

## **Givetian and Frasnian ecostratigraphy of the Holy Cross Mountains: introductory remarks**

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This volume of *Acta Palaeontologica Polonica* includes ten papers of the Grzegorz Racki research group (one more, by Głuchowski, will be published in the next issue) emphasizing the Givetian and Frasnian ecostratigraphy of the Holy Cross Mountains, that island of Kielce area Paleozoic surrounded by post-Paleozoic beds. The basic aim of the volume is to provide an environmental framework against which to understand the fossils. Racki's initial paper lays out the lithofacies, biofacies and biostratigraphic background against which the other papers are included. The major regional facies changes from shallow-water, photic zone reefs and reef-allied carbonate facies to argillaceous, much deeper water basin facies are accompanied by appropriate biotic changes. The time framework relies on conodonts, followed by effective use of shelly megafossils, particularly brachiopods (Racki), and corals (Wrzołek), supplemented by different scale depositional cyclicity analysis.

The truly unique feature of this series of papers is that it pleasingly integrates a sound understanding of the carbonate petrography of the beds studied in both field and laboratory, with a careful consideration of the faunal facies (assemblages, communities, associations; even for disarticulated crinoid remains by Głuchowski). Some of the papers place more emphasis on the fossils themselves than do others, but all take part in the integration of the physical with the biological aspects of the strata to give a detailed synthesis. None of the papers are primarily systematic, but systematists will benefit from information on well documented genera and species belonging to many groups ranging from cyanobacteria to vertebrates, as will biogeographers and students of community ecology. Particularly valuable are the many descriptions of varied community types, with accompanying environmental information, that may be compared with similar occurrences elsewhere in the world.

This volume is of value to any worker interested in the marine environments, especially about organic buildups of the later Devonian. As an

outsider it is very impressive to see how a dedicated team of highly trained specialists has been able to collaborate towards a common goal, the basin analysis of the Givetian-Frasnian of south-central Poland. This integrated work demonstrates what can be done with careful study of both fossils and physical parameters. The results of this synthesis should be taken as a model for emulation by students of this event-rich interval elsewhere, as in the oilfields of Alberta and neighboring provinces of western Canada.

The paleontological part of the work shows that it is not enough for ecostratigraphic purposes to merely discuss fossils in terms of the classes, orders or superfamilies to which they can be assigned. By working at the generic and specific level meaningful comparisons and parallels were drawn from studies of the same taxa in other parts of the world, in order to produce a synthesis that takes advantage not just of local, Kielce region knowledge, but of truly global understanding. This is a model study that the rest of us would do well to emulate.

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