НАЦИОНАЛЕН
АРХЕОЛОГИЧЕСКИ
ИНСТИТУТ С МУЗЕЙ

NATIONAL
ARCHAEOLOGICAL
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ЗЛАТО & БРОНЗ
GOLD & BRONZE

Метали, технологии и междурегионални контакти на територията на Източните Балкани през бронзовата епоха

Metals, Technologies and Interregional Contacts in the Eastern Balkans during the Bronze Age

1892 - 1921 - 1948

Dundee PRECIOUS METALS KRUMOVGRAD

София / Sofia
2018

НАЦИОНАЛЕН АРХЕОЛОГИЧЕСКИ ИНСТИТУТ С МУЗЕЙ
БЪЛГАРСКА АКАДЕМИЯ НА НАУКИТЕ

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Съставители:
Стефан АЛЕКСАНДРОВ
Яна ДИМИТРОВА
Христо ПОПОВ
Барбара ХОРЕШ
Кръстю ЧУКАЛЕВ

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Stefan ALEXANDROV
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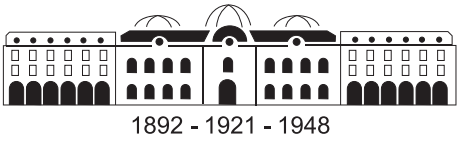

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Яна ДИМИТРОВА
Христо ПОПОВ
Барбара ХОРЕШ
Кръстю ЧУКАЛЕВ

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Stefan ALEXANDROV
Yana DIMITROVA
Hristo POPOV
Barbara HOREJS
Krastyu CHUKALEV

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ОБЕКТИ И НАХОДКИ / SITES AND FINDS

Иван Панайотов
(5.09.1942 - 26.02.2017)

В памет на големия български археолог Иван Панайотов – учител за много от нас. Човекът, който преди повече от четиридесет години отвори в българската археология широко вратата към познанието за металите и технологиите през бронзовата епоха.

Ivan Panayotov
(September 5, 1942 - February 26, 2017)

To the memory of the great Bulgarian archaeologist Ivan Panayotov – a teacher to many of us and the man who forty years ago opened wide a door in Bulgarian archaeology to the knowledge about Bronze Age metals and technologies.

Здравко Цинцов
(1.06.1953-19.02.2018)

В памет на нашия приятел и колега Здравко Цинцов – откри в реките на Западна България първите находки от „хоризонта Дъбене", създал мостове между българската геология и българската археология и извървял с много от нас нелекия път на спасителните терени проучвания на Ада тепе.

Zdravko Tsintsov
(June 1, 1953 – February 19, 2018)

To the memory of our friend and colleague Zdravko Tsintsov – who discovered the first finds of the "Dabene Horizon" in the rivers of West Bulgaria, who built bridges between Bulgarian archaeology and Bulgarian geology, and who followed with many of us the hard path of the rescue investigations on Ada Tepe.

Ада тепе и долината на р. Кесебир. Поглед от юг

Ada Tepe and Kesebir river valley. View from the south

Златната мина от късната бронзова епоха на Ада тепе

Христо Попов, Албрехт Йокенхьофел

The Late Bronze Age Gold Mine at Ada Tepe

Hristo Popov, Albrecht Jockenhövel

Забележителните златни находки от Варненския халколитен некропол (средата на V хил. пр. Хр.), свързани с времето на ранния рудодобив и металургия в Източнобалканския регион, доведоха до ново разбиране за ролята на златото в обществен, символичен и религиозен контекст (виж Димитров, Стойчев в този том). И до днес златото е търсен ценен, рядък метал с висока нематериална и материална стойност. Отличителните му характеристики като: цвят, блясък, добра пластичност и корозионна устойчивост срещу външни фактори допринасят за това златото от много ранната история да се счита за белег на високо обществено положение (виж Перницка; Цинцов в този том).

Многобройните златни находки от древните цивилизации на бронзовата епоха (в Месопотамия, Египет, Анатолия, Източно Средиземноморие) са доказателство за интензивното търсене и експлоатиране на златни залежи. Съвременните данни свидетелстват, че в Древен Египет добив на злато се извършва още в Доди-настичния и Династичния период в края на IV – началото на III хил. пр. Хр. (Klemm, Klemm 2013). Интензивното търсене на злато логично води до добив не само от лесно достъпни алувиални находища, но също и от технологично по-трудните коренни находища. Проучването на златната мина в Сакдриси (Грузия) дава ясни доказателства за добива на златосъдържаща руда в този ранен период (Stöllner, Gambashidze 2011, 187-199; Stöllner 2014, 71-110; виж Щьолнер в този том). Следователно трябва да се изостави все още широкоразпространената кон-

The spectacular gold finds from the necropolis of Varna (Bulgarian Black Sea coast, mid-5th millennium BC), which are contemporary with early copper mining and metallurgy in the Eastern Balkan region, have led to a new understanding of the role of gold in a social, symbolic and religious context (cf. Dimitrov, Stoychev, this volume). Until today, gold has been a sought-after precious metal of a high ideal and material value. Its particular characteristics, such as rarity, colour, brilliance, good formability and corrosive resistance against external factors contributed to making gold a status symbol very early in history (cf. Pernicka; Tsintsov, this volume).

The rich gold finds from the Bronze age civilizations (in Mesopotamia, Egypt, Anatolia, Eastern Mediterranean) are proof of an intense search for suitable gold deposits. Nowadays, several clues indicate that in Ancient Egypt gold mining was already undertaken in Pre- and Early Dynastic times – at the end of the 4th/the beginning of the 3rd millennium BC (Klemm, Klemm2013). Certainly the intense search for gold led to an extraction not only of the easily reachable alluvial deposits, but also of the technologically more elaborate mountainous deposits. The examination of the gold mine of Sakdrisi (Georgia) gives clear evidence of the mining of rock gold in this early period (Stöllner, Gambashidze 2011, 187-199; Stöllner2014, 71-110; cf. Stöllner, this volume). Because of that one has to withdraw from the still widespread conception that in prehistory up to Classical antiquity gold was principally panned

Обр. 1. Проучване на останки от открити рудни изработки и отвали в тяхното подножие. Североизточни склонове на Ада тепе

Fig. 1. Investigation of remains of open cast mining and waste heaps in their foothill. Northeastern slopes of Ada Tepe

Обр. 2. Част от проучените по североизточните склонове на Ада тепе открити рудни изработки. XV в. пр. Хр.

Fig. 2. Part of the excavated open cast mine on the northeastern slopes of Ada Tepe. 15th century BC

Обр. 3. Вход на малка галерия по югозападния склон на Ада тепе

Fig. 3. Entrance to a small gallery on the southwestern slopes of Ada Tepe

цепция, че от праисторията до Класическата античност златото по принцип се добива от реки (Weisgerber, Pernicka 1995, 159-183). Това алувиално злато (наричано също разсипно злато или самородно злато) лесно се добива с проста инфраструктура (виж Цинцов в този том) – представете си един човек с панер за промиване на злато, образ, познат от „златната треска“ през XIX век в Калифорния и Аляска (реката Клондайк). Обратното на това, минният добив (открити рудници или подземни мини) изисква много по-сложна организация, по-високо ниво на професионални познания и влагане на значителни ресурси.

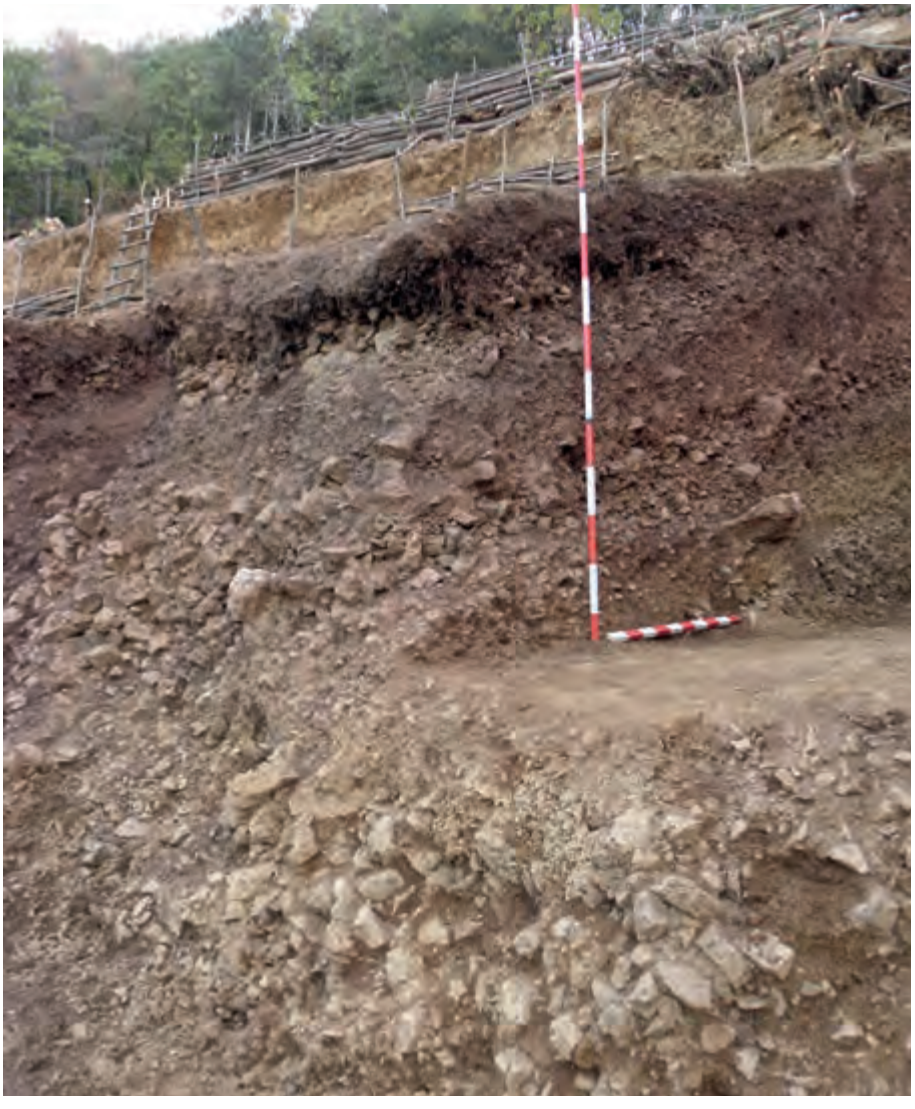
Специализираните минни археологически проучвания през последните десетилетия показват, че търсенето и добивът на злато от коренни находища като дълготраен процес е започнало значително по-рано, отколкото се предполагаше до скоро.

from rivers (Weisgerber, Pernicka1995, 159-183). This alluvial gold (also called stream or placer gold) can easily be reached and extracted with a simple infrastructure (cf. Tsintsov, this volume) – one may imagine a „one-man-show“ with a gold pan, as it is known from the gold rush of the 19th century in California and Alaska (Klondike river), while mining (opencast mining and underground mining) requires a much more complex organization and effort. Archaeological mining research of the last decades shows that the search and extraction of rock gold as an ongoing process had already begun earlier than was formerly assumed.

Since the 1980s, targeted research in the Northern Aegean has provided evidence of older gold mining activities, which reach back at least to the 6th/5th century BC, for example on the island of Thasos, in the Pangaion mountains, on Chalkidiki, on the lower courses of the Axios

Обр. 4. Отвали. Западни склонове на Ада тепе. Преработена скална маса. Останки от златодобива през късната бронзова епоха

Fig. 4. Waste heaps. Western slopes of Ada Tepe. Crushed rocks. Remains of gold-mining during the Late Bronze Age



Обр. 5. Проучване на отвал на източния склон на Ада тепе

Fig. 5. Research of a waste heap on the eastern slope of Ada Tepe

Обр. 6. Фрагменти от каменни инструменти (хромели, чукалки), открити в един от отвалите по западните склонове на Ада тепе

Fig. 6. Fragments of stone tools (grinding stones, pestles), found in a waste heap on the western slopes of Ada Tepe

От 1980-те г. целенасочените изследвания в Северния Егейски район предоставят доказателства за стар златодобив, които достигат поне до VI-V в. пр. Хр., например на остров Тасос, в планината Кушиница, в Халкидики, по долните течения на реките Вардар и Струма, в Троада и на други места (Pernicka 1987, 607-614; Unger 1987, 87-112; Photos et al. 1988, 179-190; Wagner, Weisgerber 1988; Pernicka et al. 2003, 533-599; Vavelidis, Andreou 2008, 361-366). Новооткритата златна мина на Ада тепе се включва в кръга на тези познания и го разширява (Попов, Илиев 2006, 154-156; Jockenhövel, Popov 2008, 251-270; Popov, Jockenhövel 2011, 265-281; Popov et al. 2011a, 111-126; Popov et al. 2011b, 253-290; Popov et al. 2015, 45-62).

При Ада тепе се разграничават два добре дефинирани геоложки комплекса: метаморфни скали без златоносни жили, достигащи до височина от 350 до 380 м, и седиментни скали,

and Strimon rivers, in the Troad and elsewhere (Pernicka 1987, 607-614; Unger 1987, 87-112; Photos et al. 1988, 179-190; Wagner, Weisgerber 1988; Pernicka et al. 2003, 533-599; Vavelidis, Andreou 2008, 361-366). The gold mine discovered on Ada Tepe had been added to these new bases of our knowledge (Попов, Илиев 2006, 154-156; Jockenhövel, Popov 2008, 251-270; Popov, Jockenhövel 2011, 265-281; Popov et al. 2011a, 111-126; Popov et al. 2011b, 253-290; Popov et al. 2015, 45-62).

Two well defined geological complexes can be distinguished on Ada Tepe: firstly metamorphic rock without gold-bearing metalliferous veins, reaching to an elevation of 350 to 380 m, and secondly sedimentary rocks, which extend from a height of 350 to 380 m up to the mountaintop (495 m) (Желев 2007, 104-114; Zhelev, Hasson 2002, 58-59). The about 35-million-year-old sedimentary complex contains gold-bearing quartz-adularia joints of hypothermal

Обр. 7. Кварцитни чукалки за счукване и смилане на руда. Ада тепе. Късна бронзова епоха

Fig. 7. Quartz pestles for crushing and grinding of ore. Ada Tepe. Late Bronze Age

които се разполагат от височина 350-380 м до върха (който е на 495 м н.в.) (Желев 2007, 104-114; Zhelev, Hasson 2002, 58-59). Седиментният комплекс, на възраст от около 35 милиона години, съдържа златоносни кварцово-адуларни жили с хидротермален произход и е ясно диференциран от метаморфните пластове. Във високите части на жилите златото е естествено смесено със сребро (в съотношение до 70% Au: 30% Ag = електрум), а в дълбочина то е почти чисто (до 99% Au) и без съществени примеси от минерали. Тези характеристики без съмнение са били привлекателни за праисторическите маньори. Така те са можели да получат един много чист краен продукт.

Според сегашното състояние на изследванията, особено след анализа на наличните радиовъглеродни данни (^{14}C-данни) и контекстуалното им обвързване с различните, свързани с миннодобивни дейности зони, добивът на злато на Ада тепе започва в началото на XV в. пр. Хр. Преди това върхът не е бил населен и не се регистрира човешко присъствие. В началото златодобивът започва на самия връх и

origin and is different from the metamorphic layers. In the upper layers there is a natural mixture of gold and silver (in a relation of 70% Au: 30% Ag = electrum). In the lower layers there is almost pure gold (up to 99% Au) without significant additions of further minerals, which doubtlessly made it attractive for the prehistoric miners as they could achieve an almost pure end product.

According to the current state of research, especially after the evaluation of several radiocarbon data (^{14}C-data) and their correlation with the various excavation areas and mining activities, gold mining began in the early 15th century BC. Before, the mountain has been uninhabited and unused. In the beginning, mining was undertaken on the mountaintop and in the upper areas of the northeastern hillside (Fig. 1-2). By means of open-cast mining, the upper areas of the quartz veins, were extracted. A settlement was established on the edge of the mountaintop: at least 20 huts were put up in two rows (Popov et al. 2017; Horejs 2017). Despite the modern-day destruction of the area, ten house structures could

Обр. 8. Археологически експеримент. Използване на огън в процеса на рудодобив. 1-2. Нагряване на златосъдържащата кварц-адуларова жила

Fig. 8. Archaeological experiment. Fire setting in the mining process. 1-2. Heating of the gold-containing quartz-adularia vein

Обр. 8. 3. Шоково охлаждане с вода на нагорещената скала

Fig. 8. 3. Shock cooling of the heated rock with water

по горните части на североизточните склонове (Обр. 1-2). Чрез работа по открит способ се извличат горните зони на кварцовите жили. Близо до върха е било изградено сезонно селище, в което е имало най-малко 20 колиби, организирани в две успоредни редици (Popov et al. 2017; Horejs 2017). Въпреки съвременното разрушаване на терена, стана възможно да се проучат част от тези жилища (виж Попов в този том).

Според геоложките доклади билото на Ада тепе е било с няколко метра по-високо и е изцяло отстранено при първите миннодобивни дейности. На тази изкуствено създадена овална площадка няколко десетилетия след началото на организирания златодобив се премества селището, като заема централна позиция на върха. Постепенно рудодобивът се разпростира върху цялата горна площ на билото. Огромните му отвали (Обр. 4-5) покриват почти всички склонове

Теренните наблюдения, многобройните единични находки и групи от находки дават важна информация за технологичната верига от операции *(chaîne opératoire)* при златодобива на Ада тепе. За експлоатацията на златоносни руди е използвана отдавна известната техника, при която с помощта на огън рудосъдържащите скали се нагряват (Popov et al. 2014, 27-44; Harding, Kavruk 2010, 131-167). При високата температура златоносните кварцови жили и вместващите ги скали се напукват, така че златоносната руда може лесно да се извлече (Обр. 8). Като цяло инструментите на древните миньори са прости. В отвалите и на мястото на разработките са откриват счупени или изоставени каменни инструменти за отцепване, раздробяване и смилане (Обр. 6-7). Комплектът инструменти на миньора се състои от груби и тежки каменни чукове или изцяло немодифицирани каменни инструменти. Т. нар. чукове с жлеб (*Rillenschlägel*), които са типични за почти всички други праисторически мини, не са намерени на Ада тепе. На откритията, направени през последните години в солните мини в румънските Карпати (Harding, Kavruk 2010, 131-167) и в Източноалпийската зона (Goldenberg 2015/2016, 151-163; Stöllner 2015/2016, 247-253; Reschreiter, Kowarik 2015/2016, 289-296; виж Т. Щьолнер

Обр. 9. Добити след процеса на нагряване късове от кварц-адуларовата жила. Рудни образци с високо съдържание на злато

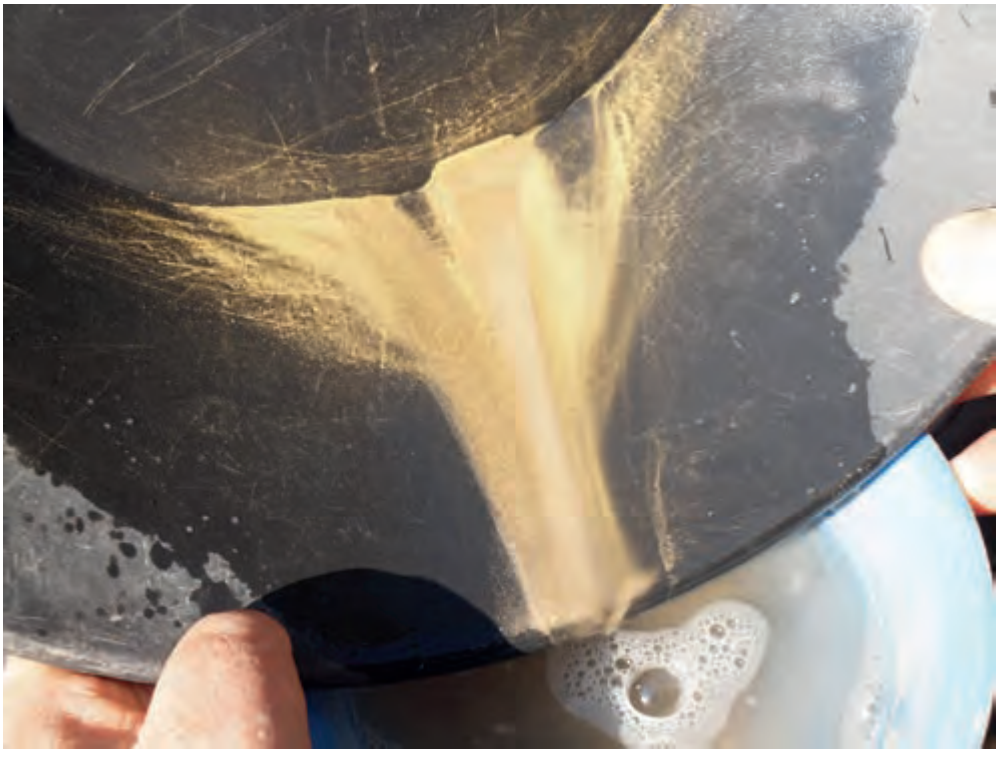
Fig. 9. Pieces of quartz-adularia vein, obtained after the heating process. Ore samples with high gold-content

be investigated. According to geological reports, the summit used to be a few metres higher, but was completely dismantled during the first mining activities. The settlement moved to this man-made oval place and took a central position on top of the summit. After a few decades, the extraction spread out over the entire upper area of the mountaintop. Its mighty waste heaps (Fig. 4-5) cover almost all surrounding slopes (cf. Popov, this volume).

