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Amber for Artemis

Preliminary Report on the Amber Finds from the Sanctuary of Artemis at Ephesos*

Amber from prehistory to Iron Age

Amber is the fossilized resin of extinct coniferous trees, millions of years old. In antiquity it was highly appreciated for its colour, transparency, natural organic beauty and electro-static properties[1]. The oldest artefacts, dating back to the Palaeolithic and Mesolithic, have been found near the main natural deposits of amber along the coasts of the Baltic Sea[2]. Ornaments of Baltic amber dating to the Neolithic and the Copper Age (3rd–2nd millennia B.C.) are distributed throughout continental Europe from Northern Germany to Southern Italy, where also Sicilian amber has been used from the Neolithic onwards. In the Middle Bronze Age (2nd millennium B.C.) amber has been used in the Terramare culture in Northern Italy: here amber working can be inferred at Spilamberto (province Modena)[3]. Studying the geographical distribution of amber during the Bronze Age permitted José Maria de Navarro, in 1925, to postulate the existence of some trade routes between Northern Europe and Italy, terminating at the Adriatic Sea[4]. This hypothesis was generally accepted and the ›amber route‹ became a well-established concept among archaeologists. More recently, several scholars have expressed doubt about the existence of the so-called amber route in the Bronze and Iron Ages: Thomas Stöllner has argued that at least in the Iron Age many perishable goods such as salt, pelts and so on were also traded from Central Europe to the Mediterranean sea along these routes, and Aleksandar Palavestra titled a 2007 paper »Was there an amber route?«[5].

* I would like to thank the director of the Ephesos Excavations and of the OeAI, Sabine Ladstätter, for the kind invitation to write this paper and for her constant support and interest in the research into the amber from the Artemision. Michael Kerschner suggested I should systematically study the amber finds from the Artemision, helped the research in various ways and improved an earlier draft of this paper. Feride Kat of the Ephesos Museum Selçuk allowed access to the finds and facilitated work in the museum. Phil Perkins (Milton Keynes) kindly corrected the English text. Last but not least I wish to thank Martina Bianca Ott, Caroline Posch and Serena Privitera for their invaluable engagement during all the phases of surveying the material. I hope we will conclude this fascinating research working together in the future.

1 The best review about the natural properties of the amber is Ganzelewsky – Slotta 1996.

2 Main references about amber in archaeology are the proceedings of the five international conferences »Amber in archaeology« (Nord-Süd 1982; Beck – Bouzek 1993; Negroni Catacchio – Beck 1998; Beck – Loze – Todd 2003; Palavestra – Beck – Todd 2006) and further publications (Studi 1975; Nava – Salerno 2007; Causey 2012). Main museum collections edited are those in Naples (National Museum: Siviero 1954), London (British Museum: Strong 1966), Paris (Bibliothèque Nationale: D'Ercole 2008; D'Ercole 2013) and Malibu (J. P. Getty Museum: Causey online).

3 Bergonzi 1997 for an overview about the amber finds in the Terramare culture. Andrea Cardarelli kindly informed me about the amber finds at Spilamberto, which are still unpublished.

4 De Navarro 1925; Strong 1966, 7–10 commented further literature.

5 Stöllner 2004, 142–143; Stahl 2006 listed the amber finds in Central Europe; Palavestra 2007.

Amber in Italy and the Aegean

In the Late Bronze Age amber reached the Aegean world: Heinrich Schliemann found amber beads in Greece in the royal palace of Tiryns and in the royal tombs of Mycenae. Archaeologists named a particular form of cylindrical bead with a raised ring in the middle and an axial hole the ›Tiryns shape‹, because it was first found at Tiryns. However, now it is generally believed that the shape originated outside the Aegean and that the Mycenaean examples were imported from Europe[6]. Beads of this form occur in several Mediterranean countries as Italy, Slovenia, Croatia, Greece including Crete, and the Levant[7]. Recent finds of unfinished beads of the Tiryns shape document the existence of a workshop, responsible for making beads of this shape, in the late Bronze Age settlement of Campestrin di Grignano Polesine (Province of Rovigo) in the Po valley, north-eastern Italy. The new finds show that the beads of the Tiryns shape were made in Italy[8].

The Adriatic Sea played an important role in the early Iron Age as well. In the first half of the 1st millennium B.C. amber had a wide distribution, mostly along the coasts of the Adriatic. The main find spots of amber are at the Etruscan Verucchio (Emilia-Romagna, Province Rimini) on the western coast of the modern day Italy[9], and on the eastern coast at Novo Mesto (Lower Carniola) in modern day Slovenia[10]. The Etruscan finds from the graves at Verucchio are impressive both for their quality and quantity: bronze fibulae encrusted with amber inlays, exceptionally containing tin sheets; engraved and cut objects including breast plates, spindles, distaffs and pendants, belong to rich grave groups and demonstrate the activity of highly specialized workshops from the second half of the 9th century to 650 B.C. According to the current state of knowledge, Verucchio was occupied until 650 B.C.[11]: after this date the role of the principal centre for amber working on the Adriatic coast of Italy was taken over by Picenum[12]. In the Picenian region amber lumps were used to decorate the bows of bronze fibulae, and fine carvings are also known[13]. From the eastern coast amber was further redistributed to other districts in Italy. By the early Iron Age in northern Etruria[14], workshops in Vetulonia played an important role, and in southern Etruria and in Latium finds from Veii, the Ager Faliscus and Satricum are impressive. Particularly conspicuous are more than 500 amber pieces found in tomb VI in Satricum[15]. In southern Italy amber was particularly popular among the Oenotrians, situated in modern day Basilicata. Many sites have yielded several sets of ornaments, belonging to rich female interments dating to the 8th and 7th centuries B.C.[16]. In Apulia, amber was used particularly in the Bronze and in the Iron Ages and later from the 7th century B.C. onwards[17].

