

BIVALVES (EARLY MIOCENE, CAPE MELVILLE FORMATION) FROM KING GEORGE ISLAND, WEST ANTARCTICA

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Seven species of marine bivalves, including six new taxa, are described from the Cape Melville Formation (Early Miocene), which crops out in the Melville Peninsula, King George Island, West Antarctica. Taxons include representatives of the Nuculoidea (Family Nuculidae), Nuculanoidea (families Malletidae, Sareptidae), Arcoida (Family Limopsidae), Myoida (Family Hiatellidae) and Pholadomyoida (Family Periplomatidae). Detailed morphologic features of nuculoid and arcoid species are exceptionally well preserved and allow for the first time reconstruction of muscle insertions as well as dentition patterns of Tertiary taxa yet insufficiently known. The Cape Melville Formation (about 150 m thick) preserves a rich and diversified fauna of mollusks (bivalves, gastropods and cephalopods), brachiopods, solitary corals, polychaetes, crabs, echinoderms, and bryozoans that occur *in situ* or dispersed mostly in mudstones. Species studied come from four sedimentary sections measured in the upper part of the unit. This is characterized by metric thick cycles of sandy mudstone and sandstone with abundant dropstones, intercalated with thin beds of carbonatic sandstone, carbonate and volcanic ash. These elements seem to represent episodes of mud deposition through settling of fines, turbidity currents and abundant rafting of debris from icebergs in a marine shelf environment. The bivalve fauna from Cape Melville Formation is the only one so far described from rocks of Miocene age in Antarctica, a time of complex geologic, paleogeographic and paleoclimatic changes in the continent. Additional Strontium isotope dating and taphonomy of the fauna are under study as a contribution to the understanding of its correlation and affinities with other southern hemisphere Eocene faunas as well as the origin of this marine biota of West Antarctica and environment deposition of the glacial marine Cape Melville Formation. The new fauna introduces original data that bear on the question of opening of sea gateways, ice recovering of Antarctica and distribution of Eocene biota around Austral Pacific regions.