



HAL
open science

From shardania to laestrygonia... Eastern origin prestige goods and technical transfers in Corsica through middle and final Bronze Age

Kewin Peche-Quilichini, Ludovic Bellot-Gurlet, Joseph Cesari, Bernard Gratuze, Jean Graziani, Franck Leandri, Hélène Paolini Saez

► To cite this version:

Kewin Peche-Quilichini, Ludovic Bellot-Gurlet, Joseph Cesari, Bernard Gratuze, Jean Graziani, et al.. From shardania to laestrygonia... Eastern origin prestige goods and technical transfers in Corsica through middle and final Bronze Age. *Aegaeum - Annales d'archéologie égéenne de l'université de Liège et UT-PASP*, 2017, "Hesperos. The Aegean Seen from the West", Proceedings of the 16th International Aegean Conference, University of Ioannina, Department of History and Archaeology, Unit of Archaeology and Art History, 18-21 May 2016, 41, pp.61-71. hal-02110728v2

HAL Id: hal-02110728

<https://hal.science/hal-02110728v2>

Submitted on 22 Feb 2021

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

FROM SHARDANIA TO LÆSTRYGONIA... EASTERN ORIGIN PRESTIGE GOODS AND TECHNICAL TRANSFERS IN CORSICA THROUGH MIDDLE AND FINAL BRONZE AGE

Abstract

This paper aims to present the data concerning the identification of material and know-how originating from eastern Mediterranean in Corsica through Middle Bronze Age (1600-1200 BC) and Final Bronze Age (1200-800 BC). In this island, the question of the presence of Aegean elements was, for a long time, associated to a theory involving a foreign-born population, the Shardana, a group mentioned amongst the famous Sea Peoples. After the abandonment of these historic-factual constructions, the insular archaeological research became associated with the analysis of the sociocultural character of insular groups from the Bronze Age, without trying to connect them to the cultural dynamics from Eastern Mediterranean.

After three decades of scientific introspection, it seems important to propose an updated inventory on this specific issue. The relations between the Aegean and Near-Eastern areas are documented today by several discoveries, reconsiderations of objects and specific analyses made over the last fifteen years. In the early 2000's, the first formal testimony of Eastern import in Corsica is a copper oxide ingot, possibly of Cypriot origin, found at Sant'Anastasia in the North-Eastern area of the island. This object published by F. Lo Schiavo illustrates the integration even marginal of Corsica into the metal circulation network in the Mediterranean during the late 2nd millennium BC. This discovery thereby came to partially fulfil an important gap in the research, particularly illustrated by a strong contrast amongst the number of finds of this type between Corsica and Sardinia. At the same time, the realisation of analyses on vitreous materials (laser ablation coupled to mass spectrometry) unearthed during ancient excavations at the sites of Foce, Tiresa and Filitosa, permitted to understand the context of production and reveal the near-eastern origin of the materials. More recently, the discovery of a closed set of ornaments in a sepulchral context of the late Middle Bronze Age at the site of Campu Stefanu (southwest) provided one of the largest deposits for this type of production throughout the Western Mediterranean. This necklace is composed of 25 blue-glass beads of Near-Eastern origin, even Egyptian, and of 29 Baltic amber beads of Aegean typology, which show, in addition, a perfect physical, chemical and morphological superposition with isolated beads from contemporary sepulchral contexts of Sardinia. In this context, the formal non-recognition of Helladic vessels in Corsica, while several cases are known and published in Nuragic area, seems to be explained by a delay in research. Besides these direct testimonies betraying the importation of exotic prestige goods in Corsica between the XIVth and the XIIth centuries, recent achievements illustrate the existence of technical transfers between the island and the Mycenaean world around the middle and late 2nd millennium BC. These phenomena are notably materialised by the strong technical and iconographic analogies observed in the *repoussé* work of metal sheets. The matrices recognised in Corsica indeed present profound affinities with those found in Greece. Unlike imported *exotica* and bullions, the *repoussé* metalwork is not very well known in Sardinia and in the italic peninsula at that time, thereby introducing a direct transfer of know-how between these two territories.

Through these few examples, of which we sense a short-term enrichment, we will try to measure and explain the integration of different types of remains within the native society, in order to better understand the position of the island within the networks between the two Mediterranean basins.

Corsica is an island situated in the Western Mediterranean between Sardinia and the Ligurian and Tuscan coasts. Spreading over 8680 km² and possessing a coastline more than 1000 km long, Corsica is the fourth largest island in the Mediterranean. The territory is mainly mountainous with rugged coasts which are particularly noticeable from the sea. This paper focuses on the longstanding ties between insular groups during the second half of the 2nd millennium BC with their neighbours from the East. To address this, we essentially refer to data and results stemming from the analysis of archaeological materials.

A Strongly “oriented” historiography: Rogers Grosjean’s Torrean theories

Despite several unpursued attempts in the XIXth century, a real recognition of the Corsican Bronze Age commenced at the end of the 1950's with Roger Grosjean's arrival on the island (Pl. XXIa). Until the 1970's, he was the dominating figure for the work on sites from this period of which Foce, Balestra, Filitosa, Araghju, Cucuruzzu, Torre, Tappa, Bruschiaccia, Ceccia, Alo-Bisughjè are the best known. R.

Grosjean's researches then quickly evolved towards a historic view of the 2nd millennium BC insular societies which is known as the famous "Shardana theory".¹ The latter envisages an invasion of the island by a belligerent people, the Shardana, which are a renowned group from the "Sea People" coalition. They would have arrived from the Eastern Mediterranean to settle in Corsica and in Sardinia/*Shardania* subsequently to their missed attempt in Egypt during the third quarter of the 2nd millennium BC. After defeating the indigenous resistance thanks to their technological superiority (mostly metallurgical), the Shardana settled and built characteristic circular monuments dedicated to the worship of fire and/or the deads, the so-called *torre*, often at the emplacement of the living area of their defeated enemies. These builders were thus renamed as the "Torreans". In order to heighten their victory, they destroyed the sanctuaries² of the indigenous peoples, particularly the alignments of armed statue-menhirs representing the Shardana leaders taken down with their warrior attributes (daggers, helmets and armours). These features on the monoliths have been compared (and identified) with those represented in bas-relief at several Egyptian temples. Regarding the central monument of Filitosa, fragments of monoliths have been collected from one of these destroyed sanctuaries and reused as simple building material. This event highlights the suggested disdain of a first group of *torre* builders for a second group, the sculptors of statues-menhirs.