Many observations, findings and find groups provide information about the technological chain of operations (*chaîne opératoire*) of the mining on Ada Tepe, even though some questions have remained unanswered. For the extraction of the gold-bearing rock the long-known technique of fire-setting was used (Popov et al. 2014, 27-44; Harding, Kavruk 2010, 131-167).The fire caused the gold-bearing quartz veins and the surrounding rock to crack, so that the gold-bearing ore could easily

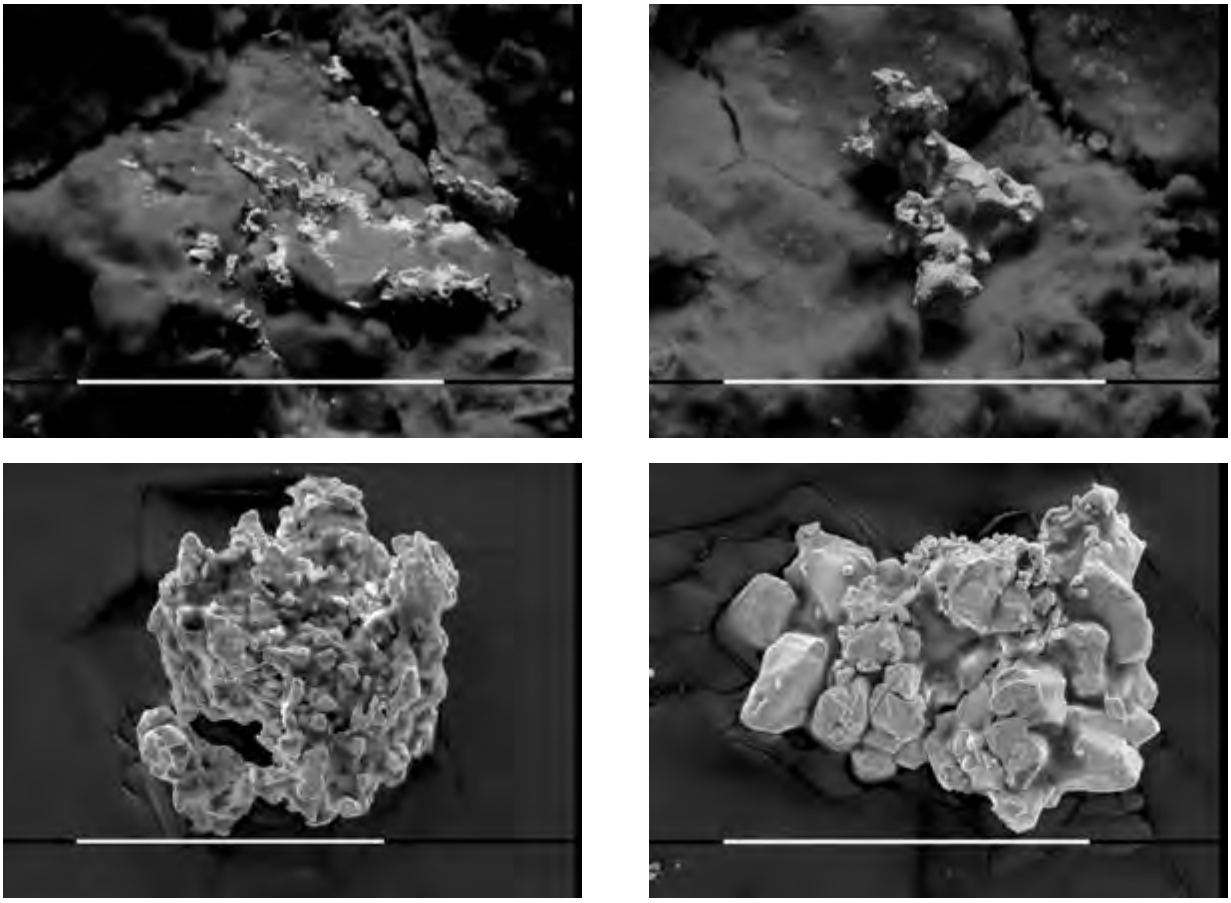
Обр. 10. Археологически експеримент: счукана и стрита на прах руда

Fig. 10. Archaeological experiment: crushed and grinded ore



Обр. 11. Промиване на рудния концентрат. Златото се появява на дъното на панера

Fig. 11. Washing of the ore concentrate. The gold appears on the bottom of the pane



Обр. 12. Златото от Ада тепе е с много дребнозърнест състав. SEM-изображения от различни образци. Автор Здравко Цинцов

Fig. 12. Ada Tepe gold is v ery fine grained. SEM-images of different samples. Autor Zdravko Tsintsov

в този том), дължим познанията си за всички миннодобивни етапи, извършвани с инструменти, изработени от дърво. Със сигурност такива са били използвани и на Ада тепе, но не са запазени. Археологическите експерименти ясно показват, че прости дървени инструменти и сечива (клинове, дървени чукове, лостове, дървен материал за укрепване и др.) също биха могли да са полезни за първите технологични стъпки в *chaîne opératoire*.

Добитата руда (Обр. 9) се сортира на място и подходящият златоносен материал се носи до местата за последваща обработка. На работни площадки рудата се нагрява допълнително с огън, натрошава се и се смила фино (Обр. 10), за да се получи златоносен концентрат. След това той се промива (Обр. 11) и стопява. След този трудоемък процес се появява златото, което дотогава е едва видимо.

Златото от Ада тепе е много дребнозърнесто и почти незабележимо с човешко око (Обр. 12).

be extracted (Figs. 8, 9). On the whole the tools of the ancient miners were very simple. In the waste heaps (Fig. 4) and on the processing site several broken or left-behind stone tools for knocking, hammering and grinding were found (Fig. 6-7). The miner's toolset consisted of coarse and heavy hammerstones or entirely unmodified stone tools. So-called fluted hammers (dt.: *Rillenschlägel*), which as important archaeological indicators were typical of almost all other prehistoric mines were not found at Ada Tepe. Meanwhile, from salt mining sites in the Romanian Carpathians (Harding, Kavruk 2010, 131-167) and the Eastern Alpine area (Goldenberg 2015/2016, 151-163; Stöllner 2015/2016, 247-253; Reschreiter, Kowarik 2015/2016, 289-296; cf. Stöllner, this volume), discovered in the past, several wooden tools are known for almost all mining and extracting stages. These were certainly also used at Ada Tepe, but have not been preserved. Archaeological experi-

Неоспоримите данни за мащабен добив през късната бронзова епоха показват, че това обстоятелство очевидно не е било пречка за тогавашните рудари, което свидетелства и за нивото на техните познания и професионални умения. Вероятно с помощта на целенасочено опробване (виж Щьолнер в този том) те са достигали до местата с най-високи съдържания на злато.

Трудно е да се каже дали топенето на благородния метал се е извършвало в планината. Тъй като са открити само една златна стопилка – малък къс самородно злато – и няколко късчета шлака (Cat. № 326), че в голямата си част тези последни, но изключително важни технологични стъпки, са извършвани другаде.

Вероятно водата от някои от изворите (отчасти действащи и днес), разположени по-надолу, по склоновете на хълма, е била използвана за процеса на промиване. Те могат да се локализират освен при теренни проучвания, така също и с помощта на геоморфоложко моделиране. Експериментите показват, че при използването на една и съща вода за промиване на златото не е било необходимо голямо количество от нея. Но течащата вода е била необходима също така и за снабдяване на селището на миньорите.

Информацията, събрана от многогодишните теренни проучвания, оставя впечатление, че миньорите от Ада тепе са пристигнали при новооткрития източник на злато със своята организация, професионални знания и опит. Може да се предположи, че те целенасочено са търсели и проучвали находищата в района. Откъде е пристигнала тази миньорска общност, е интригуващ въпрос, на който не може да се даде отговор при сегашното състояние на изследванията.

Но според нас е напълно оправдана тезата, че към времето на началото на златодобива на Ада тепе вече е съществувала една оформена професионална група, занимаваща се с рударство и металургия. През бронзовата епоха минното дело в Европа се развива и утвърждава като основен икономически сектор. Като доказателства могат да се посочат интензивният добив на мед (напр. Митерберг, Австрия – Stöllner 2015/2016 и цитираната литература) и сол (Халщат, Австрия

ments have demonstrated that simple wooden instruments (wedges, wooden hammers, levers, head wood, timbering etc.) can also be useful for the first technological steps in a chaîne opératoire.

The extracted rock (Fig. 9) was sorted on-site and suitable gold-bearing material was taken to the processing sites, where it was made brittle by fire, crushed further and finally ground (Fig. 10), so that a gold-bearing concentrate could be won. Afterwards it was washed (Fig. 11) and smelted. It was only after this labour-intensive process that the gold appeared, which had hardly been visible until then. The gold from Ada Tepe is very fine grained and almost invisible in normal observation (Fig. 12). The undisputable data for a large scale extraction during the Late Bronze Age speak of the fact that tis obviously was not an obstacle for the ancient miners. This testifies for their knowledge and professional skills. Probably by aimed sampling (cf. Stöllner, this volume) they reached the places with the highest gold content.

It is hard to say whether the smelting process took place on the mountain. Because only one melted gold object (Cat. № 326) and a few slags were discovered. It cannot be ruled out that these last, but extremely important steps were carried out somewhere else, possibly outside the site. Processing plants were set up in the northern and northwestern sections of the mountaintop, in the upper areas of the western slopes and in some of the exploitation areas. Flowing springs (partially still active today), situated further down the side of the mountain, were presumably used for washing. They could be located through prospections and geomorphological models. Experimental testing showed that by repeated use of the same water for washing the gold not much water was needed. This flowing water was also necessary for the supply of the settlement.

From the information gained in many years of field studies one gets the impression that the miners of Ada Tepe arrived at their newly discovered gold source equipped with their organization, professional knowledge and empirical experience. One may presume that they searched for and prospected deposit sites in a goal-directed way in the region. Where these miners' community came

и румънските Карпати; Reschreiter – Kowarik 2015/2016 и цитираната литература; Harding, Kavruk 2013). Във все по-обвързания икономически свят на късната бронзова епоха редица важни ресурси са били осигурявани от все по-интензивния добив в основни рудни райони и далече достигащи надрегионални доставки.

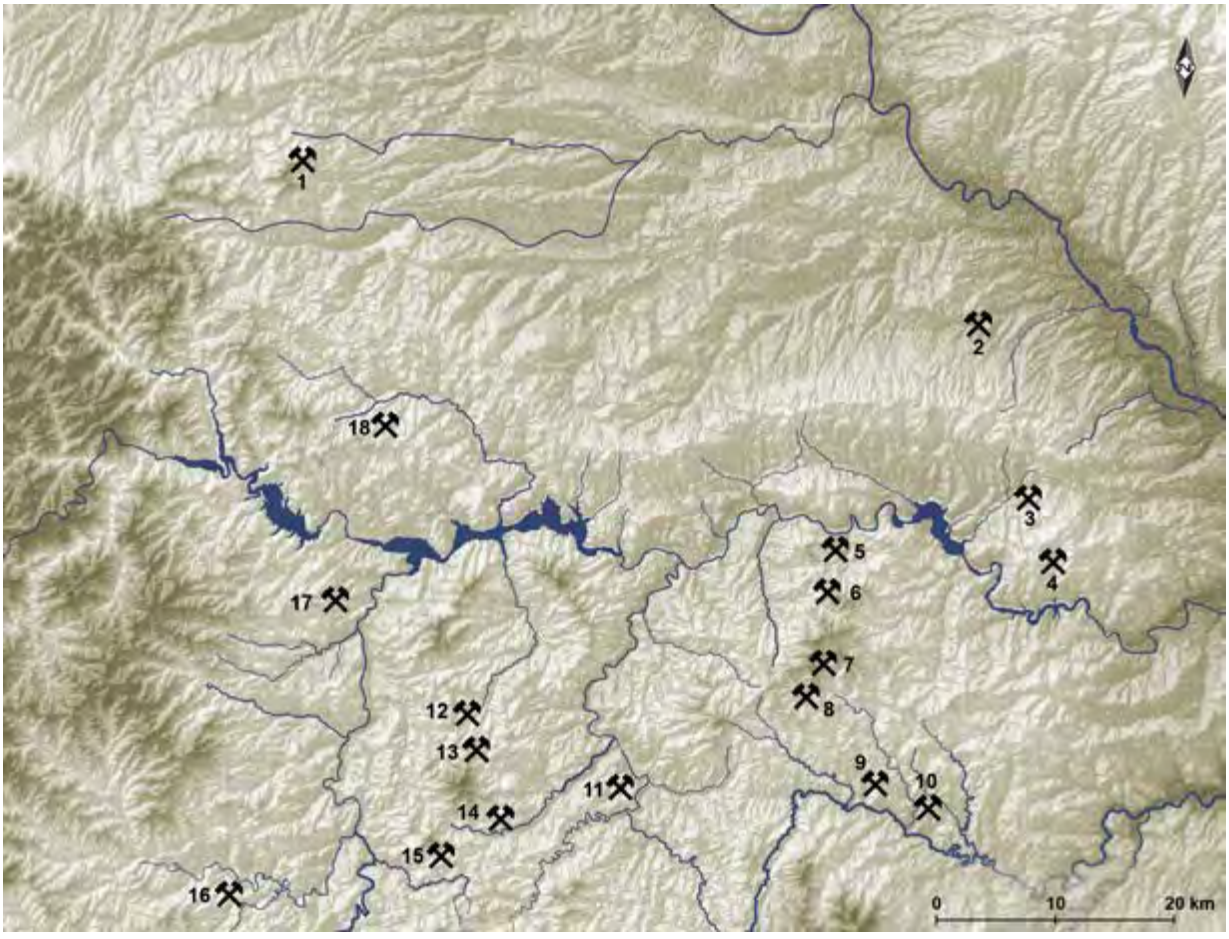
Изненадващото откритие – златната мина Ада тепе, постави във фокуса на изследванията югоизточния Балкански полуостров (особено Родопите) като минодобивен ландшафт от късната бронзова епоха, в който водещо място заемат няколко полиметални находища. Такива има и в районите на Средна гора и Странджа. Много от тях са златоносни. При съществуващото ниво на знания не е ясно дали те са разработвани през бронзовата епоха. Проучванията, извършени в рамките на проект, подкрепен от фондация „Александър фон Хумболт", демонстрираха важната роля на минното дело и свързаната с него икономика в различни периоди (Jockenhövel, Popov 2008; Popov et al. 2011a). Златни, сребърни, медни и железни рудници са разработвани от късната бронзова епоха, през класическия период, елинизма, римско и византийско време до периода на Късното средновековие (Карта 1). През тези продължителни исторически епохи Източните Родопи са били важен миннодобивен район за тази част от Югоизточна Европа и Егейския регион.

Изследването на златодобивния рудник Ада тепе осигурява изключително рядка възможност за мащабно проучване на древен рудник и прилежащото му селище в общ контекст. При ясното и недвусмислено датиране в късната бронзова епоха засега Ада тепе се оказва най-старият известен златодобивен рудник в Европа! Все пак още има въпроси, които за сега остават без отговор, такива например са въпросите за продължителността и края на добива на злато. Или защо след бронзовата епоха повече не е добивано злато на Ада тепе и защо находището е забравено, дори и във времената на пристрастяване към златото, както например при апогея на траките през късната желязна епоха, по времето на Римската империя, в епохата на Византия, в Ста-

from is an intriguing question, which cannot yet be answered at the present stage of evaluation. An existing professional group may be assumed however. Mining was an already established economic sector in the European Bronze Age. As evidence the intense copper and salt mining in the increasingly linked world of the Late Bronze Age should be mentioned, which probably ensured the supra-regional supply of these important resources (e.g. Mitterberg, Austria – Stöllner 2015/2016 and the associated bibliography); Hallstatt, Austria: Reschreiter – Kowarik 2015/2016 and the associated bibliography, and Romanian Carpathians: Harding – Kavruk 2010 [cit. note 11]; Harding, Kavruk 2013). In the increasing economically connected Late Bronze Age world, a number of important resources were provided by the intensive yield in the main ore regions and by the far-reaching supra-regional supplies.

Through the surprising discovery of the goldmine on Ada Tepe, the Southeastern Balkan peninsula, as a further Late Bronze Age mining landscape, moves into the focus of research, especially the Rhodope mountains where several polymetallic deposits exist in the regions of Sredna Gora and Strandzha (Map 1). Many of these are gold-bearing. At the present stage of our research, it is unknown whether they were exploited in the Bronze Age. Field surveys carried out within the framework of a project supported by the Alexander von Humboldt-Stiftung in Bonn (Germany) (2008-2010), have repeatedly demonstrated the important role of the miners' profession and of the associated economy in different periods (Jockenhövel, Popov 2008; Popov et al. 2011a). Gold, silver, copper and iron mines were exploited from the Late Bronze Age through Hellenistic, Roman and Byzantine times to the Late Middle Ages. This is why the Eastern Rhodopes are regarded as an important mining district for the entire region.