In the later 8th and especially in the 7th century, amber became popular as votive offerings in the Greek sanctuaries, although the finds are not as rich as in the funerary interments in Italy[18]. During the 8th and 7th centuries B.C. amber was extensively used as an inlay in gold jewellery

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[6] Hughes-Brock 1993.

[7] Cultraro 2006.

[8] Bellintani 2010; Cesarano – Bellintani 2012. I wish to thank Paolo Bellintani (Trient) for discussing with me the finds from Campestrin.

[9] Forte 1994; Boiardi – von Eles – Poli 2006, 1589–1598; Malnati 2007; von Eles 2010.

[10] Palavestra 1993; Bernstein 2003.

[11] Naso 2011, 121–128, with literature.

[12] As a consequence one can note a change in the redistribution of raw amber in Etruria and Latium Vetus, where after 650 B.C. graves are generally less rich in amber finds.

[13] Warden 1994. An overview about the non-figured amber finds from Picenum is offered by Negroni Catacchio 2003; a selection of Picenian finds is in Landolfi 2007.

[14] Rafanelli 2009, with previous literature.

[15] Michetti 2007; Arancio – Massimi 2012. For Satricum: Waarsenburg 1995, 404–455. 588–590.

[16] Magie 2005; Bottini 2007.

[17] Tunzi Sisto 2006 for the Bronze Age amber finds from Trinitapoli; Montanaro 2012, 31–58 for the amber finds in Apulia dated from the 7th to the 4th c. B.C.

[18] Strong 1966, 21–23 listed the amber finds from Iron Age Greece. Strøm 1992 compared the evidence from the sanctuaries in the Greek world to the funerary interments in pre-Roman Italy.

and ivory decorative work. More than 200 items of amber were found in the excavations of archaic Lindos on Rhodes[19]. 46 finds of amber dating to the Subgeometric and Orientalising periods were made at Aetos on Ithaca; and amber beads have also been found in the sanctuaries of Hera at Perachora and of Apollo at Eretria[20]. The sanctuary of Artemis Orthia at Sparta produced several examples of amber inlays in ivory, dating to the 7th century B.C.: the same sanctuary of Artemis, the acropolis of Lindos and the sanctuary of Hera at Perachora have yielded several fibulae, whose bows were decorated with alternated segments of amber and ivory, filled with amber discs. According to Thomas James Dunbabin and Donald Strong the inspiration of these fibulae is presumably Italic[21]. In archaic Ionia amber finds are not unique to Lindos: Paul Jacobsthal has defined an Ephesian shape of bone pin head with amber inlays, and single pieces have also been found in the sanctuary of Apollo at Chios and in the sanctuary of Hera at Samos[22]. Other Ionian finds such as the amber beads from the sanctuaries of Aphrodite at Miletos and Apollo at Claros are still unpublished[23]. Ancient myths and legends regarding amber, which several Greek authors set in the Adriatic Sea basin, confirm a continuing active role for the Adriatic in the second half of the 1st millennium B.C.[24].

Amber at Ephesos

The finds from the Artemision at Ephesos are outstanding for their number and quality. David George Hogarth explored a foundation deposit of the temple, containing several objects, which are now dated to the second half of the 7th century B.C., but not later than ca. 640/620 B.C.[25]. The amber finds from the English excavations, which include approximately 170 pieces now preserved in the Archaeological Museum at Istanbul and in the British Museum at London, have been classified by Hogarth into four categories: »1. embellishments of fibulae or other metal objects; 2. suspensory ornaments; 3. amulets; 4. feminine ornaments, including pin heads«[26]. The finds preserved in the British Museum, consisting of 68 pieces, have been republished by Donald Emrys Strong as beads, pendants, pin heads and inlays on ivory astragali[27].

In the excavations carried out by the Austrian Archaeological Institute (OeAI) in the Artemision further amber finds came to light, comprise 537 pieces. Thanks to the new finds the quantity of the amber finds from the Artemision total all together more than 700 pieces. The larger part of the new finds, 493 pieces, were uncovered in a further foundation deposit, containing more than 1,500 objects, contemporary to that excavated by Hogarth. Both are to connect to the building of

[19] Blinkenberg 1931, 110–111 (212 items); Strong 1966, 22.

[20] Heurtley – Robertson 1948, 117 for Aetos and Dunbabin 1962, 520–525 for Perachora; Huber 2003, 83 pl. 47, 122, 125 and 128 for Eretria.

[21] Dawkins 1929, 224–225 pl. 132 (spectacle fibulae) and Droop 1929, 198, pl. 82 a–b. e–f. i–k for Sparta (fibulae with alternated segments of amber and ivory); Blinkenberg 1931, 90 nos. 132–133 pl. 9 (spectacle fibulae); 86 pl. 8 no.103 (three fibulae with alternated segments of amber and ivory) for Lindos and Dunbabin 1962, 433–437 nos. A 124–A194 (ca. 60 spectacle fibulae,); 439–442 nos. A 239–264 (fibulae with alternated segments of amber and ivory); 523–524 nos. H 5–7 for Perachora. Workshops were presumably active on several sites: according to F. Lo Schiavo, a particular type should be Pithecusan (Lo Schiavo 2006, 259 type 172.2). Several specimen of the Pithecusan type have been found at Syracuse and Megara Hyblaea (Orsi 1895, 115), one specimen has been found at Perachora (Dunbabin 1962, 440 no. A 240). See also infra, notes 51 and 53.

[22] For the amber pin heads of Ephesian type from Chios: Jacobsthal 1956, 34 and 88, with literature (Lamb 1934/1935, 154). For the amber segment belonging to a fibula from Samos: Kyrieleis 1985, 429 fig. 67; Martelli 1988/1989, 21–22, l), with further literature. I was unable to locate the piece from Samos mentioned by Strong 1966, 23 as published in an article (Walter – Vierneisel 1959, 27).

