

## Lux in nave

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*Brojni podvodni nalazi, posebno oni u lukama gdje su brodovi često noćili i duže boravili, pružaju obilje podataka o životu mornara, njihovoj prehrani, igrama i dr. Upravo ulomci keramičkih svjetiljki različitih oblika i radionica pokazuju odakle su sve nabavljani ovi nužni izvori svjetlosti u antici. Iako su sve svjetiljke pronađene u slojevima luka bile upotrebljavane na brodovima, neke specifične svjetiljke i svijećnjaci koji su se prilagođavali posebnim uvjetima na brodovima gdje je plamen trebao biti zaštićen od vjetra, a svjetiljka se nije smjela prolići i uljem zapaliti brod, tema su ovog rada.*

*Ključne riječi: svjetiljka, svijećnjak, brod, podvodna istraživanja, brodolomi, antičke luke*

*Numerous underwater finds, particularly those in the harbours where ships often spent nights or stayed for a longer period, offer abundant information about the life of sailors, their diet, games etc. It is precisely the fragments of ceramic lamps of various forms and from various workshops that show where these necessary sources of light in antiquity were acquired from. Although all the lamps that were found in the layers of the harbours were used on ships, this paper deals with certain lamps and candelabra, adapted to the specific conditions on ships where the flame had to be protected from wind, and the oil from the lamp had to be kept from spilling and setting fire to the ship, form the topic of this work.*

*Key words: lamp, candelabrum, ship, underwater excavation, shipwrecks, ancient harbours*

U ovom prilogu, posvećenom kolegi i prijatelju Željku Tomičiću, pokušat ću obraditi nekoliko karakterističnih podvodnih nalaza vezanih uz osvjetljenje na brodovima.

Na brojnim podvodnim nalazištima istočne obale Jadrana, kako onima na većim dubinama gdje su pretežno ostaci antičkih brodskih udesa, tako i u slojevima lučkih prostora u plitkom priobalju, nailazi se vrlo često na fragmentirane ostatke ili čitave primjerke keramičkih svjetiljki (uljanica ili lucerni), tog nužnog izvora svjetlosti u antici. Ova vrsta keramičkih recipijenata, u kojima je maslinovo ulje izgaralo preko fitilja (stijenja) i stvaralo svjetlost, bilo je zbog svoje fragilnosti, poput ostalog keramičkog posuđa, podložno pucanju. Kod keramičkih, pak, svjetiljki pucanje se često događalo na produžetku svjetiljke u obliku nosa, gdje je iz otvora izlazio i izgarao fitilj koji je tijekom gorenja stvarao temperaturnu razliku između nosa i ostalog dijela keramičke svjetiljke, što je upravo na ovom dijelu svjetiljke uzrokovalo pucanje. Ovo dokumentiraju i nalazi keramičkih svjetiljki u slojevima antičkih pristaništa, gdje kod velikog dijela odbačenih primjeraka nedostaje upravo dio ili čitav nos svjetiljke, a nakupina gara očuvana oko otvora za fitilj

In this contribution, dedicated to my colleague and friend Željko Tomičić, I shall try to analyze several characteristic underwater finds, in connection with lighting on ships.

On numerous underwater sites of the eastern Adriatic coast, whether those at greater depths, involving mostly the remains of the destinies of ancient ships, or those in the layers of harbour zones in the shallows along the coast, one frequently encounters the fragmented remains or complete pieces of ceramic lamps (oil-lamps or lucernae) – that indispensable source of light in antiquity. Like other ceramic vessels, this type of ceramic container, which emitted light by burning olive oil through a wick, was prone to breaking due to its fragility. In the case of ceramic lamps fractures often occurred on the nose-shaped spout of the lamp, where the wick emerging from the opening was burning and in the process creating a thermal difference between the spout and the remainder of the ceramic lamp, causing fractures precisely at this point of the lamp. This is documented also by the finds of ceramic lamps in the layers of ancient quays, where the bulk of discarded pieces lack a part or the entire spout of the lamp, while accumulated soot preserved around the aperture for the wick indicates

ukazuje na njihovo korištenje.<sup>1</sup> Također, logično je da su ostaci svjetiljki najbrojniji u lučkim prostorima jer su to mjesta gdje su brodovi pristajali ne samo zbog prekrcaja tereta, već se u lukama zbog načina antičke plovidbe boravilo tijekom noći, kada su svjetiljke i bile u upotrebi. Taj se boravak na ovim mjestima, zbog čekanja povoljnog vjetrova ili nužnih popravaka, mogao ponekad i znatno odužiti.<sup>2</sup>

Na pojedinim jadranskim istraživanim lučkim prostorima nalazimo svjetiljke iz različitih razdoblja, ovisno o vremenu funkcioniranja lučkog prostora. Tako svjetiljke iz ranijeg razdoblja, 3. do 1. st. pr. Kr., nalazimo u helenističkom pristaništu u Resniku kod Kaštel Štafilića. (T. 3,7-8). Najbrojniji nalazi su iz rimskog doba, odnosno od 1. do 4. st., kada svjetiljke nalazimo u rimskim lukama u Resniku (T. 4,2-3), Pakoštanima (T. 3,3), na položaju Fontana na zadarskim Kolovarama, Caskoj na otoku Pagu, luci antičke Enone u Zatonu kod Nina (T. 4,1,4-5) (Brusić 2006, 37, 44), Murteru, Savudriji te drugim lučkim prostorima iz ovog doba. Keramičke svjetiljke iz kasnorimskog i bizantskog vremena nalazimo u pristaništima kasnijim od 4. st., u Polačama na otoku Mljetu (T. 4,6,8) (Kisić 1978, 7-16; Brusić 1988, 144, 149), ali i u ostalim manjim ili većim lukama, vezanih uz antičke gospodarske objekte ili starokršćanske crkve u blizini obale.

