

NURAGIC POTTERY FROM HALA SULTAN TEKKE: THE CYPRIOT-SARDINIAN CONNECTION

Teresa Bürge¹ and Peter M. Fischer²

with an appendix by Serena Sabatini, Mauro Perra and Maria Giuseppina Gradoli

Abstract: *The present paper describes, for the first time, Cypriot evidence of Nuragic tableware from Sardinia discovered at Hala Sultan Tekke. This Late Bronze Age harbour and trade metropolis is situated near modern Larnaca on the southern littoral of Cyprus. The city's exceptional wealth during the Late Bronze Age (1650–1050 BCE) was based on trade and cross-cultural connections with a vast area, including the entire Aegean, Anatolia, the Levant and Egypt. This is exemplified by the enormous amount of imported goods, most of which originated in the Mycenaean sphere of culture. Five handmade and burnished bowls of dark grey fabric with highly lustrous surfaces found at Hala Sultan Tekke were recently identified as imports from Sardinia. The main purpose of this article is to provide primary information about these exceptional finds and to place them in the context of trade between Sardinia and the eastern Mediterranean.*

Keywords: *Nuragic Pottery, Hala Sultan Tekke, Sardinian Pottery, Cyprus*

Introduction

The presence of Nuragic table ware can be reported from Cyprus for the first time. So far, five small Nuragic bowls of dark grey fabric with almost black, highly lustrous surfaces (Fig. 1:1–5) have been identified in the course of the renewed excavations at Hala Sultan Tekke.³ They were found in three offering pits in Area A – a suburban area to the east of the city – which, *inter alia*, functioned as a burial site. In addition, another two fragments of possible Sardinian provenance were discovered in various contexts in Area A.

The harbour city of Hala Sultan Tekke flourished mainly in the Late Cypriot (LC) II period

until its final destruction and abandonment in the first part of LC IIIA, viz. in absolute terms, from roughly 1500 to 1150 BCE.⁴ The city played a crucial role as a major trade centre of the eastern Mediterranean during the Late Bronze Age, which is attested by a wide range of imported objects, mainly pottery, from the Aegean (including Crete), Anatolia, the Northern and Southern Levant, and Egypt. In addition, there is significant evidence of intra-urban copper production dating from the 13th through the mid-12th centuries BCE.

Material and find contexts

Area A is located to the east of the Late Bronze Age settlement and vis-à-vis the famous mosque of Hala Sultan Tekke (see e.g. FISCHER 2018, 5, fig. 1.5). The extent of the densely built city centre could be traced based on the results of recent magnetometer surveys (FISCHER 2019 in this volume, fig. 2b; FISCHER and BÜRGE 2019). In addition, the geophysical surveys verified that Area A, which seems to be devoid of stone structures, has an area of more than one hectare and features over 80 anomalies, i.e. pits. Twenty-five of these pits were excavated between 2014 and 2018 (FISCHER and BÜRGE 2015, 2016, 2017a, 2018a, 2019). They represent richly furnished tombs, wells and offering pits, suggesting that Area A functioned as an extra-urban burial site, where votive offerings and feasting rituals also took place (BÜRGE 2017; FISCHER and BÜRGE 2017b, 209–211).

The Nuragic bowls come from three of the offering pits: Pits B, Z6 and Z7. These offering pits closely resemble each other in terms of structure, deposited material and chronology. Four of the bowls are almost identical regarding shape and surface treatment: they are shallow with an inter-

¹ Austrian Academy of Sciences, OREA.

² University of Gothenburg, Sweden.

³ The preliminary results of the 2010–2018 seasons of excavation are discussed in FISCHER 2011, 2012; FISCHER and BÜRGE 2013, 2014, 2015, 2016, 2017a, 2018a, 2019. For the

first final volume on the excavations in the city, see FISCHER and BÜRGE 2018b.

⁴ However, there is older ceramic material from the transitional Middle/LC period dating from around 1650 BCE.

