

# **A survey on a petroglyph illustrating a watercraft at the hinterland site of Dehtal**

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## **Abstract:**

*Dehtal is an important hinterland site, located 170 km away from the shores of the Persian Gulf in Bastak County, Hormozgan province. Dehtal is a petroglyph site possibly dating to the pre-Neolithic, according to various sources of evidence such as stone tools found within the Bastak area and the Dehtal plain. The petroglyphs themselves, however, more likely date to the 3rd millennium BC. According to historical written sources, the Bastak area was located on the road linking the so-called Silk Road to the East Asia-Persian Gulf maritime trade routes.*

*One of these petroglyphs, which is located beside a seasonal river, illustrates a watercraft. The image shows a round-hull, double-ended craft with two masts and a long saturi (bowsprit). A long saturi is a characteristic feature of a “boom” ship. Booms were used for long-distance voyages within Indian Ocean and they are still in use today but now work with engines.*

*Firstly, this article attempts to discern the shipbuilding details of the watercraft depicted in comparison with other ship illustrations as those found in the Maqamat al-Hariri and the vessel depiction uncovered by Whitehouse at Siraf. Secondly, we will discuss Dehtal as a passage from Persian Gulf to so-called Silk Road with a focus on archaeological reports and historical written sources.*

## **Introduction:**

This article firstly, introduces a hinterland rock art site named Dehtal dated back to a period from the Paleolithic Age to the Islamic era. This site took its name from the nearby village with the same name. Secondly, a petroglyph illustrating a watercraft that is situated within the Dehtal site

will be introduced and a typology of the craft will be discussed by comparing it with other similar watercraft illustrations. Regarding a long Saturi (bowsprit) showed in the watercraft illustration and due to this fact that such a long saturi is a characteristic of Boom ship, it is believed that the namely illustration shows a Boom ship. There is no evidence for dating the petroglyph, however, we will try to estimate it. Thirdly, the paper will discuss the reason why a Boom ship has been drawn in an inland desert.

### **Rock Art site of Dehtal**

Not far from the ancient village of Dehtal in Godeh area, a rock art site of the same name has been located. Dehtal is in Bastak County at 170 kilometers north of the Persian Gulf and 110 kilometers south of Lar (Movahhed, 1970). The pictures of this site include all the categories of rock arts; human, animal, and plant motifs and symbols.

Most of the motifs in the Dehtal site have been carved on circle or oval rocks made of limy sandstone with an average diameter of one meter and a height of half meter from the ground level using Petroglyph technique in an abstract style. Due to the climatic conditions of the area - high temperature difference between day and night, and extreme heat during spring and summer - some of the carved stones have been broken and divided into two halves. There has been no research done as to the makers of Dehtal petroglyphs. The measure of erosions and the repeat of drawings on over each other can be a sign of the importance of this site to the aboriginal inhabitants or being on the way of ancient roads for centuries. So, the scattered stones of Dehtal probably were a suitable bed for transferring the thoughts and rituals of inhabitants or recording observations by passengers. According to archeological findings and historical data derived from the Godeh area and Dehtal sites, the Dehtal

petroglyphs can be dated to a period between the Paleolithic Age to the Islamic era (Fig.1).



