

Light in Antiquity: Etruria and Greece in Comparison

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Abstract

This study discusses lighting devices in Etruria and the comparison with similar tools in Greece, focusing on social and cultural differences. Greeks did not use candlestick-holders; objects that have been improperly identified as *candelabra* should more properly be classified as lamp/utensil stands. The Etruscans, on the other hand, preferred to use torchlight for illumination, and as a result, the *candelabrum*—an upright stand specifically designed to support candles — was developed in order to avoid burns to the hands, prevent fires or problems with smoke, and collect ash or melting substances. Otherwise they also used utensil stands similar to the Greek lamp holders, which were placed near the *kylikeion* at banquets. *Kottaboi* in Etruria were important utensils used in the context of banquets and symposia, while in Greece, they were interchangeable with lamp/utensil stands.

Introduction

Light in Etruria¹ certainly had a great importance, as confirmed by the numerous gods connected with light in its various forms (the thunderbolt, the sun, the moon, the dawn, etc.).² All the religious doctrines and practices concerning the thunderbolt, the light par excellence, are relevant in this concern. Tinia, the most important god of the Etruscan pantheon (the Greek Zeus), is often depicted with a thunderbolt. Sometimes also Menerva (the Greek Athena) uses the thunderbolt as weapon (fig. 1), which does not seem to be attested in Greece.³ Thesan was the Etruscan Goddess of the dawn identified with the Greek Eos; Cavtha is the name of the Etruscan god of the sun in the cult, while Usil is the sun as an appellative or mythological personality. Several specimens of bone parasols (fig. 2) have been found in Etruria. They were reserved for noble castes as a sign of extreme refinement. The parasol also appears in courtship, in wedding preparations and in the wedding scenes on bronze mirrors, stelae, sarcophagi, wall paintings etc. In Etruria a mantle was used to shelter from the light during the wedding ceremony. On the famous bronze liver of Piacenza, the name Usil lies opposite from Tiu (the Moon). The deity had to be venerated in the sanctuaries, as is documented by some bronze votive half-moons offered at Città della Pieve⁴ and Chianciano Terme.⁵

Light in Etruscan life is connected with divination, because it throws light on the dark future and enables one to see what may happen. Among the Etruscans there was even the practice of the interpretation of thunderbolt,⁶ whose precepts were written in the *Libri Fulgurales*. According to Seneca, Pliny, Festus, and Servius, Tinia can throw three types of thunderbolt. The interpretation of the lightning was divided into three

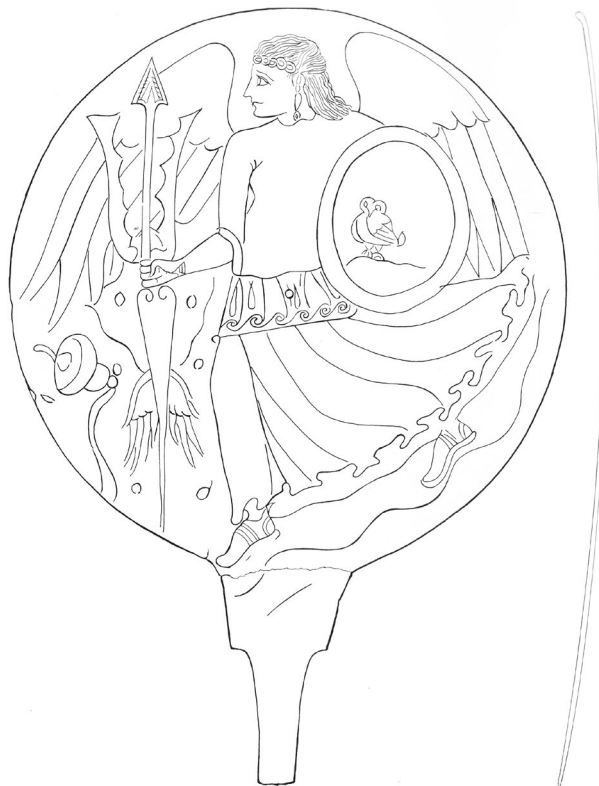


Fig. 1: Etruscan Bronze Mirror with Menerva holding a thunderbolt.

