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UPPER CENOZOIC CONNECTIONS OF THE AEGEAN TO THE EASTERN MEDITERRANEAN :
MARINE GEOLOGICAL EVIDENCE AS COMPARED TO THE FOSSIL MAMMALS OF THE REGION

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Today the Aegean Sea is connected to the Eastern Mediterranean via several passages (Fig. 1): between Minor Asia and Rhodes (width 17km), between Rhodes and Karpathos (width 43km), the Kaso strait (67km to the E. Crete) and the W. Crete - Andikithira - Kithira - SE Peloponnisos straits (32km, 33km, 11km respectively). Marine geological work, aidded by land geology of the adjacent islands, revealed a complicated paleogeographic history in the vicinity of the straits during the Upper Cenozoic.

The earliest major connection to the Eastern Mediterranean is located in the vicinity of E. Crete - Kasos strait. This was formed in the Middle-Late Tortonian and connected the E-W oriented basinal areas of the north to the south. A similar, although much smaller in scale subsidence, with a terrestrial-marine transition ocurred in the Kithira - Antikithira islands which, however, has not been observed on marine seismic reflection records from that region. During the Messinian the E. Crete - Kasos region experienced a renewed period of subsidence (which possibly suceeded an initial period of uplift) and as a result the Aegean Sea acquired, through Crete - Kasos - Karpathos several connections to the south. In the Kithira - Andikithira straits region this tectonic phase resulted in tilting, uplift and erosion with concomitant deposition of clastics in the SE Aegean and west Andikithiran margin. Sometime in the Middle Pliocene the Karpathos - Rhodes passage started subsiding and the Aegean acquired a further connection to the east. During the Quaternary this Karpathos - Rhodes corridor became wider. However the most significant event was the subsidence of the Kithiran - Andikithiran straits around the Middle Quaternary.

On the basis of fossil mammals (Fig. 2) it has been suggested that the sea invaded the Aegean area through a seaway between Karpathos and Crete, from Kar-

GENERAL PHYSIOGRAPHY OF THE SOUTH AEGEAN REGION AND OUTLINE OF THE CENOZOIC STRAIT CONNECTIONS
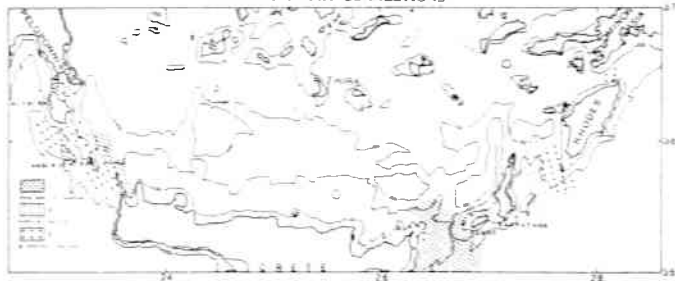
MAP OF SOUTH AEGEAN ISLANDS WITH THE MAIN PLEISTOCENE FOSSIL MAMMALS

pathos a mainland fauna of the Early Pliocene is known, indicating that the island was still connected to the mainland during that period. In Rhodes the sediments in which the fossil mammals are found are covered by marine sediments indicating a submergence of the island after the Late Pliocene - Erly Pleistocene. On Crete the Miocene mammalian fauna is poorly known and no Pliocene mammals are known indicating a complicated submergence of the area which started in the Middle Miocene continuing into the Pliocene. The endemic Pleistocene unbalanced island faunas from Crete, Kasos, Karpathos and Rhodes (Fig. 2) without Miocene-Pliocene relics of mammals suggest that the mammals dissappeared after a period of submergence. Kythera was an island in the Middle Pleistocene probably not so far from the coast and the mammals came by pendel route to the island.

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