

ROMAN GAME FINDS FROM CREMONA (ITALY)

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Abstract. Finds pertaining to board games have been discovered during excavations in the northern Italian town of Cremona. Some objects were found in the recently published Piazza Marconi dig, in contexts belonging to three *domus* dated between the late Republic and the early Empire (40 BC - 69 AD). Thirteen black and white glass counters and two ivory dice were found in the remains of a wooden chest of drawers or cabinet in a probable service room of the “*Domus del ninfeo*”. A bone “Alexandrian” counter incised with a bird in flight and, on the reverse, the Roman numeral II and the Greek number B (*beta*) was found in the destruction levels following the drastic siege of Cremona by Vespasian troops during the civil war of 69 AD. Finally, a bone token in the form of an elongated parallelepiped (so-called *tessera lusoria*) with the word FICOSE inscribed on one side and the Roman numeral XIV on the other was found in the construction trench of an early Imperial house discovered during excavations underneath the Cathedral of Cremona. The paper will discuss in detail the finds, their contexts and their meanings.

Roman Cremona, glass counters, ivory dice, bone “Alexandrian” counters, board games

Περίληψη. Ευρήματα που σχετίζονται με επιτραπέζια παιχνίδια αποκαλύφθηκαν κατά την διάρκεια αρχαιολογικών ερευνών στην πόλη

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Κρεμόνα στην βόρεια Ιταλία. Ορισμένα αντικείμενα βρέθηκαν στην προσφάτως δημοσιευθείσα ανασκαφή της Piazza Marconi, σε σύνολα που ανήκουν σε τρεις οικίες και χρονολογούνται μεταξύ της ύστερης Δημοκρατίας και της πρώιμης αυτοκρατορικής εποχής (40 π.Χ. - 69 μ.Χ.). Δεκατρείς μαύροι και λευκοί γυάλινοι πεσσοί και δύο ζάρια από ελεφαντόδοντο βρέθηκαν στα υπολείμματα μιας ξύλινης συρταριέρας ή ερμαρίου σε ένα πιθανώς βοηθητικό δωμάτιο της «Οικίας του Νυμφαίου». Ένας οστέινος «αλεξανδρινός» πεσσός με εγχάρακτο πτηνό εν πτήσει, και, στην οπίσθια όψη, τον αριθμό II στα λατινικά και το B (βήτα) στα ελληνικά, εντοπίστηκε στα στρώματα καταστροφής που έπονται της βίαιης πολιορκίας της Κρεμόνας από τα στρατεύματα του Βεσπασιανού κατά την διάρκεια του εμφυλίου πολέμου το 69 μ.Χ. Τέλος, ένας οστέινος πεσσός σε σχήμα επιμήκους παραλληλεπιπέδου (μια λεγόμενη *tessera lusoria*), που φέρει επιγραφή με την λέξη FICOSE στην μία πλευρά και τον λατινικό αριθμό XIV στην άλλη, βρέθηκε στην τάφρο θεμελίωσης μιας πρώιμης αυτοκρατορικής οικίας κατά την διάρκεια ανασκαφών κάτω από τον καθεδρικό ναό της Κρεμόνας. Το άρθρο παρουσιάζει λεπτομερώς τα ευρήματα, τα αρχαιολογικά τους σύνολα και την σημασία τους.

Ρωμαϊκή Κρεμόνα, γυάλινοι πεσσοί, ζάρι από ελεφαντόδοντο, οστέινοι «αλεξανδρινοί» πεσσοί, επιτραπέζια παιχνίδια

Riassunto. Nel corso di ricerche archeologiche condotte nella città di Cremona, in Italia settentrionale, sono stati scoperti alcuni oggetti pertinenti a giochi da tavolo. Un primo gruppo è emerso dagli scavi di Piazza Marconi, pubblicati di recente, in contesti riferibili a tre *domus* databili tra la tarda età repubblicana e la prima età imperiale (40 a.C.-69 d.C.). Tredici pedine in vetro nero e bianco e due dadi in avorio sono stati rinvenuti nei resti di una cassetiera o armadio di legno, in una stanza probabilmente di servizio della “*Domus del ninfeo*”. Un gettone “alessandrino” in osso, con inciso un uccellino in volo sul diritto e il numerale II in latino e B (*beta*) in greco sul rovescio, è stato invece individuato nei livelli di distruzione del sito, seguita al violento assedio di Cremona da parte delle truppe di Vespasiano, durante la guerra civile del 69 d.C. Infine, un elemento a forma di parallelepipedo allungato in osso (cosiddetta *tessera lusoria*), con la parola FICOSE inscritta su un lato e il numerale romano XIV sull’altro, è stato trovato nella trincea di fondazione di una casa della prima età imperiale, individuata nel corso di scavi condotti sotto la Cattedrale di Cremona. Nell’articolo, i singoli oggetti sono presentati nel dettaglio in relazione ai loro contesti di rinvenimento e se ne discutono le possibili interpretazioni.

Cremona romana, pedine in vetro, dadi in avorio, gettoni “alessandrini” in osso, giochi da tavolo

Introduction

Cremona was the first Latin colony to be founded north of the Po River in 218 BC. Numerous stratigraphic excavations have been carried out since the 1980's, significant are those of Piazza Marconi and the crypt of Saint Omobono under the Cathedral (Fig. 1).¹

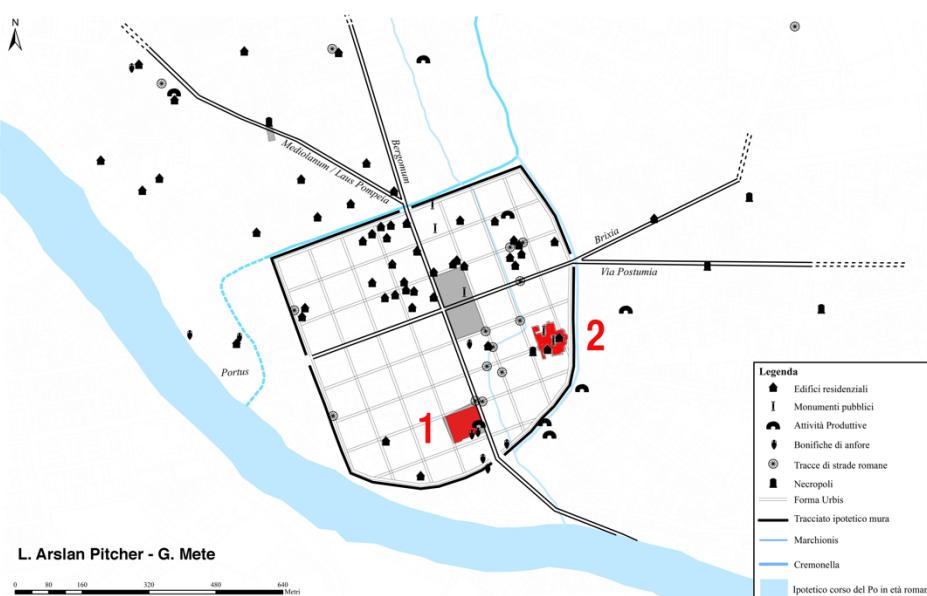


Figure 1: Archaeological map of Roman Cremona. 1. Piazza Marconi; 2. Cathedral.

1. Gaming pieces from excavations in Piazza Marconi

Three different types of gaming pieces were discovered in the remains of the late Republican/early Imperial houses brought to light during digs in Piazza Marconi. In the pantry area of a wealthy residence known as the “*Domus del ninfeo*”, a burnt wooden chest of draws or closet was found collapsed on the floor of room 18 (Fig. 2),² destroyed by the fire lit by

¹ For the most recent bibliography, see PASSI PITCHER 1989; PASSI PITCHER 2003; PASSI PITCHER – VOLONTÉ 2007; CECCHINI 2009; ARSLAN PITCHER *et alii* 2017; ARSLAN PITCHER *et alii* 2018.

² ARSLAN PITCHER *et alii* 2017, 241-256.

Vespasian's troops during the 69 AD civil war. The assault lasted four days according to Tacitus,³ leaving the city razed to the ground. At least 120 objects were discovered on the floor; they varied from mirrors to personal ornaments to keys to part of a board game. Thirteen glass lenticular counters and two ivory dice were found (Fig. 3).⁴ Six counters were black and seven were white. Each side of the dice has a number marked by a simple circle with a dot in the centre from 1 to 6, the two opposite faces always add up to 7.