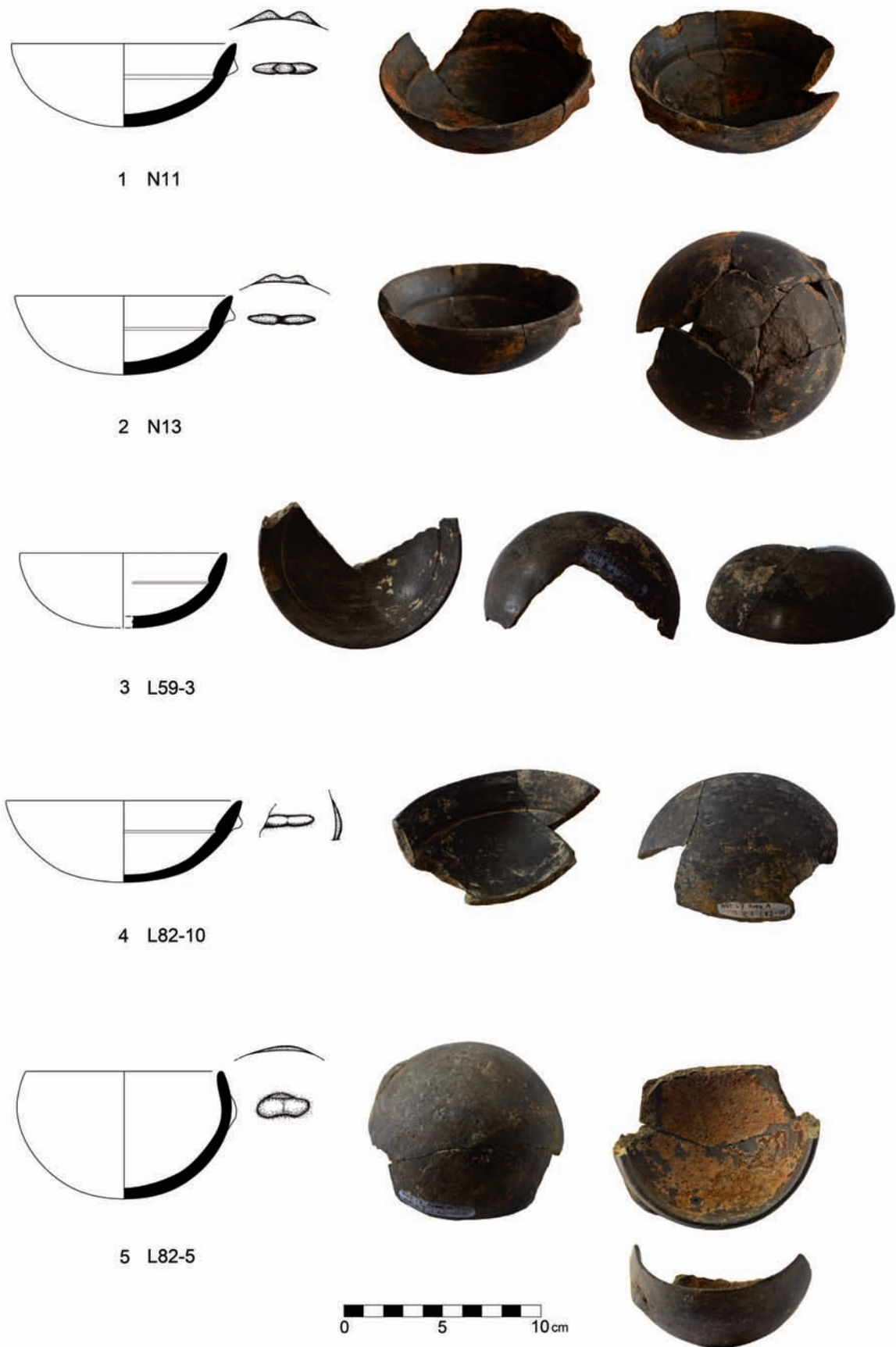


Fig. 1 Nuragic Black ware bowls from Hala Sultan Tekke (scale 1:3; drawings and photographs by T. Bürge)

nal groove below the rim, one vestigial handle and a black burnished surface. The fifth bowl is hemispherical, displaying a similar vestigial handle. The two probable Sardinian imports are from Pit Z6 and Well Y1, which are also located in Area A.

Pit B

Offering Pit B is a shaft of circular shape, approximately 1 m in diameter and 3.33 m in depth (see detailed description in FISCHER and BÜRGE 2015, 45–46; BÜRGE 2017, 136–139). It contained three layers of intentionally deposited complete and almost complete objects but no human remains.

- The uppermost deposition was just below the surface and consisted of parts of a tray of Coarse ware and two intact Mycenaean vessels, a straight-sided alabastron and a juglet.
- The intermediate deposition was sealed off by a layer of yellowish-orange soil, a mixture of ochre and limestone. Several objects were found close together just below the ochre-coloured layer: a loom weight of fired clay lying inside a complete White Slip II bowl, another White Slip II bowl, a bowl of Monochrome ware, a cooking pot, a lamp, a tray of Coarse ware, a part of a wall bracket and a bone shuttle.
- The lowest deposition consisted of two White Slip II (late) bowls, the lower part of a *Bucchero* handmade jug,⁵ a Base-ring II juglet, the upper part of a White Painted wheel-made trefoil-mouthed jug, the rim of a Plain jar, and four Mycenaean imports: a juglet, a shallow cup and two stirrup jars. Two small Nuragic handmade bowls both with a vestigial handle, black slip and a highly burnished surface (N11 in Fig. 1:1, N13 in Fig. 1:2) were found at the same level. In addition, between 300 and 400 fragments of scale mail were positioned along the outlines of the shaft.

As regards the dating of the depositions, the Mycenaean imports are the best chronological indicators: they all fall in the Late Helladic (LH) IIIA2–IIIB time range, roughly 1350–1200 BCE. The two White Slip II late bowls from the lowest deposition can be dated to the LC IIC (ERIKSSON 2007, 150–153), which covers mainly the 13th cen-

tury BCE.⁶ There is no material which can be dated later than the LC IIC, which provides a secure dating of all deposits to within the LC IIC. Older material found in the pit may well represent heirlooms or can be associated with the backfill.

