

The Enigma of ‘Aydhab: a Medieval Islamic Port on the Red Sea Coast

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The medieval Islamic port of ‘Aydhab played a major role in the hajj and in trade with Yemen, India and the Far East. A recent satellite image reveals the layout of the town in some detail, but there seems to be no trace of a viable harbour. Yet there was a fine secure harbour at Halaib, 20 km to the south. We tentatively suggest that the main port of ‘Aydhab was separate from the town. This hypothesis can only be verified by fieldwork and our objective in this paper is draw attention to the problem rather than to resolve it.

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In 1993 one of us (DP) published a paper in which satellite images were analysed and compared with the writings of the ancient geographers (Peacock, 1993). This work resulted in the suggestion that the Roman site of Myos Hormos must be equated with Quseir al-Qadim, 8 km north of the town of al-Quseir on the Egyptian Red Sea coast. This suggestion was received with a measure of scepticism, but later excavations produced firm documentary evidence that the assignment was correct (Peacock and Blue, 2006). In this paper we present a somewhat similar analysis of the once-renowned but now little-known Islamic port of ‘Aydhab, situated in the Halaib triangle between Sudan and Egypt. Today, as in medieval times, its status is somewhat ambiguous, for it is claimed by both Sudan and Egypt. We begin by examining the literary evidence for ‘Aydhab’s history, followed by an examination of new evidence for the layout of the town and the location of its harbour. We attempt to use both archaeology and written evidence to assess the reason for its strange location, the communications of its port and the dating of its beginning and end.

In the Roman period, five ports seem to have dominated the western shores of the Red Sea, which was itself Rome’s main gateway to India. Along this route came all manner of oriental luxuries such as silks, pepper and other spices, exchanged for Mediterranean goods such as fine Italian wine, and silver. The main Red Sea ports were Clysma (Suez), Myos Hormos (Quseir al-Qadim) and Berenike in Egypt, Ptolemais Theron in Sudan, and Adulis in Eritrea (Fig. 1). Clysma was excavated in the 1930s (Bruyère, 1966), Ptolemais Theron remains to be identified, but the other three have been the subject of recent archaeological research. It appears that Myos Hormos was active from Ptolemaic times to some time in the 3rd century AD after which it was abandoned until re-opened in late Ayyubid times, although the main occupation is Mamluk (Peacock and Blue, 2006). In the 1000 years between the two periods of occupation a sand-bar built up, cutting access to the fine Roman harbour, so the Islamic harbour was a shadow of the Roman one and merely a simple Red Sea mersa, a little larger than the present bay which now forms the bathing beach of the Mövenpick

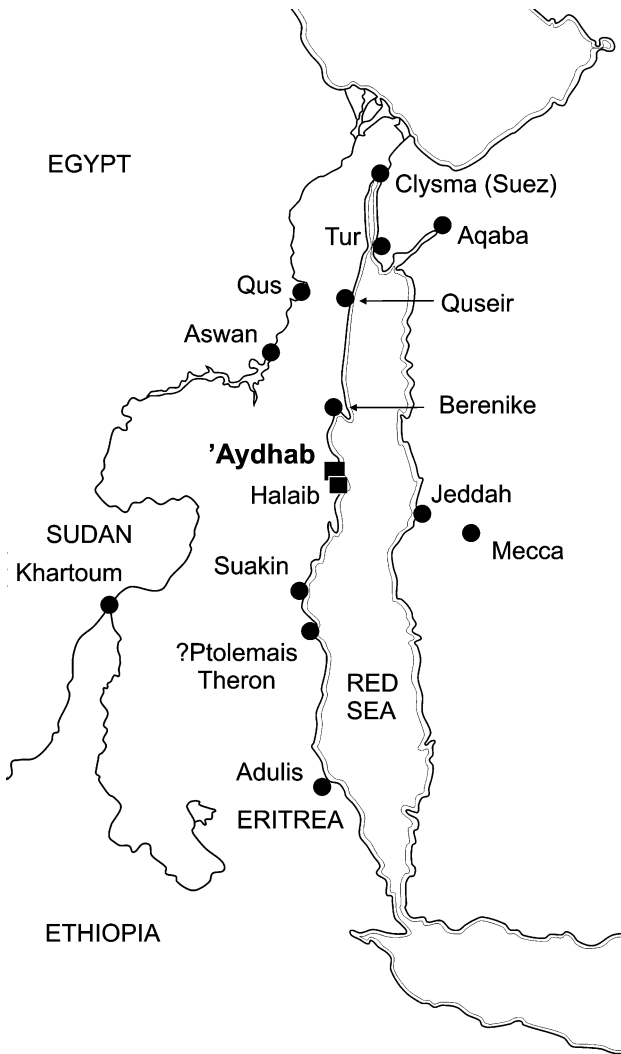


Figure 1. Map of the Red Sea area showing the principal localities referred to in the text.

hotel. The blockage may have been the result of gradual accumulation of sediments, but equally it could have been hastened by the massive earthquake of 18 March 1068, the epicentre of which was in the Hijaz, less than 400 km distant (cf. Ambraseys *et al.*, 1994: 30–32).

The harbour of Roman-period Adulis was originally located near an offshore island called Diodorus Island, but because this was connected to the mainland by a causeway, the harbour was considered too dangerous and was moved later in the 1st century to a more secure location on the island of Oreinê (Dese) (Casson, 1989). Both these harbours have been found in the course of recent fieldwork by an Eritro-British team. As no excavation was undertaken it is unclear whether or not there was continuity of occupation, but

certainly Adulis flourished again in the Aksumite period with its harbour, called Gabaza, located, like Diodorus Island, near the Galala hills 6 km away. The coin list from Adulis ranges up to about 700 AD, after which it seems that the site was abandoned for reasons at present unclear (Peacock and Blue, 2007).

Berenike, on the other hand, has revealed a different story. It was occupied more or less continuously from the Ptolemaic period to about the 5th century AD. Its longer life-span in comparison with Quseir could reflect its more favourable position (Sidebotham and Wendrich, 1995; 1996; 1999; 2000). While the journey across the desert to the Nile was much longer, ships would be able to make a more southerly landfall and thus avoid having to battle against the prevailing north wind which besets the Red Sea for 80% of the year. Like Quseir, its harbour was blocked by a sand-bar, and siltation during the Roman period may have contributed to its demise. Like Quseir the area seems to have been deserted in the early Islamic period. When the area was re-occupied in 9th century AD a new site, 'Aydhhab, was chosen 200 km further south (Fig. 1). The journey across the desert was thus increased, but the new port would be much nearer to Jeddah and Mecca, thus facilitating one of its main functions, to act as a port of embarkation for the hajj. Quseir also had the disadvantage that the difficult sea voyage, battling the ferocious north winds, was greatly extended. Nonetheless, according to Qalqashandi (1987, 3: 536), some merchants still preferred it to 'Aydhhab due to its greater proximity to Qus, the town in the Nile Valley where shipments from the Red Sea were loaded onto boats for transportation up the Nile to Cairo, Alexandria and beyond. Quseir continued to operate after the decline of 'Aydhhab in the 14th century, and it was not until some time in the 16th century that it was moved to present day Quseir, 8 km to the south, where a settlement seems to have developed around the Ottoman fort.

