

FROM THE BOTTOM OF THE SEA: THE EARLY BRONZE AGE CERAMICS FROM SOZOPOL AND URDOVIZA

Hristina VASILEVA*

Cuvinte-cheie: *Epoca bronzului timpuriu, arheologie subacvatică, ceramică, Sozopol, Kiten, Urdoviza, Primorsko, Coasta de Sud a Bulgariei.*

Keywords: *Early Bronze Age, underwater excavations, ceramics, Sozopol, Kiten, Urdoviza, Primorsko, South Bulgarian coast.*

Rezumat: *Acest articol se concentrează pe materialele expozițiilor din Kiten și Primorsko. Ele păstrează multe secrete. Vasele ceramice nu numai că provin de pe fundul mării, dar au rămas aproape complet necunoscute lumii arheologice timp de mai bine de 30 de ani de la descoperirea lor. Aceste exponate reprezintă un mic eșantion orientativ din colecții mai mari de descoperiri ceramice, realizate în urma săpăturilor subacvatice ale așezărilor din golful sudic al peninsulei Urdoviza, în prezent orașul Kiten și portul Sozopol, situat între partea vestică a peninsulei și insula Sf. Kirik. Caracteristicile lor scot în evidență viața de zi cu zi a locuitorilor acestor localități și ar putea da răspunsuri la întrebări precum: unde, când, cum și cu cine? Distribuția lor marchează situarea și limitele așezărilor. În ceea ce privește răspunsul la problema datării vaselor și implicit a întregii așezări, am putea să ne raportăm la caracteristicile lor stilistice. Datele de natură tehnologică oferă informații asupra vaselor ceramice și a caracteristicilor lor regionale. Paralelele cu alte situri sugerează conexiuni pe o scară mai largă - către partea nordică și sudică a coastei Mării Negre, Anatolia și partea interioară a Thraciei de nord.*

Abstract: *This article focuses on the materials from the exhibitions in Kiten and Primorsko. They keep a lot of secrets. Not only the ceramics is derived from the bottom of the sea but also remained almost completely unknown to the archaeological society for more than 30 years since the discovery of the sites of Sozopol and Urdoviza. These materials presented in the article are a small indicative sample from larger collections of ceramic finds from the underwater excavations of the settlements in the southern bay of the Urdoviza peninsula, where in the present is the town of Kiten and in the port of Sozopol, which is located between the western part of the peninsula and the island of St.*

* Hristina VASILEVA: Sofia University „St. Kliment Ohridski”; e-mail: hr.vasileva@gmail.com.

Kirik. The analysis shed light on the everyday life of the people who inhabited those sites and could give answers to questions such: where, how, when and with whom. Their distribution marks the place and borders of the settlement. As regards answering the question of dating the vessels, and with that the settlement in general, we could look at their stylistic characteristics. The technological data illuminates the pottery production and its regional characteristics. The parallels with other sites suggest connections in wider area – to the northern and southern parts of the Black sea coast, Anatolia and the inland parts of the Upper Thrace.

The ceramic vessels of Kiten and Primorsko were derived from the bottom of the sea. These materials represent a small indicative sample from larger collections of ceramic finds from the underwater excavations of the settlements in the southern bay of Urdoviza peninsula – in the present day town of Kiten – and in the port of Sozopol, which is located between the western part of the peninsula and the island of St. Kirik. Due to various reasons they remained almost completely unknown to the archaeological audience for more than 30 years since their discovery¹.

Ceramics always took an important place in the study of prehistoric societies. As it is well known the analysis of ceramic assemblages gives important information about the chronology and hints to elements of the culture of a certain group of people. Qualities which no other artefact possesses.

Those two assemblages represent a part of the vast collection of ceramic vessels, found in the two settlements. Yet these materials are representative for the complex in general. Advantage of this ceramics is the great number of whole vessels and large pieces of others. That gives a great opportunity of profoundly studying that material. Something that is a big rarity in the on ground excavations. The characteristics of the ceramic sheds light on the everyday life of the people inhabited those sites and could give answers to questions such: where, how, when and with who. Their distribution marks the place and borders of the settlement. The technological data sheds light on the pottery craft and its regional characteristics. As regards answering the question of dating the vessels and with that the whole settlement we could look at their stylistic characteristics – shape, decoration, etc. The parallels with other sites suggest connections in wider area – to the northern and southern parts of the Black sea coast, Anatolia and the inland parts of the Upper Thrace.

Where

The region of the South Bulgarian seacoast during the Bronze Age was densely populated. The archaeological map shows different kinds of sites that could be associated with everyday life – settlements, mortuary practices – necropolis, and religion – sanctuaries (**Fig. 1**).

The two settlement from which the material originates – Sozopol (**Fig. 2: 2**) and Kiten (**Fig. 2: 1**) – are now found underwater. The remains in Kiten are 5-6 m

¹ I want to express my gratitude towards the Center for Underwater Archaeology – Sozopol and the museums in Kiten and Primorsko for the opportunity to work with these materials.

to 8-10 m under the modern sea level². Those of Sozopol are found at 5-5.10 m³. According to recent studies those sites were on the ground away from the sea shore and near river banks in the Early Bronze Age. A rise in the sea level sunk their remains on the sea bed⁴. Transgressions and regressions are common for the sea-level and differ in their intensity depending on the climate change and local movement of the littoral zone⁵. In spite of the recent progress in the investigations our knowledge of the Bronze Age environment is still scarce. Geological data is cross referenced with archaeological with the desire to put the pieces together. With the new collection of data and analyses perhaps in the near future we will have more elaborate picture of the reasons we find those settlement underwater today.