Osim u prostorima antičkih luka, gdje se u muljevitim slojevima uz ulomke svjetiljki nailazi i na brojne druge ostatke što su bili bačeni iz brodova ili su slučajno pali u more, svjetiljke su česti nalazi među ostacima davnih udesa kada su zajedno s brodom, njegovim teretom i opremom dospjele na morsko dno. Ostaci starih nesreća na većim dubinama, nažalost, često opljačkani, posebno su arheološki zanimljivi jer su se brodolomi događali u određenom vremenu pa očuvani ostaci tereta, opreme broda ili same brodske konstrukcije predstavljaju tzv. zatvorenu arheološku cjelinu. Tako su među ostacima lađe koja je doživjela nesreću kod otoka Šćedra, u 1. st. pr. Kr., pronađene dvije svjetiljke helenističkog tipa (Orlić, Jurišić 1991, 157-160), a na ostacima brodoloma kod rta Plavac blizu otoka Zlarina (Brusić 1974, 103) pronađeni su fragmenti triju svjetiljki, od kojih je jedna vjerojatno rad nekih orijentalnih radionica (T. 3,5). Na brodolomu s teretom sjevernoafričkih amfora iz 4. st. kod rta Pusti na ulazu u luku Sobra na otoku Mljetu (Kisić 1987, 9-11) pronađene su dvije svjetiljke vjerojatno iz sjevernoafričkih radionica (T. 3,4). Na ostacima brodoloma broda kod otoka Ilovika pronađene su četiri svjetiljke (Orlić 1986, 24-28), dok je među teretom i opremom broda koji je u 1. st. stradao kod

their usage.<sup>1</sup> Furthermore, it is logical that the remains of lamps appear most often in harbour zones as these are not only places where the ships arrived ashore in order to transfer their cargo, but they also served as places where, owing to the method of seafaring in antiquity, ships stayed overnight, which is when the lamps were in fact used. Because they had to wait for favourable winds or necessary repairs, the stay in these places could sometimes last quite a while.<sup>2</sup>

We find lamps from various periods in certain investigated harbour zones in the Adriatic, depending on the period when they were in function. Thus the lamps from an early period, from the 3rd to the 1st century B.C. are found in a Hellenistic quay at Resnik near Kaštel Štafilić (Pl. 3,7-8). The most numerous finds date from the Roman period, that is between the 1st and 4th century, with lamps found in the Roman harbours at Resnik (Pl. 4,2-3), Pakoštane (Pl. 3,3), at the position of Fontana in Kolovare in Zadar, at Caska on the island of Pag, in the harbour of ancient Enona at Zaton near Nin (Pl. 4,1,4-5) (Brusić 2006, 37, 44), on Murter, Savudrija and other harbour zones of that time. The ceramic lamps from the late Roman and Byzantine periods are found in the quays later than the 4th century, at Polače on the island of Mljet (Pl. 4,6,8) (Kisić 1978, 7-16; Brusić 1988, 144, 149), but also in the other minor or major harbours, connected with ancient economic structures or early Christian churches near the coast.

In addition to the zones of ancient harbours, where in the muddy layers one finds not only fragments of lamps but also numerous other remains discarded from the ships or accidentally fallen into the sea, lamps are frequent finds among the remains of ancient fortunes when together with the ship, its load and equipment they ended up on the bottom of the sea. The remnants of ancient accidents at greater depths – regrettably often plundered – are of particular importance for archaeology, because, as the shipwrecks occurred at a specific time, the preserved remains of the load, ship equipment or the ship's structure make up a so-called closed archaeological assemblage. In this way two Hellenistic-type lamps were found among the remains of a vessel shipwrecked near the island of Šćedro in the 1st B.C. (Orlić, Jurišić 1991, 157-160), while fragments from three lamps were found in the shipwreck remains at the Plavac cape near the island of Zlarin (Brusić 1974, 103), one of which is probably the work of an Oriental workshop (Pl. 3,5). Two lamps (Pl. 3,4) probably originating from North African workshops were found in the shipwreck with a load of north African amphorae from the 4th century at the Pusti cape at the entrance to the Sobra harbour on the island of Mljet (Kisić 1987, 9-11). Four lamps were found in the remains of a shipwreck

1. U slojevima antičke luke Enone u Zatonu kod Nina od 63 komada uglavnom fragmentiranih svjetiljki, kod 40 od njih nedostaje dio ili čitav nos svjetiljke (Brusić 2006, 37, T. IV).

2. Stari način plovidbe koji se najčešće odvijao u granicama vidljivih točaka, u antici se prema nepisanom navigacijskom pravilu obavljao danju, tako da je plovidba trajala za dana, dok se u iznimnim slučajevima, posebno zbog povoljnog vjetrova plovidba produžila i noću. Ovakav način plovidbe, s vjetrovom u krmu, posebno onaj duž obale kada se plovi po nepovoljnim vjetrovima, posebno jugu, odvijao se između niza stajališta, prirodnih uvala ili pristaništa u pojedinim naseljima koji na određenim dionicama puta omogućavaju noćenje i sigurni boravak, ponekad i više dana ili tjedana, kada će početak povoljnog vjetrova ili povoljne morske struje omogućiti nastavak puta.

1. Out of a total of 63 pieces of mostly fragmentary lamps from the layers of the ancient harbour of Enona in Zaton near Nin, 40 are missing a part of or the entire spout of the lamp (Brusić 2006, 37, Pl. IV).

2. According to an unwritten rule, the old way of seafaring during antiquity – generally restricted to movement within the range of visible points – was always practised by daylight. Ships, therefore, sailed only during the day, while only in exceptional circumstances, particularly in the case of a favourable wind, they would continue also during the night. This way of sailing, with the wind astern, especially along the coast when one sails with unfavourable winds – the jugo (sirocco) in particular – took place between a series of stations, natural havens or quays in settlements providing overnight stay and safe sojourn at certain sections of the route, sometimes for days or weeks on end, waiting for the beginning of a favourable wind or sea current that would enable one to resume the journey.

otoka Glavata u blizini otoka Mljeta pronađeno pet svjetiljki (Radić, Jurišić 1993, 129-130). Pogledamo li i ostale brodolome diljem Sredozemlja, nailazimo najčešće među ostacima opreme broda po dvije, rjeđe više, keramičkih svjetiljki koje su se koristile tijekom plovidbe, dok je kod nekoliko nalazišta, gdje su pronađene veće količine svjetiljki, jasno da su one bile predmetom trgovine kao i ostala roba.<sup>3</sup>

O keramičkim svjetilkama, pronađenim u slojevima nekih od antičkih pristaništa pozabavit ću se drugom prilikom, dok ću se ovdje ograničiti na nekoliko izdvojenih primjera svjetiljki, svijetnjaka ili nosača za svjetiljke iz našeg podmorja što su svojim oblikom, mogućnošću vješanja, stabilnošću ili nekim drugim značajkama posebno prilagođene upotrebi na brodu.

