Geoarchaeological Survey of Batroun 2017 – Clement Flaux and Nicolas Carayon

Batroun is located 53 km north of Beirut. The coast is characterized by a rocky promontory made of calcareous sandstones (coastal aeolianite locally known as *ramleh*), separating two coves on its northern and southern sides. The ancient city was located above the rocky promontory, the western side of which was exploited as a quarry during Antiquity remains of which include the quarry floor and an impressive sea-wall, 220 metres long with a mean width of 1-2 metres and a maximum height of 5 metres. Locally known as the Phoenician wall, it remains however, undated although Graeco-Roman potsherds can be found cemented within a beach-rock deposited above the quarry floor.

Very limited archaeological investigation has been undertaken at Batroun, although the city is mentioned in the Amarna Letters from the second half of the second millennium BC. Later historical sources continue to mention, although infrequently, Batroun which appears as a modest coastal city throughout its long history, except during the reign of the Severans (early 3rd century AD). It has been suggested that the coves north and south of the promontory of Batroun, although able to host harbour installations, were too small to make Batroun an important maritime city. It is eventually believed to have been destroyed by a violent submarine earthquake and a subsequent tsunami during the 6th century AD.

Our project objectives were to introduce a geoarchaeological perspective to the study of Batroun's history. The site indeed presents coastal potential (harbours / quarries) and constraints (relative sea-level and coastal changes, high-energy events such as storm and tsunami). A preliminary geomorphological survey was thus conducted in October 2017 in order to refine our understanding of the coastal mobility of the site during the historical period. Indeed, ancient marine abrasion platform slightly elevated above modern biological sea-level, as well as eroded beach-rocks containing numerous potsherds, confirm that the coastline was different in Antiquity. A series of radiocarbon dates of shells will help to refine the chronology of this palaeo-shoreline settled in Antiquity and will provide new data to characterize uplift processes at this point along the Lebanese coast.

A second survey planned for 2018 will aim at (1) extending the survey and dating of preserved beach-rocks, including the survey of ceramic remains, to refine the palaeo-geography of Batroun coast, (2) initiate underwater survey of archaeological remains and submerged sea-level indicators, (3) test potential dating of the “Phenician” quarry through cosmo-nucleides method.

Figure : A- View of the « Phoenician » sea wall from inland. Graeco-Roman potsherds found within a beach-rock deposited above the quarry floor provide a *terminus ante quem* for the exploitation of the quarry. B- Partial view from the north-east of the « Phoenician » sea-wall maritime façade. The partial preservation of a notch and a clear step at its base, observed above the modern abrasion platform, provide possible evidence of the surrection of the area.