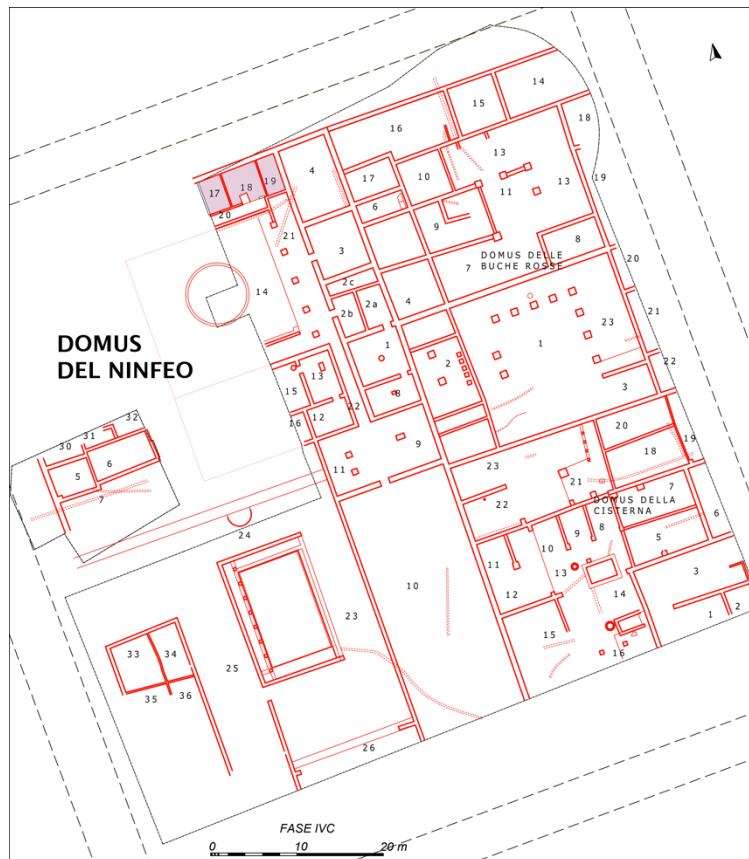


Figure 2: Cremona, Piazza Marconi. Plan of the late Republican/early Imperial houses; evidenced, rooms 17-18-19 of the “*Domus del ninfeo*”.

³ Tac., *Hist.*, 3. 27-33.

⁴ CECCHINI – BIANCHI – DIANI 2015, 124-125, nos. 3-4; DIANI 2018, 332; BIANCHI 2018, 429, pl. IV, nos. 18-19.

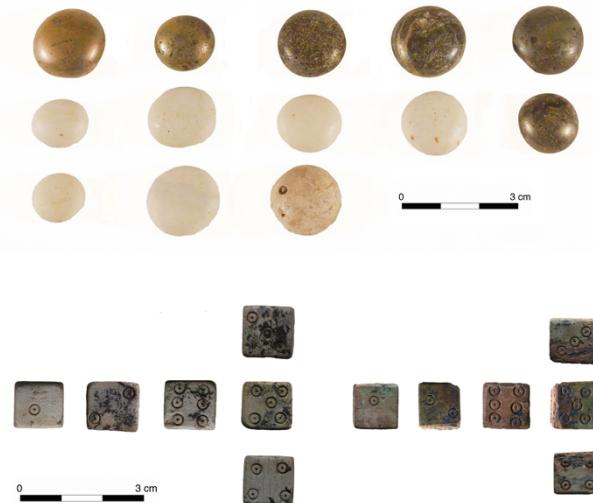


Figure 4: Cremona, Piazza Marconi. Glass counters (Diam. min. 1.2 cm, max. 1.8 cm) and ivory dice (L. 1.3 cm and 1.1 cm) found in room 18 of the “*Domus del ninfeo*”.



Figure 3: Cremona, Piazza Marconi. Plan of the “buche rosse” layer; evidenced, US 1158 where the “Alexandrian” counter was found.

After the drastic devastation, the city was rebuilt with great cost on the part of the township and neighbouring towns and with the physical aid of the army. One of the major obstacles for the reconstruction of the city was the presence of rubble. A rather peculiar technique for clearing up the debris was introduced in the *insula* of Piazza Marconi: the western part of the block was levelled off and, on the eastern side, a series of rectangular holes were dug and part of the left over remains was used to fill in the holes so that the terrain was stabilized, allowing a good surface for the rebuilding of new houses (Fig. 4). These holes, called “*buche rosse*”, contained everyday objects from the houses such as glass, pottery, fragmented building materials, etc. No metal objects were found as the soldiers had combed the city for booty.

An “Alexandrian” gaming piece was found among the finds in US 1158 (Fig. 5).⁵ The bone counter has, on the obverse side, the incised image of a small bird with a budding flower in its beak, whereas on the reverse side, there is the number given in the Latin form II and in the Greek form B (*beta*). Different types of birds are depicted on other gaming pieces as, for example, the one kept in the Musei Capitolini in Rome,⁶ one counter in Alessandria,



Figure 5: Cremona, Piazza Marconi. Bone “Alexandrian” counter (Diam. 3 cm) found in the “*Domus delle buche rosse*”, in one of the rectangular holes along with the rubble.

⁵ CECCHINI – BIANCHI – DIANI 2015, 124–125, no. 2; BIANCHI 2018, 430, pl. IV, no. 23.

⁶ TALAMO 1997, 163–164, no. 456.

Graeco-Roman Museum,⁷ another in Hannover, Kestner Museum⁸ and one counter from *Baetulo* (Badalona) in Spain.⁹ For the flower, comparisons can be drawn from pieces representing subjects connected to the swampy areas of the Nile delta; in certain cases, a crocodile is included.¹⁰ This interpretation is supported by the word *Kyamon* carved on almost all of the latter examples. In Greek, *kyamon* designates a lotus blossom found in the Nile delta, which is described by Strabo¹¹ and Pliny the Elder.¹² The iconography of a bird with a lotus flower in its beak is also common in various Nilotica scenes popular between the Late Republic and Early Empire. A prime example can be found in mosaics of the “Casa del Fauno” in Pompeii¹³.

2. “Alexandrian” counters: Some remarks on finds in archaeological contexts

The so called “Alexandrian” counters are discoid in shape and are made either of bone or ivory. On the obverse side, various figured scenes are found; on the reverse, numerals in Latin and Greek (from 1 to 15) are present, and sometimes, in the middle, an inscription in Greek identifies the subject. For a long time during the 19th century, these objects were great collectors’ items and they were analysed by many scholars.¹⁴ Initially, they were considered to be a sort of theatre ticket, but the discovery of an infant burial from Kerch in Crimea containing a complete series of fifteen counters, numbered from 1 to 15, changed the latter theory and they are now considered gaming pieces.¹⁵ The Russian historian and archaeologist Michail Rostovtsev, at the beginning of the last century, published the find from Kerch and supported this new interpretation. Many years after, since the seventies of the last century, the iconography of this particular kind of

⁷ RIAD 1966, pl. IV, no. 9.

⁸ MŁASOWSKY 1991, 74-75, no. 154.

⁹ RODRÍGUEZ MARTÍN in preparation.

¹⁰ ALFÖLDI-ROSENBAUM 1976, 219-220, pl. 25, nos. 55-60; BIANCHI 2015, 57-59, no. 4.

¹¹ Strab., *Geogr.*, 17.1.15.

¹² Pl., *HN*, 21.51.87.

¹³ BORRIELLO *et alii* 1997, 276-277, pl. 68.

¹⁴ FRÖHNER 1884; BLANCHET 1889; GRAILLOT 1896; HÜLSEN 1896, 238-250; BULIĆ 1897; FRÖHNER 1901; LAURENT 1903.