Među brojnim keramičkim svjetilkama, pronađenih u pristaništu antičke Enone (oko 2,5 km jugozapadno od Nina na rtu Kremenjača zapadno kod današnjeg velikog turističkog naselja „Zaton“), izdvajam jednu gotovo čitavu keramičku svjetiljku s volutama i oblim završetkom nosa koji tip se obično datira u 1. i prvu polovicu 2. st.<sup>4</sup> Središnji ukras na disku svjetiljke je rozeta, u čijem središtu nije uobičajena rupa za dolijevanje ulja, već je pomaknuta prema naprijed, a ovdje je formirana alka s još jednom rupicom u podnožju (T. 1,2). Alka je vjerojatno služila za prenošenje svjetiljke, ali isto tako i za njezino vješanje, što je svakako na brodu bilo potrebno jer je zbog ljuljanja broda, ne samo tijekom plovidbe već i prilikom stajanja u luci, moglo doći do izlivanja ulja i njegova zapaljenja. Kao lijep primjer opreme za vješanje istog brodskog prostora istaknimo nalaz brončane svjetiljke uobičajenog oblika, poput nekih keramičkih tipova. Na snimku svjetiljke, tek izvađene iz mora, uočavaju se tri lančića koja su jednim krajem privezana za lampu, a drugim su na zajedničku alku koja se preko još jedne alke mogla objesiti (T. 3,1). Ostala tri primjera, što slijede iz iste antičke luke, predstavljaju različite brončane nosače koji su omogućavali vješanje svjetiljki o stropove brodskih prostora.<sup>5</sup> Tri brončana lančića, od kojih su dva povezana s alkom, odgovaraju i po dužini i po spoju s lančićima prethodnoj brončanoj svjetiljki (T. 1,1), a okrugla pločica od brončanog lima mogla je služiti kao podloga za svjetiljku, dok su tri trake pričvršćene na pločicu služile za njeno vješanje (T. 1,3). Na trećem primjeru vidi se brončani nosač svjetiljke koji se sastoji od tri križno postavljene pločice spojene kroz sredinu zakovicom, što završava na vrhu alkom o koju se nosač mogao objesiti o strop kabine, a sama svjetiljka pomoću lančića ili vrpce vezivala se za zavrnutu krajeve pločica nosača (T. 3,2) (Brusić

near the island of Ilovik (Orlić 1986, 24-28), while the cargo and equipment of the ship wrecked in the 1st century near the island of Glavat off the island of Mljet contained five lamps (Radić, Jurišić 1993, 129-130). If we take a look at other shipwrecks throughout the Mediterranean, we will most often find among the ship's equipment the remains of two, rarely more, ceramic lamps, used during navigation, while on several sites that yielded larger quantities of lamps it was clear that they represented objects of trade just like the other goods.<sup>3</sup>

I shall look at the ceramic lamps found in the layers of some of ancient quays on another occasion, while limiting myself here to several distinctive examples of lamps, candelabra or lamp-holders from our underwater world that by virtue of their form, possibility of suspension, stability or some other features were specifically adapted for use on ships.

Out of the many ceramic lamps found in the quay of ancient Enona (around 2,5 km southwest of Nin on the Kremenjača cape, west of the present-day large tourist settlement "Zaton") I would like to single out an almost complete ceramic lamp with volutes and a round end of the spout, of the type usually dated to the 1st century and the first half of the 2nd century.<sup>4</sup> The central decoration on the disc of the lamp is a rosette, but without the usual hole for adding oil in the centre, which was here shifted forward, while at that spot a ring with another small hole at the base was formed (Pl. 1,2). The ring probably served for carrying the lamp, but also for its suspension, which was certainly necessary on a ship as due to the swaying of the ship, not only during navigation but also while staying in the harbour, oil could be spilled and set alight. As a good example of suspension equipment from the same harbour zone let us single out the find of a bronze lamp of the usual shape, like some ceramic types. A photograph of the lamp, just taken out of the sea, reveals three chainlets, attached to the lamp at one end and at the other to a shared ring which could be suspended by attaching to another ring (Pl. 3,1). The other three examples, from the same ancient harbour, represent various bronze holders that enabled the lamps to be suspended from the ceilings of the ship's rooms and other areas.<sup>5</sup> Three bronze chainlets, two of which are attached to the ring, correspond both in length and the joint with the chainlets to the previous bronze lamp (Pl. 1,1), and the round plate of sheet bronze may have served as a base for the lamp, while three straps attached to the plate were used for its suspension (Pl. 1,3). The third example shows a bronze holder of a lamp, consisting of three transversely placed plates connected through the centre by a rivet topped by a ring on which the holder could be suspended from the cabin ceiling, and the lamp itself was fastened by means of the chainlets or a lace to the bent ends of the

3. Na dva brodoloma u blizini francuske obale pronađeno je 2.301, odnosno 250 komada svjetiljki, na drugom brodolomu u blizini Comacchia u sjevernoj Italiji nađeno je 17 komada (Parker 1992, 199, 247, 444), dok se za 24 svjetiljke pronađene na ostacima bizantskog brodoloma uz tursku obalu, od kojih su neke od njih korištene na brodu, može pretpostaviti da su bile dio opreme broda (Bass, Doorninck 1982, 189-201).