moments: 1) the analysis (observation of the sky where the lightning comes from and where it comes back) with the theory of the launch (3 *manubiae* of Jupiter: he launches the 1st alone, the 2nd after consulting a college of *dei consentes* and the 3rd after consulting the *dei superi et involuti*); 2) the interpretation (the lightning is *fatidica* when it comes from above or from the stars, *bruta* does not mean anything, and *vana*, whose meaning has vanished); 3) the atonement. According to Lucanus (1.608) the *haruspex Arruns* wanders around, murmuring prayers and collecting scattered embers of lightning that he carefully buries in a fenced place dedicated to the gods from which the thunderbolt was launched. The lightning grave is a box superimposed on a well containing the remains of what was destroyed by lightning. At Vulci, a slab engraved with the inscription *Fulgur conditum* was put on top of the well containing the statue of the Spinner of Munich, which was struck by lightning and buried.⁷ As is known, the famous bronze statue known as the Mars of Todi also was buried in a *fulgur conditum*.⁸ Another more recent *fulgur conditum* was found a few years ago in Todi, Porta Amerina.⁹ The Etruscan name of the priest who was involved in the interpretation of lightning (*truntvt frontac*) is known thanks to the bilingual (in Latin and in Etruscan) funeral inscription of Pesaro.¹⁰ The Brontosopic Calendar¹¹ was organized into twelve months, and served as a reference to priests who interpreted the lightning. Without detail, because it is a

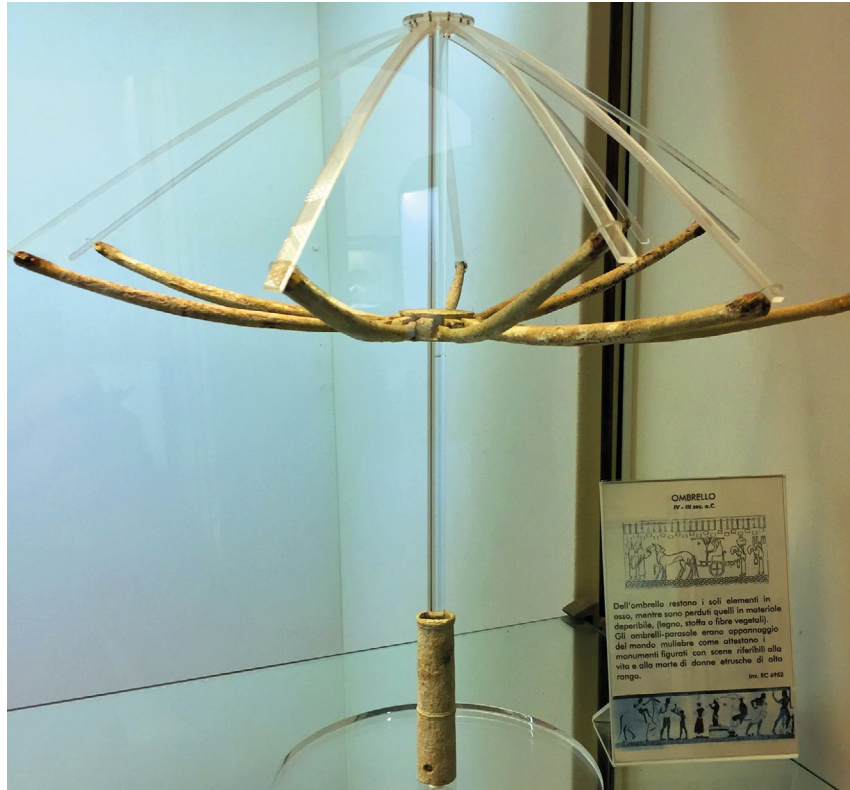


Fig. 2: Bone parasol.

very complex subject, I point out only that some classicists and historians have even doubted its authenticity. This study focuses on the comparison between lighting tools used in Etruria and in Greece. Before moving on to the tools used for lighting in the Etruscan civilization, it should be noted that the lighting of the Etruscan chamber tombs had to be similar to one used by visitors during the 18th and 19th century (fig. 5). People entered the tomb accompanied by torches (more than lamps, which emit little light). The perception of the paintings had to be very different from the one we have today which is given by artificial lights. The light came in through the door and only after a certain period the eye became accustomed to this change, and, thanks to the light of the torches it could see the paintings. This vision limited and hardly all the painted surfaces were illuminated at the same time.

Lamps in Greece and Etruria

Among the most used tools, there are certainly oil lamps. Lighting tools in Etruria are known thanks to archaeological findings and depictions on tomb paintings, pottery, and utensils in the tomb Golini I at Orvieto¹² (fig. 4), of the mid-4th century BC. Here, two



Fig. 3: Visit to the Tomb of the Reliefs – Cerveteri, Oil on Canvas by Cesare Berzotti, 1850.

candlesticks with candles and an incense-burner are painted near to the throne of Aita (Hades) and Phersipnai (Persephone). Candlesticks (called *funale* by the Romans) were intended to support candles of a wick of flax, papyrus, dried rush pith, or other vegetable fibers dipped in beeswax that were placed upright on prongs of various heights. The *thymiaterion*¹³ had a bowl at its apex which contained the incense to be burned.