Historical background

The date of 'Aydhhab's foundation is unknown, but it is first mentioned in the 9th century. It was used by Ibn al-Sufi, a rebel against the 'Abbasid governor of Egypt Ibn Tulun, to make his escape to Mecca c.873 after his defeat by government forces (Kindi, n.d.: 240–41; Balawi, 1939: 64–5). It was one of the coastal regions captured by the

general Muhammad b. 'Abdallah al-Qummi (not Gami as given by Paul, 1955), who had been sent by al-Mutawakkil, the 'Abbasid Caliph of Baghdad, around 855 to subdue the tribe of the Beja who lived in the area (Tabari, 1879–1901, 3: 1428–33; Baladhuri, 1987: 333; 'Aydhab is mentioned by name only by the latter). In the earliest sources, it is mentioned not as a port for receiving imports, but rather for the export of Sudanese gold mined at Jabal al-'Alla'qi and as the gateway to the holy cities of the Hijaz. Ya'qubi, writing in the late-9th century, says of 'Aydhab that 'people sail from it to Mecca, the Hijaz and Yemen, and merchants come to it and carry [away] gold and ivory in boats' (1892: 335). Istakhri (1961: 32–3) and Mas'udi (1965: §875) in the 10th century both mention 'Aydhab in connection with the gold mines, although Muqaddasi (also 10th century) refers to it simply as the route to Jeddah and one of the departure points for pilgrims (1906: 78). It has been suggested that the rise of 'Aydhab may be connected with the decline of the port Badi' which seems to have lost its former importance between 1050 and 1150 ('Abd al-Halim, 1999: 259–60, 271, 279–80). 'Abd al-Halim placed Badi' at Massawa, Eritrea, but despite considerable commercial digging in Massawa in recent years, nothing has come to light apart from a potential undated Islamic cemetery in the docks area (pers. comm. Yohannes Gebreyesus). The other and more probable candidate for Badi' is the site on al-Rih island near 'Aqiq in southern Sudan (Crowfoot, 1911: 542–7; Hasan, 1967: 64–6; Kawatoko, 1993; Seeger *et al.*, 2006).

Certainly, 'Aydhab's role as the major port on the hajj route was established by the mid-11th century, when it was visited by the Persian traveller Nasir-i Khusraw on his way from Egypt to Mecca. It had also evidently become a significant trading entrepot at this point, for he remarks that it was 'a customs station for ships coming from Abyssinia, Zanzibar, and the Yemen' (1986: 65). Merchandise was then transported across the desert to Aswan or Qus, a journey of some 15 or 20 days, and then up the Nile to Cairo (Ibn Jubayr, 1952: 60; Maqrizi, 2002, 1: 550). So 'Aydhab's role as a significant entrepot probably does not predate the Fatimid period in Egypt (c.AD 970–1171), when it became the major port serving the southern Red Sea, and started to play a part in the profitable India trade that was developing under the mysterious *karimi* merchants who appear to have made 'Aydhab one

of their bases (Labib, 1978; Qalqashandi, 1987, 3: 356). At least some of these merchants who traversed the routes between India and Egypt were Jews, and 'Aydhab is mentioned in the Geniza documents (Goitein, 1967: 133 and index). Officials of the Fatimid court were also involved in the trade, owning ships at 'Aydhab and trading with Nubia (Plumley, 1975: 106). Spices such as cinnamon and pepper were among the imports brought through 'Aydhab (Maqrizi, 2002, 1: 550), and it must have gained some wealth from the nearby pearl-fisheries (Ibn Jubayr, 1952: 64). It also served a less pleasant role as place of exile—Ibn al-Mujawir called it 'the prison of the Fatimid caliphs' (1951–4: 110).

'Aydhab's importance was maintained under the Fatimids' successors as rulers of Egypt and Syria, the Ayyubids. The Andalusian traveller Ibn Jubayr passed through on his way to Mecca in 1183, remarking that 'it is one of the most frequented ports of the world, because of the ships of India and the Yemen that sail to and from it, as well as the pilgrim ships that come and go' (1952: 63). However, 'Aydhab had also become notorious for the high taxes levied on pilgrims, and Saladin's repeal of these taxes must have provided a further stimulus for the development of the port (Ibn Jubayr, 1952: 47–8). At least when Ibn Jubayr was writing, the desert road linking 'Aydhab with the Nile Valley seems to have been admirably secure, so much so that even goods which had fallen by the wayside were safe from theft or pillage. The volume of traffic was substantial, with Ibn Jubayr recording that 'we wished to count the caravans that came and went upon this road but could not [for their number], especially those from 'Aydhab bringing the merchandise of India' (1952: 61).

Indian pepper seems to have comprised the bulk of this trade. It is, then, rather surprising that the 13th-century geographer Yaqut mentions 'Aydhab simply as 'a little town on the edge of the Red Sea which is the port for ships coming from Aden to Upper Egypt', in contrast to his description of nearby Suakin as 'a famous town ... to which the ships from Jeddah come' (1957, 4: 171; 3: 276). However, Yaqut had never visited the region, and 'Aydhab remained the major port of the southern Red Sea into the times of the Mamluks, the rulers of Turkish and Circassian slave origin who controlled Egypt, Syria and sometimes the Hijaz between 1250 and 1517. The merchants of 'Aydhab were among the targets of a Nubian attack in 1272 (Yunini, 1954–61, 3: 2),

but they continued to frequent the port for some time, although there are noticeably fewer references to it after the mid-14th century. Diplomatic contacts between the Mamluks and Yemen also went via 'Aydhab (Maqrizi, 1939–73, 1: 219; 2: 852, 886), and it played a role as a military base, as will be discussed below (for more on the history of 'Aydhab see Hasan, 1967: 66–82).

The northern end of the Red Sea continued to be served by Qulzum, which replaced Clysmā, from soon after the conquest to the mid-12th century when it was largely destroyed.

The character of 'Aydhab

It is difficult to get a clear picture of the nature of 'Aydhab from the Islamic sources. In part, this is because writers tended to copy earlier works without attribution, so it is difficult to be certain of the date of the information. Ibn Jubayr's account was particularly influential in this respect, and large chunks of it are cited word-for-word by later writers such as Maqrizi and Himyari. An even more serious problem is the total lack of consensus about the nature of the town. Early writers such as Biruni (1936: 242) and Istakhri (1961: 32) refer to 'Aydhab as a fortified place—*hisn*, 'castle' or 'fort'. In the 12th century, however, Ibn Jubayr found the town unwallled (1952: 63). Despite its importance as a port, most sources indicate it was not an especially large settlement, and it may have been fairly basic; Ibn Jubayr commented that 'most of its houses are booths of reeds', although a few were plastered. A century after Yaqt had dismissed it as 'a little town' (*bulayda*), Ibn Battuta found it to be 'a large city' (*madīna kabīra*)—and unlike Yaqt he had been there in person, even if his account was not written down for many years, and is known to be unreliable in places (1992: 53; 1958, 1: 68–9). Abu 'l-Fida, however, also writing in the 14th century, remarked 'it is more like a village than a town' (1848, 2: 167). In the 15th century, Himyari comments that 'the port of 'Aydhab is a small island with stone buildings' (1975: 423), although no other sources, including the accounts of travellers who had been there in person, mention this fact. Again, almost all of the sources concur that water was not to be found in 'Aydhab, and had to be brought from outside (such as Himyari, 1975: 424; Nasir-i Khusraw, 1986: 66), while Idrisi indicates there were wells there (1970: 134), and Ibn Jubayr mentions the huge cistern at

al-Khubayb, a day's journey away on the desert road 'within sight of 'Aydhab' where caravans and locals would go to take water (1952: 63). Until archaeological work has been undertaken, it is impossible to be sure whether these differences reflect developments in the port over time—including the possibility that its site moved, as happened at Quseir—or simply the unreliable nature of some of the literary evidence.