4. Slična svjetiljka znatno lošije izrade pronađena je u Salonu (Mardešić 2002, 33, 171).

5. Poznati su nalazi brončanih svjetiljki sa sličnim lančićima za vješanje. Spomenimo samo primjer iz Siska gdje brončana svjetiljka, slična keramičkim „firma“ lampama, ima lančice za vješanje (Vikić-Belančić 1976, 65).

3. Two shipwrecks off the French coast yielded 2301 and 250 lamps respectively; another shipwreck near Comacchio in northern Italy produced 17 pieces (Parker 1992, 199, 247, 444), while 24 lamps discovered among the remains of a Byzantine shipwreck off the Turkish coast, some of which were used on the ship, can be considered part of the ship's equipment (Bass, Doorninck 1982, 189-201).

4. A similar lamp of much poorer workmanship was found in Salona (Mardešić 2002, 33, 171).

5. Finds are known of bronze lamps with similar chainlets for suspension. Let us just mention an example from Sisak where a bronze lamp, similar to the ceramic "Factory lamps" (Firmalampen), has suspension rings (Vikić-Belančić 1976, 65).

2006, 37, T. II, 6-7, 43, T. XI, 1-2).

U sljedećih nekoliko primjera pokazat ćemo neke od keramičkih svijećnjaka koji se sastoje od stabilne keramičke noge sa svjetiljkom na vrhu. Najstariji od ovih svijećnjaka potječu iz sloja helenističke luke u Resniku kod Kaštel Štafilića i mogu se datirati od kraja 3. do sredine 1. st. pr. Kr. (T. 2,3-5).<sup>6</sup> Iako se samo na jednom od njih očuvao mali dio dna svjetiljke, što obično s postoljem čini jednu cjelinu, kod drugih primjera vidi se da su ponekad ovakvi svijećnjaci imali i dva žiška.<sup>7</sup> Sljedeća dva svijećnjaka iz znatno kasnijeg razdoblja od prethodnih nađena su u podmorju otoka Hvara i Visa. O svijećnjaku pronađenom kod otoka Palmižane na Paklenim otocima u blizini Hvara (T. 2,7) i primjercima drugih svjetiljki, poput svjetiljke pronađene ispred rta Pečene na Kornatu, čiju fotografiju donosimo (T. 3,5), pisao je N. Petrić u sklopu rada o srednjovjekovnim svjetiljkama za koje kaže da se razvijaju na kasnoantičkoj tradiciji od 8. do 10. st. Prema analogijama, znatan dio ovih svjetiljki, pa i svijećnjak kojeg donosimo, datira u 9. st., dok njihove radionice locira na prostoru južne Italije (Petrić 1990, 174-175, 182; Petrić 1995, 316-318). Drugi primjerak keramičkog svijećnjaka kojeg možemo vremenski i radionički povezati s prethodnim, pronašao je pok. ronilac Borčić iz Komiže kod rta Balun, na otoku Biševu kod Komiže na Visu, te se danas nalazi u privatnoj zbirci obitelji Borčić. Svijećnjak je visok 30,8 cm, promjera 17,6 cm i ima na vrhu recipijent s dva žiška, dok su ostali detalji svijećnjaka teško uočljivi zbog velike nakupine kalcitne mase (T. 2,6). Oba ova svijećnjaka kao i nalazi svjetiljki s viško-hvarskog područja prate trasu transjadranske pomorske rute frekventne još od prapovijesnih vremena, dok u razdoblju o kojem govorimo kao i kasnijim vremenima sve do novijih datuma, s ovih južnoitalskih prostora dovozila se na našu obalu Jadrana keramička roba koja se kao „puljiško posuđe“ prodavalo u lukama dalmatinskih naselja do početka 20. stoljeća.

Sljedeća dva keramička recipijenta neobičnog oblika nađena na zadarskom području, također se nalaze u privatnim zbirkama. Manji keramički predmet u obliku pehara na nozi pronađen je prilikom povlačenja kočice kod otoka Oliba i nalazi se u mjestu Mandre na otoku Pagu (T. 1,5, T. 5,2). Masivna, grubo izrađena keramička kupa, koja bi na prvi pogled izgledala kao posuda za piće, ima oko šuplje kalote nekoliko rupa izbušenih u dva reda, što ukazuje na sasvim drugi karakter ovog keramičkog predmeta. Naime, možemo s dosta sigurnosti pretpostaviti kako se keramički predmet koristio na brodu kao nosač za svijeću, u ovome slučaju voštanicu. Svijeća je kroz rupice dobivala dovoljan dotok zraka, a keramička stijenka štitala je voštanicu od jačeg propuha zraka, dok je masivna noga omogućavala stabilnost svijećnjaku. Drugi keramički predmet iste namjene izronjen je davnih sedamdesetih godina kod otoka Katarine blizu Biograda i nalazi se u Šibeniku kod obitelji Santini. Radi se o keramičkom svijećnjaku u obliku boce s otvorom na prednjoj strani i ručkom nasuprot otvora (T. 1,4, T. 5,4). U donjem dijelu uočljive su također rupice koje su probušene s prednje i donje

holder plates (Pl. 3,2) (Brusić 2006, 37, Pl. II, 6-7, 43, Pl. XI, 1-2).