Despite vague analogies in their visual representations, the study of lighting tools shows significant differences between Etruscan and Greek culture. Around the first quarter of the 7th century BC, the use of clay lamps (hand-made, open shaped and filled with oil) spread throughout mainland Greece, inspired by contacts with Egypt, the eastern Mediterranean and Cyprus. Toward the end of the 7th century, wheel-made examples began to be produced both in Asia Minor and at Corinth. By the mid-6th century BC, Athens began to export locally-made lamps to Magna Graecia and the Hellenized areas of Sicily.¹⁴

In Etruria, during these same centuries, the situation was quite different. Greek clay lamps or locally-produced examples in the Greek style were both in use, while types corresponding to the East-Greek, Siceliot, Corinthian, and Attic traditions were rare. Nevertheless, a few examples have been found in Gravisca, Cerveteri, Pyrgi, Vulci, Acquarossa, Populonia, and Orvieto. An interesting mining lamp with the owner's inscription¹⁵ (Akius) comes from Populonia, where iron was mined.



Fig. 4: Orvieto, Museo Archeologico Nazionale. Painted wall depicting two *candelabra* and a *thymiaterion* in the Tomb Golini I, Orvieto, mid-4th century BC.

Occasionally, the Etruscans imported Phoenician lamps, as is documented by a lamp with nozzles and also a saucer needed to catch the dripping oil; it comes from the Tumulus of the Chariots at Populonia, which dates to the mid-7th – early 6th century BC.¹⁶ Another Phoenician lamp comes from the small Tumulus III bis of Cerveteri,¹⁷ and the arcade building of Pyrgi recently produced five Phoenician lamps of the shell-type, with two nozzles.¹⁸ These large oil lamps were produced in Carthage and date to the mid-6th century BC. Slightly later in date is the *pastiche* from the Isis Tomb at Vulci, which consists of a bronze lamp assembled with a Cypriot torch-holder.¹⁹ Sites such as Pyrgi and Gravisca, both *emporia* with sanctuaries frequented by Greeks, represent exceptions to this general rule of the rarity of imported oil lamps in Etruria. There, hundreds of lamps have been found, linked specifically to their context and function as *ex voto* objects that were used most likely for the night-time worship of chthonic deities.²⁰

The reason for the use of torches and conversely the rarity of clay lamps in Etruria – either locally produced or imported – between the Orientalizing and Classical periods cannot be related only to the production of oil in this region, since it was already an important good during these centuries. This is made evident by the use of oil both



Fig. 5: Roma, Museo Nazionale Etrusco di Villa Giulia. Etruscan bronze *kreagra*.

for food, as testified by the production of transport amphorae,²¹ and for cosmetics, as the production of Etrusco-Corinthian *aryballoi* indicates.²² Rather, we must look for other reasons to explain this phenomenon. One factor may have been the distribution of natural resources that could be used for lighting in Etruria and central Italy. In fact, the region was heavily forested in antiquity. Thus, because of this feature, the Etruscans might not have been willing to transition to the use of animal fats (such as tallow) and then to vegetable oils. According to some scholars, we must include among the bronze supports for torches also the *harpax* or *kreagra*²³ (fig. 3), a handle holding a ring from which the rays branch off; according to different scholars it may have functioned as a tool for cooking meat. Other torches holders have been misinterpreted as supports for mirrors or other bronze artifacts because they take the shape of molded bone cylinders.²⁴



Fig. 6: Cortona, Museo dell'Accademia Etrusca di Cortona. The Cortona Lamp.

As concerns bronze lamps, an archaic example with a Siren was probably made in Etruria, while a bronze lamp in Berlin (found in Etruria) probably comes from Greece.²⁵ An exceptional bronze lamp is the so-called Cortona Lamp²⁶ (fig. 6), a multi-nozzle lamp that dates back to the end of the 5th century BC. It weighs about 58 kg and has a diameter of 60 cm. It probably had a ritual function, placed in a temple of Tinia, as can be deduced from the inscribed plaque with a dedication by the Mušni family. Another bronze lamp (diam. 1,50 m) was found in the I Fucoli sanctuary near Chianciano.²⁷

During the 4th century BC the archaeological data still indicate the extreme rarity of oil clay lamps in Etruria, as also outlined by Carlo Pavolini for Rome.²⁸ Then, at the beginning in the 3rd century BC, potters in Southern Etruria began to produce oil lamps in black gloss ware, similar in shape to the biconical type known as the Esquiline type

