# A CYPRO-MINOAN POTMARK FROM APHEK

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***Abstract***

*An amphora handle incised with a possible Cypro-Minoan sign from 13th century BCE Aphek provides new evidence for the Cypro-Canaanite trade during the Late Bronze Age. Manufactured in the Acco plain, this amphorah may have travelled to Cyprus, been marked there, and then re-filled and sent to Canaan, to be deposited in the Egyptian Governor's residency at Aphek.*

## THE FIND: ITS IDENTIFICATION AND SIGNIFICANCE

A segment of an amphora handle, bearing an incised mark, possibly in Cypro-Minoan linear script (No. 29277/[Aphek 5]), was found in Aphek in Area X, Locus 2953 (Fig. 1).[1] This locus belongs to Stratum X11, a humble 12th-century fishing village built on the ruins of the rich 13th-century Late Bronze Age Level X12, which included a structure called the Egyptian Governor's Residency (Building 1101; Kochavi and Beck 1985: 30–32), possibly the abode of an Egyptian ruler. Because the segment of the amphora handle was found in a secondary deposition, and also because of the very meagre nature of Stratum X11, it seems likely that the handle belonged to the earlier, more prosperous Stratum X12.

A letter from Ugarit (Singer 1983) dates Stratum X12 to the 13th century BCE. In this period, Aphek was not only an administrative centre (cuneiform tablets and other documents were found here) (Kochavi *et al.* 1978) but also a site well-connected to the international trade in luxury items, as reflected in the Mycenaean pottery finds (Warren and Hankey 1989:155–156) and Cypriot pottery (Beck and Kochavi 1985:36).

It seems that the mark was incised after the firing of the vessel. No ridge was formed along the rim of the mark, nor do inclusions seem to have been pulled by the incision tool, as was usually the case when marks were made before firing (Hirschfeld 1993:318 note 27)

The potmark appears to be the Cypro-Minoan Sign 38 (Masson 1974:13; Fig. 3:1). This sign, as an incision on pottery, has seven close parallels. Three come from Kition: a pithos fragment, between possible numbers (Masson 1985:283, and

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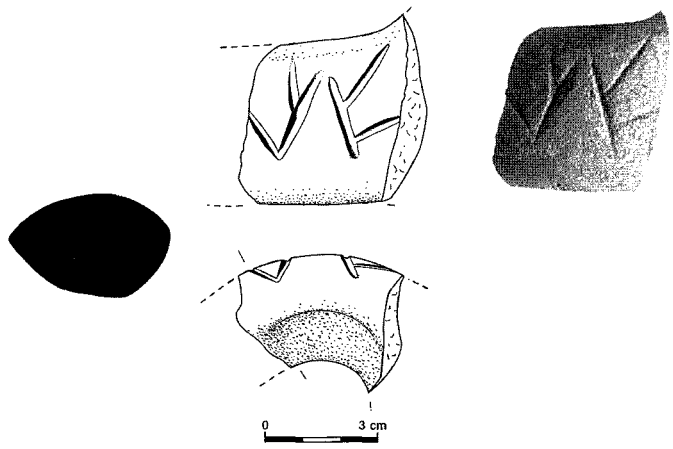


Fig. 1. The Aphek amphora handle No. [5]29277.

Pl. C: II/1125A; Fig. 3:2) and two handles (*ibid.*: 284, and Pl. F: II/5362A; F:II/ Temenos A /8. Level II–III; Fig. 3:2–3).

Two additional marks come from Maa *Paleokastro*. The first comes from Area I, Floor 1 (Karageorghis and Demas 1988:162, Pl. CCXX: 3; Masson 1988:399, No. 5; Fig. 3:4). It appears on the handle of Canaanite Amphora No. 3, together with another, unknown sign. The second is incised on a handle of Plain White Wheel-made jar No. 355 from Area III, Floor II (Karageorghis and Demas: 1988:110, Pl. CLXXX: 355; Masson 1988: 399 No. 4; Fig. 3:5). It is incised together with another Cypro-Minoan sign, No. 1. An additional sign is known from Kalavasos-*Ayios Dhimitrios* (Mason 1989: 40, No. K-AD 326).[2] The sign is incised on a handle of a Plain White Wheel-made ware vase, together with Cypro-Minoan Sign No. 5. An identical mark was found in Ugarit, topographical point 4574 (Courtois: 1978 336–337, Fig. 48:2; Fig. 2), incised after firing on a body sherd of a Mycenaean vessel. (a krater?[3]). Hirschfeld (1992:317; 1993:314, Fig. 1; 2000:191) identified the Ugarit mark as Cypro-Minoan Sign 38, and compared it to marks on tablets from Enkomi. Similar to the Aphek mark, the Kition and Ugarit marks are made of six separate strokes.

How do we interpret this mark and the significance of its discovery at Aphek?

