NEW POTTERY CONTEXTS AND RADIOCARBON DATA FROM EARLY LAYERS ON THE BYRSA HILL (CARTHAGE): THE "ASTARTÉ 2"-SEQUENCE

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With a contribution of Britt M. Starkovich and Shyama Vermeersch*

Abstract: This paper presents the results of a preventive excavation at the south-eastern slope of the Byrsa Hill in Carthage located in the modern Rue Astarté. Early Punic layers in a closed, undisturbed sequence upon the virgin soil were excavated ("Astarté 2"-sequence). According to the ceramic and radiocarbon data, this sequence can be placed to the first half of the 8th century BCE, and remains open to a possible overflow to the end of the 9th century BCE for the early material of the lowest stratigraphic layer. This evidence makes it possible to consider the assemblages in this sequence as being the oldest one found in Carthage so far. Already in this early stage Carthage seems to have been well integrated into a Mediterranean wide network, connecting Sardinian, Libyan, Cypriote, Iberian, Greek and Levantine partners.

Keywords: Carthage; Byrsa Hill; Pottery; Chevron *Skyphos*; Radiocarbon Data.

1. Introduction

The traditional foundation date of Carthage, going back to the end of the 9th century BCE, has never been corroborated by archaeological finds.[1] According to conventional chronologies of Greek Late Geometric pottery found in the lowest domestic levels currently available,[2] the Phoenician settlement of Carthage could not have been established earlier than c. 760 BCE.[3] A coeval chronology is likewise assigned to the most ancient finds in the Baal Hammon sanctuary, the so-called *tophet* of Salambô[4] and to funerary remains on the eastern slope of the Byrsa hill[5] as well as the earliest Greek finds in the scarce tombs on the Juno hill excavated during the last century.[6] Hence a gap of at least two generations still separates the archaeological and the traditional dates.

Indeed, evidence for the earliest chronology of Carthage was presumed on the basis of residual material found both in the excavations of the German Archaeological Institute (DAI Rome) and of the University

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1 Docter *et al.* 2006, p. 39; Docter *et al.* 2007, p. 91.

2 Located at the northern part of Bir Massouda (site 1) excavated by Hamburg University (for the main publication see Niemeyer – Docter – Schmidt 2007) and the Didon quarter of the Rue Ibn Chabâat excavated by the DAI Rome (see Rakob 1999; Flügel *et al.* 2018; Flügel *et al.* in press).

3 Docter 2000; Docter 2007; Docter *et al.* 2003; Aubet 2001, pp. 219 and 226; Kourou 2012, p. 221.

4 Kourou 2002, p. 96.

5 Chelbi – Maraoui Telmini – Docter 2006a and 2006b; Maraoui Telmini 2016; Maraoui Telmini 2017a and 2017b.

6 Suggested mainly by the *Skyphos à chevron*, see Boucher 1953, p. 33, pl. XIX:137; Lancel 1992, p. 45, fig. 19; Vegas 1992, pp. 186-187, fig. 5:7; Kourou 2002, pp. 93-94; Kourou 2015, p. 225.

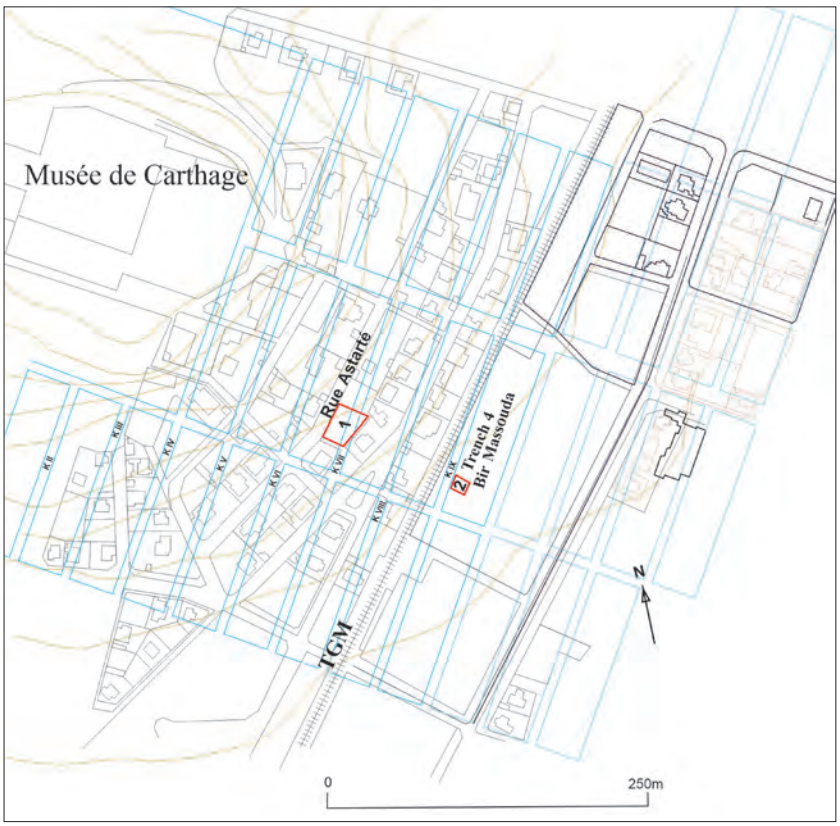

Fig. 1. 1: Location of the "Astarté 2" excavations on the south-eastern slope of the Byrsa hill (Carthage); 2: Trench 4 of the Bir Massouda (readapted after Fumadó Ortega 2013).

of Hamburg[7] as well as in the assemblage from trench 4 of the Tuniso-Belgian project at Bir Massouda (site 2). Here, a stratified archaeological sequence forming a gradual filling of a sort of depression in the bedrock brought in the lowest layer[8] organic material with radiocarbon dates calibrated to calendar dates in the last quarter of the 9th to the beginning of the 8th century BCE, which was supposed to be in agreement with the historical date of the foundation of Carthage.[9] Unfortunately this layer included just very few diagnostic ceramic finds that were not able to provide reliable evidence of its coeval facies.[10]

Recent preventive excavations[11] on the south-eastern slope of the Byrsa hill (Fig. 1) had provided a new stratified sequence resting directly on the virgin soil. The lowest ones gave way to new ceramic assem-

7 Docter *et al.* 2005, pp. 568-570; Núñez 2008, p. 20.

8 BM04/4465, see Docter *et al.* 2008.

9 Docter *et al.* 2008, p. 413, fig. 8; Núñez 2017a, p. 9, fig. 1-2, and p. 38, an upper layer in the same sequence (US-4461) could be placed just before 760 BCE as it was suggested by the recent analysis of its ceramic finds, reviewed from Levantine perspective, see Núñez 2017a, p. 35; Núñez 2017b, p. 26. We do believe however, that the earliest limit of the context could not go up to 800/775 as it was proposed in Giardino 2017, p. 12.

10 Docter *et al.* 2008, pp. 384-386 and fig. 1.

11 Conducted by one of the authors, Boutheina Maraoui Telmini during May and June 2013. We are grateful to Pr. Adnen Louhichi *Directeur Général* of INP at that time and our Colleague H. Ben Romdhane *Conservateur* of the Site and Museum of Carthage during the same period, for giving us this opportunity. The excavation was carried out with the collaboration of Mlle H. Warteni, curator in the Museum of Carthage and the participation of Mlles Salwa Abidi and Maha Bannour, students at the Faculty of Human and Social Sciences of Tunis.

blages spawning further reliable information about the early layers in Carthage and provided several new finds compared to those already published (paragraph 2). Samples of animal bones from three contexts were examined and submitted to ^{14}C analysis, giving way to data range calibrated in the 9th and 8th centuries BCE (paragraphs 3 and 4).

In the present contribution, ceramic finds of these layers are discussed parallel to the new radiocarbon dates in order to provide additional referential data about the early phases in Carthage. However, the restricted finds, the limited investigated surface and the luck of structures prevent us currently from establishing a reliable link with the traditional foundation date of Carthage.[12] We will limit ourselves to the analysis of the diagnostic fragments in a comparative approach with coeval material of eastern and western parallel assemblages and hope to provide useful readings from both ceramic facies and radiocarbon determinations.

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2. "Astarté 2": Stratigraphic Sequence and Ceramic Analysis (Fig. 2)

2.1. *The New Stratigraphic Sequence*

The exact location of the excavated sequence is half way up to the south-eastern slope of the Byrsa hill, at the border of the modern Rue Astarté (Fig. 1).[13] The area had already provided evidence of a monumental tomb, partly excavated[14] and dated to the second quarter until the middle of the 8th century BCE.[15] Its northern side was destroyed by a large archaic wall MR-60, running north-west/south-east, forming a corner with a second wall running east/west MR-78, together similarly used as retaining walls (Fig. 3). The stratigraphic sequence under examination is located exactly in their north-western corner (Figs. 2, 3). The foundations of the walls were dug into the whole sequence until the virgin soil consisting of yellowish sandy rock (Fig. 3c). We should stress that the area excavated was very restricted, and did not exceed 60cm x 1m because of the constraints of preventive archaeology.

The new sequence consists of four consecutive layers from the bottom up, as following (Fig. 2):

- *Astarté* 2/US-74 (Fig. 3b): is the lowest deposit in the sequence and consists of a thick sandy layer of about 50cm, bearing traces of human frequentation which consists of ashy pockets, many bones and a total of 87 pottery fragments.
- *Astarté* 2/US-73 (Fig. 3b): is a deposit that was dug partly at the expense of the US-74 forming the backfill of the foundation trench of the archaic wall MR-60. It consists of a brownish sandy layer of earth mixed with little gravel and nodules of clay containing many bones and a total of 57 pottery fragments.
- *Astarté* 2/US-70 and US-65 (Fig. 3a): US-70 is the next layer up to US-73 and consists of a more compact sandy layer mixed with little ash deposed beside the western face of the archaic wall MR-60, although the stones of the latter show the same irregular appearance typical of a foundation. US-65 presents the same composition and yellowish aspect. The occurring, in this layer, of joined fragment

12 We are waiting for the ^{14}C analysis of further samples from a second sequence excavated on the other side of the same street ("Astarté 3"), with the ceramic assemblage in preparation.

13 The excavation is called "Astarté 2" compared to a first one done by F. Chelbi (Chelbi 1980; Chelbi 1985) on the border of the same modern street; a third consecutive excavation named "Astarté 3" is located at the opposite side of the same street and whose material is still under examination.

14 Because of its dangerous location near a thin modern wall about four meters high and the risk of collapse of the large blocks of El Haouaria forming its well, see Maraoui Telmini 2016, p. 44; Maraoui Telmini 2017b, p. 50; Maraoui Telmini in press b.

15 Maraoui Telmini 2016, p. 52; Maraoui Telmini 2017b, p. 66 ; Maraoui Telmini in press b.

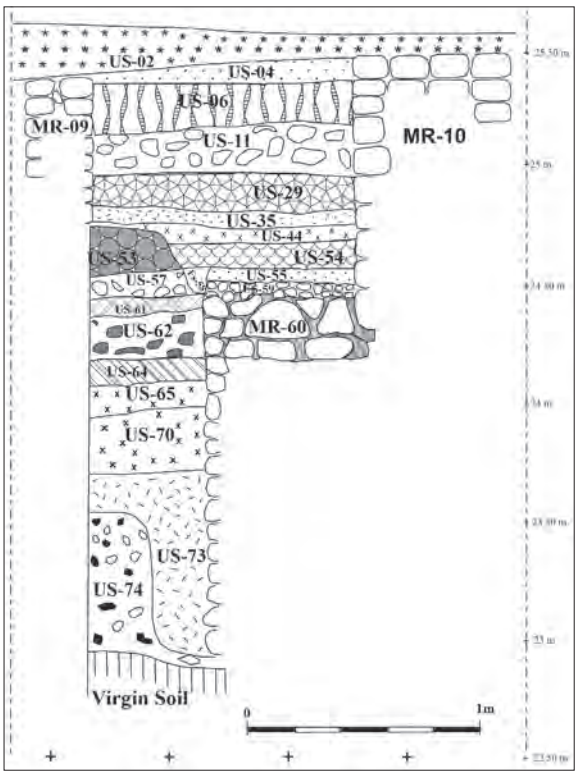

Fig. 2. The "Astarté 2" earliest sequence within the Punic stratigraphy of trench 2 (cut Boutheina Maraoui Telmini).

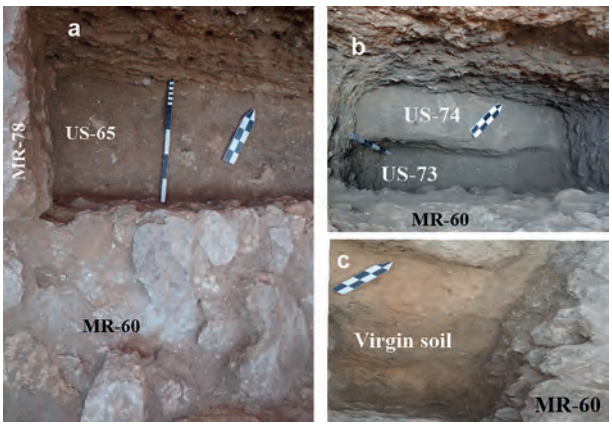

Fig. 3. a: Location of the new stratigraphic sequence; b: Foundation trench (US-73) of MR-60 dug at the expense of US-74; c: Yellowish virgin soil (photos Boutheina Maraoui Telmini).

with a second one found in the next layer US-65,[16] implies that both layers belong to the same deposit. Consequently, the two assemblages, giving way to a total of 102 fragments, are presented and discussed together.[17]

2.2. *An Overview on the Main Fabrics of the Pottery Finds*

The analysis of the ceramic finds shows a wide range of imported vessel associated to the KTS pottery. A description of the characteristics of the main fabrics is presented below based on direct macroscopic observation of the fresh breaks while waiting to provide further reliable information after more accurate analysis.

- KTS pottery: is the abbreviation of *Karthago Ton-Struktur* which was used by Hamburg archaeologist to characterise the local production of Carthage recovered below the *Decumanus Maximus* and the *Kardo* X excavated in the northern part of Bir Massouda.[18] Local attribution of the KTS fabrics was established on the basis of misfired specimen[19] and the frequency of the ceramic finds since the earliest layers on the site.[20]

16 See below, cat. 47: 013/120 + 140 and Fig. 8.

17 The two consecutive layers up, consist of US-64 which provided very few undiagnostic sherds and US-62 composed partly with remnants of *torba* fragments and a pottery assemblage among which occurs the PSC attic plate already published (Maraoui Telmini 2017a). We also planned to submit bone samples from this layer to radiocarbon analysis in order to compare ceramic data and radiocarbon determinations.

18 Briese – Docter 1992, p. 34; Docter 1995, p. 371.

19 Vegas 1990, p. 50; Docter 1995, p. 371.

20 The analysis of closed forms allowed a division into five subgroups of unequal duration and use, see Briese – Peserico 2007, p. 270, fig. 107.

Further macroscopic,[21] petrographic and archaeometric investigations provided more accurate information on the mineralogical characterisation of specimen of red slip, bichrome ware, painted ware and plain were[22] fabrics. Analysed samples of plane ware from the kiln of Dermech confirmed the macroscopic and microscopic characteristics of the main fabrics already listed[23] and provided correlation between ceramic sherds and two local clay deposits used in the Hellenistic period.[24]

In fresh break, the local KTS fabrics display a fine compact matrix with traces of removed grains and scattered air pockets, color values are in the tons of light red (2.5YR 6/6-6/8), red (2.5YR 5/6 to 5/8), yellowish red (5YR 5/6) and reddish yellow (5YR 6/6).[25] Temper consists mainly of a high proportion of rounded sandy quartzes in different sizes, which are coarser on the plain ware, including little proportion of fine limestone inclusions and few red particles.[26] In the considered sequence we listed two fabrics used for coarse plain ware, one fabric characterizing plain thin walled ware and one fabric of red slip ware as following:

Fab. 1: coarse plain ware, the matrix colour is reddish yellow (5YR 6/6), poorly compact and laminated structure, tempered with medium sized quartzes, round and sub-rounded, and less quantity of fine sand with few dark inclusions mainly having the same size as the quartz.[27]

Fab. 2: coarse plain ware, sandwich clay, red (2.5YR 5/8) to light red (10R 6/8) on both sides and light reddish brown (5YR 6/4) to light brown and grey in core, with very porous compact structure; poor grain size sorting, composed of different amounts of rounded quartz and medium-fine sand, with few coarse "white specks", few dark red grains are observed sporadically.[28]

Fab. 3: plain ware,[29] fine matrix coloured in light red (2.5YR 6/6), tempered with quartz poor grain size sorting, round and sub-rounded with predominance of medium size particles.

Fab. 4: red slip ware, porous matrix coloured in light red (2.5YR 6/6), tempered with very fine sand particles and few coarse rounded quartzes mixed with shiny very fine ones, sporadic white or red particles of different sizes. The red slip is coloured in the ton of red (2.5YR 4/8 and 5/8).

