

SUITABLE APPROCHES IN PALEOECOLOGICAL INTERPRETATION OF FOSSIL ASSEMBLAGES

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The paleoecological interpretation of marine fossil assemblages of macroinvertebrates is currently made analyzing 1) structural characters of assemblages and 2) taxonomic structure. The approach is basically numerical, relying upon dominant taxa. In the first case, the obtained information concerns the environmental stability (or instability) and the amount of available trophic resources. The taxonomic structure provides rough information on paleobathymetry, allowing to distinguish shelf assemblages from those which have dwelled the slope or the abyssal plains. The paleobiocoenotic approach is based on the possibility of comparing the fossil assemblages to modern Mediterranean biocoenoses as defined by French students during the sixties. Actually, the biocoenotic framework has proven to be a definitely useful tool for paleoecological interpretation of fossil assemblages. Number of papers published during the last decades provide evidence in this respect. Recent work has shown that the paleobiocoenotic approach can be efficiently used outside the Mediterranean area as well. In fact, biocoenoses are to be regarded as major faunal units having a worldwide distribution. Of course, species change according to areas, but the basic organization coupled with recurrent edaphic factors remains stable. A sounding example concerns the Heterogeneous Associations that settle when and where sedimentary instability occurs, resulting in heavy mud deposition. These associations appear to be characterized everywhere by a corbulid bivalve, a sculptured nuculanid and a small smooth scaphopod at least; other opportunistic species may co-occur. It is manifest that the identification of characteristic taxa stands as the main problem.