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Clay figurines caches found underwater: a phoenician ex voto practice?

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Abstract. In this study results of two underwater excavations in the Eastern Mediterranean, namely in the vicinity of Shavei Zyyon (Linder 1973:182-187) and Tyre (Seco-Alvarez 2011:79-94) where a hoard of clay figurines dating to the Persian Period and associated with Phoenician are dealt with. There may be other hoards, although they are represented by examples sold and bought by private collectors and museums or have, so far, not been published. Both hoards have been associated with possible wrecks, although in both cases, no signs of the wrecks were located. We propose yet another consideration of the hoards which are not associated with shipwrecks, namely a practice of mariners' ex-voto. **Keywords:** Clay figurines; hoards; wrecks; phoenician ex voto; Persian Period.

[es] Figuritas de barro halladas bajo las aguas: ¿una práctica de ex votos fenicios?

Resumen. En este artículo se estudian los resultados de dos excavaciones subacuáticas en el Mediterráneo Oriental, uno en la vecindad de Shavei Zyyon (Linder 1973: 182-187) y otro en la de Tiro (Seco-Álvarez 2011:79-94), donde se hallaron sendos tesorillos de figuritas de arcilla del Período Persa asociadas con los fenicios. Puede que haya otros tesorillos, aunque están representados por ejemplos vendidos y comprados por colecccionistas privados y museos, o hasta ahora no han sido publicados. Ambos tesorillos han sido asociados con posibles naufragios, aunque en ninguno de los dos casos se hallaron signos de estos. Proponemos aquí otra interpretación de los tesorillos que no está asociada con naufragios: la de una práctica de exvoto de marineros.

Palabras: Figuras de barro; depósitos; naufragios; ex votos fenicios; Período Persa.

Sumario: 1. Introduction. 2. Figurines from Shavei Ziyyon. 3. Figurines from Tyre. 4. Discussion and Conclusion. 5. Bibliography.

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1. Introduction

The importance of patron deities to seafarers was dealt with in many exposes. Brody, has undertaken a comprehensive study of the subject (Brody 1998; 2008) in which he enumerated the different practices in which mariners. He deals extensively with the deities,

mariners' cultic practices and nautical rituals. There is little, if any, written sources as to what the nautical practices of the Phoenician and their Canaanite forerunners were. Evidence of rituals before leaving the harbor and after arrival may be viewed in the deposition of anchors and model ships and giving thanks with presentation of incense (Brody1998:74-75;

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78-79). Ship graffiti may have well been the thanks of the simple sailors as they appear in Kition (Basch and Artzy 1985; Artzy 2003). It is these practices in which mariners expressed their fears and thanks to which we attribute a practice of depositing, in our case, figurines, into the sea.

In the early 1973, Elisha Linder, published a paper, recounting the discovery of, what he felt, was a shipwreck laden with a cargo of between 250 and 300 Phoenician-Punic figurines. The site of the underwater excavation took place near a village in northern Israel called Shavei Ziyyon (Linder 1973:182-187). The name of the site appears in several spellings, among them: Shavé Zion (Marx 1974:332) and Shavei Zion (Raban and Kahanov 2003:68). Linder described the sequence of events of the project in his account. Following the presentation of several figurines to the Maritime Museum in Haifa, Israel, an underwater survey was undertaken to establish whether there more figurines in the same source. Once it was established that, indeed, more figurines were located in the area, a full-scale expedition and an excavation took place. The Shavei Ziyyon hoard is mainly associated with Tanit, or Tinit (the Phoenician/ Punic goddess) figurines.

Following 2002, when looted figurines attributed to a site near Tyre, in southern Lebanon appeared in the antiquities' markets, a project including underwater survey and excavation took place from 2006 to 2010. The area is located at a depth of ca. 34 meters, which hindered the project in the 2006-7 seasons, although in the later seasons some excavation, using dredgers, were undertaken (Seco Alvarez and Noureddine 2010; Seco-Alvarez 2011:80). There are clear similarities between the two hoards, although they are not uniform. While there is a difference in depth between the two sites, one element is similar in both and that is the sea bottom comprising of sand and kurkar. The figurines found in the underwater excavation from Tyre are of mixed female and male figurines. Both, however, are produced in a similar manner. In addition, in both cases the scattering pattern of the finds, was reported as wide, although the depth of the area in which they were found varied. The depth in Shavei Zivvon was around -10 meters in an area where the sea bottom was of a mixture of sand and a kurkar (sandstone) ridge.