[23] I wish to thank Prof. Volkmar von Graeve for allowing me to examine the Milesian finds from the bothros of the sanctuary of Aphrodite at Zeytintepe. Stéphane Verger informed me about the amber finds at Claros.

[24] The literary tradition on amber is collected and discussed by Mastrocinque 1991.

[25] Kerschner – Prochaska 2011, 82–88.

[26] Hogarth 1908, 213–216, pls. 47–48.

[27] Strong 1966, 41–46, pl. 2.

the Naos 2 (Hogarth's ›temple B‹)[28]. Thanks to a collaboration between the OeAI and the Institut für Archäologien of the Leopold-Franzens-University at Innsbruck we started new research in 2010 by identifying these finds, preserved in the Ephesos Museum Selçuk. Here we can only offer a preliminary overview of the findings, because our research is still in progress.

With the kind support of our Turkish colleagues we examined all the amber finds from the Artemision of Ephesos preserved in the Ephesos Museum Selçuk, and hitherto the following categories and types have been identified.

Sculptures

Sculptures (nos. 1–6) include two human heads of geometric style, originally decorating larger artefacts (figs. 1–6), and a little sculpture of daedalic taste, reproducing the bust of a woman identifiable as a divinity or perhaps a devotee[29]. Each human head shows a vertical boring, which in both cases is unfinished: perhaps the ancient worker feared breaking the heads, if the drilling must have been completed. As an alternative to the vertical borings one horizontal boring runs through the lower part of the heads, whose final purpose is still not clear. Although the vertical holes are uncompleted, the heads have to be interpreted as originally designated to be attached to other artefacts. In Emilia-Romagna human heads were exceptionally used as attachments to fibulae bows: for example in two tombs from Pontecchio Marconi dating to the 7th century B.C. and the Arnoaldi cemetery at Bologna, which are all still unpublished and slightly later, a pair of fibulae from the grave 26 of the Piazza Azzarita cemetery in Bologna, dating to the first half of the 6th century B.C.[30]. The human heads from Bologna are the best parallels for the earlier pieces from the Artemision[31].

Beads and pendants

Beads (nos. 7–292) are the largest group of amber finds from the Artemision and exhibit a great variety of shapes, for example they may be bi-pyramidal, biconical, globular, oval, etc. (fig. 7). Special shapes are known and some ribbed beads may be pin heads or spindle heads (figs. 8–9)[32]. Beads are found not only strung on necklaces, but also in other kinds of female jewels, such as belts and breast ornaments. Female graves in Italy, where amber has been found still *in situ*, offer precious comparisons, as in the case of the appliqués as we shall see.

The most common pendants (nos. 293–355) are drop-shaped (fig. 10). They may have either horizontal or a vertical boring for suspension, illustrating the existence of different means of suspending similar ornaments: some with vertical boring show incised rosette pattern at one end[33]. Other pendants shapes are also documented, such as a specimen in form of an alabastron with

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[28] Weißl 2002; Weißl 2005; Kerschner 2005, 134–140 for the foundation deposit, 138 for the amber finds, with previous literature. Kerschner – Prochaska 2011, 77–82 for the Naos 1, dated to the 2nd quarter of the 7th c. B.C., 82– 88 for the Naos 2 (Hogarth's ›temple B‹), dated to 640–620 B.C. A revised chronology is proposed in Kerschner – Prochaska 2011, 82–83 with note 53.

[29] Erdemgil 2008, 186 nos. 165 (bust) and 166 (head inv. 141/61/87), with previous literature. The second head has the inv. 142/61/87. The bust may belong originally to a statuette with a base in another material (ivory [?], bone [?]). A further amber female statuette was found in the English excavations, but it is not a fine work, being »rudely modelled« (Hogarth 1908, 214 pl. 48, 20–21).

[30] Malnati 2007, 150.

[31] Kerschner 2005, 138, listed older finds contained in the foundation deposit, dating from the 2nd half of 8th c. to 640–620 B.C.

[32] Spindle heads not ribbed were found in the English excavations: Hogarth 1908, 215 pl. 47 nos. 1, 7–8, 12.

[33] Similar specimens were found in the English excavations: Hogarth 1908, 215 pl. 47 nos. 22–25 (with horizontal boring; with vertical boring and incised rosette are mentioned ibidem, [c]). A good photographic selection of the pendants shapes from the Artemision is in Seipel 2008, 188 nos. 177–185 (S. Erdemgil).

1–3 Human head, inv. 141/61/87

4–6 Human head, inv. 142/61/87

U-shaped boring at one end and an incised rosette pattern at the other end: it was upturned probably strung as last raw of the ornament (figs. 11–13), as documented in some belts in Basilicata (fig. 14)[34]. Spacers having up to five parallel holes show the existence of necklaces with several chains of beads[35].

[34] Similar pendants, with the same U-shaped boring but without the incised rosette pattern, were strung as lower raw in some belts in Basilicata, belonging to female interments dated to the ending 7th–early 6th c. B.C.: Nava – Salerno 2007, grave Chiaromonte 152, 239, no. III.254 and grave Chiaromonte 156, 242 no. III.264 (S. Bianco).