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[2] An additional possible example from Kalavasos *Ayios Dhimitrios* is K-AD 1071, also incised on pottery (Tod 1989: Pl. 29).

[3] The possible identification of the Ugarit vessel as a krater makes it an exception since a great majority of the vessels marked by incisions are containers. Another oddity (if the vessel is indeed krater) is the fact that the sign appears upside down.

Hirschfeld (1993:313) argued that the appearance of Cypro-Minoan signs incised after firing on Mycenaean pottery *in the Aegean* indicates that someone familiar with the Cypriot script was handling the pottery. Similarly, the distribution patterns of marks incised on pottery (much more in Cyprus and Levantine sites connected with Cyprus than in the Aegean) further support Cyprus as the origin of the custom of marking vessels (*ibid.*:315).

What is the meaning of the sign? Does it represent a commodity stored within the vessel or is it an ownership mark? The Cypro-Minoan script remains undeciphered (Smith and Hirschfeld 1999), thus rendering any attempt to understand the meaning of the marks highly hypothetical. Hirschfeld (2002:96), who examined the CM potmarks from Enkomi, noted that the incised marks do not appear to be "...related to workshop, volume, ownership or the function of area in which they were found". However, several insights may be gained from the context in which this sign appears. At least one of the examples from Kition (Fig. 3:1 and perhaps Fig. 3:2) Sign 38, appears side by side with 'numbers'.[4] When incised on large containers, such context seems to support an interpretation of a commodity or a measuring unit for the sign. However, the appearance of Sign 38, inseparable from other signs within text on Cypro-Minoan tablets (e.g., Masson 1974:21, R.S. 19.02 [line 1]; 30, RS 20.25 [line 7]), indicates that the sign also had a phonetic value not necessarily related to a commodity. Thus, one can explain the appearance of CM Sign 38 on a possibly open vessel (a krater?) as an ownership mark. Unless the unknown sign on Maa *Paleokastro* No. 3 can be understood as an ideogram, the appearance of two signs without numerals or ideograms on the Maa *Paleokastro* and the Kalavasos-*Ayios Dhimitrios* handles also hints at a personal name or other mark of ownership rather than at a commodity. The two interpretations are still open for the Aphek amphora.

Is the mark connected to the same trade network that brought Cypriot and Mycenaean pottery to Aphek? At first glance, it seems that there is no direct connection, since Canaanite amphorae marked with Cypro-Minoan signs are very rare in the archaeological records east of Cyprus, i.e., in Syria and the Levant. Hirschfeld, examining pottery from Ugarit (Ras Shamra), Minet el-Beidha and Ras ibn Hani, argued that clear Cypro-Minoan or Aegean signs were incised or painted only on imported Mycenaean pottery, while the marks on Canaanite amphora handles did not have definite Cypro-Minoan or Aegean parallels, thus the marks on Amphorae "comprise a separate and unrelated repertoire" (2000:182). A similar situation is seen in Tell Abu Hawam, a major entry port for Cypriot and Mycenean pottery, second only to Ugarit. There, only Mycenaean and Cypriot pottery is marked

[4] Possible 'numbers' appear side by side with three Cypro-Minoan signs on the shoulder of a LCII jug from Katydhata Tomb 11.17 (Åström 1969:159)

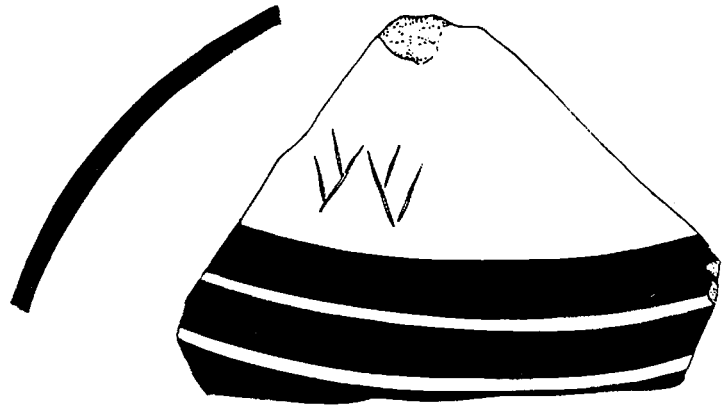

Fig. 2. A Mycenaean sherd from Ugarit, seen upside down to show the correct position of the potmark (modified after Courtois 1978:336–337, Fig. 48: 2).

with Cypro-Minoan signs, and no Canaanite amphorae are marked with such signs (Balensi 1980:557–558).

However, the situation may be slightly different in Cyprus and in the Aegean. In Cyprus itself Cypro-Minoan signs were inscribed not only on Mycenaean pottery, but also on Canaanite amphorae (see above examples from Kition and Maa *Paleokastro*, also Hirschfeld 1993:312). In the Aegean, Cypro-Minaon signs appear incised on several 13th century Canaanite amphorae, for example from Tiryns (Cline 1994:171 Nos. 316, 317 with further literature; Hirschfeld 1993:313).