'Aydhab must, at any rate, have been a rather strange and disagreeable place. The rapaciousness of the ship-owners responsible for transporting the pilgrims is noted by Ibn Jubayr (1952: 67) and the numerous authors who copied him. Another problem was that the winds would often blow pilgrims to harbour not at 'Aydhab but on the coast to its south, where they were at the mercy of the unscrupulous Beja, and many died attempting to cross the waterless desert to 'Aydhab (Ibn Jubayr, 1952: 64–5). The political atmosphere must sometimes have been tense, as the town was administered jointly by the Beja and Egypt, its revenues sometimes being divided in half between them, sometimes with Egypt taking a third to the Beja's two-thirds (Idrisi, 1970: 134–5; Ibn Battuta, 1958, 1: 68–9). As well as being a place of exile, it was the sort of town to which a debtor might flee to escape his creditors' reach (Goitein, 1967: 42). Nonetheless, banking facilities for merchants were available here (Goitein, 1967: 269; Nasir-i Khusraw, 1986: 66, although the latter's contact was probably a government agent supporting members of the Isma'ili *da'wa* on secret missions, the Fatimids' attempt to promote their Isma'ili Shi'ite ideology abroad). Culturally the town was thoroughly undistinguished, and produced scarcely a single scholar of its own throughout its existence; even its *qadis* (religious judges) had to be brought in from Upper Egypt ('Abd al-Halim, 1999: 283–91; Udfuwi, 2001: 160–61, 503, 626–7, 684–5). Ibn Jubayr certainly portrays 'Aydhab as relentlessly horrible—a hot, remote town, to which everything had to be imported, and whose inhabitants were fond of mistreating travellers, and he noted the similarity of the word 'Aydhab to the Arabic word for 'torture' or 'punishment' (*'adhab*) (1952: 48).

The European discovery of 'Aydhab

'Aydhab first came to the notice of modern European scholarship in the late-19th century. It appears that Floyer (1892) was the first to identify the ruins, followed a few years later by

J. Theodore Bent (1896) who visited what was then known as *Sawakin al-Qadim* (old Suakin), 12 miles (20 km) north of Halaib. He also equated the site with 'Aydhab, mentioned in the Islamic sources. He describes it as like Berenike, a mass of mounds, one of which he excavated. He seems to have found:

nothing earlier than Kufic remains, unless the graves, which were constructed of four large blocks of madreporite limestone sunk deep into the ground, may be looked upon as a more ancient form of sepulture. We opened several, but unfortunately they contained nothing but bones. ... originally this town must have been built on an island, or an artificial moat must have been dug around it to protect it on the mainland side; this is now silted up, but is traceable all along. Three large cisterns for water are still in a fair state of preservation, and I am told that a Kufic inscription was found here some years ago (1896: 336).

A few years later Couyat (1911) emphasised the importance of 'Aydhab and discussed the routes across the desert from Qus, Edfu and Aswan. However, he clearly never went there and placed it wrongly in a bay just to the south of Ras Elba, equating it with Halaib on what he imagined was the similarity of their names, a view which cannot be sustained on philological grounds. In his words, 'Aydhab lay at 'Ras Elba, c'est-à-dire au sud de l'ancienne Bérénice et à environ 22° de latitude nord, non loin de la petite ville actuelle d'Hélaïp qui est le siège d'une garnison de police'. He added that 'La ville est actuellement perdue' (1911: 135).

The next European to visit 'Aydhab was Murray (1926), who excavated the *qibla* of a mosque located at 22°19'27" N and 36°[2]9'32" E. He measured the three cisterns mentioned by Bent and gives the following dimensions: northern, 16 × 3.5 m wide × 2 m deep; central, 17 × 2.5 × 2.6 m; southern, 17 × 4 × ? He suggested that each would hold about 25,000 gallons of water. Surface finds included a coin of AD 1260–1277, glass bangles and Chinese porcelain and celadon. But, he adds, 'the most striking feature of the site, and a rather depressing one, is the disproportionately large size of the cemeteries compared with the smallness of the town' (1926: 239). He counted some 3000 graves. He was also the first person to produce a map which showed the extent of the buildings the cisterns and the cemeteries. The map also shows the low ground on the south-west side of the 'Aydhab ridge which had a little rainwater in it at the time of his visit,

but he disagreed with Bent that this was artificially dug or that the site was an island in historic times. He failed to understand why this site was chosen in preference to Halaib, 20 km to the south which had a better anchorage and plentiful brackish water: 'Aidhab must always have been an inconvenient port of call, the anchorage is small and exposed, and there is no fresh water nearer than the springs of Jebel Erba [sic], the Prionotus Mons of Ptolemy, 10 miles away' (1926: 239).

Hobson (1928; 1957) discussed a few of the sherds found by Murray, drawing attention to the pre-1426 date and its implication for the dating of certain Chinese blue-and-white porcelains to the Sung period. One celadon bowl bore a character in the Bashpa script which was invented by Lama Phags-pa in the 13th century to represent Chinese sounds in Tibetan characters. This script was adopted by the Chinese court in the Yüan Dynasty (1279–1368), but was only in general use for a few years. The sherd is thus a piece of Yüan celadon. The glass from the site, dating between the 8th and 15th centuries, was briefly discussed by Harden (1955) in connection with the Soba excavations.

Nearly 30 years later the site seems to have been visited by Paul (1955) who produced a schematic plan which adds detail, but which, in some respects, is not as accurate as Murray's (the former conveniently reproduced by Insoll, 1999: fig. 4.2). His account is mainly historical and concerned in part with the barbaric treatment of hajj pilgrims by the locals in an attempt to extort money, painting a picture of a most insalubrious and disagreeable place. He does, however, claim finds of Ming porcelain dating to c.1370–1400 AD, which emphasise the role of the port in the eastern trade as well as the hajj, although the reason for this identification and dating is not given.

The most thorough and far-reaching study of 'Aydhab took place a quarter of a century ago when a Sudanese-French mission conducted excavations, survey and geomorphological study (Elisséeff and el Hakim, 1981, but see also Bazzana *et al.*, 1979). They published no overall plan, but recorded structures in the central area surrounding the small silted bay, although this is clearly little more than a sketch. They also included a stratigraphic section and a plan and section of the northern cistern. In addition they illustrated 12 pots (4 Chinese and the remainder coarse wares). For the first time, material for the study of 'Aydhab became available. They

recognised the problem of the lack of a good port and exposure of the coast to the dangerous north-west winds. Considerable effort was invested in a geomorphological study, which they suggest shows a drop in sea-level of about 50 cm, but at the time of writing confirmatory radiocarbon dates had not been produced. If the sea-level was elevated in the medieval period, the small bay in the centre of the site might have been viable as a harbour. The alternative is that the lagoon behind the site might have held more water, but Elisséeff and el Hakim claim that the sediments are very shallow before bedrock is reached, and in any case there is no breach in the fringing coral. They had to conclude that, at best, the harbour of 'Aydhab would have been very mediocre.

In 1991 a Japanese team worked at 'Aydhab (Kawatoko, 1993). They undertook a preliminary survey and dug a small sondage to investigate the stratigraphy. They recorded a fourth cistern about 50 m north-west of the built-up area. They also collected surface material including ceramics and glass bangles. Of the 63 Chinese ceramics, 5 were of white porcelain dating between the 12th and 14th centuries, while 45 were of celadon, much of it of the 14th and 15th centuries. The remainder were brown-glazed wares, and two sherds were 14th or 15th century Thai ceramics. One Sung period coin was recovered.