The earliest discovered submerged settlement in the Southern Bulgarian coast is Sozopol. It happened during dredging of the port in 1927 when some ceramic vessels dated to the beginning of the Bronze Age were found⁶. That was just a few years after the first discovery of underwater settlement in Bulgaria by K. and H. Škorpil in the Varna lakes⁷. In 1987 V. Popov and K. Porazhanov started an underwater exploration in the port of Sozopol to locate the place where the Early Bronze ceramics were discovered in 1927. Except the Early Bronze materials they located another settlement, dating from the Late Chalcolithic⁸. Later in 1990 the excavation are continued under the team of Hr. Angelova⁹. Only seven of the vessels from the two collections originate from this site and they come from the expedition in 1987 (**Fig. 3**). Almost all recognised ceramics shapes are found within this collection with the exception of bows. Though small in quantity those vessels give us clues of the date and relation between the two sites.

The second settlement is discovered in 1986 during the excavation of a shipwreck in the southern bay near cape Urdoviza¹⁰. The researchers unearthed Early Bronze Age ceramic sheds and wooden piles. A special expedition started, called Urdoviza whose main purpose was examine the settlement. It lasted for four seasons – 1986, 1987, 1988 and 1989¹¹. It is worthy to note that each season the location of the excavations changed and some „horizontal“ stratigraphy could be detected¹². Part of the ceramic vessels from Kiten are analyzed and published by K. Leshtakov¹³. Still the four seasons from Urdoviza provided one of the biggest collections of Early Bronze Age vessels found underwater and big share of it is

² POROJANOV 2004, p. 318.

³ DRAGANOV 1998, p. 214.

⁴ ANGELOVA, DRAGANOV & DIMITROV 1995, p. 54-55.

⁵ PREISINGER, ASLANIAN & HEINITZ 2000, p. 13-17; BARALIS *et al.* 2011, p. 105, LAZAROV 1996 p. 56-61; GEORGIEV, STOEV & VELKOVSKY; ANGELOVA & DRAGANOV 2003, p 14-15; BOZHILOVA & FILIPOVA-MARINOVA 1991, p. 48-49.

⁶ PANDALEEV 1929, p. 325-328.

⁷ ŠKORPIL & ŠKORPIL 1921, p. 79-80.

⁸ POPOV & KATINCHAROV 1988, p. 39.

⁹ LAZAROV, ANGELOVA & DRAGANOV 1991, p. 36-39.

¹⁰ LAZAROV, POROJANOV & POPOV 1987 p. 285-287.

¹¹ DRAGANOV 1995, p. 226.

¹² POROJANOV 2004, p. 311.

¹³ LESHTAKOV 1991.

still unknown to the researchers of the period.

How

The secrets of the everyday life or „*how*“ were things done in the past could be found in the ceramic production. The technological data give us an idea about the manufacturing of those vessels. Around 28.5% of the vessels carry the marks of secondary firing. The rest mostly have light surface in earthly colours – light brown, beige. The colour is uneven, has different nuances and sometimes smoked spots. The vessels found underwater have the advantage to be found whole more often. A disadvantage is the bad shape of the surface. Though it is almost completely gone some spaces remain preserved. On those spots can be made some conclusions. It could be said that most of the ceramic is slipped. The surface is smoothed. Probably part of it was burnished but it is hard to detect due to the condition of the surface of the vessels. The clay is semi-fine to semi-coarse. It usually contains sand, small stones and finely cut organics. Common feature is that almost all vessels have crushed shells in the dough. That is quite normal to be used due to the proximity of the beach sand to the local potters. It give specific quality to the local ceramic production.

The specific shapes could tell us about the differed uses of the different vessels. The forms do not include all of the repertoire of the two sites and are misbalanced. The fine pottery dominates the collections. The vessels are grouped after their function. The names of those groups are based on ethnographic and modern uses of similar shapes like plates, bowl, cups, jugs and pots¹⁴.

In this communication Sozopol site is represented by seven whole vessels. One of them is a plate with handle (**Fig. 3: 2**). This form with the S-shaped profile and stamped decoration on the most prominent part of the body is quite characteristic for the ceramic complex of Sozopol. The repertoire from the two museums also consists of two cups (**Fig. 3: 3, 4**), two jugs (**Fig. 3: 5, 6**), two pots (**Fig. 3: 7, 8**) and a semi-spherical plate with loop-handle inside (**Fig. 3: 1**). The latter is a unique form for the whole complex and could be interred as tool for wetting linen thread¹⁵. One of the cup is „St. Kirilovo“ type (**Fig. 3: 3**) and a sight for later habitation of the site than Early Bronze II¹⁶. Similar cup is found and in Kiten (**Fig. 4: 4**). The jugs and pots can also find their parallels in the ceramic forms found in Kiten. Their shapes are more basic and commonly found.

In Kiten the diversity of forms in bigger. The recognized shapes are plates, bows, cups, jugs, pots, amphorae and specific forms like „tea-pot“, „landing-nets“ and containers.

The plates belong to the so-called „Mihalich“ type (**Fig. 4: 15-18**). Their forms are simple – conical or semi-spherical. They have a defined rims which are richly ornamented. Their bodies are also covered from the inside and outside with incised or cord impression decoration. It is characteristic with its sun shaped organization of the ornaments. Their presence in the complex is one of the sure

¹⁴ LESHTAKOV 1988, p. 5-6.

¹⁵ BARBER 1991, p. 70-76.

¹⁶ LESHTAKOV 2006, p. 181.

proofs of dating the majority of the habitation of the settlement in the Early Bronze II¹⁷.

Bows also have common shapes – conical and semi-spherical. They could be divided roughly into two categories – deep (**Fig. 4: 13, 14**) and shallow (**Fig. 4: 6-12**) – depending on the proportion between the diameter of the opening and the height of the body. The shallow ones dominate in this collection. Part of them have lug handles (**Fig. 4: 6, 9**). They are rarely decorated and if they are the decoration consists of grooves or knobs on the rim (**Fig. 4: 8, 12**).