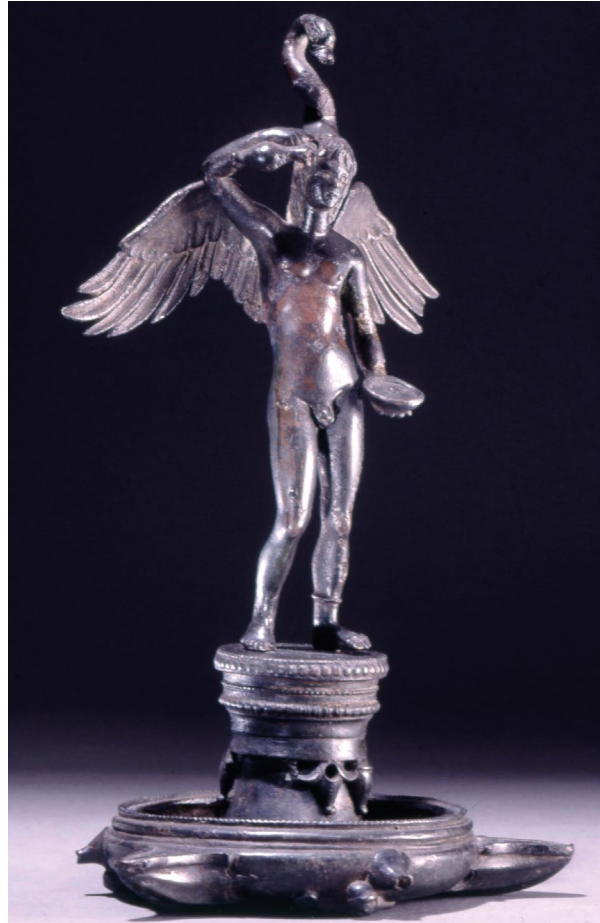


Fig. 7: London, British Museum (inv. no. 1824,0454.25). Etruscan bronze three-nozzled hanging lamp, 3rd century BC.

and these soon became wide-spread. Francesca Serra Ridgway suggests Tarquinia was the center of production of this type, and that it started not earlier than the beginning of the 3rd century BC according to the tomb findings in the Calvario necropolis.²⁹ The production of these lamps has been influenced by Roman rather than that of the Greek type or the Greek Hellenistic type e. In addition, as Pavolini has argued, it was most likely a mixture of environmental factors (e.g. the destruction of forests) combined with the contacts with the Greek world, particularly via Southern Italy and Hellenized Sicily. The beginning of production of bronze suspended oil lamps with a winged human figure wearing a swan's head cap dates to the late 4th century BC³⁰ (fig. 7). It perhaps represents an Etruscan spirit connected with the rural and Dionysiac world. In the late 3rd century BC, clay lamps imitating these bronze models were made. Examples come from the *Volumni* hypogaeum in Perugia³¹ and they are modest locally-made lamps.

The knowledge of the structure of lighting tools is crucial, because it enables us to define their functions and uses in these cultures. The Greeks never used



Fig. 8: Etruscan Bronze Candelabrum, 450 BC.

candlestick-holders, therefore objects improperly identified as *candelabra* (i.e. as supports for illumination with candles) should more properly be classified as lamp/utensil stands.³² On the other hand, the Etruscans preferred the use of torchlight and consequently the *candelabrum*³³ (fig. 8). It was conceived as an upright stand specifically designed to support candles made of resinous fibers saturated with flammable substances. It was developed to prevent hands from burning, to avoid fires or problems related to smoke, and to collect ash or melting substances. Since wax and tallow candles (*cereus* and *candela*, respectively, in Latin) are not found

in Greece, except as later imports from Italy, it is clear that Greeks did not invent the *candelabrum*. Otherwise they also used utensil stands similar in shape to the Greek lamp holders, placed near the *kylikeion* at banquets. All in all, this analysis demonstrates that there are both formal and functional variations between Greek and Etruscan lighting tools that can be traced back to social and cultural differences. In the past, many lamp/utensil stands depicted on red-figure Attic pottery have been confused with *candelabra* or *kottaboi*.³⁴ The presence of such items indicates that the scenes represent the *symposium*, rather than a banquet. Greek banquets were, in fact, held over a period of time when the main meal of the day (gr. *deípnōn*) was eaten, usually between the afternoon and sunset. An exception could be a fragment of a mid-late 5th century BC Greek bell-krater from Al Mina (Syria), attributed to the Academy Painter,³⁵ which represents an object similar to a candlestick. It resembles an incense-burner with two prongs, a type also documented in Etruria.³⁶ Red-figure vases with scenes relating to the *symposium* or erotic subjects connected to this theme have representations of utensil-stands that support a lamp with two nozzles, one or two ladles, and a strainer. Lamp/utensil stands also appear on a number of vases produced during the first half of the 5th century BC, depicting symposiasts playing the *kottabos kataktos*, the game where they launch wine from their *kylix* and try to hit a lamp stand. Another interesting Greek vase painting iconography is the Centaurs using a lamp/utensil stand as a weapon in their battle with the Lapiths.³⁷ The depiction clearly represents the Centaurs' uncivilized behavior and violation of cultural norms.