Pit Z6

Offering Pit Z6 is a circular shaft located approximately 53 m west of Pit B (see detailed description in FISCHER and BÜRGE 2018a, 47–49). The opening is 0.75 m in diameter, widening to 1.15 m further down. Originally, this feature was probably a well. It has been reused for at least one deposition, which was found 1.2–1.7 m below the surface. Here, similar to Pit B, the deposition was found in a layer which contained ochre. The complete and almost complete objects include five White Shaved juglets, a Monochrome bowl, two White Slip II mature/late bowls, a White Painted Wheel-made shallow bowl, a Coarse ware lamp, a wall bracket and a part of a Plain ware basin. LH IIIA2–IIIB imports are represented by, *inter alia*, a shallow bowl and a small jar. There are also two Minoan imports: a squat stirrup jar of most likely Late Minoan (LM) IIIB date and a large number of fragments of a Minoan transport stirrup jar. Two Base-ring figurines were deposited in the same context: a female and a bovine. In addition, four weights of stone and clay (i.e. a pierced pithos sherd) and a broken loom weight of fired clay, thirteen *ovis/capra* astragali, and two notched scapulae from *ovis* and *bos*, respectively, were found. A small Nuragic handmade bowl with black slip and a highly burnished surface (L59-3; Fig. 1:3) also comes from this context. There is another vessel, which resembles a Coarse ware cooking pot but has a peculiar, highly burnished surface (L59-15; Fig. 2:1). It may similarly be of Sardinian origin and will, therefore, be discussed below.

A ground-down *ovis/capra* astragalus and two worked bones come from just below the deposition, and two almost complete bone shuttles were found in the lowest layer. There are no human remains in Pit Z6.

Our analysis of the material suggests a dating of the depositions to the LC IIC, i.e. roughly the 13th century. This date is supported by the LH IIIA2–B

⁵ The unfortunate term “*Bucchero*” refers to a class of LC pottery which – in its handmade version – belongs or is closely related to the group of Base-ring wares (see e.g. ÅSTRÖM 1972, 425–430). Late Cypriot *Bucchero* has nothing

in common with the later Etruscan *Bucchero* except for some remote similarity in appearance.

⁶ LC IIC1 may well start in the last quarter of the 14th century BCE (FISCHER and BÜRGE 2018b, 605, table 10.1).

and LM IIIB imports, as well as the presence of White Slip II late bowls as the most recent finds. Thus, the depositions in Pit Z6 are roughly contemporary with those of Pit B (see above).

Pit Z7

Offering Pit Z7 is just 4 m north-west of Pit Z6 (see detailed description FISCHER and BÜRGE 2018a, 48–50). The diameter of the shaft is roughly 1.1 m at its opening widening to its maximum diameter of 1.8 m at the bottom. Since natural soil was reached 1.8 m below the surface, it can be excluded that this feature represents a reused well. Two depositions without any human remains were found.

- The upper deposition is represented by a Mycenaean juglet and a kylix, a loom weight of clay, a stone weight, a round stone tool, a ground down *ovis/capra* astragalus and two worked bones.
- Finds from the lower deposition include three White Slip II late bowls (one with an incised potmark), a Monochrome bowl, a Base-ring bowl, two White Painted Wheel-made bowls, two Bucchero jugs, a Coarse ware tray and two Coarse ware cooking pots. There are four Mycenaean (LH IIIA2–B) imports: a shallow cup, a shallow bowl and two juglets. In addition, a part of an open vessel of faience, a bone needle, a bone shuttle and three ground-down *ovis/capra* astragali were deposited here. A unique object is a spindle or distaff of ivory, the wooden spindle of which is partly preserved (see FISCHER and BÜRGE 2018a, 48, fig. 16:9). Two Nuragic bowls with black slip and a highly burnished surface were also found in the main deposition: one of them is shallow with an internal groove (L82-10; fig. 1:4), the other is hemispherical (L82-5; fig. 1:5).

Again, the material evidence suggests a dating of the depositions in the LC IIC, i.e. the 13th century BCE, roughly contemporaneous with those of Pits B and Z6 (see above).

Well Y1 – an additional context with a find of possible Sardinian provenance

A fragment of an open vessel with a pierced lug handle (L63-2; Fig. 2:2) comes from Well Y1, which is approximately 20 m south-west of Pit B and 36 m south-east of Pit Z6 (see more detailed description in FISCHER and BÜRGE 2018a, 45). The

fill of the well contained, *inter alia*, fragments of White Slip II mature, Base-ring, White Painted (wheel- and handmade), Red Lustrous Wheel-made, Plain ware and LH IIIA2–B imports, including a part of a chariot krater with two females in the chariot box (FISCHER and BÜRGE 2018a, 46, fig. 14:1), and a fragment of a handmade burnished vessel of Italian type with a finger-impressed cordon (L63-10). Since there are no diagnostic sherds of secure LC IIIA date, the backfill can be dated not later than the end of LC IIC.

Catalogue

HST14 Area A Pit B L13 N11 (Fig. 1:1)

Small shallow bowl with rounded base, interior groove and vestigial handle, almost complete; diameter rim: 11.4 cm, height: 4.2 cm, capacity up to groove: 0.05 l, capacity up to rim: 0.17 l; handmade, hard-fired; surface horizontally burnished with a hard tool, high lustre; colour of surface: very dark grey, almost black, partly discoloured; break: very dark grey; matrix has medium number of fine to medium coarse voids; medium to high number of non-plastic, mainly white and grey inclusions of fine to medium-fine size.