2. Figurines from Shavei Ziyyon

The figurines at Shavei Ziyyon, were attributed to a cargo of a shipwreck (Linder 1973: 183). The site is situated ca 1 kilometer north west of the small town of Shavei Ziyyon, north of Akko/Acre in northern Israel. The figurines were found scattered over an area of roughly one kilometer by 300 meters. More than 240 figurines most of them complete were found. Most of them were encrusted with marine shells and embedded in the *kurkar*. Ceramics found included Maritime Transport Containers, the type know as Persian or Phoenician Storage Jars attributed to the 5th-4th centuries BCE. Also found are some parts of bowls, and amphorae from the Greek isles.

Linder originally divided the figurines into five different groups classified according to their sizes: 13, 16, 22, 30 and 50 centimeters in height. The figurines are represented as a woman standing on a base. She has a head cover, long dress, her right arm is raised and the left is either placed on her bosom or holding a child. Several other typological divisions into groups have been attempted: R.R. Stieglitz (1990:106-109) attempted a division, based on the whether the figurine bore a Tanit insignia or not. This was followed by a partial division by Raban and Kahanov who divided them according to size (Raban and Kahanov 2003:68-69). They followed a division carried out by D. Birnbaum, a member excavating team, whose excavation report now in the Recanati Institute for Maritime Studies, at the University of Haifa, but not published (Sheizaf 2003:31-32). Yet another division, utilizing a part of Stieglitz's classification, was carried out by Sheizaf (2003) in a study of the goddess Tanit. The division was based on technical differences, shape and iconographic ones. Her general conclusion was to divide the figurines to those bearing the Tanit insignia, divided as to where it appears whether on the base or on their midriff. There is yet another type on whose base a dolphin, an animal associated with Tanit, appears. In addition, Sheizaf formed several groups which have no insignia attributable to Tanit. This group was further divided into subgroups according to where details appear and others, bearing no details and can be assigned to what she terms 'simple production'.

Following the excavations, Neutron Activation Analysis was carried out on some of the figurines. This was done concurrently with





maritime transport containers associated with the Persian/Phoenician period. A. Raban undertook the study as part of his doctoral thesis dealing with commercial jars and carried at the Hebrew University in Jerusalem under the direction of I. Perlman and T. Dothan. The 24 samples from Shavei Ziyyo were mostly of figurines and the rest of Persian/Phoenician type storage jars. (Raban and Kahanov 2003:69; Raban 1980. In the article in which the authors dealt with clay models of boats, they utilized the results from Raban's thesis, which includes Maritime Transport Containers (MTC) of the Persian/Phoenician type and figurines from the underwater excavations at Shavei Zivvon. 11 They state that the provenance of 11 is southern Lebanon, between Tyre and Sidon (Raban and Kahanov 2003:69). Unfortunately, Raban in his PhD thesis (1980:164) does not include the standard deviation of the mean group values of the 11 samples. The paper further states that there is another group of figurines and including one Storage Jar which originate along the northern coast of modern Israel, between Acre (Akko) and Rosh Hanigra, the Israeli Lebanese border (Raban and Kahanov 2003:69). A look at the results of the analyses in Raban's thesis (1980:188, plate G-2), shows that he placed the individual results of each of the five figurines and the storage jar. The results of the samples vary quantitively from one to example to another, although the general clay from which they were produced could possibly be compatible with other northern coastal and near northern coastal areas, although a a more specific database should have been used in order to reach this conclusive statement.

3. Figurines from Tyre

While early appearances of figurines were reported or published already in the mid 1970's and even earlier (Culican 1976 and Marx 1974), the earliest hoard properly excavated was between 2001 and 2006. The group was presented in a meeting dealing with the history of the Tyre in 2011 (Seco Alvarez 2011:79-94). The hoard of statues included more than 300 complete and broken parts attributable to figurines were found. According to the author of the report, it is likely that some figurines were found before the project's beginning and were sold in the antiquities market. This seems to be a likely situation since figurines

attributed to Tyre re-appear and offered for sale time and again. Recently, we were informed by M.E. Aubet of a hoard of ca. 100 figurines bought by an antiquities collector in London and supposed to have been collected in the early 1950's from a shipwreck in the vicinity of Tyre. Among them are some which do have signs of Tanit on them. Others, 16 examples of different sizes, also found underwater near Tyre are described as appearing in "Coll. M.CH" museum in Paris (Bordreuil and Gubel 1985:176-179). Among them is one which has a Tanit insignia on it (Bordreuil and Gubel 1985:179). Culican mentions a group of 6 purchased by the National Museum of Lebanon (Culican 1976b:119). Yet another figurine, bearing the insignia of Tanit was reported from a private collection assumed to be from a necropolis near Tyre (Bordreuil and Gubel 1988:441-442).