The research of the gold mine on Ada Tepe provides the almost singular opportunity to broadly examine a mine and a settlement in a joint context. Both date to the Late Bronze Age. With this dating, Ada Tepe is the oldest currently known gold mine of Europe! Yet some questions still remain unanswered, for example the duration and the end of gold mining there. Or why gold was never again exploited there afterwards and Ada Tepe was forgotten, even in gold-addicted times,



Карта 1. Местоположение на стари рудници, локализирани на територията на Източните Родопи
1. Хасковски минерални бани/Чала; 2. Лозен; 3. Вълче поле; 4. Камилски дол; 5. Маджарово; 6. Черничино; 7. Попско; 8. Белополци; 9. Розино; 10. Ленско; 11. Ада тепе; 12. Друмче; 13. Ауста; 14. Седефче; 15. Пловка; 16. Бенковски; 17. Македонци; 18. Стремци

Map 1. Location of old mines, detected on the territory of Eastern Rhodope Mountains
1. Haskovo Mineral Bath/Chala; 2. Lozen; 3. Valche Pole; 4. Kamilski Dol; 5. Madjarovo; 6. Chernichino; 7. Popsko; 8. Belopoltsi; 9. Rozino; 10. Lensko; 11. Ada Tepe; 12. Drumche; 13. Austa; 14. Sedefche; 15. Plovka; 16. Benkovski; 17. Makedontsi; 18. Stremtsi

робългарското, Османското и Новото време (реално чак до 1990-те години). Тази интересна съдба е била основен фактор, позволяващ археологическите структури от този толкова ранен период да бъдат запазени и до днес. Благодарение на придобитата информация, Ада тепе може да се разглежда като модел за използването на ландшафта на Родопите през късната бронзова епоха.

such as in the heyday of the Thracians, during the Imperium Romanum, in the Byzantine period, in the Old-Bulgarian, Ottoman as well as modern times (actually up to the 1990s). This fate was the decisive reason why the mining structures have been preserved until today. Ada Tepe can therefore be taken as a model for the Late Bronze Age landscape usage and management of the Rhodope mountains.

Златно съкровище от Вълчитрън.
Късна бронзова епоха. НАИМ
Valchitran gold treasure. Late Bronze Age. NAIM

Ада тепе до Крумовград, Източни Родопи

Христо Попов

Ada Tepe near Krumovgrad, Eastern Rhodope Mountain

Hristo Popov

Обр. 1. Ада тепе. Панорамен поглед към западните и югозападни склонове на върха
Fig. 1. Ada Tepe. Panoramic view of the western and southwestern slopes of the peak

Върхът Ада тепе се намира в Източните Родопи (Обр. 1). Разположен е на левия бряг на река Крумовица, един от основните притоци на Арда. В непосредствена близост на североизток се намира днешният град Крумовград, център на община и едно от най-големите селища в тази част на планината.

Ада тепе е разпознат като място, на което има останки от археологически обект още в края на 80-те – началото на 90-те години на XX век от Георги Нехризов. Тогава е и регистриран от своя откривател като тракийско светилище в Археологическа карта на България.

Началото на активните геолого-проучвателски дейности и регистрацията на златното

Ada Tepe peak is situated in the Eastern Rhodopes (Fig. 1), on the left bank of the river Krumovitsa, one of the main tributaries of the river Arda. Modern Krumovgrad, municipality center and one of the largest towns in this part of the mountain, is located in immediate proximity to the northeast.

Georgi Nehrizov recognized Ada Tepe as an archaeological site already in the late 1980s and the early 1990s. Then, he registered it in the Archaeological Map of Bulgaria as a Thracian sanctuary.

The start of intensive geological surveys and the discovery of Han Krum gold deposit led to the organization of urgent archaeological investigations in the highest parts of the peak (Нехризов, Миков 2002; Нехризов 2003; Нехризов 2006a; cf. Nehr-

находище „Хан Крум“ водят до провеждането на интензивни, спасителни археологически проучвания в най-високите части на върха (Нехризов, Миков 2002; Нехризов 2003; Нехризов 2006; виж Нехризов, Цветкова в този том). В хода на първите кампании е открита двулицева стена, затваряща овално пространство с диаметър около 17 м. Проучена е както стената и прилежащото ѝ пространство, така и стратиграфски пластове и части от структури от по-ранни периоди, върху които тя е разположена или респективно е пресичала. Съобразно тогавашния обем от събрана през първите археологически кампании информация е изградена хипотезата, че на това място е съществувало светилище, което континюитетно е функционирало през продължителен период от време, обхващащ няколко периода от късната бронзова епоха до края на елинизма, включително (виж Нехризов, Цветкова в този том).

Информацията за първите разпознати останки от древен златодобив (Нехризов 2003; Jelev, Hasson 2002; Желев 2007 и тяхното предварително проучване (Попов, Илиев 2006; Popov, Jockenhövel, Tsintsov, Iliev 2011) води до широкомащабни спасителни археологически проучвания по всички площи на върха, предвидени за съвременен златодобив. В продължение на няколко години, в периода 2008-2015 г., в ръководството на теренните издирвания и на спасителните разкопки (съобразно последователността на кампаниите) участват: Христо Попов, Станислав Илиев, Албрехт Йокенхьофел, Пламен Георгиев, Кристиан Гроор, Красимир Ников, Руслан Стойчев, Марина Колева.

Въпреки ускорените темпове и спасителния характер на теренната работа, едно от големите предимства, които проектът Ада тепе дава на археологическото проучване, е възможността да се работи на много голяма площ и да се придобие широк поглед за разнообразни процеси, свързани с рудодобива и обитаването през различни исторически периоди. Събраната огромна информационна база данни, нейната обработка в рамките на няколко интердисциплинарни направления и работата по различни, основни за обекта, научни въпроси разкриват една много динамична картина на човешкото присъствие на върха

izov, Tsvetkova, this volume). In the course of the first campaigns, the remains of a circular wall with two faces were uncovered, enclosing an oval area, 17 m in diameter. The wall and its surroundings were excavated, as well as stratigraphic layers and parts of structures from earlier periods, overlaid, respectively disturbed, by the wall. In accordance with the collected evidence during the first seasons, a hypothesis was proposed that the sanctuary that existed here had functioned continuously for a long period, from several phases of the Late Bronze Age to the end of the Hellenistic Period included (cf. Nehrizov, Tsvetkova, this volume).

The information about the first recognized traces from ancient gold mining (Нехризов 2003; Zhelev, Hasson 2002; Желев 2007) and the preliminary investigations (Попов, Илиев 2006; Popov et al. 2011b) led to large-scale rescue excavations of all areas of the peak that were to be affected by the modern gold mining. For several years, from 2008 to 2015, many archaeologists took part in the direction of the field surveys and the rescue investigations (following the order of the campaigns): Hristo Popov, Stanislav Iliev, Albrecht Jockenhövel, Plamen Georgiev, Christian Groer, Krassimir Nikov, Ruslan Stojchev, and Marina Koleva.

Despite the tight schedule and the salvage nature of the field investigations, one of the major advantages that Ada Tepe Project provided for the archaeologists was to cover a very large area and to gain a comprehensive overview about the diverse processes related to the mining and the habitation of the place in various historical periods. The enormous database that was compiled and its processing in the framework of several interdisciplinary fields, as well as the analysis of several major scientific aspects of the site reveal a very dynamic picture of human occupation of the peak during several historical periods. Ada Tepe site could be defined more as large complex that comprised a gold mine, the settlements that were related to its exploitation, and sanctuaries, settlements and necropoleis from later periods. Various remains of human occupation that belong to several stages of the Late Bronze and the Early Iron ages, the Hellenistic Period, and the Late Antiquity have been unearthed on Ada Tepe (Popov et al. 2015; Ников, Попов 2016; Popov et al. 2017).

For the scientific problems that are the subject of the present volume, the period of the Late Bronze

Обр. 2. Селище в североизточната част на билото на Ада тепе. Първа половина на XV в. пр. Хр.
Fig. 2. Settlement in the northeastern part of the ridge of Ada Tepe. First half of 15th century BC

Обр. 3. Основи на жилище. Сектор I-7. Първа половина на XV в. пр. Хр.
Fig. 3. Foundations of a dwelling, Sector I-7. First half of the 15th century BC

през различни исторически периоди. Обектът Ада тепе може да бъде определен по-скоро като голям комплекс, обхващащ златодобивен рудник, свързани с неговата експлоатация селища, светилище, селища и некрополи от по-късни периоди. На Ада тепе се разкриват разнообразни останки от човешко присъствие, обхващащо няколко етапа от късната бронзова и ранната желязна епохи, елинистическата епоха и периода на късната античност (Popov et al. 2015; Ников, Попов 2016; Popov et al. 2017).

За научните проблеми, разглеждани в настоящия сборник, основен интерес представлява периодът на късната бронзова епоха. Въз основа на многобройната информация, с която разполагаме днес, може да се твърди, че първопричина за човешкото присъствие на върха е било златото.

Стратиграфските наблюдения и придобитите от различните участъци на върха серии от абсолютни радиокарбонни дати показват, че около средата на II хил. пр. Хр. богатото златно находище е било открито, след което на върха е започнал открит добив, който постепенно се е разпрострял на широка площ по всички склонове (виж Попов, Йокенхьофел в този том). Златодобивният рудник е бил основната притегателна точка, около която са се развивали редица необходими допълнителни дейности и сателитни структури през ранните етапи на късната бронзова епоха. Придобитата от дългогодишните теренни проучвания информация оставя впечатление, че рударите, открили златното находище, са дошли целенасочено на Ада тепе с вече налични технически познания. Това би могъл да е индикатор за причините, довели до бързото колонизиране на планината през късната бронзова епоха. В сравнение с предходните периоди видимо нарастват интензитетът и гъстотата на човешкото обитаване (виж Нехризов, Цветкова в този том). Една от възможните хипоези е, че търсенето и разработването на нови природни ресурси (и в частност на благородни и цветни метали) би могло да е сред основните причини, повлияли за развитието на тези процеси.

На Ада тепе за археологическото проучване се предостави благоприятна възможност в общ контекст да бъдат проучени както техноло-

Age is of utmost importance. Based on the large body of evidence at our disposal, it could be stated that gold was the main reason for the human presence on the peak.

Stratigraphic observations and a series of radiocarbon dates obtained from various sectors of the peak indicate that the rich gold deposit was discovered about the middle of the 2nd mill. BC, and open mining started at the peak, gradually expanding over a large area on all slopes (cf. Popov, Jockenhövel, this volume). The gold mine was the main focal point around which other necessary activities and satellite structures developed in the early stages of the Late Bronze Age. The information that was collected during several years of fieldwork creates the impression that te miners that discovered the gold deposit came to Ada Tepe of purpose, already in possession of all necessary technical knowledge. This could be an indicator regarding the reasons that led to the colonisation of the mountain in the Late Bronze Age. Compared to earlier periods, there is a visible increase of the intensity and the density of the human occupation (cf. Nehrizov, Tsvetkova this volume). One possible hypothesis is that the search for and the exploitation of new natural resourses (and of precious and nonferous metals in particular) could be one of the main reasons that influenced the development of these processes.

Ada Tepe provided the opportunity to investigate archaeologically in a broader context both the technological traces from the mining that was practiced here and the remains of the accompanying habitation. Although remains of several Late Bronze Age settlements in the Eastern Rhodopes have been investigated in the last decades (Дремсизова-Нелчинова 1984; Лещаков 1990; Попов 2009), Ada Tepe offered for the first time the occasion to excavate settlements situated on the top of a hill – a type that is typical of the period and the region. Thus, important information has been collected about the main specifics of this agglomeration (internal organization, manner of construction, social and professional structure of the local population, etc.). Two Late Bronze Age settlements located on the ridge of the peak were investigated. They were not contemporary but were created one after the other.

In the first quarter of the 15th century BC, a settlement emerged on the northeastern part of the ridge (Popov et al. 2017). At this place, the ridge is naturally wider and offers suitable and relatively

Обр. 4. Останки от селище в централните части на върха. XV-XII в. пр. Хр.
Fig. 4. Remains of the settlement in the central parts of the peak, 15th-12th century BC

гичните останки от осъществявания на това място рудодобив, така и следи от съпътстващо го обитаване. Макар и през последните няколко десетилетия на територията на Източните Родопи неколкократно да са били проучвани части от къснобронзови селища (Дремсизова-Нелчинова 1984; Лещаков 1990; Попов 2009), то в настоящия случай за първи път се предостави възможност в по-голям обем да бъдат проучени селища, разположени върху възвишение – тип, който е много характерен за епохата и за района. По такъв начин бе събрана важна информация за основни характеристики на тези агломерации (вътрешна организация, начин на застрояване, обществена и професионална струкура на обитаващата ги популация и пр.). Бяха открити и проучени две селища от къснобронзовата епоха, разположени в билните части на върха. Те не са синхронни, а са били изградени едно след друго.

През първата четвърт на XV в. пр. Хр. е възникнало селище в североизточната част на би-

level terrain. Parallel to the slope, shortly before it starts descending steeply to north-northeast, a massive retaining wall was built that additionally leveled and strengthened the terrain. Above the wall, the dwellings of the settlement were built in two parallel rows (Fig. 2). Most of them had elongated rectangular layout (Fig. 3) and relatively light construction – foundations of large split stones with wooden superstructure (posts with wattle of branches), probably plastered with clay.

The manner of building and the uniform internal organization create the impression that the settlement was built in short terms, following a comprehensive, premeditated plan. The analysis of the stratigraphy, the general specifics of the dwellings and the inventory from them allow for offering arguments in favour of the hypothesis that the settlement was not permanently inhabited throughout the year, but it was rather a seasonal camp that served the miners when they actively worked on the peak (Popov et al. 2017). These conclusions raise some extremely intriguing questions regard-

Обр. 5. Деструкция от постройки. Централна част на върха. Сектор G-11 XV-XIV в. пр. Хр.

Fig. 5. Debris from a light construction dwelling. Central parts of the peak, Sector G-11. 15Th-14th century BC

лото (Popov et al 2017). На това място то има естествено разширение и предлага удобен, сравнително равен терен. Успоредно на склона, малко преди той да започне да се спуска стръмно на север-североизток, е изградена солидна терасираща стена, която допълнително е укрепила и подравнила терена. Над нея, в две успоредни редици, са били изградени къщите на селището (Обр. 2). Повечето от тях са имали издължен правоъгълен план (Обр. 3). Конструкцията им е била сравнително лека – цокъл от средно големи, ломени камъни, над който е била изграждана дървена суперструкция (колове и преплетени пръти), вероятно измазвана с глина.

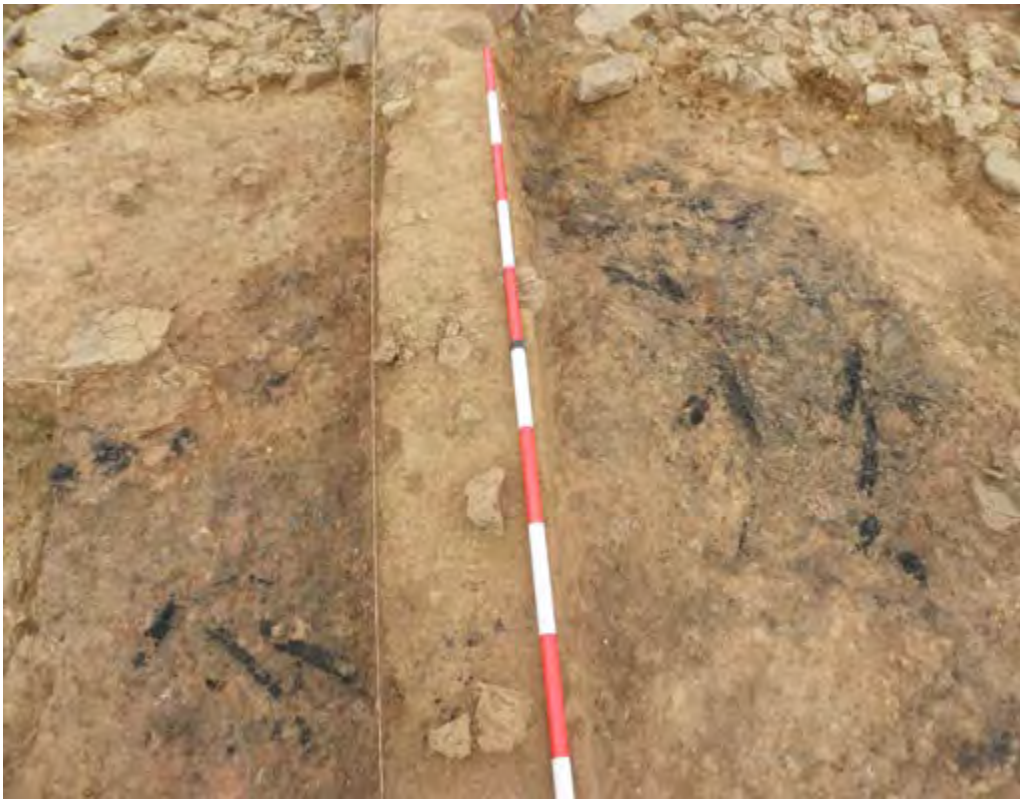
Начинът на застрояване и единната вътрешна организация създават впечатлението, че селището е било изградено в кратки срокове, по общ, предварителен план. Анализът на стратиграфията, общите характеристики на постройките, инвентарът, открит в тях, позволява да се изградят аргументи в полза на хипотезата, че това селище не е било обитавано постоянно през всички части на годината, а е било по-скоро сезонен лагер, ползван от рударите по време на активната им работа на върха (Popov et al 2017). Подобни изводи поставят изключително интересни въпроси, свързани със социалната и професионалната

ing the social and the professional organization of the community that extracted gold from Ada Tepe in the Late Bronze Age. The intensive mining in the warm part of the year by a compact group of people raises questions about how they were supplied with food, clothing, tools, etc. The need to create such an organization suggests a larger demographic and social base that supported the gold mining on Ada Tepe in the Late Bronze Age. One should count in not only the people that were directly involved in mining and metallurgy, but also those that indirectly aided them with their work.

Around the middle of the 15th century BC, the settlement in the northeastern part of the ridge was abandoned in an organized manner. The habitation moved some 200 m to the south and occupied the central part of the peak (Fig. 4), where several decades of mining had shaped a broad and level space. The reasons for this transformation were probably organizational. Mining had expanded on all slopes and the waste from the working places that were still functioning on the ridge gradually covered large portions of the first settlement.

After the middle of the 15th century, the habitation of the peak went through several stages. The internal organization and the density of the buildings changed repeatedly, however without major modifications in the specifics of the buildings. They were again of light construction – stone foundations and

Обр. 6. Основи на постройка с кръгъл план. Централна част на върха. Сектор G-11. XIV-XIII в. пр. Хр.
Fig. 6. Foundations of a round dwelling. Central parts of the peak, Sector G-11. 14Th-13th century BC



Обр. 7. Останки от дървената конструкция на покрив на постройка с кръгъл план. Централна част на върха. Сектор G-11

Fig. 7. Remains from the wooden construction of the roof of a round dwelling. Central parts of the peak, Sector G-11

Обр. 8. Основи на правоъгълно помещение, разположено от вътрешната страна на изградената през XIII в. крепостна стена. Последен етап на късната бронзова епоха

Fig. 8. Foundations of a round dwelling to the inside of the fortress wall built in the 13th c. BC. Last stage of the Late Bronze Age

организация на общността, добивала злато на Ада тепе през късната бронзова епоха. Активното занимаване с рудодобив през топлите сезони на годината на една компактна група от хора поставя отворени въпроси за нейното снабдяване с храна, дрехи, инструменти и пр. Необходимостта от създаването на такава организация предполага наличието на една по-широка демографска и социална база, върху която е стъпвал златодобивът на Ада тепе през късната бронзова епоха. Трябва да бъдат отчитани не само пряко участващите в рударството и металургията хора, но и тези, чийто труд е бил косвено привлечен.

