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Sedimentology and Stratigraphy Architecture of the late Pleistocene-Holocene Succession of the Gargaresh Formation, Subratah Basin, NW Libya

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Gargaresh Formation outcrops is comprises the outcrops between the Misurata (N32o22'18" E15o12'03") to the Tripoli(N32o 51'10" E13o 03'22") areas is represented by prominent carbonate aeolianite exposed in extensive outcrops along the NW Libyan shoreline. Gargaresh Formation outcrops comprises two Members an upper Kaam Member of Aeolian origin and a lower Karrot Member of marine origin.
The study of the Gargaresh Formation can provide useful information on reconstructions of Late Pleistocene-Holocene history of NW Libya and new insights on palaeogeography. It is forming low ridges and cliffs along the coastline of NW Libya and occurs as cliffs continuously attached to the sea tide, and occasionally interrupted by broad wadis or deep-cut embayment.
The Gargaresh Formation sediments are dominated by calcarenites with skeletal marine fauna and non-skeletal grains of lithoclasts, aggregate, with oolites. In addition, these rocks are characterized by very well aeolian controlling factors represented by wind blown sediments such as large scale cross lamination (aeolianite) . The majority of palaeocurrent direction was to SE, on the other hand the dune migration was SE also.
The sediments of Gargaresh Formation outcrops from Misurata to Tripoli NW Libya mostly allochthonous except the paleosols red-brown unit. Most of its fossils are thanatoconoses. Gargaresh Formation sediments shows that the original aragonite composition of pelecypoda and gastropods fragments are mostly preserved, but partly transformed into granular calcite as pendulous (meniscus) cement texture in response to meteoric fresh-water.

Keywords: Sedimentology; Stratigraphic architecture; Aeolian origin; marine origin; Calcarenites; Late Pleistocene-Holocene