Since a few decades, most scholars³ have agreed on the abandonment of this theory and several elements have undermined its main aspects. For instance, G. Camps's work at Terrina IV showed that the indigenous mastered metallurgy approximatively two millennia before the supposed Shardana landing in the Gulf of Porto-Vecchio.⁴ An additional argument comes from the datings obtained in the lower levels of several *torre* which have shown that these monuments seem to emerge from the end of the 3rd millennium BC⁵ and would not have been built by people arriving in the island during the Final Bronze Age. To be fair, it is worth mentioning that at the end of his life R. Grosjean was aware of these more ancient datings and modified his view. He then suggested that the Shardana were in Corsica before the expeditions to the East.⁶

The current trend is based on indigenous archaeological schemes which instead state that local groups evolved from a Neolithic to a Protohistoric stage following a classical Mediterranean model. We can also mention that several aspects of R. Grosjean's theories have recently been reexplored, considering the Corsican and Sardinian peoples of that time as full members of the expeditions against Egypt.⁷

A favourable context for external cultural infiltrations

During a long time, especially during the third quarter of the XXth century, the study of the archaeological materials coming from excavations was not a priority in Corsica. Analyses have become more common at the end of the 1970's⁸ but were conducted in a genuinely systematic way only from the years 2000's. Today, by taking into account the whole available data, it is possible to synthesise several

¹ R. GROSJEAN, *La Corse avant l'Histoire* (1966).

² Said to "Megalithics", which suggests that they emerged from a Late Neolithic.

³ G. CAMPS, "Statues-menhirs corses et Shardanes, la fin d'un mythe", *Revue Archéologique de l'Ouest* II (1990) 207-215; F. DE LANFRANCHI and M.C. WEISS, *L'aventure humaine préhistorique en Corse* (1997).

⁴ G. CAMPS, *Préhistoire d'une île. Les origines de la Corse* (1988).

⁵ G. CAMPS, *Terrina et le Terrinien. Recherches sur le Chalcolithique de la Corse* (1988).

⁶ R. GROSJEAN, "La statue-menhir de Santa Naria", *Bulletin de la Société préhistorique française* 71 (1974) 53-57.

⁷ M. GRAS, *Trafics tyrrhéniens archaïques* (1985) 57; P. MELIS, *Civiltà nuragica* (2003) 72; A. D'ANNA, J.-L. GUENDON, L. PINET and P. TRAMONI, "Le plateau de Cauria à l'âge du Bronze: de la lecture événementielle à l'approche pluridisciplinaire anthropologique, hommage à Roger Grosjean", in *Un siècle de construction du discours scientifique en Préhistoire, Actes du XXVI^e Congrès Préhistorique de France « Congrès du Centenaire »* (Avignon, September 2004) (2007) 331-346, esp. 344; K. PECHE-QUILICHINI, "Les monuments turriformes de l'âge du Bronze en Corse: tentative de caractérisation spatiale et chronologique sur fond d'historiographie", in D. GARCIA (ed.), *L'âge du Bronze en Méditerranée. Recherches récentes* (2011) 155-169.

⁸ With one notable exception: Filitosa, see E. ATZENI, "L'abri-sous-roche D' du village préhistorique de Filitosa", in *Actes du Congrès Préhistorique de France* (Ajaccio, 1966) (1966) 169-192.

themes, notably the tendency of Corsican groups to integrate external elements. For the Bronze Age, an evolutive scheme has recently been suggested⁹ for the links between the Tyrrhenian, insular and continental contexts by integrating data from the whole archaeological series (ceramics, metals and lithics).¹⁰ For instance, during the Early Bronze Age archaeological material from funeral Corsican contexts demonstrate some affinities with late Bell Beaker assemblages typical of North Tyrrhenian Italy and Sardinia.¹¹ At the beginning of the Middle Bronze Age, bonds between Corsica and the North of Tuscany strengthened to such an extent that several autonomous facies emerged. These nevertheless show some influences from the Grotta Nuova facies¹² which are not exclusive as we also note some rare similarities with Sardinian (Nuragic), Piedmont-Liguria (Viverone) or even Centro-Mediterranean Italic (Protoapenninic groups) features. Contacts with Italy and Sardinia appear to reduce in importance at the end of the Middle Bronze Age and during the Final Bronze Age. Technical and stylistic exchanges restarted at the beginning of the Final Bronze Age. During this period, new elements were introduced in South Corsica from the eastern central Tyrrhenian and North Sardinia (Gallura) to complement local traditional traditions to create an original cultural facies.¹³ Finally mid Final Bronze Age seem to be characterised by a new downfall in contacts.

From these oscillations in contacts, which depend on both internal and/or external initiatives as well as on the continuous development of navigation networks, the expression of a profound cultural

⁹ ATZENI (*supra* n. 8); E. ATZENI and A. DEPALMAS, “Materiali “appenninici” da Filitosa”, in *Materie prime e scambi nella Preistoria italiana. Atti della XXXIX Riunione Scientifica* (Florence, November 2004) (2006) 1173-1184; F. LORENZI, “La céramique apenninique en Corse”, in A. D’ANNA, J. CESARI, L. OGEL and J. VAQUER (eds), *Corse et Sardaigne préhistoriques. Relations et échanges dans le contexte méditerranéen, Actes du 128^e Congrès National des Sociétés Historiques et Scientifiques* (Bastia, April 2003) (2007) 287-305; K. PECHE-QUILICHINI, “Révision chrono-culturelle des vaisselles de l’âge du Bronze de Filitosa-Turrichju (Sollacaro, Corse-du-Sud)”, *Documents d’Archéologie Méridionale* 32 (2009) 161-210; ID., “Le Bronze final et le premier âge du Fer de la Corse: chronologie, production céramique et espaces culturels”, *Acta Archaeologica* 83 (2012) 203-223; ID., “Chronologie, productions matérielles et dynamiques socio-culturelles: le point sur le séquençage de l’âge du Bronze de la Corse”, in *Quoi de neuf en archéologie ? Actes des XIIIe Rencontres Culturelles du Musée de l’Alta Rocca* (Levie, November 2011) (2013) 33-77; ID., “Note sur deux tasses à carène basse et leur intégration dans les ensembles céramiques du Bronze ancien corse”, *Bulletin de la Société des Sciences Historiques et Naturelles de la Corse* 742-743 (2013b) 7-16; ID., *Protohistoire d’une île. Vaisselles céramiques du Bronze final et du premier âge du Fer de Corse (1200-550 av. J.-C.)* (2014); ID., “Influences, inspirations ou transferts ? La question des affinités corso-toscane dans les productions matérielles protohistoriques”, in G. CAMPOREALE and D. BRIQUEL (eds), *La Corsica e Populonia, Atti del XXVIII Convegno di Studi Etruschi ed Italici* (Bastia-Aléria/Piombino-Populonia, October 2011) (2015) 227-239; J. GRAZIANI and F. LORENZI, “Deux ‘tavolette énigmatique’ découvertes dans la vallée de Reginu (Haute-Corse)”, *Bulletin de la Société préhistorique française* 107-2 (2010) 385-390; K. PECHE-QUILICHINI and J. CESARI, “L’intégration de composantes stylistiques italiennes dans la production potière corse du Bronze moyen: un état de la question”, in *La Corse et le monde méditerranéen des origines au Moyen Âge: échanges et circuits commerciaux, Actes du Colloque* (Bastia, November 2013), *Bulletin de la Société des Sciences Historiques et Naturelles de la Corse* 746-747 (2014) 41-59; K. PECHE-QUILICHINI, J. GRAZIANI, J.-P. ANTOLINI, M.-A. GARDELLA and M. MILLETTI, “Les matrices de fusion protohistoriques de Corse: état de la recherche et découvertes récentes”, in I. SENEPART, F. LEANDRI, J. CAULIEZ, T. PERRIN and E. THIRAULT (eds), *Chronologie de la Préhistoire Récente dans le Sud de la France. Acquis 1992-2012. Actualités de la recherche, Actes des Xes Rencontres Méridionales de Préhistoire Récente* (Ajaccio, October 2012) (2014) 431-446.

