

## Human Settlement at the Northern Head of the Gulf of al-'Aqaba: Evidence of Site Migration

### Introduction

Recent archaeological research around the northern head of the Gulf of Aqaba suggests considerable migration of human settlement since late prehistoric times. The available evidence, based on excavation and survey of local sites ranging from the Chalcolithic to the Late Islamic periods, suggests that this migration has generally trended from north to south. This paper reviews the evidence specifically from the Chalcolithic to the beginning of the Islamic period. The paper will conclude by suggesting a possible explanation for this migration.

### The Prehistoric Periods

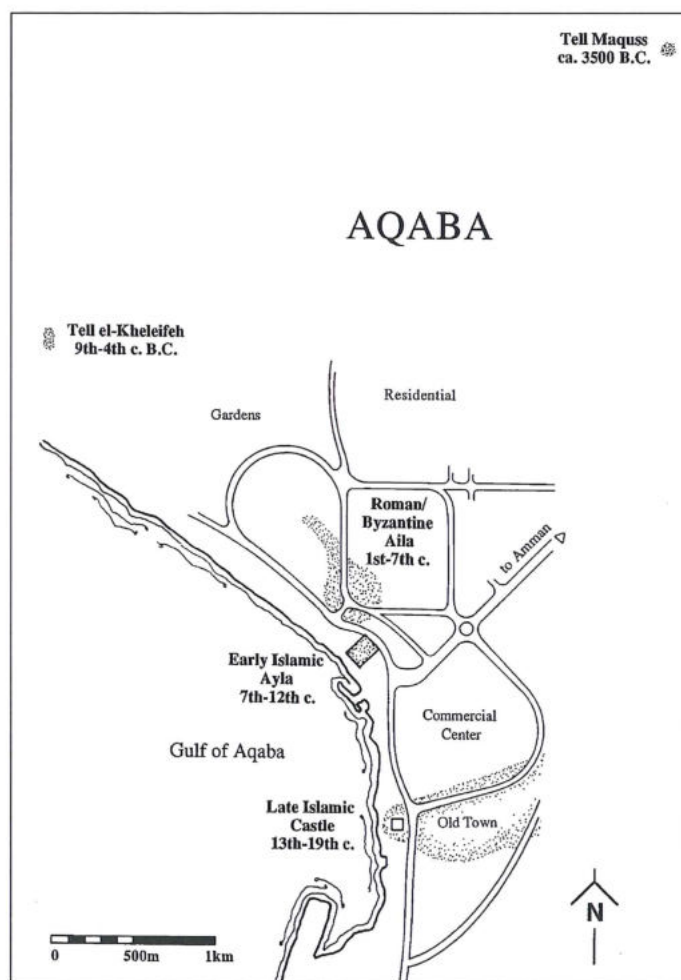
The earliest evidence of human presence in the Aqaba region was obtained in 1994 by the Southeast Wadi Araba Survey (SWAS), a unit of the Roman Aqaba Project (RAP). The SWAS recovered chipped stone artifacts at several sites in the southern Araba dating to the Middle Paleolithic period, perhaps as early as 200,000 BC. The same survey also recovered evidence of the Upper Paleolithic, Epipaleolithic, and Neolithic periods in the same region (Smith, Niemi and Stevens forthcoming).

The earliest evidence of sedentary occupation reported thus far in the immediate region of Aqaba is at Tall Maquşş, ca. 4 km north of the present shoreline near the Aqaba airport (FIG. 1). Excavated by Lufti Khalil in 1985, Tall al-Maqaşş is a single period site of the mid-fourth millennium BC, that is the late Chalcolithic Period. Tell al-Maqaşş was interpreted by the excavator as an industrial site for processing copper, presumably mined farther north in the Araba (Khalil 1987; 1992; 1995). Hujayrāt al-Ghuzlān, a contemporary site just 1.5 km to the east, was interpreted as the residential site for these inhabitants (Khouri 1988: 130-31). It is notable that occupation of both sites appears confined to the late Chalcolithic period.