Candelabra in Etruria

Given their material – bronze – the Etruscans' *candelabra* were luxury goods, produced for the wealthy classes. The vast majority of the population used tallow candles, pitch, or wooden torches. Even in Roman times, wax candles continued to be used exclusively by the élite, while the sebaceous candle was the cheaper and more widespread type.³⁸ The use of *candelabra* in Etruria is well-known from the mid-6th to the second half of the 4th century BC. Sometimes pairs of *candelabra* have been found in tombs dating to the beginning of the 4th century BC (e.g. at Spina Valle Pega in Tombs 136A and 185A). The presence of identical pairs of objects in the same tomb also occurs in different classes of pottery (e.g. Attic vases, *oinochoai* and *skyphoi*). Candlesticks are generally older than the burials: generally, they were made at least twenty to thirty years before the deceased was interred and they are sometimes as much as fifty years older. All of the known *candelabra* come from funerary contexts, otherwise, it is likely that they were also used to illuminate houses considering their value. Some bronze *candelabra* were also used and offered as gifts in sanctuaries too. In some burials, they have been disabled, so as to be consecrated to the tomb. Examples of this process (occasionally also used for bronze mirrors) come from the later 5th century BC

candlestick from Tomb 6 at Monte Avigliano, and the nine bronze *candelabra* discovered in the *dromos* of the Curuna Tomb at Tuscania.

Aside from these precious objects, *candelabra* made of iron, lead, clay, and even wooden parts existed, as proven by an epigram of Martial and a letter by Cicero to his brother Quintus. Iron *candelabra* dating between the end of the 6th and the mid-4th century BC are documented in Vulci, Bolsena, Orvieto, Populonia, Volterra, Spina, and in the Siena area. However, the maximum concentration is recorded from the late 4th to early 3rd century BC. Artisans also made them in silvered pottery (Volterra), red paint (Populonia Monte Pitti, San Cerbone and Sughera della Capra) and in black painted pottery (Monteriggioni, Capua and Perugia). Finally, the production of red- or black-glazed pottery candlesticks is well documented in northern Etruria and conversely, is completely absent in southern Etruria.

Conclusion

In the Etruscan and Greek cultures, lighting devices had different functions, as can be deduced both by their features and the roles they played in a variety of representations. It is clear that objects of a similar shape had different uses in their respective cultural contexts. This is particularly evident in the case of *candelabra*: in Etruria they were used to hold candles, while in Greece they functioned as lamp or utensil stands. In addition, the cultural context of these objects is fundamental to understanding the different use in Etruscan and Greek societies. In fact, the Etruscans had their specific culture with its own customs and distinct characteristics, still today confused and equated to the Greek ones.

Notes

¹ A PhD Dissertation on ‘Lightning in Etruria’ was carried out recently by V.J. Clark Mascelli at the Sapienza University of Rome. The exhibition “Luci dalle tenebre. I lumi nel mondo etrusco” at Cortona was canceled due to the covid 19 pandemic.

² Simon 1984. See De Grummond 2016 and now Ambrosini 2019.

³ De Grummond 2016; Carpino 2018; Ambrosini 2019. For the parasols see Colivicchi 2007, 191; Mascelli 2014–2015.

⁴ Colonna 1985, 29 no. 1.4. See now Sannibale 2018 (2019).

⁵ Bonamici 2003, 51.

⁶ Maggiani 1984 with references.

⁷ Buranelli 1991, 161–166.

⁸ Roncalli 1973.

⁹ Manconi – Spiganti 2017.

¹⁰ Emiliozzi 2009.