¹⁰ K. PECHE-QUILICHINI, “What we did to father. Impatto e grado di assimilazione dei repertori stilistici italici e sardi nella produzione materiale corsa dell’età del Bronzo”, in *Italia tra Mediterraneo ed Europa: mobilità, interazioni e scambi, Atti della LI Riunione Scientifica dell’Istituto Italiano di Preistoria e Protostoria* (Forlì, October 2016) (to be published).

¹¹ These connections with Sardinia are mostly expressed, without surprise, in the South of Corsica; the North exhibits more affirmed links with Northern Italy, see GRAZIANI and LORENZI (*supra* n. 9) and PECHE-QUILICHINI (*supra* n. 9, 2013).

¹² D. COCCHI GENICK, *Grotta Nuova: la prima unità culturale attorno all’Etruria protostorica* (2002).

¹³ PECHE-QUILICHINI (*supra* n. 9, 2014).

complexity within Corsican Bronze Age societies starts to emerge. Depending on the level of assimilation and reappropriation of exogenous styles, the cultural mechanisms unconsciously vehicled by these groups, which are perceived more as receivers than emitters, illustrate a particular awareness of their connection to the oversea world. If these elements do not, a priori, testify of infiltration phenomena leading to imitation and reappropriation, the years 2000's showed that some materials are more likely to originate from importations.¹⁴ Some of them then provide evidence for the integration of Corsica within long-distance trade networks between the two Mediterranean basins.

The oxhide ingot of Sant'Anastasia

The oxhide copper ingot found at Sant'Anastasia in the 1990's (Pl. XXIb)¹⁵ belongs to the category of oriental objects which became common in Western Mediterranean from the XIIIth century BC. The typology of this particular object is well recognised and its origin is to be sought in Cyprus,¹⁶ where these were produced during the XIIth century BC. Although this piece remains unique in Corsica to this date, tens of them have been uncovered in Sardinia often in a fragmented way. They certainly had a very special status since they still stocked until the end of the IXth century (information: M. Rendeli). By looking at this phenomenon and bearing in mind that Sardinia benefits from important copper resources, the genuine value of these materials might not be fully based on the metal and could have be related to the prestige conveyed by possessing artefacts coming the far East at that time.

Adornments at Foce, Tiresa, Filitosa and Campu Stefanu

Oriental goods are already reaching Corsica and Sardinia at the end of the Middle Bronze Age. If the first mentions of Mycenaean, Cypriot or more generally Aegean finds are already longstanding in Sardinia,¹⁷ Corsica has only recently unveiled Eastern imported materials which precede the geometrical period. The first attested examples are isolated glass beads uncovered by R. Grosjean at the sites of Filitosa and Foce, followed by similar finds made by P. Nebbia at Tiresa. An analysis of their chemical composition has been conducted only recently to reveal their oriental origin.¹⁸

The exceptional discovery of in connexion ornaments at the site of Campu Stefanu¹⁹ in southwest Corsica greatly complements this panorama. A closed set consisting of a bronze necklace separator, 29 resinous beads and 25 or 26 blue/turquoise glass beads has been retrieved in rock shelter 1 (Pl. XXIc). Nondestructive physico-chemical techniques have been applied to determine their provenance. In terms of their morphology, the glass beads present are ring-shaped with a plano-convex to subcircular crossection of homogeneous diameters (5-10 mm). However, the resinous elements feature a notable

¹⁴ K. PECHE-QUILICHINI (*supra* n. 9, 2014).

¹⁵ F. LO SCHIAVO, "I lingotti 'a forma di pelle di bue' da S. Anastasia (Borgo) e da Sète, nel quadro della problematica della navigazione e degli scambi nelmediterraneo centrale", in *Les lingots "peau-de-boeuf" et la navigation en Méditerranée centrale, Actes du IIe Colloque International* (Mariana, September 2005) (2014) 13-30.

¹⁶ New analyses will soon be conducted to clarify this point.

¹⁷ M.L. FERRARESE-CERUTI, "Micenei in Sardegna !?" in *Micenei in Sardegna ? Atti della Riunione dell'Accademia Nazionale dei Lincei* (1980) 391-393.

¹⁸ B. GRATUZE, L. DUSSUBIEUX, J. CESARI, P. NEBBIA, J. MAGDELEINE, A. PASQUET, J.-C. OTTAVIANI and Y. BILLAUD, "La circulation des objets de parure en verre dans le Bassin Méditerranéen au cours de la Protohistoire: origine des perles retrouvées sur des sites corses de l'Age du Bronze et de l'Age du Fer", in D'ANNA *et al.* (eds) (*supra* n. 9) 359-369.

¹⁹ K. PECHE-QUILICHINI, J. CESARI, F. LEANDRI, L. BELLOT-GURLET, E. CANOBBIO, B. GRATUZE, C. LEANDRI and C. PARIS, "Étude de provenance et implications économique-culturelles des parures vitreuses et résineuses du Bronze moyen de l'abri 1 de Campu Stefanu (Sollacaro, Corse-du-Sud)", *Archéosciences Revue d'Archéométrie* 40 (2016) 100-121; K. PECHE-QUILICHINI, J. CESARI, L. BELLOT-GURLET, E. CANOBBIO, B. GRATUZE, F. LEANDRI and C. PARIS, "La Corse à l'aube des colonisations: les mobiliers d'importation antérieurs à la fondation phocéenne d'Alalia", in P. BARTOLONI (ed.), *Dal Mediterraneo all'Atlantico: uomini, merci e idee tra Oriente e Occidente. Atti dell'VIII Congresso internazionale di Studi Fenici e Punici* (Carbonia-Sant'Antioco, October 2013), *Tharros Felix* (to be published).

diversity with respect to both their shape and size. The resinous beads are of spherical, subspherical or discoidal shape and present a centred, or loosely centred, perforation of variable morphology and diameter. Their diameter is not uniform and oscillates between 8 and 50mm. The largest one is of biconical shape and reminds of a flat spindle whorl.

Unfortunately, due to the quick deterioration of the surface of all pieces following their exhumation, it has not been possible to draw these artefacts. There seems to be a morphometrical hierarchy between these elements since of one these beads presents a different shape and a much larger size compared to the others, while five or six have an intermediate size. This observation, combined with the large size of several resinous beads, suggests that the assemblage formed a necklace, and not a bracelet, even though the sum of individual widths amounts to a rather short estimated length of 20-25 cm.²⁰ It is likely that the necklace was completed with perishable elements or only partially adorned. The alternation of materials was observed during the exhumation of this adornment. By taking into account the similar number of resinous and glass beads, it is suggested that the necklace featured two balanced sides with the larger resinous beads in the middle.