- Levantine[30] ware?: several fabrics attributed to Levantine plain pottery and fine ware had been recognized among the finds of the archaic period in Carthage. The characteristics of the Levantine am-

21 Mainly samples from Middle Punic amphoras, see Bechtold 2008.

22 About red slip ware see mainly Amadori – Fabri 1998; Botto 2001; while a wide range of wares was examined in Aznar 2005. About amphora fabrics see Annis – Jacobs – Docter 1995. For plain ware fabrics of Hellenistic period see Béjaoui *et al.* 2011; Maraoui Telmini – Bouhlel 2011. Macroscopic and microscopic analysis were also done within the *Facem* (Fabrics of the Central Mediterranean) project with selected samples from plain ware, painted ware and bichrome ware, see http://www.facem.at (06.06.2012). Archaeometric analysis of amphora samples pointing to a KTS production was recently discussed in De Rosa – Garau – Rendeli 2018, in which, the earliest samples are restricted to amphora of class Docter 1A2/3 dated to the second quarter of the seventh till the middle of the 6th century BCE, corresponding on *Facem* fabric CAR-REG-A-1.

23 Maraoui Telmini – Bouhlel 2011.

24 Béjaoui *et al.* 2011.

25 Briese – Peserico 2007, p. 270, fig. 107.

26 In thin section quartz particles are rounded to sub-rounded, almost fractured while the main iron oxide is hematite with the presence of pheldspath, chalcite, microfossile and quartz inclusions, see Briese – Peserico 2007, p. 270, fig. 107; Béjaoui *et al.* 2011 , p. 23.

27 This fabric corresponds to the one published in Bechtold 2008, p. 141, fig. 1; also on *Facem* fabric CAR-REG-A-1

28 The fabric is too close to that of sub-group 2 of plain Carthaginian samples; see Maraoui Telmini – Bouhlel 2011, pp. 336 and 341, fig. 7, 2, 3 , 4; Béjaoui *et al.* 2011, p. 22, figs. 10-13.

29 The body fragments of this fabric are thinner than the previous ones and could belong mainly to jugs or thin walled vessels.

30 The term is used here broadly for the imported Phoenician productions; the preliminary diagnostic of the following fabrics is based on the macroscopic observations on fresh break and comparison with the already recognized fabrics in previous studies at Carthage, these fabrics need however to be ensured by further analysis and comparison with Levantine Eastern material.

phorae were defined on the basis of the Hamburg finds at Bir Massouda[31] while many red slip fabrics has been described occasionally in different contexts recovered in the early layers of the City.[32] In the considered stratigraphy we listed two fabrics of plain coarse ware represented by few shards, three fabrics of plain thin walled vessels occurring more often in the whole sequence, and one fabric of fine ware characterizing specimen of red slip and bichrome technics.

Fab. 1: plain coarse ware, closed vessel; fine matrix colored in pink (5YR 7/4) with surface pink (5YR 8/4); tempered with white (shell?) and grey specks of about the same size (1mm) which are also visible on the surface.

Fab. 2: plain ware, closed vessel; fine matrix colored in light red (2.5YR 6/6), tempered with fine particles of white and grey specks, very few quartz particles are visible and few red inclusions. Very fine shiny particles on both surfaces.

Fab. 3: plain ware, closed vessel; very fine matrix colored in reddish yellow (5YR 6/6) or light red (2.5YR 6/6), tempered with very fine sand particles and few medium grain size quartzes mixed with numerous fine shiny particles and scarce white or red inclusions.

Fab. 4: plain ware, closed vessel; fine matrix colored in light reddish brown (5YR 6/4), tempered with medium sized sand particles mixed with white and grey grits of the same sizes and sporadic red particles.

Fab. 5: plain ware and red slip ware; very fine matrix colored in light red (10R 6/6), tempered with very fine white particles, may shiny particles in both surfaces.

Fab. 6: red slip and bichrome ware; very fine matrix colored in light red (2.5YR 6/6), or partly in reddish yellow (5YR 6/6).[33] The temper consists of very fine white particles, sporadic coarse quartzes and very few red inclusions. The red slip is often thick and mat, colored in red (10R 5/6); very fine shiny particles are visible on both surfaces.

- Nuragic ware: used for many fabrics of Sardinian manufactured vessels, mainly amphorae,[34] which have been listed among the Carthaginian imports recovered in the earliest layers.[35] Despite the numerous attempts to recognize their exact provenance,[36] scholars are not yet able to give reliable attributions to the wide range of the clay and the technic characteristics of these productions.[37] In the following analysis we limit ourselves to give the clay characteristics of each inventoried fragment. In this paper, Nuragic attribution is broadly used for indigenous handmade vessel while in the case of amphorae we choose to use the label "Phoenico-Sarde" insofar as the emergence of this type of containers among the local repertoire has been attributed to the Phoenician and Nuragic interactions, dealing in all the cases, with the Sardinian clays.[38]

31 Docter 2007, pp. 643-646.

32 Chelbi – Maraoui Telmini – Docter 2006a, p. 19, cat. 31-34; Docter *et al.* 2008, pp. 392, 401-403.

33 In few cases the matrix displays two colors on the outer and the inner parts of the fresh break or on the core and the outer surfaces.

34 ZitA (*zentral-italische Amphoren*) in Docter *et al.* 1997; "Nuragic and Central Italic amphorae" in Docter 2007, pp. 632-643.

35 The *label* "Nuragic" is usually associated to that of "Central Italian" to indicate the Carthaginian finds, see Mansel 2007, p. 442; Docter 2007, pp. 632-633.

36 Annis – Jacobs – Docter 1995; Docter *et al.* 1997; Oggiano 2000; Botto 2006; Bernardini 2008; De Rosa – Cultrone – Rendeli 2012; De Rosa – Rendeli – Mameli 2015; De Rosa 2014; De Rosa 2017.

37 For the main macroscopic and microscopic characteristics of the Sant'Imbenia fabrics see mainly De Rosa 2017; also Oggiano 2000, p. 241, note 14 and further references in the previous note 34.

38 For the same label "Phoenico-Sarde" see also Ben Jerbania 2017, p. 192. We do believe that the label *Nuragische Transportamphoren* used by R. Docter 2007, pp. 635-640, as well as that of "Phoenician-Nuragic", in Bernandini 2008, p. 539, could not extend to the specimen completely wheel made (which were most likely manufactured by Phoenician craftsmen), while we refer about their morphologic characteristics to "Sant'Imbenia type" which is widely used by scholars since their identification in Oggiano 2000, p. 240; see also Fundoni 2009, p. 16.

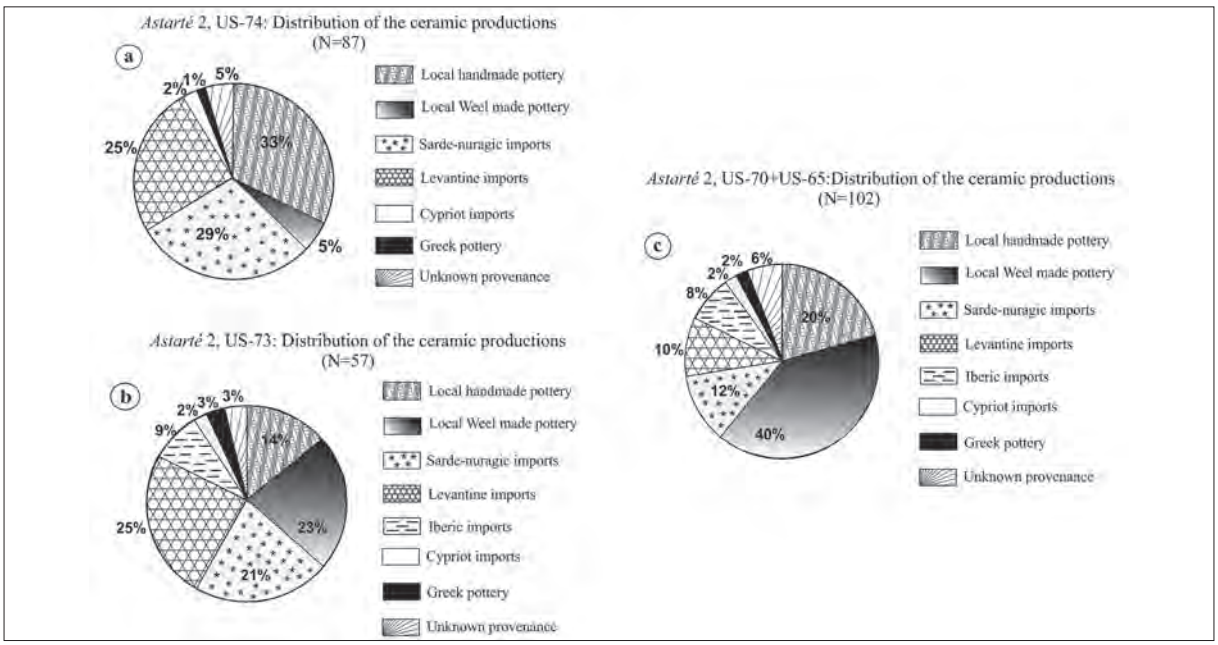

Fig. 4. Distribution of the ceramic productions in the earliest layers of "Astarté 2"; a: US-74; b: US-73; c: US-70+US-65.

- CdE ware: *Circuito del Estrecho de Gibraltar* amphorae are attributed to the production area located in the region of Malaga, displaying solid, hard-fired clay, a wide range of inclusions and sections showing in most cases grey cores.[39] Few number of undiagnostic amphorae walls in CdE ware are recovered in "Astarté 2"-sequence,[40] showing grey core colored in pinkish grey (7.5YR 6/2) and grey (7.5YR N5/, while on the sides and the outer surface the fresh break shows differently pale red (10R 6/4) and light red (10R 6/6) with very little shiny particles on both surfaces.

- Cypriot ware?: the attribution of few finds to a Cypriot importation is based on the comparison of diagnostic ones recovered in several excavations at Carthage.[41]

2.3. *The Pottery Contents of US-74* (Fig. 4a)

Despite the restricted number of ceramic finds we notice an overwhelming proportion of local handmade pottery in addition to a large spectrum of imports marked by Sardinian-Nuragic and Levantine products. It is likewise worth mentioning the occurrence, in the same deposit, of local wheel made pottery, although of scarce undiagnostic fragments which might be instructive in relation to the early facies of the deposit.[42]

The diagnostic fragments in this context consist of 15 sherds composed of local handmade pottery of autochthonous origin as well as local imitations of Phoenician red slip, in addition to Sardinian-Nuragic, Levantine and Cypriot imports.

39 Niemeyer – Docter – Schmidt 2007, p. 646.

40 CdE ware is lacking in the lowest layer US-74 (see Fig. 4,a).

41 Niemeyer – Rindelaub – Schmidt 1996, p. 49, n. 6; Docter *et al.* 2008, p. 393, cat. 21. Cypriot attribution shown in the Fig. 4,a-b-c may be considered with caution since our diagnostic is not based yet on any analysis.

42 See below, paragraph 2.5. We have to remind in this issue that the lowest layer of Bir Massouda trench 4 gave way also to one body fragment of wheel made pottery, see Docter *et al.* 2008, p. 386, fig. 1,4.

Catalogue (Fig. 5)

Local Handmade Pottery

Cat. 1: 013/71: simple flaring rim fragment of a bowl, carefully burnished on both sides. Sandwich clay, core: grey (5YR 5/1), both surfaces pink (5YR 7/4), tempered with coarse rock inclusions; Diam. rim: 12cm; PH.[43]: 2cm.

The form is autochthonous with frequent close parallels found in Althiburos[44] during the NA1, dated to the 10th century BCE.[45] The occurring of a similar burnished handmade bowl of Libyan pottery in the well 20017of Utica[46] confirm the autochthonous origin of the form as well as its early chronology. It would also point to an eventual connection between the Numidian and the Libyan facieses.[47]

Cat. 2: 013/74: thick base fragment of a little cooking or storing vessel? The inner surface and the base are roughly burnished while the outer surface is carefully burnished. Smoke traces on the outer surface and the bottom. Very porous sandwich clay, the inner surface is coloured in reddish yellow (5YR7/6), while the outer surface is pink (5YR 7/4), the core is grey (5YR 5/1) tempered with yellowish and orange coarse inclusions with possible grog *chamoty* grains; Diam. Base: 8cm; PH.: 4cm.

Such bases occur on local handmade pottery of archaic period in Carthage mainly on S shaped cooking pots.[48] They were also common on burnished Numidian vessel of Althiburos during the NA1 and the NA2 dated respectively in the 10th and the 9th centuries BCE.[49] We should notice the occurrence, in the context US-290432 of the NA1, of a compared white slip flat base vessel associated to several bowls of the same type as the previous one (cat. 1).[50]

Local Red Slip Handmade Pottery

Cat. 3: 013/76: rim fragment of a smoothed handmade plate, red slip on the inner surface and the upper part of the outer surface. Clay pink (7.5YR7/4); surfaces pink (5YR 8/4) in the lower part, the inner surface and the upper wall are coloured in light red (10R 6/6), tempered with yellowish clay particles and few red inclusions; Diam. rim: 20cm; PH.: 4,3cm.

The form, as well as the decoration, point to a local imitation of Phoenician red slip plates of the Iron Age. The rim profile is irregular and presents differently a rounded end with slight internal thickening or a slightly bevelled lip inward (Fig. 5). The curved wall and the rim remind the plates Tyre 11 which continue to be used in *strata VI and V*[51] dating back to the 9th century, and the first quarter of the 8th century BCE.[52]

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43 PH. = Preserved high.

44 Thanks to the Tuniso-catalan project of Althiburos we currently have referential material to recognize autochthones pottery even though we admit an eventual difference that would exist between the pottery facies of Numidian site and that of Libyan neighbors of Carthage, see Maraoui Telmini in press a.

45 Ramon Torres – Maraoui Telmini 2011, p. 388, US-290432: 6.2, 7, 11, 14.2.

46 Lopez Castro *et al*. 2016, pp. 80-81, fig. 11:4; the context in question was dated to the last quarter or to the end of the 9th century BCE (Lopez Castro *et al*. 2016, p. 84).

47 Maraoui Telmini in press a.

48 Mansel 2007, pp. 444-446 and fig. 236.

49 Ramon Torres – Maraoui Telmini 2011; for the NA1, see p. 388: US-290432 (n. 3.4); for the NA2 see p. 278 and p. 386: US-290423 (n. 7), US-290421 (n. 19). Seemingly, the type had a long span of use since it continued to be produced during the NA 3 and the NM.

50 Ramon Torres – Maraoui Telmini 2011, pp. 278 and 388: US-290432 (base n. 3.4 and bowls n. 6.2, 7, 11, 14.2).

51 Bikai 1978, p. 21, table 3B.

52 Bikai 1978, p. 67; for the main chronological sequences used in this paper we refer to Núñez 2017a, p. 9, fig.1.

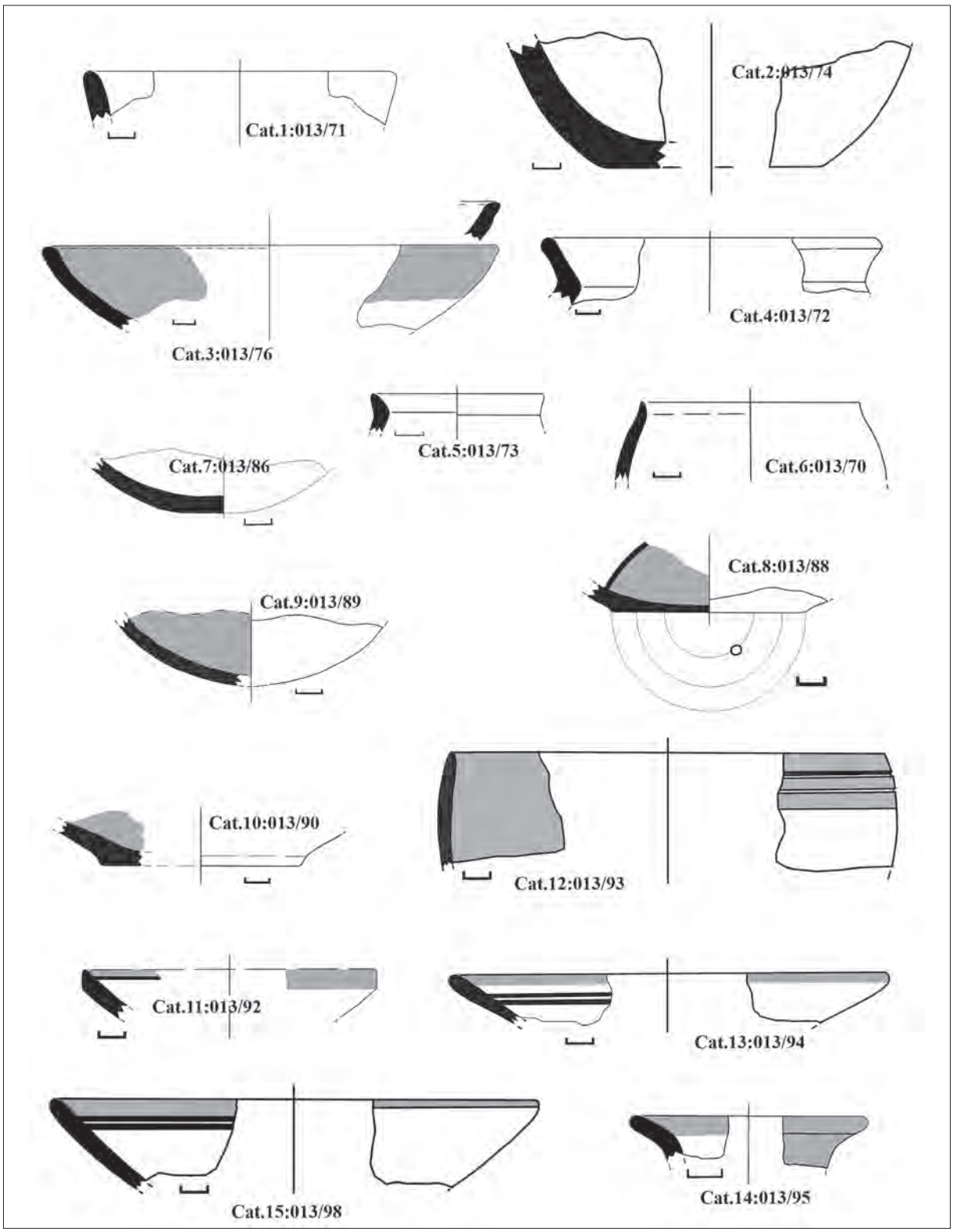

Fig. 5. Assemblage of US-74, "Astarté 2", inventoried fragments (drawings Boutheina Maraoui Telmini).