Another recent and very thorough review of 'Aydhab are the entries by Hinkel (1992: 153–9) in his description of the *Archaeological Map of Sudan*. He briefly reviews the main historical sources, the archaeology and the finds from the site including unpublished ones in the Sudan National Museum, and the visitors who collected them, not mentioned in this literature review. His work is fundamental to the study of 'Aydhab although difficult to obtain.

The port of 'Aydhab

The ancient site of 'Aydhab can be clearly seen on the Quickbird satellite image acquired on 22 September 2004 and now readily available on Google Earth. An enhanced false-colour version of this image was used in the analysis presented here. The site is centred on 22°19'51" N, 36°29'25" E and occupies a low gravel ridge by the seashore, rising to about 7.5 m above sea-level. It is about 100 m across and 1500 m long, striking north-west to south-east. The main settlement is concentrated in about 7.5 hectares in the central part of the area, with cemeteries, cisterns and

other structures to the north-west and south-east. Fig. 2 shows the general layout of the site: the cemeteries were visible on the image, but did not show well and their positioning owes a lot to Murray's plan. To the south-west is a strip of marshy ground which may have been an inland lagoon in medieval Islamic times. To the north-east, beyond a foreshore of saltmarsh and bush, is a continuous coastal fringe of coral reef, between 120 and 300 m wide, where the sea is obviously very shallow. Elisséeff and el Hakim (1981: fig. 3) show a coastal section, with three bands of reef which break the surface and between them troughs of deeper water. The outer trough is 24 m deep, the second up to 8 m and the inner varies in depth between 130 and 55 cm. While the outer troughs would be of sufficient depth to accommodate shipping, it would be almost impossible to negotiate the reefs, particularly in the face of the prevailing north-easterly winds.

The town would have been well defended, as in the central part where the houses were concentrated, large ships could not have got nearer than 250 m and small lighters would have had to be used to approach the shore. There are very few places where these could land, but there are two small coves which might have accommodated them, although not in large numbers. The landward side would have been protected by the now-silted lagoon, so it would have been very difficult to attack from both land and sea. There seems to be no fresh water and, as Murray claims, this would have been brought to the site and stored in the cisterns; four have been noted, three of which are shown on Fig. 2.

It seems that the main reason for occupying this bleak and inhospitable ridge would have been defence. Numerous attacks on 'Aydhab are recorded in the middle ages, both from land and sea. In 512/1118 or 514/1120, for instance, the merchants of 'Aydhab complained to al-Afdal, the Ayyubid ruler of Egypt, of an attack by Qasim b. Abi Hashim, ruler of Mecca, who seized their goods (Maqrizi, 1967–73, 3: 58; Nuwayri, 2004–05, 28: 179). Al-Afdal threatened to retaliate with a navy so big 'its beginning is in 'Aydhab and its end is in Jeddah', although in reality seems to have contented himself with a more moderate response. Perhaps more significant was the attack on 'Aydhab by Renault of Châtillon, Crusader lord of Karak, who in 1182 sacked the town, destroying 16 ships in the port. The Ayyubid admiral Lu'lu' attempted to catch the Frankish fleet at 'Aydhab, but they had

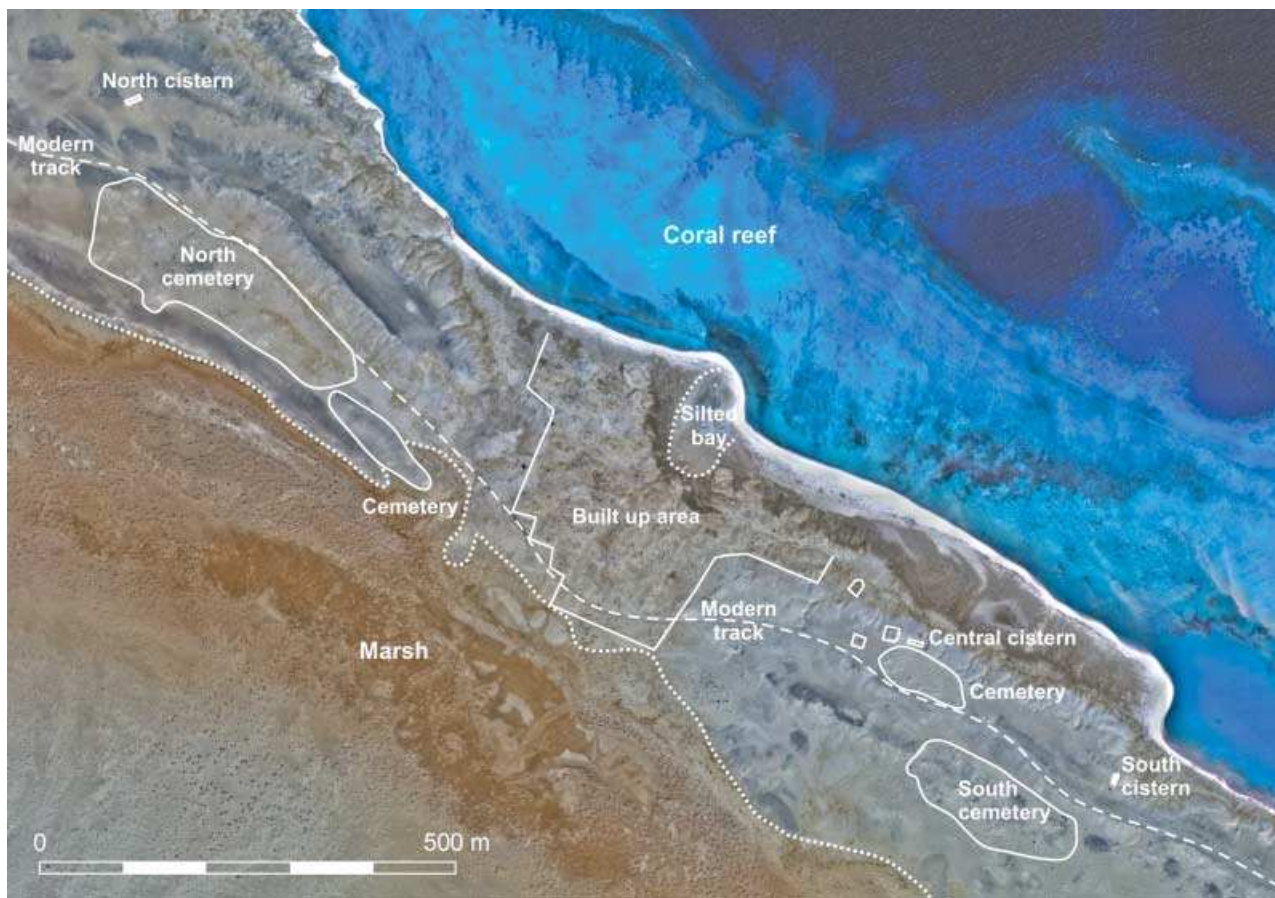


Figure 2. Quickbird satellite image of the site of 'Aydhah showing the principal archaeological features. (©DigitalGlobe, Inc. All Rights Reserved)

already departed, and he defeated them further south in the Red Sea (Abu Shama, 1881–2, 2: 35–7; Schlumberger, 1898: 255–83; Murray, 1926: 235–6; Runciman, 1952: 436–7; Ibn al-Athir, 1965: 11, 490–91; Bundari, 1979: 212–13). The Nubian king David took many prisoners from 'Aydhah and Aswan in his attack of 1272. Although there are no records of major external attacks for the rest of the Mamluk period, it is clear that 'Aydhah was on the edge of hostile territory that would have meant a well-defended position was necessary. Ibn Battuta, for instance, was prevented from travelling to Mecca due to the fighting between the ruler of 'Aydhah and the 'Turks' by which he probably means the Mamluks (Ibn Battuta, 1958, 1: 69). Raids on 'Aydhah by the Bedouin were also known (Maqrizi, 1939–73, 2: 194).