The remains from the archaeological project were found at ca. 4.5 kms northeast of Tyre at a depth of ca. 34 meters and a spread of approximately 600 by 150 meters. The finds were not concentrated in one area (Seco Alvarez 2011:80). As in the case of the hoard of Shavei Ziyyon, the seafloor is described as rocky with some accumulation of sand. While the major number of finds were of figures, a small number of ceramics and maritime transport containers is reported. As in the case of the figurine hoard from Shavei Ziyyon, no wooden or other remains attributable to a ship wreck have been found.

The figurines were dated by the excavators to the period between the 6th to the 4th century BCE. A large number of pregnant women is represented among the group of female figurines (Seco Alvarez 2011: fig. 1). These include a small bowl for incense burning (Seco Alvarez 2011: fig 1, 130). Some of the figurines are represented as of women holding babies (Seco Alvarez 2011: fig. 2). The figurines were dated from the 6th to the 4th century BCE. A large group of pregnant women is represented (Seco Alvarez 2011: fig. 1). These include a small bowl for incense burning (Seco Alvarez 2011: fig 1,130), as well as of women holding babies (Seco Alvarez 2011: fig. 2). Unlike the case of Shavei Ziyyon, the hoard included not only women figurines. In addition, there are groups of males (Seco Alvarez 2011: figs. 3, 4) among them classical male figurines described as: "...of great beauty." (Seco Alvarez 2011: fig 12, 415 and 4452). The bases of the figurines are varied, some are square (Seco Alvarez 2011: fig. 1:456) others are flat (Seco Alvarez 2011: fig. 1:529) and there are others which were likely inserted into a square base, but only the pyramidal shape remained (Seco Alvarez 2011: fig 1:197).

None of the figurines from the Tyre hoard has any insignia of Tanit. This is clearly very different from the hoard of Shavei Ziyyon, where the insignia of Tanit and her companion, the dolphin appears. However, a Phoenician inscription reading, according to the publication: "Eshmoun Yeten" (Seco Alvarez 2011: fig. 11,512). From the picture presented in the publication, it looks as if the inscription was added to the base of the statue after firing, scratched in a cursive manner. The author, mentions that the name was read and thought to be belongs to the 5th century BCE and that it is a name of either the producer of the figurine or its owner (Seco Alvarez 2011: note 2). Since the writing does not appear in Phoenician letters, only in translation we would like to suggest that the name is that of the god Eshmoun, šmn, the Phoenician god of healing, a forerunner of Asclepius. A temple dedicated to Eshmun was found near Sidon on the Awwali river. Its foundation is dated to the end of the 6th and early 5th centuries BCE, during the reign of Eshmunazar II, who bears his name (Jidejian 1971:59). Many votive offerings were found in the form of statues of persons healed by the god, especially babies and young children. The second word, (yeten), as it appears in the article, might rather represent the verb 'will give' or 'grant', a possible solicitation to the god for health and wellbeing, for which the god Eshumn was known.

4. Discussion and Conclusion

The two sites are presented in their publications as remains of sunken shipwrecks. In both the finds were distributed over a large area. In the case of Shavei Ziyyon, it was spread, as reported by the excavators, over ca. a kilometer and in the case of the cache in Tyre, the spread was estimated approximately 600 by 150 meters. As noted above there was a difference in the overall composition of the cache: While in the Shavei Ziyyon, only female figurines were found, in Tyre both female and male were found. Many of the figurines bore a Tanit symbol and even a dolphin, a motif associat-

ed with the goddess Tanit, none of the female figurines from Tyre bore such signs. However, one of the Tyrian figurines bore a Phoenician inscription.