¹⁵ ROSTOVTSEV 1904, pl. III and IV, 1-3; ROSTOVTSEV 1905, 112-114.

counters has been carefully analysed by Elisabeth Alföldi-Rosenbaum,¹⁶ but we do not yet have a complete *Corpus* of the finds.¹⁷

“Alexandrian” counters were considered to be of Alexandrian origin because the scenes engraved often represented monuments, places of cult or landscapes connected to the city of Alexandria and to the Nile delta.¹⁸ But apart from the aforementioned scenes, other images were found: gods from the Graeco-Roman and Egyptian pantheon, but also heroes, poets, athletes, and portraits of Roman politicians and emperors from the Julio-Claudian Dynasty, for instance Julius Caesar, perhaps Antonius, Augustus, Tiberius, Nero, the women of the Julio-Claudian family such as Julia and Livia¹⁹ and also a member of the late Ptolemaic Dynasty, one of Cleopatra’s brothers, probably Ptolemy XIV.²⁰ The features do not always correspond to their respective portraits, but the subjects are explicitly defined by the inscriptions on the reverse. There are also caricatures, for example of prostitutes, theatrical masks, victory wreaths of athletic competitions along with a considerable variety of animals, plants and inanimate objects.

The numbers on the reverse do not necessarily connect with the scene on the obverse, and we find the same subject with different numbers; for instance, in the Kerch find, a head of Aphrodite is present twice but linked to different numbers. In some cases, on the obverse, hands with fingers in various positions indicate a specific number (the so called “finger calculus”) while on the reverse, there are for the most part Latin numerals, and rarely also Greek ones.²¹ There are also simpler counters without images but only with circular grooves on the obverse; on the reverse the usual numerals range from 1 to 15 in Latin and Greek.²²

¹⁶ ALFÖLDI-ROSENBAUM 1971; ALFÖLDI-ROSENBAUM 1975; ALFÖLDI-ROSENBAUM 1976; ALFÖLDI-ROSENBAUM 1980; ALFÖLDI-ROSENBAUM 1984. The pieces known by E. Alföldi-Rosenbaum were about five hundred, but recent discoveries have increased this number.

¹⁷ For a history of studies, see BIANCHI 2021.

¹⁸ ALFÖLDI-ROSENBAUM 1976; FRAGAKI 2011, 17-20, 27-40, 114-119.

¹⁹ ALFÖLDI-ROSENBAUM 1980.

²⁰ WALKER 2000, p. 168, no. III.18 (the inscription is *adelphos Kleopatras*). See also PLANTZOS 2002, 38-39.

²¹ FRÖHNER 1884; ALFÖLDI-ROSENBAUM 1971; BIANCHI 2015, 60, 63, no. 16. One piece with numerals both in Latin and Greek has been recently found in Phanagoria (OSTAPENKO 2016). On “finger calculus”, see also WILLIAMS – WILLIAMS 1995; GAVIN – SCHÄRLIG 2014 and GAVIN – SCHÄRLIG 2019.

²² See for example the counters from *Rudiae* (TEMPESTA 2012).

These gaming pieces can be dated between the Caesarian period and the end of the Julio-Claudian dynasty with Nero (conventionally between BC 45 and AD 68) even though some pieces continued to be used for quite a while, well into the first half of the 2nd century AD.

The wide spread use of these “Alexandrian” gaming pieces can be linked to that crucial moment in history characterized by the passage from the Republic to the beginning of the Roman Empire. As is well known, Alexandria played an important role during the events that saw Julius Caesar, Mark Antony and Octavian Augustus as main figures.

We do not really know how the game was played; it is not mentioned in ancient sources and all interpretations are up to questioning.²³ One of the theories is that they were part of a board game with counters numbered from 1 to 15 even though it is difficult to understand why counters in a board game should bear numbers, especially since there is no evident correspondence between the numbers and the images. Other interpretations link them to gambling matches with drawing lots so as to obtain one complete series with the numbers from 1 to 15 or a complete set of counters with similar subjects.

The geographic diffusion of “Alexandrian” counters is wide. They have been discovered throughout the Roman world: along the coasts of the



Figure 6: “Alexandrian” counters: distribution map of the finds presented in the paper.

²³ For a description of the *status quaestionis*, see BIANCHI 2021.

eastern Mediterranean, along the northern shores of the Black Sea, in Italy and as far away as central Europe (Fig. 6).²⁴ However, most of the examples recovered in the past by private collectors are unfortunately lacking the original provenance and context. An exemplary case is the important collection of Wilhelm Fröhner, formed between the last decades of the 19th century and the first decades of the 20th century, which included many “Alexandrian” counters; they are now kept in the Bibliothèque Nationale de France in Paris.²⁵ The collection formed by August Kestner, who lived in Rome in the first half of the 19th century, now kept at the Kestner Museum in Hannover, also includes several counters probably purchased in the city and its surroundings.²⁶ The Jules Sambon Collection is another significant case; it included twenty-five of these counters, sold in 1911 to the La Scala Theatre Museum and now kept in the Soprintendenza Archeologica in Milan.²⁷

However, even if many pieces from the collections of important museums are of unknown provenance,²⁸ some finds from graves or urban centres can be recorded. In past finds, often only generic information about the places where the counters were found is provided, without further data. The indication of the places can however give an idea of the wide geographical diffusion of the counters. Many “Alexandrian” counters were found in Egypt, and the most important group is kept in Alexandria, at the Graeco-Roman Museum.²⁹ Various counters were also found in the Near

²⁴ The distribution map of these finds (including also the counters of the simpler type with only circular grooves on the obverse) is at an initial phase, for more information on this research with some preliminary data, see BIANCHI 2021.

²⁵ BAKHOUM – HELLMANN 1992; DI SANTI 2017. It is possible that some of these counters were found in Egypt.

²⁶ HENZEN 1848; MLASOWSKY 1991, 70-75.

²⁷ BIANCHI 2015, 56-64.

²⁸ For example: JENTOFT-NILSEN 1982, 159-162, figs. 1-2, 4-5 (Getty Museum, Malibu); BUITRON – OLIVER 1985, 74-75, nos. 94-96 (Walters Art Gallery, Baltimore); BEHRENS 1940, pl. 4, no. 5 (Römisch-Germanisches Zentralmuseum, Mainz); ALFÖLDI 1942-1943, I, 4; II, pl. LX, nos. 9-13; SCHNEIDER 2005; GAGETTI 2013, 284, no. 113 (Kunsthistorisches Museum, Wien); MARANGOU 1976, 133, n. 282, pl. 71d-e (Benaki Museum, Athens).

²⁹ RIAD 1966 (Alexandria, Damanhur, Oxyrhynchus); RODZIEWICZ 2016, 40-44, 150-151; RODZIEWICZ 2007, 31-32, pl. 61, no. 495 (Alexandria); MAJCHEREK 1998, 31, fig. 4 (Alexandria, Kom-el-Dikka); PETRIE 1927, 57, pl. XLIX, no. 226; Berkeley, Phoebe Apperson Hearst Museum of Anthropology, Inv. 6-20514 (Tebtynis).

East,³⁰ in Greece,³¹ in the regions of the northern shores of the Black Sea,³² in southern and central Italy,³³ in northern Italy,³⁴ in Croatia,³⁵ in southern France,³⁶ in Spain,³⁷ in Switzerland³⁸ and in Austria.³⁹

³⁰ COTTON *et alii* 2012, 491, no. 115 (Jerusalem); AYALON 2005, 76, nos. 293-295; AMELING *et alii* 2011, 662, no. 1799 (*Caesarea Maritima*); STERN – SHARON 1995, 36, fig. 9; AMELING *et alii* 2011, 866, no. 2145 (Tel Dor); BLANCHET 1889, 237, no. 9, 370, no. 24; HÜLSEN 1896, 240, no. 15; ALFÖLDI-ROSENBAUM 1976, 237, no. 93 (Beirut); KONDOLEON 2000, 161, no. 46 (Antioch); GOLDMAN 1950, fig. 270, n. 4; fig. 273, no. 108; ALFÖLDI-ROSENBAUM 1976, 229, no. 14a (Tarsus); one piece purchased in Smyrna is now in Oxford, Ashmolean Museum (we would like to thank Clare Rowan for the information provided).

³¹ ALFÖLDI-ROSENBAUM 1980, 30, no. 17 (Athens); LAURENT 1903; DAVIDSON 1952, 219, pl. 99, no. 1679 (Corinth); PINGIATOGLOU 2012 (Dion); ADAM-VELENI 2009 (Thessaloniki) ROSTOVTSEV 1905, 110, fig. 1; ALFÖLDI-ROSENBAUM 1980, 30, no. 12 (Crete); WARREN 1987-1988, 88-90, figs. 12-13 (Knossos); SACKETT 1992, 386, E68, pl. 318, no. 20 (Knossos); PLEKET *et alii* 1997 (Rhodes); BCH 75, 1951, p. 170; KOŽELJ – WURCH-KOŽELJ 2012, 27-29, fig. 1e (Thasos).