Около средата на XV в. пр. Хр. селището в североизточния участък на билото било организирано напуснато. Обитаването се преместило на около 200 м на юг и се разположило в централните части на върха (Обр. 4), където след няколко десетилетия активен рудодобив се оформила широка, овална площадка. Вероятно причините за тази промяна имали организационен характер. Рудодобивът се разраснал по всички склонове, а отпадъкът от работните площадки, които продължавали да функционират на билото, постепенно затрупал големи части от първото селище.

След средата на XV в. пр. Хр. обитаването на върха преминало през различни етапи Вътрешната организация и гъстота на застрояwooden superstructure, plastered with clay. Nonetheless, a greater diversity of layouts could be observed in the different periods – in addition to the already known elongated rectangular structures (Figs. 5, 8), there were also dwellings of oval or round plan (Figs. 6-7), similar to those investigated at Koprivlen (cf. Alexandrov 2002; Alexandrov, this volume).

Apparently, in the later stages of the Late Bronze Age the people who inhabited the peak went through harder times, as in the 13th century BC the central part of the ridge was fortified with a stone wall. Structures arranged in a row were built against its inner face (Figs. 4, 8).

The everyday life of the people mining the gold and inhabiting the satellite settlements was devoid of luxury. The inventory that was discovered in the settlements and in the area of the working spaces reveals modest conditions. The pottery is of local character and illustrates the entire repertoire that is typical for these parts of the Balkans in the Late Bronze Age (Popov et al. 2011a-b; Popov et al. 2015, Abb. 17; Nikov 2017, 63-67, Abb. 1-4; Horejs 2017; Figs. 10-11; Cat. №№ 316-320; Fig. 10-11). Among everyday items, there are ceramic weights, spindle whorls, small bronze tools (knives, awls; Cat. №№ 321-323; 324, 341-342). Stone tools were widely used – adzes (Fig. 12), flint blades, whetstones for whetting metal instruments, grinding stones, quartz pestles (the latter actively used for grinding

Обр. 9. Амфоровиден съд и хромел, открити in situ до основите на едно от жилищата, проучени в централните части на върха. Сектор G-11

Fig. 9. Amphoroid vessel and quern, found in situ near the foundations of a dwelling investigated in the central parts of the peak. Sector G-11

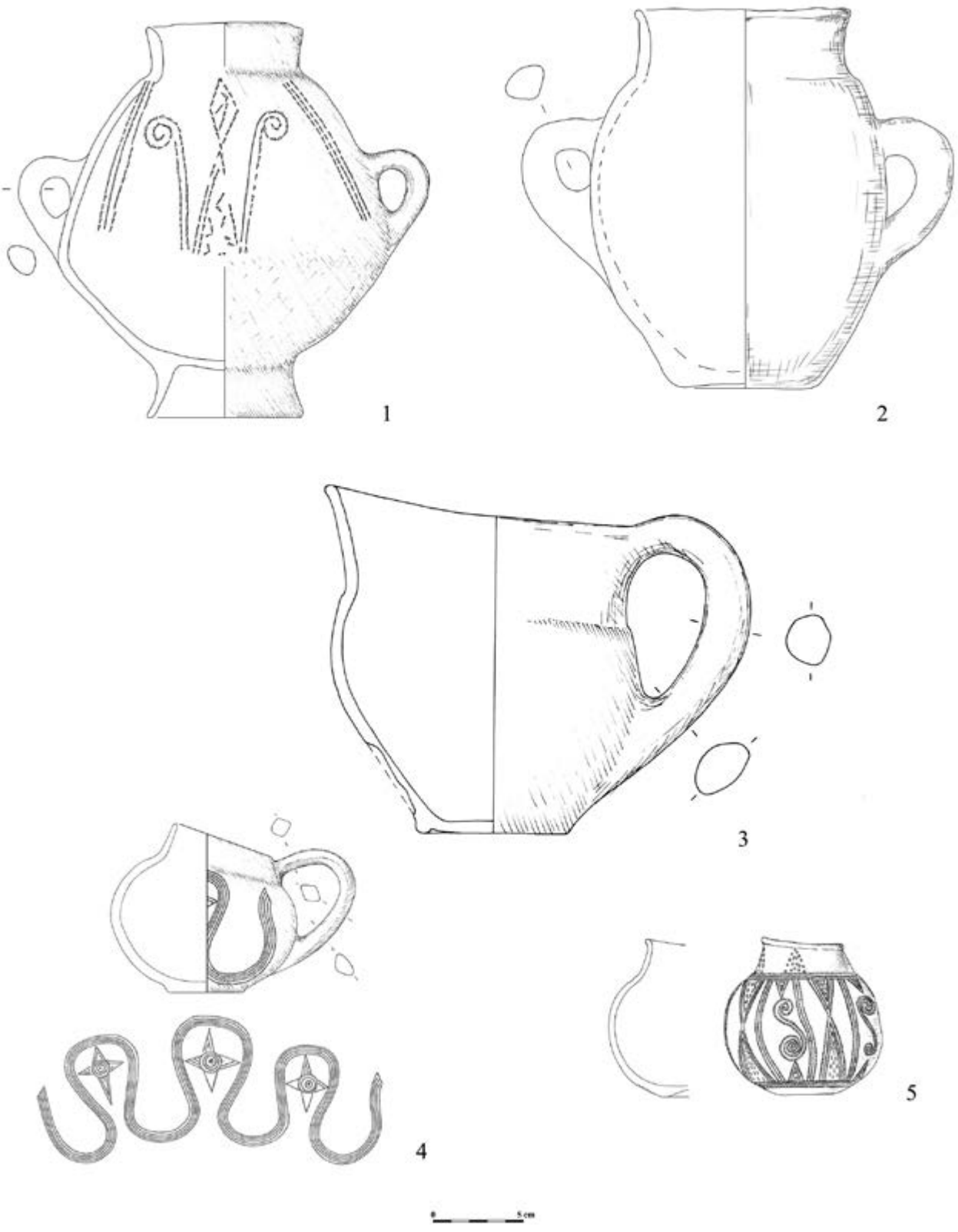
ване се променяли неколкократно. Като цяло характеристиките на изгражданите постройки не се изменили съществено. Те отново са били със сравнително лека конструкция от каменен цокъл в основата и дървена суперструкция, измазана с глина. Все пак през различните периоди на върха при сградите се среща едно по-голямо разнообразие от форми, като са представени както обичайните постройки с леко издължен, правоъгълен план (Обр. 5, 8), така и такива с овален и кръгъл план (Обр. 6, 7), подобни на тези, проучени при Копривлен (срв. Alexandrov 2002; виж Александров в този том).

Очевидно през по-късните етапи на късната бронзова епоха хората, обитавали върха, са преживявали и по-трудни периоди, тъй като през XIII в. пр. Хр. централната част на билото била укрепена с каменна стена. От вътрешната ѝ страна били изградени линейно разположени постройки (Обр. 4, 8).

В ежедневието на хората, ангажирани със зла-

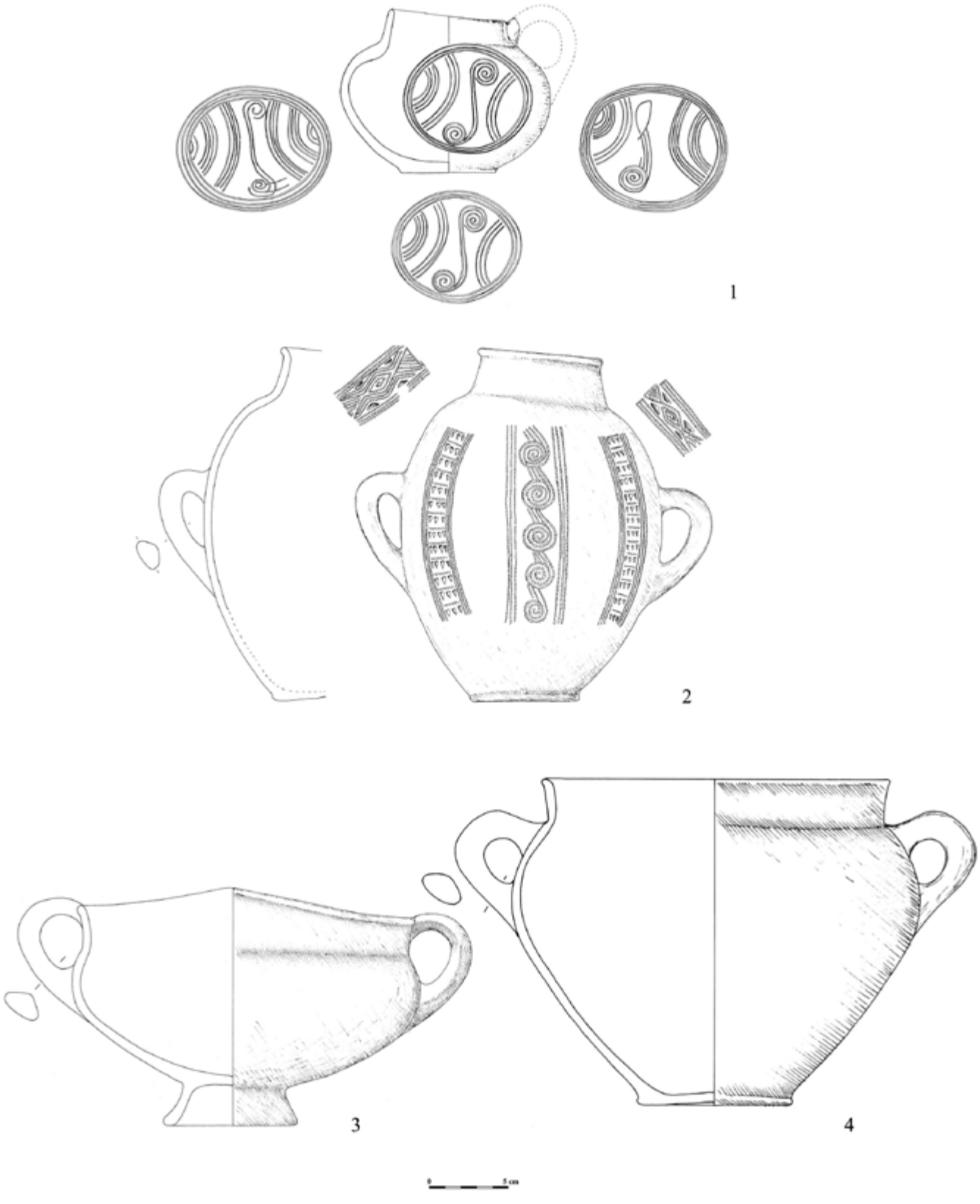
the extracted ore; Cat. №№ 329-340), etc. Numerous fragments from moulds that were discovered in the second settlement (Cat. №№ 327-328) attest the functioning of metal casting workshops. Part of their production was meant to satisfy the daily needs of the population with axes, sickles, awls, etc. An intriguing question is to what extent the metalworking workshops were directly related to the functioning of the main site on the peak – the gold mine. Intact and fragmentary moulds for casting metal ingots (Fig. 13) suggest that the hypothesis about a narrower specialization of some of the metalworkers is not ungrounded.

The human occupation of Ada Tepe peak continued in the early phases of the Early Iron Age (late 12th/11th-9th century BC). However, the area that yielded traces from this period is significantly smaller, compared to the one with materials from the Late Bronze Age. The stratigraphic analysis, the morpho-typological specifics of the materials, the relative chronological analysis, and the series of numerous radiocarbon samples indicate a long



Обр. 10. Керамични съдове. Късна бронзова епоха. 1, 2, 4 – съдове от жилище 5, сектор I-7, първа половина на XV в. пр. Хр.; 3, 5 – съдове, открити в археологически структури, свързани с рудодобив и рудопреработка, сектори J-9, G-11, XV в. пр. Хр.

Fig. 10. Ceramic vases, Late Bronze Age. 1, 2, 4 – vases from Dwelling 5, Sector I-7, first half of the 15th c. BC; 3, 5 – vessels from archaeological structures related to extraction and processing of ore, Sectors J-9 and G-11. 15th century BC



Обр. 11. Керамични съдове. Късна бронзова епоха. Съдове, открити в селището в централните части на върха (2, 3, 4) или в единични постройки, разположени близо до работните площадки (1). XIV-XIII в. пр. Хр.

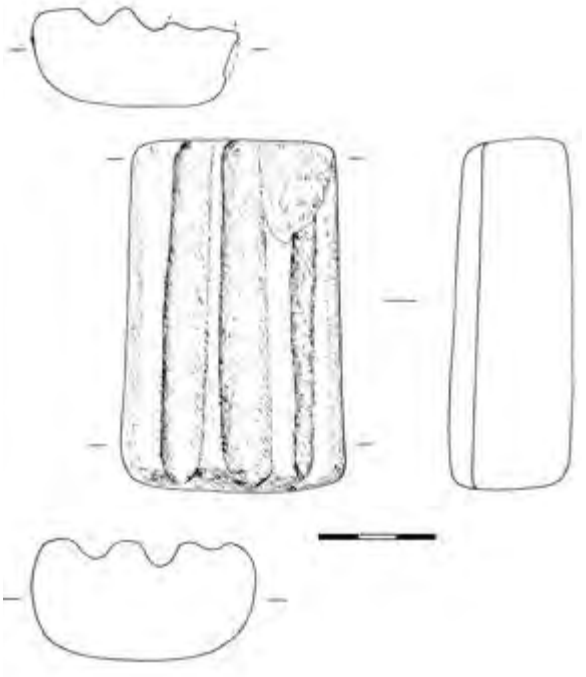
Fig. 11. Ceramic vases, Late Bronze Age. Vases discovered in the settlement in the central parts of the peak (2, 3, 4) and in isolated structures near the working places (1). 14th-13th century BC

тодобив на върха и обитаващи сателитните селища нямало лукс. Откриванията в селищата и в района на работните площадки инвентар разкрива скромен живот. Керамиката има локални черти и обхваща пълния спектър на репертоара, характерен за тези части на Балканите през късната бронзова епоха (Popov et al. 2011a-b; Popov et al. 2015, Abb. 17; Nikov 2017, 63-67, Abb. 1-4; Horejs 2017; Figs. 10-11; Cat. №№ 316-320; Обр. 10-11). Към обичайните предмети, ползвани в ежедневието, спадат глинени тежести, прешлени за вретено, малки бронзови инструменти (ножчета, шила; Cat. №№ 321-323; 341-342). Широко ползвани били каменните сечива – тесли (Обр. 12), кремъчни пластини, брусове за заточване на метални инструменти, хромели, кварцови чукалки (последните ползвани активно при обработка на добитата руда; Cat. №№ 329-340) и пр. Многобройните фрагменти от калъпи, открити на територията на второто селище (Cat. №№ 327-328), свидетелстват и за работата на леярски работилници. Част от техния репертоар е обслужвал ежедневните нужди на населението (брадви, сърпове, шила и др.). Интересен е въпросът доколко металургичните ателиета са били обвързани пряко и с работата на основния обект на върха – златния рудник. Откритите цели или фрагментирани калъпи, предназначени за отливане на метални слитъци (Обр. 13), свидетелстват, че хипотезата за по-тясна специализация на част от металурзите, работещи на върха не е неоснователна.

Човешкото присъствие на върха на Ада тепе продължава и през ранните фази на ранната желязна епоха (кр. XII/XI-IX в. пр. Хр.). Но площта, на която се откриват следи от този период, е значително по-малка от тази, на която се откриват материали от късната бронзова епоха. Стратиграфският анализ, формално-типологичните характеристики на откриваните материали, относителният хронологически анализ и сериите от многобройни радиокарбонни проби, показват значително прекъсване до IV/III в. пр. Хр., когато на върха е била изградена кръглата структура, свързана с функционирането на елинистическото светилище на върха (Обр. 15). Въпреки различните хипотези и интерпретации по отношение на функцията, дълготрайността и континюитета на култовите структури, съществували на върха (виж Нех-

Обр. 12. Каменна тесла. Късна бронзова епоха. РИМ Кърджали

Fig. 12. Stone adze. Late Bronze Age. RMH Kardzhali



Обр. 13. Калъп за отливане на метални слитъци. Късна бронзова епоха. РИМ Кърджали

Fig. 13. Mould for casting metal ingots. Late Bronze Age. RMH Kardzhali

Обр. 14. Глинен съд, открит в деструкциите на едно от жилищата. Късна бронзова епоха
Fig. 14. Ceramic vase, discovered in the ruins of one of the dwellings. Late Bronze Age

ризов, Цветкова в този том), придобитата, значителна по обем, теренна информация свидетелства, че рудодобив на върха е имало в един ограничен период, който се свързва с ранните етапи на човешкото присъствие на това място. Хронологическите характеристики на откриваните в отвалите и на работните площадки материали, както и закономерностите в тяхното разпределение свидетелстват категорично, че златодобив на Ада тепе е имало само през късната бронзова епоха, но не и през по-късните периоди, констатирани тук.

Защо златодобивът е бил спрян още през втората половина на II хил. пр. Хр. и това богато златно находище е било забравено за дълъг период от време (до XX в. включително) е интересен и важен въпрос, чиито възможни отговори се търсят тепърва.

Друг, безспорно приоритетен, въпрос е този за дистрибуцията на добитото злато. Той е в основата на проект, подкрепен от австрийския научен фонд, и по него партньори са редица български, австрийски и немски научни ин-

hiatus until 4th-3rd century BC, when the round structure of the Hellenistic sanctuary was built on the peak (Fig. 15). Despite the existence of various hypotheses and interpretations regarding the function, the longevity, and the continuity of the cult structures that existed on Ada Tepe (cf. Nehrizov, Tsvetkova, this volume), the large amount of information obtained from the terrain indicates that mining activities on the peak were carried out during a limited period that is related to the early stages of human occupation here. The chronological specifics of the materials discovered in the dumps and around the working spaces, as well as the pattern of their distribution unequivocally indicate that gold was mined at Ada Tepe only in the Late Bronze Age and there was no mining in the later periods also attested here.

Why gold mining was discontinued already in the second half of the 2nd mill. BC and this rich deposit was forgotten for a long time (up to the 20th century included) is an intriguing and important question that is yet to be given plausibe answers.

Another, undoubtedly more pressing question

Обр. 15. Основа на кръглата структура, свързана със светилището, функционирало на върха през елинистическата епоха. Проучвания Г. Нехризов. 2001-2002 г.