### The Iron Age

The history of the Aqaba region between the Chalcolithic period and the Iron Age is problematic. There is clear evidence for Egyptian exploitation of the copper mines at Timna, just north of Aqaba, during the transition from the Late Bronze Age to the Iron Age (Rothenberg 1988; 1993).

Evidence of later Iron Age occupation is attested at Tall al-Kheleifeh, now 500 m north of the present shoreline just inside the modern Jordanian border (FIG. 1). The site was surveyed in 1933 by Fritz Frank, who identified it with the Ezion-geber of biblical tradition (Frank 1934: 243-45). According to 1 Kings 9:26-28, Solomon built a fleet at Ezion-geber whence a merchant fleet sailed to Ophir and returned with 420 talents of gold (cf. 2 Chron 8:17-18). The passage, also asserts that Ezion-geber was located "besides Elath, on the shore of the Red Sea, in the land of Edom."



1. Map of archaeological sites in the region of Aqaba.

The tradition also asserts that a later king of Judah, Jehoshaphat, constructed another fleet to sail to Ophir, but these ships were wrecked at Ezion-geber (1 Kings 22:48; cf. 2 Chron. 20:36-37). Judah later lost Elath to the Edomites during the reign of King Ahaz in the late eighth century BC (2 Kings 16:2).

Inspired by these traditions, Nelson Glueck surveyed Tall al-Kheleifeh in 1937 and directed extensive excavations in 1938-1940. Glueck initially accepted Frank's identification of Kheleifeh with Ezion-geber and dated the earliest phase of occupation to the tenth century BC, associating the site with King Solomon's Ezion-geber (Glueck 1935:48;1937:12). However, Glueck later acknowledged that the bulk of the pottery from both surface survey and excavation was in fact no earlier than the eighth century and thus the identification of Kheleifeh with Solomon's port was tenuous (Glueck 1938: 3-5). In his last published statement on the site, Glueck backtracked further from his initial identification, but continued to insist that Kheleifeh was at least a satellite of Ezion-geber/Elath, serving as a fortified caravanserai and granary (Glueck 1965). Unfortunately, Glueck never published the results of his excavations in final form.

Gary Pratico, in a thorough re-examination of Glueck's work, concluded that the site was not founded prior to the eighth century BC. This in turn suggests that Kheleifeh is more likely to have been established by the Edomites. Again, there is clear evidence at this site for processing copper, presumably from the mines in Wādī 'Arabah. Occupation clearly continued well into the Persian Period (539-332 BC), certainly into the fourth century BC. A single Rhodian stamped amphora handle, a surface find dated ca. 200 BC, is the only Hellenistic evidence yet attested from the site (Pratico 1985; 1993). The near total absence of Nabataean pottery from Kheleifeh, so ubiquitous elsewhere in the region, strongly suggests abandonment before the early first century BC.

**The Roman and Byzantine Periods**

Excavations in 1994 by the Roman Aqaba Project, directed by the author, have now definitively located the apparent successor settlement to Tall al-Kheleifeh, the city of Aila. The classical Aila is located just over 2 km south-east of Kheleifeh (FIG. 1). Excavating several widely scattered areas (FIG. 2), the project recovered a complete stratigraphic sequence extending from the first century BC (Early Roman/Nabataean period), through the Late Roman, Early Byzantine, Late Byzantine, and well into the Early Islamic period, to perhaps the tenth century AD (Parker 1994;1996).

