

Brachiopod bivalve assemblages of the Middle Triassic Terebratula Beds, Upper Silesia, Poland

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Five types of brachiopod bivalve assemblages occur in Terebratula Beds and in the lower part of the Karchowice Beds (Middle Triassic, Muschelkalk) from the Strzelce Opolskie Quarry (Upper Silesia). These are: (1) Brachiopod Coquina Assemblage dominated by the terebratulid brachiopod *Coenothyris vulgaris*; (2) Crumpled/Wavy Limestone Assemblage including bivalves and brachiopods; (3) Bivalve Coquina Assemblage dominated by pseudocorbulid bivalves; (4) Hardground Assemblage dominated by the brachiopod *Tetractinella trigonella*; and (5) Crinoid Limestone Assemblage dominated by crinoid columnals and the brachiopod *Punctospirella fragilis*. The distribution of the assemblages correlates with the eustatically controlled lithological variation in the carbonate dominated sequence of the Upper Silesian Muschelkalk. The brachiopod coquinas are parautochthonous remnants of terebratulid banks which thrived during the high bioproductivity but low oxygen conditions. Those conditions were caused by the biogenic influx generated from the terrains flooded during the Middle Triassic transgression. During the regressive phase, that resulted in the gradual decrease in bioproductivity and parallel increase in oxygen levels, the terebratulid banks were replaced by pseudocorbulid banks. With the further regression and thus, the further increase in oxygen level pseudocorbulid banks were replaced by the assemblages indicative of well oxygenated oligotrophic environments (Hardground and Crinoid Limestone Assemblages). The observed changes in the faunal composition reflect mainly differences in metabolism and feeding strategy among dominant taxa.

Key words: Paleoecology, benthic assemblages, brachiopods, bivalves, Muschelkalk, Triassic, Upper Silesia, Poland.

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