³² SAVELYEV 2016 (Tyras); ALFÖLDI-ROSENBAUM 1984, 381, no. 18; ALFÖLDI-ROSENBAUM 1980, 29, no. 11 (Pontic Olbia); ROSTOVTSEV 1904; ROSTOVTSEV 1905 (Pantikapaion-Kerch); VINOKUROV – TREISTER 2015 (Artezian Citadel); KOSTROMICHYOV 2012 (Chersonesos); OSTAPENKO 2016 (Phanagoria).

³³ COCCHIARO 1988, 171-172, nos. 306-308; COCCHIARO 1991, 171-172, figs. 102-103 (Brindisi); FERRANDINI TROISI 1997 (Taranto); BARNABEI 1886; TEMPESTA 2012, no. V.40 (*Rudiae-Rugge*); COLONNA 1890; ALFÖLDI-ROSENBAUM 1976, 229, nos. 11 and 13; 231, no. 33; BORRIELLO 2010, n. 189; GEROGIANNIS 2017, no. 5; PACE in press a, fig. 4; PACE in press b, fig. 3 (Pompeii); ALFÖLDI-ROSENBAUM 1976, 232, no. 37 (Herculaneum?); BIANCHI 2015, 57-58, nos. 2 and 4 (Capua); BIANCHI 2015, 60-61, nos. 10-11 (Pozzuoli); ALFÖLDI-ROSENBAUM 1976, 231, no. 29 (Rome); CARAVALE 1994, 89-93, nos. III, 1 e III, 3 (Rome); VIGNA 2010, no. 188 (from Tevere river); GAGETTI 2013, 283-284, no. 111 (Rome); DI MEO 2006, 211, no. II.182 (Rome); for the counters now kept in museums in Rome, see TALAMO 1997, 163-164, nos. 452-457; CECI 2010, nos. 191-196; CARAVALE 1994, 88-93; RUSTICO 2013, 254, fig 10, bottom left; GABRICI 1903, 372, fig. 10 (Bolsena).

³⁴ ALFÖLDI-ROSENBAUM 1976, 232, no. 38 (*Veleia* or *Pompeii?*); one piece now kept in Ozzano dell’Emilia (Bologna); DEODATO 2014, 141, fig. 160, 1 (Ivrea); CECCHINI – BIANCHI – DIANI 2015, 124-125, no. 2; BIANCHI 2018, 430, pl. IV, no. 23 (Cremona); ALFÖLDI-ROSENBAUM 1976, 230, no. 18 (Verona); BLASON SCAREL 1992; GIOVANNINI 2006a; GIOVANNINI 2006b, 340-342 (Aquileia).

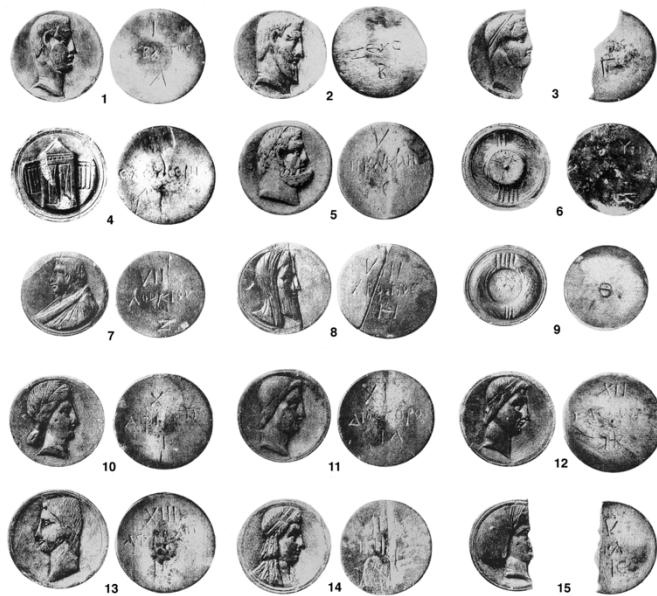
³⁵ BULIĆ 1897 (*Issa-Vis*); GIUNIO 2012, 112-113, figs. 28-29 (Zadar).

³⁶ FEUGÈRE 2009, 166, nos. 710-711, figs. 55 and 57; RODET-BERLARBI – LEMOINE 2010, 389, fig. 27, e, g, h (Fréjus); BLANCHET 1889, 369, 371, no. 26 (Vaison-la-Romaine); another piece is in the Museum in Vaison-la-Romaine; MANNIEZ 1984, 45, no. 130, 133, fig. 7 (one counter of unknown provenance now kept in Montpellier).

³⁷ RODRÍGUEZ MARTÍN in preparation (*Baetulo*-Badalona).

We will focus here specifically on the few cases of counters from recent excavations in towns allowing a confirmation of the date to the late Republican-early Imperial period.

In Israel, two “Alexandrian” counters with figured scenes were found in *Caesarea Maritima*: the first one in a layer dating to the years between the 1st



- 1 Obverse: Head of Augustus. Reverse: I / CEBACTOC / A
- 2 Obverse: Head of Zeus. Reverse: II / ZEYC / B
- 3 Obverse: Head of Hermes. Reverse: [III] / [ERM]HC / Γ
- 4 Obverse: Egyptian building. Reverse: IIII / ΕΛΕΥCEIN[ION] / Δ
- 5 Obverse: Head of Herakles. Reverse: V / HPAKHC / E
- 6 Obverse: Wreath with the word HPAI[A]. Reverse: YII (sic) / Φ
- 7 Obverse: Bust of a man wearing a toga. Reverse: VII / ΛΟΥΚΙΟΥ / Z
- 8 Obverse: Head of Kronos. Reverse: VIII / XPONOC / H
- 9 Obverse: Wreath with the word ΙΑΦ ΟΥ. Reverse: Θ
- 10 Obverse: Head of Aphrodite. Reverse: X / ΑΦΡΟΔΙΤ[H] / I
- 11 Obverse: Head of Pollux. Reverse: XI / ΛΙΟΚΟΡΟC / IA
- 12 Obverse: Head of Castor. Reverse: XII / KACTΩΡ / IB
- 13 Obverse: Head of Aphrodite. Reverse: XIII / ΑΦΡΟΔΙΤ[H] / II
- 14 Obverse: Head of Isis. Reverse: [X]III / ICIC / IA
- 15 Obverse: Head of Hera. Reverse: [X]V / [HP]A / IE

Figure 7: Fifteen “Alexandrian” bone counters (Diam. min. 2.7 cm, max. 3.1 cm) showing the numbers from 1 to 15 found in an infant grave in Kerch (ancient Pantikapaion) in Crimea (reproduced from ROSTOVSEV 1904).

³⁸ ALFÖLDI-ROSENBAUM 1976, 230, no. 22; HOLLIGER – HOLLIGER 1983, 11, fig. 4 (*Vindonissa*).

³⁹ UBL 1992 (*Lauriacum-Enns*); GOSTENČNIK 2005, 482, pl. 39, no. 1 (Magdalensberg site).

century BC and the 1st century AD; the second one, with a hand showing the characteristic position of “finger calculus”, in a layer dating to the years between the 1st and the 2nd century AD. Additionally, a third counter only presents circular grooves and numerals in Latin and Greek.⁴⁰

In Crete, one counter with only circular grooves and with numerals in Latin and Greek was found in Knossos during the excavations of the so-called “Unexplored Mansion” in a layer dating to the period of Hadrian-mid 2nd century AD.⁴¹

In Crimea, another counter with only circular grooves and numerals in Latin and Greek was found in the so-called “Artezian site” near Kerch, in a building (no. 10) of the earlier citadel destroyed in 46/47 AD during the war between Rome and the Bosporan kingdom.⁴²

In Italy another similar counter with only circular grooves and the numerals in Latin and Greek was recovered in Rome during recent excavations in Corso Italia, Villino Fassi. It was discovered in the garden of a luxurious early Imperial building dating to the 1st century AD, where other gaming pieces, such as some glass and bone counters and five bone dice, were found.⁴³

In France one counter with the head of Kronos was found in *Forum Julii*-Fréjus during the excavations of the Agrippa’s naval fleet camp in Les Aiguères. Another counter with circular grooves on the obverse and numerals in Latin and Greek, one shell-shaped counter and two discoid counters with numbers only in Latin were also found.⁴⁴ The objects found in this site can be dated between 20 BC and 50-70 AD. Another “Alexandrian” counter with an erotic scene was found in Fréjus during the excavation of a residential area in Valmier.⁴⁵

The finds from graves, especially from some infant burials, are rather interesting and these contexts deserve special attention.

