

NOTES

BENTHIC FORAMINIFERA

Fourth International Symposium (Benthos '90) held at Sendai, Japan, September 28 – October 2, 1990.

The symposium was held under the sponsorship of Tohoku University, Sendai with the support of the Palaeontological Society of Japan, Japanese Association for Petroleum Technology and Geological Society of Japan. The organising committee was headed by Prof. Yokichi Takayanagi as Chairman and Prof. Tsunemasa Saito as the Executive Secretary. The Year 1990 also marks the 100th year since the initiation of research on benthic foraminifera in Japan. The University of Tohoku at Sendai, nearly 350 km north of Tokyo has long been the centre of micropalaeontological research in Japan. Profs. H. Yabe, S. Hanzawa and K. Asano of this University have laid a firm foundation of foraminiferal research in that country. The benthic foraminifera has long played a very important role in reconstructing the palaeoenvironments in the Phanerozoic. In recent years the utilisation of these micro-organisms in working out various biostratigraphic problems related to geological time boundaries and correlation, phylogeny and evolution of early life and in identifying some critical palaeobiogeographic provinces all over the globe are being much emphasized. The role of the present symposium was to examine all these aspects in greater detail. Earlier, three symposia were held at Halifax, Canada (1975); Pau, France (1983) and Geneva, Switzerland (1986). In all, 165 foraminiferologists from all over the world attended the fourth meeting out of which three were from India :

In the plenary session, the world's best known ten scientists presented their work on a number of newly emerging trends in research on the origin, biology, phylogeny, ecology and taxonomy of benthic foraminifera. According to J. H. Lips (Berkeley, California), the first form definitely belonging to Foraminifera was *Platysolenites* from Early Cambrian which was earlier considered to belong to Worm group. J. W. Murray (Southampton, UK) emphasized the need for a better understanding of the ecology of living foraminifera to explain the complexities faced in the palaeoenvironmental reconstructions. G. Keller (Princeton, USA) stressed the change of oxygen concentration in water bodies to demarcate the K/T boundary. K. G. Miller (Rutgers, USA) identified three important datum planes during which definite change in the deep-sea benthic foraminiferal constitution took place. These are: Latest Paleocene (Zone P6a) followed by an early Eocene period of rapid colonisation; Late Middle Eocene to earliest Oligocene (Zones P14-P18); and early Middle Miocene (Zones N8-N11). F. Woodruff (Southern California, USA) examined the Miocene deep-sea foraminiferal assemblage and suggested surface productivity due to increase in carbonate rain and water depth factors. Larger benthic foraminifera were the subject of interest for J.Z. Sheng (Nanjing, China) and C. A. Ross (Chevron, USA) described the development of fusuline foraminifers in China and the palaeobiogeography of the late Palaeozoic period based on Fusulina. A. Bloudeau (Chantilly, France) emphasised the need to restudy the structure and phylogeny of Nummulitids for better use in biostratigraphy. K. Rottger (Kiel, Germany) demonstrated the life cycles of a few selected foraminifera through video recording to show the periodic growth and development of tests.

The most important presentation in the plenary session was by Prof. A. R. Loeblich and Dr. Helen Loeblich on their fresh and rigorous attempt to classify the Foraminifera which they have taken as the most challenging task since late 1950. A new concept on the basis of the classification was suggested which included the wall composition, structure and internal cameral partitions.

In the Oral presentations, 65 research papers were presented in three parallel sessions. These were broadly grouped into Biology, Classification, Evolution, Ecology, Deep Sea, Pleistocene and Holocene, Neogene, Paleogene, Mesozoic, Palaeozoic and Time boundary faunal change. A number of papers emphasised the palaeoclimatic changes and palaeo-oxygen concentrations to resolve the faunal variations across several time boundaries. Pandey presented his observations on the benthic foraminiferal changes across the Jurassic-Cretaceous boundary in Kutch which were represented by (a) elimination of calcareous forms and (b) evolutionary developments in certain arenaceous foraminifera in association with the change in ammonite and spore-pollen assemblages. Naidu applied modern methods of statistical techniques in refining the distribution data of benthic foraminifera from Kalingapatnam shelf in Andhra Pradesh. Banerji worked out the distribution of heavy metals such as Cd, Co, Cr, Cu, Fe, Mn, Ni, Pb and Zn in the shells of benthic foraminifera dwelling in near-coastal waters of Bombay which are heavily polluted by industrial wastes and effluents. In the poster session, 24 different themes were presented in the form of charts, photographs, and maps which were highly informative and objective.

A number of pre-, mid- and post-session geological field trips were organised which were attended by a large group of participants. The Japanese islands provide unique geographic and geologic settings with varied environmental regimes having very rich and diversified fossiliferous sedimentary sequences. Such field trips were conducted to as far north as of Hokkaido Island and to south to Okinawa. The overall organisation of the symposium and various field trips were excellent,

The proceedings of this symposium is expected to be published within one year by the University of Tohoku, Sendai, 980, Japan. The next symposium will be held in 1994 at the University of California, Berkeley, California.

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NOMINATIONS FOR HONORARY FELLOWSHIP

Nominations are invited for the election of not more than two Honorary Fellows. The rules of the Society provide for the election from time to time of persons distinguished for their outstanding contributions in the field of geology. Brief biodata of the persons nominated together with a summary of his main contribution should be sent so as to reach the Secretary, Geological Society of India, P. B. 1922, Gavipuram P. O., Bangalore-560 019 on or before 1st March, 1991.