
The late Neogene-Quaternary sediment-fill in the Kashmir Valley representing the Karewa Group, has been the focus of scientific attention for well over one and a half centuries. These deposits provide an unique opportunity to study the development of an intermontane basin including its sedimentation, fossil biota and palaeoclimatic history in a synorogenic setting. D. K. Bhatt's Memoir 122 is the latest attempt to provide data, based on his long field experience spanning over three decades in the Kashmir Valley.

There can never be any alternative to good field-based observational data and Bhatt's synthesis goes a long way in making available a detailed documentation of the lithostratigraphy of sequences exposed by dissection of the drainage along the northern flank of the Pir Panjal mountains and in some parts of the valley on the southern slopes of the Great Himalayan ranges. This aspect in fact constitutes the main strength of the work.

The author's main objective in the study has been to define, characterize and classify the Karewa deposits in terms of the Code of Stratigraphic Nomenclature of India. Bhatt has divided the Karewa Group into three formations: Hirpur, Nagum and Dilpur in the context of extent, type section, contact relationships, thickness and age based on palaeontological and other criteria. In this attempt, the author has been largely successful in providing information on several measured sections on the Rambura river and adjacent drainage systems for defining the Hirpur Formation. Similarly, for the Nagum Formation, the author has demarcated a Neotype section adjacent to the ravine at Qisha Nagum represented by the Shupiyan Member, Pampur Member and Krungus Member. The Dilpur Formation, named after village Dilpur, represents the youngest sequence of the Karewa Group and is considered by Bhatt to have been deposited independently of the fluvio-lacustrine system of sedimentation to which the underlying two formations belong. In addition, the origin and stratigraphic correlation of the Pir Panjal Range has also been discussed.

Bhatt's interpretation of the lithostratigraphic succession described above does not conform (indeed it need not) to views expressed by other groups working in the same area. Still, it deserves in its own right due weightage and recognition as it is based on the author's own perception of the geology of the Kashmir Valley and detailed measurements of critical sections. One could have wished, however, for a more detailed discussion on the opinions expressed by other scientists, especially if these ran counter to the author's views stated in the Memoir. In general, the text is well organized and the figures are clear and informative. However, the enclosed Errata List is inadequate and several additional errors have crept into the text and references.

Chapter Four of the Memoir discusses the worth of the fossil biota described from the Karewa. Bhatt rightly points out that though several diverse taxa have been described, a lot of this data cannot be used either for biostratigraphic or palaeoenvironmental interpretation because of poor stratigraphic control, unyste-
matic sampling and absence of adequate descriptions including photographic documentation.

In the absence of a general summing-up, it is left to the reader to arrive at his own conclusions. However, in general the Memoir is a notable contribution to Karewa geology and will go a long way in serving as a basis for future work.

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THE PETROLEUM SYSTEM - STATUS OF RESEARCH AND METHODS.


There is a separate bibliography of the papers published by the U.S. Geological Survey petroleum geologists for the year 1988.

Papers from 2 to 17 are concise reviews of the present state of the art on each of the topics. Paper No. 1, however, is a new system of classification of petroleum reservoirs as evolved by U.S.G.S. A petroleum system is defined as encompassing "a hydrocarbon source rock and all generated oil and gas accumulations and includes all those elements that are essential for an oil and gas deposit to exist: Petroleum source rock, migration path, reservoir rock, seal and trap. The system has a stratigraphic limit. Geographic extent and time duration'. In the United States, 130 systems are recognised, of which, 25 are classed as known systems. It is worthwhile Indian petroleum geologists give a close attention to this system of classification of petroleum reservoirs as a data base and with the comparison of systems elsewhere may serve as a useful exploration tool.

The bulletin is worthy of study both by the academics and professional exploration geologists, geophysicists and geochemists. Such useful reviews summarizing existing knowledge have an importance of their own.

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