In Crimea (Kerch, ancient Pantikapaion), a complete series of fifteen bone counters showing the numbers from 1 to 15 was found in an infant grave with a terracotta vase dated to the 1st-2nd century AD. The bone gaming pieces were placed in a wooden and bronze box near the head of

⁴⁰ AYALON 2005, 76, nos. 293-295.

⁴¹ SACKETT 1992, 386, E68, pl. 318, no. 20.

⁴² VINOKUROV – TREISTER 2015.

⁴³ DI MEO 2006, 211, nos. II.171-183.

⁴⁴ FEUGÈRE 2009, 166, nos. 708-712, figs. 55 and 57.

⁴⁵ RODET-BERLARBI – LEMOINE 2010, 389, fig. 27, h.

the skeleton; according to the excavation report, they were arranged in pairs with the figured sides matching.⁴⁶ The subjects of the counters are ten divinities or heroes: Zeus, Hermes, Herakles, Kronos, Aphrodite – represented twice –, Dioscoros (*Polydeukes*), Castor, Isis, Hera; two portraits: *Sebastos/Augustus* and *Loukiou/Lucius?*; two victory wreaths: *Heraia* and *Pafou*; a building: *Eleuseinion* (Fig. 7).

From South Italy, another complete series of fifteen bone counters was found in an infant cremation burial in Fondo Viola, Rugge (*Rudiae*) near Lecce.⁴⁷ In the bottom of a chamber tomb, under a brick, a funerary terracotta vase contained the burned bones of a child mixed with the fifteen bone counters, all decorated only with circular grooves on the obverse; on the reverse there are the numerals from 1 to 15 in Latin and Greek.

In Brindisi, fifteen counters were found in a cremation burial (no. 15) in the via dei Cappuccini necropolis with several other gaming devices.⁴⁸ In the sealed pit of this grave, dating to the 1st century AD, a stone *cista* with a glass *olla* contained the ashes and the remains of the funeral pyre with the grave goods. Two of the counters show figured scenes on the obverse: on the first one, there is a basket on the obverse and the numeral 8 (VIII/ H) on the reverse; on the second one, there is a hand showing the characteristic position of “finger calculus” on the obverse and the numeral 10 (X) only in Latin on the reverse. Other eleven counters show only circular grooves on the obverse; on the reverse there are the following numerals in Latin and Greek: 3, 4, 6, 9, 11, 12, 13, 14, 15, on two pieces the numerals 1 and 7 were difficult to read. There are also one shell-shaped piece, with the numeral 5 (V) only in Latin on the reverse, and a smaller piece with a smooth surface.⁴⁹

In Croatia (*Iader, Zadar*) seven “Alexandrian” counters were found in a grave (no. 7/42) at Casali Maggiori (Stanovi).⁵⁰ On the obverse of the counters, there are representations of Cupids in various positions and perhaps, in one case, of Aphrodite; on the reverse there are the numerals 1, 7, 9, 11 in Latin and Greek, three counters are without inscriptions. In the

⁴⁶ ROSTOVSEV 1904, pl. III and IV, 1-3; ROSTOVSEV 1905, 112-114; see also ROWAN 2017.

⁴⁷ BARNABEI 1886; TEMPESTA 2012 (three of the fifteen counters are now missing).

⁴⁸ COCCHIARO 1988, 160-165, pl. V-VI; COCCHIARO 1991.

⁴⁹ See BIANCHI 2021, fig. 9.

⁵⁰ GIUNIO 2012, 112-113, figs. 28-29. We would like to thank Kornelija A. Giunio for the information provided.

same grave there were also one bone die, three glass balsamaries and two bronze strigils.

3. A ‘*tessera lusoria*’ from the crypt of Saint Omobono

During excavations in the crypt of Saint Omobono underneath the Cathedral of Cremona, remains of an early Imperial house and an early Christian baptistery (late 4th century AD) were brought to light.⁵¹ A token in the form of an elongated parallelepiped with inscription (Fig. 8) was discovered within the foundations of one of the house’s walls; it is therefore to be considered residual material, earlier than the construction of the *domus* and hence to be dated before BC 25.⁵²



Figure 8: Cremona, area under the Cathedral. Bone token (so-called *tessera lusoria*) (L. 4.5 cm) discovered within the foundations of one of the walls of an early Imperial house.

The piece is made of bone and ends in a circular appendix with a dot framed by two engraved circles. The appendix has a hole at the binding point with the body. On one side there is the word FICOSE and on the other the number XIV. The word, an insult, is given in the vocative case, it means “covered with warts” or “suffering from haemorrhoids”, it is cited by

⁵¹ PASSI PITCHER 1989; PASSI PITCHER – VOLONTÉ 2007; CECCHINI 2009.

⁵² CECCHINI 2009; CECCHINI – BIANCHI – DIANI 2015, 121-124, no. 1; BARATTA 2019, 123-124, cat. no. 19.

Martial in his *Epigrams*.⁵³ This name is also found on a token from Vaste associated with the number V⁵⁴ and on other pieces of unknown provenance associated with the number III⁵⁵ and with the number VII.⁵⁶

The token from Cremona belongs to the group of the so-called *tesserae lusoriae*, in bone or ivory, that were studied at the end of the 19th century by Christian Hülsen⁵⁷ and have recently been carefully analysed by Giulia Baratta.⁵⁸ Peculiar to this type is the presence, on one side, of a name in Latin usually in a nominative or appellative case. The epithets can be either offensive or benevolent, but there are some cases for which an interpretation is still difficult. Also, different verbal forms are used, such as the second person singular with VIX RIDES, “you’re finally laughing” or “you’re almost laughing”, or MORARIS, probably “you stop!” or “you wait！”,⁵⁹ or in the third singular such as BENEST or MALEST, “it’s going good” and “it’s going bad”. On the other side, there is an incised numeral (numbers from I to XXV are attested, and then XXIIX, XXIX, XXX and XL). In some cases, after the numeral, there is the nexus of the two letters A + L. The epithets may be paired with different numbers.⁶⁰ The general tendency is to associate low numbers to insults and higher numbers to benevolent names. Examples from the Sambon Collection are carved with the insults MOICE, from the word *moechus* (adulterer), associated with the number III and TVBE (perhaps sodomite) associated with the number X; the positive name PERNIX (quick) is paired with the number XVII and FORTVNAT (lucky) with the number XXIII.⁶¹

The archaeological contexts of the finds allow us to date these tokens to the 2nd and 1st centuries BC and the beginning of the 1st century AD.

⁵³ Mart., *Epigr.*, 7.71.

⁵⁴ CAMPAGNA 1995, 262, n. 4; 282-284, fig. 25; MELISSANO 2012, no. V.39 ; BARATTA 2019, 151-152, cat. no. 77.

⁵⁵ BARATTA 2019, 175-179, cat. no. 135.

⁵⁶ BARATTA 2019, 211, cat. no. 206.

⁵⁷ HÜLSEN 1896.

⁵⁸ BARATTA 2014; BARATTA 2015; BARATTA 2018a; BARATTA 2018b; BARATTA 2018c; BARATTA 2018d; BARATTA 2019.

⁵⁹ Cf. the bronze token in the Cabinet des Médailles, Paris, inv. 17088 with a boardgame scene (*latrunculi*) inscribed with MORA (ROWAN 2019).

⁶⁰ For a general overview of the inscriptions and numerals, see BARATTA 2019, 33-65.

⁶¹ CECCHINI 2015, 68-70, nos. 1, 3-4, 7.