HST14 Area A Pit B L11 N13 (Fig. 1:2)

Small shallow bowl with rounded base, interior groove and vestigial handle, almost complete; diameter rim: 11.0 cm, height: 4.0 cm, capacity up to groove: 0.05 l, capacity up to rim: 0.15 l; handmade, hard-fired; surface horizontally burnished with a hard tool, high lustre; colour of surface: almost black; break: very dark grey to almost black; matrix has medium number of fine to medium coarse voids; medium number of non-plastic, mainly white inclusions of fine to medium-fine size.

HST17 Area A Pit Z6 L59-3 (Fig. 1:3)

Small shallow bowl with rounded base, interior groove and vestigial handle, more than half preserved; diameter rim: 10.4 cm, height: 3.8 cm, capacity up to groove: 0.04 l, capacity up to rim: 0.13 l; handmade, hard-fired; surface horizontally burnished with a hard tool, high lustre, partly flaking off; colour of surface: almost black; break: dark brown with dark grey core; matrix has medium number of fine to medium coarse voids; medi-

um number of non-plastic inclusions of fine to medium-fine size (white) and medium to large size (dark grey), some quartz inclusions.

HST17 Area A Pit Z7 L82-10 (Fig. 1:4)

Small shallow bowl with rounded base, interior groove and vestigial handle, complete profile, approximately one third preserved; diameter rim:

12.0 cm, height: 4.2 cm, capacity up to groove: 0.04 l, capacity up to rim: 0.13 l; handmade, hard-fired; surface horizontally burnished with hard tool, high lustre; colour of surface: almost black; break: dark grey, somewhat darker towards exterior; matrix has medium number of fine to medium coarse voids; medium number of non-plastic, mainly white inclusions of fine to medium-fine size, some quartz inclusions.



Fig. 2 Other probable Sardinian imports from Hala Sultan Tekke (scale 1:3; drawings and photographs by T. Bürge)

HST17 Area A Pit Z7 L82-5 (Fig. 1:5)

Small hemispherical bowl with vestigial handle, more than half preserved; diameter rim: 10 cm, height: 6.5 cm, capacity up to rim: 0.35 l; handmade, hard-fired; surface horizontally burnished with a hard tool; colour of surface: very dark grey; break: dark grey; matrix has medium number of fine to medium coarse voids; medium to high number of non-plastic, mainly white inclusions of fine to medium-fine size, small number of fine quartz inclusions; medium number of fine grey inclusions.

HST17 Area A Pit Z6 L59-15 (Fig. 2:1)

Rim of open vessel, diameter: 26.2 cm; handmade, hard-fired; surface horizontally burnished with hard tool, high lustre; colour of interior surface: very dark grey, almost black; colour of exterior surface: brown to very dark brown, almost black (mottled); break: grey, darker towards exterior; matrix has medium number of medium coarse to coarse voids; large number of non-plastic, mainly white inclusions of fine, medium coarse and coarse size, some mica.

HST17 Area A Well Y1 L63-2 (Fig. 2:2)

Handle of open vessel, handmade, hard-fired; exterior surface (horizontally?) burnished to a high lustre; colour of surface: dark brown to dark grey on exterior, grey on interior; break: brown to light reddish-brown with grey core; matrix has medium number of fine to medium-fine voids; medium number of non-plastic inclusions, mainly white of fine size, light grey of coarse size and some light yellowish-red of medium-coarse size.

Sardinian imported pottery in the eastern Mediterranean

The five bowls from LC IIC contexts at Hala Sultan Tekke belong to the class of Nuragic Grey ware (also referred to as Slate Grey ware, “*grigio-ardesia*”, identified by FERRARESE CERUTI 1981, 606). However, petrography distinguishes between Nuragic Grey and Black ware (see appendix). Our

five bowls and the two probable Nuragic open vessels belong to the Nuragic Black ware group. The ware appears in central and southern Sardinia and is especially frequent in the Antigori of Sarroch nuraghe in the Recent and Final Bronze Age (13th to 10th century BCE; see chronological table in GIUMLIA-MAIR and LO SCHIAVO 2018, 11), where it is also associated with Mycenaean imported pottery (LO SCHIAVO 2013, 676–677). The ware is generally characterised by compact, rather well-levigated clay, high firing temperatures, “slate grey” fabric and a grey to black surface. The surfaces are highly burnished, producing a metal-like effect (LO SCHIAVO 2013, 676). Regarding the shape of the four small, shallow bowls each with an interior groove (“*scodellina a risega interna*”; see Fig. 1:1–4) and vestigial handle (“*presina*”), there are numerous parallels from central and southern Sardinia from Recent Bronze Age contexts (see typology in CAMPUS and LEONELLI 2000, 183–184, pls. 112:1–8, 113, types 236 Scod. 24 and 241 Scod. 29; also see appendix) and the shape seems to be especially common in the Recent Bronze Age 2 (UGAS et al. 2004, 400, table 1 proposed a synchronization with LH IIIB–IIIC1 and an absolute date of c. 1270–1150; see also LEONELLI in CAMPUS and LEONELLI 2006, 379, fig. 1:18–19, p. 381; DEPALMAS 2009, 138). The best parallels regarding not only typology but also the shiny, dark brown to dark grey, almost black surface come from the Arrubiu of Orroli nuraghe in central/south-eastern Sardinia (PERRA et al. 2015, 96, fig. 7:2; PERRA 2019, 33, fig. 4; see location of all Sardinian sites mentioned in the text in Fig. 3).⁷ The hemispherical bowl (Fig. 1:5) has a long life span from the Middle to the Recent Bronze Age (14th to 12th c. BCE) and has close counterparts in Mitza Purdia-Decimoputzu and in Kommos on Crete (see typology in CAMPUS and LEONELLI 2000, 221, pl. 116:10–11, type 249 Scod. 37, var. A).