In light of Al Bass typology, our plate could be an imitation of type Pl. 1 d2.[53] If one considers the recent analysis of the typological evolution of the main Phoenician plate types,[54] we should stress the close similarity of the present exemplar with type 11a of the first group, either in shape or in the disposition of the red slip decoration. It is noteworthy that a quite akin Phoenician specimen was recorded in the excavations of "3, Concepción Street site", at the historic center of Huelva which gave way to a material dated to the first third of the 8th century BCE with possible extend to the 9th century BCE.[55] Finally, we should remained the exemplar recovered in the archaic tomb of the same terrain "Astarté 2", reproducing a specimen closer to Tyre type 12, which refers likewise to an early chronology.[56]

Sardinian-Nuragic Imports

Cat. 4: 013/72: rim fragment of a Nuragic *Olla*, handmade ware, smoothed on the internal surface, with traces of smoke on the rim. Clay: light red (2.5YR 6/6), surfaces: light reddish brown (2.5YR 6/4), tempered with coarse rock fragments and few red inclusions. Diam. rim: 14cm; H.P: 2.7cm.

The fragment could be assigned to the variant *Ol. 59-B* in Campus – Leonelli typology[57] displaying a developed flaring rim, attested in the Central and the Northern Sardinia.[58] In the more recent typology of N. Ialongo, such flared rims correspond to the *Olle* type Ialongo (*ORSVA_2.B*)[59] which occurred in the Phase 7 dated to the Early Iron Age 2A.[60] Two parallels of the same type were recovered respectively in the Nuragic Sanctuary of Monte S. Antonio di Siligo, in the area NO, within the context CT 115[61] and in the *Romanzesu, edificio* 11.[62] We should underline the occurrence, in the former context of Monte S. Antonio di Siligo, of a *Boccale* type Ialongo (*OrDis 2*), akin to the following cat. 6.[63]

The present fragment would also remind the rim of one residual *Pentole* listed among the Iron Age II finds in the Sardinian-Poenician Fortress of Nuraghe Sirai,[64] and was dated either to the 9th century finishing on the basis of 14C analysis or within 750 BCE conforming to traditional chronologies.[65] According to the author, the exemplar in question finds parallels in Sardinia only in "purely" Nuragic settlements, placed in the second phase of Iron Age I, which could be symptomatic in this issue.[66]

53 Núñez 2014, p. 282, fig. 3.30 (i).

54 Núñez 2017b, p. 12, fig. 3.

55 Fernández *et al.* 2016, fig. 4, C3-3872.

56 Maraoui Telmini 2017b, pp. 54-55, cat. 8 et fig. 7-f; Maraoui Telmini 2016, fig. 11, cat. 8. Handmade imitations of parallel Phoenician plates were already found in the lowest levels in Carthage, see Mansel 1999, p. 223, fig. 2, n. 6; Mansel 2007, p. 437, fig. 230.

57 Campus – Leonelli 2000, p. 547, pl. 300, Ol 59B, n. 1.

58 With very akin exemplar from Arzachena, nuraghe la Prisciona, see Campus – Leonelli 2000, p. 486, and p. 547, pl. 300, Ol 59B, n. 1.

59 Ialongo 2010, T. I, p. 142 and 145.T. II, p. 272.

60 Ialongo 2010, T. II, p. 272.

61 Ialongo 2010, T. I, pp. 140 and 145, MSA_600; a second exemplar (MSA_952) displaying an horizontal cord at mid-rim was recovered in the area SE, "edificio 4", US 39 of the same sanctuary, see Ialongo 2010, T. I, p. 196.

62 Ialongo 2010, T. I, pp. 238-239, Rom_67; T. II, p. 272 and p. 367.

63 Ialongo 2010, T. I, p. 145, MSA_592.

64 Perra 2019, p. 234, fig. 158,2 (4.NS14.K2.1024/70).

65 Perra 2019, p. 199.

66 Perra 2019, p. 199.

In the western contexts, Nuragic *Olle* were found in the archaic well 20017 of Utica,[67] as well as in Phase III of La Rebanadilla, Malaga.[68]

Cat. 5: 013/73: short flared rim of a small Nuragic *Ciotola* smoothed on both surfaces. Traces of smoke on the rim and on the external wall. Handmade ware; Clay: reddish grey (10R 5/1), tempered with coarse rock fragments and quartz. Diam. rim: 6cm; PH.: 1.5cm.

The small tapered rim refers to the exemplar recovered in Su Monte *vano* A, US 43[69] attributed to the type Ialongo (CIOARR_*ART*_II.1) of small *Ciotole*, and was related to Phase 1-8 unfortunately providing no accurate chronology.[70] Similar rim occurs also on a specimen of *boccale* type *Boc 23* of Campus – Leonelli recovered in the Nuraghe Antigori.[71]

Cat. 6: 013/70: thin rim fragment of a Nuragic *Bocale* smoothed on both surfaces. Sandwich clay: core in grey (5YR 5/1) tempered with coarse rock particles and few red and pink inclusions, both surfaces are coloured in pink (5YR 7/4); Diam. rim: 8cm; PH.: 3cm.

The rim could be assigned to the variant Campus – Leonelli *Boc* 7 attributed by the author to the middle Bronze Age.[72] The present fragment reminds an exemplar recovered in the Nuragic Sanctuary of Monte S. Antonio di Siligo, in the north-western area, within the context CT 115.[73] The exemplar in question was attributed to the *Boccali* type Ialongo (*ORDIS*_2) occurring in the Phase 5-8 dated widely to the early Iron Age.[74] However, its association in the same context with an exemplar close to the afore mentioned cat. 4, would support a coeval chronology for both specimen. Comparable *Boccale* were also recovered among the ceramic finds from the Tower F, *Stratum* 4 in the Nuraghe Antigori[75] as well as those in Su Cungiau 'e Funtà – Nuraxinieddu which are considered more or less coeval to the huts 69 and 79 of Nuraxi di Barumini attributed to Nuragic II, providing more accurate chronology of the type which would go back to the early Iron Age.[76] Apart from Sardinia, Nuragic *Boccale* in rather different variants were recovered in early contexts of Western Mediterranean sites as Utica[77] and La Rebanadilla.[78]

Levantine Imports?

Cat. 7: 013/86: two joining fragments of a plain rounded base of closed form; clay fab. 2; PH.: 2,5cm. The exact typological attribution of the fragments is difficult to assert but the wall, thick about 0,7mm suggests a possible amphora base.

67 Ben Jerbania 2017, pp. 188, 184, fig. 8:16; the examplar in question may show affinities with the discussed Carthaginian fragment.

68 Sánchez *et al.* 2011, p. 198; Arancibia *et al.*, 2011, p. 144, fig. 14.

69 Ialongo 2010, T. I, p. 357 and p. 362, SuM_47; Santoni – Bacco 2008, fig. 21.4.

70 Ialongo 2010, T. II, p. 228.

71 Campus – Leonelli 2000, p. 381: 652, p. 390, pl. 223, n. 2; cfr. also p. 388, fig. 221, *Boc 16*, n. 2.

72 Campus – Leonelli 2000, pp. 378, 386, pl. 219, close to n. 8.

73 Ialongo 2010, T. I, pp. 140, p. 145, MSA_592 which was associated to a specimen close to the afore discussed cat. 4.

74 Ialongo 2010, T. II, pp. 255, 385.

75 Ferrarese Ceruti 1983; Paglietti 2016, p. 322, figs. 3, 10, 11, 12.

76 Paglietti 2016, p. 310.

77 López Castro *et al.* 2016, p. 78, fig. 9,6; Ben Jerbania 2017, pp. 188-189, fig. 9,17.

78 Sánchez *et al.* 2011, p. 197, fig. 11; Sánchez *et al.* 2012, p. 79, fig. 17.

Cat. 8: 013/88: base fragment of a bichrome plate; clay fab. 6; Diam. base: 7cm; PH.: 1,1cm; the inner surface is decorated with a concentric disc of red slip; all around we can see the remains of white-grey vanished concentric painted band. Repairing hole? and three incised concentric circles on the bottom.

This type of disc base decorated on the inner surface corresponds to Tyre Base 6 which, according to P.M. Bikai, was associated to plates Tyre 9 particularly numerous as the same bases in *strata* VI and V.[79] The plate type continues to occur, rather less frequently, in Tyre *Stratum* IV.

Cat. 9: 013/89: rounded base fragment of a hemispheric bowl? the inner surface is completely painted in red slip, the outer surface is reserved. Clay fab. 5; Diam. max. preserved: 10cm, PH.: 3cm.

Rounded bases vessels are missing among Phoenician pottery found at Carthage. In the motherland parallel convex bases occur on FWP 4 among which the variant "a" was often completely or partially red slipped.[80] The form would evolve from some earlier specimen of Tyre FWP 8 displaying similar rounded bases.[81] The matter could be enhanced by the decrease of this later form in Tyre *Stratum* V which is offset by the visibly increase of FWP 4 in Tyre *Stratum* IV.[82] Compared bowls with curved walls occur likewise in Al Bass Period IV, particularly U154-4, variant Cv 1b1.[83] We should notice that in case of partial decoration located in the upper wall, a fragment from the base would display only internal red slip as the present one. Our fragment displays however a quite thick wall compared to Tyre FWP 4.[84]

Cat. 10: 013/90: base fragment of a plate; clay fab. 6, slip reddish brown (2.5YR 5/4) on the inner surface, the outer surface is reserved. Diam. base: 8cm; PH.: 1,5cm. The detail of the base would fit several parallels Bikai type 6, associated mainly to plates Tyre 9.[85]

Cat. 11: 013/92: rim fragment of a bichrome plate Tyre 9 displaying concentric red slip band on the edge underlined by a black painted line almost vanished, burnished on both surfaces; clay fab. 6; PH.: 1,2cm.

The form appears in the 9th century BCE and extends to the 8th century BCE.[86] Parallels were recovered in Tyre *Strata* VII-VI displaying bichrome decoration.[87] In Al Bass necropolis, compared specimen occurs as lids in the tomb TT115/116[88] which is dated early in the Period IV of the cemetery. In Sarepta the close parallels correspond to type X-11B[89] with specimen recorded mainly in *Stratum* D1.[90] If we consider the recent analysis of the evolution of the Phoenician plates, the present fragment may be related to the Type 9b of the second group.[91]

79 Bikai 1978, p. 21, tab. A-B and p. 24.

80 Bikai 1978, p. 28.

81 Núñez 2018, p. 136 and fig. 12a; Bikai 1978, pl. XIX,8.

82 Bikai 1978, p. 27, table 4A-B, p. 28; Núñez 2018, p. 136.

83 Núñez 2014, p. 326, fig. 3.100-e.

84 See below, cat. 12.

85 Bikai 1978, p. 24, and pl. XVIIIA, 4-5.

86 Bikai 1978, p. 21, table 3A-B and p. 24.

87 Bikai 1978, pl. XVIIIA, mainly 4 and 5.

88 Núñez 2014, p. 323, fig. 3.95:b; Aubet – Núñez – Trellisó 2014, p. 210, fig. 2.41:U115-2 and U116-1.

89 Anderson 1988, pp. 150, 657, pl. 47.

90 Anderson 1988, pl. 35,6; Pritchard 1975, fig. 18, n. 24. In the Sounding Y, the type was already recorded in *Stratum* D2, retching its highest proportion in *Stratum* D1, see Pritchard 1975, pp. 60, 67.

91 Núñez 2017b, p. 12, fig. 3.

Cat. 12: 013/93: rim fragment of a hemispherical red slip bowl, clay fab. 6; Diam. rim: 17,5cm; PH.: 4,7cm. The inner surface is completely covered with red slip, which extends to the upper part of the outer wall, associated to double incised parallel lines.

The incurved rim and the red slip surface clearly connect the present fragment to Tyre FWP 4a, which increased visibly in the *Stratum* IV,[92] with the occurrence, of exemplars displaying the same combination of the red slip and the incised lines.[93] In Al Bass necropolis, the form corresponds to the curved bowls Cv 1, and has been found from the last stage of Period III[94] increasing clearly during the following Period.[95] The parallel in Sarepta consists of hemispherical bowls F-2 attributed to the so called "Samaria Ware Bowls" and particularly the variant F-2A,[96] which appeared in *Stratum* D-1 and reached its best moment in *Stratum* C1.[97]

The form would evolve, as it was expressed previously,[98] from some earlier specimens of Tyre FWP 8.[99] Yet the details of the initial bases of the form remain unclear, due to the lack of complete specimens both in Tyre and in Sarepta.[100] The occurrence of complete exemplars found in some early Levantine contexts[101] suggest that the initial types have been possibly stable bases.[102] The Levantine specimens, displaying stable bases, recovered among the Huelva finds would strength this hypothesis since they would display a quite coeval material of the same stage.[103] It's worth stressing that several of these exemplars exhibit incised decoration on their outer edge[104] while a Phoenician specimen from the excavations of "3, Concepción Street site", displays the same combination of red slip and incised parallel lines.[105] It could be meaningful at this issue that in Carthage, the upper part of a possibly Levantine specimen displaying incised parallel lines was recovered in the Ibn Chabâat excavations.[106] We should finally mention the occurrence in Sant'Imbenia, of an hemispheric bowl red slipped on the inner surface and partially on the outer surface, who is lacking the incised decoration, among the material of phase II de *La Capanna* dated between the end of the 9th century, and the first half of the 8th century BCE.[107]

Cat. 13: 013/94: rim fragment of a plate Tyre 9; clay fab. 6; Diam. rim: 17cm; PH.: 2,2cm. The inner face is decorated with a pattern in large red slip band underlined by two concentric lines painted in black.

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92 Bikai 1978, p. 27, table 4A-B, p. 28.

93 Bikai 1978, pl. XV, plate misc. 13 and 15; akin parallel provided with four incisions on the outer surface was recovered in Kition, see Bikai 1987, pl. XIX, 481.

94 Since an exemplar was recovered in the tomb TT3/5 attributed to the end of Period III, see Núñez 2014, p. 305; Núñez 2004a, pp. 64, 139, fig. 54 (U5-2).

95 Núñez 2014, p. 304, for Al Bass Period IV specimens see p. 326, fig. 3.100.

96 Anderson 1988, pp. 164-165 and pl. 47, F2A.

97 We should emphasize that the Sareptan bowls seem to have appeared somewhat earlier then their Tyrian counterparts with considerable increasing number in the level D1, see Anderson 1988, p. 478, table 5A / B and p. 627, pl. 33, n. 19 from *Stratum* D1.

98 See above cat. 9.

99 Núñez 2018, pp. 136-138.

100 Núñez 2018, p. 136.

101 Found in Tel Abu Hawam *Stratum* III, in *Stratum* IIa of Horbat Rosh Zayit, in Tell Keisan level 6 and Khalde tomb 121, see Núñez 2018, p. 136 and fig. 12, a and c.

102 Núñez 2018, p. 136.

103 Núñez 2018, pp. 137-138; González de Canales – Serrano – Llompart 2004, pl. VI, 15-18, classified by the author in the original study as Huelva "Fine Ware type 3".