In the next few examples we shall show some of the ceramic candelabra consisting of a stable ceramic foot with a lamp on top. The earliest of these candelabra come from the layer of the Hellenistic harbour at Resnik near Kaštel Štafilić and can be dated from the end of the 3rd to the mid-1st century B.C. (Pl. 2,3-5)<sup>6</sup>. Although only one of them still retains a small part of the lamp base, normally forming a whole with the stand, other examples show that such candelabra sometimes had two wicks.<sup>7</sup> The following two candelabra, dating from a much later period than the previous ones, were found in the local waters of the Hvar and Vis islands. The candelabrum discovered near the island of Palmižana on Pakleni Otoci (the Paklina Archipelago) near Hvar (Pl. 2,7) as well as the pieces of other lamps, such as the one found off the Pečene cape on Kornat, whose photograph we bring here (Pl. 3,5), were discussed by N. Petrić in his work on medieval lamps, which, in his opinion, develop from the 8th to the 10th century on the tradition of late antiquity. He uses the analogies to date the greater part of these lamps, as well as the candelabrum from his work that we present here, to the 9th century, while placing their workshops in the territory of southern Italy (Petrić 1990, 174-175, 182; Petrić 1995, 316-318). The second specimen of a ceramic candelabrum, which we may connect with the previous one as regards chronology and the workshop, was found by the late diver Borčić from Komiža near the Balun cape on the Biševo island off Komiža on Vis. It is presently kept in the private collection of the Borčić family. The candelabrum is 30,8 cm high, with a diameter of 17,6 cm. It has a container with two wicks on top, while the remaining details of the candelabrum are poorly discernible owing to a large accretion of calcite mass (Pl. 2,6). Both of these candelabra, as well as the finds of lamps from the Vis-Hvar area follow the course of the trans-Adriatic maritime route, used frequently from as early as prehistoric times, while in the period we are discussing here and in later times up until recent dates, ceramic goods were brought to our part of the Adriatic coast from these southern Italian territories, sold as "Puglia vessels" in the harbours of the Dalmatian settlements until the beginning of the 20th century.

The next two ceramic containers of an unusual shape, found in the Zadar territory, are likewise kept in private collections. A smaller ceramic item in the shape of a footed cup was found while trawling off the island of Olib and is now kept in the village of Mandre on the island of Pag (Pl. 1,5, Pl. 5,2). The massive, coarsely made ceramic cup, at first glance resembling a drinking vessel, has several holes pierced in two rows around the hollow dome, pointing to the completely different character of this ceramic item. We can be fairly certain in assuming that this ceramic item was used on a ship as a candle holder, in this case a wax-candle. The holes provided a sufficient flow of air to the candle, and the ceramic wall protected the wax candle from a stronger draught, while the massive foot provided stability to the candelabrum. Another ceramic item of identical function was recovered by diving as far back as the 1970s off the island of Katarina near Biograd and is now kept in Šibenik by the Santini family. It is a ceramic candelabrum in the shape of a bottle with an aperture at the front and a handle opposite the aperture (Pl. 1,4, Pl. 5,4). Small holes are also discernible in the lower part, pierced both on

6. Veći ulomak svijećnjaka nalazi se u zbirci I. Svilana iz Resnika kod Kaštel Štafilića, a dva manja ulomka u zbirci N. Letea iz Splita.

7. Usp. Morel 1981, Forma 12. Svijećnjaci s dva žiška nađeni su kao teret na lađi potonuloj između 300. i 280. god. pr. Kr. na grebenu Capistello na Liparima. (Cavalier 1985, 57-58; Parker 1991, 396).

6. The largest fragment of a candelabrum is kept in the collection of I. Svilan from Resnik near Kaštel Štafilić, while two smaller fragments form part of the collection of N. Letea from Split.

7. Comp. Morel 1981, Forma 12. Candelabra with two wicks were found as cargo on a ship that sank between 300 and 280 B.C. at the Capistello cape on Lipari. (Cavalier 1985, 57-58; Parker 1991, 396).

strane, dok visoko grlo ne završava otvorom već od njega ide ručka na tijelo svijećnjaka. I ovaj rijetki primjerak svijećnjaka u kojem je svjetiljka mogla ravnomjernije gorjeti, koristio se za držanje odnosno prenošenje keramičke svjetiljke po brodu. Oba ova primjerka nosača svjetiljki teško je vremenski odrediti, tako jedino za drugi, nađen kod Biograda, nalazimo analogije u dvama sličnim svijećnjacima izloženima u nacionalnom muzeju u Tripoliju u Libiji, a prema svjetiljkama u njima mogli bi ih datirati u 3. ili 4. st. (T. 5,3).

Još jedan primjer osvjetljenja na brodu pokušat ćemo prepoznati u dijelu amfore izvađene iz mora kod mjesta Drage istočno od Pakošтана. Naime, apsolutno arheologije M. Meštrov pronašao je donji dio masivne amfore, pravilno odrezane neposredno ispod ramena, koja na sebi ima jednu nepravilnu rupu (T. 2,1, T. 5,1). Prisjećajući se jednog podvodnog nalaza iz rijeke Herault u Francuskoj, gdje se odrezani donji dio amfore s izrezanim rupama koristio kao svjetlo na provi broda, pomislio sam da je i naš primjerak mogao tome poslužiti. Naime, svjetlo koje bi se zapalilo ili stavilo u dio amfore, pričvršćene na provi broda, moglo je upozoravati druge brodove odnosno osiguravati put u prilikama kada se brod zatekao u plovidbi noću u kanalima ili pred ulazom u luku, što bi odgovaralo današnjim tzv. „pozicijskim svjetlima“ (svjetla za označivanje) (Azevedo 1978, 423-425, T. VI-IX; Caravale, Toffoletti 1997, 47).

I na kraju, ovome izboru svjetiljki i svijećnjaka što su se koristili na brodu, pridodao bi i još jedan predmet vrlo značajan u životu antičkog čovjeka. Naime, tijekom podvodnih istraživanja antičkog pristaništa Enone pronađena su u sloju luke tri ulomka kamene posude grube izrade (T. 2,2, T. 5,1). Nakon desalinizacije i sastavljanja dijelova pokazalo se kako je riječ o posudi na nozi od bijelog vapnenca prilično grube izrade. Iako posuda svojim oblikom kupe podsjeća na uobičajeno keramičko posuđe, materijal, gruba izrada i plitkoća recipijenta ne ukazuje na to da bi kamena posuda bila u istoj funkciji kao i keramičko posuđe, a isto tako zbog hrapavosti recipijenta teško je zamisliti da se radi o antičkom tarioniku. Stoga sam za kamenu kupu, s obzirom na male dimenzije i plitkoću recipijenta, pretpostavio da se koristila kao brodski žrtvenik na kojem su mornari prizivali bogove za dobro more i sretan ishod svojih dugih i često neizvjesnih putovanja.