How this could possibly function as a major port conveying pilgrims to the hajj or trading with the east as far as China is far from clear. Certainly it is difficult to reconcile this with the

descriptions of 'Aydhah in the medieval Islamic sources as 'one of the most frequented ports of the world because of the ships of India and Yemen that sail to and from it as well as the pilgrim ships that come and go' (Ibn Jubayr, 1952: 63; cf. Qalqashandi, 1987, 3: 357). To Maqrizi, writing of its heyday, it 'was one of the greatest ports of the world' (2002, 1: 450). The sources do not generally give any more precise information about the numbers of ships which are meant to have been able to dock at any one time. However, Nuwayri tells us that the fleet that set sail from 'Aydhah to conquer Suakin for the Mamluks in 1265 was made up of 'about forty large and small boats' (2004–05, 30: 152). In addition, in Fatimid times, 'Aydhah was the base for a fleet protecting the *karimi* merchants from pirates who based themselves on the islands of the Red Sea, although this was smaller, of five, later three ships (Qalqashandi, 1987, 3: 597). Qalqashandi specifically remarks on 'Aydhah's popularity as a deep-water port: 'ship captains

like to cross to it from Jeddah, for its deep water [port] [*bahatuhu*] is extensive and [they are] safe from [their boats] touching the reefs that grow in the depths of this sea' (1987, 3: 536; for the meaning of *baha* as 'deep water', 'open sea', see Lane, 1863, 1: 273). On the other hand, Ibn Jubayr records that the boats used for conveying the pilgrims, called *jilab*, were sewn together without nails and so were presumably fairly shallow. However, this cannot have applied to the ships from Zanzibar and India, nor the naval ones, as the *jilab* were said to be 'weak and unsound in structure' (Ibn Jubayr, 1952: 65). Although there is evidence that goods were sometimes transferred to different ships at Aden (Margariti, 2007: 151–2; Qalqashandi, 1987, 5: 82; cf. Ibn Jubayr, 1952: 65), meaning that not all the craft at 'Aydhhab needed to be capable of crossing the Indian Ocean, some certainly were. Among the boats to be found at 'Aydhhab were *shawani* (probably galleys, see Margariti, 2007: 138), which were definitely used to cross to India (Maqrizi, 1967–73, 3: 58; cf. Ibn al-Mujawir, 1951–4: 142). A Geniza text contrasts the light vessels (*jawniya*) at 'Aydhhab with the larger ships (*marakib*) from that port used to convey 'many merchants and goods' (Margariti, 2007: 151, 280, n.51).

One possibility is that the marshy area behind the ridge was open water before it became silted up and this lagoon was formerly the harbour. When Murray (1926: 238) visited it was flooded and could account for Himyari referring the town being sited on an island. If this was the harbour it might have been analogous to the Roman ones of Quseir and Berenike, but both of these were approached through a clear break in the fringing reef, which is not evident at 'Aydhhab. At the northern end of the marshy area there is a channel about 20 m wide, but it is cut by the reef and the coral growth-lines continue unbroken across the point where it might have debouched into the sea.

This raises the question whether coral could have grown across the entrance in the time which has elapsed since the port was closed to large-scale commercial traffic. Estimates for the date of closure range from 1359 to the late-15th century (see below). Coral growth-rates are complex, depending on the purity and temperature of the sea, and other biological and chemical factors. The fastest growth-rate recorded is for the staghorn species *Acropora cervicornis*, which in Jamaica can achieve 264 mm per year. However,

this is a branched coral and massive varieties are generally much slower: the norm appears to be between 0.8 and 26 mm per year (Roth, 1979). If we take the upper limit, a 20 m gap would take 769 years to close completely, and even then there would surely be some trace of the original channel, but less than 650 years have elapsed since 'Aydhhab was closed to traffic even if we accept the earliest date of 1359. Furthermore the silting of the lagoon would have produced sediment, some of which would inevitably find its way into the sea, and this would undoubtedly slow the coral growth. Sediment is known to inhibit growth by depriving corals of sunlight and in some cases blanketing the polyps. Lagoon outlets are unlikely to be places of rapid growth and it is worth noting that neither at Berenike, only 200 km to the north, nor at Quseir, 500 km away, has coral managed to close the reef break since Roman times, a span of 2000 years. It is inherently unlikely, therefore, that coral has blocked the entrance to 'Aydhhab harbour in historic times, and consequently it is improbable that the harbour was located in the now-silted lagoon. This is supported by Elisséeff and el Hakim's statement that its detrital fill was very thin (1981: 27).

The small bay in the centre of the site would have given a little shelter from the winds, but it is only 130 × 70 m, considerably less than a hectare in area, and possibly even smaller in antiquity (see below). It could hardly have accommodated a large flotilla, and would be best suited for small lighters as Murray originally suggested. Perhaps Idrisi was referring to this when he said 'in the city are small boats [*zawariq*] with which very delicious fish are caught' (1970: 135). In short, there is no real protection from the prevailing winds, and if ships attempted to moor here the approach must have been very dangerous and precarious.

Halaib

It thus appears we have a major port without a harbour, and the scenario becomes even more bizarre when we note that there is a superb harbour at Halaib, only 20 km to the south (Fig. 3). It is large, approachable through the reef, and sheltered from the north by the island of Jazirat Halaib al-Kabir, another contender for the island mentioned by Himyari. Here, as Murray said, there is plentiful water, albeit somewhat brackish. Interestingly, João de Castro,



Figure 3. The harbour of Halaib. (Courtesy Google Earth™ mapping service/Europa Technologies/DigitalGlobe/TerraMetrics)

in 1540, described putting in to the port of 'Comol' which he described as being very secure, defended by shoals from all winds, the land about being 'plain and pleasant'. The distance from Suakin was 68 leagues (378 km) which would place it at Halaib, although the latitude quoted would better fit another sheltered port about 25 km north of 'Aydhah. Clearly there were good harbours to be found, which makes the choice of site even more difficult to understand (João de Castro, in Kerr, 1811–24, 6: 323 and <http://www.columbia.edu/itc/mealac/pritchett/00generallinks/kerr/vol06chap03sect06to11.html>). Kammerer (1929: 75–6) long ago proposed Halaib as the harbour of 'Aydhah, based erroneously on the resonance between the two names, but his suggestions seems to have gone largely unnoticed.