104 González de Canales – Serrano – Llompart 2004, p. 42, and pl. VI:15-22.

105 Fernández *et al.* 2016, fig. 4, C3-3945.

106 Vegas 1999, p. 139, fig. 27: 1. We are tempted to consider this exemplar as a possible residual sherd in the assemblage. Further residual fragments are listed in Bir Massouda, trench 7, see Maraoui Telmini 2012, p. 62, fig. 32 and p. 83, fig. 62.

107 Oggiano 2000, pp. 236, 252, fig. 3: 4.

The type is frequent mainly in *strata* VII to IV of Tyre.[108] It corresponds to subtype CP 3a of Al Bass bowls, consisting often of exemplars displaying bichrome painting of red bands underlined by concentric fillets of black colour as the case of the present plate.[109] According to their evolution in the stratigraphy of Tyre, the type 9 culminates in the *Strata* VI and V.[110] In Kition, a similar Phoenician exemplar was recovered in the Area II, which was attributed to Salamis Horizon.[111] In Sarepta, such a combination of form and decoration occur on the plates of type X-15A[112] with specimens found in *Sub-strata* D2 and D1.[113] Finally, we ought to mention several exemplars recovered among the pottery assemblage of Khirbet Silm.[114]

In the Western Mediterranean, plates Tyre 9 are numerous particularly in Huelva[115], as well as in phase II of *Teatro Cómico* in Cádiz with exemplars displaying the same form and decoration.[116] One would notice that these plates completely disappear in the successive Phase III of the same *Teatro Cómico*. The specimen found in la *Calle Cánovas del Castillo* in Cádiz, listed in type C1a offers likewise a close parallel to the present one.[117]

Cat. 14: 013/95: rim fragment of a spouted jug, large band of red slip on the internal rim and the outer surface. Clay fab. 4 ; Diam rim: 7cm, PH.: 1,3cm.

The everted rim and its rounded section refer to the spouted jugs Tyr 11 more common in *Strata* XIII to IX.[118] The form goes back to the transitional period between the Late Bronze and the Initial Iron Age[119] while later variants show flared rims similar to the present specimen.[120] In the Al Bass necropolis, akin parallel recovered in Period II, was assigned to the variant Jp 1a1.[121] The specimen in question displays an identical simple flared rim with round section and was decorated with red slip applied in the same manner.[122] A second spouted jug was recorded among the ceramic find of Tomb TT1/2 from Al-Bass Sector VIII attributed likewise to the Period II.[123] The present exemplar, whose form was not previously recorded in Carthage, would refer to a later variant of Phoenician spouted jugs.

Cypriot Imports

Cat. 15: 013/98: two joining fragments of a plate Tyre 9, in bichrome ware. The inner rim is covered with large band in red slip underlined by two concentric lines painted in black. porous matrix coloured in reddish

108 Bikai 1978, p. 21, tab. 3A-B, p. 24, pl. XVIII:4-6, pl. XVI:41.

109 Núñez 2004b, p. 334, fig. 200 (U25-4).

110 Núñez 2017b, p. 14, fig. 4, group 2.

111 Bikai 1987, p. 41, n. 521, p. 62 and plate XX n. 521.

112 Anderson 1988, p. 657, pl. 47.

113 Anderson 1988, pp. 152, 623-624, pl. 32, nn. 9-10; pp. 627-628, pl. 33, nn. 11-12.

114 Chapman 1972, p. 127, fig. 25 and pp. 129-130.

115 González de Canales – Serrano – Llompart 2004, p. 35 and pl. II, with possible exemplars in local ware.

116 Torres Ortiz *et al.* 2014, pp. 55-56 and fig. 3,b-e.

117 Córdoba Alonso – Ruiz Mata 2005, pp. 1283-1284, fig. 6.2.

118 Bikai 1978, p. 41, corresponding to the form "i" in the hypothetical proposed evolution of the Phoenician jugs by P.M. Bikai, see p. 38, table 8A-i.

119 Núñez 2018, p. 123.

120 Núñez 2018, p. 123, fig. 6-b. In Cyprus these jars are rare after 800BCE, see Culican 1982, p. 50.

121 Núñez 2014, pp. 278-279, and fig. 3.24(a) from U.97-2.

122 The lacking lower parts of the neck privet us from verifying the occurrence of the black lines underlining the red slip on the outer surface as the case of the Al Bass exemplar.

123 Núñez 2014, p. 292, fig. 3.45.

yellow (7.5YR 7/6) with more pale outer surface while the inner surface displayed the traces of very pale slip badly preserved coating the hole surface associated to the bichrome decoration. The clay is tempered with few white particles, coarser quartzes and opaque specks clearly visible on the outer surface. Diam. rim: 18cm, PH.: 3,5cm.

The affinity with the Phoenician bichrome plate cat. 13, already discussed, in shape as well as paint decoration, suggests a Cypriot imitation of the same prototype. Despite the more curved body of the present fragment their association in the context US-74 would suggest coeval chronology for both exemplars. Direct prototype might be plate type 9a of group 2 in the recent analysis of the Phoenician plates.[124]

2.4. *The Pottery Contents of US-73* (Fig. 4b)

The US-73 consists of the filling of the foundation trench of a large archaic retaining wall MR-60 (Fig. 3b). The context has yielded a restrict number of ceramic fragments compared to the whole sequence. However, the spectrum of the productions remains wide not without notable changes in proportions. The foremost change is the decrease of the local hand-made finds which are offset by an obvious increase of the local wheel-made pottery. Despite the restricted number of finds, we register the occurrence of Euboean importation in addition to the Iberian material, which were missing in the lower context US-74. The diagnostic fragments in this context consist also of 15 shreds composed as following:

Inventoried Pottery (Fig. 6)

Local Plain Ware

Cat. 16: 013/103: rim fragment of Carthaginian amphora, clay KTS, fab. 1; Diam. rim: 11cm, PH.: 2cm. It deals with the earliest type already recovered in Carthage with close parallels among amphoras of subclass Docter *Karthago* 1 A1/ Ramon T-3.1.1.2 provided with a sort of gorge or embryonic neck. Specimens[125] were found in the lowest levels in the stratigraphy of the Hamburg excavation at the Bir Massouda area (site 1) as well as in the DAI excavations in the Rue Ibn Chabâat, hence they were considered as the earliest Carthaginian types which seemingly had been exported so early to several Mediterranean sites.[126] In this respect, their production could have already started before the middle of the 8th century BCE.[127] The hypothesis may be supported by the occurrence, in Sant'Imbenia, of numerous Carthaginian amphorae assigned to the types Ramon T-3.1.1.1 and T-3.1.1.2, although in some contexts of the second half of the 8th century BCE, they were manufactured within a well-established industrial process.[128] We should stress finally that the little gorge which underlines the rim on the present exemplar reminds particular local variants of Sant'Imbenia type recovered in more ancient contexts,[129] enhancing the hypothesis of Sardinian prototypes for the North African parallels as it was already suggested in the light of the recent finds in Utica.[130]

124 Núñez 2017b, p. 12, fig. 3.

125 Also of type Ramon T-3.1.1.1, see Ramon Torres 1995, pp. 518-519, figs. 155-156.

126 Bechtold – Docter 2010, pp. 93-94 and table 3; Ramon Torres 2000, p. 279, note 7; Córdoba Alonso – Ruiz Mata 2005, types L3f and L4, p. 1297, pp. 1301-1302, fig. 14.6 and fig. 15.1; De Rosa – Garau – Rendeli 2018, p. 52, fig. 2.

127 Ramon Torres 2000, p. 278.

128 Oggiano 2000, p. 246; De Rosa – Garau – Rendeli 2018, p. 52, fig. 2 and p. 62.

129 De Rosa – Garau – Rendeli 2018, p. 63.

130 Ben Jebania 2017, p. 193. M. Botto already proposed direct Nuragic prototypes for the colonial amphora Ramon T-3.1.1.1, see Botto 2006, p. 18.

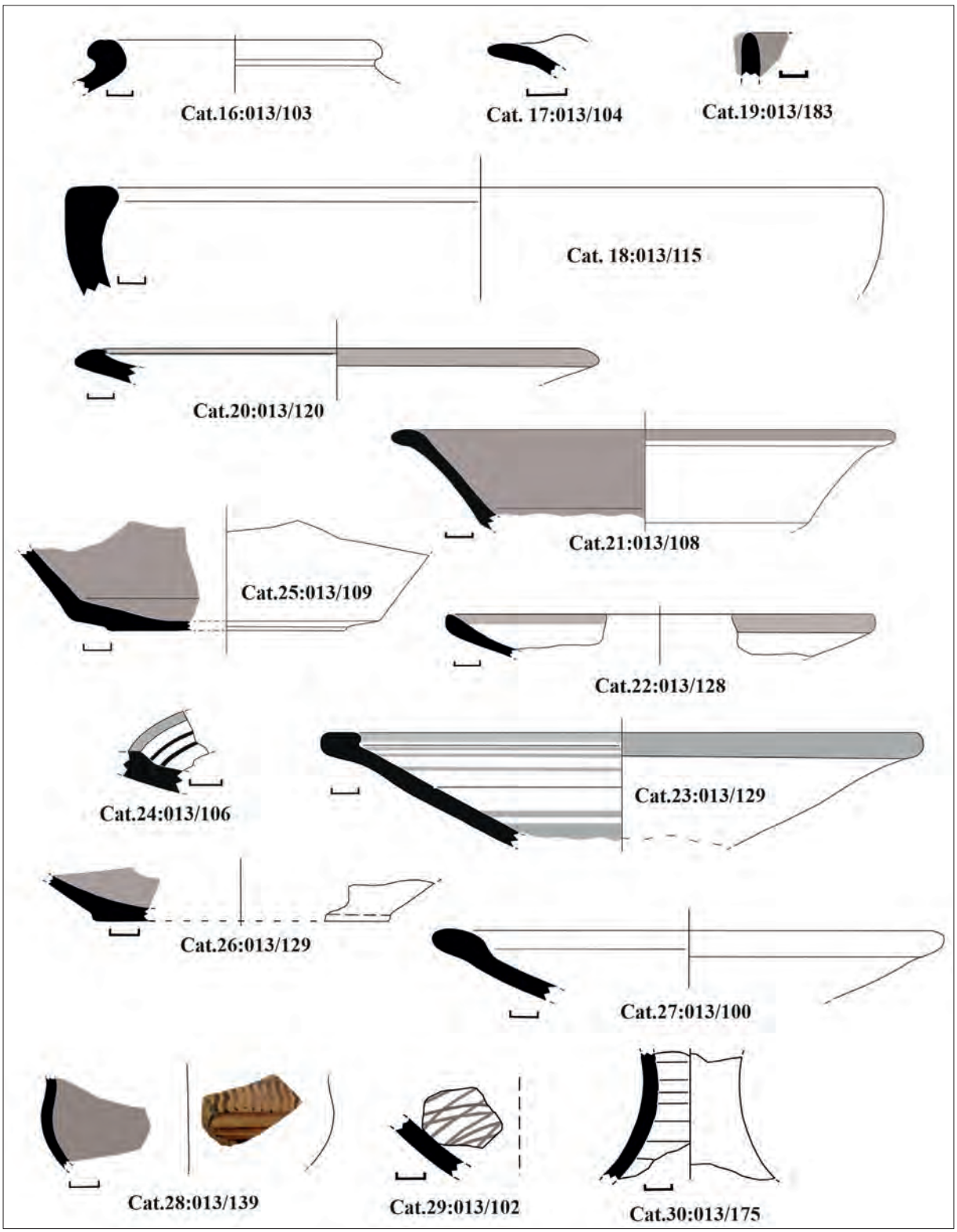

Fig. 6. Assemblage of US-73, "Astarté 2" (drawings Boutheina Maraoui Telmini).

Cat. 17: 013/104: rim fragment of a Phoenician lamp in Carthaginian plain ware, clay KTS, fab. 3; PH.: 1cm. Its reduced dimensions do not allow specifying whether it was a one or a double spout lamp. It could be instructive that parallel of a similar everted rim occurs in Tyre *Stratum* IV.[131]

Cat. 18: 013/115: rim fragment of a large bowl or basin? in plain ware displaying convex wall and curved rim with interior thickening and flattened top. Clay KTS, fab. 2; Diam. rim: 26cm, PH.: 3,8cm. We lack parallels among the published finds of Carthage and from other western contexts as well as possible Levantine prototypes. We should notice however the apparent relationship with a second rim fragment cat. 35, attributed to either deep bowl or basin recovered in the following layer US-70 (Fig. 7), showing likewise an interior thickening and a flattened top. The exemplar in question displays nevertheless a slight more curved interior and sloping wall.[132]

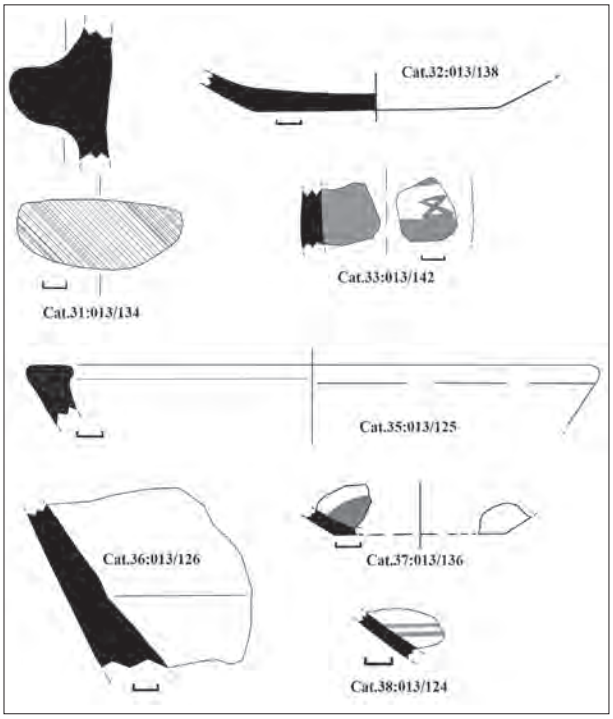

Fig. 7. Ceramic assemblage of US-70 + US-65, "Astarté 2", local pottery (drawings Boutheina Maraoui Telmini).

Local Red Slip Ware

Cat. 19: 013/183: rim fragment of hemispheric bowl. Clay KTS, fab. 4; PH.: 1,5cm, red slip on both surfaces. The type is already listed among the local red slip production of Carthage and corresponds broadly to the Forms Vegas 2.1 or 2.2.[133] In the classification of A. Peserico, it belongs to her type CsC1.I recovered from the earliest layers of Carthage,[134] with many variants listed in the contexts of the second half of 8th century BCE.[135]

Cat. 20:013/120: rim fragment of a Phoenician plate thickened on the interior with little convex outline, upper rim displayed wide band in red slip, smoothed on the outer surface, clay KTS, fab. 4; Diam. rim: 20cm; PH.: 1.7cm.

Close parallels, showing the same direct rim, are listed among the finds of Bir Massouda, trench 4. Hence, an exemplar from the context BM04/4461 is provided with concentric bichrome decoration on its interior.[136] The second one, recovered in the subsequent context BM04/4460, is coated with red slip on its interior.[137] The convex outline on these plates, missing among Phoenician metropolitan specimen of the

131 Bikai 1978, pl. XIV, 9.

132 See below, cat. 35.

133 Vegas 1999, p. 139.

134 Peserico 2002, pp. 28-36, 67, fig. 5 and pl. 5.

135 Vegas 1999, pp. 139-140 and fig. 27-28; Peserico 2007, pp. 278-280 and fig. 112.

136 Docter *et al.* 2008, pp. 388-340, cat. 10, fig. 2,5; Núñez 2017a, p. 16, fig. 4,5.

137 Docter *et al.* 2008, p. 397, cat. 25, fig. 3,2; Núñez 2017a, p. 17, fig. 5,2.

same period, is considered as a colonial development while the direct rim would place them in the initial stage of the Western plates.[138]

Cat. 21: 013/108: fragment of a carinated bowl with horizontal everted rim, the internal surface and the outer rim are completely coated with red slip, the outer surface is reserved and well smoothed, clay KTS, fab. 4; Diam. max. rim: 19cm; width rim: 1.3cm; PH.: 3.8cm.

The fragment could be assigned to Vegas Form 4.1[139] which corresponds to Peserico's Type CCr5[140] and is particularly close to her variants II-a or b displaying a developed upper wall above the carination. In both typologies such carinated bowls are dated to the second half of the 8th century and the first half of the 7th century BCE. We should stress in this issue, that the earliest specimen in Carthage were evidenced in the lowest contexts in the Hamburg excavations of Bir Massouda (site 1)[141] and those of the DAI Rome at the Rue Ibn Chabâat[142] which were dated during the second half of the 8th century BCE. Exemplars of the same local fabric were also listed in the contexts BM04/4460 and BM04/4461, of the trench 4 at Bir Massouda,[143] the latter one was dated just before 760 BCE.[144] Further early parallels occur in the assemblage of *Teatro Cómico* Phase II.[145]

These bowls reproduce a Levantine prototype consisting of Tyre FWP 5, which appeared first in *Stratum* V, became more popular in the subsequently *Stratum* IV, and decreased notably during *Strata* III and II.[146] In Al Bass necropolis, the form corresponds to type Cc3 with early specimens already recovered in Period III, becoming more common during Al Bass Period IV.[147] The parallel in Sarepta would be X3 type which was already evidenced in *Stratum* D2.[148] According to a recent analysis of the evolution of these Levantine plates, the earliest specimen would display a quite horizontal edge, with red slip limited to the rim and the internal surface as it is the case on the present fragment.[149] We believe, finally that the association, in the present context, of a second exemplar of Levantine manufacture (cat. 26) is symptomatic in relation of the moment when Carthaginian specimens were evolved from metropolitan prototypes.