Various theories about the tokens' use are debated.⁶² Most interpretations link them to board games or to gambling matches, but their rules are unknown. A study of the finds allows us to say that most of the tokens come from Italy, followed by Spain and southern France and, lastly, Greece and Dalmatia.⁶³

Bibliography

- Adam-Veleni P. 2009. “Οστέινο εισιτήριο από την Αγορά Θεσσαλονίκης”, *Kermatia Philias: Festschrift für Ioannis Touratsoglou*, Athens, 601-605.
- Alföldi A. 1942-1943. *Die Kontorniaten*, Leipzig.
- Alföldi-Rosenbaum E. 1971. “The finger calculus in Antiquity and in the Middle Ages. Studies on Roman game counters”, *FrühMitAltSt* 5, 1-9.
- Alföldi-Rosenbaum E. 1975. “The Muses on Roman Game Counters”, *Muse* 9, 13-20.
- Alföldi-Rosenbaum E. 1976. “Alexandriaca. Studies on Roman Game Counters III”, *Chiron* 6, 205-239.
- Alföldi-Rosenbaum E. 1980. “Ruler Portraits on Roman Game Counters from Alexandria”, R.A. Stucky – I. Jucker (eds) *Eikones. Studien zum*

⁶² See now the most recent critical essay by G. Baratta (BARATTA 2019, 101-110).

⁶³ See now the recent and complete analysis of the finds in BARATTA 2019, 71-91. Among the previous publications, BRIZIO 1887; GAMURRINI 1887; CASAGRANDE 2012 (Perugia); CAMPAGNA 1995; MELISSANO 2012, no. V.39 (Vaste); DE PALMA *et alii* 2011, 117-118, fig. 6 (Populonia); ZEI 1921, 222-223, figs. 4-5 (*Ferentum*); BARATTA 2018d (Urbisaglia); COLIVICCHI 2007, 205-206, fig. 49, nos. 506-508 (Corneto/Tarquinia); BARATTA 2018c (*Pentima-Corfinio*); BANDUCCI 2015 (*Gabii*); BORRIELLO 1993, nos. 88-90 (Pompeii); ORSI 1920, 319-321 and BARATTA 2018b (Siracusa); JACOB 2012, 139-140, nos. 57-10, 58-67; 229, fig. 89 (Morgantina); ISLER 2003, 834-835 pl. CXXXIV, nos. 2-3 (Monte Iato); BALIL ILLANA 1987 (Ampurias); RODRÍGUEZ MARTÍN 2016; GUÀRDIA I LLORENS 2017, 179, fig. 3 (Puig del Castell de Samalús); DEONNA 1938, 335-336, pl. XCIV, nos. 827, 1-6 (Delos); GOSTENČNIK 2019.

griechischen und römischen Bildnis. Festschrift Hans Jucker zum sechzigsten Geburstag gewidmet, Bern, 29-39.

Alfoldi-Rosenbaum E. 1984. “Characters and Caricatures on Game Counters from Alexandria (Studies on Roman Game Counters 5)”, N. Bonacasa – A. Di Vita (eds), *Alessandria e il mondo ellenistico-romano. Studi in onore di Achille Adriani*, II, Roma, 378-390.

Ameling W. – Cotton H.M. – Eck W. – Isaac B. – Kushnir-Stein A. – Misgav H. – Price J. – Yardeni A. (eds) 2011. *Corpus Inscriptionum Iudeae/Palestinae. II. Caesarea and the Middle Coast*, Berlin – Boston.

Arslan Pitcher L. – Arslan E.A. – Blockley P. – Volonté M. (eds) 2017. *Amoenissimis...aedificiis. Lo scavo di piazza Marconi a Cremona, 1. Lo scavo, Quingentole (MN)*.

Arslan Pitcher L. – Arslan E.A. – Blockley P. – Volonté M. (eds) 2018. *Amoenissimis...aedificiis. Lo scavo di piazza Marconi a Cremona, 2. I materiali, Quingentole (MN)*.

Ayalon E. 2005. *The Assemblage of Bone and Ivory Artifacts from Caesarea Maritima - Israel, 1st-13th centuries CE (BAR International Series, 1457)*, Oxford.

Bakhoum S. – Hellmann M.-C. 1992. “Wilhelm Fröhner, le commerce et les collections d’antiquités égyptiennes”, *JSAV*, 155-186.

Balil Illana A. 1987. “Tesserae lusoriae de Ampurias”, *Archivo de Prehistoria Levantina* 17, 331-336.

Banducci L.M. 2015. “A Tessera Lusoria from Gabii and the afterlife of roman gaming”, *Herom, Journal on Hellenistic and Roman Material Culture* 4.2, 199-221.

Baratta G. 2014. “Le tesserae lusoriae delle Isole Baleari”, C. Ferrando – B. Costa (eds), In amicitia. *Miscel·lània d'estudis en homenatge a Jordi H. Fernández*, Ibiza, 69-74.

- Baratta G. 2015. “Una *tessera lusoria* iscritta rinvenuta a *Ruscino* (Château-Roussillon, Perpignan, France)”, *Sylloge Epigraphica Barcinonensis* 13, 195-200.
- Baratta G. 2018a. “Le *tesserae lusoriae* di Siracusa”, *Epigraphica* 80, 518-538.
- Baratta G. 2018b. “Le *tesserae lusoriae* di Empúries: novità e riletture / The *tesserae lusoriae* from Empúries: news and news readings”, *Sylloge Epigraphica Barcinonensis* 16, 253-263.
- Baratta G. 2018c. “Un set di *tesserae lusoriae* da *Corfinium*”, *Anuari de Filologia. Antiqua et Mediaevalia*, 8, 134-147.
- Baratta G. 2018d. “Frammenti di gioco da *Vrbs Salvia*: su una *tessera lusoria* in osso”, *Picus*, 38, 57-64.
- Baratta G. 2019. Benest, malest: *archeologia di un gioco tardo-repubblicano* (Instrumenta, 67), Barcelona.
- Barnabei F. 1886. “Rugge (Rudiae, territorio del Comune di Lecce)”, *NSc*, 230-241.
- Behrens G. 1940. “Römische Lose in Tiergestalt”, *Germania* 24, 20-22.
- Bianchi C. 2015. “‘Pedine alessandrine’: testimoni illustri di un gioco ignoto”, F. Slavazzi – C. Lambrugo (eds), *Tra Alea e Agon: giochi di abilità e di azzardo. I materiali della Collezione Archeologica Giulio Sambon di Milano*, Catalogo Mostra (Milano, 2015), Firenze, 53-65.
- Bianchi C. 2018. “Oggetti in osso, palco e avorio”, Arslan Pitcher *et alii* 2018, 419-448.
- Bianchi C. 2021. “Les jetons historiés dits ‘alexandrins’: bilan et propositions”, V. Dasen – M. Vespa (eds), *Play and Games in Classical Antiquity: Definition, Transmission, Reception*, Collection Jeu/Play/Spiel 2, Liège, 179-203.

- Blanchet J.A. 1889. "Tessères antiques théâtrales et autres", *RA* s. III, 13, 225-257.
- Blason Scarel S. 1992. "Schede nn. 86-96", *Instrumenta Inscripta Latina. Sezione aquileiese*, Catalogo Mostra (Aquileia, 1992), Mariano del Friuli, 53-55.
- Borriello M.R. 1993. "Gaming pieces", *Riscoprire Pompei Catalogo Mostra* (Roma, 1993-1994), Roma, 203.
- Borriello M.R. 2010. "Pedine da gioco", S. De Caro – M. Scarpari (eds), *I due imperi: l'aquila e il dragone*, Catalogo Mostra (Milano, 2010), Milano, 329-330.
- Borriello M. – d'Ambrosio A. – De Caro S. – Guzzo P.G. (eds) 1997. *Pompeii. Abitare sotto il Vesuvio*, Catalogo Mostra (Ferrara, 1997), Ferrara.
- Brizio E. 1887. "Perugia - Tombe etrusche scoperte nel Cimitero", *NSc*, 391-397.
- Buitron D. – Oliver A. 1985. "Greek, Etruscan and Roman Ivories", R.H. Randall Jr. (ed.), *Masterpieces of Ivory from the Walters Art Gallery*, New York, 54-79.
- Bulić F. 1897. "La tessera lusoria di Lissa", *BullArchStDalm* 20, 10-13.
- Campagna L. 1995. "Cisterne e buca di scarico di età repubblicana a Vaste (Le). Scavi di Fondo S. Antonio. Appendice. Le *tesserae lusoriae* dalla cisterna 172", *StAnt* 8, 282-288.
- Caravale A. 1994. "Le pedine alessandrine", A. Giuliano (ed.), *Museo Nazionale Romano. Avori e ossi*, Roma, 88-93.
- Casagrande M. 2012. "Le *sortes* di Perugia", M. Piranomonte M. – F.M. Simón (eds), *Contesti Magici-Contextos mágicos*, Atti del Convegno Internazionale (Roma, 2009), Roma, 247-252.
- Cecchini N. 2009. "L'edificio romano della cripta del Duomo di Cremona", *Bollettino Storico Cremonese*, n.s. 13-14 (2006-2007), 15-72.

