

A Study on Genus *Carolia Cantraine*, 1838: A Case Study in Egypt with Special Emphasis on Paleobiogeographic, and Biometric Context

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Abstract : Twelve species belonging to genus *Carolia Cantraine*, 1838 were recorded from nine localities in the Tertiary rocks of the Tethys, Atlantic and Eastern Pacific Provinces. During The Eocene two species were collected from Indian-Pakistani region, two from North Africa (Libya, Tunis and Algeria), one from Jamaica and two from Peru. The Oligocene shows its appearance in North America (Florida) and Argentina. The genus showed its last occurrence in the Miocene rocks of North America (Florida) before its extinction. In Egypt, the genus was diversified in the Eocene rocks and was represented by four species and two subspecies. The paleobiogeographic distribution of Genus *Carolia Cantraine*, 1838 indicates that it appeared in the Lower Eocene of West Indian Ocean and migrated westward flowing circumtropical Tethys Current to the central Tethyan province, where it appeared in North Africa and continued its dispersal westward to the Atlantic Ocean and arrived Jamaica in the Middle Eocene. It persisted in the Caribbean Sea and appeared later in the Oligocene and Miocene rocks of North America (Florida). Crossing Panama corridor, the genus migrated to the south Eastern Pacific Ocean and was collected from the Middle Eocene of Peru. The appearance of the genus in the Oligocene of the South Atlantic Coast of Argentina may be via South America Seaway or its southward migration from Central America to Austral Basin. The thickening of the upper valve of the genus, after the loss of its byssus to withstand the current action, caused inability of the animal to carry on its vital activity and caused its extinction. The biometric study of *Carolia placunoides Cantraine*, 1938 from the Eocene of Egypt, indicates that the distance between the muscle scars in the upper valve increases with the closure of the byssal notch.

Keywords : Atlantic, *carolia*, paleobiogeography, tethys

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