Levantine Imports

Cat. 22: 013/128: rim fragment of a plate Tyre 9, decorated with concentric red-brown slip band on the edge. Clay: fab. 6; Diam. rim: 16cm; PH.: 2,2cm. The form already occurred in the previous context US-74, with specimen displaying bichrome decoration and quite more curved walls.[150]

138 Núñez 2017a, pp. 18-20.

139 Vegas 1999, p. 143, fig. 32,2-4.

140 Peserico 2002, pp. 40-41, 46-49, fig. 9, pl. 8; Peserico 2007, pp. 291-294, fig. 123.

141 The earliest attestations occur in the phase II dated between 740 and 725 BCE, see Peserico 2007, p. 291. About the chronology of the Phase see Docter – Niemeyer – Schmidt 2007, p. 56, fig. 8.

142 Mainly the excavations in the terrain *Ben Ayed* and those in the Rue Septime Sévère which evidenced material dated to the second half of 8th century BCE, see Vegas 1999, pp. 93 and 143, fig. 32.

143 Docter *et al.* 2008, pp. 387-389, cat. 5-6 and fig. 2,2; pp. 396-397, cat. 28 and fig. 3,5; Núñez 2017a, pp. 16-17, fig. 4,2 and fig. 5,5.

144 Núñez 2017a, p. 35.

145 Torres Ortiz *et al.* 2014, pp. 56-57, fig. 4:d.

146 Bikai 1978, p. 27, tables 4A-B, p. 29 and pl. XVI:10-11; pl. XV:5; pl. X:31.

147 Núñez 2014, p. 321, fig. 3.92.

148 Anderson 1988, pp. 145-146, 657, pl. 47.

149 Núñez 2018, pp. 130-132; see also Núñez 2017a, pp. 22-23.

150 See *supra*, cat. 13 and cat. 15.

Cat. 23: 013/129: six joining fragments of a Phoenician plate, the rim is displaying interior quadrangular thickening and horizontal stance; large red slip band on the outer rim, concentric and incised lines on the inner surface, burnished on the outer surface. Clay: fab. 6; Diam. rim: 22,2cm; PH.: 4cm.

Parallels occur among Pl 3b1, which appeared already in Al Bass Period III in a restricted number and became more frequent in Al Bass IV showing akin specimens.[151] The occurrence of zone decoration and incised lines on the present plate would support its attribution to Al Bass Period IV,[152] while, the narrow width of the rim, its rectangular profile and the horizontal stance imply a date during its first stage. Considering the stratigraphy of Tyre, parallels occurred among plates Tyre 7 with at least one exemplar recovered in *Stratum* IV, displaying "reserved decoration".[153] We should also point out the affinity of the present specimen with an earlier Levantine variant of the same type recovered in the already cited context BM04/4460 of trench 4 at Bir Massouda .[154]

Cat. 24: 013/106: broken rim fragment of a plate displaying thickness on the interior and horizontal stance which could be attributed to Tyre plate 7; bichrome painting. Clay: fab. 6; HP.: 1,3cm. Despite the fact that most plates of the cited type occur only burnished, they could occasionally bear red slip or bichrome concentric bands.[155] These plates were numerous in Tyre *Strata* V and IV and tend to decrease in *Stratum* III.[156]

Cat. 25: 013/109: base fragment with the lower part of a carinated bowl. Clay : fab. 6; Diam. base: 8,6cm; PH.: 3cm. The inner surface is completely covered with red slip while the outer surface is reserved.

The fragment could be easily assigned to Tyre FWP 5,[157] which appeared from *Stratum* V onwards.[158] In Al Bass necropolis, these bowls correspond to type Cc3 whose earliest specimens were already recovered in Period III and became more common during Al Bass Period IV.[159] Our exemplar found akin parallels mainly in the variant Al Bass Cc 3a4. Its counterpart in Sarepta corresponds to the X-3 subtype,[160] which was recorded in *Sub-stratum* D1 and continued with the same frequency in the following *Sub-stratum* C 2.[161] The form was likewise widespread during the same period in several Levantine sites since it appeared in the levels IX and VIII of Al Mina[162] and in Megiddo *Stratum* III.[163] It is worth stressing that our exemplar displays a red slip seemingly restricted to the interior which is lucking visibly on the outer surface.[164]

151 Núñez 2014, pp. 300-301, fig. 3.58 and 3.61; about parallels in Al Bass Period IV, see p. 323, fig. 3.96, mainly "b" and "f".

152 Which was quite common during this Phase, see Núñez 2014, p. 334.

153 Bikai 1978, pl. XV:9.

154 Docter *et al.* 2008, p. 402, fig. 4:2; Núñez 2017a, pp. 15 and 19, fig. 6:2.

155 Bikai 1978, pl. XV,9, a second specimen is listed in the same *Stratum* as plate misc, see pl. XV,21. The occurrence of decorated resource exclusively reported to plates Tyre 9 in the Bikai typology, has been recently questioned by F. Núñez, see Núñez 2017b, p. 17 and note 36.

156 Bikai 1978, p. 21, table 3A-B, and p. 23, pl. XV:9 and XVIII:2.

157 See the analysis of the previous cat. 21.

158 Bikai 1978, p. 27, tables 4A-B, p. 29 and pl. XVI:10-11; pl. XV:5; pl. X:31.

159 Núñez 2014, p. 321, fig. 3.92.

160 Anderson 1988, pp. 145-146, 657, pl. 47.

161 Anderson 1988, p. 470, Appendix C, table 3A and p. 472, table 3B.

162 Du Plat Taylor 1959, pp. 80-81 and fig. 6:10,13 and 15 in some levels dated by the author between 800 and 720 BCE, see p. 91.

163 Lamon – Shipton 1939, pl. 24, 34-35.

164 Later exemplars occur sporadically in Tyre *Stratum* IV, becoming common in *Stratum* III, displayed red slip on the exterior down to the carination, see Núñez 2017a, pp. 22-23; the origin and the evolution of the form were discussed in Núñez 2018, pp. 130-132; see above the local imitation (cat. 21).

Cat. 26: 013/129: base fragment of plate displaying red slip on the inner surface. Clay: fab. 6; Diam. base: 7.2cm; PH.: 1.5cm. The detail of the base fits Bikai type 6.[165] We should notice the affinity of the present base with the aforementioned cat. 10, found in the previous context US-74 which is coated also with red slip on its interior surface.[166]

Cypriote Imports?

Cat. 27: 013/100: little thickened rim fragment of a possible Cypriot plate, porous matrix coloured in light reddish brown (2.5YR 6/4) tempered mainly with rounded glossy transparent and dark quartzes? and few grey and red specks, scarce rock fragments could be observed on fresh break. On both surfaces the glossy inclusions are visibly numerous mixed with very fine shiny particles. Diam. rim: 18cm, PH.: 3cm.

The specimen would point to a Cypriot imitation of the Phoenician plates Tyre 7. The direct rim little thickened on the upper surface find parallels in Tyre *Stratum* IV[167] and among the material of Period III in Al Bass necropolis.[168] It could be meaningful the occurrence of a Phoenician common ware exemplar quite similar found at Kition which was attributed to the Kition Horizon.[169] This Horizon, as it was noticed by the author, was a period of "mass produced common ware plates".[170] Its chronological position follows, for the main diagnostic pottery, the Salamis Horizon, overlapping partly Tyre *Stratum* IV.[171] Compared plates do also occur in Sarepta *Stratum* C,[172] however we should notice the lack of close parallels to our fragment among the published material insofar as the specimen recovered in the Sareptan *Stratum*,[173] shows more developed rims than the present one, pointing possibly to later sequential exemplars.

Euboean Imports

Cat. 28: 013/139: body fragment of an Euboean *skyphos*,[174] trace of handle to left, rim missing; brown black paint outside, thin black paint inside; decorated with a panel of tall chevrons on the shoulder, two horizontal lines painted below, and at least one line up. Clay: light red 2.5YR (6/6), reserved external surface: reddish yellow 5YR (7/6). Dimensions: 4,3cm x 2,3cm.

Greek Chevron *skyphoi* are assumed to be frequently imported to the Western Mediterranean during MG II and LG periods.[175] Considering western Phoenician sites, these cups are currently recovered in La Rebanadilla,[176] Utica,[177] Sant'Imbenia[178] and Carthage[179] displaying different variants and origins. Despite the lack of the rim on the present exemplar, the large panel of tall chevrons might suggest a quite deep shape.

165 Bikai 1978, p. 24, and pl. XVIIIA,4-5.

166 We refer also to cat. 43 discussed below in the US-70/65.

167 Bikai 1978, pl. XV,9; pl. XVI,6, 13-17.

168 Núñez 2014, p. 301, fig. 3.60.

169 Bikai 1987, p. 41, n. 523, p. 62 and pl. XX, found in Area II, Bothros 5, floor 3, n. 2483.

170 Bikai 1987, p. 56.

171 Tyre *Stratum* IV represents a transitional period between the two Cypriot Horizons, Bikai 1987, pp. 64 and 67.

172 Bikai 1987, pp. 67-68.

173 Anderson 1988, pp. 630-639, pl. 35-38.

174 I would like to thank Iva Chirpanlieva and Nota Kourou for confirming the diagnostic and the attribution of the considered *skyphos*.

175 Coldstream 1982; D'Agostino 1982; Kourou 2002, p. 93.

176 Sánchez *et al.* 2011, p. 195, fig. 8; Sánchez *et al.* 2012, p. 75, fig. 12.

177 Ben Jerbania – Redissi 2014, pp. 184-185, fig. 4,3a-b; p. 192, fig. 7.1; Lopez Castro *et al.* 2016, p. 75, fig. 7,7-8.

178 Oggiano 2000, p. 255, fig. 6:2.

179 Boucher 1953, p. 33, pl. XIX:137; Lancel 1992, p. 45, fig. 19; Kourou 2015, p. 225.

Consequently, a chronology in LG I, most likely during an early stage, would feet the present specimen regarding its counterparts in the Western Mediterranean.[180] Its decoration of chevrons between horizontal bands occupying the full handle zone reminds several Euboean *skyphoi* of the same chronology, as well as copies, recovered in *Veii*.[181] One should note also the occurrence, in the Phase B of *la Piazzetta* in Sant'Imbenia, of a chevron *skyphos* associated to Phoenician imports of quite comparable facies.[182]

Focusing on chevron *skyphoi* of the LG I Period, we need to underline the relevance of the specimen recovered in the Phase 7 at Sindos (northern Greece), which is very close to the present exemplar,[183] in relation with an eventual redefinition of the chronological limits within the Late Geometric I Period. It's worth noticing in this respect, that the new series of radiocarbon dates recently provided by short-lived bone samples from Sindos Phase 7, gave way to reliable hints[184] pointing to a higher chronology, mainly in regards to the limit between the Late Geometric Ia and Ib.[185] The foremost striking ^{14}C determinations assumed to raise this limit at 790 cal BCE which is obviously close to 798-777 cal BCE (1σ-calibration) given in the US-65.[186] It reminds also the oldest extreme of the ^{14}C determination given in the US-73 which provided the present LG Ia chevron *skyphos*.[187]

Iberian Imports

Cat. 29: 013/102: wall fragment of an open form in *cerámica gris bruñida*, decorated on the inner surface with glossy reticules. Sandwich clay: in fresh break the colour is light reddish brown (5YR 6/4) on both sides and dark grey (5YR 4/1) in core, with coarse inclusions of black, white and grey rock fragments. Dimensions: 3,5cm x 4cm. The class refers mainly to indigenous manufacture and decorative techniques typical of the Southern-Peninsular Late Bronze Age.[188] Significant parallels in the same production occur in Period II of *Teatro Cómico* in Cádiz, in addition to several other finds listed in many Phoenician contexts in the Iberian Peninsula.[189]

Unknown Provenance

Cat. 30: 013/175: wall fragment of a tronconical neck of a wheel made juglet, smoothed on the outer surface, inner surface bears wheel prints. Clay: grey (5YR 6/1) and well fired compact matrix tempered with few

180 Coldstream 1982, pp. 22-24; Coldstream 1995, pp. 257-258, fig. 2 and p. 261; D'Agostino 1982, p. 66 and pl. 9. Despite a proposed chronology also in LG for the chevron *skyphos* of Juno necropolis (Vegas 1992, pp. 186-187, fig. 5:7), the quite squat profile would point to a more ancient specimen; see Boucher 1953, p. 33, pl. XIX:137; Lancel 1992, p. 45, fig. 19; Kourou 2015, p. 225.

181 Descoeudres – Kearsley 1983, p. 23, fig. 17-g; p. 25, fig. 20:8-9 and 15-16; about the chronology of the Euboean exemplars of *Veii*, see p. 34.

182 Oggiano 2000, pp. 243, 255, fig. 6:2 and further references in note 25.

183 Gimatzidis – Weninger 2020, p. 20, fig. 9. We need to thank our colleague I. Ben Jerbania for giving us this recent reference just before the last draft of the manuscript.

184 According to the authors, Phase 7 at Sindos, securely dated by Attic and Euboean pottery of LG Ia, was the best sampled phase of the entire sequence providing six ^{14}C ages, see Gimatzidis – Weninger 2020, pp. 19 and 22.

185 Gimatzidis – Weninger 2020, pp. 22-23 and fig. 11. While the beginning of the LG Ia Period is set at 870 calBC.

186 See below, paragraph 4, Table 4, and Fig. 9.

187 See below, paragraph 4, Table 4, and Fig. 10. The readings from these new data will be deepened in a next paper in preparation about further ceramic assemblages and ^{14}C determinations provided by the sequence "Astarté 3".

188 Vallejo Sánchez 1999, p. 87. The production would go up in the Iberian Peninsula at least in the final Bronze Age, see Mielke 2015, p. 258.

189 Torres Ortiz *et al.* 2014, pp. 61 and 64, fig. 9 (a-c); more finds are listed in other sites of the same region as *Calle de Cánovas del Castillo de Cádiz* (Córdoba Alonso – Ruiz Mata 2005, p. 1305, fig. 17) and *Castillo de Doña Blanca* (Ruiz Mata – Pérez 1995, fig. 16:2,5).

coarse white and grey rock fragments. Preserved Diam. of the neck: 3,6cm; PH.: 4,6cm. As far as we know, this fragment has currently no known provenance or parallels.

2.4. *The pottery Contents of US-70 and US-65* (Fig. 4c)

Both contexts gave way to a total of 102 fragments of quite the same wide spectrum of forms and productions, showing slight variations compared to the previous context US-73. Diagnostic pottery from the whole assemblage consists of 18 fragments.

Inventoried Fragments (Figs. 7-8)

Local Handmade Pottery

Cat. 31: 013/134: thick body fragment of a large storage vessel with a *tenon* handle type or lugs[190] in the Libyan tradition, horizontally smoothed on both surfaces. Clay: light reddish brown (2.5YR 6/4), outer surface: reddish yellow (5YR 7/6), inner surface: pink (5YR 7/4), tempered with few coarse grey and pink rock particles; Dimensions: 8cm x 5,5cm.

Similar lugs were particularly frequent in the 8th century BCE contexts of Althiburos, and seem to characterize large storage *vases ovales* occurring in handmade smoothed technique.[191]

Cat. 32: 013/138: base fragment of a large plate burnished on the outer surface, inner surface is worn bearing traces of light reddish brown slip? (2.5YR 6/4); Clay: grey (5YR 5/1), tempered with very coarse rock fragments, external surface: pinkish grey (5YR 6/2); Diam. base: 10cm, HP.: 1,5cm. This base recalls those of Phoenician plates and would be seemingly an imitation of coeval string cut bases.

Cat. 33: 013/142: thick body fragment of an open shape, bowl? red slip on the inner surface, red painted on the outer surface. Dimensions: 3cm x 2,5cm.

The painted pattern is curiously akin to a red painted motif applied on the outer surface of a white slip bowl recovered in the US-240409 of the NA2 (Althiburos) dated to the 9th century BCE.[192]

Local Plain Pottery

Cat. 34: 013/135: small rim fragment of a Carthaginian amphora, clay KTS, fab. 1 (not illustrated); the fragment is too small and does not allow for recognition of the exact type.

Cat. 35: 013/125: rim fragment of a deep bowl or basin with sloping walls and a small thickened rim projected slightly inwards, displaying a flat upper surface and little inner curve; clay KTS, fab. 1; Diam. rim: 22cm, PH.: 2cm.