The lack of archaeological support for this hypothesis is at first sight a problem. Heuglin noticed some ruins in 1857, tentatively identifying them with Ptolemy's Chersonesus (Heuglin, 1860: 335; see also the map online at http://www.lib.utexas.edu/maps/historical/red_sea_1860.jpg). Inspection of the Quickbird image for Halaib indicates that there are mounds behind the modern village (Fig. 4). They are about 30 m across and cover an area of perhaps 300 × 125 m. It is difficult to be certain that they cover ancient buildings, but they deserve field inspection should that become possible. 800 m south-west of the mounds is what appears to be a much-eroded dam across a wadi, presumably to retain sediments and moisture (Fig. 4). It is about 10 m across and 150 m long. It cannot be dated but



Figure 4. The village of Halaib and possible archaeological features. (Courtesy Google Earth™ mapping service/Europa Technologies/DigitalGlobe/TerraMetrics)

might be an indication of agricultural activities in the area. 500 m east of the mounds is a submerged mole, 70 m long and 5 m wide. Neither of these features can be dated, and they may not be ancient, but there is sufficient to suggest the need for careful inspection. In addition, Madigan (1922: 72) recorded a tower, which he regarded as comparatively recent, although Hinkel (1992: 161) added 'grave monument' and suggests that it might be a local type of funerary structure. This cannot be identified on the satellite image. The area may well repay field study, but it is unlikely to be easy as the satellite image shows that much of the surface is covered by recent blown sand, which is frequently seen to encroach onto the asphalt road surfaces. This could be a reason why no

antiquities have so far been recorded, apart from Heuglin's brief reference.

The name Halaib does not occur among the medieval Arab geographers, although it is itself suggestive of the place's function, being the plural of *halba*, which in colloquial Egyptian Arabic could mean 'anchor' (Hava, 1982: 138). Halaib has also been read as the name of one of the ports mentioned by the 12th-century poet Ibn Qalaqis on his journey from Aden to 'Aydhab' (Anani, 1982: 124). The published edition of this problematic text does not support this reading (Ibn Qalaqis, 2001: 192), but without an examination of the manuscript itself certainty is elusive on this point.

However, it would be surprising indeed if this harbour was not used in preference to the

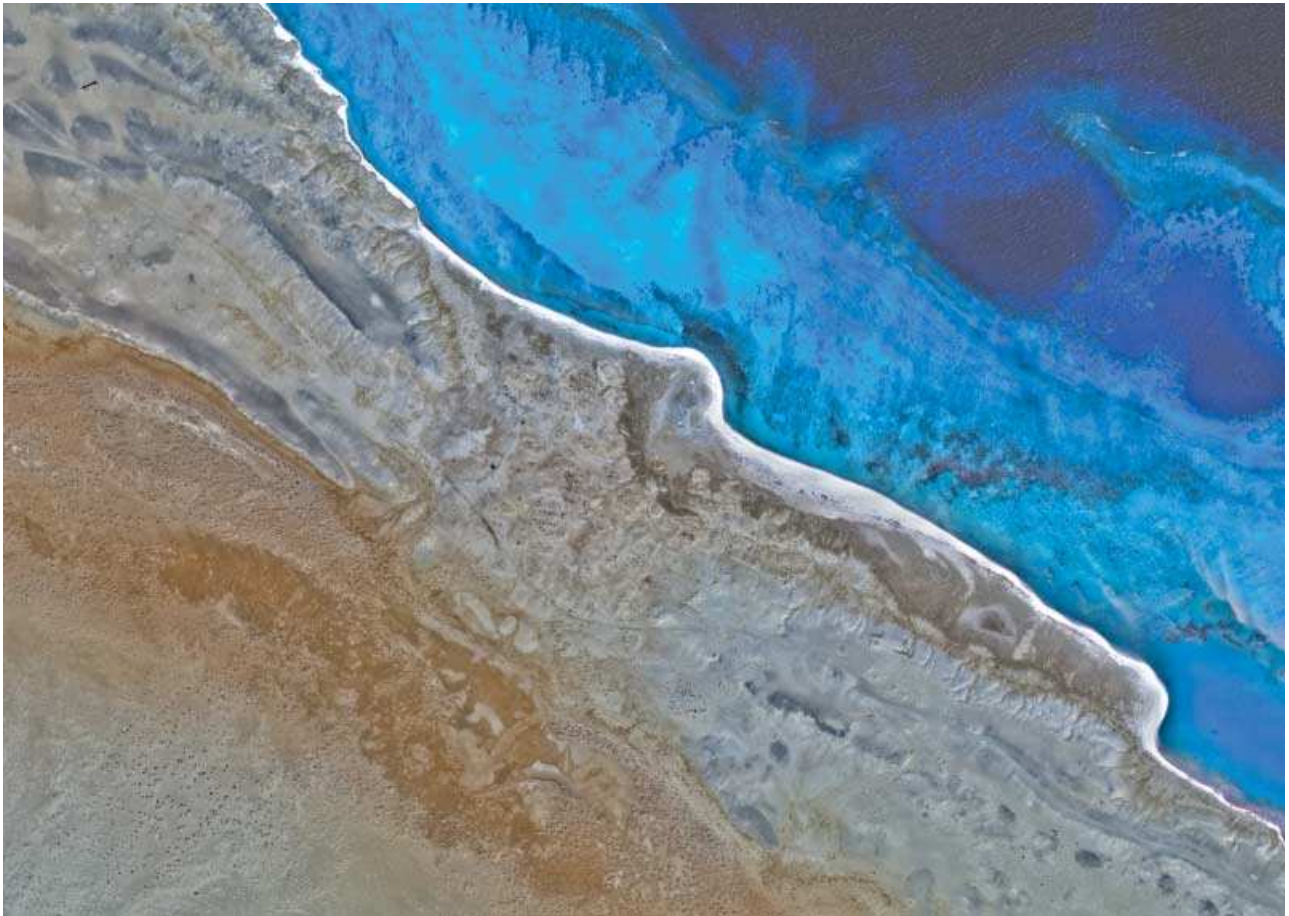


Figure 5. Quickbird satellite image of the built-up area of 'Aydhab. (©DigitalGlobe, Inc. All Rights Reserved)

coral-fringed shore of 'Aydhab itself. If so, this would mean a separation of port and town, which was by no means unusual in the ancient world. The best-known examples are Portus, the port of Rome, and Piraeus, the port of Athens, which are respectively about 20 km and 6 km distant from their parent cities. Seleucia Pieria, the port of Antioch, was 30 km away. Nearer to hand, both Roman and Aksumite Adulis had their harbours, Diodorus island and Gabaza, about 6 km away, while Orientê was 25 km distant, and yet Adulis, although inland, was still regarded as a port. In Islamic times Quseir al-Qadim was essentially the port of Qus, 150 km away in the Nile valley.

It is possible that past commentators and travellers were instead referring to regions and groups of landing-places rather than making reference to a single landfall. Certainly contemporary European writers, when they discussed a port, were often referring to a section of coastline incorporating a series of minor landing-places and associated settlement-sites (Breen, 2005).

Horton (1990) has suggested that Rhapta may actually have been a region rather than a single port. This is supported by the Arabic sources, in which 'Aydhab can clearly refer to a broader area than the town alone. The term '*sahra*' 'Aydhab' ('the desert of 'Aydhab') can refer to the southern parts of the Eastern Desert of Egypt in general (for example, Ibn Battuta, 1992: 25; Yafi'i, 1997, 4: 111; Maqrizi, 2002, 1: 449). Indeed, Couyat (1911: 138) notes that various geographical features in the region, including a wadi, are also called 'Aydhab. Seen in this light, the location of the port of 'Aydhab is more readily explicable.