The set of beads was uncovered from an interstice in the burial's paving slabs which were still firmly sitting at the western entrance of the rock shelter. Threaded on a perishable medium, it is very likely that the beads simply remained in their original connected state as they were found trapped as a small heap in a small depression.

Out of 29 resinous beads, 26 have been analysed to determine their nature and identify geographical and botanical origin. The analytical approach used for these beads makes use of Raman and infrared (IR) spectroscopies which are non-destructive methods which allow to discriminate between resins. Given the geographical and chronological context for these resinous beads, their identification as "amber" had been suspected. This fossil resin, which is widely distributed across Europe, may come from the main shore deposits of the Baltic Sea or, for instance, from other formations reported in France or Italy. The analytical results clearly indicate the nature and provenance of the 26 analysed beads. The IR spectroscopy signatures for Baltic amber have been documented in the literature and permit to unambiguously attribute a Northern European origin for the beads at Campu Stefanu. From a typological point of view, these beads resemble some examples found at Myrsinochori,²¹ which were produced in Peloponnesian workshops during the XVth and XIVth centuries BC.²² We also know that at that time, Mycenaean craftsmen used to supply themselves in amber from coastal areas of present Poland²³ and that manufactured goods were available for exporting, notably towards the West.²⁴ According to this hypothesis, the material from Campu Stefanu may have circulated over 2000 km from the North to the South following the well-known amber routes. They may have been sculpted by Mycenaeans before finishing their route in Corsica, 1200 km away from their production area, through a number of unknown – probably maritime – intermediate steps. The analyses of the glass beads have shown that they are composed of a calco-sodic glass with high concentrations in potash (1,8 to 3,5 %) and magnesia (4,1 to 6,0 %), which are characteristic of

²⁰ This hypothesis should be confronted with bead assemblages unveiled in Mycenaean contexts (e.g. Mycenae, Thebes, Peristeria, Vaphio).

²¹ C.W. BECK and L.Y. BECK, "Analysis and Provenience of Minoan and Mycenaean Amber, V: Pylos and Messenia", *Greek, Roman and Byzantine Studies* 36 (1995) 119-135.

²² Regarding the corpus of Mycenaean ambers in Peloponnese, see C. GASLAIN and M. CASANOVA, "L'ambre en Méditerranée à l'âge du Bronze", in J.-R. GABORIT (ed.), *Circulation des matières premières en Méditerranée, transferts de savoirs et de techniques* (2009) 89-100.

²³ H. HUGHES-BROCK, "Amber and some other travellers in the Bronze Age Aegean and Europe", in A. DAKOURI-HILD and S. SHERRATT (eds), *Autochthon: Papers presented to O.T.P.K. Dickinson on the occasion of his retirement* (2005) 301-316.

²⁴ M. CULTRARO, "Evidence of Amber in Bronze Age Sicily: Local Sources and the Balkan-Mycenaean Connection", in I. GALANAKI, H. TOMAS, Y. GALANAKIS and R. LAFFINEUR (eds), *Between the Aegean and Baltic Seas: Prehistory Across Borders. Proceedings of the International Conference Bronze and Early Iron Age Interconnections and Contemporary Developments between the Aegean and the Regions of the Balkan Peninsula, Central and Northern Europe (Zagreb, April 2005)* (2007) 377-389.

glasses made through the fusion of sand with ashes of halophytes plants (*Salicornia* sp. or *Salsola* sp.). This type of glass contains variable concentrations in lime (4,3 to 7,7 %) and alumina (0,6 to 1,9 %), which indicates the use of more or less pure sands. The strong overall typological homogeneity of beads, which would orient towards a single production origin, seems to contrast with the observed variability in the major, minor and trace element compositions. From a statistical perspective, the set of glass beads from Campu Stefanu, which constitutes one of the largest homogeneous ensembles analysed so far, is a good indicator of the compositional variability one may encounter when studying productions from secondary workshops of this period. This variability can be seen as an indirect reflect, with a potential amplifying effect, of the productions for primary workshops. The blue tint of the beads results from an addition of copper (0,56 to 1,2 %) in a relatively pure form using a molten pool. The elements which are traditionally associated with this metal in alloys of this period, namely tin, lead, antimony and arsenic, are present in small quantities (less than 0.01%). This reflects the usage of a colouring matter which contains on average more than 98,5 % of copper. The weak concentrations in tin provide an additional argument for a Mesopotamian origin of the raw glass used for the manufacture of the beads. Several analyses have demonstrated that Egyptian glassworkers used copper alloy scraps, e.g. from bronze, to colour the glass, thus introducing considerable concentrations of tin. In contrast, they also showed that Mesopotamian glassworkers rather used a more pure source of copper as colourant.²⁵ From a technical point of view, we are able to determine that all glass beads were shaped by folding molten glass around a rod before being sectioned by twisting. The morphology of the Campu Stefanu beads is close to that of many examples coming from Egyptian sepulchral contexts dating from the middle of the 2nd millennium BC as well as from European sites of the Middle Bronze Age. Nevertheless, the analysis of the paste demonstrates that the origin of the glass is to be sought in Mesopotamia, although these beads could have been produced later in the Nile Valley and diffused from the Delta or the *emporía* of the Levantine coast.

The question of technical transfers: the embossing matrices

Recently, many original but similar lithic objects have been fortuitously found in Corsica, in the North-West and the South of the island.²⁶ These pieces, generally realised from tender lithic materials (e.g. steatite), offer a particular morphology allowing to assign them to a common functional and chronological framework. By considering their principal morphological features, we envisage that these elements may have been used in a metallurgical context as matrix supports for embossment on metal sheets. Given the absence of finished products, the nature of this metal remains unknown. The appearance of the pieces and the typology of their grooves allow comparisons with certain technical protocols diffused around the middle of the 2nd millennium BC in oriental Mediterranean, notably in Mycenaean context. In this case, the double hypothesis of a technical transfer towards Corsica during the Middle Bronze Age and of the usage of this know-how in a funeral frame is envisaged.

The discovery of matrices for the embossing of precious metals constitutes a new element in the material environment of insular Protohistory. Albeit often confused, casting moulds and embossing matrices refer to yet very different techniques. While casting mainly consists in pouring fused metal into a mould, the bottom of which is the negative of the shape of the piece we wish to obtain and allows to reproduce many identical pieces from a single model, the techniques of metal embossing (or *repoussé*) and blacksmithing lead to the realisation of objects from a sheet of metal. The technique of metal *repoussé*, used in jewellery, consists in shaping a very ductile metal sheet by cold-pressing it into a hollow matrix by using a wood or bone tool. Sometimes a thick lead sheet is used as an intermediate layer during the hammering.

²⁵ A.J. SHORTLAND, “The raw materials of early glasses: the implication of new LA-ICP-MS analyses”, in *Annales du 16e Congrès de l'Association Internationale pour l'Histoire du Verre* (London, September 2003) (2005) 1-5.