Fig. 16. Foundations of the round structure, related to the sanctuary from the Hellenistic Period on the peak. Investigations of G. Nehrizov, 2001-2002

ституции (*Ada Tepe. The Bronze Age gold road of the Balkans. Ada Tepe – Producers and Consumers* / FWF № P 28451). Възможни отговори се крият в макар и малкото импортни предмети, открити на Ада тепе, като мраморния накрайник за бронзова рапира или единични фрагменти керамика, произведена на грънчарско колело (виж Нехризов, Цветкова в този том; Юнг в този том; Хореш, Юнг в този том; Jung et al 2017). Работата в тази посока продължава. Натрупаното огромно количество информация в хода на дългогодишната работа по проекта Ада тепе предлага рядък шанс един древен златен рудник да бъде проучен в общ контекст с прилежащите му сателитни структури. Със сигурност Ада тепе не е бил единственият рудник на територията на Родопите през късната бронзова епоха. Но той ни предлага възможността за проучване на обществен и професионален модел на население, което през тази ранна епоха е било специализирано в областта на рудодобива и металургията.

concerns the distribution of the extracted gold. It prompted a project that is supported by the Austrian Science Fund, with the participation of numerous partnering institutions from Bulgarian, Austrian, and German side (*Ada Tepe. The Bronze Age gold road of the Balkans. Ada Tepe – Producers and Consumers* / FWF № P 28451). Possible answers are provided by the few imported items discovered on Ada Tepe, such as a marble pommel from a bronze rapier and isolated fragments of wheel-made pottery (see Nehrizov, Tsvetkova in this volume; Jung in this volume, Horejs, Jung in this volume, Jung et al. 2017). Our work in this respect continues. The huge amount of data that has been accumulated during the long years of work on Ada Tepe Project provides the rare opportunity to investigate an ancient gold mine in the broader context of its satellite structures. Certainly, Ada Tepe was not the only mine in the Rhodopes during the Late Bronze Age. However, it offers the chance to study the social and professional organization of a population that specialized in mining and metallurgy at such an early date.

Местоположение или място на откриване на обектите и находките, разгледани в този раздел на сборника

Locations and findspots of the sites and finds discussed in this part of the volume

КАТАЛОГ

CATALOGUE

Колективна находка от Свищовско. ИМ Свищов
Hoard from the area of Svishtov. MH Svishtov

Cat. № 1
Necklace made of 14 beads

Silver
Bi-conical beads: 0,75 x 0,60/0,65 cm; oval beads: 0,55/0,80 x 0,60 cm; cylindrical bead – 0,7 x 0,45 cm;
W – 15,65 g
Village of Mednikarovo, tumulus 4, grave 1, Stara Zagora region
Early Bronze Age (Last third of 4th millennium BC)
Made of 13 bi-conical or oval cast beads and 1 cylindrical bead made of twisted foil.
MA „Maritsa-Iztok" Radnevo, Inv. № 431
Панайотов, Александров 1995, 90-95, Обр. 13-14
SA

Tumular Grave in „Gabrova tumulus" near village of Kamen, Sliven region

Early Bronze Age (Last quarter of the 4th millennium BC)
RMH Sliven
Димитрова 2014, 69-71, Обр. 3/2, 4/3, 5, 6
DD

Cat. № 2
Flat axe

Arsenic bronze
L – 10,2 cm; W (blade) – 4,1 cm; W – 232,35 g
Near skeleton № 1
Casted, elongated trapezoidal form widen to the curved blade edge; rectangular cross-section with short flanges.
Inv. № 4043 A

Cat. № 3
Flat axe

Arsenic bronze
L – 13,1 cm; W (blade) – 6,8 cm; W – 294,40 g
Near skeleton № 3
Casted, elongated trapezoidal form widen to the curved blade edge, rectangular cross-section.
Inv. № 4044 A

Cat. № 4
Tanged flat dagger

Arsenic bronze
L – 12,9 cm; W (max) – 2,9 cm; W – 30,10 g
Near skeleton № 3
Casted and hammered, elongated triangular form, triangular tang. The cutting edge is broken.
Inv. № 4045 A

Cat. № 5
Tanged flat dagger

Arsenic bronze
L – 14,2 cm; W (max) – 3,4 cm; W – 57,05 g
Near skeleton № 2
Casted and hammered, elongated triangular form, trapezoidal tang.
Inv. № 4046 A

Cat. № 6
Askos

Pottery
H – 16,6 cm; D (rim) – 6,5 x 8,9 cm
Near skeleton № 2
Hand-made; egg-shaped body with high cylindrical neck with oblique rim, flat oval bottom. Flat handle connecting rim to the body. Well refined clay, black, shining surface. Incised decoration on the body.
Inv. № 4049 A

Cat. № 7
Pedestal bowl

Pottery
H – 6,8 cm; D (rim) – 9,3 cm
Near skeleton № 4
Hand-made; cone-like body with high pedestal foot. Roughly refined clay, dark grey colour. The both surfaces is decorated with lines painted with red ochre.
Inv. № 4050 A

Cat. № 8
Jar

Pottery
H – 27 cm; D (rim) – 21,8 cm
Near skeleton № 4
Hand-made, round body with short neck. Well refined clay, black, shining surface. Incised decoration at the maximum diameter of the body.
Inv. № 4051 A

Cat. № 9
Askos

Pottery
H – 27 cm; D (rim) – 21,8 cm
Beneath the children skulls
Hand-made; egg-shaped body with high short neck with oblique rim, flat oval bottom. Flat handle connecting rim to the body. Well refined clay, black, burnished surface.
Inv. № 4052 A

Cat. № 10
Askos

Pottery
H – 14,4 cm; D (rim) – 9,2 x 12,4 cm
Near skeleton № 3
Hand-made; egg-shaped body with high cylindrical neck with oblique rim, flat oval bottom. Flat handle connecting rim to the body. Well refined clay, black, shining surface. Incised decoration on the body, cuts at the handle.
Inv. № 4053 A

Cat. № 11
Hair-ring

Silver
D – 1,4 cm; W – 2,75 g
Near the skull of skeleton № 3
Made of 0,3 cm thick oval wire, spirally twisted into 1,5 turns.
Inv. № 4040 A

Cat. № 12
Hair-ring

Silver
D – 1,7 cm; W – 5,20 g
Near the skull of skeleton № 3
Made of 0,3 cm thick oval wire, spirally twisted into 1,5 turns.
Inv. № 4041 A

Cat. № 13
Adze

Stone
L – 6,6 cm; W (max) – 1,6 cm; W – 72,85 g
South-western part of the grave-pit, on the floor
Trapezoidal form with sharpen blade.
Inv. № 4047 A

Cat. № 14
Necklace

Found in pieces near the skeletons
Made of 4 boar-tusks and 4 boar-teeth. Reconstructed.
Inv. № 4054 A

Tumular Grave near village of Drazevo, Yambol region
The inventory consists of pottery, silver and bronze objects.

Early Bronze Age (End of the 4th – beginning of the 3rd millennium BC)
RMH Yambol
Илиев, Бакърджиев 2008
TV

Cat. № 15
Bowl

Pottery
H – 5 cm; D (rim) – 15 cm
Hand-made, cone-shaped with wide, thickened to the inside rim. Well refined clay with quartz ingredients. Dark brown – black colour. Encrusted corded decoration at both in- and outside surfaces. The inner surface is painted with red ochre.
Inv. № I 4078

Cat. № 16
Bowl

Pottery
H – 6 cm; D (rim) – 12,5 cm
Hand-made, semi-spherical shape with inverted and obliquely cut rim. Well refined clay with quartz and organic ingredients, grey-black colour, burnished surface.
Inv. № I 4079

Cat. № 17
Bowl

Pottery
H – 10,5 cm; D (rim) – 21,2 cm
Hand-made, semi-spherical shape with obliquely cut to the inside rim; horizontal epophysis at the maximum diameter. Well refined clay with quartz ingredients, grey-black color. Oblique cuts on the rim.
Inv. № I 4080

Cat. № 18
Amphora

Pottery
H – 20,7 cm; D (rim) – 14,2 cm
Hand-made, rounded body with high cylindrical neck and everted rim.Well refined clay with quartz ingredients, grey-black colour. Oblique cuts on the rim.
Inv. № I 4081

Cat. № 19
Earring

Silver
D – 1,3 cm; T – 0,45 cm; W – 2,70 g
Crescent shaped. Thick lower part with oval cross-section, the upper part is form of two thin bars with pointed ends.
Inv. № I 4084/a

Cat. № 20-24
5 Earrings

Silver
D – 1,24 cm; 1 cm; 0,95 cm; 0,8 cm; 0,75 cm; W (total) – 1,30 g
Open round form; made of 1,5 mm round wire, thinned at the ends.
Inv. № I 4084/b-g

Cat. № 25
Tanged flat dagger

Arsenic bronze
L – 10 cm; W – 2,4 cm; W – 12,10 g
Casted and hammered; elongated leaf-like form, triangular tang wit traces of the wooden handle.
Inv. № I 4088

Tumular Grave near Madara, Shumen region

Early Bronze Age
Madara, Tumulus 1, Grave № 3
NAIM-BAS
Миков 1934, 429-434; Александров 2017, 194, Fig. I/4-6; VI/4-6
SA, KC

Cat. № 26
Hair-ring

Silver
D – 0,85 cm, W – 0,50 g
Made of 0,25 cm thick round wire, spirally twisted into 3 turns; thickened ends.
Inv. № 2979/a

Cat. № 27
Hair-ring

Silver
D – 0,9 cm, W – 0,85 g
Made of 0,2 cm thick oval wire, spirally twisted into 1,5 turns; flattened ends.
Inv. № 2979/б

Cat. № 28
Hair-ring

Silver
D – 0,9 cm, W – 0,50 g
Made of 0,2 cm thick oval wire, spirally twisted into 1,5 turns; flattened ends.
Inv. № 2979/в

Tumular Grave in „Chernyova tumulus“ near village of Troyanovo, Radnevo region

Early Bronze Age (Second quarter of the 3rd millennium BC)
Cherniova tumulus, Grave № 6
MA „Maritsa-Iztok“ Radnevo
Александров 2015, 35, Фиг. 8, 9, 14
SA

Cat. № 29
Necklace made of 83 beads

Silver
Bi-conical beads – 0,75 x 0,60/0,65 cm; oval beads – 0,55/0,80 x 0,60 cm; cylindrical bead – 0,7 x 0,45 cm; W – 110 g
Made of 83 bi-conical or oval casted beads.
Inv. № 710

Cat. № 30
Hair-ring

Silver
D – 1,7 cm; W – 12 g
Made of 0,60 cm thick round wire, spirally twisted into 1,75 turns; flattened ends.
Inv. № 713

Cat. № 31
Hair-ring

Silver
D – 1,7 cm; W – 12 g
Made of 0,55 cm thick round wire, spirally twisted into 1,75 turns; flattened ends.
Inv. № 714

Cat. № 32
Hair-ring

Gold
D – 1,2 cm; W – 13,79 g
Made of 0,41 cm thick round wire, spirally twisted into 2 turns; flattened ends.
Inv. № 711

Cat. № 33
Hair-ring

Gold
D – 1,45 cm; W – 12,9 g
Made of 0,44 cm thick round wire, spirally twisted into 2 turns; flattened ends.
Inv. № 712

Tumular Graves in „Kamenna tumulus" near village of Troyanovo, Radnevo region. Graves №1 and 2.

The silver hair-rings are found near the scull of the buried person in grave № 1, and the gold ones – in grave № 2.
Early Bronze Age
RMH Stara Zagora
Буюклиев 1964
SA

Cat. № 34
Hair-ring

Gold
D – 1,0 cm; W – 2,45 g
Made of 0,2 cm thick round wire, spirally twisted into 1,5 turns; flattened ends.
Inv. № 2 Сз 1103

Cat. № 36
Hair-ring

Silver
D – 1,1 cm; W – 1,50 g
Made of 0,25 cm thick round wire, spirally twisted into 1,5 turns; flattened ends.
Inv. № 2 Сз 1104

Cat. № 35
Hair-ring

Gold
D – 1,2 cm; W – 2,75 g
Made of 0,2 cm thick round wire, spirally twisted into 1,5 turns.
Inv. № 2 Сз 110

Cat. № 37
Hair-ring

Silver
D – 1,4 cm; W – 2,95 g
Made of 0,3 cm thick round wire, spirally twisted into 1,5 turns.
Inv. № 2 Сз 1104

Tumular Grave in „Tonchova tumulus" near village of Venets, Karnobat region

Early Bronze Age
Tonchova tumulus, Grave № 3
MH Karnobat
Unpublished
SA

Cat. № 38
Hair-ring

Gold
D – 0,9 cm; W – 1,50 g
Made of 0,2 cm thick oval wire, spirally twisted into 1,5 turns; flattened ends.
Inv. № 745 В

Cat. № 39
Hair-ring

Gold
D – 1,1 cm; W – 1,65 g
Made of 0,15 cm thick round wire, spirally twisted into 3 turns; thickened ends.
Inv. № 745 Б

Cat. № 40
Ear-ring

Gold
H – 1,1 cm; W – 3,35 g
Casted and hammered; heart-like shape, thick lower part with rhomboidal cross-section, the upper part is form of two thin bars with pointed ends.
Inv. № 745 А

Tumular grave near village of Tarnava, Vratsa region

Early Bronze Age
RMH Vratsa
SA

Cat. № 41
Hair-ring

Gold
D – 1,3 cm; W – 3,55 g
Tumulus 3, grave 1
Made of 0,2 cm thick round wire, spirally twisted into 1,5 turns. Both ends are flattened.
Inv. № Б416
Николов 1976а, 45-46, Обр. 12:б

Cat. № 42
Hair-ring

Gold
D –1 cm; W – 3,05 g
Tumulus 3, grave 1
Made of 0,2 cm thick round wire, spirally twisted into 1,5 turns. Both ends are flattened.
Inv. № Б417
Николов 1976а, 45-46, Обр. 12:а

Finds from the Goran-Slatina tumular necropolis:

The necropolis is excavated in the early 1980s, by a team lead by Assoc. Prof. Georgi Kitov.
A total of 34 graves were discovered in eight of the tumuli belonging to the necropolis, all inhumations dated to the different phases of the Early Bronze Age. Diverse grave inventory: silver and gold hair ornaments, pottery vessels, stone axes, a bronze chisel, flint arrowheads.
Early Bronze Age
RMH Lovech
Китов и др. 1991; Александров 2009b
MV

Cat. № 43
Hair-ring

Gold
Goran, tumulus 3, grave 3
D – 0,77 cm; W – 0,7 g
Round pendant – hair ornament, made from wire with round section, coiled in one and a half turns, ends do not meet. One terminal is cut, the other – somewhat thinned.
Inv. № 1226

Cat. № 44
Hair-ring

Gold
Goran, tumulus 2, grave 4
D – 0,97 cm; W –2,1 g
Round pendant – hair ornament, made from wire with round section, coiled in one and a half turns, ends do not meet. Both ends are flattened.
Inv. № 1227

Cat. № 45
Hair-ring

Silver
Goran, tumulus 3, grave 8
L – 1,4 cm; W – 3,51 g
Round pendant, made from wire with round section, coiled in two and a half turns. Tapered to a point ends.
Inv. № 1511

Cat. № 46
Bead

Gold
Goran, tumulus 3, grave 1
L – 1,26 cm; D – 0,7 cm; W – 0,45 g
Flattened tubular shape.
Inv. № 1508

Cat. № 47
Bead

Gold
Goran, tumulus 3, grave 1
L – 1,3 cm; D – 0,6 cm; W – 0,42 g
Flattened tubular shape.
Inv. № 1510

Early Bronze Age grave from Lovech

Destroyed grave, discovered in 1971 at the center of the town. Burial of a man, in a pit covered by river stones. The body was in contracted position. At his feet a dog was placed. The grave inventory consists of three pottery vessels (a cup of Yunatsite Type, a deep bowl and a pot with two handles), a bronze dagger with gold rivet for attaching the grip, and a gold spiral hair ornament.
Early Bronze Age 3
RMH Lovech
Китов, Павлов 1973; Alexandrov 1998; Александров 2009b
MV

Cat. № 48
Pot

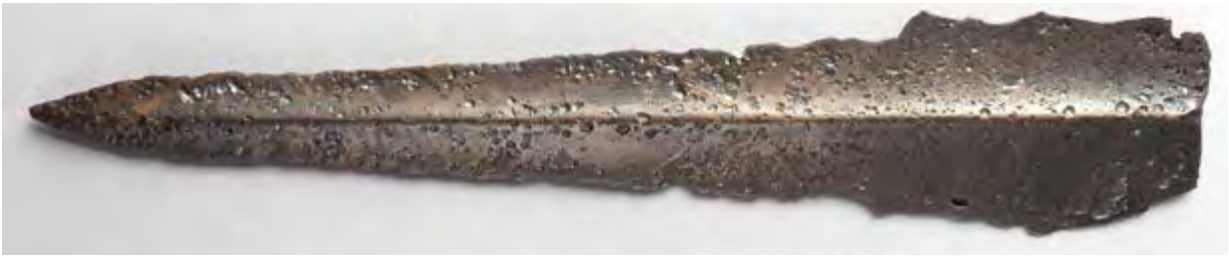
Pottery
H – 15,5 cm; D (rim) – 11,6 cm
Funnel neck; two small handles on the body.
Inv. № 850

Cat. № 49
Bowl

Pottery
H – 8,8 cm; D (rim) – 23 cm
Inverted rim; horizontally perforated lug handles.
Inv. № 849

Cat. № 50
Yunatsite type cup

Pottery
H – 6,6 cm; D (rim) – 6,1 cm
Pointed bottom, one handle of Yunatsite Type.
Inv. № 851



Cat. № 51
Dagger

Bronze
L – 18,5 cm; W (max) – 3,7 cm
Triangular blade with rhomboid section. Two preserved rivet holes at the base of the tang for attaching the grip.
Inv. № 848

Cat. № 52
Rivet

Gold
L – 1,7 cm; D – 0,19 cm; W – 0.99 g
Rivet for attaching the grip to the hilt.
Inv. № 847

Cat. № 53
Hair-ring

Gold
D – 1,62 cm; W – 5,45 g
Round pendant, made of a wire with round section. The wire is first coiled in 1,5 – 1,75 turns, then folded at 180° to trace back the interior contour of the first coil.
Inv. № 846

Ritual structures in Early Bronze Age site near village of Dabene, Karlovo region

Early Bronze Age 3 (2nd half of 3rd millennium BC)
NMH Sofia
Hristov 2015; Hristov 2016
MH

Cat. № 54
Yunatsite type cup

Pottery
H – 8,5 cm
Ritual structure № 5
A vessel with elongated neck, oblique mouth rim, formed like beak, bi-conical lower part and pointed bottom, one vertical, band-like handle. The decoration is on the body, the handle and the bottom and consists of incised and filled with white paste ornaments.
Inv. № 51548

Cat. № 55
Yunatsite type cup

Pottery
H – 11 cm
Ritual structure № 5
A vessel with conical upper part, bi-conical lower part and pointed bottom, a handle with a knot on the top. The decoration is on the body and consists of incised ornaments and dots.
Inv. № 51547

Cat. № 56
Bowl

Pottery
H – 12,5 cm
Ritual structure № 5
A vessel with bi-conical body, funnel-like mouth and two symmetrically placed vertical handles, which end with a knob. The body and handles are decorated with incised chess-board ornament, filled with white paste.
Inv. № 51549
Unpublished

Cat. № 57
Bowl

Pottery
H – 15,5 cm; D (rim) – 40 cm
Ritual structure № 3
A vessel with conical body and two symmetrically placed vertical handles. Both surfaces of the vessel are decorated with incised ornaments.
Inv. № 51540
Unpublished

