

BRACHIOPOD ECOLOGY AND PALAEOECOLOGY: AN OVERVIEW

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The Phylum Brachiopoda represents a peculiar group of shelled benthonic invertebrates with an extensive palaeontological record since the dawn of Cambrian times until the present day. These are typically euhaline suspension-feeders, that have thrived successfully in bottom communities inhabiting epeiric seas of the Palaeozoic, and also the Mesozoic, eras. Yet, as a result of the Mesozoic Marine Revolution, there are certain cases which have apparently been displaced from shallow waters in the photic zone towards more dimly lit and relatively safer environmental refugia, such as oceanic depths or cryptical submarine enclaves. Able to survive under low metabolic requirements, they have been reputed as minimal organisms. In this lecture, main environmental factors (e.g. salinity, light, temperature, bathymetry, hydrodynamic energy, etc.) will be succinctly reviewed for they are known to influence the distribution of brachiopods (both inarticulated and articulated ones), and special attention will be focused on their relationships with the substrate. This last one is a particularly interesting aspect, because a large number of functional morphological and experimental studies on living and fossil representatives became available in recent years, including modern biomechanical and hydrodynamical approaches plus underwater observations, which have substantially improved our understanding of their past and extant ways of life. In summary, it is thus considered that the wide range of skeletal morphologies developed within the Phylum, starting from a basic, relatively simple, two-valved plan, along the whole of its well-documented evolutionary history, ultimately reflects a diversity of adaptive solutions to the challenges of living in a fixed –or free– style on a variety of substrates, as well as variously sunken in the sedimentary bottom.