*Fig.1: A Landscape of the Dehtal site. (Authors)*

### **Bastak: History and historical Geography**

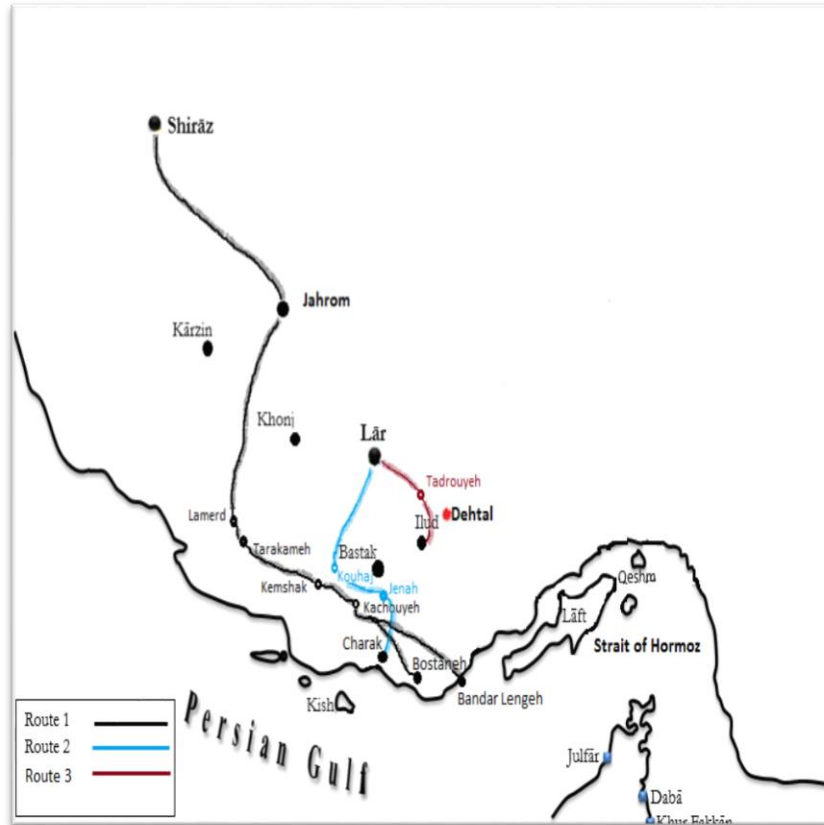
Dehtal is located in Bastak province, regarding this, we will have a look at the historical geography of Bastak in this part. It could help for understanding the land and marine trade roads which connected this site to the internal regions of Iran and shores of Persian Gulf as well as the probable role of the commercial caravans in making the figures of Dehtal.

Bastak is one of the southern regions of Iran plateau placed between Bandar Lengeh, Hormozgan and Larestan. In fact, Bastak, as the gate of Fars to Persian Gulf, was on the way of commercial caravans from the past. So, it has had the considerable economic position. Also, Bastak always has involved in the trade and policy of the Persian Gulf. It has been the center of governing the extensive district between Lar province and Persian Gulf over the time, especially late three hundred years (Movahed, 1970).

According to the historical sources, like Farsnameh Naseri, Bastak is a new name for a bigger zone called Jahangireh (Fasaii, 1988). In fact, it was a part of the ancient Irahistan. It is a name recorded for Larestan within the sources of fourth to seventh H.D and encompassed the hinterlands between Siraf and modern Bandar Abbas (Vosoughi et al., 2008). On the basis of the record of Farsnameh Ibn Balkhi, the rulers of Irahistan had never been the subordinate of the central government, unless there was a powerful governor in Fars (Ibn Balkhi, 1995).

### **Bastak as a Carrefour:**

The ancient roads in Bastak and Irahistan region can be summarized as following: 1- A caravan road started from the nearby ports of Persian Gulf and after passing Kachouyeh, Kemshak, Tarakameh and Lamerd reached Jahrom and continued to Shiraz. This way has been used in flourishing of Kish Island. 2- The second road also started from the close ports of Kish Island and get to the Larestan with passing Jenah and Kouhaj. There are traces of caravanserais and reservoirs along this way. 3- The third road came from Lar to Tadrouyeh and finally ended to Ilud. Also the roads of Bastak to Bandar Lengeh, Lar, Faramarzan, Godeh, Rouydarat, Lamzan and Dezhgan are documented in 1970. All of these routes from Bandar Lengeh to Bastak and Lar, the similar caravanserais with a distance of three Farsang (6 myl) can be seen are mostly named Shah A'basi (Movahed, 1970). (Fig.2)



*Fig.2: Three main ancient roads in Bastak and Irahistan region.  
(Authors)*

But Bastak is located on the most important route of the ancient world; the Southern route of the Silk Road and the Sea Route of the Spice Road (Adviyeh Sea Route). This south way separated from the east-west main route of Silk Road passing Rey and Isfahan, reached to Shiraz and finally after passing Irahistaan and Bastak regions ended at the port of Kish. Then, it joined the Sea Road of Spice, connected the east and the south of Asia through the Persian Gulf to the Europe and the Mediterranean's shores. During this route traded different goods such as silk, spice, pearl and so on (Reza, 1997). (Fig.3)



*Fig.3: Route 1. Part of the South way of Silk Road. Route 2. Continuance of the Silk Road to the Persian Gulf. Route 3. Part of the Sea Road of Spice (Adviyeh Sea Route). (Authors)*

The important rivers of Bastak region are Shoor Galedar and Mehran. These rivers originate from around the Galedar desert and finally flow into the Persian Gulf (Movahhed, 1970; Vosoughi et al., 2008). The Shoor River streams into Godeh region, where the Dehtal site is located. This is a rich area in archaeological terms, containing prehistoric, historic and Islamic sites.