[35] Five spacers were found in the English excavations: Hogarth 1908, 215 pl. 47 nos. 26 (broken, with three borings) and 28 (two items, each with five borings) and further two specimens not reproduced (one with one vertical and three horizontal borings, one with two vertical borings). Amber spacers are widely documented in the Iron age, both in Italy, e.g. at Verucchio (Trocchi 2007, 140–141 no. III.47) and in the cemetery of Osteria dell'Osa near Rome

7 Biconical bead, inv. 14/2/99/16

8–9 Ribbed spindle whorl, inv. 67/41/86

10 Drop-shaped pendant, inv. 152/61/87

11–13 Pendant in form of an alabastron, inv. 7/2/90

14 Reconstruction drawing of the amber belt from the grave Chiaromonte 152

Textile appliqués

Among the amber finds in Ephesos are ca. 120 unusual appliqués forming two particular groups (nos. 356–486), one perhaps reproducing stylized birds as well as ducks (fig. 15) and the other flat triangles with incised circles on one face and one boring passing through each of the three corners (fig. 16). They are quite tiny: the dimensions vary between 0.8 and 1.2 cm for the ducks and between 0.7 and 1.4 cm for the triangles. The birds have two main shapes, one flat with one or two holes and one thick with three holes[36]. Since the two groups of triangles and ducks consist of ca. 60 pieces each and the elements have similar dimensions one can assume they belonged to the same ornament or to similar ornaments. In this perspective some female depositions in Basilicata dating to the 7th century B.C. offer particularly good parallels: they contain amber breast ornaments and belts consisting of triangles and lozenges, stitched together in horizontal rows with point by base and alternating with ducks (fig. 17)[37]. There are several possibilities for the reconstruction of the ornament from the Artemision, which was probably folded when it was deposed (fig. 18). The association with belts is particularly interesting, because in the Artemision bronze belts are a typical female votive offering to Artemis from the second half of the 7th to the beginning of the 6th century B.C.[38].

15 Bird, inv. 14/2/99/27

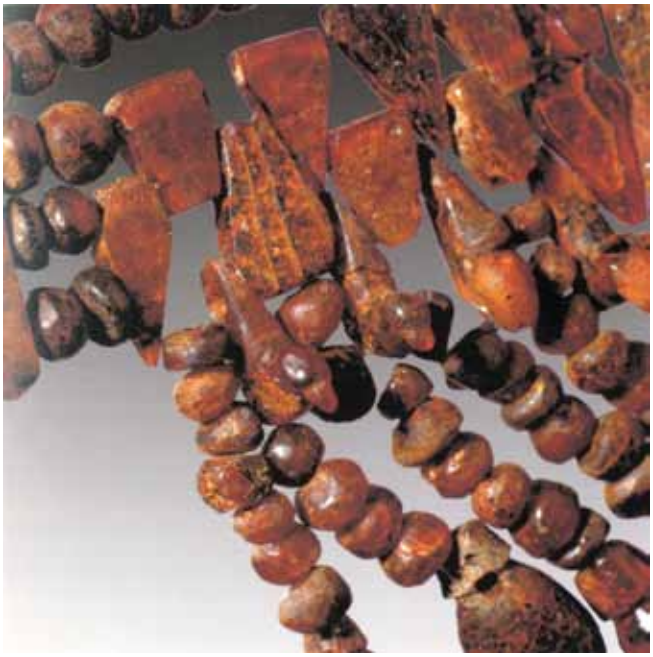
16 Triangle, inv. 14/2/99/1

(Bietti Sestieri 1992, 437–438, type 90, pl. 44), and in South Ionia, e.g. at Miletos (among the unpublished finds from the sanctuary of Aphrodite).

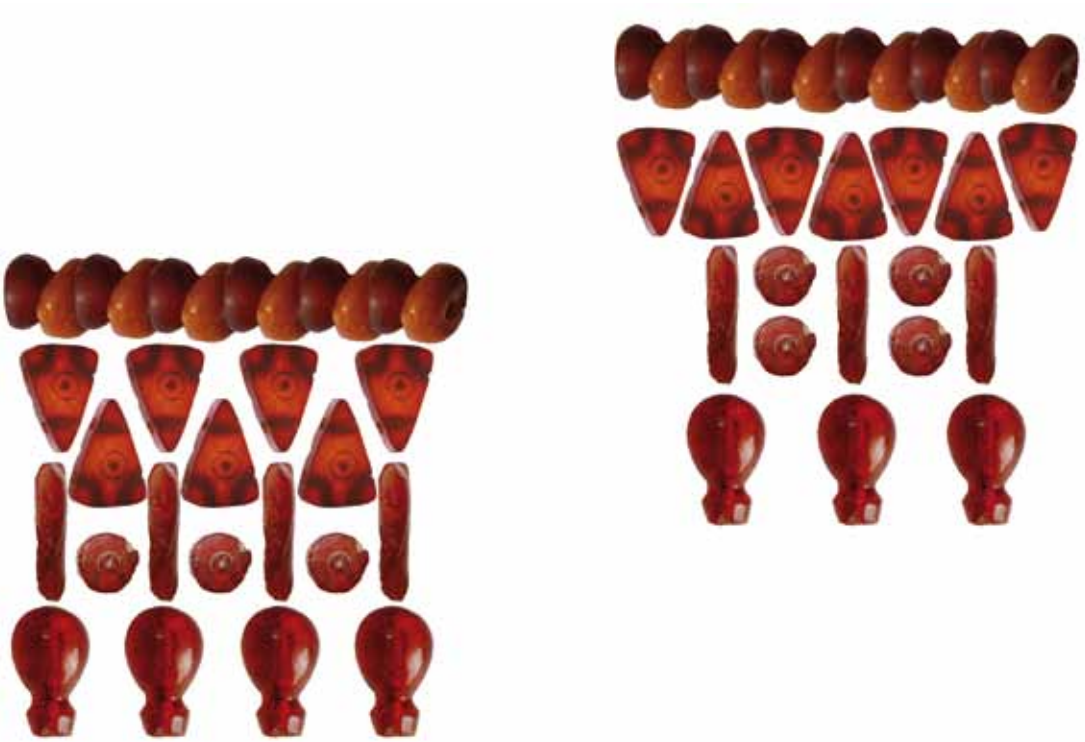
[36] Seipel 2008, 189 no. 187 for the triangles and p. 190 no. 188–190 for the ducks (S. Erdemgil).