In both of the sites the figurines were produced in a similar manner. Their front was mold produced and their back covered by a smoothed sheet of clay. Thus, they are hollow inside. According to E. Stern, this technique was introduced only in the Persian period (Stern 1982:180-181), so they cannot be dated any earlier than the 6th century BCE. Stern further compares the type of figurine, to those found in Israel in stratified contexts and the dating is usually from the 6th to the 4th century BCE, although the 5th to the 4th is the more common distribution (Stern 1982:178-180). In both of the sites, some other ceramics were found in the area in which the figurines were noted, they include maritime transport containers, those we recognize as 'Persian/Phoenician Storage Jars', dated to the 5th-4th century BCE, the later Persian period.

A number of Favissae/bothroi were found at sites in the eastern coast of the Mediterranean. Most attributed to the Persian/Phoenician period, which E. Stern has written extensively both as a general study of the period (Stern 1982) and clay figurines from the excavation at Dor, which he directed (Stern 1995). Stern in his publication of two favissae found at Tel Dor states: "A study of the dates attributed elsewhere to the various figurines and statuettes clearly shows that they fall in the fifthfourth centuries B.C." (Stern 1986:282), In the main body of the publication and especially in a footnote (1986: footnote 2), he enumerates previous studies so we will not deal with them here. Yet we would like to mention here a few sites where comparable figurines were found in bothroi/favisae. For instance, Tell Makmish, in the Sharon area in Israel. The figurines were found in small hill, near a spring, a likely cultic area dating to the Iron II age. The area was robbed by antiquities hunters, yet some part was excavated properly, although quite the area was quite damaged. There may have been some Iron Age II cultic practice in the area, and clearly the site continued to be used well into the Late Persian and the early Hellenistic periods. In what seems to be the remains of a bothros/favisa, dating to the 5th to the 4th century BCE, were numerous figurines, including similar ones to those found in Shavei Zyyon. However, these were not the only type



of figurines. There were others associated by the excavator to Egypt and Cyprus. The majority, attributed to Phoenician inhabitants of Tell Mikmash, whose origin the excavator felt was Sidon. Alongside the figurines, were miniature stone carved altars (Avigad 1960:95-96). While Tanit's name does not appear at Tel Dor on the figurines, a lead weight with the sign of Tanit was found (Stern 2002:108-112).

Numerous ex-votos as tribute found in *bothroi* were found in Cyprus of the first Millennium BCE. Large number of figurines were found for instance, in Kourion (Buitron-Oliver 1996) and Marion/Polis (Childs *et al.* 2012: 167-184). Yet, to this date, no figurines baring the sign of Tanit were found there. Yet Cypriot coins bearing the Tanit figurines were found (Callot 1992).

Possible cultic practices to be associated with the period in Cypriot, might be the clay models of ships found, among other, in underwater settings. L. Basch published some of these boats (Basch 1987:249-260) referring to ones found in Cyprus, especially a very elaborate one found underwater in the Amathus area (Basch 1999). Alongside the ship model, the fishermen who found it reported a storage jar, similar in shape to the ones we associate with the Persian/Phoenican period. There is a question as to the origin, of boat models presented to the Hecht Museum and published by Raban and Kahanov in 2003. Comparable ones may have originated underwater in Tyre and others in Cyprus, so it is hard to define the area in which they were found. The problems associated with looted goods are heightened in this particular study.

The question as to the whether these caches are the loads of sunken ships or possibly ex-voto votive offerings thrown into the sea to appease a god or a goddess or be granted health or more likely safe sail and return? The publications clearly state that these were wrecks, despite the fact that no wood belonging to a ship wreck was found. In both cases where a proper excavation took place, there was a wide area-span in which the figurines were located. In addition, there is a similarity in the shape of the sea bottom where the figurines were found, namely a kurkar ridge, one which could be hazardous to ships plying the coast or approaching for anchorage. Culican suggested already in 1976 that the figurines could well have been thrown in the area of the reefs by sailors' protection (1976:119). Raban and Kahanov present an ambiguous stand in their study which concentrates on clay ship models. We would like to add that since the area was close to shore, the cultic practice could have been undertaken by family members or others, such as the mariners themselves before undertaking the dangerous sail, or upon a successful arrival.