There is a small amount of cups in the collections. They are five – one cylindrical (**Fig. 4: 1**), two semi-spherical with outcurved rims, one of which has a loop handle (**Fig. 4: 2, 3**), one small S-shaped with a missing handle that represents a miniature jug (**Fig. 4: 5**) and a „St Kirilovo“ type, similar to the one found in Sozopol (**Fig. 4: 4**).

The jugs are the best represented type of vessel in both collections (**Fig. 5**). They have more complicated shape and are divided in more types. They all share common traits though. All of them have forms with no hard edges. Almost all of the rims are asymmetrical. The body on the back side is slightly bigger. There is asymmetry in the maximal diameter. It is higher in the front part of the vessel and lower in the back side. All this creates a heavy, grounded form that slightly resembles *askoi*. All of them have loop handles that are usually attached on the rim and on the transition between the neck and the body. Part of those handles are decorated. Usually they are made with prolonged cross section with triangular form and on equal distance the clay is pressed, probably with a finger, making it look like a ribbon (**Fig. 5: 13, 14**). Other type of decoration is different number of knobs (**Fig. 5: 11**) or corded impression (**Fig. 5: 5, 13**) or combination of both on the shoulders of the vessel (**Fig. 5: 12**). There is one without a handle which is a unique form (**Fig. 5: 7**). It could be an unfinished form that hints of the local pottery crafting.

The pots are only three (**Fig. 6: 5, 6, 7**). Though they are poorly represented in those two museum collections this shape is one of the most common type in settlements near Sozopol and Kiten. They are uniform and have S-shaped body. One has the typical decoration of incisions on the rim and stamped decoration with an instrument with drop like shaped end on the shoulders that is characteristic for both settlements (**Fig. 6: 6**). There is one pot with reach decoration. It combines incisions on the rim, cord impressions of geometric motives on the neck and stamped decoration with an instrument with drop like shaped end and knobs on the shoulders (**Fig. 6: 5**).

There is only one amphora (**Fig. 6: 8**). It has spherical body, elongated cylindrical neck and have two loop handles located opposite of each other on the most prominent part of the body.

Other unique form is a spouted bow, the so-called „tea-pot“ (**Fig. 6: 4**). It has ellipsoid body and out-curved rim. The spout is on the upper part of the body right under the rim. On the opposite side it has unfunctional decorative lug handle. It also gives clues to later inhabitation of the site near cape Urdoviza as

¹⁷ LESHTAKOV 2006, p. 173-176.

this form is characteristic for the Early Bronze III¹⁸. It is also interesting because it can give an answer to the question what was stored and cooked in those vessels. There are limestone deposits inside of it and near the mouth, clear marks of boiling water in it.

There are two small bows with incurved rims with small hole/holes on the rim (**Fig. 6: 1, 2**), probably for attaching a lid. They could be regarded as some small containers. There is one small vessels with four trumpet lug handles for hanging (**Fig. 6: 3**). It is in all probability also a specific container. It has really reach cord impressed decoration.

Some rare shapes have function that could not be identified with certainty. Such is the case with the so called „landing nets” (**Fig. 6: 9-12**). This term is used by G. Toncheva for the same form, found in the underwater settlement in the Varna lakes¹⁹. They are represented in the collection of the museums by two whole vessels (**Fig. 6: 9, 11**) and two handles (**Fig. 6: 9, 12**). They have spherical body and a cut sideways opening that almost reaches the bottom of the vessels which is flat and it is only separated by it with small sill. On top of it is a long cylindrical handle that is attached to the body of the vessel by three or four feet. In two of the cases the handles are anthropomorphically shaped (**Fig. 6: 10, 12**). For their exact use of these vessels could only be made assumptions – landing nets, lamps, containers for transferring charcoals or other. One is clear – it had a specific application because of the distinct form, precise rich decoration and anthropomorphic handles.

When

Another information that could be sought out of the ceramic assemblage is the concept of time. When were those lands first populated and when were they abandoned and taken by the sea? With the help of the archaeological material the geological surveys could be specified to a closer ranged dates. The ceramic is synchronised with the second phase of the Early Bronze Age. That is based on the parallels with the settlement mound in Upper Thrace – Ezero, with the other underwater settlements in the Varna lakes, with Cernavoda II culture, with Troy I and the beginning of II and other with other synchronous sites²⁰. On the site of Kiten was made dendrochronology and radiocarbon dating²¹. Both the relative date and the absolute ones correlate. The synchronisation between the two dating systems gives accurate data about the time when the settlement was habituated and also could help with the dating of other settlements based on the correlation of the data which the ceramic vessels could give. Specific characteristics of the forms and decoration are the key to this process. It has to be mentioned that part of the material has the characteristics of a later phase – Early Bronze III – like the so-called „teapot” (**Fig. 6: 4**) and the „Sv. Kirilovo” type of cups found in both settlements (**Fig. 3: 3; Fig. 4: 4**). That difference between the date from the ceramic forms and the ¹⁴C dates and the dendrochronology could be explained with a

¹⁸ LESHTAKOV 2006, p. 181.

¹⁹ TONČEVA 1981, p. 54.

²⁰ ANGELOVA & DRAGANOV 2003, p. 16-21.

²¹ KUNIHOLM *et al.* 1998 p. 399-402.

compromises of the top layers of the settlement before the beginning of the expeditions. That „missing“ top layer could correspond the Early Bronze III. Another problem could be the limitation of the taken samples. Not every single one of the posts is analysed. The cross-sections are taken from 85 pilings, taken from the 1986-1988 seasons of the excavations. That leaves one year – 1989, which has the largest territory covered without absolute dating material. That is the same season in which the teapot was found (**Fig. 6: 4**).

