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Stromatoporoid morphology in the Devonian of the Holy Cross Mountains, Poland

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Stromatoporoids have been measured in three Upper Devonian localities in the Holy Cross Mountains: Karwów, Kadzielnia and Sitkówka-Kowala quarries. Quantitative analysis of the measurements demonstrated several differences, that have been interpreted in terms of ecological variations between the localities. Rate of deposition is proposed to be of special importance in controlling the stromatoporoid morphology. Deposits exposed in Kadzielnia and Karwów quarries represent an environment with periodically accelerating deposition and water turbidity, where low domical individuals with a ragged surface and non-enveloping arrangement of latilaminae constitute the most numerous group of stromatoporoids. The deposits outcropping in Sitkówka-Kowala quarry, formed in a calm setting with low deposition rate, are characterized by following stromatoporoid features: usually extended domical or bulbous shape, smooth surface and an enveloping arrangement of latilaminae. The similarity of stromatoporoid assemblages from Karwów and Kadzielnia confirmed, that dolomites exposed in the Karwów quarry represent Kadzielnia-type reef-mound deposits.

Key words: Stromatoporoids, morphometric features, depositional environment, Devonian, Holy Cross Mountains.

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