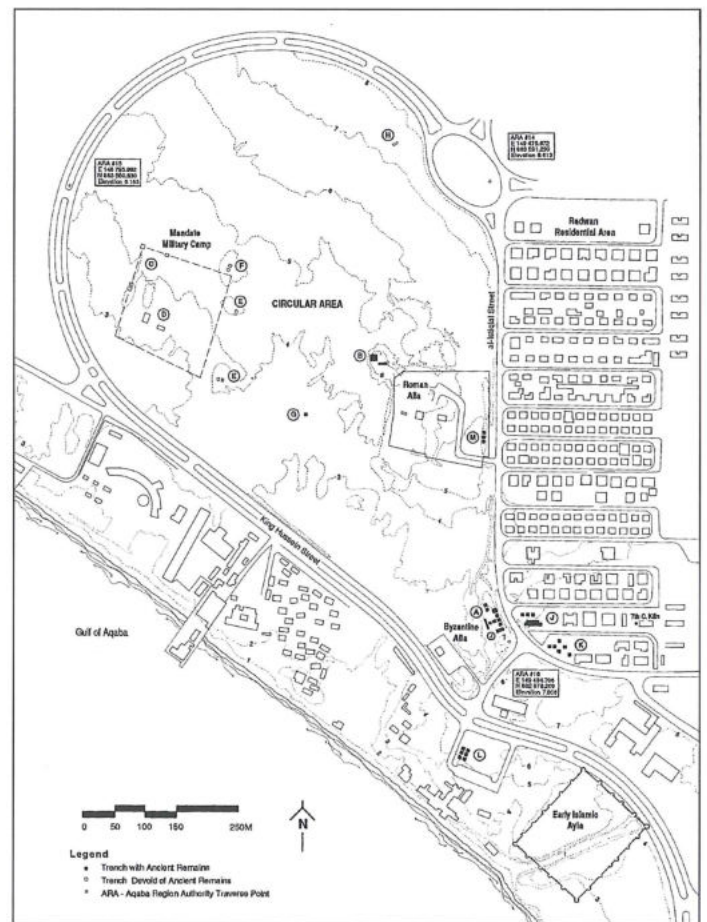
Although evidence of the first season is still at a preliminary stage of analysis, a number of important facts about the classical Aila have already emerged. These include the types and location of structural remains and analysis of some categories of artifacts.

Interestingly, the earliest evidence of occupation (first

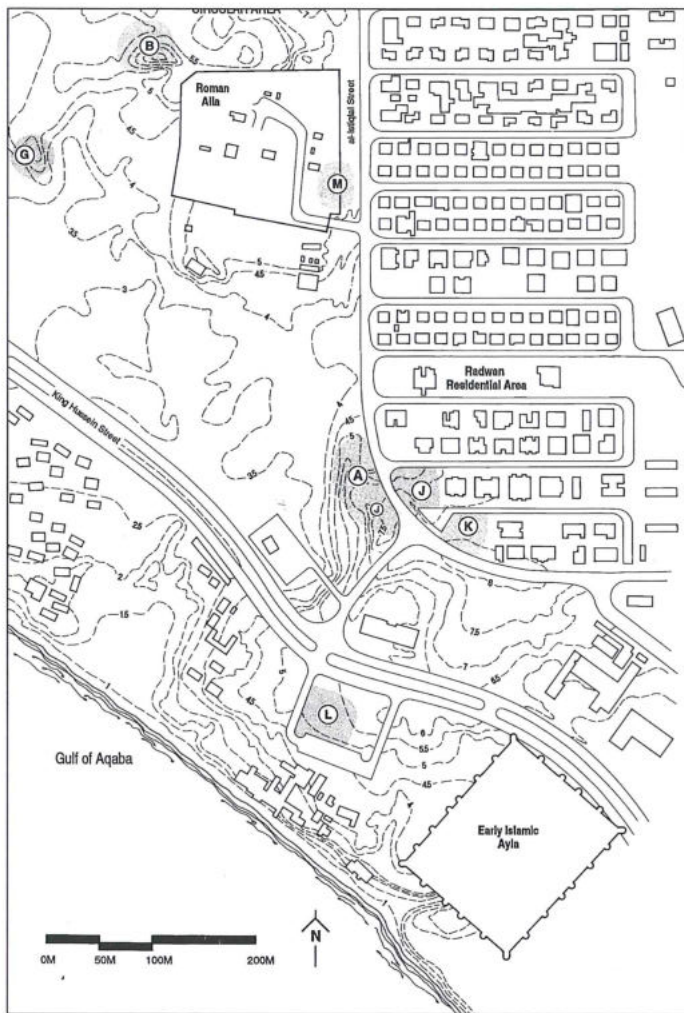
centuries BC/AD) was located farthest north (ca. 500 m) from the present shoreline, while the latest occupation (eighth/ninth centuries AD) was closest to the present coast. Mostly Early Roman/Nabataean material (first centuries BC/AD) was recovered from Area M, a group of three 5 x 5 m trenches just west of al-Istiqlal Street (FIGS. 2 and 3). This included Nabataean painted and unpainted fine ware, imported terra sigillata (mostly Eastern Sigillata A), and two Nabataean coins from stratified contexts.