In addition, two more probable Sardinian imports, an open vessel resembling a Cypriot-type cooking pot but with a peculiar fabric and surface treatment (Fig. 2:1; possibly also Nuragic Black ware),⁸ and the vertical handle (“*ansa ad anello*”) of an open vessel (Fig. 2:2),⁹ which is also very distinct as far as the burnished surface is con-

⁷ We would like to thank M. Perra for pointing out this parallel.

⁸ A possible parallel is the “*olla con orlo distinto svasato forma panciuta*” in CAMPUS and LEONELLI 2000, 485, 545, pl. 298, types 817 Ol. 52, 818 Ol. 53, 819 Ol. 54.

⁹ This type of handle was in use from the Recent to the Final Bronze Age (13th to 10th century BCE). There are good parallels from, for example, Nuraghe Nolza of Meana Sardo (COSSU and PERRA 1998, 108, fig. 7:5, 7, 8, 11). We would also like to thank M. Perra for providing this parallel.



Fig. 3 Map of Sardinia with Nuragic sites mentioned in the text (map by T. Bürge)

cerned (possibly Nuragic impasto ware), come from LC IIC contexts at Hala Sultan Tekke. Their presence may indicate that imports from Sardinia – despite being rare – are, however, more frequent than expected. Nevertheless, the Sardinian imports are difficult to recognise, especially when only fragments are preserved, since a variety of handmade and burnished wares of local Cypriot tradition are common throughout the entire Late Bronze Age (PILIDES 1994).

The only other LC site where Sardinian imports have been found is Pyla *Kokkinokremos* on the south-east coast, only 17 km east of Hala

Sultan Tekke (see location in Fig. 4). Four ovoid jars (“*olle a colletto*”) of Nuragic impasto ware have been recognised so far (state 2018; see HERMON et al. 2011, 98–99, Figs. 1, 3; KARAGEORGHIS 2011, 94, fig. 2; BRETSCHEIDER et al. 2017). Since Pyla *Kokkinokremos* was a short-lived settlement of only a few decades, as it was abandoned at the end of LC IIC or the very beginning of LC IIIA (KARAGEORGHIS 2014, 159–162; BRETSCHEIDER et al. 2015, 34, 2018, 116) and the Nuragic jars are relatively low-fired and most probably rather short-lived vessels, we may conclude that the Sardinian pottery imported to Cyprus known so far is from the same period, i.e. the LC IIC corresponding roughly to the 13th century BCE. However, in contrast to the Hala Sultan Tekke tableware, the jars from Pyla *Kokkinokremos* were imported as containers.

The contexts of the roughly 50 fragments of Nuragic pottery found at Kommos in southern Crete (see location in Fig. 4) point to a similar date: all can be dated to the LM III B (RUTTER 2006, 674–675; 2017, 270–271). Although bowls of Nuragic Grey ware (and also of impasto ware) are present, none of them are of the *scodellina a risega interna* type. In addition, closed vessels dominate the assemblage, which made RUTTER (2017, 270) conclude that at Kommos, too, the jars were imported as containers, perhaps for copper or bronze scrap, and that the bowls may have served as lids (see WATROUS et al. 1998, 339–340).

However, this interpretation certainly does not apply to the Hala Sultan Tekke bowls: not only have Sardinian *olle a colletto* not been identified (yet), but the rim diameters of most of these *olle* are larger¹⁰ than those of the bowls from Hala Sultan Tekke. The fact that all five bowls were found in offering pits in proximity to tombs (BÜRGE 2017) is striking. Although the Nuragic bowls might have been considered as valuable exotic objects, no such bowls have been found in any of the contemporaneous rich tombs at Hala Sultan Tekke. The bowls may have played a specific role, perhaps in a libation ceremony to honour and/or commemorate the deceased before they were deposited in the offering pits.

As a result of biochemical analyses, GARNIER (in PERRA et al. 2015, 109–111) argued that in the *Tomba della Spada* at the Nuraghe Arrubiu of

¹⁰ The reconstructed diameter of one of the *olle a colletto* from Pyla *Kokkinokremos* ranges between 16.5 and 17.5 cm (KARAGEORGHIS 2011, 89), whereas the *scodellina a*

risega interna have maximum rim diameters of approximately 12 cm.