- Cecchini N. 2015. “Tessere parallelepipedo”, F. Slavazzi – C. Lambrugo (eds), *Tra Alea e Agon: giochi di abilità e di azzardo. I materiali della Collezione Archeologica Giulio Sambon di Milano*, Catalogo Mostra (Milano, 2015), Firenze, 67-70.
- Cecchini N. – Bianchi C. – Diani M.G. 2015. “Le scoperte di Cremona”, F. Slavazzi – C. Lambrugo (eds), *Tra Alea e Agon: giochi di abilità e di azzardo. I materiali della Collezione Archeologica Giulio Sambon di Milano*, Catalogo Mostra (Milano, 2015), Firenze, 121-126.
- Ceci F. 2010. “Pedine circolari”, S. De Caro – M. Scarpari (eds), *I due imperi: l'aquila e il dragone*, Catalogo Mostra (Milano, 2010), Milano, 330.
- Pleket H.W. – Stroud R.S. – Chaniotis A. – Strubbe J.H.M. 1997. “Rhodes. Game piece or theater ticket? Roman Imperial Period”, *Supplementum Epigraphicum Graecum*, 47, Amsterdam, 1264.
- Cocchiaro A. 1988. “La necropoli”, A. Cocchiaro – G. Andreassi (eds), *La necropoli di via Cappuccini a Brindisi*, Fasano, 63-230.
- Cocchiaro A. 1991. “Brindisi. Via Cappuccini. Tomba 15”, *Viae Publicae Romanae*, Catalogo Mostra (Roma, 1991), Roma, 161-174.
- Colivicchi F. 2007. *Materiali in alabastro, vetro, avorio, osso, uova di struzzo* (Materiali del Museo Archeologico Nazionale di Tarquinia XVI), Roma.
- Colonna F. 1890. “Pompei - Giornale degli Scavi”, *NSt*, 356-357.
- Cotton H.M. – Di Segni L. – Eck W. – Isaac B. – Kushnir-Stein A. – Misgav H. – Price J. – Yardeni A. (eds) 2012. *Corpus Inscriptionum Iudeae/Palestinae. I. Jerusalem*, 2, Berlin – Boston.
- Davidson G.R. 1952. *Corinth: the minor objects*, XII, Princeton.
- Deodato A. 2014. “Instrumentum e ornamenti in metallo, osso e faïence”, A. Gabucci – L. Pejrani Baricco – S. Ratto (eds), *Per il Museo di Ivrea. La sezione archeologica del Museo P.A. Garda*, Firenze, 133-148.

- Deonna W. 1938. *Le mobilier délien, Explorations archéologiques de Délos* (École Française d'Athènes, XVIII), Paris.
- De Palma G. – Facchin G. – Taffetani C. 2011. "Prime indagini nell'area retrostante il Tempio C", G. Facchin – M. Milletti (eds), *Materiali per Populonia* 10, Pisa, 113-123.
- Diani M.G. 2018. "Vetri", Arslan Pitcher *et alii* 2018, 315-340.
- Di Meo S. 2006. "I giochi", M.A. Tomei (ed.), *Roma. Memorie dal sottosuolo. Ritrovamenti archeologici 1980/2006, Catalogo Mostra* (Roma 2006-2007), Milano, 211.
- Di Santi A. 2017. "From Egypt to Copenhagen. The provenance of the portraits of Augustus, Livia and Tiberius at the Ny Carlsberg Glyptotek", *AnalRom* 42, 33-46.
- Ferrandini Troisi F. 1997. "Un antico gioco da tavolo a Taranto", *Epigraphica* 59, 225-229.
- Feugère M. 2009. "Militaria, objets en os et en métal", C. Goudineau – D. Brentchaloff (eds), *Le camp de la flotte d'Agrippa à Fréjus: les fouilles du quartier de Villeneuve (1979-1981)*, Paris, 107-177.
- Fragaki H. 2011. *Images antiques d'Alexandrie : I^e siècle av. J.C. - VIII^e siècle ap. J.C.* (Études Alexandrines, 20), Le Caire.
- Fröhner W. 1884. "Le comput digital", *Annuaire de la Société Française de Numismatique et d'Archéologie* 8, 232-238.
- Fröhner W. 1901. "Tessères de jeu ou de comptoir", *Collection Auguste Dutuit: bronzes antiques, or et argent, ivoires, verres et sculptures en pierre [et inscriptions]*, II, Paris, 149-158.
- Gabriči E. 1903. "Bolsena. Scoperte di antichità nell'area della città romana", *NSc*, 357-375.

- Gagetti E. 2013. “Schede 111-113”, G. Gentili (ed.), *Cleopatra. Roma e l'incantesimo dell'Egitto*, Catalogo Mostra (Roma, 2013-2014), Milano, 283-284.
- Gamurrini G.F. 1887. “Nota del R. Comm. G.F. Gamurrini, intorno alle tessere iscritte di sopra accennate”, *NSc*, 397-398.
- Gavin J. – Schärlig A. 2014. *Sur les doigts, jusqu'à 9999. La numération digitale, des Anciens à la Renaissance*, Lausanne.
- Gavin J. – Schärlig A. 2019. “Tessères et numération digitale”, V. Dasen (ed.), *Ludique. Jouer dans l'Antiquité, Catalogue de l'exposition, Lugdunum-musée et théâtres romains, 20 juin-1^{er} décembre 2019*, Gent, Lyon, 74-75.
- Gerogiannis G.M. 2017. “Tessera teatrale”, M. Osanna – C. Rescigno (eds), *Pompei e i Greci*, Catalogo Mostra (Pompei, 2017), Milano, 186.
- Giovannini A. 2006a. “Pedine alessandrine: nuove testimonianze sulla diffusione. Aquileia, Museo Archeologico Nazionale”, *Instrumentum* 24, 18-21.
- Giovannini A. 2006b. “Spigolature Aquileiesi: *instrumenta domestica* dai depositi del Museo Archeologico Nazionale. Vasellame ceramico miniaturistico, giocattoli, giochi”, *HistriaAnt* 14, 323-358.
- Giunio A.K. 2012. “Knowledges about public and private games from the Roman period from the holdings of the Archaeological Museum in Zadar”, *HistriaAnt* 21, 101-116.
- Goldman H. 1950. *Excavations at Gözlu Kule Tarsus. The Hellenistic and Roman Period*, Princeton.
- Gostenčnik K. 2005. *Die Beinfunde vom Magdalensberg* (Archaologische Forschungen zu den Grabungen auf dem Magdalensberg, 15), Klagenfurt.
- Gostenčnik K. 2019. “Drei *tesserae lusoriae* aus der Antikensammlung des Kunsthistorischen Museums in Wien”, M. Nollé – P.M. Rothenhöfer –

G. Schmied-Kowarzik – H. Schwarz – H.C. von Mosch (eds), *Panegyrikoi logoi. Festschrift für Johannes Nollé zum 65. Geburtstag*, Bonn, 173-187.

Graillot H. 1896. “Une Collection de tessères”, *MÉFRA*, 299-314.

Guàrdia i Llorens M. 2017. “La tessera lusoria del Puig del Castell de Samalús (Barcelona): ¿más que fichas de juego?”, *Zephyrus* 80, 175-191.

Henzen G. 1848. “Tessere ed altri monumenti in osso posseduti da S.E. il Sig. Commend. Kestner”, *Annali dell’Instituto di Corrispondenza Archeologica* 20, 273-290; *Monumenti inediti pubblicati dall’Instituto di Corrispondenza Archeologica* 4, pls LII-LIII.

Holliger Ch. – Holliger Cl. 1983. “Römische Spielsteine und Brettspiele”, *GPVJ* 5-24.