With who

The answers to „with who“ is hidden in the contact that could be traced with the distribution of artefacts. Unfortunately there aren't any certain imports that are present in the two collections. But the future processing of the ceramic of the assemblages from Kiten and Sozopol could prove some. The material is interesting in many ways. It represent the remains of a population that is greatly connected to the sea. That gives them the opportunity for greater movement and contacts with lands that are other ways difficult to reach. Those connections are possible to assume based on the ceramic material. Parallels of the ceramic find can be found in a vast region. From the forms it could be said with great certainty of such connections with other settlements on the black sea coast or near it. Most parallels could be found to the north – with the settlements now under the lakes near Varna²² and with the Cernavoda II culture in North Dobrudja²³. Less strong but still some connection could be sought with the southern parts of the Black sea like Yassıkaya²⁴ and Kanlıgeçit²⁵ in modern Turkey. The problem with them is that they have a clear connection with Anatolia, which is impossible to say about the current collection. For now such settlement aren't discovered on the Georgian and Russian coast but it is an interesting perspective if such are found. A connection could be found and with the in land settlements in the Thracian valley such as Ezero, Karanovo, Dyadovo, Veselinovo etc²⁶.

The ceramic vessels from the underwater settlement in the port of Sozopol and southern bay of Urdoviza peninsula is part of a larger group of over regional element that characterise the Early Bronze Age in the Southeast Europe. The ceramic assemblages from the museum collections in Kiten and Primorsko shed light on that phenomenon. It is important that those vessels be known to the researchers of the period for better correlations of the processes that took place in the Early Bronze Age.

²² TONČEVA 1981, p. 48-56; MARGOS & TONCHEVA 1962, p. 3-12; TONCHEVA & MARGOS 1959, p. 97-98; MIKOV 1950, p.216-218; MARGOS 1969, p. 96, 111-113, 117-119.

²³ ROMAN, DODD-OPRIȚESCU, & JÁNOS 1992, p.53.

²⁴ EFE 2004, p. 29-33.

²⁵ ÖZDOĞAN & PARZINGER 2012, p.53-182.

²⁶ LESHTAKOV 2000, p. 14-79.

BIBLIOGRAPHY

ANGELOVA & DRAGANOV 2003 – Hristina Angelova, Veselin Draganov, *Underwater Archaeological Excavations of Submerged Late Eneolithic and Early Bronze Age Settlements in Kiten and Sozopol (South Bulgarian Black Sea Coast)*, Thracia Pontica 6.2, Sofia, CUA-Sozopol (2003), p. 9-22.

ANGELOVA, DRAGANOV & DIMITROV 1995 – Hristina Angelova, Veselin Draganov, Kalin Dimirov, *Prehistoric Settlements in the Harbour of Sozopol (Preliminary communication)*, in L. NIKOLOVA (ed.), *Early Bronze Age Settlement Patterns in the Balkans (Cal. 3500 – 2000 BC)*, Sofia, 1995, p. 54-55.

BARALIS *et al.* 2011 – Alexandre Baralis, Benoît Devillers, Nick Marriner, Christophe Morhange and Antoine Hermay, *Coastal geoarchaeology of Apollonia Pontica (Bulgaria)*, Méditerranée 117 (2011), p. 103-109.

BARBER 1991 – Elizabeth Jane Wayland Barber, *Prehistoric Textiles: The Development of Cloth in the Neolithic and Bronze Ages with Special Reference to the Aegean*, Princeton University Press (1991)

BOZHILOVA & FILIPOVA-MARINOVA 1991 – Elisaveta Bozhilova, Mariana Filipova-Marinova, *Polinological and Paleoethnobotanical Evidence about the Human Impact on the Vegetation along the Bulgarian Black Sea Coast from the Neolithic till the Greek Colonisation*, Thracia Pontica 4 (1991), p. 87-96.

DRAGANOV 1995 – Veselin Draganov, *Submerged Coastal Settlements from the Final Eneolithic and the Early Bronze Age in the Sea around Sozopol and Urdoviza bay near Kiten*, Prehistoric Bulgaria. (Ed. by D. Bailey and I. Panayotov), San Francisco, Prehistory Press. Madison Wisconsin, Monographs in world archaeology 22 (1995), p. 225-241.

DRAGANOV 1998 – Veselin Draganov, *The Present State of Eneolithic Research in Northeastern Bulgaria and Thrace (The Area of the Krivodol-Gumelnitsa-Kranovo VI and Vama Cultures)*, in: M. STEFANOVICH, H. TODOROVA & H. HAUPTMANN (eds.), *In Memoriam of James Harvey Gaul*, Sofia, The James Harvey Gaul Foundation, 1998, p. 203-221.

EFE 2004 – Turan Efe, *Yassıkaya, an Early Bronze Site near Heraclea Pontica (Kdz Eregli) on the Black Sea Coast*, in: B. HÄNSEL (ed.), *Festschrift für Němejcová Pavůková*, Berlin, 2004, p. 27-38.

GEORGIEV, STOEV & VELKOVSKY – Mihail Georgiev, Dimitar Stoev, Kiril Velkovsky, *Geomorphologic development of the Bay of Sozopol*, KVelkovsky.eu, <https://www.kvelkovsky.eu/kv-personal/English/Archaeometry/AA-8.pdf> visited on 26/6/2018.

KUNIHOLM *et al.* 1998 – Peter Ian Kuniholm, Bernd Kromer, Shana L. Tarter, Carol B. Griggs, *An Early Bronze Age Settlement at Sozopol, near Burgas, Bulgaria, James Harvey Gaul - In memoriam.* (ed. by Mark Stefanovich, Henrieta Todorova, Harald Hauptmann), The James Harvey Gaul foundation, *In the steps of James Harvey Gaul*, 1998, p. 399-409.

LAZAROV, ANGELOVA & DRAGANOV 1991 – Михаил Лазаров, Христина Ангелова, Весели Драганов *Подводни археологически проучвания на крайбрежно селище от финала на късния енеолит в акваторията на пристанище Созопол*, Археологически открития и разкопки през 1990 (1991), p. 36-39.