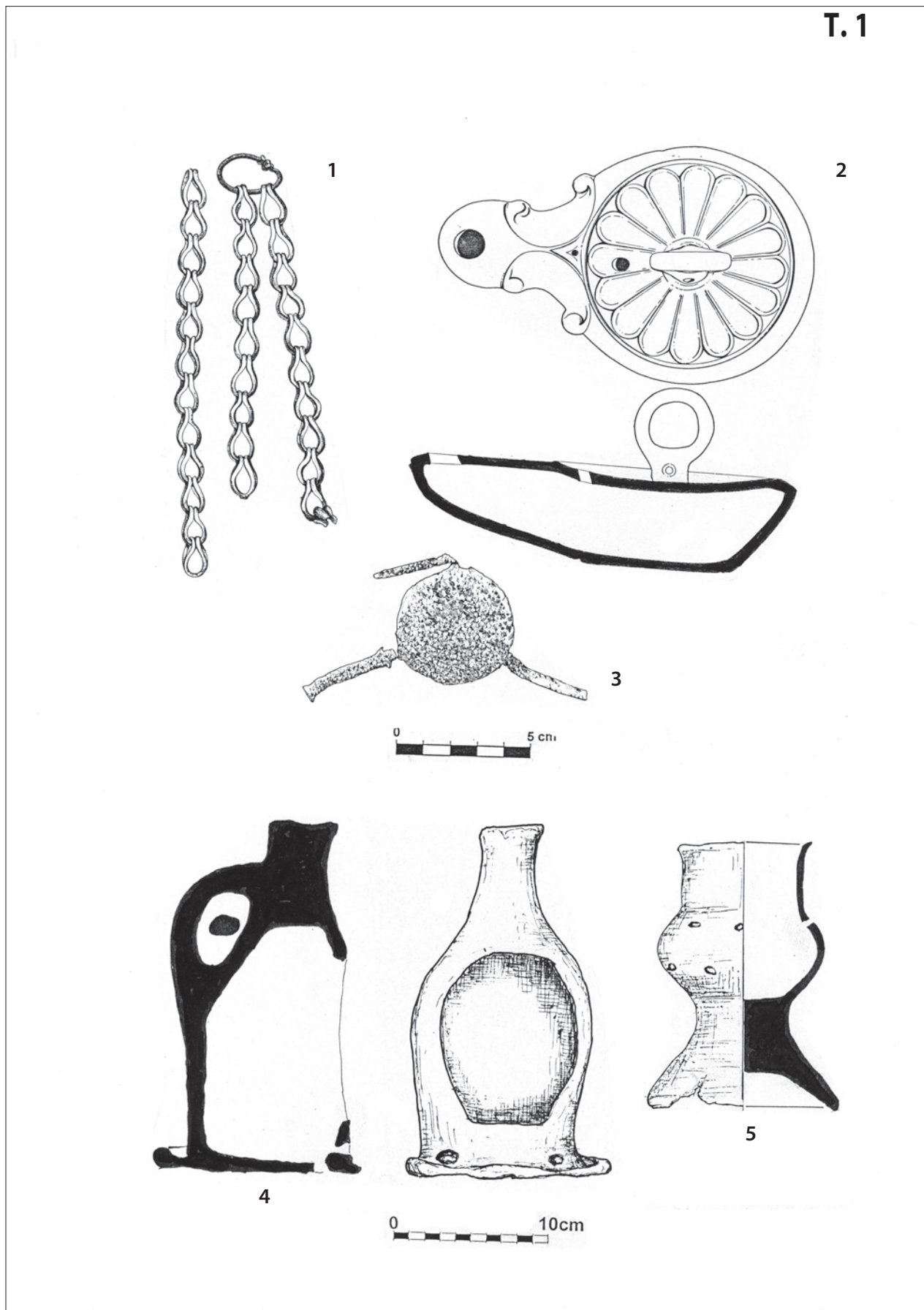
the front and on the base, while the high neck does not end in an aperture, having instead a handle connecting it with the body of the candelabrum. This rare specimen of a candelabrum, in which a lamp could burn more evenly, was also used for holding or carrying a ceramic lamp on a ship. Both of these lamp holders are difficult to determine chronologically, so that only for the second one, found near Biograd, we find analogies in two similar candelabra exhibited in the National Museum in Tripoli, Lybia. Taking into consideration the lamps within them, we could date them to the 3rd or the 4th century (Pl. 5,3).

We shall try to recognize yet another example of lighting on ships in a part of an amphora taken out of the sea near the village of Drage east of Pakošтана. M. Meštrov, an ABD undergraduate of archaeology, found the lower part of a massive amphora, with a straight cut immediately below the shoulder, with an irregular hole on it (Pl. 2,1, Pl. 5,1). Remembering an underwater find from the Herault River in France, where the cut-off lower part of the amphora with cut-out holes was used as illumination on the prow of the ship, it occurred to me that our piece might also have served the same purpose. The light ignited or placed within a part of an amphora attached to the prow of the ship, could warn other ships or secure the way when a ship would find itself sailing the channels or in front of a harbour at night, which would correspond to the modern so-called "navigation lights" (marking lights) (Azevedo 1978, 423-425, Pl. VI-IX; Caravale, Toffoletti 1997, 47).

Finally, I would like to add yet another item, very important in the life of ancient man, to this selection of lamps and candelabra used on a ship. During underwater excavations of the ancient quay of Enona, three fragments of a stone vessel of coarse make were discovered in the harbour layer (Pl. 2,2, Pl. 5,1). After desalination and refitting of the fragments it was apparent that this was a footed vessel of white limestone of fairly coarse workmanship. Even though the shape of the vessel is reminiscent of regular ceramic vessels, the material, coarse workmanship and the shallow depth of the container does not point to the conclusion that the stone vessel might fulfill the same function as the ceramic vessels, and owing to the rough surface of the container it is difficult to imagine the vessel as an ancient mortar. I have therefore interpreted this stone cup, considering its small dimensions and the shallow depth of the container as a ship altar, at which the sailors invoked the gods for a safe voyage and good fortune for their long and often precarious journeys.