[37] Bianco 2005, 91 for the elements in duck form compared to the finds from the Artemision. Further amber belts from the Basilicata are published in Nava – Salerno 2007, 238 no. III.247 (Latronico grave 83, early 7th c. B.C.); 239–240 no. III.254 (Chiaromonte grave 152, end of 7th c. B.C.); 242 no. III.264 (Chiaromonte grave 156, early 6th c. B.C.).

[38] Klebinder 2001; Klebinder-Gauß 2007, 93–108 pl. 43–53. 108, published the bronze belts from the Artemision and discussed the ancient literary sources about the belt offering in the Greek society.



17 Detail of the belt from the female grave Latronico 83



18 Possible reconstructions of the belt from the Artemision (S. Hye)

19–20 Fibula coated by amber and bone segments, inv. 193/61/87

Fibulae

Fibulae (nos. 487–525) were used to fasten clothes or to adorn textiles, which were precious gifts to a female divinity like Artemis. In Ephesos amber and bone segments with circular cavities for amber inlays, that originally surfaced the bows of fibulae, have also been discovered (figs. 19–20). These are a product of several workshops in ancient Italy, and are particularly common at Verucchio[39] but also distributed elsewhere: Este in Veneto[40], Crespellano[41], Bazzano[42], Bologna[43], Villanova[44] and Savignano[45] in Emilia-Romagna, Novilara in Marche[46], Volterra[47] and Marsiliana d'Albegna[48] in Tuscany, Narce[49] and Praeneste[50] in Latium, Pithecusa[51]

[39] Boiardi – von Eles 2003; von Eles 2006; Bentini – Poli – Trocchi 2007; von Eles 2007.

[40] Chieco Bianchi et al. 1976, no. 21 d; 40; pl. 15 nos. 9–10, with previous literature; von Eles Masi 1986, with short catchplate: 83 nos. 708 (fotocolour in Capuis – Chieco Bianchi 1992, fig. 40 up on the left) and 709; with long catchplate: 145 nos. 1331–1333A; Chieco Bianchi – Calzavara Capuis 1985, tomb Casa di Ricovero 235. 295 pl. 197 no. 11 (= Chieco Bianchi et al. 1976, 40 pl. 15 no. 10); Chieco Bianchi – Capuis 2006, tomb Villa Benvenuti 83. 140 no. 7 pl. 62; tomb Villa Benvenuti 122. 270 no. 18 pl. 145; tomb Villa Benvenuti 126. 342 no. 3 pl. 36, g.

[41] Dore, Marchesi 2010, 155 no. 256 (from Calcara, estate Riolo).

[42] Burgio – Campagnari 2010, 117–118 nos. 109–111 (bone revetments). nos. 112–114 (amber inlays) from Fornace Minelli tomb 1.

[43] Gozzadini 1877, 82 pl. 11 no. 13 (sporadic find); Sundwall 1943, 197 fig. 318, type G ILb2, with further literature; Frey 1969, 33–34 fig. 16 nos. 7–9 (tomb Melenzani 7); Minarini 2000 (Arnoaldi, tomb XIII, 1883 and XX/1883).

[44] Baldoni 1994, 275 nos. 57–58, pl. 8 (fibulae); 279 no. 88 pl. 9 (revetments).

[45] Boccolini 2009a, fig. 77 no. 4 pl. 10, 2; Boccolini 2009b, 66 (tomb 1).

[46] Beinhauer 1985, 753 pl. 110, 1230.

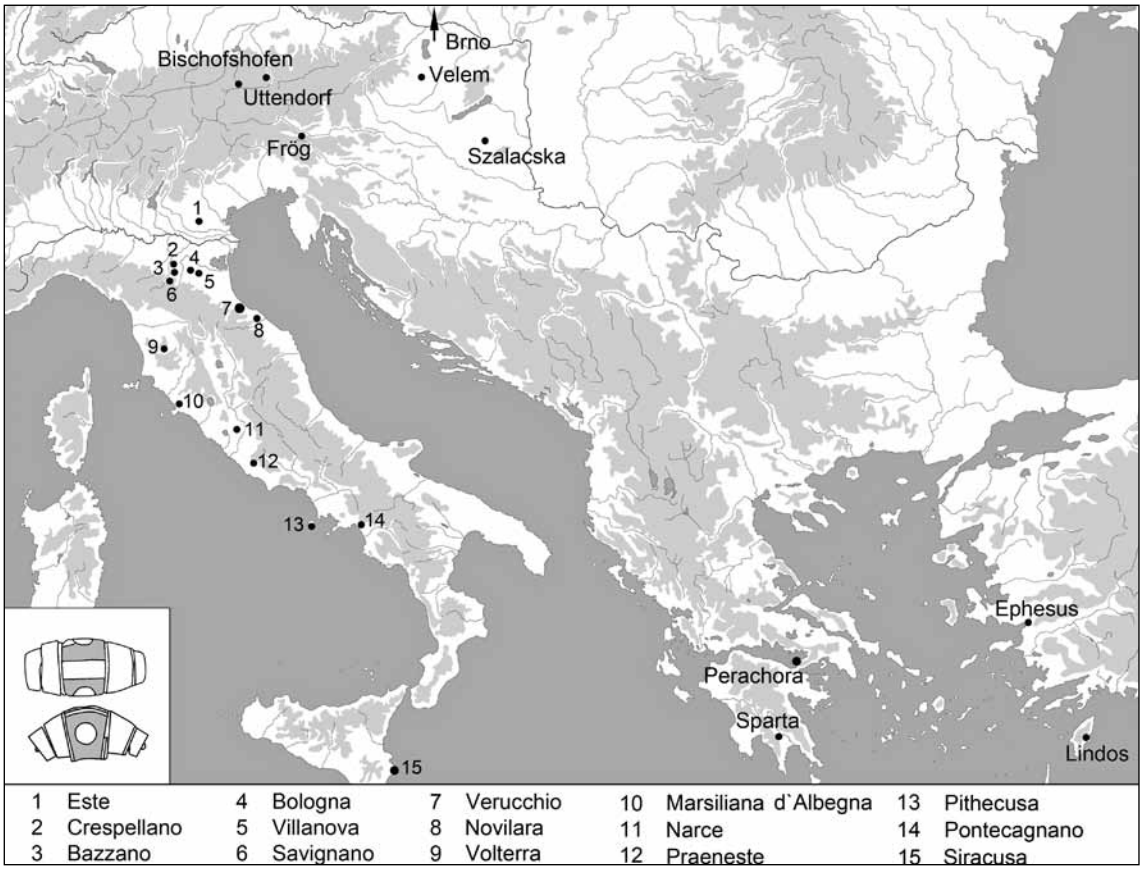
[47] Maggiani 2009, 311 pl. 2 f (three fibulae from tomb Ripaie I); Nascimbene 2009, 141 fibula type 26 (two fibulae from tomb Badia); Nascimbene 2012, 29 fibula type 26 (phase IIB, around 750 B.C.).