- ¹¹ MacIntosh Turfa 2004–2007; MacIntosh Turfa 2012; De Grummond 2016; Ambrosini 2019.
- ¹² Ambrosini 2002, 79–81, fig. 12a; Ambrosini 2013, 2 f. fig. 1,a–b.
- ¹³ For the Greek see Zaccagnino 1998; for the Etruscan see Wikander 1983; Testa 1989; Buccioli 1995; Naso 2009; most of all Ambrosini 2002, and also Ambrosini 2011 and Ambrosini 2013.
- ¹⁴ Howland 1958; Scheibler 1976; Rosenthal – Heginbottom 1988.
- ¹⁵ Romualdi 1985a, 46 no. 2; 48 fig. 2.
- ¹⁶ Romualdi 1985b, 66 no. 144.
- ¹⁷ Sciacca 2000, 216 no. 243.
- ¹⁸ Michetti 2020 with references.
- ¹⁹ Martelli 1996.
- ²⁰ Colonna 1981, 27 no. 47.
- ²¹ Rizzo 1990.
- ²² Szilágyi 1998.
- ²³ See Bagnasco Gianni 1999; Mascelli 2012.
- ²⁴ From Perugia – Sperandio (Nati 2008, 41–43), Santa Giuliana (Nardelli 2010, 122 f. no. 16.3) and Monteluca (Nardelli 2010, 113–120); see also Mitten-Doeringer 1967, 180 no. 184.
- ²⁵ van der Meer 2014, 295.
- ²⁶ Bruschetti 1978; Del Francia et al. 1988; van der Meer 2014 with references.
- ²⁷ Rastrelli 1993a, 474 tav. XIX; Rastrelli 1993b, 351 fig.1.
- ²⁸ Pavolini 1982, 304.
- ²⁹ Serra Ridgway 1996, 283 f.; Ambrosini 2016, 462 with references.
- ³⁰ For these lamps in London and Florence see Bailey – Craddock 1978; Rastrelli 1993a, 474 n. 40; add to this the one in Saint Petersburg (Mavleev 1990, 405–407, no. 8.4).
- ³¹ Cencioli 2011, 31 f. figs. 15, 16; 103, figs. 10a–b; 128, fig. 5; 137 with references.
- ³² Ambrosini 2013, 7–9 with references.
- ³³ Ambrosini 2013, 13–15 with references.
- ³⁴ Ambrosini 2013, 21–30.
- ³⁵ Antioch Museum, inv. no. 214874: ARV2 1125.13; Ambrosini 2013, 7.
- ³⁶ Ambrosini 2002, 92 f. fig. 31.
- ³⁷ Ambrosini 2013, 9 with references.
- ³⁸ Testa 1983, 611 n. 67; Ambrosini 2013, 13–15.
- ³⁹ Ambrosini 2017.

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Fig. 1: Zimmer 1995. – Figs. 2, 4–6: photo Laura Ambrosini. Fig. 3: Gaultier et al. 2014. – Fig. 7: <http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=466726&partId=1&museumno=1824,0454.25+&page=1>. – Fig. 8: <<https://www.christies.com/lotfinder/Lot/an-etruscan-bronze-candelabrum-circa-450-bc-5443316-details.aspx>>.

References

Ambrosini 2002

L. Ambrosini, *Thymiateria etruschi in bronzo di età tardo classica, alto e medio ellenistica* (Roma 2002).

Ambrosini 2011

L. Ambrosini, *L'incenso e gli incensieri*, in: S. Rafanelli – P. Spaziani (eds.), *Etruschi. Il privilegio della bellezza* (Sansepolcro 2011) 73–99.

Ambrosini 2013

L. Ambrosini, *Candelabra, Thymiateria and Kottaboi at Banquets: Greece and Etruria in Comparison*, *EtrSt* 16, 2013, 1–38.

Ambrosini 2016

L. Ambrosini, *Norchia 2* (Roma 2016).

Ambrosini 2017

L. Ambrosini, *Souvenirs dall'Etruria per il Grand Tour*, in: G. Della Fina (ed.), *Gli Etruschi nella cultura e nell'immaginario del mondo moderno*, XXIV Convegno Internazionale di Studi sulla Storia e l'Archeologia dell'Etruria Faina, Orvieto 2016, *AnnFaina XXIV* (Roma 2017) 141–155.

Ambrosini 2019

L. Ambrosini, *The Gods of War and Peace in Etruria*, in: K.I. Soueref – A. Gartziou-Tatti (eds.), *Gods of Peace and War in the Myths of the Mediterranean Peoples*, Conference Proceedings Ikaria, 2–4 September 2016 (Ioannina 2019) 209–226.

ARV2

J.D. Beazley, *Attic Red-figure Vase-painters 2* (Oxford 1963).

Bailey – Craddock 1978

D.M. Bailey – P.T. Craddock, *A Bronze Lamp of Late Etruscan Type*, *StEtr* 46, 1978, 75–80.

Bagnasco Gianni 1999

G. Bagnasco Gianni, *L'harpax come corona di luce*, in: M. Castoldi (ed.), *Κοινά. Miscellanea di studi archeologici in onore di Piero Orlandini* (Milano 1999) 123–142.

Bonamici 2003

M. Bonamici, *I bronzi del santuario di Sillene a Chianciano Terme*, in: G. Paolucci (ed.), *L'acqua degli dei. Immagini di fontane, vasellame, culti salutari e in grotta. Catalogo mostra Chianciano* (Montepulciano 2003) 45–55.

Bruschetti 1978

P. Bruschetti, *Il lampadario di Cortona*, *AnnAcEtr* 10, 1978, 147–220.

Buccioli 1995

S. Buccioli, *Thymiateria*, in: M.P. Bini – G. Caramella-S. Buccioli, *Materiali del Museo Archeologico Nazionale di Tarquinia, XIII. I bronzi etruschi e romani, Parte 1* (Roma 1995) 299–450.

