

ORDOVICIAN BIODIVERSITY IN THE IBERIAN PENINSULA: A PRELIMINARY APPRAISAL

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The Iberian Peninsula (Spain and Portugal) contains extensive outcrops of Ordovician rocks, with 450 taxa of diverse invertebrate groups so far recorded. These taxa include trilobites, brachiopods, molluscs, echinoderms, graptolites, scyphozoans and bryozoans, but not microfossils (except ostracods) or ichnofossils. Their vertical distribution shows different patterns of extinction and recovery, mainly related with periods of great global transgressions and regressions, and with climatic crises. However, these patterns are not homogeneous, so that each group is here analyzed separately.

The percentages of general biodiversity are strongly dependent on sedimentary facies and environments prevailing during long periods and over large areas near the polar coasts of Gondwana. In the Lower Ordovician we report only 33 different species, and the diversity percentages are biased due to the existence of inappropriate facies for preservation of macrofossils (Armorican Quartzite and equivalents) combined with the widespread stratigraphical gap representing most of the Tremadoc. On the contrary, the Middle Ordovician shales show the highest percentages of faunal diversity, with 409 different species. The return to coarse clastic and episodic sedimentation during the Late Ordovician coincides with an apparent decrease in biodiversity which may be misleading. The fossil record is restricted to relatively few palaeontological horizons, mostly related to the presence of coquinoid beds or thin limestone units such as the Urbana Limestone and equivalents, where in fact biodiversity is relatively high. A total of 141 species have so far been recorded in the Upper Ordovician of the Iberian Peninsula.