[48] Cianferoni 1987, 93 nos. 23–24 fotocolor p. 22 (a pair of fibulae from the tomb Banditella 2).

[49] Barnabei et al. 1894, pl. 10, fig. 15, 367 for a sanguisuga fibula from the tomb Petrina 30 (419–421: five fibulae at all); 384 for a further item from the tomb Monte Lo Greco 17 (439 no. 10, two fibulae); 384 for further items from the tomb 2 of the 2nd cemetery of Pizzo Piede (468: several »fibulae«). Barnabei et al. 1894, pl. 10 fig. 17 for a navicella fibula with two side knobs.

[50] Boitani 2003 (Praeneste, excavations Galeassi, now in the Castellani collection in the Museum of Villa Giulia in Rome).

[51] At Pithecusa two main types of fibulae with coated bow are identified; both have a long catchplate and belong to female interments. The Pithecusa type (Lo Schiavo 2010, type 172.2 nos. 2859–2864) has bone beads, in one case with circular cavities for amber inlays; according to the published data (Buchner – Ridgway 1993) at least 95 items of the Pithecusa type are documented at Pithecusa in 37 graves. The Capua type has bone discs (Lo Schiavo 2010, type 169 nos. 2476–2600). According to the published data (Buchner – Ridgway 1993) at least 20 items of the Capua type have been found at Pithecusa in eight graves.



21 Distribution of the fibulae coated by amber and bone segments, with circular cavities for amber inlays

and Pontecagnano[52] in Campania; some particular specimen have been found at Syracuse[53]. In Central Europe fibulae with amber and bone segments, having circular cavities for amber inlays, have been found at Bischofshofen[54], Uttendorf[55] and Frög[56] in Austria, Szalacska and Velem[57] in Hungary, Brno[58] in Moravia in the Czech Republic; in the Aegean Lindos[59] at Rhodes, Perachora[60] and Sparta[61] in the Peloponnese (fig. 21) can be mentioned. More common in Ephesos were amber beads with a single horizontal boring that were originally threaded on to the arched

[52] According to a kind information of T. E. Cinquantaquattro, which I like to thank, at Pontecagnano there are at least three main types of fibulae with coated bow by amber and bone beads with amber inlays: 1) with solid catchplate belonging to female interments dated to the second phase of the early Iron Age (d'Agostino – Gastaldi 1989, type 320 B23), 2) with long catchplate (d'Agostino 1968, type x) and 3) with medium catchplate (d'Agostino 1968, type y).

[53] Orsi 1895, 122, tomb 158 fig. 2; 161–162, tomb 402 fig. 48; 165, tomb 421 fig. 55.

[54] Lippert – Stadler 2009, tomb 353, no. 19, part 1, 24; part 2, 72 pl. 93 (perhaps belonging to the fibula with long catchplate no. 5); tomb 354, no. 10, part 1, 24; part 2, 7, pl. 96 (perhaps belonging to the fibula with short catchplate no. 5).

[55] Moosleitner 1992, 23 fig. 19, 7.

[56] Tomedi 2002, 186–187, from the tumulus 168, tomb 1; p. 528 no. 18 pl. 80: several amber inlays and three fragments of bronze sanguisuga fibulae, originally coated (528, nos. 2–4).

[57] Fekete 1982, 133 figs. 4, 1–2 a–b from Szalacska (short catchplate [?], phase Ha C 2, 650–600 B.C.) and from Velem (long catchplate).

[58] Říhovský 1993, 83–84 pl. 14 nos. 131–133.

[59] Blinkenberg 1931, 86–88 nos. 103a–b pl. 8; Lo Schiavo 2006, 259 Type 172.2.

[60] Dunbabin 1962, 439–442 nos. A 239–A 264 pl. 187.