Buranelli 1991

F. Buranelli, *Gli scavi a Vulci della Società Vincenzo Campanari-Governo Pontificio (1835–1837)* (Roma 1991).

Carpino 2018

A.A. Carpino, The Iconography of the Winged Menrva on Etruscan Engraved Bronze Mirrors from the 5th to Early 3rd Centuries B.C., in: G. Adornato et al. (eds.), *Restaging Greek Artworks in Roman Times* (Milan 2018) 93–103. [<http://dx.doi.org/10.7359/832-2018-carp>]

Cenciaioli 2011

L. Cenciaioli (ed.), *L'ipogeo dei Volumni. 170 anni dalla scoperta. Atti del convegno Perugia 2010* (Città di Castello 2011).

Colivicchi 2007

F. Colivicchi, *Materiali in alabastro, vetro, avorio, osso, uova di struzzo. Materiali del Museo Archeologico di Tarquinia*, 16 (Roma 2007).

Colonna 1981

G. Colonna, La dea di Pyrgi. Bilancio aggiornato dei dati archeologici, 1978, in: A. Neppi Modona – F. Prayon (eds.), *Akten des Kolloquiums zum Thema „Die Göttin von Pyrgi.“ Archäologische, linguistische und religions-geschichtliche Aspekte Tübingen 1979* (Firenze 1981) 13–34.

Colonna 1985

G. Colonna, Mezzaluna votiva, in: G. Colonna (ed.), *Santuari d'Etruria. Catalogo della mostra Arezzo* (Milano 1985) 20, no. 1.4.

Cristofani 1984

M. Cristofani (ed.), *Gli Etruschi. Una nuova immagine* (Firenze 1984).

De Grummond 2016

N.T. de Grummond, Thunder versus Lightning in Etruria, *EtrSt* 19.2, 2016, 183–207.

Del Francia et al. 1988

P.R. Del Francia – P. Bruschetti – P. Zamarchi Grassi, *Nuove letture del lampadario etrusco. Catalogo mostra Cortona* (Cortona 1988).

Emiliozzi 2009

A. Emiliozzi, Epigrafi della „Bilingue di Pesaro“. Un'integrazione nel testo latino, in: S. Bruni (ed.), *Etruria e Italia preromana. Studi in onore di Giovannangelo Camporeale* (Pisa - Roma 2009) 371–372.

Gaultier et al. 2014

F. Gaultier – H. Laurant – P. Santoro, *Gli Etruschi e il Mediterraneo. La città di Cerveteri. Catalogo della mostra Lens-Roma* (Roma 2014).

Howland 1958

R.H. Howland, *Greek Lamps and Their Survivals*, AA 4 (Princeton 1958).

MacIntosh Turfa 2004–2007

J. MacIntosh Turfa, The Etruscan Brontoscopic Calendar and Modern Archaeological Discoveries, *EtrSt* 10, 2004–2007, 163–173.

MacIntosh Turfa 2012

J. MacIntosh Turfa, *Divining the Etruscan World. The Brontoscopic Calendar and religious Practice* (Cambridge 2012).

Maggiani 1984

A. Maggiani, L'interpretazione dei segni celesti, in: Cristofani 1984, 146–149.

Manconi – Spiganti 2017

D. Manconi – S. Spiganti, Un fulgur conditum a Todi (Umbria), *Otium* 3, 2017, 1–40 <<http://www.otium.unipg.it/otium/article/view/39>> (last access 27th September 2019)

Martelli 1996

M. Martelli, Bronzi ciprioti dall'Etruria, in: *Studi in memoria di Lucia Guerrini. Vicino Oriente, Egeo, Grecia, Roma e mondo romano, tradizione dell'antico e collezionismo di antichità* (Roma 1996) 47–60.

Mascelli 2012

V. Mascelli, I graffioni etruschi, in *AttiMemFirenze* 77, 2012, 167–234.

Mascelli 2014–2015

V. Mascelli, Un parasole in osso dalla Tomba Milani C da Narce al Museo Archeologico Nazionale di Firenze, *AttiMemFirenze* 79–80, 2014–2015, 247–257.

Mavleev 1990

E. Mavleev, Statuetta di uomo-cigno, in: F. Roncalli (ed.), *Gens antiquissima Italiae. Antichità dall'Umbria a Leningrado. Catalogo della mostra Leningrado* (Perugia 1990) 405–407, no. 8.4.

Michetti 2020

L.M. Michetti, Cinque lucerne fenicie dal Quartiere “pubblico-cerimoniale” di Pyrgi, in: M. Guirguis – S. Muscuso – R. Pla Orquín (eds.), *Cartagine, il Mediterraneo centro-occidentale e la Sardegna. Società, economia e cultura materiale tra Fenici e autoctoni. Studi in onore di Piero Bartoloni* (Sassari 2020) 105–119.