## LITERATURA / BIBLIOGRAPHY :

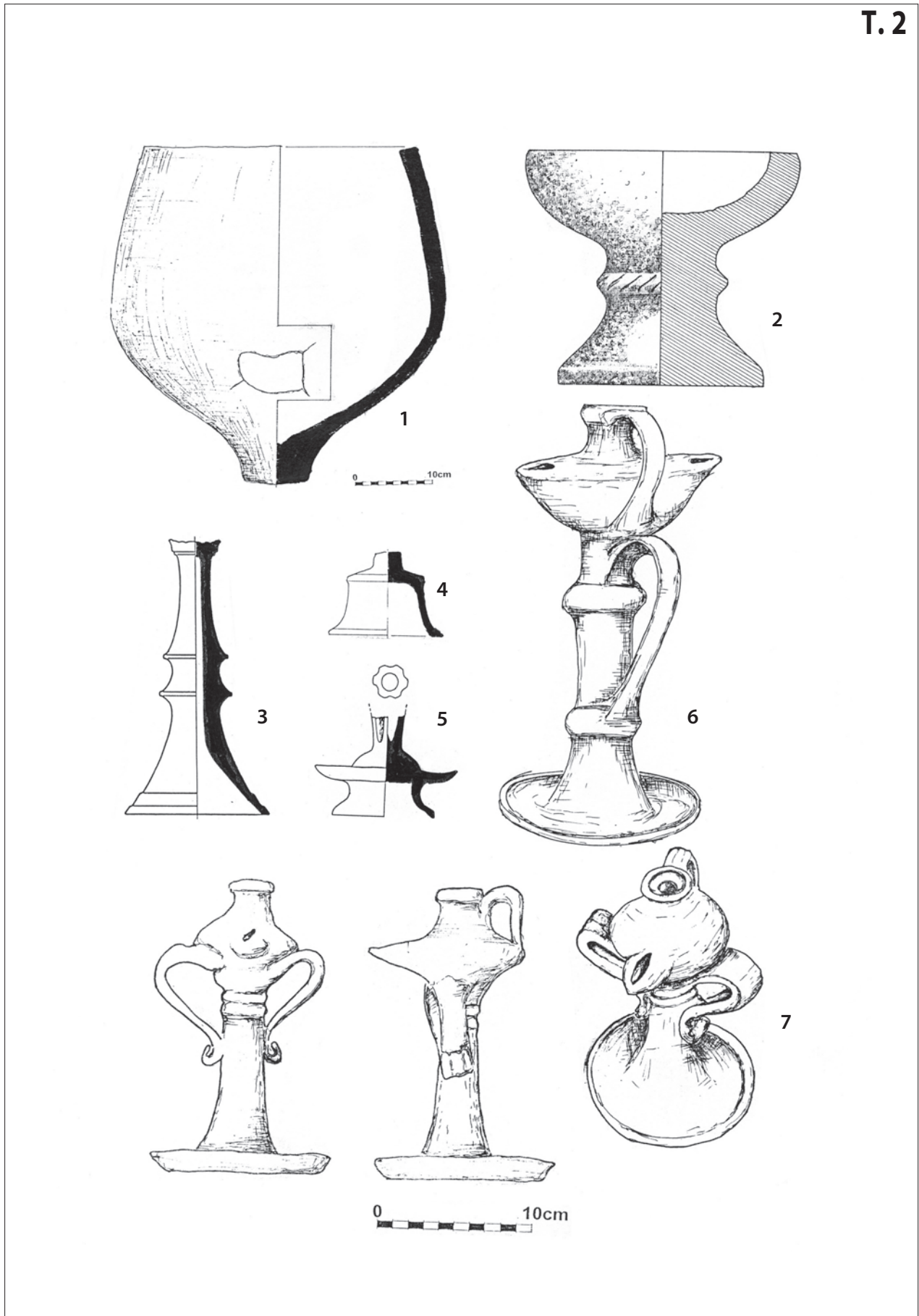
- Azevedo M. C., 1978, *Le Navi nella documentazione archeologica, La navigazione Mediterranea nell'alto medioevo*, Spoleto
- Bass G. F., Doorninck F., 1982, *Yassi Ada vol I. A Seventh-Century Byzantine Shipwreck*, College Station, Texas A&M University Press
- Brusić Z., 1974, Rt Plavac, Zlarin kod Šibenika - ostaci antičkog brodoloma, *ArhPregl* 16, Beograd, 103-104.
- Brusić Z., 1988, Antička luka u Polačama na otoku Mljetu, *IzdanjaHAD* 12, Zagreb, 139-151.
- Brusić Z., 2006, Il porto liburnico e romano di Aenona (Nin), u: *Archeologia subacquea in Croazia, Studi e ricerche a cura di Irena Radić-Rossi*, Venezia.
- Caravale A., Toffoletti I., 1997, *Anfore antiche, conoscerle e identificarle*, Formello
- Cavalier M., 1985, *Relitto della Secca di Capistello*, *Bulletino d'Arte Archeologia Subacquea* 2, Supp. 29, Roma
- Kisić A., 1978, Podmorski nalaz kasnoantičkih svjetiljki u uvali Polače na otoku Mljetu, *Anali Zavoda za povijesne znanosti XV-XVI*, Dubrovnik, 7-16.
- Mardešić J., 2002, Keramičke svjetiljke, u: *Longae Saloniae I*, Split, 349-366.
- Morel J. P., 1981, *Céramique campanienne, Les formes*, Bibliothèque des écoles françaises at d'Athènes et de Rome, Roma
- Orlić M., 1987, *Antički brod kod otoka Ilovika*, Zagreb
- Orlić M., Jurišić M., 1991, Antički brodolom kod otoka Šćedra, *Godišnjak ZSKH* 17, Zagreb, 149-178.
- Parker A. J., 1992, *Ancient Shipwrecks of the Mediterranean and the Roman Provinces*, BAR IntSer 580, Oxford
- Petrić N., 1990, Srednjovjekovne svjetiljke i predromanički pilastar s Hvara, *VAMZ XXIII*, Zagreb, 173-182.
- Petrić N., 1993, O ranokršćanskim nalazima i spomenicima na otoku Hvaru, *Diadora* 15, Zadar, 311-346.
- Radić I., Jurišić M., 1993, Das antike Schiffswrack von Mljet, Kroatien, *Germania* 71, Mainz, 113-138.
- Vikić-Belančić B., 1976, *Antičke svjetiljke u Arheološkom muzeju u Zagrebu*, Katalozi 2, Zagreb