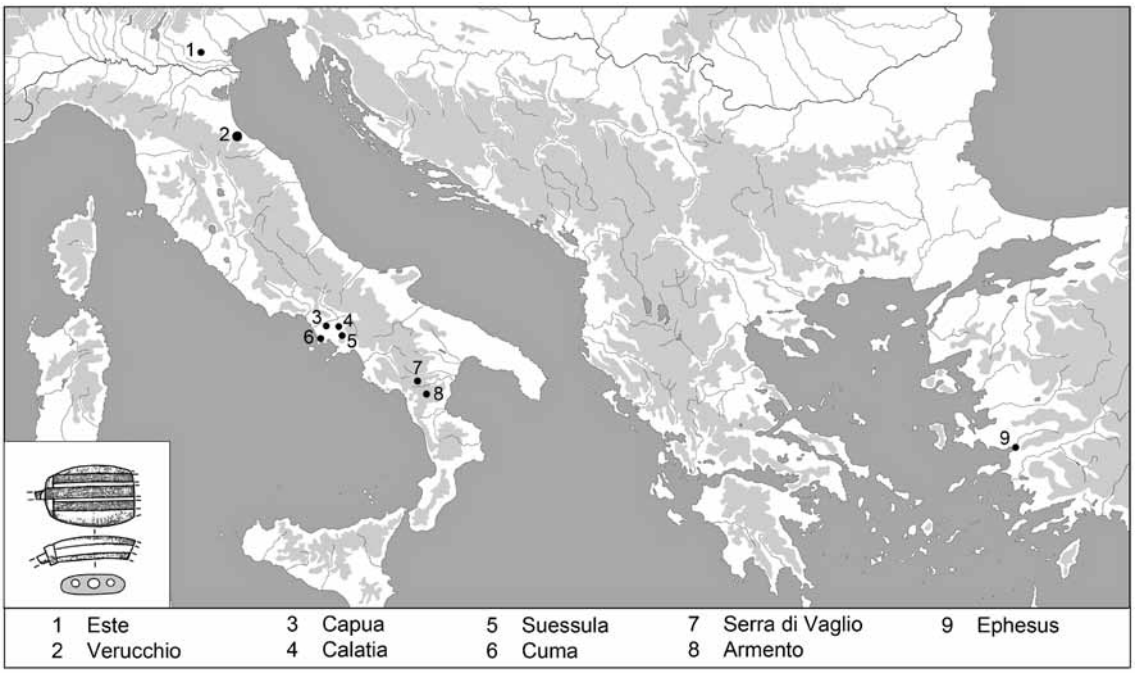
[61] Fibula with bow coated by bone beads, containing cavities for amber inlays; Droop 1929, 198, pl. 82, i; Lo Schiavo 2006, 259 Type 172.2.

22–23 Fibula coating, inv. 16.2.99.38

24–25 Fibula coating with three borings, inv. 16.2.99.37

bows of the fibulae as decoration (figs. 22–23). The 24 specimens have a wide variety of shapes, strictly derived from the original form of the lump of amber[62]. Two rare specimens have three parallel horizontal borings, the central one containing remains of a bronze wire (figs. 24–25)[63]. These belong to a particular shape of fibula found as female adornments particularly in female interments at Verucchio[64], but spreaded also through single pieces in some regions of pre-Roman Italy, as well as at Este in Veneto[65], Capua[66], Calatia[67], Suessula[68] and Cuma[69] in Campania, Serra di Vaglio[70] and Armento[71] in Basilicata (fig. 26). Patrizia von Eles suggested that at Verucchio the side borings were just used to capture light in the amber and to augment the transparency of the fibula.

[62] For such fibulae from the English excavations s. Hogarth 1908, 214 pl. 47 nos. 4. 13. 19. 20.
[63] A specimen with four borings was found in the English excavations: Hogarth 1908, 214 pl. 47 no. 10.
[64] Boiardi – von Eles 2003, 107–124, type 25; two amber beads for fibulae from Verucchio or its surroundings are preserved in the Museum of Rimini, unpublished (inv. D 323. D 596). I like to thank F. M. Gambari and A. Pozzi (Soprintendenza ai Beni Archeologici per l'Emilia-Romagna, Bologna) to allow me to draw the two fibulae in Rimini.
[65] Este, Grave Benvenuti 124: Chieco Bianchi – Capuis 2006, 297 no. 27 pl. 164.
[66] Lo Schiavo 2010, 380 no. 2732.
[67] Lo Schiavo 2010, 367 no. 2579.
[68] Lo Schiavo 2010, 379 no. 2722.
[69] Lo Schiavo 2010, 380 no. 2729.
[70] Lo Schiavo 2010, 367 no. 2580.
[71] Strong 1966, 59 nos. 29a–c pl. 13 (said to have been found in Armento).



26 Distribution of the fibula coatings with three borings

Inlays

Among the finds of the Artemision are some inlays of amber, ivory and bone, with a flat and a convex side (nos. 526–536), which have several forms (flower petals, rectangular, circular) (fig. 27). They originally decorated wooden furniture such as beds, thrones or coffins, as show the remains of the bed found in an Archaic grave in Athens in the Kerameikos cemetery, containing Ionian pottery and probably belonging to a deceased Ionian. According to ancient sources and inscriptions wooden beds with amber inlays were worked in Ionian Chios and Miletos. Ivory inlays belonging to such ornaments have been found already in the excavations leaded by David Hogarth. Unfinished examples of ivory and bone are also represented at the Artemision, suggesting the existence of a inlay workshop at the site, working with amber, ivory and bone[72].

[72] The finds of bone and ivory inlays at the Artemision (Hogarth 1908, 192 pl. 35 no. 23; 196 pl. 40 nos. 9–10. 13. 15–16) have been identified by U. Knigge (Knigge 1976, 70 and 60–83 for the kline from Athens); Fischer 1990 for similar remains from Asperg and further sites in South Germany; Forbeck – Heres 1997, fig. 28 for an ornament of amber and bone from the Löwengrab at Miletos; Kunze – Götte – Tancke – Vierneisel 1999, 6 no. 5 for an amber inlay from a further grave in Athens; Jung 2007 discusses the find from Asperg; Naso 2007 offers an overview of the finds, mentioning ancient sources and modern literature on the subject. After that article further amber, ivory and bone inlays belonging to wood objects have been identified in Italy at Syracuse (Orsi 1893, grave XXVIII, 456–457; Orsi 1919, 499 fig. 91; Cultrera 1943, grave I, 43 no. 4; grave XIX, 58 no. 5; grave XLVI, 73 no. 5), Rome (sanctuary near the church of Sant'Omobono: Pisani Sartorio 1977, 56–57 fig. 18; Virgili 1989, 53–54 fig. 28) and the Picenian settlement of Pitino di San Severino (province Macerata: unpublished in the museum in San Severino Marche), in South Ionia in a sanctuary near Mykale (Lohmann 2012, 103). In the Etruscan residence at Murlo an ivory and bone workshop of the Orientalizing period was identified (Nielsen 1984a, Nielsen 1984b, Nielsen 1995). Tarentum yielded some unpublished remains of a bone workshop dating to the 5th c. B.C.: Dell'Aglio – Lippolis 1995, 105; Dell'Aglio 2002, 192–193, with further literature. The sanctuaries of Artemis Orthia at Sparta, Apollo at Delos and Hera at Perachora yelded half-worked pieces of amber, ivory and bone (Dunbabin 1962, 528–529 with further literature).