Mitten – Doeringer 1967

D.G.Mitten – S.F. Doehringer, *Master Bronzes from the Classical World* (Cambridge Mass.1967).

Nardelli 2010

S. Nardelli, *Le necropoli di Perugia, 2. La necropoli di Monteluca* (Città di Castello 2010).

Naso 2009

A. Naso, Un thymiaterion etrusco a Didima?, in: S. Bruni (ed.), *Etruria e Italia preromana. Studi in onore di Giovannangelo Camporeale* (Pisa 2009) 639–645.

Nati 2008

D. Nati, *Le necropoli di Perugia* (Città di Castello 2008).

Pavolini 1982

C. Pavolini, *Ambiente e illuminazione. Grecia e Italia fra il VII e il III secolo a.C.*, *Opus* 1, 1982, 291–313.

Rastrelli 1993a

A. Rastrelli, Scavi e scoperte nel territorio di Chianciano Terme. L'edificio sacro dei Fucoli, in: *La civiltà di Chiusi e del suo territorio. Atti del XVII Convegno di studi etruschi ed italici, Chianciano Terme 28 maggio – 1 giugno 1989* (Firenze 1993) 463–476.

Rastrelli 1993b

A. Rastrelli, La decorazione fittile dell'edificio sacro in località i Fucoli presso Chianciano Terme, in *Ostraka* 2, 1993, 351–367.

Rizzo 1990

M.A. Rizzo (ed.), *Le anfore da trasporto e il commercio etrusco arcaico* (Roma 1990).

Romualdi 1985a

A. Romualdi, Lucerna da minatore, in: G. Camporeale (ed.), *L'Etruria mineraria. Catalogo della mostra Portoferraio, Massa Marittima, Populonia 1985* (Milano 1985) 46, no. 2.

Romualdi 1985b

A. Romualdi, Lucerna fenicia con piattino, in: G. Camporeale (ed.), *L'Etruria mineraria. Catalogo della mostra Portoferraio, Massa Marittima, Populonia 1985* (Milano 1985) 66, no. 144.

Roncalli 1973

F. Roncalli, Il Marte di Todi: bronzistica etrusca ed ispirazione classica, *MemPontAcc* 11.2 (Città del Vaticano 1973).

Rosenthal – Heginbottom 1988

R. Rosenthal – Heginbottom, Greek Classical lamps and their Imitations in the Eastern Mediteranean. *Questions of Chronology*, in: *Πρακτικά του XII Διεθνούς Συνεδρίου Κλασικής Αρχαιολογίας*, Αθήνα 1983, 3 (Αθήνα 1988) 297–303.

Sannibale 2018 (2019)

M. Sannibale, Il crescente lunare con dedica a Tiur già collezione Borgia (CII 2610 BIS), *StEtr* 81 (2018)[2019] 253–264.

Scheibler 1976

I. Scheibler, Griechische Lampen. *Kerameikos. Ergebnisse der Ausgrabungen*, 11 (Berlin 1976).

Sciaccia 2000

F. Sciaccia, Lucerna bilicne, in: G. Bartoloni – F. Delpino (eds.), *Principi etruschi tra Mediterraneo ed Europa. Catalogo della mostra Bologna (Venezia 2000)* 216, no. 243.

Serra Ridgway 1996

F.R. Serra Ridgway, I corredi del fondo Scataglini a Tarquinia. *Scavi della Fondazione Ing. Carlo M. Lerici del Politecnico di Milano per la Soprintendenza archeologica dell'SEtruria meridionale* (Milano 1996).

Simon 1984

E. Simon, Le divinità di culto, in: *Cristofani* 1984, 159–168.

Szilágy 1998

J.G. Szilágy, *Ceramica etrusco-corinzia figurata*, 2. 590/580–550 a.C. (Firenze 1998).

Testa 1983

A. Testa, Considerazioni sull'uso del candelabro in Etruria nel V e IV sec., *MEFRA* 95, 1983, 599–616.

Testa 1989

A. Testa, Candelabri e thymiateria. *Monumenti musei e gallerie pontificie. Museo Gregoriano Etrusco. Cataloghi*, 2 (Roma 1989).

van der Meer 2014

L.B. van der Meer, The Etruscan Bronze Lamp of Cortona, its Cosmic Program and its Attached Inscription, *Latomus* 73, 2014, 289–302.

Wikander 1983

Ö. Wikander, Two Etruscan Thymiateria in the von Beskow Collection, *MedelhavsMusB* 18, 1983, 45–67.

Zaccagnino 1998

C. Zaccagnino, Il thymiaterion nel mondo greco. Analisi delle fonti, tipologia, impieghi, *Studia Archaeologica* 97 (Roma 1998).

Zimmer 1995

G. Zimmer, *Corpus Speculorum Etruscorum*. Bundesrepublik Deutschland 4 (München 1995).