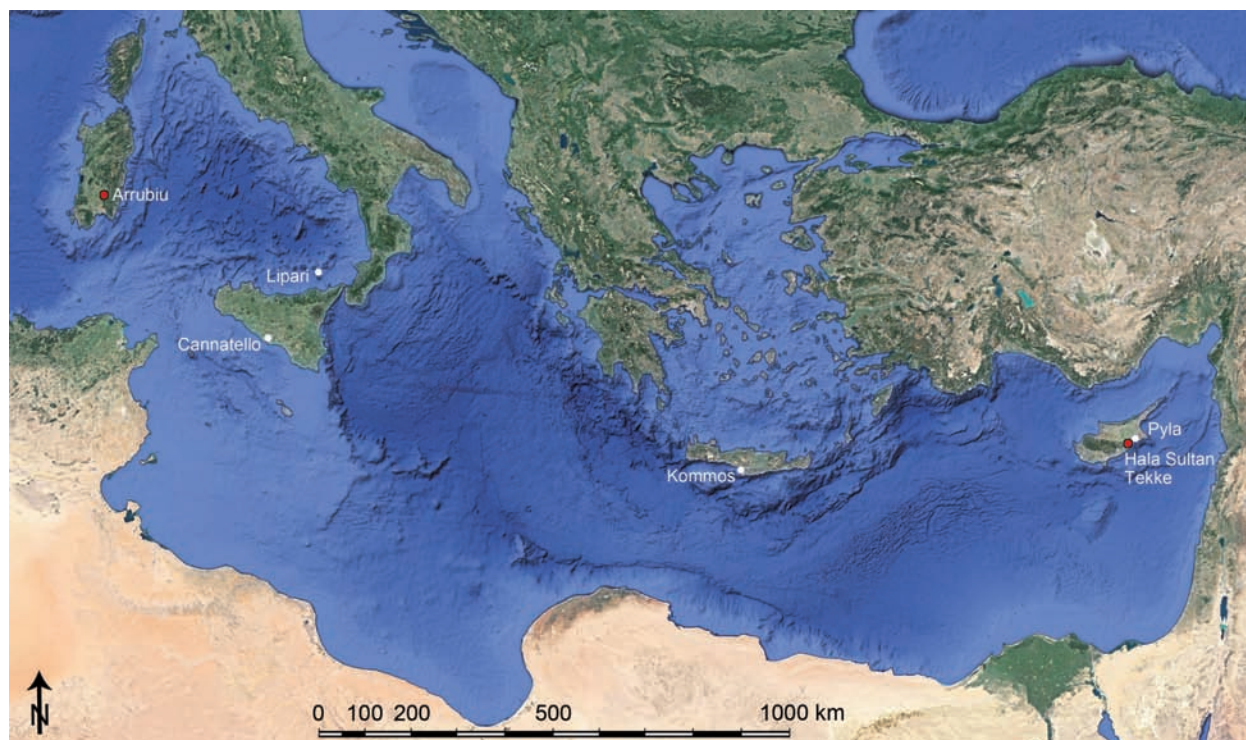


Fig. 4 Map of the central and eastern Mediterranean including sites with Nuragic imports (map by T. Bürge)

Orroli, the last use of these bowls was for wine,¹¹ maybe as a vessel for wine tasting (“*taste-vin*”). This may have been carried out in connection with a libation ceremony – an observation that would fit the find contexts at Hala Sultan Tekke perfectly.

Oxhide ingots and the Cypriot-Sardinian connection

As has been demonstrated above, imported Nuragic pottery comes from trading posts which are related to copper trade with the west (LO SCHIAVO 2003b, 2003a; LO SCHIAVO et al. 2009; LO SCHIAVO and CAMPUS 2013; LO SCHIAVO 2018; LO SCHIAVO and D’ORIANO 2018). The presence of our bowls at the site may be related to a group of traders, perhaps Sardinians, visiting the Aegean and Cyprus on a regular basis.

This trade might have started already in the 14th century and was well-established in the 13th century BCE. Although there are few Sardinian radiocarbon dates from this period, relative chronology could – to some extent – be established.¹² In Arrubiu Nuragic Grey ware has been found in

the foundation layer together with a LH IIIA2 alabastron, and in the Nuraghe Antigori of Sarroch the same ware is associated with LH IIIB pottery. These relative dates are in total agreement with our finds contexts which may allow an even finer relative chronological division because of the presence of complete Mycenaean and Minoan imported vessels together with numerous radiocarbon dates. Another proof for early contacts between Cyprus and the Nuragic culture is a miniature ingot on a cylindrical vessel from the Nuraghe Coi Casu at S. Anna Arresi. This vessel is dated to the local Middle Bronze Age 3, i.e. the 14th century BCE (see the comparative chronology in LO SCHIAVO 2018 and a general discussion and other primary references in SABATINI 2016).