The rim fragment may be a variant of Form Vegas 48.2 which displays little more curved rim than the present specimen and was found in the earliest contexts of the DAI excavations in the Rue Ibn Chabâat.[193] One second rim was recovered in phase I of the Hamburg excavations at Bir Massouda (site 1), dated to the middle of the 8th century BCE.[194] The more developed curve of the rim Vegas Form 48.2 compared to the

190 Yon 1976, p. 149.

191 See the contexts: 280132 (8), 280206 (5.2), 280221 (8-10, 13-14), dated to the NA3 (Ben Moussa *et al.* 2011).

192 Ben Moussa *et al.* 2011, pp. 277 and 384, context 290409 (n. 2).

193 Vegas 1999, pp. 179, 181, fig. 88b (n. 2).

194 Bechtold 2007, pp. 390-393, fig. 200,2264, see also fig. 202,2279.

present specimen would suggest a relationship between both variants, and a possible consecutive evolution of the same type. We should notice in this issue that the interior thickened rim and the flattened upper surface on both exemplars are not without recalling the rim in the already discussed cat. 18 recovered in the previous context 73. One would argue that the latter could be an earlier variant or the prototype from which later exemplars evolved. Finally the present exemplar shows also affinity with Tyre DB 1 which already appeared in Tyre *Stratum* IV.[195] Apart from Carthage, an identical rim was recovered in Motya Period IVA, and dated by the author in the first half of the 8th century BCE.[196]

Cat. 36: 013/126: thick wall fragment of the lower part belonging to a large basin or storage vessel, clay KTS, fab. 1. Dimensions: 7cm x 6cm.

Local Red Slip Pottery

Cat. 37: 013/136: string cut flat base fragment, red slip disc on the inner surface, clay KTS fab. 4; Diam. base: 7cm, HP.: 1,2cm.

The base could be assigned to Peserico type B1 associated with Phoenician plates found at Carthage during the 8th century BCE, while the decoration conforms to her type d.[197]

Cat. 38 :013/124: body fragment of plate displaying red paint decoration of double concentric lines on the inner surface, clay KTS. Dimensions: 1,8cmx3,2cm.

Sardinian-Nuragic Imports

Cat. 39: 013/137: rim fragment of Nuragic *Ciotola* carefully burnished on both surfaces, possible traces of red paint on the outer surface. Clay in fresh break: reddish brown (2.5YR 5/4) in section and weak red (2.5YR 5/2) closer to the surface, tempered with coarse particles mainly grey and reddish; Diam. rim: 16cm, HP.: 3cm.

The present exemplar belongs to the variants with flared wall and diameter maximum located on the rim.[198] The lack of the lower part of the body prevents us from recognizing the exact parallels among their typology. However, the rounded rim and the everted wall may refer to the carinated *Ciotole*, close to the type Ialongo (CIOCAR_*ART*_II.9).[199] Akin specimens matching particularly the variant B, were recovered in the Nuragic Sanctuary of Monte S. Antonio di Siligo,[200] during the Phases 6-7 attributed to the Early Iron Age (PF 1B-2A).[201] We should also refer to the exemplar listed among the material attributed to the Phase Nuragic II, in *La Capanna* 94 of Barumini.[202] Nuragic *Ciotole* were also recovered in Utica with specimen displaying more everted rim and concave profile assigned to the Final Bronze Age and the Early Iron Age.[203]

195 Bikai 1978, pp. 30-31 and pl. 5A-B with one comparable exemplar listed in Tyre *Stratum* II, see Bikai 1978, p. 30 and pl. IX,21.

196 Spagnoli 2017, p. 30 and p. 40, MC.13.4441/52. We should notice the affinity of the Carthaginian and Motyan specimens with a variant of Nuragic basins used in the Early Ion Age; see Ialongo 2010, p. 155, MSA 661, p. 358, n. 1.

197 Peserico 2002, pl. 11-b.

198 For possible parallels see Campus – Leonelli 2000, p. 306, tav. 169, Cio 82; p. 308, tav. 171, Cio 85, and p. 309, tav. 172, Cio 89.

199 Ialongo 2010, T. II, pp. 246-247.

200 Ialongo 2010, see particularly T. I., MSA_584, p. 144 and MSA_1033, p. 221.

201 Ialongo 2010, T. II, pp. 247 and 364-366.

202 Paglietti 2016, pp. 311 and 324, fig. 5,3.

203 Ben Jerbania 2017, pp. 184-186, fig. 8:1-4; the author refers to Cio 94-98 in Campus – Leonelli 2000.

Cat. 40: 013/139: rim fragment of a Phoenico-Sarde amphora, type "Sant'Imbenia", Sandwich clay: dark grey (5YR4/1) in core and light reddish brown (5YR6/3) close to the surface, few coarse inclusions and shiny little particles are visible in section and on the surface, the internal surface is pink (5YR7/4) while the outer surface is reddish brown (5YR 5/4). Diam. rim: 12,6cm, HP. 3,6cm.

The rim on the present fragment is wheel made while the body displays handmade inner surface.[204] The outer surface and the inner rim were coated by a sort of mat red slip or red paint. The form, which was lacking in the Nuragic repertoire, was seemingly introduced at the end of the 9th century BCE and the beginning or the first half of the 8th century BCE.[205] In Carthage, the class was mainly studied by R. Docter and corresponds to the "Nuragic transport amphorae",[206] already listed in the earliest contexts of Carthage. The present rim could be assigned to Docter "Subklasse Karthago 1A1".[207] Many variants, provided with a rounded lip and a little developed neck, occur at the earliest levels of Carthage[208] as well as in 8th century assemblages in several Mediterranean sites as Utica,[209] Huelva,[210] Toscanos,[211] La Rebanadilla,[212] Las Chorras,[213] Castillo de Doña Blanca[214] and C*á*diz.[215] The closest exemplars, regarding the morphologic and technical details came from Sant'Imbenia.[216] We should remind the affinity between this specimen and the local made cat. 16 listed in the context US-73, provided with a quite similar rounded lip and embryonic neck.

Levantine Imports?

Cat. 41: 013/117: small fragment of carinated shoulder of a Levantine amphora. Clay : fab. 1; Dimensions: 2cm x 2,2cm (Fig. 8). The small fragment did not allow for the recognition of the exact typological attribution. We should just recall the occurrence of Levantine amphorae of several types in the earliest contexts of the settlement during the second half of the 8th century BCE and the first half of the 7th century BCE.[217]

Cat. 42: 013/121: body fragment of hemispheric bowl, red slip on the inner surface, and on the upper part of the outer surface; clay : fab. 6; Diam. 11cm, PH. 2,4cm. The type could be assigned to Tyre FWP 4, with parallels listed in Tyre S*trata* II-III[218] as well as Al Bass Period IV.[219] According to the Sareptan stratigraphic sequences, evidence of the red slip applied over the interior and the upper exterior of the fine bowls and

204 About sequential occurrence of hand or slow-wheel made techniques, mixed techniques or fast wheel made of these amphorae, see De Rosa – Garau – Rendeli 2018, p. 64; Oggiano 2000, p. 241.

205 Oggiano 2000; Botto 2006, p. 18; Botto *et al.* 2006, p. 68; while its origin and prototypes remain discussed, see Fundoni 2009, p. 16; De Rosa – Garau – Rendeli 2018, p. 67 and note 74; Pedrazzi 2005, pp. 287-300; Oggiano – Pedrazzi 2016, pp. 223-257.

206 Docter 2007, pp. 635-640.

207 Docter 1997, pp. 176-177, frgs. 289-312.

208 Docter 1997, Subclass ZitaA1, pp. 401, 412; Vegas 1999, p. 201, fig. 111,3, 4; Docter *et al.* 2008, p. 402, fig. 4,6.

209 Ben Jerbania – Redissi 2014, p. 190, fig. 6:6; Ben Jerbania 2017, p. 191, fig. 10,37.

210 González de Canales – Serrano – Llompart 2004, pl. XIV,5, 6.

211 Docter 1997, p. 199, mainly Subclass ZitaA1.

212 Sanchez *et al.* 2012, p. 72, fig. 7,4.

213 Fundoni 2009, pp. 17-18, fig. III,3.

214 Ruiz Mata 1999, p. 305.

215 Córdoba Alonso – Ruiz Mata 2005, p. 1298, fig. 13,3; Ruiz Mata – Pérez – Gomez Fernandez 2014, p. 103, fig. 17,6.

216 Oggiano 2000, p. 253, fig. 4:3; De Rosa – Garau – Rendeli 2018, pp. 65-66.

217 For details on the types and their chronology see Docter 2007, pp. 643-646.

218 Bikai 1978, pl. X:15, 21, 22.

219 Núñez 2014, p. 326, fig. 3.100:e-g.

plates occurred timidly in *Stratum* D1 and increases in *Stratum* C.[220] We should finally notice the affinity of the present fragment with cat. 12 already discussed in the context US-74.

Cat. 43: 013/122: base fragment of a Phoenician plate displaying red slip on the inner surface; clay: fab. 6; Diam. base: 8cm, PH. 1,2cm. It deals once again with the same type Bikai 6[221], similar to the exemplars already discussed cat. 10 and cat. 26 recovered respectively in the contexts US-74 and US-73.

Cat. 44: 013/123: base fragment of a Phoenician plate. Clay: fab. 6; Diam. base: 8cm, PH. 1,4cm. Red slip applied on both surfaces and reserved zones on the bottom, displaying a bichrome decoration which consists on one red slip concentric band underlined by a black filet, and a very shallow circle awkwardly incised seemingly to underline the circular shape of decoration. The fragment is matching one specimen of Tyre plate 7 recovered in the Stratum IV which shows on the bottom the same combined pattern and incision.[222]

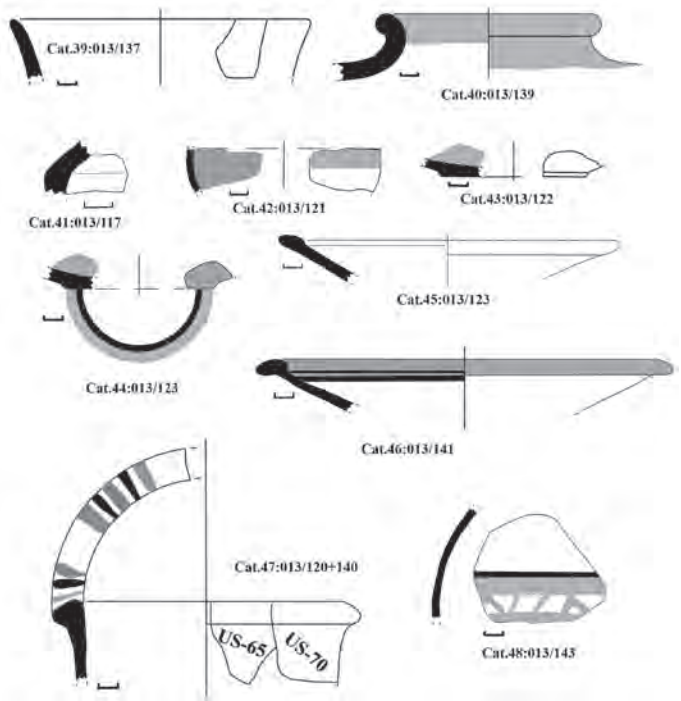

Fig. 8. Ceramic assemblage of US-70 + US-65, "Astarté 2", imported pottery (drawings Boutheina Maraoui Telmini).

Unknown Provenance

Cat. 45: 013/119: rim fragment of a Phoenician plate in plain ware; fine matrix colored in light red (2.5YR 6/6), tempered with very fine sand particles and few medium grain size quartzes mixed with numerous fine shiny particles visible mainly on the surface, scares red and white inclusions. The narrow direct rim little thickened showing a step-like separation from the wall and convex superior outline reminds the exemplar already listed in the context BM04/4461of the trench 4 of Bir Massouda.[223] The plate in question was in bichrome ware and was attributed by F. Núñez to the initial stage of the colonial plates.[224] We should notice in this respect, the affinity of the present exemplar with the specimen recovered in the phase II of *Teatro Cómico* in Cádiz.[225]

220 Anderson 1988, p. 349, on particularly the bowls Anderson type F see pp. 555-556, tab. 48A-B.

221 Bikai 1978, p. 24, and pl. XVIIIA,4-5.

222 Bikai 1978, pl. XV,9.

223 Docter *et al.* 2008, p. 389, fig. 2, n. 5; Núñez 2017a, p. 16, fig. 4, n. 5.

224 Núñez 2017a, p. 16. About the origin and the evolution of the Western plates evidenced in the earliest Western contexts we refer to Núñez 2017b.

225 Torres Ortiz *et al.* 2014, p. 57, fig. 4,h (UE-572/26); Núñez 2017b, p. 21, fig. 7.

Cat. 46: 013/141: fragment of the upper part of a plate provided with convex rim slightly sloped down displaying a step-like transition to the body, and concentric bichrome decoration underlining the internal rim. Clay: hard fired matrix, in fresh break the section is reddish brown (2.5YR 5/4), smoothed surfaces pink (5YR 7/4). The clay is tempered with glossy quartz particles, few dark red specks and rare white inclusions, very fine shiny particles (fine quartz? mica?) are visible on both surfaces. The red slip on the rim is closer to red (2.5YR 5/6); Diam. rim: 22cm, PH.: 2,8cm.

The convex upper surface of the rim points to a western plate manufacturing[226] with many parallels evidenced in the earliest contexts in Carthage and in other west Phoenician colonies.[227] Considering the Carthaginian specimen we should refer to a red slip local exemplar recovered in the context BM04/4460 of Bir Massouda trench 4,[228] displaying however, a more developed rim which may point to possibly later variant. Apart from Carthage, we should stress the occurrence of an almost identical plate in form as well as in bichrome decoration, in the phase II of *Teatro Cómico* in Cádiz.[229] Further parallels are likewise listed among the evidenced finds in the most archaic levels of the *Cronicario* area in *Sulky*.[230]

Cat. 47: 013/120 + 140: two joining rim fragments of a large jug, displaying a cylindrical neck and exterior thickened rim of a triangular section. The upper surface of the rim is decorated in a repeated motif of short strokes in bichrome paint.[231] Clay: hard fired matrix, sandwich clay, core light reddish brown (5YR 6/4), while colored in light red (10R 6/8) on both sides. The main temper consists of sandy particles mixed with few white and grey inclusions and sporadic coarse quartzes particles, numerous very fine shiny particles are visible especially in fresh break. The outer surface is coated with cream slip or scum in the ton of white (10YR 8/2) to pinkish white (7.5YR 8/2). Diam. rim: 15cm, PH.: 4cm.

The section of the rim is not without reminding jugs found either in Tyre *Stratum* IV or in the following *Strata* II-III, listed in both cases as jug misc.[232] However, the wide diameter of the present exemplar would rather point to an *amphoriskos* or a large jug recalling particularly some one-handled jugs used as cinerary urns in the Tanit I level at Carthage,[233] which would imply a possible relationship between both formal types and fabrics.[234] We should also stress that the Tophet exemplars were listed among the urns of Class E which were evidenced in the first level "Tanit I", lucking exact parallels in shape and technique in the funerary contexts of Carthage.[235] As far as the painted motif is concerned, it's worth underlining the occurrence of an identical motif of short strokes alternating in bichrome paint, which was applied on the rim of a plate from Kition Kathari Floor 3, dated c. 800-725 BCE.[236]

226 See the previous cat. 45, Núñez 2017b, p. 15.

227 Núñez 2017b, pp. 15, 21, fig. 7.

228 From context BM04/4460, see Docter *et al*. 2008, p. 397, fig. 3, n. 3; Núñez 2017a, p. 17, fig. 5,3.

229 Torres Ortiz *et al.* 2014, p. 57, fig. 4,f (UE-580/20). Unfortunately the authors of the publication did not provide the description of the fabric. For further possible parallels from *Cádiz*, see Ruiz Mata – Pérez – Gomez Fernandez 2014, fig. 7.

230 Guirguis 2016, p. 87, fig. 5 (two plates from US 3846); Guirguis 2019, pp. 115-116, fig. 11.2, particularly the plates P20 and P27 from US-6873, we should notice although that the *Sulky* finds could be somehow slightly later given the width of their rims.

231 We should remind that the first among these fragments came from the present US 70 and the second one was recovered in the next layer US-65 confirming that both deposits were coeval.

232 Bikai 1978, pl. VI,6 and pl. XIV,8.

233 Harden 1937, p. 65, fig. 3,m, n and p.

234 The clay of these urns is «soft, finely levigated, red ware with burnished or white slipped surfaces», see Harden 1937, pp. 65-66.

235 Harden 1937, pp. 68-69. According to the same author, analog specimens were recovered in the early 8th to 7th centuries necropolis at Motya and in an early tomb at Malta.

236 Karageorghis 1999, pl. CXXVIII, Bothros 9/47. I would thank Dr. Adriano Orsingher for providing me this information and the reference of the plate.