LAZAROV, POROJANOV & POPOV 1987 – Михаил Лазаров, Калин Порожанов, Венцислав Попов, *Подводни проучвания в залива на Урдовиза I*, Археологически открития и разкопки през 1986 (1987), p. 285-287.

LESHTAKOV 1988 – Красимир Лещаков, *Основни класификационни принципи за керамиката от ранната и средната бронзова епоха в Тракия*, Археология 3 (1998), p. 1-13.

LESHTAKOV 1991 – Krasimir Leshtakov, *The Detachment of the Early Bronze Age Ceramics along the South Bulgarian Black Sea Coast*, Thracia Pontica 5, Varna (1991), p. 23-38.

LESHTAKOV 2000 – Красимир Лещаков, *Изследвания върху бронзовата епоха в Тракия. I. Сравнителна стратиграфия на селищните могили от Ранната бронзова епоха в Югоизточна България*, ГСУ, ИФ, 84/85 (2000), p. 5-119.

LESHTAKOV 2006 – Красимир Лещаков, *Бронзовата епоха в Горнотракийската низина*, ГСУ, ИФ, 3 (2006), p. 141-216.

MARGOS 1969 – Ара Маргос, *Праисторическите наколни селища във Варненското езеро*, Хората от наколните жилища: Разказ за живота на хората от наколните жилища във Варненските езера, София, 1969, p. 85-132.

MARGOS & TONČEVA 1962 – Ара Маргос, Горанка Тончева, *Праисторическото наколно селище при с. Езерово, Варненско*, ИВАД 13 (1962), p. 1-16.

MIKOV 1950 – Васил Миков, *Следи от наколни жилища при Страшимирово*, ИАИ, 17 (1950), p. 215-218.

ÖZDOĞAN & PARZINGER 2012 – Mehmet Özdoğan, Hermann Parzinger, *Die frühbronzezeitliche Siedlung von Kanlıgeçit bei Kırklareli*, Studien im Thrakien-Marmara-Raum, 2012.

PANDALEEV 1929 – Иван Пандалеев, *Нови археологически находки в Бургаско*, Известия на Българския археологически институт, 5 (1929), p. 325-328.

POPOV & KATINCHAROV 1988 – Венцислав Попов, Румен Катинчаров, *Подводни археологически разкопки в акваторията на Созополското пристанище*, Археологически открития и разкопки през 1987 (1988), p. 39.

POROJANOV 2004 – Калин Порожанов, *Потъналото селище от ранната бронзова епоха при Урдовиза (разкопки 1986-1988 г.)*, Добруджа, 2003/21 (2004), p. 309-322.

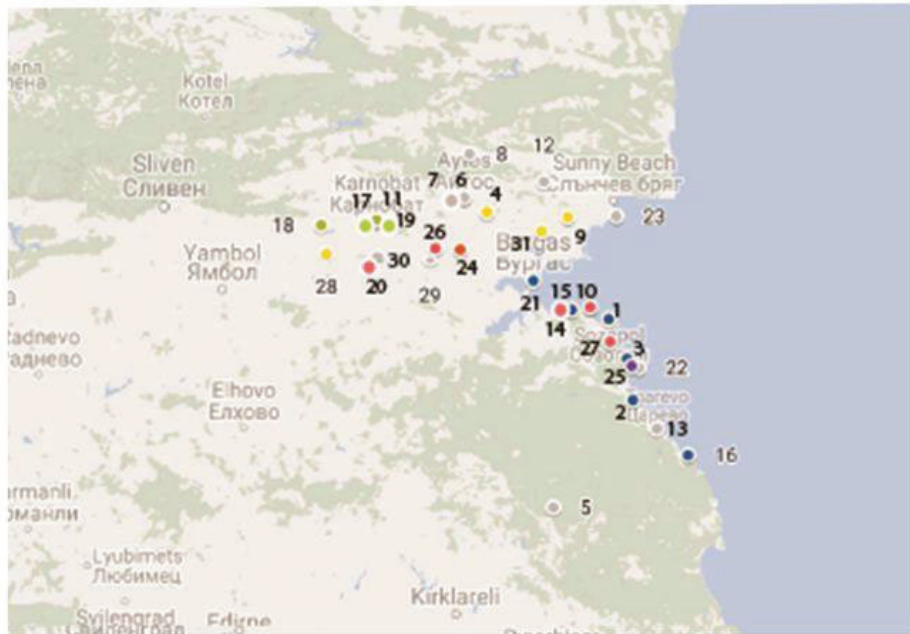
PREISINGER, ASLANIAN & HEINITZ 2000 – Anton Preisinger, S. Aslanian, Wolf-Dieter Heinitz, *Geomorphologic development of the Bay of Sozopol, Bulgaria (Black Sea) during the last 7500 years*, Bulletin du Musée national de Varna (2000), p. 36-37.

ROMAN, DODD-OPRIȚESCU & JÁNOS 1992 – Petre I. Roman, Ann Dodd-Oprițescu, Pal Janos, *Beiträge zur Problematik der schnurverzierten Keramik Südosteuropas*, H. Hauptmann (ed.), Mainz am Rhein, Verlag Phillip von Zabern in Wissenschaftliche Buchgesellschaft, 1992.

TONČEVA 1981 – Goranka Tončeva, *Un habitat lacustre de l'Âge du Bronze ancien dans les environs de la ville de Varna (Ézérovo II)*, Dacia N.S. 25 (1981), p. 41-62.

TONČEVA & MARGOS 1959 – Горанка Тончева, Ара Маргос, *Праисторическото наколно селище при с. Езерово, Варненско*, Археология, I (1959), p. 96-99.

ŠKORPIL & ŠKORPIL 1921 – Херман Шкорпил, Карел Шкорпил, *Наколни постройки в езерото*, ИВАД 7 (1921), p. 79-80.



