. The carbonaceous fossils are major tools in understanding evolutionary steps of the Neoproterozoic biosphere. The diversity in biosphere starts appearing from Mesoproterozoic - Neoproterozoic boundary (~1000 Ma) and radiates at the Neoproterozoic (Terminal Proterozoic)-Cambrian Boundary. Such diversity of biotic forms has been noted in several successions of the world with the Chinese and Indian biotic forms having a remarkable similarity and gigantism in carbonaceous forms.The carbonaceous megaremains recovered from the Halkal Formation of Bhima Group and Owk Shale Formation of the Kurnool Group in south India show gigantism of size of the specimens at certain stratigraphic levels. The biometric analysis of such specimens have revealed enlargement in size among the Chuaria, algal filaments, smooth walled acritarchs and other biotic elements. Morphologically the generic and specific characters of such large sized forms are akin to the recorded type specimens except the size parameters. The normal size forms, whenever they attain a gigantic size, suddenly disappear but smaller forms continue across the marker event datum. It reminds the words of Bob Simpson that the giant forms reports the evolutionary dead end. This aspect has been discussed in the paper with the evidences from Neoproterozoic sediments of India. The dwarf and giant sizes of the same type of the biotic form are reflections of natural selection in the course of evolution. This phenomenon has been tried to understand in terms of specific evolution and as a marker event of the biotic forms in the Neoproterozoic sediments.