Hülsen C. 1896. “Miscellanea epigrafica. XXI. Tessere lusorie”, *MdI* 11, 227-252.

Isler H.P. 2003. “Monte Iato: scavi 1998-2000”, *Atti delle Quarte giornate internazionali di studi sull’area elima* (Erice, 2000), Pisa, 823-838.

Jacob C.M. 2012. *Morgantina, Sicily: the Bone and Ivory Objects, 459 B.C. to the First Century A.D.*, Dissertation, Rutgers University New Brunswick.

Jentoft-Nilsen M. 1982. “Some objects relating to the theatre”, *GettyMusJ* 20, 159-164.

Kondoleon C. (ed.) 2000. *Antioch. The Lost Ancient City*, Princeton.

Kostromichyov D.A. 2012. “Tessera iz portovogo rayona Hrersonesa”, *BC* 13, 213-218.

Koželj T. – Wurch-Koželj M. 2012. “Quelques jeux antiques identifiés à Thasos”, *HistriaAnt* 21, 25-38.

Laurent M. 1903. “Tessères en os du Musée d’Athènes”, *MusB* 7, 83-87.

- Majcherek G. 1998. “Alexandria. Kom-el-Dikka excavations 1997”, *PAM* 9, 23-36.
- Manniez Y. 1984. *Les objets en os d'époque gallo-romaine en Languedoc oriental (du Lez au Rhône)*, Mémoire de maîtrise d'histoire de l'art et d'archéologie, Université Montpellier III.
- Marangou L. 1976. *Bone Carvings from Egypt. I. Graeco-Roman Period*, Tübingen.
- Melissano V. 2012. “*Tesserae lusoriae*”, J. De Grossi Mazzorin (ed.), *Artigiani dell'osso, avorio e palco. Ornamenti, utensili e giochi dalla preistoria al medioevo*, Modugno (BA), 136-137.
- Mlasowsky A. 1991. *Die antiken Tesseren in Kestner-Museum Hannover. Jetons, Spiel- und Verteilungsmarken im alten Rom*, Hannover.
- Orsi P. 1920. “Siracusa. Sepolcri siculi sul ciglione meridionale dell'Epipole”, *NSc* 17, 303-327.
- Ostapenko S.N. 2016. “Bone tessera from Phanagoria” (in russian), *Problemy istorii, filologii, kul'tury* 4, 71-78.
- Pace A. in press a. “*Nos fritillum dicimus. Nuovi dati sulla cultura materiale ludica di Pompei*”, *RStPomp*, in press.
- Pace A. in press b. “Looking through the glass. Discussing the so-salled ‘glass counters’ from Pompeii”, *MÉFRA*, in press.
- Passi Pitcher L. 1989. “Gli scavi nell'area del Duomo”, *Il Duomo e i suoi restauri*, Cremona, 20-26.
- Passi Pitcher L. 2003. “Archeologia della colonia di Cremona: la città e il territorio”, P.L. Tozzi (ed.), *Storia di Cremona. L'età antica*, Azzano San Paolo (BG), 130-229.
- Passi Pitcher L. – Volonté M. 2007. “L'area della cattedrale di Cremona: scavi ed interpretazioni, dalle indagini di Mario Mirabella Roberti ad

oggi”, *Contributi di archeologia in memoria di Mario Mirabella Roberti, Annali Benacensi XIII-XIV*, Atti del XVI Convegno Archeologico Benacense (Cavriana, 2005), Gussago (BS), 203-216.

Petrie W.M.F. 1927. *Objects of Daily Use Illustrated by the Egyptian Collection in University College, London*, London

Pingiatoglou S. 2012. “Πεσσός παιχνιδιού από το Δίον”, P. Adam-Veleni – K. Tsanavari (eds), *Δινήσσα. Festschrift for K. Rhomio-poulou*, Thessaloniki, 529–534.

Plantzos D. 2002. “A royal seal of Antiochos IV of Syria and some contemporary *minima ptolemaica*”, *RBN* 148, 33-39.

Riad H. 1966. “Une collection de tessères au Musée Gréco-Romain d’Alexandrie”, *Mélanges offerts à K. Michałowski*, Varsavia, 157-166.

Rodet-Belarbi I. – Lemoine Y. 2010. “Objets et déchets de l’artisanat de l’os, du bois de cerf et de l’ivoire à Fréjus (Var) de la période romaine à l’Antiquité tardive”, *RANarb* 43, 369-427.

Rodríguez Martín F.G. 2016. “*Tesserae lusoriae en Hispania*”, *Zephyrus* 77, 207-220.

Rodríguez Martín F.G. in preparation, *La industria ósea en la Hispania romana*.

Rodziewicz E. 2007. *Bone and Ivory Carvings from Alexandria. French Excavations 1992-2004*, Cairo.

Rodziewicz E. 2016. *Ivory and Bone Sculpture in ancient Alexandria*, Alexandria.

Rostovtsev M. 1904. “[Tessere antiche in osso del Sud della Russia]” (in russian), *Bulletin de la Commission Impériale Archéologique* 10, 109-124.

Rostovtsev M. 1905. “Interprétation des tessères en os avec figures, chiffres et légendes”, *RA* 5, 110-124.

- Rowan C. 2017. “Let’s play with the portrait of Augustus! “Tesserae” and Roman games” (online: blogs.warwick.ac.uk/numismatics/entry/lets_play_with/).
- Rowan C. 2019. “Jeu des latroncules”, V. Dasen (ed.), *Ludique. Jouer dans l’Antiquité, Catalogue de l’exposition, Lugdunum-musée et théâtres romains, 20 juin-1^{er} décembre 2019*, Gent, Lyon, 84-85.
- Rustico L. 2013. “Giocattoli”, A. Capodiferro (ed.), *Museo Nazionale Romano. Evan Gorga, La collezione di archeologia*, Milano, 243-257.
- Sackett L.H. 1992. “Objects in bone and bone working”, *Knossos. From Greek City to Roman Colony. Excavations at the Unexplored Mansion II*, London, 379-389.
- Savelyev O. 2016. “Roman bone tesserae from Tyre” (in russian), *Eminak* 4, 16, 251-255.
- Schneider R.M. 2005. “Spielmarke mit Bild eines Tempels (?) und Obelisken”, H. Beck – P.C. Bol – M. Bückling (eds), *Ägypten Griechenland Rom. Abwehr und Berührung*, Frankfurt am Main-Tübingen, 726-727.
- Stern E. – Sharon I. 1995. “Tel Dor, 1993: Preliminary Report”, *IEJ* 45, 1, 26-36.
- Talamo E. 1997. “I giochi”, *Riflessi di Roma. Impero Romano e Barbari del Baltico, Catalogo Mostra* (Milano, 1997), Roma, 160-165.
- Tempesta A.L. 2012. “Pedine per gioco da tavola”, J. De Grossi Mazzorin (ed.), *Artigiani dell’osso, avorio e palco. Ornamenti, utensili e giochi dalla preistoria al medioevo*, Modugno (BA), 138-139.
- Ubl H. 1992. “Ein alexandrinischer Spielstein in *Lauriacum* (Enns, Oö)”, *Mitteilungen des Museumsvereins Lauriacum Enns* 30, 2-5
- Vigna L.M. 2010. “Pedina da gioco”, S. De Caro – M. Scarpari (eds), *I due imperi: l’aquila e il dragone, Catalogo Mostra* (Milano, 2010), Milano, 329.

- Vinokurov N.I. – Treister M.Y. 2015. “A *Tessera* from the Layer of Destruction of the earlier Artezian Citadel” (in russian), *Vestnik drevney istorii* 4 (295), 227-239.
- Walker S. 2000. “Gettoni con ritratti”, S. Walker – P. Higgs (eds), *Cleopatra regina d’Egitto*, Catalogo Mostra (Roma, 2000-2001), Milano.
- Warren P.M. 1987-1988. “Knossos: stratigraphical museum excavations, 1978-82. Part IV”, *AR* 34, 86-104.
- Williams B.P. – Williams R.S. 1995. “Finger numbers in the Greco-Roman World and the Early Middle Ages”, *Isis* 86, 4, 587-608.
- Zei C. 1921. “Ferento (Viterbo). Scoperta di tombe di età repubblicana”, *NSc*, 215-224.