



## **“The last inoceram” – shell synopsis of *Inoceramus (Platyceramus) salisburgensis* from Inoceramid Beds (Skole Unit, Eastern Carpathians, Poland).**

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The inoceramid bivalves belonged to significant epifaunal group of marine communities during the Late Mesozoic. Their ecological behavior and strategy of live were shifted through that time from highly oxygenated shallow-marine to low oxygenated deep-marine environment. At the end of Early Maastrichtian inocerams were rapidly vanished, much sooner than the K/Pg boundary mass extinction event is noted. Numerous hypotheses were proposed to explain and solve disappearance of inoceramids.

The aim of study is to explain a reason of environmental degradation responsible for abrupt *Inoceramus (Platyceramus) salisburgensis* disappearance, and also to describe their live behavior. The samples of inoceramid shells were collected from the 16th inoceram bearing horizons outcropped near the village of Rybotycze in South-eastern part of Poland. The analyzed section embraces the flysch of Ropianka Formation (Upper Cretaceous–Paleogene), mostly consists of clay-marlstone interbedded by fine-grained sandstone. The study based on analysis of inoceramid shell cross sections under the cross-polarized microscope, cathodoluminescence microscope (CL), and also field emission scanning electron microscope (FE-SEM).

Each inoceram bearing horizon varies in number of inoceramid shells differ in size (i.e. length and thickness). All collected shells (or their fragments) are well preserved and show low to medium diagenetic processes influence. The whole studied section yields untouched shell structure with singular borings in few cases. Concentrated sack-shaped borings areas were observed on few shell fragments from the uppermost inoceram bearing horizon. Additionally, this sample is characterized by occurrence of overgrowth of the same taxa on dorsal shell part. These shell features may reflect a change of bottom conditions, probably high oxygenated water input into Skole Basin. CL images reveals variety of laminae obscurae and laminae pellucidae occurring in shells cross sections. Number of laminae and size of the shell indicate that *Inoceramus (Platyceramus) salisburgensis* could be a long living species - “Matuzalem”. FE-SEM observations indicate no differences in crystal structures in reference to shells lamination or presence of any bioerosion evidence.

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