The Aphek handle, a contemporary of the Ugarit marks, proves that amphora handles incised with Cypro-Minoan signs are also found east of Cyprus, and are thus related in some way, as are the marked Mycenaean vessels in Ugarit, and the marked Canaanite amphora in Tiryns, to a trading network originating in Cyprus. The exact mechanism that brought about the arrival of the marked vessel to Aphek is hard to assess and dependent on the question of where these marks were incised. Hirschfeld (1993:313) raised the prospect that some vessels travelled more than once between Cyprus and the Aegean, thus opening two possibilities: Either the vessels were marked in Cyprus (and then returned to the Aegean), or were marked in the Aegean by people familiar with the Cypriot script. Naturally, the only way to decide on one of these possibilities is to examine the place of the manufacture of the vessel.


Fig. 3. (1) Potmark on a pithos (modified after Masson 1985: Pl. C. II/1125A); (2) Potmark on a handle from Kition (modified after Masson 1985: Pl. F:II/5362A); (3) Potmark on a handle from Kition (modified after Masson 1985: Pl. F:II/Temenos A/8, Levels II–III); (4) Potmark on a handle from Maa *Paleokastro* (modified after Masson 1988: Pl. A:4); (5) Potmark on a handle from Maa *Paleokastro* (modified after Masson 1988: Pl. A:5).

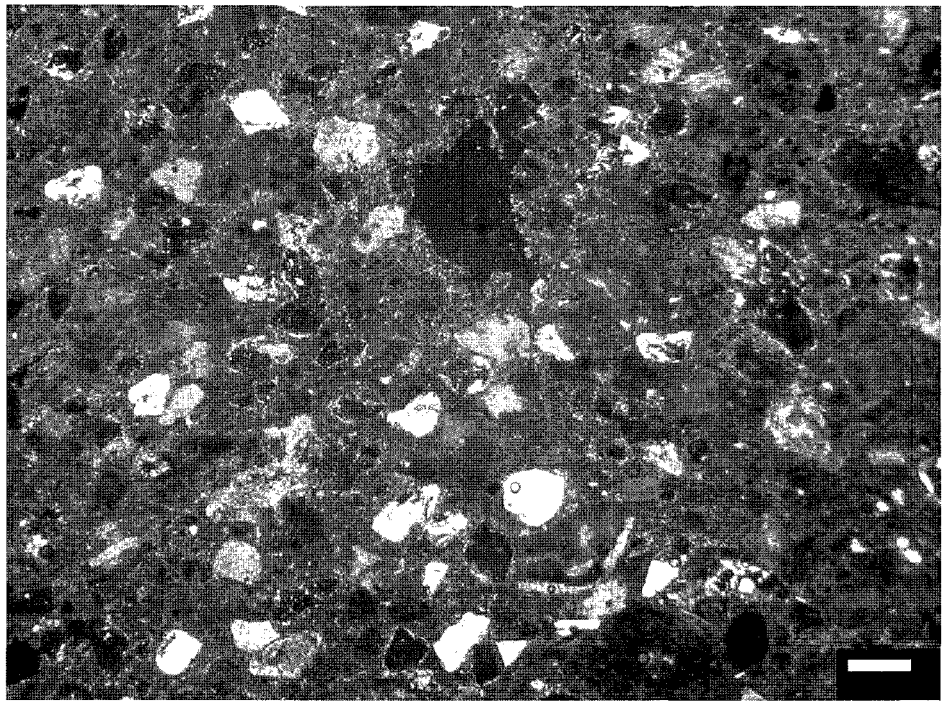

Fig. 4. Microscopic view in thin section of the amphora handle from Aphek. White bar length: 0.2 mm., crossed polarizers. For details see the petrographic description.

## PETROGRAPHIC EXAMINATION OF THE APHEK JAR HANDLE WITH CYPRO-MINOAN SIGNS

The Aphek jar handle with inscribed Cypro-Minoan signs was subjected to petrographic analysis at the Laboratory for Comparative Microarchaeology of the Institute of Archaeology, Tel Aviv University.

The petrography of the item is as follows (Fig. 4):

**Matrix**: Clayey, carbonatic, orange-tan to reddish-tan in PPL with strong optical orientation and striated b-fabric.

**Inclusions**: Well-sorted, densely spread, rounded sand grains (f:c ratio[0.062mm]=~75:25) of the following:

*Limestone, biogenic limestone*: About 70% of the inclusions, up to 500μm in size, subrounded to rounded fragments of micritic or sparitic limestone with common localized brownish staining. Very common are rounded fragments of separate fossils, sizing up to 450μm. The fossils consist predominantly of articulated fragments of the calcareous corallinean algae Amphiroa, together with a few mollusk shell fragments.