27 Amber and bone inlays from the Artemision

28 Raw amber from the Artemision, inv. 107/54/88

Raw amber

One opaque lump of raw amber, coloured dark red and containing a large yellow stripe was also found (no. 537). The change in colour was probably seen as impurity and the piece was not used (fig. 28). Some borings show that the lump had been partially cut and used, perhaps as test piece. A further lump was found in the English excavations[73].

Provenance analysis

It is possible to determinate the provenance of amber using infrared spectrophotometry. The analyses of 30 samples (5 mg) taken from broken amber objects carried out by Edith Stout and Sarjit Kaur in the laboratory of Vassar College (New York, USA) has shown that the amber objects found in Ephesos are of Baltic origin[74]. Similar analyses have been carried out on samples taken from Hogarth's finds of amber from the Artemision now in the museum in Istanbul with the same results[75].

[73] Hogarth 1908, 214 pl. 47 no. 11.

[74] S. Kaur – E. Stout – T. Kaur – V. Estridge, Infrared spectroscopy of amber samples from Ephesus and Emilia – Romagna (unpublished paper 2011), courtesy Edith Stout and Sarjit Kaur.

[75] Kaur – Stout – Kaur – Estridge 2012.

29 Late Hittite stone funerary stele from Maraş in south-eastern Turkey

30 Etruscan bronze rattle from Bologna

Perspectives

The finds and particularly the raw pieces show that some of the amber had been imported to Ionia as raw material and carved in Ephesos. At the moment, comparison of the finds from Ephesos with finds from Verucchio and from Basilicata make it probable that Baltic amber reached Ephesos via a trade route along the Adriatic Sea. The relationship between Italy and Ionia in the 7th century B.C. is well documented and contacts ran in both directions thanks to several partners: the Etruscans were active in Northern and Central Italy, Greek colonists like the Ionians from Colophon in Siris in the modern day Basilicata in Southern Italy[76]. This relationship may account for the development of similar tastes in amber ornaments in both regions. In Ephesos some ivory statuettes, including the so-called Megabyzos, show women with necklaces with beads and pendants that may be of amber, which illustrate the local importance of this material[77]. The clothes of the women on the statuettes are decorated and reproduce textiles with appliqués probably of precious metals and other materials. Textiles played an important role in the ancient world in the development of ornament and decorative patterns as the comparisons between objects from Turkey and Italy show. In this context a further comparison can be made between a late Hittite stone funerary stele from Maraş (south-eastern Turkey) and an Etruscan bronze rattle from Bologna (figs. 29–30). Although the stele belongs to the 8th century and the rattle to the end of the 7th century B.C., both monuments represent woman of high social rank wearing rich clothing and both represent women spinning wool. In Late Hittite and Etruscan societies the importance of textiles is repeatedly emphasised and cloth working was an important activity for women of the highest rank in both societies[78].

[76] For the relationships between Etruscans and Greeks s. Naso 2014, with previous literature.

[77] The ivory statuettes from the Artemision are reviewed by Işık 2001; Radner 2001; Seipel 2008, 159–160 no. 108 (N. Atakan); 164–165 no. 113 (U. Muss).

[78] Schachner – Schachner 1996 and Gruber 2004, 89 fig. 48 for the late Hittite stele. Morigi Govi 1971 published the rattle from Bologna; Etruscan textiles are collected and discussed by Gleba 2008 (p. 28–30 for the rattle from Bologna); Torelli 1996 stressed the importance of the cloth working in the Etruscan society; Bartoloni 2000 collected further specimen of spinning women in Near Eastern societies.

To survey all the amber finds from the Artemision it is necessary to compare the amber artefacts preserved in Selçuk with those in Istanbul and in London, in order to verify this preliminary work[79]. It remains to check the find spots of the amber which does not originate from the foundation deposits, to verify whether the amber pieces belong to the same or to different artefacts and ascertain details about the chronology. The chronology is important because it will help to clarify the relationship between the workshops in Ephesos and those in Italy, and show the direction of the influence of one upon the other.

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[79] In the final publication following contributions are foreseen: M. B. Ott (beads), C. Posch (pendants), S. Privitera and L. Ambrosimi (figured finds), N. L. Saldalamacchia (fibulae), inlays, appliqués and raw amber (A. Naso).

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Abstract

Alessandro Naso, Amber for Artemis. Preliminary Report on the Amber Finds from the Sanctuary of Artemis at Ephesos

More than 700 amber objects have been found in the sanctuary of Artemis at Ephesos, distributed all around the temple area. Two large assemblages have been discovered deposited in the rectangular foundations built of green schist slabs (called the ›earlier basis‹ by the excavator D.G. Hogarth) in the interior of the second temple of Artemis (Naos 2, Hogarth's ›temple B‹), built in the second half of the 7th century B.C. and both have been interpreted as foundation deposits. Originally, the amber artefacts were either individual items or parts of other objects such as belts, textiles and fabrics. The systematic study of the amber objects was begun in 2010 as a collaboration between the Austrian Archaeological Institute and the Institute of Archaeologies of the University of Innsbruck. Here, a preliminary overview of the results is presented.

Keywords

Ephesos – Artemision – Amber – Votive offerings – Female ornaments