Cat. № 58
Box with a lid

Silver
Box: L – 5,2 cm; H – 4,8 cm, W – 30,6 g
Lid: L – 4,9 cm; H – 1,5 cm, W – 6,9 g
Ritual structure № 5
The box is rectangular in form, with a concave bottom. The lid is concave and similar in form.
Inv. № 55803

Cat. № 59
Knife

Bronze, gold
Blade: L – 9,1 cm; W – 1,5 cm; W – 3 g; Plate: D – 1,2 cm; W – 0,4 cm ; W – 0,5 g
Ritual structure № 5
The blade is made of bronze, with elongated leaf-like form. The golden plates are ring-shaped; one is decorated with channels and the other with incised decoration.
Inv. № 55806

Cat. № 60
Dagger

Gold
L – 15,9 cm; W (max) – 3,4 cm; W – 42,86 g
Ritual structure № 5
The blade is trapezoidal in form and truncated point. The tang is also trapezoidal, with two rivet-holes.
Inv. № 51546

Cat. № 61
Dagger

Bronze
L – 18,6 cm; W (max) – 3,3 cm
Ritual structure № 12
The blade is triangular in form with a longitudinal midrib. Three parallel lines are incised on both sides of the midrib. The back side of the blade is with rivet-holes.
Inv. № 57428
Unpublished

Cat. № 62
Necklace

Gold
L – 25 cm; W – 66,9 g
Ritual structure № 5
The necklace consists of different types and sizes separators. Among them are strained different types of beads.
Inv. № 62481
Unpublished

Cat. № 63
Necklace

Gold
D – 20 cm; W – 77,52 g
Ritual structure № 3
The necklace consists of 12 rectangular in form separators; on every side of them round gold pearls are strained.
Inv. № 50104

Cat. № 64
Necklace

Gold
L – 45,5 cm; W – 68,8 g
Ritual structure №3
The necklace consists of round flat beads with diameter of 1,5 and 1,8 mm, placed between rectangular in form separators with 3, 6 and 14 holes.
Inv. № 50103

Rupite hoard

Consists of two gold necklaces, 9 round and 1 oval silver plates, 2 silver rings, 2 silver bracelets, 3 electrum rivets, 3 electrum appliques from the dagger grip, bronze hair-pins and tools, rings and a bracelet, slug fragments. Probably the treasure is a grave inventory of a craftsman-jeweller.
Early Bronze Age 3
NMH Sofia
Катинчаров, Аврамова 1994; Leshtakov 2011
MH

Cat. № 65
Dagger

Bronze
L – 18,3 cm
The blade is triangular in form; the edges are rounded, with enhanced midrib and rhomb-like cross section.
Inv. № 34967/12

Cat. № 66-68
Rivets – 3 pcs

Electrum
D – 0,7-0,9 cm
Decorative rivets with round heads; part of the decoration of dagger's grip.
Inv. № 34967/8

Cat. № 69-71
Plates – 3 pcs

Electrum
L – 1,7 cm; W – 0,7 cm; L – 1,8 cm; W – 0,8 cm; L – 1,5 cm; W – 0,8 cm
Rectangular plates – part of the decoration of the dagger's handgrip.
Inv. № 34967/9

Cat. № 72-73
Hair-pins – 2 pcs

Bronze
L – 9,5 cm; 6,8 cm
Elongated body with conical and tripartite head.
Inv. № 34967/13

Cat. № 74-77
Tools – 4 pcs

Bronze
L – 7,3 cm; 8,4 cm; 8,7 cm; 4,0 cm
Tools with pointed, flattened or crescent-shaped working surfaces and rectangular cross section.
Inv. № 34967/14

Cat. № 78
Necklace

Gold
D (beads) – 0,5-0,6 cm
Consists of 68 bi-conical beads, made of thin gold sheet.
Inv. № 34967/1

Cat. № 79
Necklace

Gold
D (beads) – 0,1-0,2 cm
Consists of 112 small cylindrical beads, made of thin gold sheet.
Inv. № 34967/2

Cat. № 80-88
Appliques – 9 pcs

Silver
D – 1,5-2 cm
The plates are round in form with a conical knob in the middle.
Inv. № 34967/3

Cat. № 89
Applique

Silver
L – 3 cm
Rectangular in form, decorated with relief ornament.
Inv. № 34967/4

Cat. № 90
Bracelet

Bronze
L – 32 cm
Made of spirally twisted wire with round cross-section. Fragmented.
Inv. № 34967/10

Cat. № 91
Bracelet

Silver
D – 7,5 cm
Made of a wire with a round cross-section, twisted in one and a half cycles.
Inv. № 34967/6

Cat. № 92
Bracelet

Silver
L – 1,2 cm; 8,1 cm
Made of a wire with a square cross-section. Deformed.
Inv. № 34967/7

Cat. № 93-94
Rings – 2 pcs

Silver
D – 2 cm
Made of a wire with a round cross-section.
Inv. № 34967/5

Cat. № 95-96
Rings – 2 pcs

Bronze
L – 8,4 cm; 7,8 cm
Oval in shape, with overlapping ends. Deformed.
Inv. № 34967/11

Hoard from the Petrich region

The find consists of five flat silver appliques with relief decoration, three silver bracelets and one earring. Museum purchase. Provenance unknown, most likely from the Petrich region.
Early Bronze Age 3
NAIM-BAS
Alexandrov 2017c, Abb. 1, (Kat.-Nr 22-26; Kat.-Nr. 27-29); Александров 2017, 194, Фиг. II.1-9, Фиг. V. 2, Фиг. VI. 7-11
SA, KC

Cat. № 97-101
Appliques – 5 pcs

Silver
D – 3,2 cm; T – 1 mm; W – 1,46 g; 1,84 g; 1,80 g; 1,41 g; 1,58 g
Made of a thin round silver sheet, with *repoussé* relief decoration. Ornamental composition (on all): row of dots in relief running along the periphery; two concentric ribs – one following the perimeter and one near the center. At the center – dots in relief. Between the two ribs – four groups of dots in relief. Each disc has two small threading holeson opposite sides near the edge. An additional zig-zag line dented in the space between the two concentric relief circlesis featured on two of the discs (№№ 4822в and 4822г).
Inv. №№ 4822а-д

Cat. № 102
Bracelet

Silver
D – 6,1 cm; W – 34,74 g
Made of solid round wire, open-ended, tapering ends. Deformed.
Inv. № 4818

Cat. № 103
Bracelet

Silver
D – 6,1-6,3 cm; W – 23,58 g
Made of solid round wire. Ends do not meet, but are linked by an added profiled sheet.
Inv. № 4819

Cat. № 104
Bracelet

Silver
D – 6,4x6,6 cm; W – 22,45 g
Made of solid round wire.The two ends of the bracelet do not meet.
Inv. № 4820

Cat. № 105
Ear-ring

Silver
H – 1,53 cm; W – 1,39 cm
Casted and hammered. Heart-like shape; thick lower part with pentagonal cross-section, the upper part is form of two thin bars with pointed ends.
Inv. № 4821
Alexandrov 2017, 194, Fig. III/7; V/2; VI/7

The Yankovo Hoard

The hoard consists of several metal artefacts, made of copper, bronze and gold.
Village of Yankovo, Shumen region
Early Bronze Age 3
RMA Varna
Dergachev 2011
VS

Cat. № 106
Dagger

Arsenic Bronze
L – 13,7 cm; W – 3,85 cm; T – 0,4 cm; W – 43 g
Dagger with leaf-shaped double-edged blade, slightly thicker along the central long axis and tapering towards the edges. Flat rectangular tang for fastening a hilt.
Inv. № I.3880

Cat. № 107
Adze

Tin bronze
L – 10,8 cm; W (blade) – 4,7 cm; W – 105,5 g
Flat adze with crescent-shaped bit.
Inv. № I.3881

Cat. № 108
Chisel

Copper
L – 10,65 cm; W (blade) – 1,3 cm;
W – 104 g
Open socket chisel. Long body with rectangular section. The edges opposite the working edge are folded inwards, forming an open socket with round section.
Inv. № I.3882

Cat. № 109
Implement

Arsenic bronze
L – 18,9 cm; W (max) – 2,3 cm;
T – 0,15 cm; W – 37,5 g
Flat implement with elongated rectangular body and leaf-shaped blade. Small knob by the butt, pierced.
Inv. № I.3883

Cat. № 110
Spatula

Bronze
L – 6,7 cm; W (blade) – 3,9 cm;
T – 0,2 cm; W – 12 g
Flat spatula, elongated trapezoidal form, broad convex blade and tapering narrow rectangular butt section. Round rivet hole near the butt.
Inv. № I.3884






Cat. № 111-116
Ear-rings – 6 pcs

Gold
L – 2,7-4,2 cm; W – 2,35-2,7 cm; T – 0,04-0,06 cm
Forged from a flat foil, crescent shape. The ends are twisted in a long wire with round section. Upon the underside periphery of one of the set, a row of raised dots is hammered with sharp implement.
Unpublished
Inv. №№ I.3885 to I.3890

The Zdravets Treasure

The treasure comprises 1 round gold plate and 3 gold ear-rings.
Village of Zdravets, Varna region
Early Bronze Age 3
RMA Varna
Unpublished
VS

Cat. № 117
Plate

Gold
D – 4,6 cm; W – 4,48 g
Made of a thin round gold sheet, with relief decoration in au repoussé style: two rows of small dots at the periphery; five bigger relief dots, circled by two rows of smaller dots, forming a rhomb-like motif. The disc have 5 groups of small holes for threading.
Inv. № I 4169

Cat. № 118-119
Ear-rings – 2 pcs

Gold
L – 2,85 cm; 2,7 cm; W – 2,23 cm; W – 1,45 g
Forged from a flat foil, crescent shape. The ends are twisted in a wire with round section and overlapped.
Inv. №№ I 4171 – I 4172

Cat. № 120
Ear-ring

Gold
L – 2,9 cm; W – 1,89 cm
Forged from a flat foil, crescent shape. The ends are twisted in a wire with round section and overlapped. On the outer periphery of the plate a row of raised dots is hammered with pointed instrument.
Inv. № I.4170

The Emen Hoard.

Consisting of twelve bronze wood-working tools and a casting mould. It is discovered during a rescue archaeological research in Emenska Cave near the village of Emen.
Emenska Cave, village of Emen, Veliko Tarnovo region
Middle Bronze Age (2000 – 1600 BC)
RMH VelikoTarnovo
Николова, Ангелов 1961; Черных 1978; Krauß 2006a
NE

Cat. № 121
Axe

Bronze
L – 15 cm; W – 7,4 cm
Arched bit; trapezoidal body with two ribs near both edges, formed by the beveled surfaces. Round shaft-hole, with profiled butt.
Inv. № 800 п/том

Cat. № 122
Adze-axe

Bronze
L – 16,4 cm; W – 4,9 cm
Flat, with arched bit and trapezoidal body.
Inv. № 801 п/том

Cat. № 123
Adze-axe

Bronze
L – 11,6 cm; W – 2,5 cm
Flat, with arched bit, trapezoidal body and pointed butt.
Inv. № 802 п/том

Cat. № 124
Knife

Bronze
L – 16,8 cm; W – 3,4 cm
Double-edged; near the tip is curved. One of the sides has a midrib. Close to the tip the midrib splits into two lateral ribs. Partially is preserved round rivet hole in the tang for attaching the grip.
Inv. № 803 п/том

Cat. № 125
Saw

Bronze
L – 11 cm; W – 2,2 cm
Only the dorsal end is preserved, the tip is broken-off. The cutting edges are serrated.
Inv. № 804 п/том

Cat. № 126
Hook

Bronze
L – 10 cm; W – 4,7 cm
Conical socket with two round holes and hook with rectangular section and round tip.
Inv. № 805 п/том

Cat. № 127
Chisel

Bronze
L – 13 cm; W – 1,65 cm
Curved, with trapezoidal bit, rectangular body and trapezoidal tang for attaching to the grip. Rectangular section.
Inv. № 806 п/том

Cat. № 128
Chisel

Bronze
L – 12,9 cm; W – 0,9 cm
Trapezoidal bit, rectangular body and trapezoidal tang for attaching the grip. Rectangular section.
Inv. № 807 п/том

Cat. № 129
Chisel

Bronze
L – 10,3 cm; W – 0,9 cm
Trapezoidal bit, rectangular body and trapezoidal tang for attaching the grip. Rectangular section.
Inv. № 808 п/том

Cat. № 130
Knife

Bronze
L – 8,8 cm; W – 0,9 cm
Preserved are part of the tang and the non-cutting edge. The other parts are restored.
Inv. № 809 п/том

Cat. № 131
Chisel

Bronze
L – 9 cm; W – 0,5 cm
Trapezoidal bit, rectangular body and trapezoidal tang for attaching the grip. Rectangular section.
Inv. № 810 п/том

Cat. № 132
Mould

Schist
L – 6 cm; W – 2,1 cm
Oval in shape, grey-green in color and a shape for casting a rectangular item.
Inv. № 812 п/том

Cat. № 133
Plate

Electrum
L – 12,5 cm; W – 1,4 cm; T – 0,1 cm; W – 13,11 g
Emenska cave
Middle Bronze Age
The plate is crescent-shaped, maximum width at the middle, gradually narrowing towards the ends. A pair of holes are pierced through each end, as one of them is damaged and pierced again.
RMH Veliko Tarnovo, Inv. № 658 п/том
Николова, Ангелов 1961, 310, Обр. 16

Cat. № 134
Plate

Silver
L – 13 cm; W – 1,8 cm; T – 0,1 cm; W – 13,14 g
Emenska cave
Middle Bronze Age
The plate is crescent-shaped, maximum width at the middle, gradually narrowing towards the ends. A pair of holes are pierced through each end.
RMH Veliko Tarnovo, Inv. № 659 п/том
Николова, Ангелов 1961, 310, Обр. 16

Finds from Ezero tell near village of Ezero, Nova Zagora region

Early Bronze Age
NAIM-BAS
Черных 1978; Георгиев и др. 1979
SA

Cat. № 135
Chisel

Arsenic bronze
L – 9,2 cm; W (max) – 1,1 cm; W (blade) – 1,1 cm
4th building horizon
Casted and hammered. Elongated form with a small tang for attaching the handle. Rectangular cross-section.
Inv. № 4101
Черных 1978, Табл. 28/6; Георгиев et al. 1979, 176

Cat. № 136
Chisel

Arsenic bronze
L – 5,7 cm; W (max) – 0,8 cm
9th building horizon
Casted and hammered. Elongated rhomboidal form. Rectangular cross-section.
Inv. № 4106
Черных 1978, Табл. 28/9; Георгиев et al. 1979, 176

Cat. № 137
Chisel

Arsenic bronze
L – 9,8 cm; W (max) – 1 cm; W (blade) – 1 cm
8th building horizon
Casted and hammered; elongated form with a small tang for attaching the handle. Rectangular cross-section with small flanges.
Inv. № 4107
Черных 1978, Табл. 28/7; Георгиев et al. 1979, 176

Cat. № 138
Awl

Arsenic bronze
L – 5,4 cm; W (max) – 0,2 cm
Casted and hammered. Made of thin bar with rectangular cross-section sharpened at the lower end.
Inv. № 4100
Георгиев et al. 1979, 176, Обр. 107

Cat. № 140
Awl

Arsenic bronze
L – 8,3 cm; W (max) – 0,4 cm
Casted and hammered. Made of thin bar with rectangular cross-section sharpened at the lower end.
Inv. № 4099
Георгиев et al. 1979, 176, Обр. 107

Cat. № 141
Awl

Arsenic bronze
L – 6,9 cm; W (max) – 0,3 cm
Casted and hammered. Made of thin bar with rectangular cross-sections harpened at the lower end.
Inv. № 4097
Георгиев et al. 1979, 176, Обр. 107

Cat. № 139
Awl

Arsenic bronze
L – 13 cm; W (max) – 0,4 cm
13th building horizon
Casted and hammered. Made of thin bar with rectangular cross-section sharpened at the lower end.
Inv. № 4096
Георгиев et al. 1979, 179, Табл. 107/д

Cat. № 142
Tankard, Depas Amphikypellon type

Pottery
H – 20 cm
Village of Mihalich, Svilengrad region
Early Bronze Age
Tall tankard, slightly out turned rim, two symmetrical handles attached to the middle and the bottom of the tankard.
NAIM-BAS, Inv. № 3190
Лещаков 1992, 72, Обр. 33: б
ST

Cat. № 143
Tankard, Depas Amphikypellon type

Pottery
H – 18,5 cm
Village of Mihalich, Svilengrad region
Early Bronze Age
Tall tankard or flagon, slightly out turned rim, two symmetrical handles attached to the middle and the bottom of the tankard.
NAIM-BAS, Inv. № 4040
Лещаков 1992,72, Обр. 33: б
ST

Cat. № 144
Hair-ring

Gold
D – 0,8 cm; W – 1 g
Village of Malomirovo, Elhovo region, stray find from a destroyed tumular grave.
Early Bronze Age
Made of 0,1 cm thick round wire, spirally twisted into 2,5 turns.
MEA Elhovo, Inv. № 604
Unpublished
DA

Cat. № 145
Hair-ring

Gold
D – 0,8 cm; W – 0,70 g
Village of Malomirovo, Elhovo region, stray find from a destroyed tumular grave.
Early Bronze Age
Made of 0,1 cm thick round wire, spirally twisted into 3 turns.
MEA Elhovo, Inv. № 604A
Unpublished
DA

Cat. № 146
Hair-ring

Gold
D – 1,5 cm; W – 7,80 g
Village of Mihailovo, Vratsa region, stray find
Early Bronze Age
Made of 0,3 cm thick round wire, spirally twisted into 1,5 turns. Both ends are flattened.
RMH Vratsa, Inv. № Б – 407
Николов 1976, 46, Обр. 12/г
SA

Cat. № 147
Ear-ring

Gold
H – 1,55 cm; W – 7,5 g
Oryahovo region, stray find
Early Bronze Age 3
Heart-like shape; thick lower part with rhomboidal cross-section, the upper part is form of two thin bars with pointed ends.
NAIM-BAS, Inv. № 3966
Alexandrov 2017, 194, Fig. III: 6, VII:1
SA, KC

Cat. № 148
Floral head ornament

Silver
L – 9,1 cm; W – 8,02 g
Unknown provenance, Shumen region
Early Bronze Age 3
Four leaves resemble olive (*Oliva sativa*) or oleander (*Nerium oleander*) leaves, made of thin silver sheet, each decorated with a single relief midline. One end of each leaf is attached to a globule (?). The globule is highly deformed. From the globule emerges a twisted solid round wire, pointed at end.
NAIM-BAS, Inv. № 5526
Александров 2017, 197, Фиг. I/7-12.
КС

Cat. № 149
Torque

Gold
D – 11,4 cm; W – 25,06 g
Stray find from the region of Pomorie, Burgas region
Early Bronze Age 3
Made of wire with round section. Each terminal is bent at a 180° angle to a noose, and warped several times around the wire.
NAIM-BAS, Inv. № 5752
Ruseva-Slokoska 1991, 134; Александров 2011, 8; Александров 2017, 197, Фиг. IV: 2, Фиг. VII: 5
КС

Cat. № 150
Torque

Gold
D – 10,7 cm; W – 24,95 g
Provenance unknown
Early Bronze Age 3
Made of wire with round section. At the tips the wire is tapered, bent at a 180° angle to a noose, secured by two additional wraps.
NAIM-BAS, Inv. № 6092
Ruseva-Slokoska 1991, 134; Александров 2011, 8; Александров 2017, 197, Фиг. IV:1, Фиг. VII:4
КС

Gold adornments from Bogdanovo: a torque and a pair of earrings.