*Quartz sand*: Making 30% of the inclusions, up to 300μm, subrounded to rounded quartz grains.

**Interpretation**

The combination of ferruginous clay matrix with sand from the Levantine Coastal Plain (see below), indicates a coastal origin. In this area, red to dark reddish-brown silts and sands with loams in soils stained and in part cemented by sesquioxides of iron and aluminum appear as part of the Rehovot Formation, dated to the Villfranchian to recent age (Issar 1968; Sivan 1996). It is most likely that this red soil of the littoral areas of Israel, locally termed as *Hamra* soil, was used here. Hamra soil is spread along the Coastal Plain from the Ashdod area to the north.

The most significant feature of the inclusions are the coralline algae fragments. The fossils consist predominantly of articulated fragments of the calcareous corallinean alga *Amphiroa*, together with scarcer mollusk shell fragments. In the Levantine coastal area corallinean algae of the genus *Amphiroa* occur in Quaternary bioclastic sediments of the Pleshet, Hefer and Kurdane formations of Israel (Buchbinder 1975; Almagor and Hall 1980; Sivan 1996). Thus far no equivalent geological terminology has been formalized for the coast of Lebanon, but similar traits are recorded from the contemporary and analogous beachrocks and sands (Sanlaville 1977:161–177; Almagor and Hall 1980; Walley 1997). While in other localities this alga appears in older sediments, in the eastern Mediterranean it is absent even from the Miocene reefal formations and appears only from the Pleistocene and on (Buchbinder 1975). On the basis of the dominance of this component within the inclusions we can suggest that the materials of this jar should be related with Quaternary beach deposits.

While in the southern Levant the coastal sediments are dominated by quartzitic sand that originally comes from the Nile, from Acco northwards this type of sand diminishes and the sediment becomes increasingly calcareous. A systematic examination of thin sections made from Holocene sand from various localities along the coast indicates that quartz is the dominant component as far north as the Haifa Bay. At Bat-Galim (a suburb of Haifa) the sand is still dominated by quartz, but in Acco, a few kilometers to the north, the beach sand is composed almost exclusively of carbonates (see also Nir 1989:12–15; Sandler and Herut 2000). Even the sands that exist near the eolianites of the coast of Galilee (resulting from the weathering of kurkar) are reported to contain less than 10% quartz (Sivan 1996:155). This implication is significant, since it indicates that the jar in question should be related *a priori* to the coastal area around or north of Acco.

While in sand samples from south of the Acco area, where quartz is predominant, algae fragments are rare and it is unlikely to find even one of them in a standard thin section, from Acco northwards they form nearly 70% of the sand components.

In Lebanon quartz may still appear as a minor component in the beach sand dunes, but near Tyre and at Shoueifat (slightly to its north) the sand is made essentially of carbonates, mostly from bioclasts (Sanlaville 1977:162–164). Further north the beach sand dwindles quickly and at Sidon it is virtually absent. Still further north, beach sands appear again in the ʿAkkar Plain (*ibid.*:161). Therefore, coastal sediments that are dominated by calcareous bioclastic deposits are a clear attribute of the northern Levantine coast at some specific localities. Due to the relatively high proportions of quartz in the sand, we suggest that this jar originated in or near Acco.

Reference materials of workshops from the Acco region were collected from several sites:

1. Wasters and locally-produced pottery from the Byzantine workshop excavated at Ḥorvat ʿUza, located *ca.* five kilometers east of Tel Acco (Getzov 1993; the petrographic analyses were made by Goren but are not as yet published).
2. Pottery wasters from a medieval workshop found at the Acco courthouse (Goren 1997).
3. Petrographic data on the common pottery at Tell Keisan, published by Courtois (1980:355). These three pottery assemblages are petrographically similar to the jar examined here.

## CONCLUSIONS

The thin-section analysis had shown that the sherd was made somewhere in the area between Acco and Tyre. The non-Cypriot and yet northern Levantine origin of the vessel leaves open the possibility that the vessel was made in the Levant and shipped to Cyprus, perhaps via Tell Abu-Hawam or Tel Nami. The vessel was marked there, and since Canaanite amphorae marked with Cypro-Minoan signs are rare in any place other than Cyprus, it is logical that the marking was done for internal Cypriot purposes, rather than for reasons connected with trade. The amphora was then sent back to the Levant, perhaps refilled with a Cypriot product, and finally deposited in Aphek. One can only guess the volume of the traded items that arrived from Cyprus in re-used Canaanite amphora. The possibility of the existence of such trade, which would be almost invisible in the archaeological record, also calls for a re-evaluation of the value of provenance studies conducted on closed containers for the reconstruction of Bronze Age trade routes.

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