Larestan and Bastak's regions are pointed during the Achaemenid period under the names of Yaoutiya, Tāravā and Praga/Forag in Daryush's manuscript at Biston (paragraph 5, 7, column 3) (Sharp, 2005). Yaoutiya was probably in the south-east of Fars, i.e. contemporary Larestaan (Fry, 2003). It is the territory that Vahizdata rioted and named himself Bardia. Finally, he defeated against the arm of Daryush in Tāravā and beside Praga, a town and mountain in Yaoutiya respectively (Sharp, *ibid*). Tāravā located at the east of Larestan on the commercial route of

Hormoz toward Kerman and Darab, and Praga is a region in the north of Taram, East of Larestan and North-east of Bastak most probably (Vosoughi et al., 2008). After the invasion of Arabs to this region, the name of Praga changed to Farag or Forag, while it has been recorded Praga in the geographical books of the initial times of Islam like Farsnameh Ibn Balkhi (Ibn Balkhi, 1995)

Another historical name which could be adopted with the sphere of Bastak is Apostana. This name has been mentioned in the book of Arian, as the anchorage of the navy of Nearchus, the admiral of Alexander at 325 B.C (Arrian, VIII, p. 38). We have to notice that the first part of the word "Apostana" can be "Ab" which means water and the second part is "stan" that means the place. So, Apostana can be "Abestan" which means the "land of water" with its native accent Bostaneh or Bostano. One of the features of this place mentioned in history of Arian is being a center for hunting pearls (pearl diving). This indication directs us to two ports with the name of Bostano. One near the Asalouyeh port and another one close to Bandar Lengeh (Zarinkoob, 2008). The last one located at the east of Bastak, exactly beside the place of entrance of Shoor River to Persian Gulf. After this time, there is no exact data from the history of Bastak region until 656 H.D. But undoubtedly, the existent ports and roads in the sphere of this area have had an important role in the economy of governments over this gap. After the invasions of Mongols to Baghdad, some of Arabs emigrates to Bastak and its environs from Basreh and some Persian Gulf ports (Salami Bastaki, 1991).

The rulers of Irahistan and Bastak didn't totally accept the obedient of the central government. Unless a powerful governor appeared in Fars, like getting power of A'zad dowlah Deylami and its campaign to Irahistan for

subduing the people of this region in the second half of fourth century (Ibn Balkhi, 1995).

Also, the independent power of Larestan and Bastak have been overthrown by Shah A'bas Safavi at 1009 H.D, due to kicking out Portuguese from Ghesm and Hormuz Islands (Movahed, 1970). The tribe of Ghavasem or Al Ghasem converted to a power at Jolphar, contemporary Ras al-Khaimah, and started robbery of the ships on Persian Gulf at the end of Safavid period. For a while they suppressed by Nadershah Afshar. After his death Bani Moen, Mashayekh (ruler) of Ghesm and Hormouz, resisted against them, but finally they had to get help of the ruler of Bastak (Bani A'basiyan Bastaki, 1339: 125-127).

Along 1161 and 1162 H.D, in the time of the reign of Shahrokhshah in Khorasan, the south part of Iran got into the invasion of robbers and revolt of nomads like other regions. In this condition, Mohamd Khan Bastaki, the ruler of Bastak, stood up against these attacks. Finally these conditions due to supervision of the governors of Bastak and Laar on the ports like Kong, Lengeh and Abasi, and even surveillance on far islands like Ghesm and Kish (Bani A'basiyan Bastaki, 1960).

In the time of Karim Khan Zand (18th century) and with his sentence, a large area from the North shores of Persian Gulf, Bandar A'bas and Minab to Lar with some south islands ruled by governors of Bastak (Salami Bastaki, 1991). In the time of Qajar (18th -20th century), Bandar Lengeh became the most important port of Persian Gulf against the commercial stagnation of Bandar A'bas and Boshehr. So Bastak raised up and developed with locating on the way of the caravan road from Bandar Lengeh to Shiraz (Movahed, 1970). In the reign of Pahlavies (20th century), Bastak and its subsidiaries were still part of Larestan province



(Vosoughi et al., 2008, vol.1, p. 106). Gradually, Bastak separated from Larestan and changed its ranges in divisions of 1981 and 2004 (Ibid).