Just over 200 m to the north-west, atop a mound heavily disturbed by modern military trenching, Area B yielded stratified material from a mudbrick domestic complex dated from the Early Roman through Early Byzantine periods, that is to at least the fourth century AD (FIGS. 2 and 3). A significant quantity of terra sigillata pottery and a few sherds of African Red Slip (ARS) ware attest to continued importation of fine ceramics through Aila in this period. The area yielded three Late Roman and two Early Byzantine coins, the latter both of the mid-fourth century. Two Late Byzantine coins (one unstratified) suggest that Area B witnessed some human activity in the sixth century.

Excavation in Area J, ca. 300 m south of Areas B and



2. Map showing all excavation areas of the Roman Aqaba Project in 1994.



3. Map with location of all excavation areas of the Roman Aqaba Project in 1994 that encountered ancient remains.

M on the east side of al-Istiqlal Street (FIGS. 2 and 3), revealed a massive vaulted mudbrick structure erected in the fourth century AD. Some of the surviving mudbrick walls were built atop stone walls, from which good dating evidence was obtained. Most coins from the structure date to the Early Byzantine period, that is fourth or early fifth century. But little clear occupational evidence has yet been recovered from the building. The fragmentary plan thus far available suggests the possibility of a public building, perhaps even a Christian basilica. A bishop of Aila is attested as early as 325, but the identification of the structure as a basilica remains nothing more than a suggestion at this stage.

A cemetery of mudbrick tombs, also apparently dating to the fourth century, was discovered in Area A (FIGS. 2 and 3) just west of the mudbrick structure. Three tombs were excavated in 1994. Each contained a single articulated skeleton with minimal grave goods. Associated artifacts included two coins of the mid-fourth century AD. The cemetery is seemingly contemporary with the mudbrick structure in Area J and may be associated with it.

Whatever its intended function, the mudbrick structure

in Area J was soon abandoned. It was then partly demolished and partly built over by construction of a stone curtain wall and projecting interval tower (FIG. 4). Two mid-fourth century coins, one from the rubble core of the curtain wall and another from a constructional fill within the tower, provide a terminus post quem for the curtain wall's construction. Associated pottery from the wall's foundations also support a construction date in the late fourth or early fifth century. The exposed segment of the curtain wall was 1.6 m thick nearly 30 m long, and still preserved to a maximum height of 1.8 m.