Considering a possible identification of the fabric, a preliminary diagnosis is provided by Dr. Sabine Fourrier,[237] specialist in Cypriot ware, who noticed affinities with particularly the Salamis production.[238]

Cat. 48: 013/143: two joining body fragments of a large jug displaying the remains of bichrome decoration consisting of a geometric unclear pattern. Clay: hard fired matrix, sandwich clay, core reddish grey (5YR 5/2), while colored in light red (10R 6/8) on both sides. The main temper consists of sandy particles mixed with few white and grey inclusions and sporadic coarse quartzes particles, numerous very fine shiny particles are visible especially in fresh break. The outer surface is coated with cream slip or scum pinkish white (7.5YR 8/2).[239]

2.5. *Discussion of the Ceramic Finds*

Despite the restricted number of the new ceramic finds which does not allow giving a complete picture on the phase connected to its constitution, comparison between these contexts could be quite instructive insofar as it deals with the same limited area. Hence, some preliminary observations about the pottery facies of each assemblage will be first developed. Secondly, we will attempt to give some chronological readings in light of coeval assemblages in the Eastern and the Western Mediterranean in order to better understand the sequential setting of the whole assemblages.

The picture that emerges from US-74 is that of distinct early facies displaying coherent coeval material with elements anticipating those already recorded in the earliest published contexts at Carthage. On the one hand, the distribution of the ceramic productions is widely dominated by handmade local pottery, followed respectively by Sardinian-Nuragic imports and Levantine material (Fig. 4a). On the other hand, an overview of its pottery contents deserves some useful comments regarding its chronological position.

We should first stress that the handmade finds imply a very old facies going back at least to the end of the 9th century BCE and the beginning of the 8th century BCE, both in regards to the Libyan forms and the Hand-made imitations of early Phoenician vessel.

Second, the high proportion of the Sarde-Nuragic imports and the wider spectrum of shapes compared to the published material from the earliest contexts of the Rue Ibn Chabâat and Bir Massouda is noteworthy. We should underline on the one hand, the occurrence of several Nuragic vessels embodied by the fragments of one *bocale*, "*Ciottola*" and the Nuragic "*Olla*", in addition to the well-known amphora type Sant'Imbenia, insofar as several counterparts were recovered in the early context of the archaic Well 10017 of Utica,[240] and many other early contexts of the Western Mediterranean. On the other hand, the foremost relevant mater is the homogenous and coeval data range of these different specimens referring in most cases to the beginning of Early Iron Age. The emerging picture would suggest deep contacts, maybe the presence of a Sardinian component who was accompanied probably by its usually vessel in addition to food transported in amphorae[241] or a Phoenician presence with close Nuragic contacts already maintained with Utica.

Finally, considering the Levantine imports, we should notice their high proportion among the assemblage which would reveal closely sustained relations with the metropolis and the Levantine coast suggesting to relate this assemblage to an early phase in the settlement. The hypothesis could be confirmed by the evidenced spouted jug, and the quite numerous plates Tyre 9 displaying bichrome decoration which refer

237 We would like to thank Dr. Sabine Fourrier (CNRS, Laboratoire Hisoma-MOM) who kindly examined the photos of fresh break and provided us with reference to later parallels in Salamis, we are also grateful to Dr. Adriano Orsingher who kindly contacted her for these information.

238 With particularly similar *amphoriskos* becoming more common in later contexts, see Karageorghis 1970, pl. CXCII,24,30, 85, 91.

239 The fabric is too close to the previous cat. 47.

240 Which was considered to be close to the Nuragic Final Bronze 3 and the Early Iron Age, see Ben Jerbania 2017, p. 184, note 15.

241 The same idea was suggested by the numerous Sardinian imports recovered in the earliest levels of La Rebanadilla (Malaga), mainly the vessel of domestic use; see Sanchez *et al.* 2011, p. 198.

to an early stage of the Late Iron Age. It seems obvious in this issue the occurrence of scarce elements that would imply a later sequential stage as the hemispheric bowl cat. 12 and the little stepped red slip base cat. 10, in addition to the appearing lack of both plates Tyre 7 and the carinated bowls[242] which are evidenced in the consecutive layers. The matter would confirm on the one hand, the continuity within the sequence, and on the other hand, the sequential position of the assemblages of the US-73 and US-70-65 compared to the lowest US-74.

Concerning the subsequent context US-73, the distribution of the ceramic productions (Fig. 4b) shows the affirmation of a local wheel made pottery,[243] displaying plain and red slip specimens against a little dwindle of the handmade pottery. Despite the decrease of the Levantine and the Sardinian-Nuragic imports their proportion continues to be quite similar. The analysis of the pottery contents of US-73 is also instructive in relation to its chronological setting. On the one hand, some hints claim an early facies which would recall the finds in the previous context US-74 as the still occurrence of specimen of plates Tyre 9 with bichrome decoration. On the other hand, the association of new shapes represented by the early variant of the carinated bowls, and the plates Tyre 7 with relevance of the red slip decoration could be meaningful in relation with the coeval sequential stage of these finds. Their occurrence would also point to a consecutive chronological position of the considered context compared to the previous US-74. Relevant is likewise, the association of the Levantine and local made carinated bowls which would provide chronological hints and shed light on the prototypes from which Carthaginian production was involved.[244] Finally, the occurrence in the US-73 of the LG Euboean chevron *skyphos* is conclusive in this respect. Its attribution to an early stage of the LGI suggests a date range during the middle decade of 8th century BCE, for the last constitution of the deposition.

Turning to the third following assemblage composed by US-70 and US-65, the distribution of the ceramic production indicates a consecutive stage which is in the continuity of the previous context. The most relevant data is the occurrence of the plain deep bowl or basin cat. 35 with the little curved rim which would evolve from cat. 18, recovered in US-73. It seems obvious that the former specimen anticipated the more curved rims of Vegas Form 48.2 already listed among the earliest contexts of DAI excavations in Ibn Chabâat and Bir Massouda (site 1).[245] Regarding the red slip fragments, we notice quite similar assemblage still composed of bases Tyre 6 which refer either to Tyre plates 9 or 7, the occurrence of Tyre FWP4 and the recorded bichrome and red paint decoration, advocating a facies still in the ambiance of Tyre *Stratum* IV. However, the evidenced early specimens of the western winged plates cat. 45 and cat. 46 would point to a little later consecutive deposition compared to the previous layer US-73, providing chronological hints about the divergence of the type from the metropolitan counterparts.[246]

Concluding these latter assemblages, it seems clear the occurrence, in the US-73 of elements that continue the earlier US-74, while the consecutive assemblage US-70/65 includes little later sherds among which few could even refer to the already published material of the lowest layers in the Rue Ibn Chabâat and the Hambourg excavations. These assemblages show clearly successive moments to the lowest layer US-74. Bearing in mind that US-73 is the filling of the foundation trench of the large retaining wall MR-60 (Fig. 3b), the picture seems coherent with the chronology already established for the tomb just aside this

242 We should however admit that the hemispheric bowl cat. 12 sustains a little later sequential position, which would otherwise suggest a quite long life for the constitution of the deposit.

243 Already recovered in restricted amount in the previous layer US-74, see Fig. 4a.

244 Testifying the coexistence of both productions during an intermediate stage before the definitely establishment of the colonial production.

245 Vegas 1999, p. 181, fig. 88b, compare with n. 2.

246 We recall in this respect the association in the context BM04/4460 of an early variant of the western winged plates and a Levantine plate Tyre 7, see Docter *et al.* 2008, p. 402, fig. 4:2-3; Núñez 2017a, pp. 15 and 19, fig. 6:2-3.

sequence, which was destroyed by the same wall MR-60. It's worth underling in this respect that the tomb in question was dated during the second quarter of the 8th century BCE.[247]

If we attempt to give direct chronologies to the whole sequence, on the basis of the ceramic evidence, one would propose for the lowest layer US-74 a prudent date range during the first quarter of the 8th century BCE. A possible overflow on the end of the 9th century BCE could not be excluded in light of the earliest listed material. The extent of the assemblage to the last years of the first quarter of the 8th century BCE would be likewise supported by the presence of the hemispheric bowl cat. 12 as well as the red slip base cat. 10. Coeval Levantine material to US-74 could be observed among the last stage of Tyre *Stratum* V and the beginning of *Stratum* IV corresponding to the first part of Al Bass Period III and the earliest part of Sarepta *Stratum* D1.[248]

Compared to the western coeval assemblages, the US-74 would find good parallels within some finds recovered in the archaic well 20017 of Utica[249] consisting of few specimens of handmade local pottery in addition to several Phoenician and Sardinian-Nuragic imports.[250] Looking for other coeval Western contexts, La Rebanadilla Phase III and *Teatro Cómico* phase II, would provide the closest ones. The former was dated to the end of the last quarter of the 9th century BCE and the beginning of the 8th century BCE,[251] giving way, in the settlement and in the contemporaneous Cortijo de San Isidro necropolis, of quite similar ceramic productions and typologies. The coexistence of autochthonous handmade and wheel made pottery and the occurrence of Cypriot imports in these earliest levels could be instructive when compared with the lowest layer US-74. The lacking of MG finds in the discussed ("Astarté 2") layer,[252] which strength the early chronological attribution of La Rebanadilla,[253] could be compensated by the occurrence of Euboean PSC finds in other coeval contexts in Carthage.[254] On the other hand, evidenced material in US-74 may find comparisons among the earliest pottery in *Teatro Cómico* phase II (*Fenicio* A), without extending to its last stage placed about the middle of the 8th century BCE.[255] The affinity with the upper stage of this latter assemblage is suggested by the occurrence of Tyre Plates 9 and the frequency of the red slip and the bichrome decoration,[256] which would be also the case of some material from *La calle Canova del Castillo*,[257] admitting consequently some overlapping between all these contexts and the advanced sequential stage at Huelva.[258] Finally, the ceramic finds recovered in the most ancient levels in "3, Concepción Street", in Huelva, dated to the first third of the 8th century BCE, would offer a symptomatic parallel. The similarity of both assemblages consists of the missing diagnostic finds dating to a later facies and the occurring of akin Levantine and Nuragic material implying a quite similar date range.[259]

247 Maraoui Telmini 2017b, p. 66.

248 It seems also closer to the Salamis tomb 1 facies without nevertheless extending to its neither first nor last stage.

249 Without any claiming of contemporaneous chronological frame for these deposits.

250 Unfortunately, the pottery finds of Utica have not been yet published in details as entire contexts allowing more accurate comparisons.

251 Sanchez *et al.* 2011, p. 190.

252 Due eventually to chance and the constraints of the preventive interventions at Carthage.

253 Attested by MG *skyphoi*, see Sanchez *et al.* 2012, p. 75.

254 A rim fragment of MG PSC *skyphos* was recovered among the finds of other early contexts currently being studied.

255 Torres Ortiz *et al.* 2014, p. 51.

256 Torres Ortiz *et al.* 2014, pp. 55-56, 58-59, figs. 3 and 5.

257 Núñez 2017b, p. 25.

258 Torres Ortiz *et al.* 2014, p. 51; Núñez 2017b, p. 25.

259 Fernández *et al.* 2016, particularly fig. 4, C3-3872, C3-4753, C3-3945 and fig. 9, C3-5820.

If one considers the subsequent layers, US-73 and the mixed US-70/65, one would argue that the oldest finds consisting on the carinated bowls cat. 21 and cat. 25 and the plate Tyre 7 displaying bichrome decoration could be considered chronologically as consecutive to those of US-74. The evidenced material in these contexts, corresponding plausibly to the same sequential stage, can be placed during the second quarter of the 8th century BCE. A date about 750 BCE as the lowest limit of the constitution of the mixed US-70/65 would be supported by the similarity with some finds from the earliest published material in Carthage. It's worth noticing in this issue, the affinity between the facies of the ceramic listed in the US-73 and particularly that of the contexts (BM04/4461), recovered in Bir Massouda trench 4 placed by F. Núñez just before the lowest levels below the *Decumanus Maximus* of Carthage.[260] While on the other hand, the facies of the mixed US-70/65 seems closer to successive context (BM04/4460) of Bir Masouda trench 4 and the lowest layers already published from the Rue Ibn Chabâat and Hamburg excavations dated about 760 BCE. An overlapping between both latter assemblages would occur during the middle decade of the 8th century BCE, asserted by the affinity of their coeval ceramic finds and the occurrence of LG imports which is a matter already noticed during the same stage.

The Levantine counterparts of US-73 and US-70/65layers correspond broadly to the last stage of the Late Iron Age A with an overflow on the initial stage of the Late Iron Age B, coeval more or less to the last part of Tyre *Stratum* IV and the transitional period between al Bass Period III and IV. If we consider Western reference sequences, these layers would overlap the later stage of both *Teatro Cómico* Phase II,[261] and "*La calle Canova dell Castillo*",[262] in Cádiz and partly the finds in *La Calle Ancha n. 29*,[263] in addition to Sant'Imbenia Phase II.[264] Some comparisons could be also established with few contexts from the *Cronocario* area in *Sulky* which assume quite coeval date range.[265] While the lower chronological limit of the considered contexts anticipates clearly the first layer B1 of Morro de Mezquitilla revised to the middle decades of the 8th century BCE.[266]

Boutheina Maraoui Telmini

3. Zooarchaeological Analysis of Animal Bones from Carthage, *"Astarté 2"*

We analysed faunal specimens from the stratigraphic sequence in the Rue Astarte ("Ast. 2") to identify and record the specimens before they were sampled for radiocarbon dating. The sample size was small; we recorded a total of 13 specimens.

The faunal remains were identified using the skeletal reference collection at the University of Tübingen. We identified specimens to genus and species when possible, or to body size categories (e.g., medium mammal or large ungulate), and to the anatomical part of the skeleton. Terminology for basic counting units follows Grayson[267] and Lyman,[268] and the coding of elements, portions-of-elements, age criteria, and taphonomic variables follows Stin-

260 Núñez 2017a, p. 35 and note 132.

261 Torres Ortiz *et al.* 2014.

262 Córdoba Alonso – Ruiz Mata 2005.

263 Ruiz Mata – Pérez – Gomez Fernandez 2014.

264 Oggiano 2000.

265 Guirguis 2019, pp. 115-117 and fig. 11.2.

266 Núñez 2017b, p. 28.

267 Grayson 1984.

268 Lyman 1994.

er.[269] Number of identified specimens (NISP) is the basic counting unit from which we derive minimum number of elements (MNE). We calculate MNE from the highest count of the most commonly occurring portion of an element. We recorded other observations for each specimen when appropriate, including fusion state in the case of bones, wear stages for mandibular teeth, intensity of burning damage, and surface damage from tool marks, weathering, animal gnawing, and plant roots.[270] We took measurements following standards set forth in von den Driesch[271].

Tables 1 contains NISP counts for Ast.2. Most of the identifiable specimens are from fox, though we also identified domesticated species, specifically cattle and horse. We identified a range of cranial, axial, and limb elements in the assemblages (Tab. 2), though the sample size is too small to construct reliable body part profiles. Butchery damage is common (Tab. 3), and we recorded cut marks on both the domesticated animals and the fox. Cut mark damage was typically quite obvious, most likely from butchery with metal tools. Weathering damage in general is not severe, though some of the bones have evidence of root etching.

The sample of bones selected for radiocarbon dating from the "Astarté 2-sequence" is small for interpreting behavioural questions, though there is still some information available from the assemblage. In general, the faunas are taxonomically diverse and contain a range of different body parts. Our taphonomic study indicates that butchery damage is fairly common, though there is also evidence for non-human processes such as slight weathering.

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Species	**NISP**
Vulpes vulpes (fox)	4
Bos taurus (cattle)	1
Equus caballus (horse)	1
Medium mammal (10-250 kg)	1
Large ungulate (250-1000 kg)	6
Total	**13**

Tab. 1. Carthage, "Astarté 2": NISP counts.

Element	***Vulpes vulpes***	***Bos taurus***	***Equus caballus***
Mandible	1	0	0
Teeth	1	0	0
Lumbar	1	0	0
Innominate	1	0	0
Humerus	0	0	1
Radius	0	1	0
Total	4	1	1

Tab. 2. Carthage, "Astarté 2": MNE values for species-specific identifications.

Taxon	**Element**
Ast.2	
Vulpes vulpes	Innominate
Equus caballus	Humerus
Large ungulate	Rib
Large ungulate	long bone

Tab. 3. Cut mark damage by taxon and element for "Astarté 2".