²⁶ J. GRAZIANI, K. PECHE-QUILICHINI, H. PAOLINI-SAEZ and F. SOULA, “Contribution à l'étude des paléométagurgies corses: les matrices pour le repoussé”, I. SÉNÉPART, F. LEANDRI, J. CAULIEZ, T. PERRIN and E. THIRAULT (ed.), *Chronologie de la Préhistoire Récente dans le Sud de la France. Acquis 1992-2012. Actualités de la recherche, Actes des Xes Rencontres Méridionales de Préhistoire Récente* (Ajaccio, October 2012) (2014) 447-457.

In contrast with the casting moulds, the surface of the support of the moulds (so-called *salières*) does not need to be regularised outside the motif that is to be produced. The stamping can also be applied directly onto the piece.

The matrix supports found in Corsica (Pl. XXII) often have a parallelepiped or rhomboidal shape. The negatives are born on all faces or on the two largest opposite sides. The most frequent motifs are of circular shape, averaging 20mm in diameter, with a subtriangular section. These correspond to open conical volumes. The centre of the matrix is occupied by an axial depression around which ornamental motifs are articulated in a symmetric way: festoons, rays, coma, dots, etc. A strip is systematically included on the external edge to facilitate the un moulding of the metallic sheet. To better apprehend the importance of the recognition of these tools in Corsica, we now propose to digress slightly and describe a broader context for the introduction of protocols originating most probably from the Aegean. In meridional Greece, from the beginning of the late Helladic, the metallurgical techniques of the *repoussé* went under considerable development which is to be put in parallel with the emergence of “palatial” Mycenaean elites and their prestigious dress code.²⁷ These techniques essentially concern the treatment of pure gold or electrum sheets and are used for the production of body, clothing and wall adornments. The artefacts uncovered in the tombs of Mycenae, Dendra, Aidonia and Gournospilia²⁸ show the diversity of products more or less linked to this know-how and to these matrix supports, for which many examples are comparable to the Corsican ones. Amongst the most commonly observed productions, we note in particular the rosettes, which are circular pieces with a diameter between one and several centimetres which present a geometrical radiating motif organised in rectilinear zones or more rarely arched around a nipple or a central umbilical point. The set is systematically circumscribed by a thin peripheral ring. Realised in a hollow matrix in a block of steatite, these elements are generally flat but some of them present a ribbed hemispheric shape. These rosettes, most of the time made of gold, seem to be strictly associated with aristocratic graves. In this context they constitute either costume adornments where they highlight the buttons or mock necklaces. They can also be found on the equipment of the dead, on some protruding parts of dishwares and on the handle of rapiers. Other pieces of the usual funerary set of Mycenaean elites, where gold is omnipresent, show that the usage of matrices is not exclusively dedicated to the production of rosettes. We mention the prominent example of the diadems of Mycenae, also produced from a sheet of gold, which illustrate their non-functional character outside the sepulchral sphere. An important number of them bears aligned circular motifs which are all identical and faithful to the iconography of rosettes. These recurrent motifs are not limited to the embossing of precious metals as it also occurs on ivory or glass rosettes, wall paintings and jewellery pieces realised using the lost wax technique, using a large variety of combinations. Already from the Late Helladic I (XVIth century BC, corresponding to the Middle Bronze Age 1 in Corsica), the Greek princes therefore adopted techniques in the interest of minimising the quantity of precious metal to obtain large surfaces. Very thin sheets must have been used through different techniques such as mechanical spreading and stretching, folding and embossing, thus resulting in the absence of material waste and acting as a volumising *trompe-l’œil*. Hence,

²⁷ E. KONSTANTINIDI-SYVRIDI, “Buttons, pins, clips and belts... Inconspicuous dress accessories from the burial context of the Mycenaean period (16th-12th cent. BC)”, in M. HARLOW, C. MICHEL and M.-L. NOSCH (eds), *Prehistoric, ancient Near Eastern and Aegean textile and dress, an interdisciplinary anthology, Ancient Textile Series* 18 (2014) 142-157; E. KONSTANTINIDI-SYVRIDI, N. PAPADIMITRIOU, A. PHILIPPA-TOUCHAIS and A. GOUMAS, “Goldworking techniques in Mycenaean Greece (17th/16th-12th century BC): some new observations”, in H. MELLER, R. RISCH and E. PERNICKA (eds), *Metalle der Macht – Frühes gold und silber, 6. Mitteldeutscher Archäologentag* (Halle, OctobER 2013) (2014) 335-349; E. KONSTANTINIDI-SYVRIDI and C. PASCHALIDIS, “Life and death at Mycenae at the end of the Prepalatial period. The case of the chamber tomb south of Grave Circle B”, in A.-L. SCHALLIN and I. TOURNAVITOU (eds), *Mycenaeans up to date. The archaeology of the north-eastern Peloponnese. Current concepts and new directions* (2015) 405-431.

²⁸ K. DEMAKOPOULOU, *The Aidonia treasure. Seals and jewellery of the Aegean Late Bronze Age* (1998); ID., “Sépultures et pratiques funéraires dans le bassin égéen”, in *L’Europe au temps d’Ulysse. Dieux et héros de l’âge du Bronze* (1999) 98-101.

several deads are dressed in tunics almost entirely covered in gold (for example, the baby of the Circle A of Mycenae), by using only a few grams of metal. Only the faces are masked and protected from corruption by a heavier piece linking the two ears. Despite the apparent richness of this adornment, the techniques used to obtain these eye-catching ornaments at a minimal cost illustrate the ostentatious status of the deceased. After half a millennium of homogeneous usage, the traditional *repoussé* work of gold sheets disappears in the Aegean at the same time as the breakdown of commercial routes and palatial systems around the end of the XIIth century BC. It had well diffused across the full Mediterranean basin.

In Corsica, the matrix support of Acqua d'Ilicci, for which the motifs are edgeless, may have served to adorn diadems or belts, and even perhaps create individual objects such as brackets. This object could be older than the others. Those of Speloncato, Murtoli and Ariale have bordered grooves and could have permitted the confection of hollow globular beads by opposing two hemispheric brackets or with a single decorated face. They could have been used individually as brackets, placed on the dead or sewed on clothes and perhaps pierced and threaded together to form a bracelet or a necklace. The points of certain motifs of the support of Speloncato could have been made to facilitate the subsequent piercing. The circular, hemispheric and globular jewels, the rosettes and the radiating motifs can all be interpreted as solar motifs. This aspect is reinforced by their constituting material, be it gold or electrum.²⁹ The fragility of the objects produced using this technique, if it is not complemented by the adjunction of a supple material inside the *repoussé* sheet, testifies of a rare utilisation, for parading, as this type of adornment seems to be wearable only once. The Mycenaean discoveries, all made in funeral context, orient towards this interpretation. The absence of known sepulchral contexts during the middle stage of the Corsican Bronze age,³⁰ namely the period when these techniques were developed, may explain the absence of finished products on the island.

More uncertain testimonies?