Map Legend:

- Sunken Settlement
- Open-air Settlement
- Settlement Mound
- Burial Mounds
- Flat Necropolis
- Rock Sanctuary
- Pit Field
- Scattered Material

- | | |
|---------------------------------|--------------------|
| 1. Sozopol | 18. Tonchova Mound |
| 2. Urdoviza | 19. Chatalevo |
| 3. The Mouth of Ropotamo River | 20. Dragantzi 1 |
| 4. Sadiovo | 21. Burgas lake |
| 5. Malko Tarnovo | 22. Cape Maslen |
| 6. Aitos | 23. Nesebar |
| 7. Vetren - Aitos Mineral Baths | 24. Krastina |
| 8. Ruen | 25. Beglik Tash |
| 9. Tell Kozareva | 26. Vratice |
| 10. Akladi Cheiri | 27. Alepu |
| 11. Bada Bunar | 28. Devetak |
| 12. Bata | 29. Troianovo |
| 13. Arapia | 30. Dragantzi 2 |
| 14. Cape Atia | 31. Rudnik |
| 15. Chernomoretz | |
| 16. Ahtopol | |
| 17. Giaurska Mound | |

Fig. 1 - Map of Early Bronze Age sites from the Southwestern Black Sea Coast.



1.



2.

Fig. 2 - Location of the underwater settlements: 1. in the Southern bay of Urdoviza peninsula and 2. in the port of Sozopol.

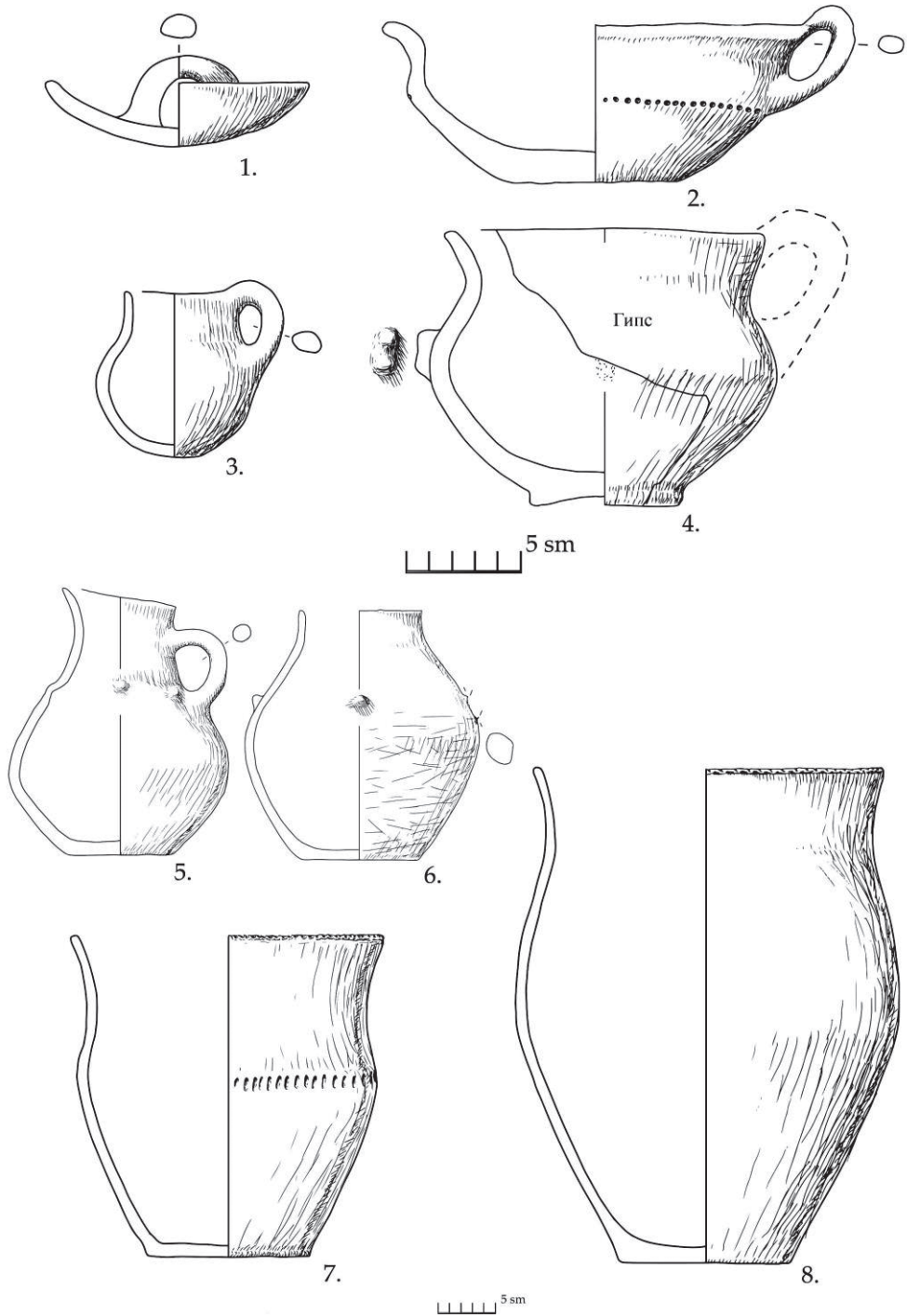


Fig. 3 - Ceramic vessels from Sozopol: 1-2 Plates, 3-4 Cups, 5-6 Jugs.