T.1- 1-3: Enona; 4: Blizina otoka Katarine kod Biograda, 5:Blizina otoka Oliba

Pl.1- 1-3: Enona; 4: Near the island of Katarina near Biograd, 5: Near the island of Olib

T. 2



T. 2- 1: Drage kod Pakoššana, 2: Enona, 3-5: Resnik, 6: Biševo, 7: Palmižana  
Pl. 2- 1: Drage near Pakoššana, 2: Enona, 3-5: Resnik, 6: Biševo, 7: Palmižana



T. 3- 1-2: Enona, 3: Pakoštanime, 4: Sobra na otoku Mljetu, 5: Zlarin, 6: Kornati, 7-8: Resnik  
Pl. 3- 1-2: Enona, 3: Pakoštane, 4: Sobra on the island of Mljet, 5: Zlarin, 6: Kornat, 7-8: Resnik



T. 4



1



2



3



4



5



6

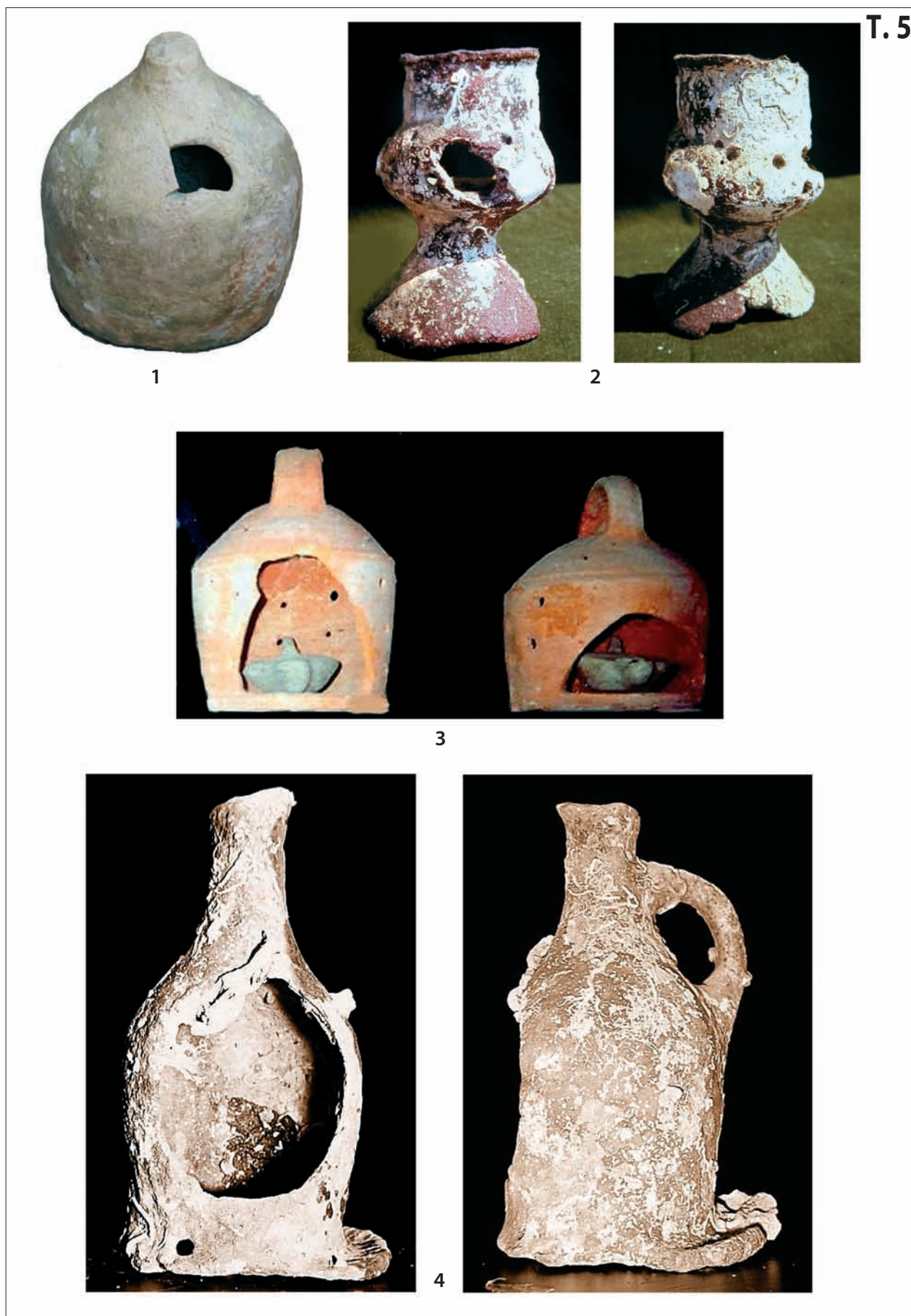


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8

T. 4 - 1, 4-5: Enona, 2-3: Resnik, 6 i 8: Polače na otoku Mljetu, 7: Kaštelanskog zaljev  
Pl. 4 - 1, 4-5: Enona, Resnik, 6 and 8: Polače on the island of Mljet, 7: Kaštela Bay



T. 5 - 1: Drage kod Pakoššana, 2: Olib, 3: Tripoli, 4: otok Katarina blizu Biograda.  
Pl. 5 - 1: Drage near Pakoššana, 2: Olib, 3: Tripoli, 4: the island of Katarina near Biograd.