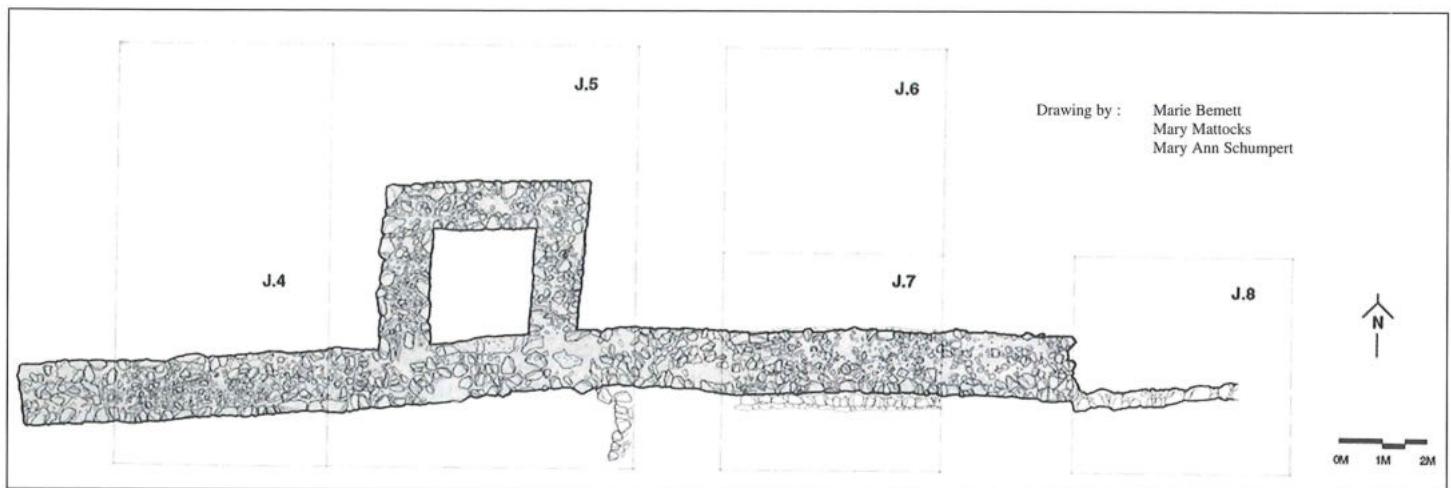
The location of the projecting tower on the north face of the curtain wall clearly suggests that this was the northern limit of a defended enclosure. This curtain wall must represent either the city wall of Early Byzantine Aila or the curtain wall of the fortress of *legio X Fretensis*. This famous legion was transferred from Jerusalem to Aila by the turn of the fourth century (Eusebius, *Onomasticon* 6.17) and was still in the garrison at Aila a century later (*Notitia Dignitatum Or.* 34.30). Roman army units garrisoned in cities typically walled off part of the urban area as a separate fortified military quarter, as at Dura Europos and Palmyra. Thus it may be supposed that *X Fretensis* was based in a similar manner. It must be stressed, however, that the numismatic evidence from the wall itself suggests that it was not constructed before the mid-fourth century and thus could not have been part of the original legionary base.

Because of this, it seems perhaps more likely that the curtain wall is in fact the city wall of Early Byzantine Aila. This in itself is worthy of note, because the excavated evidence of Early Roman, Late Roman, and Early Byzantine occupation (in Areas B and M) lie 300-500 m beyond and north of the Byzantine wall line.

Stratified Late Byzantine occupation and a sixth century coin were recovered from stone structures just west of al-Istiqlal street in Trenches J.9 and J.10 (FIG. 3). These structures may have been built over an earlier westward extension of the curtain wall.

In other words, the focus of human settlement at Aila seems to have moved significantly southwards by the fourth century AD by which time the Early Roman domestic complex in Area M had long since been abandoned. The domestic complex in Area B, however, seems to have continued in occupation as a suburb after construction of the curtain wall in Area J, although it was also apparently abandoned by the fifth or sixth century.

It appears that the Byzantine curtain wall fell out of use by the seventh century, when extensive robbing of its building stones and dumping of debris within the tower occurred. Some of the debris dumped into the tower included kiln wasters and ceramic slag, possibly from the seventh century pottery kilns recently excavated only ca. 100 m to the east (Melkawi, 'Amr and Whitcomb 1994). It is tempting to associate this robbing and dumping activity with the contemporary construction of the Early Islamic town ca. 650.



4. Plan of the Early Byzantine curtain wall with a projecting rectangular tower.

### The Early Islamic Period

Excavation of three areas, one north and two south of the Byzantine curtain wall, revealed substantial occupation in the Early Islamic period.

Just north of Byzantine curtain wall and west of al-Istiqlal Street, a mudbrick domestic complex was excavated in Area A (FIG. 3). The latest phase of occupation dates to the mid-eighth century, that is Late Umayyad or Early 'Abbasid, as suggested by the presence of so-called "Mahesh Ware" (Whitcomb 1989) and an Umayyad coin dated ca. 735-742. The absence of typical Abbasid glazed wares from the mudbrick complex suggested it was abandoned by the turn of the ninth century (Whitcomb 1990-91). Stratigraphic and artifactual evidence suggested that the mudbrick complex was founded in the Late Byzantine period (sixth/early seventh centuries). If the complex was in fact founded this early, it might suggest that the Early Byzantine curtain wall had gone out of use prior to the Muslim conquest.