### **The Petroglyph:**

The petroglyph depicts a starboard side of a double ended, almost belly shaped watercraft (Fig.4). Double-enders are the most primarily hull shape of the Western Indian Ocean crafts (Agius, 2008; McGrail, 2001). Early pre-historic watercrafts depicted on Mesopotamian and Elamite seals and seal impressions are double-ended as well.<sup>1</sup> Also, dhows are still in use in the Persian Gulf, except Ghanja and Baghla, which are mostly double-ended (Al Bastaki; Paris, 1886). It can be said that prior to the 16th -17th century A.D, the transom stern was non-existent within Persian Gulf (Agius, 2008, Hourani, 1951).



*Fig.4: The petroglyph in situ on the right (Hamzeh Qobadian) and its drawing on the left. (Authors)*

The craft illustration shows two horizontal parallel curved lines on its hull, the three lines between the curved lines could be consider as planks, so, the craft is obviously timber-made not reef-bundled (Fig.4). Furthermore, the curved lines caused a perspective in the illustration of hull and makes it more tangible. Plus to the horizontal lines, there are two vertical lines on the outside of the hull that perpendicularly cut the horizontal lines which

probably showing that joint planks were used to make the craft. Since antiquity, Persian Gulf's ship builders' ideal timber has been Saj (*Tectona grandis*), it can be bent and joined to the frames, following the curves of the ship's sides and it is also long-lasting (Agius, 2008).

The depicted craft, has two masts. According to Bozorg, 10th century AD, (Nakhoda Bozorg- Ibn-Shahriyar-e- Ramhormozi, 1969) 50 span of a hand of timber was needed to build a mast.<sup>2</sup> Each hand span is about 23 cm. (Agius, 2008), so, we can estimate that a mast was more than 100 m. heighted. As it is mentioned above, this vessel is double-masted, if each mast be more than 100 m, then relative to the height of the masts, its hull – from bow to stern- must be approximately 100-150 m. so, she must be a seagoing ship not a boat! Undoubtedly, Bozorg exaggerates in recounting the stories but he is often honest in giving technical information. It is said that a medieval double-masted craft required crews of 200 (might be exaggerated) and modern ones draw about 240 kg with crews of thirty (Whitehouse, 2009).

It can be noticed from the masts and jack-yards that the craft has lateen sails and it is believed that lateen sail is a characteristic feature of medieval watercrafts of the Western Indian Ocean (Hourani, 1951). Lateen rigs are triangular and set along the craft. It permits to sail fore and aft (parsa, 2012).

The most characteristic feature of this craft is its long Saturi (bowsprit) which typically represents a Boom ship; the only water craft of Persian Gulf that has such a long saturi (about 4-5 m.) is the Boom (Agius, 2008; Eghtedari, 1966; Parsa, 2012). (Fig.5)

The boom distinguishes to two different types: for voyage, or for fishing and pearl diving (Parsa, 2012). The voyage one is bigger with two or three

masts (Eghtedari, 1966). The hull of a Boom, just similar to namely petroglyph, is belly shaped and double ended which makes the craft safer against the waves of seas and oceans. Also, its long saturi and masts obviously show that a boom has giant rigs which makes the craft high-speeded (Parsa, 2012). (Fig.5)



*Fig.5: a modern double-masted Boom ship on the right (Ethnological Museum of Kong, Iran) and a Saturi of a modern Boom in Abadan, Iran. (Authors)*

Unfortunately, no more technical detail, such as being swan or nailed, rudder, deck, anchor and etc., could be obtained from the petroglyph. But, according to the characteristics discussed above (the long saturi, belly shaped and double ended hull, being timber- made and double- masted), it can be understood that the illustration represents a for- voyage Boom ship. The most famous and certain illustration of Boom ship is the ones in Maqamat-al-Hariri (13th century) which will be discussed subsequently. (Fig.6)