Stray find from village of Bogdanovo (today Bogdan), Dobritch region
Early Bronze Age 3
NAIM-BAS
Александров 2011, 7-8; Александров 2017, 197, Фиг. III.1-3,7, Фиг. VII. 6-8
KC

Cat. № 151
Torque

Gold
D (loop) – 7 cm; D (unfolded) – 13,8 cm
Made of a wire with round section. Both tips are bent at a 180° angle and warped around the wire 4,5 times. The item is distorted post-use: folded in two.
Inv. № 4441a

Cat. № 152-153
Earrings – 2 pcs

Gold
L – 1,5 cm; 1,65 cm; W – 6,48 g; 6,68 g
Teardrop/pear in shape. Both are cast and hammered, made of a solid wire with tapered ends. The tips have round section. At the middle, the cross section is a semi-circle for earring № 4441б, and a rounded triangle for earring № 4441в.
Inv. № 4441б-в

Cat. № 154-155
Torque with attached ear-ring

Gold
Torque: D – 10,5 cm; Pendant: H – 2,3 cm;
Total W – 33,50 g
Razgrad region, stray find
Early Bronze Age (Last quarter of the 3rd millennium BC)
Torque with loops, made of 0,4 to 0,3 cm thick round bar, the loops being additionally bent over the bar and, spirally twisted into 2,5 turns. Cast and hammered drop-shaped ear-ring; triangular cross-section at the bottom; the upper part is form of two thin round bars with pointed ends.
NMH Sofia, Inv. № 33067
Александров 2011, 7, Fig. 2;
(in the publication the provenance is incorrect)
SA

Cat. № 156-157
Torque with ear-ring
Gold

Torque: D – 13,4 cm; W – 42,89 g; Pendant: H – 2,6 cm; W – 8,59 g
Shumen plateau, stray find
Early Bronze Age (Last quarter of the 3rd millennium BC)
Torque with loops, made of 0,4 to 0,2 cm thick round bar, the loops being additionally bent over the bar and, spirally twisted into 3,5 turns. Cast and hammered drop-shaped pendant; triangular cross-section at the bottom, the upper part is form of two thin round bars with pointed ends.
RMH Shumen, Inv. № 8831 and 8832
Атанасов и др. 2008, 56-60; Александров 2011, 7, Fig. 3
SA

Cat. № 158
Torque
Gold

D – 8,65 cm; W – 47,16 g
From the vicinity of the Roman settlement of *Novae*, Svistov region
Middle Bronze Age
Made from wire with round section. The wire is flattened and bent at a 180° angle, producing nooses at both ends.
NAIM-BAS, Inv. № 6215в
Велков 1927, 315; Александров 2009a; Александров 2011, 7
KC

Gold hair-rings from Berievo: The find comes from „Grobat (the grave)" locality, near village of Berievo.

It consists of two hair-rings made of round golden bar, twisted and additionally hammered.
Village of Berievo, Sevlievo region
Middle of the 2nd millennium BC
NMH Sofia
Фол 1993, 85-86, Обр. 24; Александров 2009b, 9-10, Fig. 1/23, 24
SA

Cat. № 159
Hair-ring

Gold
D – 2 cm; W – 7,72 g
Spirally twisted into 1,5 turns round golden bar. Both ends are flattened by hammering and bent into a V-shape foil.
Inv. № 32953

Cat. № 160
Hair-ring

Gold
D – 1,6 cm; W – 2,39 g
Spirally twisted into 1,5 turns round golden bar. Both ends are flattened by hammering and bent into a V-shape foil.
Inv. № 32954

Cat. № 161-162
Earrings – 2 pcs

Gold
Full-looped earring: L – 1,7 cm; W – 2,21 g. Open-looped earring: L – 1,85 cm; W – 2,37 g
The area of the village of Chomakovtsi, Pleven region
Middle Bronze Age (2nd millennium BC)
Oval in shape. Made from solid wire with triangular section (middle) tapering to round section (ends). The ends of one earring do not meet, but are slightly bent back; the terminals of the other earring are aligned.
NAIM-BAS, Inv. №№ 6093a and 60936
Велков 1924, 226
KC

Cat. № 163-164
Ear-rings – 2 pcs

Gold
L – 1,9 cm; W – 2,1 g; L – 1,9 cm; W – 3,02 g
Vicinity of Popovo, Targovishte region
Middle Bronze Age (2nd millennium BC)
Teardrop/pear in shape. Casted and hammer-finished. Made from a solid wire with triangular section (middle), tapered towards the terminals. Overlapping ends.
NAIM-BAS, Inv. № № 3151а-б
Александров 2017, 197, Фиг. III. 4-5, Фиг.VII. 2-3
KC

The hoard from Topolovets, North-West Bulgaria: consists of 3 golden hair-rings with oval form.

All three hair-rings are made of gold bar with triangular cross-section, thinned towards the ends. The bar is spirally twisted into 1,5 turns, one of the ends bent backwards into 0,5 turn. The hoard was found in 1959 in Topolovets village, Vidin region.
Middle Bronze Age (Midd second milleniun BC)
RMH Vidin
Александров 2009-b, 10, Обр. 1/25-27
SA

Cat. № 165
Hair-ring

Gold
H – 2,4 cm; W (max) – 1,7 cm;
W – 13,10 g
Inv. № I-102

Cat. № 166
Hair-ring

Gold
H – 2,4 cm; W (max) – 1,7 cm;
W – 13,10 g
Inv. № I-102

Cat. № 167
Hair-ring

Gold
H – 3,6 cm; W (max) – 1,8 cm;
W – 13,90 g
Inv. № I-103

Cat. № 168
Adornment

Gold
D – 2,2 cm;
W – 4,27 g
0,5 km southern of Kazanlak tell
Middle Bronze Age
Heart-shaped, opened. The inner rib is decorated with a row of small dots and the outer rib – with cuts.
MH „Iskra“ Kazanlak, Inv. № МИКА170
Гетов, Цанова 1967
DGA

Cat. № 169
Hair-ring

Gold
D – 1,5 cm; W – 7,80 g
Pchela, Elhovo region, stray find
Middle Bronze Age
Made of 0,3 cm thick round wire, spirally twisted into 1,5 turns, the middle part is bent at a 45°.
MEA Elhovo, Inv. № A-602
Unpublished
DA

Cat. № 170
Pendant

Bronze
L – 12,7 cm
Baley, the necropolis, feature 52
Middle Bronze Age (Second quarter of the 2nd millennium BC)
Made of 0,05 cm thick foil. Crescent-moon shape with a perforated apophysis in the central part.
RMH Vidin, Inv. № Baley 27-4
Unpublished
SA

Cat. № 171
Riveted Dagger

Silver
L – 14,4 cm; W (max.) – 4,7 cm
North-eastern Bulgaria, Varna region, stray find
Early Bronze Age
Casted and hammered. Elongated triangular form with diamond-shape cross-section. Two rows of four rivet-holes for attaching the grip. Two rivets are preserved.
RMA Varna, Inv. № I-4117
Unpiblished
VS

Cat. № 172
Dagger

Bronze
L – 31,7 cm;
W (max) – 10,9 cm
Haskovo region
Early Bronze Age
Casted and hammered. Elongated triangular form. Part of the handle is preserved, with parts of two holes in its base preserved.
NMH Sofia,
Inv. № 43317
Avramova, Todorieva 2005
SA

Cat. № 173
Tanged dagger

Bronze
L – 20 cm;
W (max) – 3,8 cm
Nova Zagora tell
Middle Bronze Age
Casted and hammered. Leaf-shaped blade with rounded point.
MH Nova Zagora, Inv. № 2825
Катинчаров 1972
SA

Cat. № 174
Riveted Dagger

Bronze
L – 24,5 cm;
W (max) – 5 cm
T – 0,5 cm
Provenance unknown
Early Bronze Age
Elongated triangular form with mid-rib. Two holes for attaching the handle preserved.
RMH Yambol, Inv. № I-4150
Unpublished
TV

Cat. № 175
Riveted Dagger

Bronze
L – 19,8 cm; W (max) – 4,6 cm
Byala Slatina, Vratsa region
Middle Bronze Age
The dagger is triangular in form, with a prominent midrib. The hilt-plate has two rivet holes.
NAIM-BAS, Inv. № 1812
Hristova 2006
SA

Cat. № 176
Riveted Dagger

Arsenic bronze
L – 13,9 cm; W (max) – 2,6 cm; T – 0,5 cm; W – 357,30 g
Archar, Vidin region, stray find
Early Bronze Age
Casted and hammered. Elongated triangular form with diamond-shape cross-section. Three holes for attaching the handle.
NAIM-BAS, Inv. № 646
Попов 1913, 291-292; Черных 1978, Табл. 29/2
SA

Cat. № 177
Casting mould for an axe

Stone
L – 19,5 cm
Tell „Tsiganskata mogila" at the outskirts of Nova Zagora, 4th building level
Middle Bronze Age
Bivalve casting mould for a bronze axe with curved blade. One halve preserved.
MH Nova Zagora, Inv. №7247
Черных 1978, 148, T. 26: 6.
LL

Cat. № 178
Shaft-hole axe

Bronze
L – 17,6 cm; W (blade) – 5,7 cm; D (shaft-hole) – 3.3-3.0 cm; W – 1,018 kg
Karnobat region, stray find
Early Bronze Age
Casted; solid, elongated blade with slightly convex sides and cutting edge and, pentagonal cross-section; short shaft-hole with oval cross-section, rounded and slightly elongated butt.
MH Karnobat, Inv. № 843
Bădjenaru 2013, 115-116
SA

Karnobat tell depot

Found during the excavation in 1924, in the western part of the tell, at a depth of 1 m.
Early Bronze Age
MH Karnobat
Георгиева 2002, Табл. II/а, б; Băjenaru 2013, 115
SA

Cat. № 179
Flat axe

Copper
L – 14,1 cm; W (blade) – 5 cm; T – 0,5 cm; W – 195,05 g
Casted; elongated trapezoidal form with widen to the curved blade edge; rectangular cross-section.
Inv. № 159/а

Cat. № 180
Flat axe

Copper
L – 8,7 cm; W (blade) – 4 cm; T – 0,5 cm; W – 93,90 g
Casted; elongated trapezoidal form with widen to the curved blade edge; rectangular cross-section. The rare end is broken.
Inv. № 159/б

Cat. № 181
Shaft-hole axe

Bronze
L – 21,5 cm; W (blade) – 5,6 cm; D (shaft-hole) – 3,5 cm
Village of Veselinovo – "Maleva" tell, Yambol region, stray find
Early Bronze Age
Casted; solid, elongated blade with slightly convex sides and cutting edge and, pentagonal cross-section; short shaft-hole with oval cross-section, rounded butt.
RMH Yambol, Inv. № I-60
Миков 1933, Обр. 65; Черных 1978, Обр. 20/1; Băjenaru 2013, 247
TV

Cat. № 182
Shaft-hole axe

Bronze
L – 16 cm; W (blade) – 5,9 cm
Village of Irechekovo, Yambol region, stray find
Early Bronze Age
Casted, solid, elongated blade with slightly convex sides and cutting edge and hexagonal cross-section; short shaft-hole with oval cross-section, rounded and slightly elongated butt.
RMH Yambol, Inv. № I-4275
Unpublished
TV

Cat. № 183
Shaft-hole axe

Bronze
L – 19,5 cm; W (blade) – 5,1 cm
Karanovo tell, Nova Zagora region
Early Bronze Age 3
Casted, solid, with slightly convex sides; rectangular cross-section; short shaft-hole with oval cross-section, rounded butt.
NAIM-BAS
Hiller, Nikolov 2002, Fig. 22/a
ST

Cat. № 184
Flat axe

Bronze
L – 12,6 cm; W (blade) – 3,9 cm
Karanovo tell, Nova Zagora region
Early Bronze Age 3
Casted, elongated trapezoidal form widen to the curved blade edge; rectangular cross-section.
NAIM-BAS
Hiller, Nikolov 2002, Fig. 22/b
ST

Cat. № 185
Shaft-hole axe

Bronze
L – 14 cm; W (blade) – 4,2 cm; ; W – 483,45 g
Village of Petarch, Sofia region
Early Bronze Age 3
Casted, solid, elongated blade with widening cutting edge and oval cross-section; long shaft-hole, elongated butt.
RMH Sofia, Inv. № A 7345
Гоцев и др. 2016, 171, Обр. 3
ST

Cat. № 186
Shaft-hole axe

Bronze
L – 17 cm; W (blade) – 5,2 cm; D (shaft-hole) – 2,8 cm
Village of Prelom, Lovech region
Early Bronze Age
The head of the axe widens towards the flared bit. The shaft-hole has oval section and slightly elongated butt.
RMH Lovech, Inv. № 219
Миков 1929, 62, Обр. 18; Черных 1978, 141, Табл.23-7
MV

Cat. № 187
Shaft-hole axe

Bronze
L – 17,2 cm; W (blade) – 4,2 cm; W – 736,20 g
Village of Kravenik, Sevlievo region, stray find
Early Bronze Age
Casted, solid, elongated blade with convex sides and cutting edge and, pentagonal cross-section; short shaft-hole with oval cross-section, rounded butt.
MH Sevlievo, Inv. № КВП 70-1
Băjenaru 2013, 121
SA

Cat. № 188
Shaft-hole axe

Bronze
L – 15,1 cm; W (blade) – 5,2 cm;
W – 764 g
Village of Kravenik, Sevlievo region, stray find
Early Bronze Age
Casted, solid, elongated blade with convex sides and cutting edge and, pentagonal cross-section; short shaft-hole with round cross-section.
MH Sevlievo, Inv. № КВП 70-2
Băjenaru 2013, 121
SA

Cat. № 189
Shaft-hole axe

Bronze
L – 11,2 cm
Village of Mitrovtsi, Montana region
Early Bronze Age
The head of the axe widens towards the flared bit. Theshaft-hole has oval section and slightly elongated butt.
NAIM-BAS, Inv. № 3258
Черных 1978
ST

Cat. № 190
Double axe

Bronze
L – 15,5 cm; W (max) – 3,4 cm; W (blade) – 3,8 cm; W – 676,60 g
Village of Kravenik, Sevlievo region, stray find
Middle of the 2nd millennium BC
Casted, solid, elongated rectangular blades with slightly convex cutting edges and, hexagonal cross-section; socket with round cross-section with two small vertical apohyses and three horizontal ribs.
MH Sevlievo, Inv. № КВП 69-1
Unpublished
SA

Cat. № 191
Double axe

Bronze
L – 16,6 cm; W (max) – 3,8 cm; W (handle) – 4,7 cm; W – 676,60 g
Oryahovo region, stray find
Middle of the 2nd millennium BC
Casted, solid, elongated rectangular blades with slightly convex cutting edges and hexagonal cross-section; socket with round cross-section with two small vertical apohyses and three horizontal ribs.
NAIM-BAS, Inv. № 3972
Черных 1978, Таб. 42:2
SA

Galabovo tell

End of the 3rd – beginning of 2nd millennium BC
MA „Maritsa-Iztok" Radnevo
Панайотов и др. 1991; Leshtakov 1996; Leštakov 2016
SA

Cat. № 192
Pilgrim flask

Pottery
H – 14 cm
1st building horizon, pit in O/5 box-grid
Wheel – made; well refined clay, dark grey colour; Oval shape, made of two lens-shaped flasks, the rim part is broken.
Inv. № 168
Leštakov 2016, 64, Abb. 15/4

Cat. № 193
Syrian flask

Pottery
H – 9,2 cm; D (max) – 7,7 cm
3rd building horizon, pottery depot in dwelling in box-grids J4/K4/J5/K5
Wheel – made; well refined clay, grey colour. Globular body, short neck, the rim is broken.
Inv. № 308
Leštakov 2016, 69, Abb. 24/1

Cat. № 194
Amphora

Pottery
H – 32 cm; D (rim) – 14,5 cm
2nd building horizon, dwelling in box-grid M/4
Wheel – made; well refined clay, metal black colour. Globular body with two handles, short neck. Encrusted incised decoration on the body.
Inv. № 260
Leštakov 2016, 66, Abb. 19/11

Cat. № 195
Trefoil-mouthed jug

Pottery
H – 15,4 cm; D (base) – 5,5 cm
2nd building horizon, dwelling in box-grid M/6
Wheel – made; refined clay, dark grey colour; rounded bi-conical body, three-foiled rim.
Inv. № 265
Leštakov 2016, 66, Abb. 18/1

Cat. № 196
Hair-ring

Gold
D – 1,4 cm; W – 2,80 g
2nd building horizon, pit in box-grid M/7
Made of 0,15 cm thick oval wire, spirally twisted into 1,75 turns, one of the ends turned back into 0,75 turns.
Inv. № 669
Leshtakov 1996, Fig. 11/4

Cat. № 197
Tanged dagger

Bronze
L –19,8 cm; W (max) – 3,5 cm; T – 0,3 cm
1st building horizon, pit in box-grid O/5
Casted and hammered. Elongated triangular form; trapezoidal tang.
Inv. № 181
Unpublished

Cat. № 198
Knife

Bronze
L – 6,2 cm; W (max) – 1,47 cm
4th building horizon, box-grid F/4
Casted and hammered with short triangular blade and oval handle.
Inv. № 660
Unpublished

Hoard from the area of Svishtov (Central North Bulgaria)

Consisting of thirteen gold objects (a bracelet, six torques and six hair-rings) and six bronze objects (three complete and one fragmented double-axes, fragmented shaft-hole axe and a fragment of a chisel/mattock). All the objects were placed into a clay, hand-made amphora-like vessel.
Middle of the 2nd millennium BC
MH Svishtov
Alexandrov et al. 2017
MM

Cat. № 199
Bracelet

Gold
D (spiral) – 8 cm; T (bar) – 0,45 cm; T (plates) – 0,1 cm;
W – 68,6 g
Made of golden bar with rhomboid cross-section, twisted into 2,5 turns. The ends are flattened into triangular plates decorated with repoussé technique.
Inv. № I-2076

Cat. № 200
Torque with loops

Gold
D – 9,2 cm; T (bar) – 0,3 cm; W – 27,5 g
Casted and hammered. Made of spirally twisted golden bar with round cross-section, plain at the loops area, flattened at the loops. Traces of green patina.
Inv. № I-2077

Cat. № 201
Torque with loops

Gold
D – 9,9 cm; T (bar) – 1,35 cm; W – 23,8 g
Casted and hammered. Made of spirally twisted golden bar with round cross-section, plain at the loops area, flattened at the loops. Traces of green patina.
Inv. № I-2078

Cat. № 202
Torque with loops

Gold
D – 8,5 cm; T (bar) – 0,30 cm; W – 13,2 g
Casted and hammered. Made of spirally twisted golden bar with round cross-section, plain at the loops area, flattened at the loops. Traces of green patina.
Inv. № I-2079

Cat. № 203
Torque with loops

Gold
D – 12,6 cm; T (bar) – 0,20-0,45 cm; W – 42,7 g
Casted and hammered.Made of plain golden bar with round cross-section, flattened at the loops. Traces of green patina
Inv. № I-2080