269 Stiner 1994, 2005.

270 Behrensmeyer 1978; Lyman 1994; Fisher 1995; Stiner – Kuhn – Weiner 1995.

271 Von Den Driesch 1976.

4. Results of radiocarbon dating

Three animal bone samples (cattle, horse, fox) from three stratigraphical units (US 65; 73; 74) have been dated by AMS Radiocarbon analysis.[272] The results of the determinations and their calibration with INTCAL13[273] are given in Tab. 4 (Figs. 9-11). The quality of the radiocarbon results is high: the error of the analysis is low (± 24-25 years), the quality parameters of the bones samples such as the organic content and δ13C value are good. Out of the three dated samples two samples are located in the so-called Hallstatt-Plateau (Tab. 4): between ca. 800 BCE and 400 BCE the calibration curve forms a kind of plateau so that precise chronological data cannot be expressed. For 1σ and 2σ-calibration this affects sample no. 2: US 73 (Tab. 4, n. 2, Fig. 10). One sample is situated around the threshold of the Hallstatt-Plateau, it runs into the plateau with 2σ-calibration, while 1σ gives a more precise date slightly before (Tab. 4, no. 1: US 65, Fig. 9). Only one sample brought data in 1σ- and 2σ-calibration older than the Hallstatt-Plateau (Tab. 4, n. 3: US 74, Fig. 11).

Even if a part of the dating-series is concentrated around the Hallstatt-Plateau, the data can be used for chronological analysis and interpretation of the stratigraphical contexts. Astarté 2 provided a sequence with the oldest layer US 74, situated above the natural soil, covered by the layers US 73, US 70 and US 65. Cut marks on the bone fragment of a fox in US 74 (Tab. 4, no. 3) indicate the oldest human activity between 901 BCE and 841 BCE (cal. 1σ) or 926 BCE and 821 BCE (cal. 2σ), respectively. The bone sample of a horse from the following layer US 73 (Tab. 4, no. 2) can just be dated between the first half of the 8th century BCE and the middle of the 6th century BCE, although an 8th century date is more probable. This would be confirmed by the dating of a cattle bone fragment from the following layer US 65 (Tab. 4, no. 1); it is dated between 798 BCE and 777 BCE (cal. 1σ) or 808 BC and 598 BCE (cal. 2σ), respectively.

Radiocarbon data similar to the results of the Rue Astarté 2-sequence have been achieved before in Carthage on different sites east of the Byrsa Hill.[274] During the excavations of the University of Hamburg in the 1990s in the Northern part of the Bir Massouda terrain cattle bones out of the oldest anthropogenic layers were analysed by conventional radiocarbon methodology.[275] The bones were dated between 2710 ± 30 BP (cal. 1σ 895-825 BCE; cal. 2σ 905-805 BCE) and 2640 ± 50 BP (cal. 1σ 890-770 BCE; cal. 2σ 905-595 BCE) with a high probability of 99% and 95%, respectively, for a dating to the 9th century. In the nearby excavation area at the Rue Ibn Chabâat (Quartier Didon) organic materials from Early Punic settlement layers, excavated by a Tunisian-German project in 2012, were dated with very similar results.[276] Eleven samples from cattle bones have been dated by AMS Radiocarbon analysis. Nine of the samples were dated between 2723 ± 27 BP (cal. 1σ 895-836 BCE; cal. 2σ 916-815 BCE) and 2653 BP ± 26 (cal. 1σ 824-802 BCE; cal. 2σ 892-794 BCE); two of the bones were slightly older with ages between 2751 ± 28 BP (cal. 1σ 917-844 BCE; cal. 2σ 974-826 BCE) and 2804 ± 28 BP (cal. 1σ 994-920 BCE; cal. 2σ 1041-856 BCE). These results are very similar to the oldest sample from the Rue Astarté 2-sequence, a bone fragment of a fox with an age of 2735 ± 25 BP (Tab. 4, no. 3). Again on the Bir Massouda terrain further thirteen bone sam-

272 The radiocarbon analysis was conducted by Dr. Ronny Friedrich and Dr. Susanne Lindauer, MSc, Klaus-Tschira-Archäometriezentrum / Curt-Engelhorn-Zentrum Archäometrie, Mannheim (Germany). We are grateful to the Tübingen Collaborative Research Center 1070 "ResourceCultures" for funding this study in context of the project "B05: Colonisation? Resources between conflict and integration in the Phoenician West".

273 Reimer *et al.* 2013.

274 For a full discussion of the radiocarbon data from Carthage, see Schön, forthcoming.

275 Docter *et al.* 2005, pp. 557-577, tab. A-C and Nijboer – van der Plicht 2006, pp. 33-34, tab. 2, due to different calibration software the calendar ages are slightly different.

276 See Flügel *et al.* in press, pp. 89-90 with tab. 1 and fig. 13 for the dating series of bones. A second dating series was done on short lived plant remains, the publication of both series is in preparation (Schön forthcoming).

No.	Stratigraphical Unit	Lab-No. MAMS	14C age	±	cal 1 sigma	cal 2 sigma	δ13C [‰]	C:N	C [%]	Coll. [%]
Astarté 2										
1	KA-Astarté-US 65 (*bos taurus*)	26858	2575	24	cal BCE 798-777	cal BCE 808-598 [93,3%: 808-756 cal BCE; 1,3%: 680-671 cal BCE; 0,7%: 604-598 cal BCE]	-19,4	3,0	30,0	1,7
					Mean: 777 cal BCE Median: 786 cal BCE					
2	KA-Astarté-US 73 (*equus caballus*)	26859	2520	25	cal BCE 781-567 [21,7%: 781-749 cal BCE; 11,4%: 684-667 cal BCE; 29,7%: 640-589 cal BCE; 5,4%: 578-567 cal BCE]	cal BCE 792-544 [29,9%: 792-732 cal BCE; 14,8%: 690-661 cal BCE; 50,6%: 650-544 cal BCE]	-18,5	3,0	30,7	3,0
					Mean: 663 cal BCE Median: 643 cal BCE					
3	KA-Astarté-US 74 (*vulpes vulpes*)	26860	2735	25	cal BCE 901-841	cal BCE 926-821	-16,1	3,0	30,5	3,5
					Mean: 874 cal BCE Median: 872 cal BCE					

Tab. 4. Carthage, Rue Astarté 2.

ples from Early Punic settlement layers were dated in course of a joint Tuniso-Belgian excavation project.[277] With radiocarbon ages between 2620 ± 35 BP (cal. 1σ 816-790 BCE; cal. 2σ 888-766 BCE) and 2505 ± 40 BP (cal. 1σ 772-548 BCE; cal. 2σ 794-490 BCE) these data are slightly younger than the results discussed before, but they are very similar to the samples no. 1 and no. 2 of the Rue Astarté-sequence with ages of 2575 ± 24 BP and 2520 ± 25 BP, respectively (Tab. 4, no. 1-2).

Results of the radiocarbon dating and calibration with INTCAL13.

In comparison to the typo-chronological data of the diagnostic pottery the radiocarbon data from the samples excavated at Rue Astarté 2 are around two generations older. Studies conducted before on bones from Early Punic layers at the Bir Massouda-area and the Rue Ibn Chabâat in Carthage and on other Early Iron age sites in the Mediterranean showed a very similar gap of more than 70 years with radiocarbon dates older than the conventional pottery chronology.[278]

The conventional dated pottery from the oldest layer of Rue Astarté 2, US 74, offers a late 9th-early 8th centuries BCE chronology, while the calibrated mean/median radiocarbon ages are 874/872 BCE and the range of the calibrated radiocarbon result lasts into the mid-9th century BCE. Much closer to the conventional dated pottery is the 1σ-calibration of the radiocarbon date from the bone out of US 65. While the

277 Docter *et al.* 2008, pp. 379-422 with tab. 1; Van der Plicht – Bruins – Nijboer 2009, p. 227 with tab. 9.

278 For Carthage see Docter *et al.* 2008, p. 413, fig. 8; Núñez 2017a, p. 9, figs. 1-2 ; Flügel *et al.* in press, p. 92, tab. 1 and p. 101, fig. 13. For the wider Mediterranean context of the ongoing debate on a high vs. low chronology of the Early Iron age see Nijboer – van der Plicht 2008; Fantalkin – Finkelstein – Piasetzky 2011; Nijboer 2016; Núñez 2016 and at last Gimatzidis – Weninger 2020.

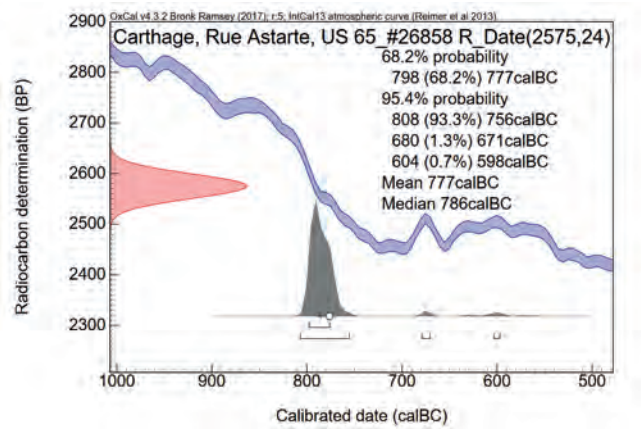

Fig. 9. Carthage, "Astarté 2": Calibrated dates of US-65.

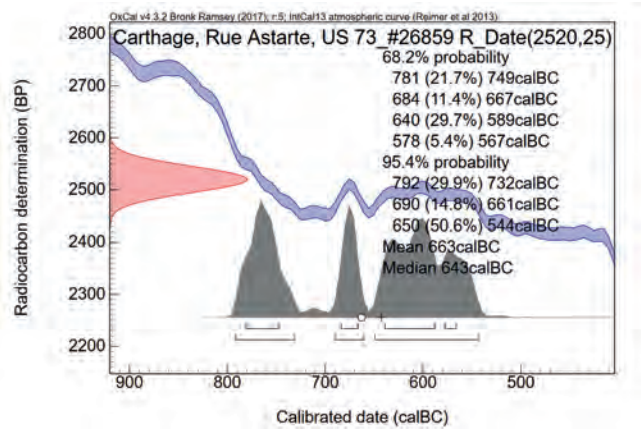

Fig. 10. Carthage, "Astarté 2": Calibrated dates of US-73.

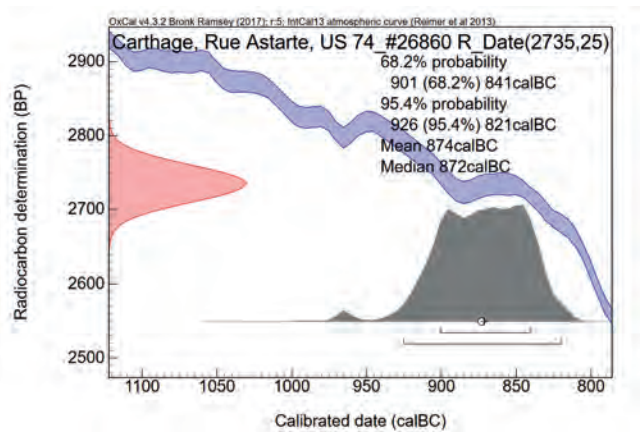

Fig. 11. Carthage, "Astarté 2": Calibrated dates of US-74.

pottery can be dated to the second quarter of the 8th century BCE, the radiocarbon date in the first quarter of the 8th century BCE has just a slightly higher chronology.

The data discussed here show once more quite clear the difficulty to compare radiocarbon data with typo chronological pottery data in a chronological discussion about few decades. Both datasets depend on very different methodological assumptions. The calibration of Mediterranean radiocarbon data into calendar years depends on the Northern Hemisphere calibration curve, developed from dendrochronological data, mainly known-age wood from central and northern Europe and North America. Recent studies suggest the existence of small periods of variation for Mediterranean radiocarbon levels. Theses offsets might affect the calibration of Mediterranean radiocarbon data into calendar dates by up to a few decades.[279]

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5. Concluding readings

Summing up the readings from the new "Astarté 2"-sequence and without claiming to draw definitive conclusions,[280] the most instructive remarks could be:

First, according to the ceramic data, the whole sequence should be placed definitively during the first half of the 8th century BCE, and remained open to a possible overflow on the last decade of the 9th century BCE for the early material in the deepest layer US-74. The lowest limit for its constitution could not go beyond the middle of the 8th century BCE, which places it with the Bir Massouda trench 4 sequence, as being the oldest ones found in Carthage in the current state.

279 Manning *et al.* 2018; Manning *et al.* 2020.

280 More early contexts in preparation providing further reliable information would allow developing better conclusions.

Secondly, considering both ceramic readings and radiocarbon data in hand, the US-74 exhibits a reliable and more complete referential assemblage of the earliest ceramic finds in Carthage, compared to the context BM04/4465 which gave way to restricted diagnostic finds. We should underline that the latter deposit which is the only one to be considered as more or less coeval to US-74, was supposed to be in agreement with the historical date of the foundation of Carthage, due to its stratigraphic position and ^{14}C determination.[281] It could be also meaningful that both contexts yielded calibrated (absolute) dates extending to the second half of the 9th century BCE,[282] which may assume that they could be ascribed to the same phase, currently the earliest one to be connected to the Phoenician settlement. The chronological discrepancy noticed between the ceramic data and the radiocarbon determinations, particularly in the case of US-74, could be put in relation with some autochthonous activity anticipating the Phoenician presence.[283] Particularly the human activity ascribed to the fox bone would point to an eventual native population insofar as the Libyan pottery in this context find close parallels among the pottery of NA 1 and 2 in Althiburos.[284] The matter might be as well, due to the difficulties regarding methodological approaches and interpretations of ^{14}C data.[285] On the other hand, the subsequent contexts US-73, connected to the establishment of the wall MR-60 and the mixed US-70/65, would form two chronological successive layers witch were dated in the second quarter of the 8th century BCE. In this issue, the gap between ceramic data and the available ^{14}C determinations seem to be quite narrow.[286]

Thirdly, the whole assemblage furnishes reliable information about an early regular Phoenician presence unfortunately lacking current coeval structures for its earliest stage. This hypothesis is ensured by the establishment of a local wheel made production evidenced from the deepest layers, which could be only confectioned by settled Phoenician population. We should underline in this issue, that the lowest context BM04/4465 gave already way to one wheel-turned vessel, despite the paucity of its ceramic finds.[287] This assumption is also supported by the high proportion of handmade Libyan pottery as well as the wide spectrum of the imports fitting well into the mixed component of the earliest Phoenician trading centres already documented, in Huelva, La Rebanadilla, *Theatro Cómico*, Utica and Motya,[288] and reflecting the same pottery facies of the Phoenician emporia in the Western Mediterranean during the second half of the 9th century BCE and the first half of the 8th century BCE.[289] Leaving aside the historiographical presumption of the foundation date, the archaeological evidences in hand show that Carthage seems to have been already, during the first half of the 8th century BCE, integrated into a wide network of connections involving the far western and central parts of the Mediterranean in addition to Greek and Levantine partners. As well as the facies of the Carthaginian pottery is concerned, the new contexts provided us with some guides within

281 Núñez 2017a, pp. 38-39; ^{14}C determination from BM04/4465 yielded a time range between 820 cal BCE and 780 cal BCE at 1sigma, and 850 cal BCE to 760 cal BCE at 2 sigmas, see Docter *et al.* 2008, p. 413, fig. 8; Núñez 2017a, p. 9, figs. 1-2.

282 ^{14}C determination from BM04/4465 gave way to the range dates of 820 to 780 cal BCE (68,2%) at 1σ-calibration, and 850 to 760 cal BCE (93,9%) at 2σ-calibration, see Docter *et al.* 2008, p. 413, fig. 8; Núñez 2017a, p. 9, figs. 1-2.

283 Among the explanations of such a discrepancy is the redepositions and the upwarded material to younger levels, see Gimatzidis – Weninger 2020, p. 6. On a possible residual material see also Docter *et al.* 2005, pp. 568-570; Núñez 2008, p. 20.

284 With the available data in hand, we should notice that the lower limit of the 14C determination in US-74 recalls those of La Rebanadilla Phase IV (Sanchez *et al.* 2011, pp. 189-190), see particularly the lower determinations of 2 sigma calibration.

285 About an overview analyzing the strengths and weaknesses of radiocarbon dating we refer to Gimatzidis – Weninger 2020, pp. 6-7.

286 We prefer not to discuss the current radiocarbon determinations in lights to the new data provided by Sindos investigations (Gimatzidis – Weninger 2020), insofar as the layers from "Astarté 3" (in preparation), provided us with further ceramic and radiocarbon data which would offer more accurate hints for reliable analysis.

287 Docter *et al.* 2008, pp. 384-385.

288 Without the assumption of the same model of settlement insofar as Carthage was a Phoenician foundation *ex nihilo* as evidenced by the earliest *strata* laying directly on a lagoon platform, not having been occupied before the arrival of the Semitic settlers, see Maraoui Telmini in press a.

289 Kourou 2019, p. 88.

several forms in the case of some basins and the Levantine prototypes of several western variants within the Carthaginian vessels.

Finally, the early chronology of particularly US 74 arises questions about the location of the first nucleus of the City. In this regard, we could only notice a paradox temporary ascertainment, connected to the location of the present new sequence. Thus, the currently earliest data narrowing clearly the gap between archaeological and traditional dates about the earliest stage of the Phoenician settlement, is provided by a Byrsa Hill sequence,[290] which remains unfortunately not documented by permanent structures.

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