The town of 'Aydhab

The built-up area is shown in more detail in Fig. 5, with a possible interpretation in Fig. 6. Without ground-truthing it is impossible to guarantee that every line is correct, although it is believed to give a reasonably accurate impression of the extent and layout of the town. The wall-lines

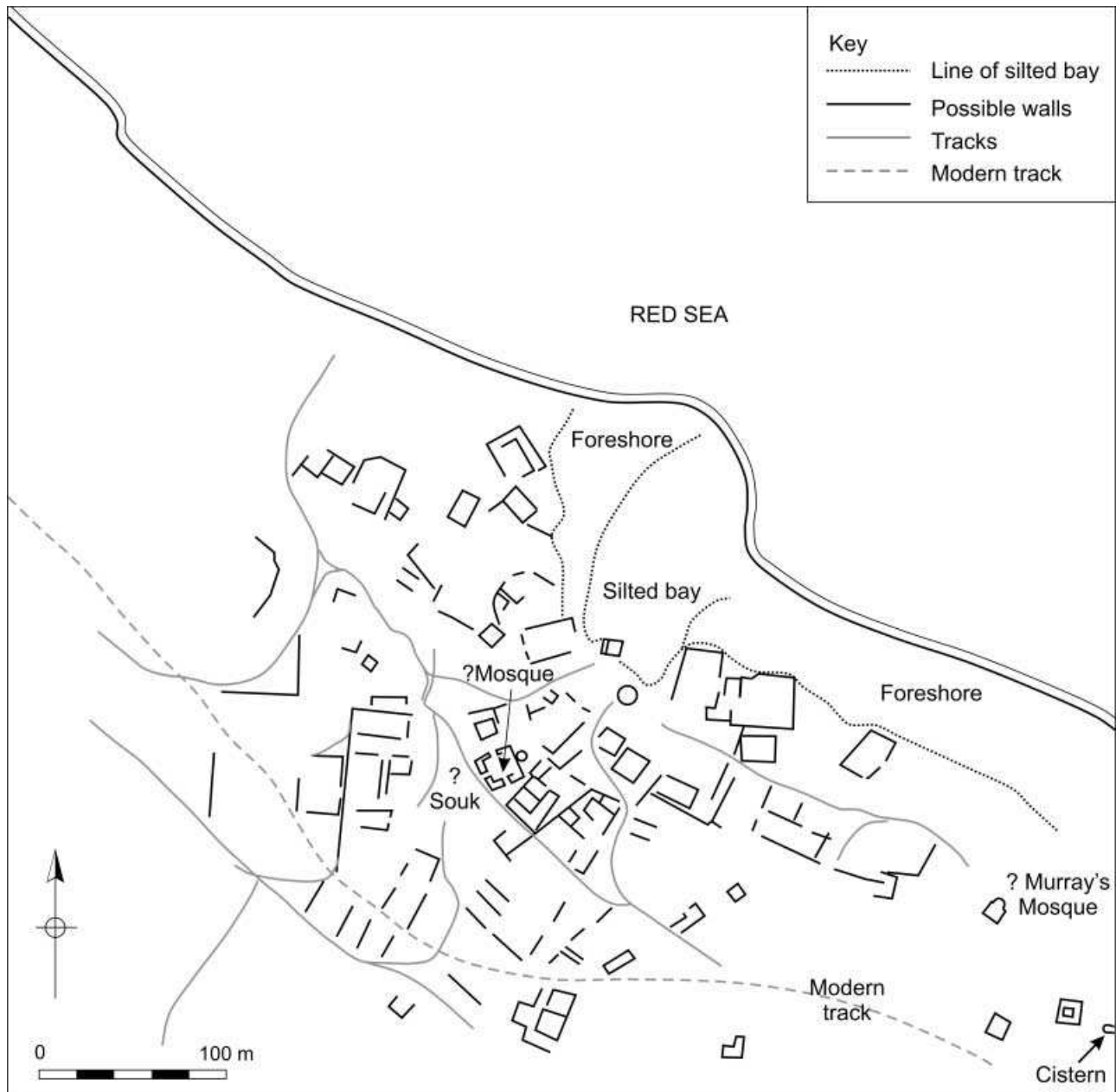


Figure 6. Interpretation of the image of 'Aydhhab showing layout of buildings and streets.

are shown on the satellite image by pale linear features or sometimes by dark lines, possibly marking the edge of the rubble. The streets are marked by faint lines, often created by dark stones which accumulated along the edge of the street. The plan shown as Fig. 6 was produced by simply tracing over linear features visible on the image.

Approximately 40 buildings can be recognised, but originally there may have been upwards of 100. It is abundantly clear that some buildings may have been lost to the sea, as streets and

walls seem to terminate abruptly at the coast or protrude onto the beach. The larger buildings are about 30 m across, the smaller 15 m or less. If each accommodated a family unit, the population may have been of the order of 500. This estimate derived from the image is confirmed by the literature, for it is precisely the population of 'Aydhhab in the 11th century as estimated by Nasir-i Khusraw (1986: 65). However, as there is clear clustering around the silted bay, it must have existed when the town was occupied, although it would have been considerably smaller.

The town layout is irregular and apparently unplanned, with narrow winding streets, lying either parallel to the coast or obliquely to it. In the western part of the site there is a suggestion of a more formal rectilinear layout. This could have been inherited from a pre-existing structure, perhaps of a military nature. Certainly we know that 'Aydhab itself, whether fortified or not, must have had some military structures. It served as a base for a small fleet to protect the *karimi* merchants, as we have noted, and for a much larger one used in campaign against Suakin in 1265. In addition, there was presumably the need for some sort of defence against aggressors. However, at the very least there is a suggestion of two distinct orientations, which almost certainly represent two phases of building.

In the centre of the site is a very clear rhomboidal structure. It might well be the central mosque, and the stone mound by it might be a destroyed minaret. It is aligned on an axis roughly corresponding with the direction of Mecca. A central mosque would be expected (cf. Ibn Battuta, 1958, 1: 68; Nasir-i Khusraw, 1986: 65) and the town with its narrow winding streets would be fairly characteristic of the Muslim world (Insoll, 1999: 206). The dark area on the image to the south-west of the supposed mosque could well be the central souq, and the nearby buildings might have an administrative function. However, this may be extending interpretation too far, and it is certainly not possible to recognise other elements of a Muslim city such as the walled medina or a casbah. At least in the 12th century, however, 'Aydhab had no walls (Ibn Jubayr, 1952: 63).

The problem of water-supply has long been recognised, and two of the four cisterns are readily visible on the satellite image. Only one, the central cistern (Murray's tank B), is near the centre of habitation; the others are located at the extreme ends of the ridge. This could indicate that the settlement was once much more extensive than it now appears, but perhaps they were used for watering stock or as reserves to be tapped at a time of emergency. The proximity of cemeteries suggests that they all lay well outside the inhabited area.

Trade with the Far East

There is little doubt that imported Chinese porcelain and celadon were one of the great luxuries of the Arab world, perhaps from the

mid-8th century onwards (Lane and Serjeant, 1948: 110). In the 14th century, Ibn Battuta was of the opinion that it was exported from the bazaars of Canton, while in the 15th century there is mention of Vietnam as a centre of manufacture and export, and Yaqut mentions Java as a 13th-century source (Lane and Serjeant, 1948: 115). This raises the question of the mechanism of trade and in particular who was responsible for transportation.

There is no doubt that the Chinese were accomplished mariners. In the 15th century the great Ming navigator Zheng He made seven epic voyages of exploration and trade, establishing him as the oriental equivalent of Columbus, Drake or his near-contemporary, Vasco da Gama. His flotilla was impressive and is reputed to have included massive treasure ships 400 feet (122 m) long, nearly five times the size of Columbus' *Santa Maria*. Zheng explored the whole of the South China Sea and the Indian Ocean including the coast of East Africa. On one occasion part of his fleet entered the Red Sea and reached Jeddah (Levathes, 1994: 171). However, Chau Ju-Kua's treatise on Chinese and Arab trade in the 12th and 13th centuries, subtitled 'a description of barbarian peoples' is revealing. Although well informed about the Persian Gulf, it seems decidedly vague on the Red Sea. There is no mention of 'Aydhab or the Sudan and just a generalised, presumably secondary, account of Wu-ss'i-li or Egypt. Even Mecca seems to have been reached by travelling west from the Gulf (Hirth and Rockhill, 1911).