*Fig.6: Two Boom ships in two different versions of Maqamat of Al-Hariri, the one on the left is archived in the Bibliothèque Nationale de France, Paris (Al-Hariri, 1237). The middle one archived in the Library of the Academy of Sciences, St Petersburg (Agius, 2008) and the right one is a graffito engraved in Siraf, Iran. (Whitehouse, 2009).*

On the left side of the scene, there is a man / woman depicted riding a horse (?). On the right, just under the hull of the ship, a fish can be seen. The depiction of horseman is not obvious because of the erosion, neither the fish (fig.4). The scratched lines of all described illustrations, ship, horseman and the fish are in a same color and it shows their concurrency (scratched lines of the petroglyphs in Dehtal turns darker over time). It seems that this scene aims to recount a story of voyaging on the seas to a port in South of Iran and then riding to a central city of Iran.

### **Comparative Consideration:**

#### **Maqamat Al-Hariri:**

There are two miniatures of two different versions of Maqamat which are believed to illustrate Boom ship (Fig.6), one at the National Library of France, Paris (Hourani, 1959) and one at the Library of the Academy of Sciences, Saint Petersburg (Agius, 2008). They both are obviously double

ended with a long saturi and they both are evidently timber-made just like what we see in the namely petroglyph. There is no doubt that the Maqamat`s miniatures are more detailed rather than Dehtal`s petroglyph, and the rudder, crews and even paddles can be seen but, the mutual features between Dehtal`s petroglyph depicting ship and Maqamat`s miniatures illustrating ships are firstly, the long saturi, secondly, being double- ended.

Unfortunately, there are only a few pictorial evidences of medieval ships within Iran and archaeological evidences of Perso- Arabian ships are even less than pictorial evidences. One might say there are lots of illustrated ships between Iranian miniatures but we should keep this fact in our mind that these miniatures generally recount Iranian myths which are believed to have been happened in the past, so, the artists just tried to copy the antiquity depictions of watercrafts and rarely useful information of Iranian medieval ships could be driven from these miniatures; In fact, it is highly recommended to Iranian medieval artists to copy their ancestors (Beig-e-Afshar, 1969). Furthermore, these miniatures were mostly done by royal artists who were inhabitants of inland Iran and so far away from seas and ships.

### **Ship Graffito of Site “K” in Siraf:**

Another pictorial evidence of Iranian shipbuilding is the graffito that David Whitehouse engraved at site “K” of Siraf<sup>3</sup> (Fig.6). This is dated back to the 10th -11th century and it is tree-masted. As it is mentioned before, a modern two-masted vessel of Persian Gulf draws 240 tonnes and requires crews of thirty (Whitehouse, 2009), so, a tree-masted craft must be even greater than a two- masted one! The ship shown in the graffito is double-ended as well as the other watercrafts that are so far introduced in this article, but unlike the others, nor saturi neither timber planks can be

recognized in this graffito because of the erosion. Furthermore, its hull obviously is not belly shaped!

### **Belitung ship wrecked:**

Archaeological evidences of Perso-Arab ships are really rare. But, in 1998, a wrecked ship has been found in Belitung, Indonesia by local divers. The vessel was carrying the Changsha wares which were in operation during the Tang dynasty (618-907 A.D). Belitung ship is believed to have a length overall of 18 meters. Flecker (2001) deduced that Belitung ship was designed for carrying light cargo and she has not being deep-drafted! Unfortunately, no bowsprit could be recognized in Belitung wrecked, solely it is mentioned that its stern was vertical (ibid). So, it seems not to be much similarities between Dehtal ship petroglyph and Belitung ship wrecked.

### **Dating of Dehtal Ship Petroglyph:**

Maritime trade since Neolithic era within Persian Gulf is proved but, archaeological and pictorial evidences show that the watercrafts that were used in pre-historic era have being reed-bundled not timber-made (Carter, 2006), so, pre-historical water crafts could not be comparable with Dehtal`s ship petroglyph. Furthermore, the Achaemenids (550- 330 B.C) adapted Phoenician ships which were totally different from the water craft that we discuss in this article<sup>4</sup> (Hassan, 1928).