The NAA analyses carried out on the figurines from Shavei Ziyyon (we counted 16 examples whose analyses Raban presents in his 1980 study), show that these figurines do not have a single, common, provenance. In Raban and Kahanov's paper (2003) they assign some to have originated in the area between Sidon to Tyre, following Rabn's PhD thesis (1980:164). In the same table of his study, Raban compares, favorably, the results of the 11 samples with a group of 12 ceramics originating at Tel Anafa dating to the Hellenistic period, again without stating the mean standard deviation of the group. Tel Anafa is located in the upper Galilee and not near the coast, whether, Tyre or Sidon or for that matter the area of Shavei Ziyyon. We would like to add that the site of Tel Anafa is geographically close to Tel Kadesh where among several more than 2000 sealings in a monumental Hellenistic administrative building, in which the excavators noted Phoenician cultural elements (Herbert and Berlin 2003), at least nine of which derived from the NW Archive Room bore elements associated with Tanit (Ariel and Naveh 2003:62-63). The results of the NAA analysis of the remaining five figurines and a storage jars mentioned in Raban and Kahanov paper as originating north of Akko, in the area near the Israeli Lebanese border on the coast, they are presented in Raban's NAA earlier study as individuals, since they could not be incorporated into a unified clay group (1980:188, plate G-2). Their results vary from one example to another. They may have originated in several different workshops.

If we repeat the arguments as to whether these hoards originated from shipwreck we have to mention the one place where wood is reported alongside figurines. 6 figurines were mentioned from a wreck reported by Marx (1974:332). We should also consider that in both of the properly excavated hoards, few utilitarian shapes, MTC associated with the Persian/Phoenician period and even some imports from the Greek world were mentioned. These too could have been utilized in these cases as *ex-votos*.

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In our conclusion, the analyzed figurines originate from different areas and thus are unlikely to have been the loads of shipwrecks. At least two, possibly three supposed wrecks bearing Tanit and other figurines are assumed to have been found. One in the vicinity of Shavei Zyyon and one in the sea at Tyre. Add to it another shipwreck, reported to us by Galili (personal communication), whose whereabouts is he did not specify. Again, in this case which Galili shared with us, no wood was noted and it bore figurines of grey hue thus different from the ones associated with the Sahvei Zivvon and Tyre hoards. If we assume that all the figurines originated in shipwrecks, we have to add yet another 'possible wreck' found near Tyre whose load is said to have been sold in the 1950's and eventually found its way to a large private collection in Malaga, Spain and other collections mentioned above. This is in addition to the numerous figurines presently at the museum in Lebanon whose geographic provenance is unknown. Since there are no publications of excavations associated related to them, we assess that they were bought in the

antiquities market or confiscated from illegal sources and thus, again, no ship wreck can be associated with them.

Our shores are not very prolific in the number of shipwrecks found, especially of the 2nd or 1st Millennia BCE. If, indeed, all these figurines originated from shipwrecks, the number of wrecks dating to the late Persian-Hellenistic period and bearing Figurines is statistically remarkably high. The likelihood that determined areas underwater, especially ones associated with reefs endangering mariners were used for the deposition of ex-votos, much like those associated with cult on land is considerate. We thus propose that the hoard of figurines originating in the Shaevei Zivvon underwater excavation and those from the underwater excavation in the vicinity of Tyre (including many from the antiquities markets) are to be associated with cultic maritime ex-votos rather than shipwrecks. It is very likely that the Phoenician mariners' cultic ex-voto practices continued in the western Mediterranean, but that is a topic for yet another study.



Figure 1: Different sizes of Figurines from Shavei Ziyyon (Photo by Noa Sheizaf)









Figure 2: Figurines from Shavei Ziyyon with insignia (Photo: Noa Sheizaf)



Figure 3: Figurine with dolphin sign associated with Tanit, Shavei Ziyyon



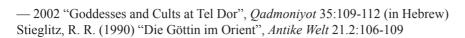
Figure 4: Figurines from the area of Tyre (Lipinski et al. 1992:120)

