D. S. N. Raju

Late Cretaceous and Lower Tertiary foraminiferal zones from different basins of India

(two lectures were given in Budapest and Praha basing mainly on recent publications of the author, e. g. Jb. Geol. B.-A., Sb. 17, 1970)

G. N. Saxena, Dept. of Applied Geology, University of Sagar, Sagar (M. P.), India

The Danian in South India

The question of Cretaceous-Tertiary boundary has almost exclusively been related to the position of the Danian in the Cretaceous — Eocene succession in any area. Whether the Danian is topmost Cretaceous, Lowest Tertiary or a separate unit in itself has determined the position of Cretaceous — Tertiary boundary also. Some workers e. g. Tromp, refuse to recognise any horizon like Danian and are of the view that this term is superfluous and should be dropped. The controversy mostly revolves around the peculiar nature of the Danian fauna in different areas. Diverse opinions have evolved regarding the existence and position of the Danian on one hand, and the validity of the parameters used for correlation on the other. Status of the Danian s. s. in the Trichinopoly and Pondichery areas of the South India is discussed here. Convincing faunal support is not available to prove the existence of the Danian s. s. in these areas. The strata so far referred to as Danian could at the most be uppermost Danian and possibly Montian.

Trichinopoly: The upper part of the Niniyur beds here is regarded as Danian in age on the basis of the discovery of *Hercoglossa (Nautilus) danicus, Cardita (Venericardita) jaquinoti* and *Orbitoides minor*. The presence of *Orbitoides minor* is a definite indication of the Maastrichtian age of these beds or atleast that part of the beds which has them. Sarkar (1968) re-examined the "danicus" from this area and compared them with the type "danicus" and concluded that the so called "danicus" from this area belong to some allied species and not to "danicus". Moreover, "danicus" is found in situ at the base of Ariyalurs (Campanian) at Sudarampet near Pondichery. In Madagascar it is occurring in Campanian — Maastrichtian. In the type area of Danian in Denmark, the "danicus" is always accompanied by *Baculites* and so is the case in the Franco-Belgian basin. But no ammonite is found with "danicus" in these beds in this area. Regarding the evidence of *Cardita (Venericardita) jaquinoti*, a close ally of *Cardita beaumonti*, Rutsch (1936) says that if all the species of *Cardita*

beaumonti of different areas are put together, the range of *Cardita beaumonti* group is much longer and ranges from Maastrichtian to Eocene. All these fossils therefore, do not support the presence of the Danian s. s. in this area. Fossil algae described from these beds also indicate the presence of younger Palaeocene element. These beds, therefore, on the available evidence should not be assigned to Danian, but may belong to some younger horizon.

Pondichery: More work on the microfossils has been done in this area than the previous one. Foraminifera are the most common amongs these. RAJGOPALAN (1964, 1965) made six foraminiferal zones and recognised that the Cretaceous strata continue without interruption into Lower Eocene (Ypresian) in this area. Revising this scheme RAJGOPALAN (1968) concluded that the topmost horizon indicates a Palaeocene age and not Lower Eocene as decided earlier. MCGOWRAN (1968) also points out the absence of Danian and leaves a gap between the *Globotruncana tricarinata, G. gansseri* Zone (Campanian — Maastrichtian) on one hand and *Globotruncani trinidadensis, G. uncinata* Zone (Montian — Thanetian) on the other of the horizons suggested by RAJGOPALAN. This gap, therefore, should represent the Danian. *Heliolithus riedeli,* a very characterstic Thanetian nanno-plankton has also been reported by RAJGOPALAN from these beds.

1.4.c. Presentations given at Budapest *)

Prof. E. NAGY Dr. PH., Dr. Sc.

Micropaleontology in the Hungarian Geological Institute

(Abstract)

There has been done intensive paleontological work since the very foundation of the 102 years old Institute. The pioneer work was started in the field of micropaleontology by M. HANTKEN, the renowned first director of the Institute. In the 20th century, one of the most prominent micropaleontologists was B. ZALÁNYI, who specialized in ostracods.

Presently, 3 research teams of micropaleontology are at work in the Paleontological Department of the H. G. I.: on

— *diatoms* and *coccolithophorids,*
— *pollens* and *spores,*
— *small* and *larger foraminifera* and *ostracoda.*

Altogether 14 micropaleontologists are included in the present staff of the Institute.

*) Hungarian Geological Institute, Budapest XIV, Népstadion út. 14.