

This type of data is likely to be available in almost all countries. What is required is an effort, by a group of scientists, to collate the data and compile it on the standard formats with a view to eventually making them computer compatible. Comparative studies of similar ore deposits in different continents and in different geologic milieu, should be possible. The efforts of the United States Geological Survey in bringing out such a meaningful bulletin on the Mineral Deposit Models is commendable. This particular volume must be perused by all practising earth scientists dealing with mineral deposits, and the academicians teaching economic geology and guiding research on topics related to mineral deposits.

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CRETACEOUS AND PALEOCENE FORAMINIFERA FROM NORTHERN HOKKAIDO, JAPAN. By Hisato Yasuda. Tohoku University, Science Reports, Second Series (Geology) 1986. Vol. 57, No. 1, pp. 1-101.

This particular volume of the Tohoku University publication is devoted entirely to the Cretaceous and Paleocene Foraminifera of northern Hokkaido, Japan. The author, who is well-known for his work on foraminifera, deals at length with the systematics and biostratigraphy of the 126 and odd foraminiferal taxa from a sequence of Campanian to Paleocene strata from the Nakatombetsu area in northern Hokkaido.

On the basis of five events in intra-regional stratigraphic ranges of the selected benthic foraminiferal species, the sequence is divided into the following three benthic foraminiferal assemblage zones in ascending order: *Haplophragmoides walteri-Lenticulina obirashibensis*, *Reophax clavulina-Cribrostomoides* sp. A. (Campanian-Maestrichtian age) and *Cyclammina* sp. A—*Praebulimina angulata* (Paleocene age). The lowermost zone is subdivided into four subzones. In addition, the discovery of nine planktonic foraminiferal species (eight of Cretaceous age and one of Paleocene) in the Hakobuchi Group 3 which has hitherto been considered to be of Upper Cretaceous age, has revealed, for the first time, the existence of Paleocene in the region.

The uppermost of the four subzones (representing lower part of the Heitarozawa Formation) is dominated by the abundant occurrence of agglutinated taxa—*Haplophragmoides*, *Silicosigmoilina*, *Bathysiphon*—reminiscent of the flysch-type agglutinated assemblages known from the Alpine-Carpathian flysch basins.

The section on discussion deals at length with paleobiogeographic aspects of the fauna with particular reference to the genus *Silicosigmoilina* (represented by *S. futabaensis* in Japan). The paleobiogeographical distribution of this genus is restricted to North Pacific and South Atlantic during Late Cretaceous-Paleocene in contrast to the 'Rzehakina fauna' of corresponding age in Europe. The author, consequently, proposes the name '*Silicosigmoilina* fauna' for the Upper Cretaceous-Lower Tertiary benthic foraminiferal fauna of North Pacific.

The article is well-written and illustrated with SEM micrographs of all the taxa described in the text. For those who are particularly interested in the Late Cretaceous-Early Tertiary biological events and boundary problems, the volume will be a useful compendium.

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