Judging by the presence of Cypriot oxhide ingots or fragments known from around 40 Sardinian sites (LO SCHIAVO 2018, 26–27; the number is constantly growing, cf. the 31 mentioned in LO SCHIAVO 2009), the trade between Cyprus and Sardinia included the export of copper to Sardinia¹³ – but which goods were received in exchange from Sardinia? So far, we have only scarce evi-

¹¹ The domestication of grapevine may have already started at the end of the Middle Bronze Age in Sardinia. There is secure evidence of *Vitis vinifera* from Late Bronze Age Sardinian contexts (UCCHESU et al. 2015).

¹² Personal communication M. Perra (28 March 2019).

¹³ There are also Cypriot or Cypriot-type bronze objects and a few pottery fragments (compiled in RUSSELL and KNAPP 2017, 12–14).

dence of Sardinian objects on Cyprus, which, including the possible contents of the *olle*, the larger vessels, are definitely not a sufficient exchange value for the most valuable oxhide ingots of very pure Cypriot copper. Thus, perishable products should also be considered, for instance, hides and products of leather, dried fruit, resins, meat, fish, and wood. The latter might have been used to build ships in Cyprus; whole or parts of Nuragic ships may also have been purchased. As far as liquids are concerned, for instance, oil or wine, the *olle* are not the most suitable transport containers, and, again, we would expect a much larger number of these vessels on Cyprus, comparable to that of Canaanite jars (cf. KNAPP and DEMESTICHA 2017, 99). Finally, one should not rule out the exchange of manpower, for instance, specialised workers.

Discussion and conclusions

The Nuragic Grey/Black ware imports at Hala Sultan Tekke add to the evidence of Cypriot-Sardinian relationships in the LC period. Recently carried out petrography supported by Fourier-transform infrared spectroscopy (FTIR) and X-ray fluorescence (XRF) confirms that the fabrics of our vessels are identical to those of their Nuragic counterparts which were produced at various pinpointed locations in Sardinia (GRADOLI et al. 2019 forthcoming).

Although there is plenty of evidence of intra-urban copper production in Strata 3 and 2 of the settlement of Hala Sultan Tekke (FISCHER and BÜRGE 2018a, 59; 2019), which postdate the offering pits in Area A, no oxhide ingots have been found at Hala Sultan Tekke (yet). In addition, it is still surprising that the Late Bronze Age Sardinians would travel a distance of 2,200 km (as the crow flies) to acquire Cypriot copper when the metal was available much closer, considering the local (Sardinian) copper mines and those in Tyrol and possibly Spain.¹⁴ One explanation could be that Cypriot copper was the purest available on the market and, therefore, easy to handle and alloy. Another possibility is that the cultural *koiné* of the Mediterranean – as seen from a Sardinian point of view – excluded other markets or at least diminished their role as potential trade partners.

This leads to another question referring to the nature and organisation of the trade, which has been much discussed in recent years (see e.g. LO SCHIAVO and CAMPUS 2013; DEPALMAS et al. 2017; RUSSELL and KNAPP 2017; LO SCHIAVO 2018; LO SCHIAVO and D’ORIANO 2018). In addition to Pyla *Kokkinokremos* and Kommos, the only other places outside Sardinia where Nuragic pottery has been found are Cannatello in southern Sicily (province of Agrigento; see location in Fig. 4; LEVI 2004, 237) and the Aeolian island of Lipari (see location in Fig. 4; FERRARESE CERUTI 1998; CAVALIER and DEPALMAS 2008). LO SCHIAVO and CAMPUS (2013, 158) suggested that Sardinian entrepreneurs followed the sea routes from Sardinia over Sicily and southern Crete to Cyprus to acquire oxhide ingots. RUSSELL and KNAPP (2017, 22) proposed more complex trade systems of interconnected local, interregional and international routes, which may have involved Cyprus, Sardinia, Sicily, Malta, Crete, southern Italy, the Greek mainland and other regions.

How can the presence of the Sardinian imported bowls in three offering pits at Hala Sultan Tekke be explained? The presence of Sardinians at Hala Sultan Tekke, who might have arrived there in connection with trade, should not be excluded. In any case, the Nuragic bowls may have been regarded as very special, exotic items, which were suitable in the context of libation and other ritual ceremonies. It is interesting to note that these imports have – so far – not been found in any of the contemporaneous tombs.

In summary, the Sardinian imported tableware at Hala Sultan Tekke proves once more the vast connections of this important harbour city and transshipment centre, which include not only all regions of the eastern Mediterranean but also Sardinia. The city is an excellent representative for the intercultural spirit of the societies of the Late Bronze Age, the first true “international” period in human history.

Acknowledgements

We are most grateful to F. Lo Schiavo for her never fading enthusiasm concerning these unique discoveries and for her comments and discussions. Our sincere thanks go to the authors of the appendix,

¹⁴ One reason might be that, at least, the Iberian copper mines were not exploited yet during this period; see e.g. O’BRIEN 2015, 77–88. In addition, there is no evidence of

any direct or indirect connection between Sardinia and Tyrol.

