

Jurassic isopod in restricted environment

Radwański, A. 1995. A unique, 'trilobite-like' fossil – the isopod *Cyclosphaeroma malogostianum* sp. n. from the Lower Kimmeridgian of the Holy Cross Mountains, Central Poland. *Acta Geologica Polonica*, 45, 1–2, 9–25, 1 plate, 4 text-figures.

A vast carbonate platform developed over the considerable areas of eastern and central Poland in the Late Oxfordian and Early Kimmeridgian. The region of the Holy Cross Mountains was located not far from its eastern margin. The Early Kimmeridgian carbonate platform deposits in this region are best exposed in the cement-plant quarry at Małogoszcz. These are cross-bedded oolites alternating with micritic limestones and marls. Higher up in the Małogoszcz section, marly oyster-lumachelles reflect the deepening of the sea and drowning of the carbonate platform edge.

The paper reports the finding of a single specimen of an isopod, assigned to the new species *Cyclosphaeroma malogostianum*, in the micritic limestones topping the carbonate platform succession at the Małogoszcz quarry. The specimen, represented by the anterior and medial parts of the exoskeleton, provides the first direct evidence that the isopods lived in the Late Jurassic sea of Poland (there are also traces attributable to the life activity of other, parasitic and wood-boring isopods, reported in the reviewed paper from other Late Jurassic localities and rock intervals). The paper provides a detailed description of the specimen, its reconstruction, and a discussion of its taxonomy and evolutionary relationships. A thorough review of species within the genus seems to be especially valuable. An interpretation of the molting behavior is also given. The author convincingly argues that the isopod was buried rapidly just in the middle of the biphasic molting process, after shedding the posterior part of the exoskeleton.

What seems to be missing in the paper are details of the environmental and paleoecologic background of the find. The author apparently accepts the general opinion about the shallow marine, restricted environment of the isopod-yielding interval, without giving a more detailed information. I know from my own field experience that this rock unit is practically unfossiliferous, if we do not count a few burrow levels. The isopod is probably the first body fossil reported from this unit. Some parts of the unit reveal fine lamination, which supports a restricted (?hypersalinar, ?oxygen-depleted) environment of the isopod-bearing unit.

In this context some doubts may arise about the life environment of the isopod. The author implicitly suggests that the animal lived in its burial place. Still, quite another interpretation is also possible – that the isopod represents an exotic element, washed into the abiotic environment. In the latter case the fate of the isopod would be the same as that inferred for many arthropods in the famous Tithonian lithographic limestones of Solnhofen (Seilacher *et al.* 1985). The isopod-yielding rock interval in Małogoszcz surely awaits the detailed environmental interpretation.

Reference

- Seilacher, A., Reif, W.-E., & Westphal, F. 1985. Sedimentological, ecological and temporal patterns of fossil Lagerstätten. *Philosophical Transactions of the Royal Society London B* 311, 5–23.