Other materials also lead to a questioning on the possible Eastern origin of repertoires. It is particularly the case of a type of ceramic diffused in the south of the island between the Middle Bronze Age 2 and the Late Bronze Age (Pl. XXIIIa). Usually these are perforated disks with the top part prolonged by three or four vertical pods used as a medium to support a top part for which nothing is known (basin? large crown? tray?) These objects are present at Castiglione, Filitosa and Campu Stefanu and are similar to Pre-palatial Peloponnesian clay stands.³¹ In Corsica, in addition to this function, they are also seen as bracers.³²

Another enigmatic artefact was uncovered at Filitosa. It is several centimeters long, made with clay and in the form of an ox hide with transversal perforations at each of its four extremities (Pl. XXIIIb). Although it could correspond to a thread distributor belonging to a weaving loom, its appearance and chronology (Middle or Late Bronze Age) rather evoke copper oxhide ingots which circulated in the Mediterranean from that time. It is particularly relevant since a large number of miniature ingots have been used for various purposes.³³

Which place for Corsica within the East-West networks?

Leaving aside the issues related to the supposed Shardana invasion theory of 1960's, the question of the arrival of exotic materials in Corsica has solely been highlighted after the recognition of the Sant'Anastasia oxhide ingot and the analyses carried out on beads at Foce and Tiresa at the beginning of

²⁹ C. ELUÈRE, "Le monde des Dieux à l'âge du Bronze" in *L'Europe au temps d'Ulysse. Dieux et héros de l'âge du Bronze* (1999) 132-136; EAD., "Les dépôts d'or à l'âge du Bronze", in *ibidem* 168-171.

³⁰ With the notable exception of Campu Stefanu, see *supra*.

³¹ KONSTANTINIDI-SYVRIDI and PASCHALIDIS (*supra* n. 27).

³² PECHE-QUILICHINI (*supra* n. 9, 2009).

³³ A. GIUMLIA-MAIR, V. KASSIANIDOU and G. PAPASAVVAS, "Miniature Ingots from Cyprus", in P. P. BETANCOURT and S. C. FERRENCE (eds), *Metallurgy: Understanding how, learning why, Studies in Honor of James D. Muhly* (2011) 11-19.

the 2000's. The individualisation of these discoveries had led to the idea of punctual contacts (*via* Sardinia?) between insular peoples and ships coming from the Eastern Mediterranean. Developments of research during the last years allow us to precise some observations but the portrait remains nonetheless incomplete. Discoveries made at Campu Stefanu have revealed, for the first time in a reliable context, imported materials at a period around the XIIIth century BC, at the end of the Middle Bronze Age, according to the insular phasing. These elements then confirm facts which have been established for almost half a century in Sardinia³⁴ and in the whole central Mediterranean, documenting goods circulation and assimilation of Aegean, Egyptian, Cypriot, Phoenician and then Euboean technical know-how between the XVIth and VIIIth centuries BC. The strict association of Baltic amber to Near East glass, possibly processed in continental Greece, shows the complexity of circumstances which led to the convergence of artefacts in the South-West of Corsica, going through a number of undetermined intermediates (Pl. XXIV). In the current state of knowledge, the most plausible hypothesis can be built based on the morphological interpretation of amber beads, produced on the Mycenaean territory,³⁵ perhaps already making use of vitreous elements from the Levant or Egypt. This set of beads may have been assembled in South-West Greece,³⁶ the area which provided the largest number of testimonies of contacts with the Western Mediterranean. The chronological attribution of the archaeological deposit of rock shelter 1 is around the XIIIth century BC, corresponding to the LH IIIB. The question of the presence of exotic objects in this Corsican burial in the middle of Bronze Age refers to the description of circulation and exchange systems of prestige goods and *exotica* between local elites.³⁷ Such practices are attested all over the Eastern Mediterranean from the 2nd millennium BC³⁸ and are envisaged in the Western area, particularly in Sardinia from an advanced phase of the Middle Bronze Age.³⁹ It is worth

³⁴ FERRARESE-CERUTI (*supra* n. 17); F. LO SCHIAVO and L. VAGNETTI, "Alabastron miceneo dal nuraghe Arrubiu di Orroli", *Rendiconti dell'Accademia dei Lincei* 9 (1993) 121-148; A. USAI, "L'ambra nel percorso di sviluppo della Sardegna nuragica", in M.L. NAVA and A. SALERNO (eds), *Ambre. trasparenze dall'antico. Catalogo della mostra* (2007) 96-105; N. CUCUZZA, "La ceramica micenea", in J. BONETTO, G. FALEZZA and A.R. GHIOTTO (eds.), *Nora. Il foro romano. Storia di un'area urbana dall'età fenicia alla tarda Antichità (1997-2006), II-1: I materiali preromani* (2009) 3-5; F. SERCHISU, "Considerazioni sulla circolazione del rame in Sardegna e nel Mediterraneo: i lingotti ox-hide", in M.G. MELIS (ed.), *Uomo e territorio. Dinamiche di frequentazione e di sfruttamento delle risorse naturali nell'Antichità. Atti del convegno nazionale dei giovani archeologi* (Sassari, September 2006) (2009) 170-176; E. POMPIANI and L. SORRO, "Nuove testimonianze micenee da Sulky (Sardegna)", *Rivista di Studi Fenici* 39 (2011) 291-302; V. SANTONI, G. BACCO and F. LO SCHIAVO, "Frammento di lingotto 'a forma di pelle di bue' dal nuraghe Serucci, Gonnesa (Cagliari)", in *Preistoria e Protostoria della Sardegna. Atti della XLIV Riunione Scientifica dell'Istituto Italiana di Preistoria e Protostoria* (Cagliari-Barumini-Sassari, November 2009) (2012) 1583-1589; A. USAI, C. LOI and F. LO SCHIAVO, "Frammento di lingotto 'a forma di pelle di bue' ed altri dal nuraghe Benezziddo di Aidomaggiore (Oristano)", in *ibidem* 1595-1600.

³⁵ The work of raw amber in other regions, such as Sardinia or south Italy cannot however be totally ruled out, see E. BLAKE, "Late Bronze Age Sardinia: Acephalous Cohesion", in B. KNAPP and P. VAN DOMMELEN (eds), *The Cambridge Prehistory of the Bronze and Iron Age Mediterranean* (forthcoming).

³⁶ The hypothesis of an Aegean origin, in the case of an amber-glass association during the Middle Bronze Age, is collegially accepted in the Western Mediterranean (P. BELLINTANI, "Ambra. Una materia prima dal nord (ma non solo)", in A. CAZZELLA and G. RECCHIA [eds], *Ambra per Agamemnone. Indigeni e Micenei tra Egeo, Ionio e Adriatico nel II millennio a.C. Catalogo della mostra* [2010] 139-144; P. BELLINTANI, I. ANGELINI, G. ARTIOLI and A. POLLA, "Origini dei materiali vetrosi italiani: esotismi e localismi", in *Preistoria e Protostoria della Sardegna. Atti della XLIV Riunione Scientifica dell'Istituto Italiana di Preistoria e Protostoria* (Cagliari-Barumini-Sassari, November 2009) [2012] 1495-1531).

³⁷ A. BRYLSBAERT and M. VETTERS, "A moving story about exotica: objects' long-distance production chains and associated identities at Tiryns, Greece", *Opuscula. Annual of the Swedish Institutes at Athens and Rome* 6 (2013) 175-210.

