

A modern biostratigraphic subdivision is based in the first place upon nannoplankton and evolutionary lines of planctonic foraminifera; these are regarded as biostratigraphic indicators of primary importance. They are, however, since climatic zones are already prominent in the Tertiary, restricted to tropical and subtropical regions of sedimentation.

In marginal regions only a few of those planctonic zones are well established. In order to be able to subdivide also intervals between those intercontinental planctonic biozones, local or regional evolutionary lines of various groups of macro- or microorganisms are used, most of them benthonic, in marine as well as in non-marine sediments.

The Central Paratethys is such a region of sedimentation, including marine, brackish, limnic, fluvial and terrestrial sediments. Subdivision of these neogene sediments serves as an example for the manifold possibilities of modern detailed biostratigraphical analysis, based upon combination of micro- and macropalaeontology.

Dr. H. STRADNER, Geol. Survey of Austria

Nannoplankton Stratigraphy

Plates and excerpts from recent papers dealing with the stratigraphic value and the zonation of nannofossils (coccoliths and discoasters, nannonids etc.) were distributed and discussed during the lecture.

For more detailed information on the standard Calcareous Nannoplankton Zonation of the Tertiary and the Quaternary the paper by E. MARTINI in the Proceedings of the II. Planktonic Conference Roma 1970 is to be consulted.

At present papers on nannoplankton stratigraphy are in press by THIERSTEIN (Switzerland) and MOSHKOVITZ (Israel). Also see the Initial Reports of the DSDP (Glomar Challenger), especially the reports by the shipboard nannoplankton paleontologist and by DAVID BUKRY (USA).

(See also review on page 132 of this report.)

1.4.b. Presentations by Participants

J. BENDECK OLIVELLA (Participants Scientific Contributions page 53).

BILAL UL HAQ, Stockholm University

Rates of Evolution in Cenozoic Calcareous Nannoplankton

(S u m m a r y)

Variations in the total frequency of the cenozoic nannoplankton and the evolutionary rates for coccoliths and discoasters were calculated accor-

ding to the method outlined by G. G. SIMPSON (1953). It was shown, that calcareous nannoflora diversified rapidly during late Paleocene and early Eocene, but underwent a gradual reduction in frequency during the remainder of Eocene and sharply declined during Oligocene and early Miocene, with a slight second radiation in the middle and late Miocene. A comparison with the paleotemperatures shows, that calcareous nannoplankton increase in diversity during the warmer intervals and decrease in diversity during the cooler ones.

Dr. EL DAWOODY, Cairo

Calcareous Nannoplankton Biostratigraphy of Upper Cretaceous and Lower Tertiary Sediments at Gebel Duwi

(referring to the above theme 3 lectures were given in Vienna, Budapest and Praha; they are based mainly on the thesis of the author, 2 volumes 1970, which was circulated and discussed widely among the participants)

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Ostracoda From the Recent Sediments of Mangalore Harbour Area, West Coast of India

(S u m m a r y)

Actinocythereis tumefacientis (LUBIMOVA & GUHA) from bore hole sediments of Mangalore Harbour Area, is represented by a large number of individuals of various dimorphic stages. Besides appropriate sketches, the main features relating to as ontogeny, nature of marginal porecanals, hingeline structures, muscle scarpattern, and taxonomic status of the species, have been presented; the length, height and thickness of the individuals have been measured, and the measurements data have been plotted on a scatter diagram; the nature of the ontogenetic developement has been discussed. The detail observation of the hinge structures of larva and adults revealed the different moult stages. By comparative study of the shape of carpaces, position of the muscle scars, and the marginal pore-canals, the variations and the similarities within the population have been recognised. The nature of the reproduction has been studied with the help of the ratio of female right and left valves. The nature of surface ornamentation, the internal characters, the ratio of closed to isolated carpaces, the degree