

The Ordovician of the Schwarzburg Anticline (Saxo-Thuringia, Germany): Some Biostratigraphical and Biofacial Aspects.

Thomas Heuse. Museum für Mineralogie und Geologie Dresden, Dresden, Germany.

A review of biostratigraphically significant macro- and microfossils from the Ordovician of the Saxo-Thuringian Zone (Germany) is given. The Schwarzburg Anticline, the type area of the German Ordovician, and neighbouring Saxo-Thuringian and Bohemian sequences, are biostratigraphically correlated with the British and Baltoscandian graptolite and conodont standard scales. Based on a recent revision of their brachiopod and graptolite faunas, together with new discoveries of palynomorphs, the fossils indicate the existence of a stratigraphical hiatus (Cadomian unconformity) above the Upper Proterozoic Thuringian and Lusatian greywackes, perhaps covering the entire Cambrian Period. The biostratigraphical data are confirmed by sedimentological features and new geochronological informations. In the Schwarzburg Anticline, deposition started during the Tremadoc and continued up to the glaciomarine Ashgill Lederschiefer Formation, but includes intervals of very condensed sedimentation or non-deposition (Tierberg and Schmiedefeld ironstone horizons).

Palaeogeographically, the graptolite, conodont and brachiopod faunas, as well as the palynomorphs, indicate a position in higher latitudes for the Saxo-Thuringian belt throughout the Ordovician.

Local palynofacies differences occur within the Saxo-Thuringian Zone. The palynological assemblages from the "Thuringian Facies" of the Schwarzburg Anticline are less diverse than coeval assemblages from the Vogtland Syncline. Chitinozoans are missing or rare, and cryptospores appear in the Lederschiefer Formation of the Gräfenenthal Horst. In contrast, associations from areas developed in the "Bavarian Facies" are more diverse. Palynologically, the "Thuringian development" may be attributed to more proximal depositional conditions in the west (Schwarzburg Anticline), deepening to the southeast in the Vogtland Syncline, whereas the "Bavarian Facies" perhaps reflects deeper water conditions.