³⁸ For example G. GESTOSO SINGER, "El intercambio de materias primas y bienes de prestigio entre Egipto y los estados de Mesopotamia (siglos XV y XIV a.C.)", *Aula Orientalis* 2 (2006) 189-211.

³⁹ LO SCHIAVO and VAGNETTI (*supra* n. 34); F. RADINA and G. RECCHIA, "Scambi senza ceramica: ambra, avorio e pasta vitrea nei rapporti tra Italia sud-orientale e mondo egeo", in *Materie prime e scambi nella*

mentioning that the discovery of amber and/or glass ornaments for the Nuragic period comes, as it is the case at Campu Stefanu, essentially from sepulchral contexts.⁴⁰ If this phenomenon cannot be more deeply understood for the moment because of the extreme complexity of the various possible schemas, it allows us to better appreciate the place of Corsica in the procurement patterns stemming from the East and affecting the Western Mediterranean basin. The insertion of these exogenous elements in an environment where their occurrences are extremely limited provides a more precise image of their status within the Corsican and Sardinian material systems. Although of lesser impact here, the question of the technico-functional influence of these imports on local productions is an issue which has recently seen very original developments⁴¹ which may well bring new social perspectives.⁴²

Kewin PECHE-QUILICHINI
 Ludovic BELLOT-GURLET
 Joseph CESARI
 Bernard GRATUZE
 Jean GRAZIANI
 Franck LEANDRI
 H el ene PAOLINI-SAEZ

Preistoria italiana. Atti della XXXIX Riunione Scientifica dell'Istituto Italiana di Preistoria e Protostoria (Florence, November 2004) (2006) 1555-1565.

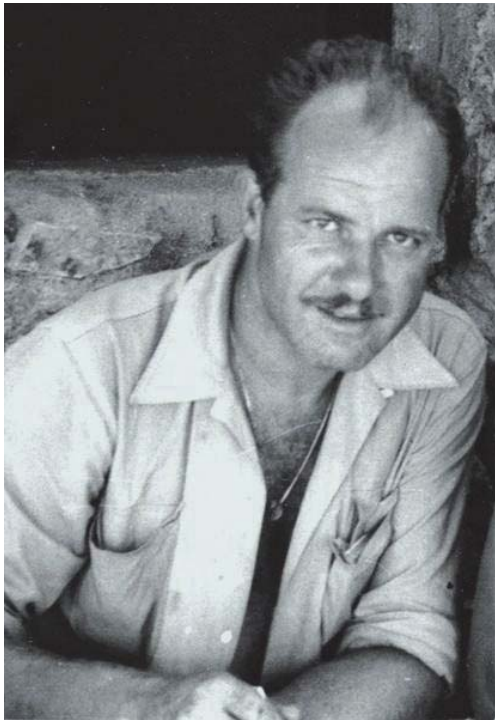
⁴⁰ E. ATZENI, A. USAI, P. BELLINTANI, O. FONZO, L. LAI, R. TYKOT, T.J. SETZER, T.J., R. CONGIU and S. SIMBULA, "Le tombe megalitiche nuragiche di Sa Sedda 'e sa Caudela (Collinas - CA)", in *Preistoria e Protostoria della Sardegna. Atti della XLIV Riunione Scientifica dell'Istituto Italiana di Preistoria e Protostoria* (Cagliari-Barumini-Sassari, November 2009) (2012) 665-670; P. BELLINTANI and A. USAI, "Materiali vetrosi protostorici della Sardegna: inquadramento crono-tipologico e considerazioni sulle relazioni tra Mediterraneo centrale e orientale", in *ibidem* 1122-1130; P. BELLINTANI, A. USAI and M.A. FADDA, "Ambre protostoriche della Sardegna: nuovi dati su tipologia e possibili indicatori di lavorazione locale", *ibidem* 1163-1171.

⁴¹ GRAZIANI *et al.* (*supra* n. 26).

⁴² We thank Maryline Lambert, University of Durham, for the translation.

LIST OF ILLUSTRATIONS

- Pl. XXIa Roger Grosjean (1920-1975).
Pl. XXIb Oxhide copper ingot from San'Anastasia-Borgo (after F. Lo Schiavo).
Pl. XXIc Amber, glass and bronze necklace from Campu Stefanu-Sollacaro (after J. Cesari).
Pl. XXII Corsican *repoussé* matrix. A-B: Speloncato (after D. Dainat, J. Graziani and K. Peche-Quilichini); C: Murtoli-Sartène (after H. Paolini-Saez and K. Peche-Quilichini); D: L'Ariali-Sartène (after K. Peche-Quilichini and F. Soula); E: Negative *rosette* from Medeon/Phocidia (*Corpus der Minoischen und Mykenischen Siegel*, V 419).
Pl. XXIIIa Corsican clay stands or braceros (after K. Peche-Quilichini). A, E: Castiglione-Grosseto, structure 2, us Ib; B-C: Filitosa-Sollacaro; D: Campu Stefanu, structure 1, us IIb; F: Apazzu Vecchju-Sartène, abri de la Meule.
Pl. XXIIIb Clay miniature oxhide ingot (?) from Filitosa (MC DW2) (after K. Peche-Quilichini).
Pl. XXIV Localization of glass and amber deposits, workshops and supposed roads in relation with Campu Stefanu (black star) (after K. Peche-Quilichini).