According to Vosoughi (2016), the history of maritime trade between Iran, under the name of An-Xi and Far East goes back to the Parthian empire (247 B.C- 224 A.D). In that time, because of the unsecurity of the inland Silk Road caused by Central Asian tribes, Parthians decided to sail to Far East. During Sasanian period (224- 651 S.D), Iranians were named Possũ

by Chines and they have been sailing from Persian Gulf to China and back (Whitehouse and Williamson, 1973). Archaeological evidences such as Sassanian glass vessels found in ports of Japan evidently proves maritime trade between Sassanians with Far East (Priestman, 2016). To conclude, we can't date this petroglyph as early as pre-history, because it is obviously timber- made, on the other hand, while we have no pictorial or archaeological evidence of Partho- Sasanian ships, we can't deduce that exactly since when Boom ships were used. The oldest evidences of Boom are the miniatures of Maqamat (13th century AD) and Booms are still in use but they work with engine! We can't deduce that exactly since when Boom ships were used in Persian Gulf; so, it looks impossible to present a dating.

### **Conclusion:**

As it is argued above in "The Petroglyph part", namely illustration depicts a double-ended, belly-shaped hull watercraft which is timber-made and has two masts and jack-yard. But the most important feature of the depicted craft is its long satori (bowsprit) which is the characteristic of Boom ships. So, it can be concluded that the petroglyph depicts a Boom ship. The oldest depiction of Boom are two miniatures in Maqamat Al-Hariri (13th century AD) and she is still in use in Persian Gulf but works with engine.

Dehtal is an inland rock art site situated in Bastak province and Bastak was located 170 km. away from the sea on the passage that connected so-called Eastern-Western Silk Road to the Persian Gulf- Far East Maritime route. The petroglyph scene that is discussed in this article (including a ship and a fish under it on the write and a horseman on the

left), probably, recounts a story of a passenger who traveled from somewhere in the East to a port in northern shores of Persian Gulf, then maintained his/her way to the North by riding on back of a horse and on his/her way, passed from Dehtal.

Unfortunately, there is no evidence that helps us with relative dating but forthcoming studies of the authors of this article on absolute dating of the lichens may be useful.

## **Endnotes**

<sup>1</sup>For more information about watercrafts depicted on Mesopotamian seals and seal impression see: Qualls, C., 1981. Boats of Mesopotamia Before 2000 B.C, PhD Thesis, Columbia University and Makela, t.t., 2002. Ships and Shipbuilding in Mesopotamia (CA. 3000-2000 B.C), MA Thesis, Texas A&M University, Texas

<sup>2</sup>The height of the mainmast is a little bit less than the length of the craft (Eghtedari, 1966).

<sup>3</sup>For more information about the dhow's graffiti around the Persian Gulf see: Cooper et al., 2015. Boat and ship engravings at Al Zubareh, Qatar: the dhow exposed? Proceedings of the Seminar for Arabian Studies 45: 35-48.

<sup>4</sup>For more information about iconography of ships of eastern Mediterranean ships see: Wachsmann, 1998. Seagoing Ships and Seamanship in the Bronze Age Levant, Texas A&M University Press, London.

## **References**

Agius, D.A, 2008. Classic Ships of Islam from Mesopotamia to the Indian Ocean. Brill, Leiden. Boston.

Al- Bastaki, M.A., unknown date. Sailing Boats in the Gulf Area. RTA, Dubai.

Arrian, 1996. Anabasis Alexandri, Indica. Translated by E. I. Robson, vol. 2, the Loeb Classical Library, Cambridge (mass) and London.



Bani A'basiyan Bastaki, M., 1960. *Tarikhe Jahangireh va Bani A'basiyan Bestak*. Bastak.

Beig-e- Afshar, s., 1963. *Qanun Al- Sover*, Translated by Adel Qaziov, Academy of Sciences of the Soviet Republic, Baku.

Carter, R., 2006. Boat Remains and Maritime Trade in the Persian Gulf During the Sixth and Fifth Millennia BC. *Antiquity*, Vol. 80:52-63

Eghtedari, a., 1966. *The Persian Gulf*. Sina Library Publication, Tehran.

Fasaii, H. H., 1988. *Farsnameh Naseri*. Corrected and grazed by M. Rastegar Fasaii, vol 2, Amirkabir, Tehran.

Flecker, M., 2001. A Ninth-Century AD Arab or Indian Shipwreck in Indonesia: First evidence for direct trade with China. *World Archaeology*, Vol. 32, No. 3: 335-354

Fry, R., 2003. *The ancient history of Iran*. Translated by M. Rajab Niya, Sherkat Entesharat Elmi va Farhangi, Tehran.