5. Bibliography

- Ariel, D. T. and Naveh, J. (2003) "Selected Inscribed Sealings from Kedesh in Upper Galil", *Bulletin of the American Schools of Oriental Research* 329:61-80
- Artzy, M. (2003) "Mariners and their Boats at the End of the Late Bronze and the Beginning of the Iron Age Eastern Mediterranean", *Tel* Aviv pp. 232-246
- Avigad, N. (1960) "Excavation at Makmish, 1958: Preliminary Report", *Israel Exploration Journal* 10:90-96.
- Basch, L. (1987) *Le Musée imaginaire de la marine antique*, Athenes: Institute Helléniquie pour la Presérvation de la Tradition Nautique
- (1999) "Un Modele de navire Chypriote du VI^e siècle av. J.-C. trouve en mer au large d'Amathonte", Bulletin de correspondence Hellenique 123:43-64
- and Artzy, Michal (1985) "Ship Graffiti at Kition", Pp. 322-37 in Excavations at Kition V. The Pre-Phoenician Levels, Part I, V. Karageorghis and M. Demas (eds.), Nicosia: Department of Antiquities of Cyprus
- Birnbaum, D. (1974?) Unpublished report from the excavation now at the Recanati Institute for Maritime Studies, University of Haifa
- Bordreuil, P. and Gubel, E. (1985) Bulletin d'Antiquités archéologiques du Levant inédites ou méconnues II. *Syria* 62/1-2:174-186
- (1988) Bulletin d'Antiquités archéologiques du Levant inédites ou méconnues V. *Syria* 65/3-4:438-456 Brody, A. J. (1998) *Each Man Cried out to his God' The Specialized Religion of Canaanite and Phoenician Seafarers*, Atlanta, Georgia: Scholars Press
- Buitron-Oliver, D. (1996) *The Sanctuary of Apollo Hylates at Kourion: Excavations in the Archaic Precinct*, Jonsared: Paul Åström Verlag
- Callot, O. (1992) "Note de numismatique Chypriote", pp. 297-300 in G.K. Ioannides (ed.) Studies in Honour of Vassos Karageorghis, Nicosia
- Childs, W., Smith, Joanna S. and Padgett, J. M. (2012) City of Gold: The Archaeology of Polis Chrysochous, Cyprus, Princeton University Art Museum and Yale University Press
- Culican, W. (1976) "A Votive Model from the Sea", *Opera Selecta from Tyre to Tartessos*, Studies in Mediterranean Archaeology 40, Goteborg.
- (1976b) "A Votive Model from the Sea", Palestine Exploration Quarterly 108:119-126
- Herbert, S. C. and Berlin, A. M. (2003) "A New Administrative Center for Persian and Hellenistic Galilee: Preliminary Report of the University of Michigan/University of Minnesota Excavations at Kedesh", *Bulletin of the American Schools of Oriental Research* 329:13-59
- Jidejian, N. (1971 Sidon through the Ages, Beirut: Dar el-Machreq
- Linder, E. (1973) "A Cargo of Phoenicio-Punic Figurines", Archaeology 26,3:182-187
- Lipinski, E., Debergh, J. and Gobel, E. (eds.) (1992) *Dictionnaire de la civilisation Phenicienne et Punique*, Brussels: Brepols
- Marx, R. F. (1974) "Notes and News, Lebanon", International Journal of Archaeology 3:32
- Raban, A. (1980) *The Commercial Jar in the Ancient Near East: its Evidence for Interconnections Amongst the Biblical Lands*, PhD thesis, Hebrew University in Jerusalem (in Hebrew)
- and Kahanov, Y. (2003) "Clay Models of Phoenician vessels in the Hecht Museum at the University of Haifa, Israel", *International Journal of Nautical Archaeology* 32.1:61-72
- Seco Alvarez, M. and Noureddine, I. (2010) "Shipwrecks Investigations in the Waters of Tyre" *Baal* 14:103-129
- Seco Alvarez, M. (2011) "Marine Archaeological Intervention on a Looted Shipwreck a Few Kilometers Offshore Tyre 2006-2010", *Bulletin d'Archéologie et d'Architecture Libanaises*, Hors-Serie VIII:79-94.
- Sheizaf, N. (2003) *Tanit and the Sea*, MA thesis, Department of Maritime Civilizations, University of Haifa (in Hebrew)
- Stern, E. (1982) *Material Culture of the Land of the Bible in the Persian Period 538-332 B.C.* Jerusalem and London: Aris and Phillips and Israel Exploration Society
- (1986) "Two Favisae from Tel Dor, Israel", pp. 277-287 in *Studia Phoenicia IV Religio Phoenicia*, C. Bonnet, E. Lipinski and P. Marchetti (eds.)
- (1995) Excavations at Dor, Final Report, Vol. IB: Areas A and C, The Finds, *Qedem Reports 2*, Jerusalem: Israel Exploration Society







Notes

1. Artzy has utilized NAA and other provenance quarries in several studies since the 1970's and has published many of them. Provenance studies of clay have become, since their entry, a must - part and parcel of archaeological practice.