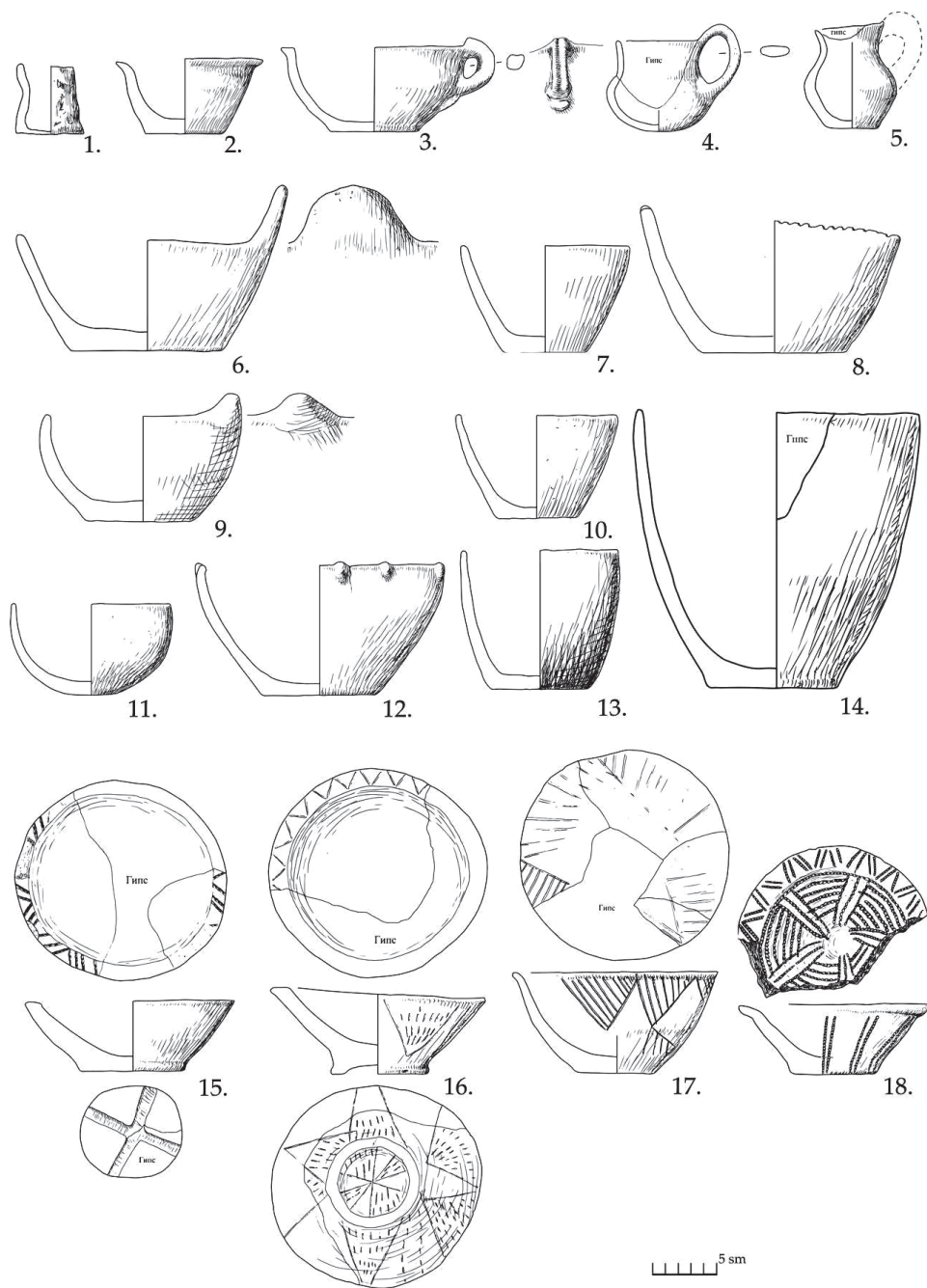


Fig. 4 - Ceramic vessels from Kiten: 1-5 Cups, 6-11 Bowls and 15-18 Plates type 'Mihalich'.