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Appendix: The Typology and Petrography of Nuragic Ceramics

Serena Sabatini,¹⁵ Mauro Perra¹⁶ and Maria Giuseppina Gradoli¹⁷

Typology and characteristics of Hala Sultan Tekke's Nuragic ceramics: a view of the Sardinian material

Bowls with shapes from shallow to hemispherical displaying a thin internal groove and burnished surface (“*scodella a calotta con risega interna*”), usually termed Nuragic Grey ware, are well-known in many Nuragic Recent Bronze Age contexts¹⁸ and come almost exclusively from the southern part of Sardinia (see Fig. 3). Eight types can be distinguished, which range from a more or less shallow to a full hemispherical shape (CAMPUS and LEONELLI 2000, 183–185, pls. 111–113). The bowls from the offering pits at Hala Sultan Tekke are identical with Type 241 (“*Scod. 29*”), which is known, *inter alia*, from the Pirosu-Su Benatzu (Santadi district) sanctuary cave (LO SCHIAVO and USAI 1995, fig. 4, 8–4, 10). The best parallels are the bowls (16 to date) discovered in and near the Nuraghe Arrubiu (see below). Six bowls from Nuraghe Arrubiu (see one in Fig. 5) were found in the Central Tower A, five in Tower C and one in Tower D – the latter is associated with a small fragment of Aegean pottery. Additionally, four bowls of this type were discovered in the Giants’ Tomb (*Tomba dei Giganti*, which is the traditional name for Nuragic chamber tombs with collective burials) near the Nuraghe Arrubiu, also known as the *Tomba della Spada* (PERRA et al. 2015).

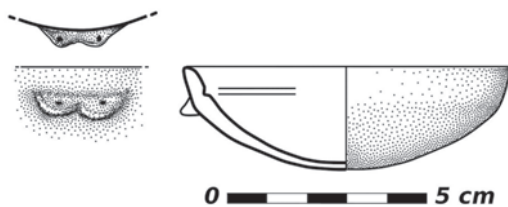


Fig. 5 Nuragic Grey ware shallow bowl with thin internal groove from the central Tower A, Nuraghe Arrubiu (Orroli district) (drawing courtesy of G. Pisano)

A fragment from one of the latter bowls, which underwent biochemical analyses with gas chromatography and mass spectrometry, demonstrated a drinking cup for dairy products and white wine. This suggests libation rituals in honour of the dead or other ancestors (PERRA et al. 2015, 109–111; PERRA 2019, 34).

Bowls of the same shape as those found at Hala Sultan Tekke are also known from other Giants’ Tombs. These include Tomb B (LAI 1992, pl. III, 3) at Sa Mandara (Guasila district) and Tomb B (ATZENI et al. 2012, fig. 1, B, 1) at Sa Sedda ‘e sa Caudela (Collinas district).

This special type of small bowl with a maximum diameter of 12 cm was part of the tableware set of the Nuragic Grey ware, where it functioned as a drinking cup. Other vessels of the set included, *inter alia*, necked jars (*olle a colletto*), deep bowls/basins (*conche*) with moulded rim, dippers (*atingittoi*) and carinated bowls. As mentioned in the main article, Nuragic Grey ware is widely distributed in Nuragic Recent Bronze Age sites of southern Sardinia and also includes the Nuraghe Antigori (Sarroch district), where it is associated with LH IIIB pottery.

Petrography of the Bronze Age burnished grey and black wares from Sardinia

In the framework of a recent technological study of the Nuragic burnished Grey and Black wares from the Marmilla region (south-central Sardinia) and the Nuraghe Arrubiu (GRADOLI 2019 forthcoming), 57 vessel fragments were petrographically studied under the polarizing microscope in order to characterize their fabrics and compare composition, technological style, surface treatment, firing conditions, and provenance in accordance with the island’s raw materials (GRADOLI 2016, 2019 forthcoming).

¹⁵ University of Gothenburg, Sweden, associated with the project Towards a New European Prehistory (Swedish Foundation for Humanities and Social Sciences, Project Grant M16-0455:1).

¹⁶ Civic Museum Su Mulinu, Villanovafranca, Italy; director of the excavation of the Nuraghe Arrubiu of Orroli.

¹⁷ University of Leicester, UK.

¹⁸ Roughly LC IIB–C.

The 21 selected sherds from the Nuraghe Arrubiu (Tower A and courtyard B) were manufactured using the same type of locally sourced raw material. The vessels occurred in different shapes, such as small and large bowls, jars, cups, and hemispherical cups of the Late and Final Bronze Age. The 27 selected sherds from the Barumini nuraghe (Towers A and C, huts 189, 173, 156, 155, 153, 141, 97, 81 and 80) dating from the Final Bronze Age to Early Iron Age, occur in shapes similar to those found at the Nuraghe Arrubiu, but they are principally carbon-coated (black surfaces) and manufactured using different raw materials and technological styles. The same can be argued for the nine sherds coming from the Middle Bronze Age¹⁹ Brunku Madugui and Conca 'e Sa Cresia corridor

nuraghi, and the single-tower Nuraghe Trobas in the Marmilla region.

A surface survey was carried out in order to collect, analyse and compare the clay outcrops in the vicinity of the nuraghi studied with the ceramic fabrics. The survey covered an average radius of 15–20 km and, in some cases, more than 50 km (GRADOLI 2012, 2016, 2019). The petrographic results demonstrate that all ceramics studied were locally produced in Sardinia.

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¹⁹ Roughly LC I–IIA–B.

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