Hasan, h., 1928. *A History of Persian Navigation*, Methuen & Co., LTD, London.

Hourani, G.F., 1951. *Arab Seafaring in the Indian Ocean in Ancient and Early Medieval Times*. Princeton University Press, New Jersey.

Ibn Balkhi, 1995. *Farsnameh*. M. Rastegar Fasaii (eds.), Bonyade Fars Shenasi, Shiraz.

McGrail, S., 2001. *Boats of The World from the Stone Age to Medieval times*. Oxford University Press, New York.

Movahed, J., 1970. *Bastak va Khalij Fars*. Tehran.

Paris, V.A., 1886, *Collection de Plans ou Dessins de Naviers et de Bateaux Anciens ou Modernes Existants ou Disparus*. Impimeur-Libraire de Bureau des Longitudes et de L`Ecole Polytechnique, Paris.

Parsa, A., 2012. *Southern Sails: Sailing in Persian Gulf and Indian Ocean*. Farhang-e Nashr-e No, Tehran.

Priestman, S., 2016. The Silk Road or the Sea? Sasanian and Islamic Exports to Japan, *Journal of Islamic Archaeology*, Vol.3: 1-35.

Reza, A., 1997. The role of Iran in Silk Road until the end of Sassanian era. *Iranshenakht*, Vol. 5: 198-211.

Salami Bastaki, A., 1991. *Bastak dar gozargah tarikh*. Bastak.

Sharp, R.N., 2005. The inscriptions in Old Persian cuneiform of the Achaemenian emperors. *Pazineh*, Tehran.

Shahriyar-e-Ramhormuzi, B., 1969. *The Wonders of India*. Translated by M. Malekzade, *Entesharat-e Bonyad-e Farhang-e Iran*, Tehran.

Whitehouse, D., 2009. *Siraf: History, Topography and Environment*. The British Institute Persian Studies: Archaeological Monograph, London.

Whitehouse, D., A. Williamson, 1973. *Sasanian Maritime Trade, Iran*, Vol. 11: 29-49

Vosoughi, M.B., 2016. *Heritages of Iranian Sailors in China*, *Entesharat-e Miras Farhangi*, Tehran.

Vosoughi, M., et al., 2008. *Tarikhe mofasale Larestan*. Vol.1, *Nashr Hamsayeh*, Tehran.

Hariri, A., 1236-1237. *Les Makamat*. Exemplaire orné de peintures exécutées par Yahya ibn Mahmoud ibn Yahya ibn Aboul-Hasan ibn Kouvarriha al-Wasiti, *Bibliothèque nationale de France*, Paris.

Zarinkoob, R., 2008. Re-knowing an Achaemenid's port in Persian Gulf. *Khalij Fars: Farhang and Tamadon*, *Moasseh Tahghighat va Tosee Olom Ensani*: 270-276.

## **Biography**

Mina Safa graduated with B.A. degree in Archaeology and with M.A. degree in History of Ancient Iran from University of Tehran. She received a Ph.D. degree from Shiraz University in History of Iran after Islam. Her initial interest in the field is around Art History of the Middle East, particularly around three thousand B.C. She follows the cultural, commercial, and political relations between neighboring civilizations and their roles in making a final format of artistic objects and thoughts. Until now, She worked on rock art of Homyan and Mirmelas (two ancient sites

of west Iran) and the Deh-Tal rock art site, as well as studying the artifacts of Jiroft (an old civilization of south Iran).

Shadi Kalantar is a MA student of archaeology at Tehran University and at the moment working on a thesis titled "*Identification, Classification and Typology of the Water-Crafts Illustrated on the Proto-Elamite and Elamite (3200 BC- 7<sup>th</sup> Century BC) Seals and Seal Impressions with a Focus on their Functions*" and I benefit supervising and advising of Dr. Shahrokh Razmjou and Prof. Philip Castro.

She is also a former member of Iran national Canoe/Kayak team. Because of this background, in her early undergraduate years, she was interested in ancient boatbuilding and subsequently, nautical archaeology. Soon after, Shadi started scuba diving and studying nautical archaeological methods.

Her focus, currently is on pictorial evidences of watercrafts (rockreliefs, seal impressions, petroglyphs and miniatures) around the Persian Gulf and Western Indian Ocean as well as ethno-archaeological studies on boat/ship building.