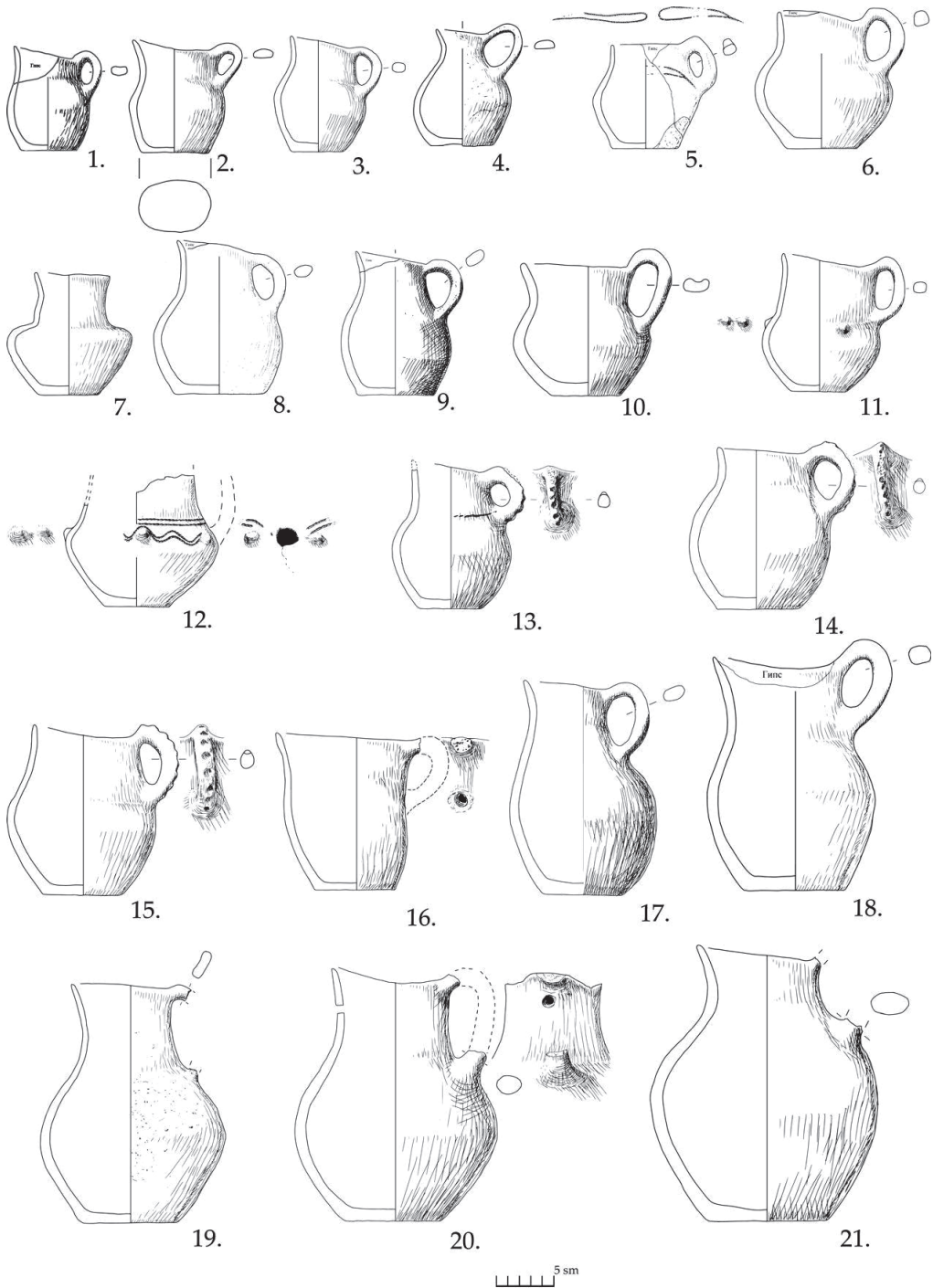


Fig. 5 - Ceramic vessels from Kiten: 1-21 jugs.

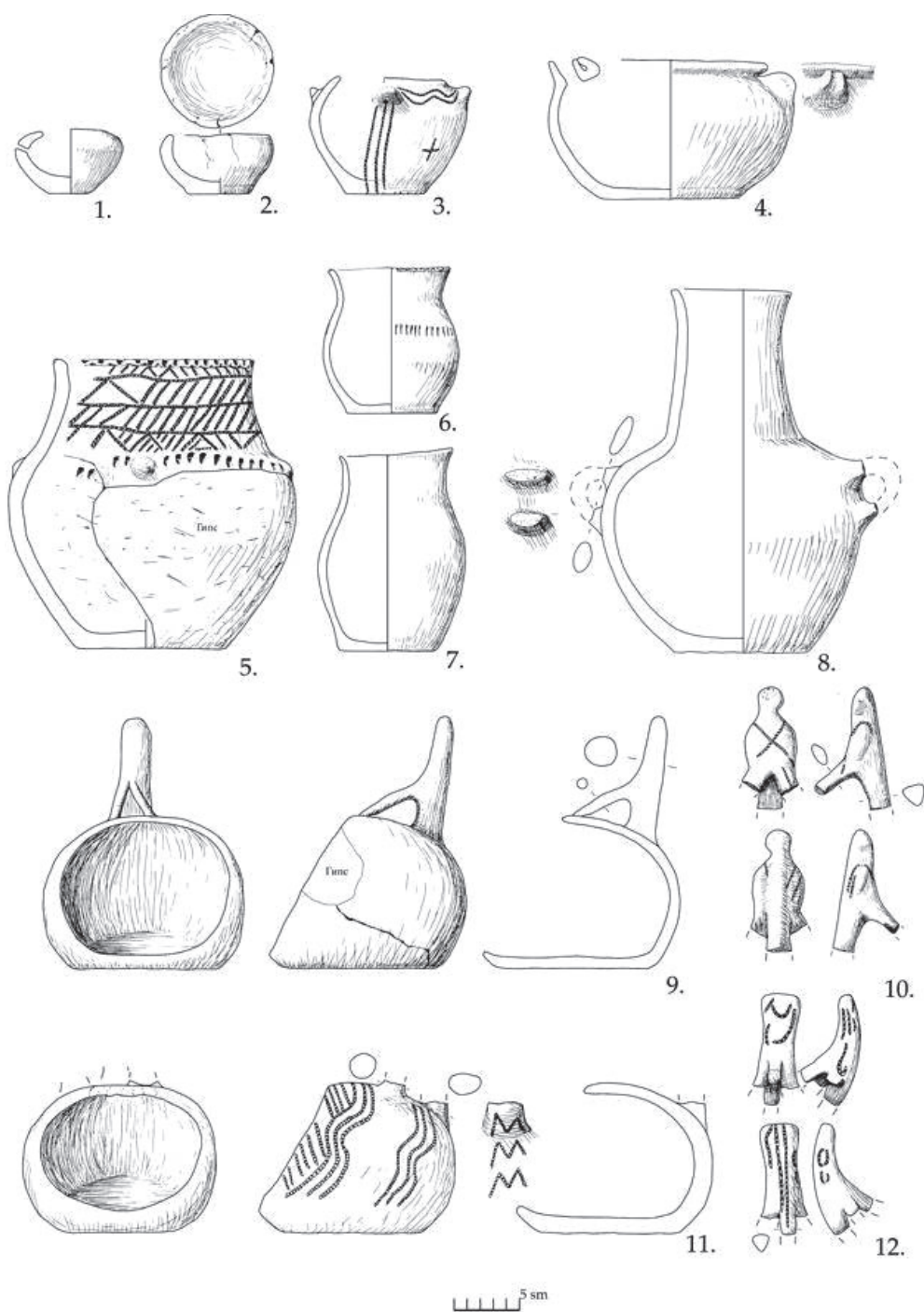


Fig. 6 - Ceramic vessels from Kiten: 1-3 containers, 4 'tea-pot', 5-7 pots, 8 amphorae and 9-12 'landing nets'.