Although Chinese junks were, without doubt, perfectly capable of sailing into the Red Sea, it seems that they rarely did. On the other hand the *karimi* merchants did venture to China, one individual entering the country five times (Serjeant, 1988: 69). It is tempting to suggest that they were largely responsible for the trade and that 'Aydhab was one of the nodes of distribution. This might be a reason why this otherwise-impooverished site has produced such a rich haul of oriental ceramics. At Quseir al-Qadim, 25 sherds are illustrated from the 1978 and 1980 excavations, and very few (less than 5% of the total) were found in the 1999–2003 excavations (Whitcomb and Johnson, 1982; Peacock and Blue, 2006). At 'Aydhab, Kawatoko (1993) found 65 on the surface and that after extensive collecting by Elisséeff and el Hakim (1981: 37) and perhaps Murray (1926: 239). The latter refers to many fragments, remarking that he had not seen these

elsewhere on the Red Sea coast, except for some 'pseudo celadon' at Quseir. The only site in the region that *might* compete in quantity of Chinese ceramics is Sa'd-Din island near Saylac (Zayla') in Somaliland (Curle, 1937). The finds from 'Aydhab are thrown into sharp relief when we realise the immense value of porcelain. Even in the 15th century, when porcelain might be expected to be more readily available, diplomatic gifts are measured in the low tens, and 30 items would be generous (Milwright, 1999: 516).

The decline of 'Aydhab

The decline of 'Aydhab is an as-yet unsolved mystery. The account of Leo Africanus seems to imply that 'Aydhab was destroyed in 1426 by the Mamluk sultan Barsbay in retaliation for mistreating a pilgrim caravan (Murray, 1926: 237). It would be tempting to associate this with Barsbay's policy of 1425–7 of imposing a state monopoly of the spice trade, which resulted in Jeddah replacing Aden as the major port on the opposite shore of the Red Sea. However, this attack by Barsbay does not appear in any of the Arabic-language sources, and it has been convincingly argued (Garcin, 1972) that Leo's account cannot be used as a historical source for 'Aydhab. Himyari, writing in the 15th century, refers to 'Aydhab as if it was still a functioning port frequented by merchants (1975: 423–4), but his account is clearly derived substantially from Ibn Jubayr's, so it is unclear whether this represents the reality of the 15th or the 12th century. Maqrizi (2002, 1: 550), who died in 1442, is the one author who gives us unambiguous information about the end of 'Aydhab. According to him, 'Aydhab was used as a port by pilgrims between the 440s AH/1048–57AD and the 660s AH/1261–70 AD, when the new security in the region brought by the Mamluk sultan Baybars allowed them to use the land route again. Maqrizi says 'Aydhab continued in use as a port for merchants until 760 AH/1359 AD, when it was finally closed.

There is cause for scepticism about Maqrizi's information, although the idea that 'Aydhab was an enforced replacement to the more northerly land route is given some support by Ibn Jubayr who says that 'Aydhab had only become a port for pilgrims due to the Crusaders' having made the route via Eilat unsafe (1952: 67). However, this would date the rise of 'Aydhab to the 12th century, which is far too late. Nor can we accept

unreservedly Maqrizi's statement that 'Aydhab became a port for the pilgrimage in the mid-11th century as a result of the many disturbances during the reign of the Fatimid Caliph al-Mustansir (1036–94), when the land route to the Hijaz was forced to close, for, as we have seen, earlier authors such as Ya'qubi and Muqaddasi refer to it as the route from Egypt to Jeddah and Mecca. Equally, it is clear that Baybars' assertion of Mamluk control over the Hijaz did not end 'Aydhab's role as a hajj port. Ibn Battuta clearly considered it the most logical route from Egypt to Mecca in the 14th century, and crossed from there in 1348, despite having been forced to abort a previous trip due to turmoil around 'Aydhab (Ibn Battuta, 1958, 1: 68–9; 2: 413–4; 4: 920).

Perhaps the most credible explanation for 'Aydhab's decline may be found in the rise of the port of Tur on the south-western shores of the Sinai peninsula. Tur appears to have been founded in the 13th century near the site of the ancient Raythou (medieval Raya, itself perhaps eclipsed in the 11th century by 'Aydhab). Around 1378 the Mamluk *hajib al-hujjab* (grand chamberlain, one of the chief dignitaries of the Mamluk state), the amir Salah al-Din Khalil b. 'Urram, invested in shipbuilding at Tur, and it seems that this led to the emergence of the Sinai port as Egypt's main Red Sea harbour in the late Middle Ages ('Abd al-Halim, 1999: 277; Mouton, 2000: 98–100).

Until more archaeological work is undertaken, the date of 'Aydhab's decline must be considered an open question, although the lack of references to it among the historians of the Circassian Mamluk period (1390–1517)—except for Maqrizi, referring to earlier times—is surely symptomatic of some diminution in status. However, the town was probably not suddenly abandoned, for a couple of brief references in Arabic texts from the late-15th century exist (Hasan, 1967: 82). The archaeological evidence currently available certainly supports this. Two coins were found on the site: an Arabic one of the 13th century, and a Sung coin dating AD 990–1279. Most of the pottery seems to be 12th, 13th or 14th century in date (Kawatoko, 1993). Only nine sherds of Lungch'uan celadon and one from southern China together with two Thai sherds, were placed in the 14th to 15th century, representing only 15% of the total oriental assemblage recovered. It is clear that the role of 'Aydhab as a trading station with the Far East was greatly diminished by the 15th

century. The only evidence for a potentially later date is Paul's (1955) unsubstantiated footnote asserting that Ming porcelain had been recovered from the site. It seems on the present evidence that 'Aydhhab seriously declined as a trading port during the 14th century, although it persisted, perhaps functioning as a local port, into the 15th century, which is precisely what Yajima (1989) claimed.

Conclusion

'Aydhhab was a renowned port which played a major role in distributing the inland resources of Wadi 'Allaqui, in the hajj, as a naval base, and in trade with India and the Orient, and yet it seems there was no port there. It seems inconceivable that ships would have anchored off the coral reef and been left to the mercy of the sometimes-ferocious Red Sea elements. **If the port was located at Halaib, 20 km to the south, the problem would be resolved: 'Aydhhab would be a defensive refuge, secure in times of trouble and shipping would have a wonderfully sheltered and secure natural harbour.** The problem with this

hypothesis is that there are, as yet, no recorded antiquities at Halaib.

The documentary sources are equally enigmatic, as each traveller seems to have had a different view of the place. To some it was a big town, to others a village. To some it was fortified, to others it was undefended. To some it was an anchorage, to others the busiest or the greatest port in the world. Particularly striking is Qalqashandi's comment that the harbour was spacious and deep and that ships were safe from encounters with coral reef. In no way could this be construed as an apt description of the coast off 'Aydhhab. **It seems inescapable that they are talking about and conflating two separate places, the defensive town and its satellite harbour,** although no author states this explicitly. This is a problem that only fieldwork can definitively resolve. Meanwhile, satellite images have enabled us to define the problem and to map the archaeological remains in unprecedented detail. We hope this paper will serve to promote this under-utilised archaeological resource as well as stressing the benefits of archaeological and historical collaboration.

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