Area K, located south of the Byzantine curtain wall and just south-east of Area J, consisted of six 5 x 5 m trenches (FIGS. 2 and 3). A complex of stone walls, mudbrick walls, and associated floors appeared, partly covered by extensive dumps. Rich artifactual remains were recovered from these dump layers, including pottery, glass, coins, animal bones, and carbonized plant remains. The latest pottery from these dump layers was Abbasid. One of the uppermost dump layers also yielded an Abbasid coin of the early to mid-tenth century AD. Removal of these dump layers exposed more architecture, including several phases of mudbrick and stone walls. The layers under the dumps yielded an Umayyad coin of the early eighth century. The pottery of the latest architectural phase was 'Abbasid, that of the earlier phases was Umayyad (ca. 650-750). All this suggests that Area K served as a suburb to the adjacent Early Islamic town in the Abbasid and Umayyad periods. Subsequently it was abandoned and used as a dump by the tenth century. Given the proximity of Area K to the Byzantine city wall

and the fact that the deepest excavation in this area reached only about 1 m below the modern ground surface, it seems likely that Byzantine remains underlie the Early Islamic strata.

Area L was opened nearly 250 m farther south-west of the Byzantine city wall, 150 m west of the walled Early Islamic town, and less than 100 m from the present shoreline (FIGS. 2 and 3). Excavation revealed a complex of mudbrick and stone structures with associated floors and domestic installations. The complex clearly experienced several phases of occupation within the Abbasid period. Therefore it appears that Area L, like Area K, was a suburb of the walled Early Islamic settlement to the east.

Although this paper focuses primarily on the pre-Islamic period, it is notable that the process of site migration continued in the Medieval period. Recent excavations by Whitcomb have located the walled Early Islamic town, founded in the mid-seventh century, ca. 250 m south-east of the Byzantine city wall (FIGS. 1 and 3), directly on the modern beach (Whitcomb 1988; 1993; 1995). Its abandonment in the twelfth or early thirteenth century was followed by the establishment of the Late Islamic settlement ca. 1 km farther down the coast to the south, around the present Hashemite castle.

### Conclusion

In short, it seems clear that human settlement in the Aqaba region has migrated persistently southwards over the past five millennia. Why? One possible explanation may be a change in the shoreline. Tina Niemi, staff geologist of the Roman Aqaba Project, suggests that the sea might have extended farther north in antiquity. She bases this suggestion on examination of aerial photographs combined with the results of regional archaeological surveys and excavations. Niemi suggests that the shoreline in the classical period possibly extended farther north into the so-called 'Circular Area', just west of Area B. Indeed she reports the deposition of halite (sea salt) on mudbrick walls in Area B that might have resulted from sea water

sprayed from waves.

This suggestion is further supported by results from several other areas excavated farther north and west in the 'Circular Area' by the Roman Aqaba Project (FIG. 1). Excavation of these areas (designated C, D, E, and F), yielded no stratified ancient remains, only some modern mudbrick structures overlying deep deposits of apparent beach sand. Several trenches excavated by mechanical equipment to a depth of 3.5 m in these areas within the 'Circular Area' did not reveal significant ancient occupation.

What could have caused the advance of the shoreline southwards over the centuries? It would appear that fluvial deposits washed down from Wādī 'Arabah and Wādī Yutm during the torrential winter rains may be responsible. Therefore, in order to remain a viable port for shipping, human settlement has been compelled to follow the receding shoreline. It must be stressed that, although migration of human settlement southwards is now well documented by recent archaeological research, the explanation of an advancing coastline at the head of the Gulf of Aqaba proposed in this paper remains only a working hypothesis. More research is needed to test this hypothesis. And, even if valid, it is entirely possible that other factors may have figured in the process of site migration. Nevertheless, current evidence does suggest that this hypothesis is worthy of further consideration.

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