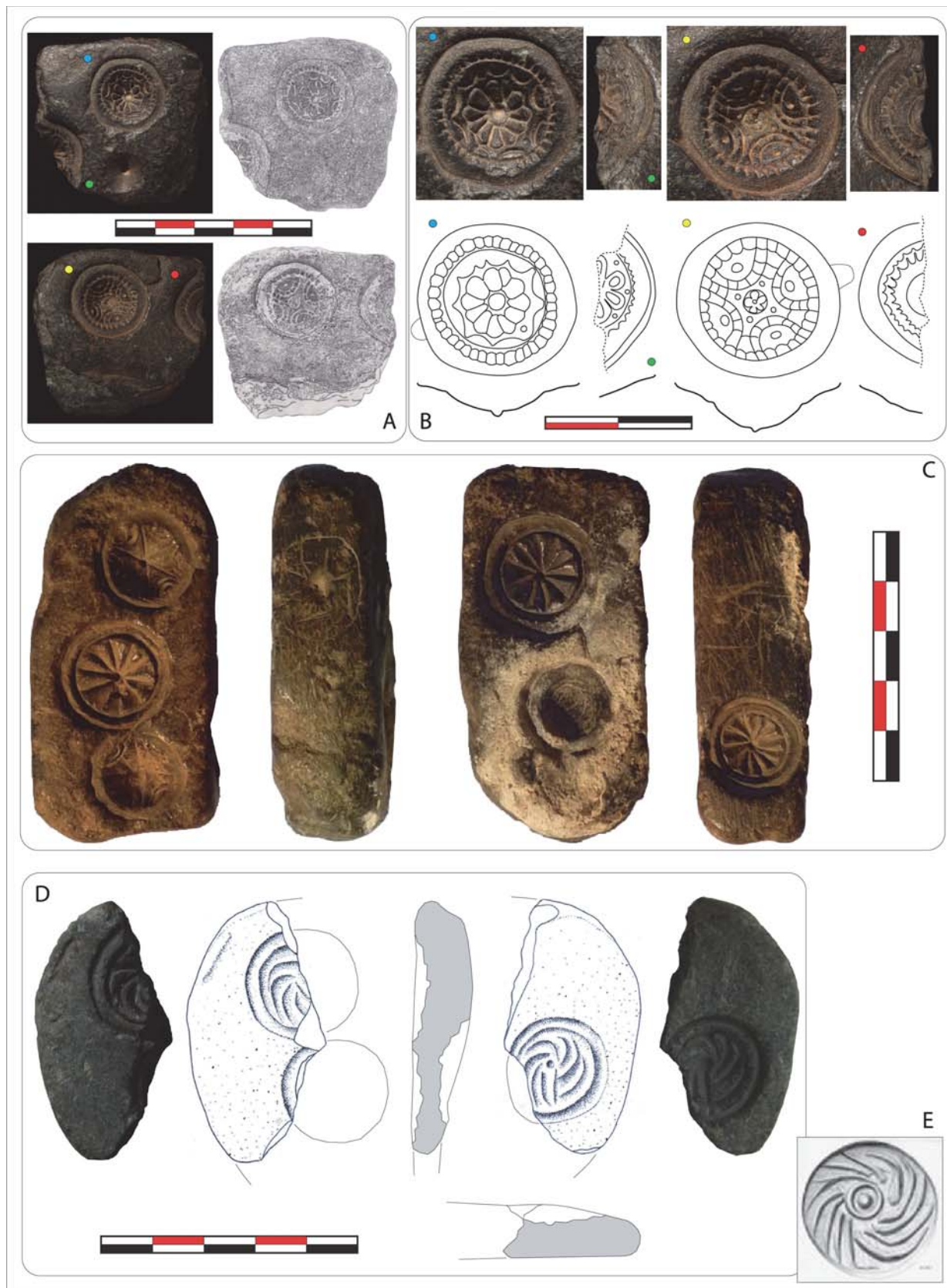
a

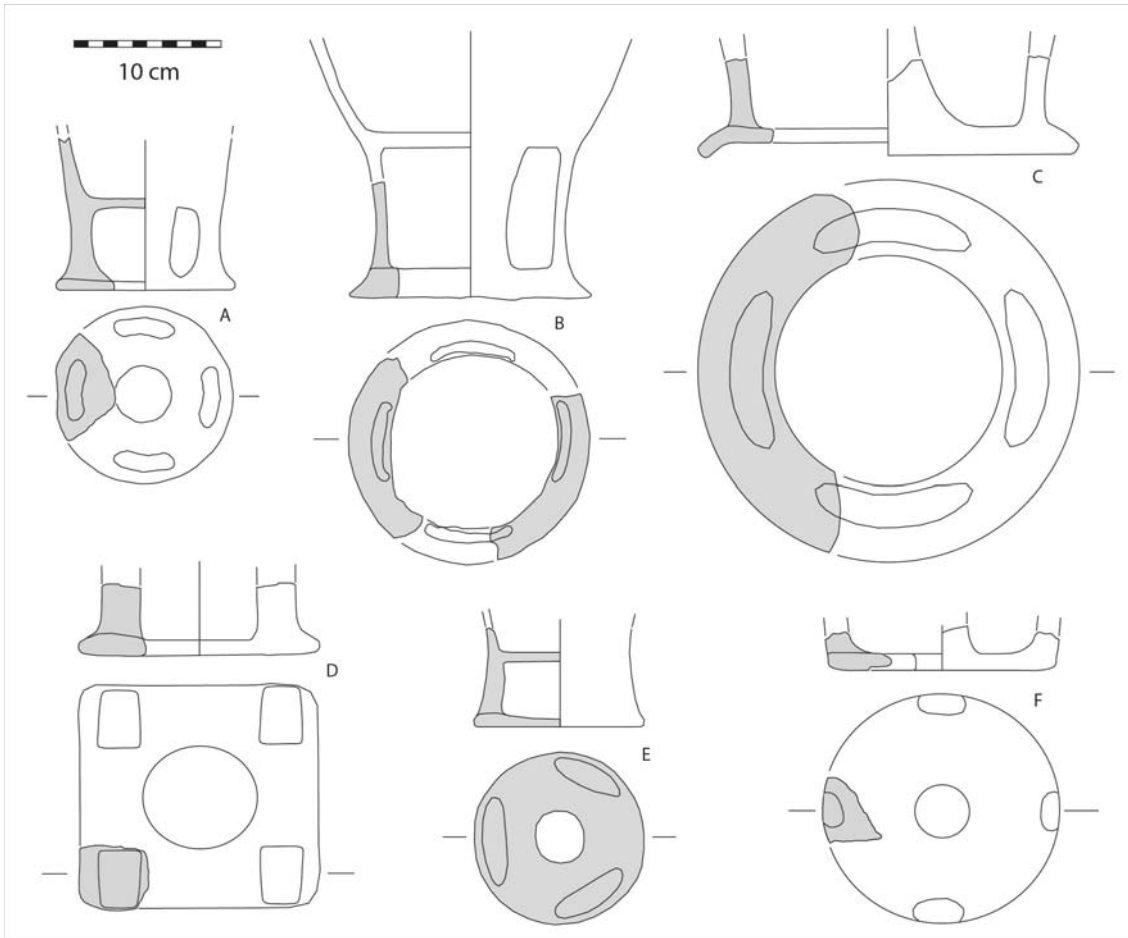


b

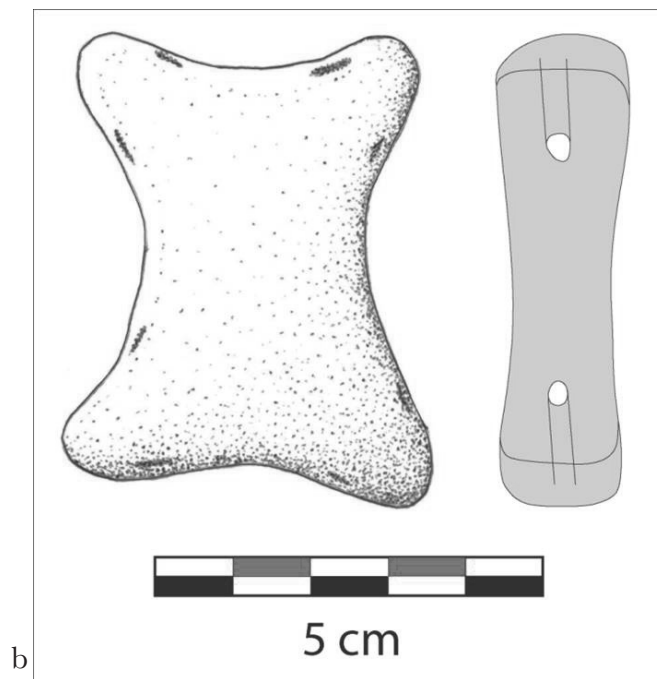


c





a



b

