ABSTRACT.- This study examined the paleontology and stratigraphy of the Neogene rock units exposed around Datça Peninsula basing on the pelecypoda and gastropoda fauna. One of the fossil specimens (*Hydrobia tanerae* n.sp.) which are determined from the taken measured stratigraphic sections belonging to Yıldırımlı formation was described as a new species. The age of Neogene units in the investigated area is determinable as Late Piacencian with the pelecypoda and gastropoda fauna. According to these marine and fresh water fauna, it is found that the area was a lagoon in Late Piacencian. ESR (Electron Spin Resonance) Age Method was applied on the four fossil specimens and found 1.891-1.988 million years. This result supported the Late Piacencian age.