Cat. № 204
Torque with loops

Gold
D – 10,5 cm; T (bar) –0,25-0,50 cm; W – 37,4 g
Casted and hammered. Made of plain golden bar with round cross-section, flattened at the loops.
Inv. № I-2081

Cat. № 205
Torque with loops

Gold
D – 10 cm; T (bar) – 0,20-0,40 cm; W – 29,7 g
Casted and hammered. Made of plain golden bar with round cross-section, flattened at the loops.
Inv. №I-2082

Cat. № 206
Hair-ring

Gold
H –3,2 cm; W (max.) – 2,1 cm; W – 3,9 g
Cut from a double golden foil, bent at the upper part forming an ovoid with crossing edges. The edges are thinned, bent to the inside. Traces of green patina.
Inv. № I-2083

Cat. № 207
Hair-ring

Gold
H –3,3 cm; W (max.) – 2,6 cm; W – 2,5 g
Cut from a double golden foil, bent at the upper part forming an ovoid with crossing edges. The edges are thinned, bent to the inside. Traces of green patina.
Inv. № I-2084

Cat. № 208
Hair-ring

Gold
H –3,5 cm; W (max.) – 2,7 cm W – 4,7 g
Cut from a double golden foil, bent at the upper part forming an ovoid with crossing edges. The edges are thinned, bent to the inside. Traces of green patina.
Inv. № I-2085

Cat. № 209
Hair-ring

Gold
H – 3,4 cm; W (max.) – 2,35 cm;
W – 6,1 g
Cut from a double golden foil, bent at the upper part forming an ovoid with crossing edges. The edges are thinned, bent to the inside. Traces of green patina.
Inv. № I-2086

Cat. № 210
Hair-ring

Gold
H – 3,7 cm; W (max.) – 2,6 cm; W –3,7 g
Cut from a double golden foil, bent at the upper part forming an ovoid with crossing edges. The edges are thinned, bent to the inside. Traces of green patina.
Inv. № I-2087

Cat. № 211
Hair-ring

Gold
H – 3,2 cm; W (max.) – 2,3 cm; W – 2,3 g
Cut from a double golden foil, bent at the upper part forming an ovoid with crossing edges. The edges are thinned, bent to the inside. Traces of green patina.
Inv. № I-2088

Cat. № 212
Double axe

Bronze
L – 16,2 cm; W – 4,4 cm;
W (handle) – 3,1 cm; W – 754 g
Casted. Solid, elongated rectangular blades with slightly convex cutting edges and, hexagonal cross-section; socket with round cross-section with two small vertical apohyses and three horizontal ribs.
Inv. № I-2090

Cat. № 213
Double axe

Bronze
L – 17,9 cm; W – 4,4 cm; W (handle) – 3,4 cm; W – 943 g
Casted. Solid, elongated rectangular blades with slightly convex cutting edges and, hexagonal cross-section; socket with round cross-section with two small vertical apohyses and three horizontal ribs.
Inv. № I-2091

Cat. № 214
Double axe

Bronze
L – 21,4 cm; W – 4,9 cm; W (handle) – 3,9 cm;
W – 1,119 kg
Casted. Solid, elongated rectangular blades with slightly convex cutting edges and, hexagonal cross-section; socket with round cross-section with two small vertical apohyses and three horizontal ribs. Broken at the socket area.
Inv. №I-2092

Cat. № 215
Double axe

Bronze
L – 9,4 cm; W – 4,1 cm; ,W (sleeve) – 3,4 cm; W – 377 g
Casted. Solid, elongated rectangular blades with slightly convex cutting edges and, hexagonal cross-section; socket with round cross-section with two small vertical apohyses and three horizontal ribs.
Inv. № I-2093

Cat. № 216
Shaft-hole axe

Bronze
L – 12,2 cm; W – 3,7 cm; W – 225,7 g
Casted.Broken at the socket area. Elongated rectangular blades with slightly convex cutting edges and hexagonal cross-section.Incised decoration at the upper part of the blade.
Inv. № I-2094

Cat. № 217
Chisel/mattock

Bronze
L – 10,5 cm; W – 4,1 cm; W – 402,2 g
Casted and hammered. Rectangular working part; the socket is broken; the preserved part has an octagonal cross-section.
Inv. № I-2095

Cat. № 218
Amphora-like vessel

Pottery
H – 23,7 cm;
D – 14,7 cm;
D (max.) – 21,3 cm;
D (bottom) – 7,4 cm;
CA – 4,650 l
Restored.
Handmade. Dark grey color. Clay with sand ingredients.
Inv. № I-2089

Tumular Grave in „The Big tumulus" near Ovchartsi, Radnevo region

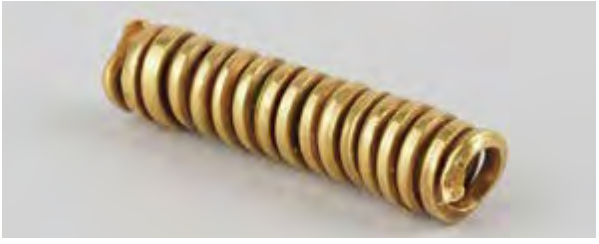
Middle Bronze Age (Last quarter of the 16th century BC)
„The Big tumulus", Grave № 7
MA „Maritsa-Iztok" Radnevo
Александров 2007
SA

Cat. № 219
Amphora

Pottery
H – 23,4 cm; D (rim) – 8,6 cm
Wheel-made; rounded body, short neck; two horizontal handles over the body. Very well refined clay; light brown colour. Decoration – dark painted lines over the body and the handles; the space between the lines – filled with white paint.
Inv. № 922

Cat. № 220
Single spiral

Gold
L – 1,8 cm; W – 0,97 g
Made of 0,35 cm thick round wire, spirally twisted into 16 turns.
Inv. № 928/1



Cat. № 221
Single spiral

Gold
L – 1,45 cm; W– 1,24 g
Made of 0,35 cm thick round wire, spirally twisted into 14 turns.
Inv. № 928/2

Cat. № 222
Triple spiral

Gold
L– 1,3 cm; W– 1,6 cm; W – 2,37 g
Made of 0,35 cm thick round wire, spirally twisted into 12 turns, reversed at both ends at 180° and twisted both times into 12 and 11 turns respectively.
Inv. № 928/3

Cat. № 223
Triple spiral

Gold
L – 1,1 cm; W – 1 cm; W – 2,80 g
Made of 0,35 cm thick round wire, spirally twisted into 12 turns, reversed at both ends at 180° and twisted both times into 12 and 11 turns respectively.
Inv. № 928/4

Cat. № 224
Double spiral

Gold
L – 1,35 cm; W – 0,6 cm; W – 3,43 g
Made of 0,35 cm thick round wire, spirally twisted into 10 turns, than reversed and at 180° twisted again into 10 turns.
Inv. № 928/5

Cat. № 225
Double spiral

Gold
L – 1,3 cm; W – 0,7 cm; W – 1,56 g
Made of 0,35 cm thick round wire, spirally twisted into 14 turns, than reversed at 180° and twisted again into 13 turns.
Inv. № 928/6

Cat. № 226
Double spiral

Gold
L – 1,3 cm; W – 0,5 cm; W– 1,54 g
Made of 0,35 cm thick round wire, spirally twisted into 14 turns, than reversed at 180° and twisted again into 13 turns.
Inv. № 928/7

Cat. № 227
Triple spiral

Gold
L – 1,1 cm; W – 1,1 cm; W – 2,23 g
Made of 0,35 cm thick round wire, spirally twisted into 11 turns, reversed at both ends at 180° and twisted both times into 10 and 11 turns respectively.
Inv. №928/8

Cat. № 228
Double spiral

Gold
L – 1,3 cm; W – 0,5 cm; W – 2,25 g
Made of 0,35 cm thick round wire, spirally twisted into 11 turns, than reversed at 180° and twisted again into 11 turns.
Inv. № 928/9

Cat. № 229
Hair-ring

Gold
D – 1,3 cm;
W – 4,09 g
Made of 0,35 cm thick round wire, spirally twisted into 1,5 turns, one of the ends reversed at 180° in 0,5 turns.
Inv. № 928/10

Cat. № 230
Triple spiral

Gold
L – 1,4 cm; W – 1,2 cm; W – 3,49 g
Made of 0,35 cm thick round wire, spirally twisted into 11 turns, reversed at both ends at 180° and twisted both times into 11 turns.
Inv. № 928/11

Cat. № 231
Triple spiral

Gold
L – 1,4 cm; W – 1,1 cm; W – 3,51 g
Made of 0,35 cm thick round wire, spirally twisted into 11 turns, reversed at both ends at 180° and twisted both times into 12 and 11 turns respectively.
Inv. № 928/12

Tumulus № 3, Village of Izvorovo, Harmanli region

Middle Bronze Age
NAIM-BAS
Борославов 2017
BB

Cat. № 232
Necklace

Gold
W – 14,50 g
It consists of a total of 55 gold beads, as following: a centrically placed composite bead made of 36 separate elements, 2 spherical beads decorated with vertical grooves, 8 large biconical beads, 3 small biconical beads and 41 rings (26 decorated with transverse notches and 15 – without notches).
Inv. № 9261

Cat. № 233
Dagger

Bronze
L – 14,5 cm; W – 2,1 cm; T – 0,15 cm; W – 12,75 g
The base of the handle is trapezoidal and differentiated by two-sided narrowing. The double-sided blade has an elongated triangular shape and a flat cross-section.
Inv. № 9262

Cat. № 234
Hoop

Electron
D – 1,8 cm; H – 0,5 cm; W – 1,20 g
Fragmented. It has a flat cross-section, traces of use on the outer surface; it was most likely an element of the dagger's handle.
Inv. № 9263

Tumulus № 1, Village of Izvorovo, Harmanli region
Middle Bronze Age (First half of the 2nd millennium BC)
NMH Sofia
Borislavov 2010
BB

Cat. № 235
Bead

Gold
D – 3,2 cm; H – 1,8 cm; W – 6,6 g
Bead shaped and sized like a spindle whorl – component of adornment. It is decorated with parallel vertical lines. There are traces of secondary piercing points.
Inv. № 55778

Cat. № 236
Bead

Gold
D – 2,6 cm; H – 1,3 cm; W – 4,7 g
Bead shaped and sized like a spindle whorl – component of adornment. It is decorated with 5 parallel incised lines forming a zigzag pattern. There are traces of secondary piercing points.
Inv. № 55779

Cat. № 237
Necklace
Gold
L – 49 см; W 0 40,2 g
(with the string).
The necklace consists of 344 sequentially alternating beads – 174 big ones, in the form of barley grain. They are decorated with longitudinal incised lines on the three protruding sections.
The smaller 170 beads are spherical, decorated with longitudinal incised lines.
Inv. № 55777

Cat. № 238
Razor

Bronze
L – 12,2 cm; W – 6 cm;
W – 43 g (after the restoration)
Elliptical shape, rounded tip, tapered one-sided, arched cutting edge. The base of the handle is short and with rectangular cross-section.
Inv. № 62314

Middle Bronze Age Graves in „Shekerdza tumulus" near village of Kamen, Sliven region

End of the 3rd – first half of the 2nd millennium BC
RMH Sliven
Димитрова 2014, 76-77; Обр. 9-10
DD

Cat. № 239
Amulet – a fragment

Bone
L (preserved) – 3,55 cm; W (max.) – 1,5 cm
Grave № 1
Hollow cylindrical body with longitudinal opening. Composite profiled decoration of extended S-shaped patterns on the outer surface. One of the ends terminates in flat, smooth surface, the other has a vague ending.
Inv. № 3994 A

Cat. № 240
Scepter – fragmented

Bone, copper
Eagle: H – 3,65 cm; W (max.) – 2,45 cm; T – 1,05 cm
Grave № 1
Figurine of an eagle with folded wings, standing at parade rest. The eyes made of copper circles are mounted on both sides of the head side mounted into pre-cut grooves.
Inv. No 3995 A

Cat. № 241
Scepter – fragmented

Bone
Eagle: H – 3,6 cm; W (max.) – 2,6 cm; T – 0,8 cm;
Fragments: L (max) – 1,65 cm, L (fragment) - 3,3 cm;
L (fragment) - 1,65 cm
Grave № 1
Figurine of an eagle with folded wings, standing at parade rest. The eyes made of copper circles are mounted on both sides of the head side mounted into pre-cut grooves. Two fragments of cylindrical shape was attached to it.
Inv. No 3996 A

Cat. № 242
Hair-ring

Gold
D – 1,6 cm; W – 6,30 g
Grave № 4
Made of 0,3 cm thick round wire, spirally twisted into 1,5 turns.
Inv. № 3999 A

Find from Tabashka Cave, Lovech region

Collective find including six gold hair-rings and a crescent-shaped gold ornamental plate (breastplate?). The find is discovered in 1987, by a group of speleologists exploring Cave Tabashka, near Lovech.
Middle Bronze Age
RMH Lovech
Hristov 2000: Александров 2009b
MV

Cat. № 243
Plate

Gold
L – 18,8 cm;
W – 1,6 cm;
W – 24,6 g
The plate is broken into two pieces. Crescent-shaped, maximum width at the middle, gradually narrowing towards the ends. A pair of holes through each end, arranged along the long axis.
Inv. № 1613

Cat. № 244
Hair-ring

Gold
D – 1,35-1,46 cm;
D (wire) – 0,18-0,36 cm; W – 5,3 g
Pendant, hair-ornament, round. Made from wire with round section, coiled one and a half turns; ends surpassing. Folded at the middle at ca. 45°.
Inv. № 1608

Cat. № 245
Hair-ring

Gold
D – 1,3-1,4 cm;
D (wire) – 0,15-0,3 cm; W – 4,65 g
Pendant, hair-ornament, round. Made from wire with round section, coiled in one and a half turns; ends surpassing. Folded at the middle at ca. 45°.
Inv. № 1609

Cat. № 246
Hair-ring

Gold
D – 1,26-1,37 cm;
D(wire) – 0,15-0,3 cm;
W – 4,83 g
Pendant, hair-ornament, round. Made from a wire with round section, coiled in one and a half turns; ends do not overlap. Folded at the middle at ca. 45°.
Inv. № 1610

Cat. № 247
Hair-ring

Gold
D – 1,1 cm;
D (wire) – 0,07-0,11 cm;
W – 1,10 g
Pendant, hair ornament, round. Made from a wire with round section, coiled in one and a half turns; the ends do not meet. Folded at the middle at ca. 45°.
Inv. № 1611

Cat. № 248
Hair-ring

Gold
D – 1 cm;
D (wire) – 0,09-0,16 cm;
W – 1,04 g
Pendant, hair ornament, round. Made from wire with round section, coiled in one and a half turns; ends do not meet; Folded at the middle at ca. 45°.
Inv. № 1612

Cat. № 249
Hair-ring

Gold
D – 1,38 cm;
D (wire) – 0,16-0,3 cm; W – 5,34 g
Pendant, hair-ornament, round. Made from wire with round section, coiled in one and a half turns, ends do not meet. Folded at the middle at approximately 45°.
Inv. № 1607

Cat. № 250
Pectoral

Gold
D (oval) – 9 x 7 cm; W – 7,62 g
Golyam Kademliya peak, Central Balkans, stray find
Middle of the 2nd millennium BC
Cut from a gold foil, 0,07 cm thick. Oval shape of the gold band, thinned towards the ends; both ends – spirally twisted inwards.
RMH Gabrovo, Inv. № 7119A
Vasileva 2004
SA

Mogila hoard

Found in a small tumulus at Madara plateau, near Mogila village, Shumen region.
The hoard consists of 5 silver cylindrical tubes, 2 silver beads and a silver applique. Alongside the silver jewellery, a flat axe, a chisel and two fragments of a knife? all made of copper? as well as a bronze dagger were attached. The first three tools date to the end of 5th – first half of the 4th millennium BC while the dagger dates to the Late Bronze Age and probably was additionally added to the lot.
RMH Shumen
End of the Bronze Age – Early Iron Age
Unpublished
IB

Cat. № 251
Cylindrical tube

Silver
L – 6 cm; D – 1,1 cm
Made of silver foil, a cylindrical tube with transverse ribs.
Inv. № 13961/1

Cat. № 252
Cylindrical tube

Silver
L – 4,4 cm; D – 1 cm
Made of silver foil, a cylindrical tube with transverse ribs.
Inv. № 13961/2

Cat. № 253
Cylindrical tube

Silver
L – 3,5 cm; D – 1 cm
Made of silver foil, a cylindrical tube with transverse ribs.
Inv. № 13961/3

Cat. № 254
Cylindrical tube

Silver
L – 2,9 cm; D – 0,5 cm
Made of silver foil, a cylindrical tube with transverse ribs.
Inv. № 13961/4

Cat. № 255
Cylindrical tube

Silver
L – 2,7 cm; D – 0,5 cm
Made of silver foil, a cylindrical tube with transverse ribs.
Inv. № 13961/5

Cat. № 256
Applique

Silver
D – 2,2 x 1,6 cm
Made of silver foil, semi-spherical in form.
Inv. № 13961/8

Cat. № 257
Bead

Silver
L – 2,4 cm; D – 1,6 cm
Made of silver foil. Preserved in half, probably bi-conical in form.
Inv. № 13961/7

Cat. № 258
Bead

Silver
L – 5,5 cm; D – 1,6 cm
Made of silver foil, bi-conical in shape, partially damaged.
Inv. № 13961/6

Cat. № 259
Dagger

Bronze
L – 21 cm; W (max.) – 4,1 cm
Leaf-shaped blade, with longitudinal relief midrib.
Inv. №13958

Cat. № 260
Chisel

Bronze
L – 7,9 cm; W – 1,3 cm
Preserved in half; elongated, rectangular form.
Inv. № 13960

Cat. № 261
Flat axe

Bronze
L – 7,3 cm; W – 3,9 cm
Flat, rectangular in form, with rounded edges.
Inv. № 13959

Pobit Kamak Hoard

The assemblage consists of simpleand composite stone moulds for casting bronze objects. The parts of the composite moulds are fitted together with wooden pegs. Some of the surfaces are channelled for removing gas during the casting process.
Pobit Kamak, Razgrad region
Late Bronze Age (Br D)
NAIM-BAS and RMH Razgrad
Черных 1978а; Wanzek 1989, Taf. 45; Hänsel 1976; Бонев 2003, 73-75

Cat. № 262-263
Mould for casting scepters

Stone
L – 32,4 cm; W – 21,3 cm; W – 7,327 kg

A three-piece mould, only two pieces are preserved. It was used for casting a ceremonial axe with a spiral-shaped blade. Its hollow metal handle was mounted on a wooden rod.
NAIM-BAS, Inv. № 5083a and 50836
LL

Cat. № 264-265
Mould for casting a metal handle and a hair-pin

Stone
L – 8,3 cm; W – 6,2 x 4,9 cm; W – 645 g
L – 8,4 cm; W – 6,1 x 4,9 cm; W – 548 g
A three-piece mould, only two pieces are preserved. It was used for casting a hollow disk-shaped metal handle. An additional form was carved in negative on one of the surfaces for casting a hair-pin with a rhomboid-shaped tip.
NAIM-BAS, Inv. № 5086a and 50866
LL

Cat. № 266
Mould

Stone
L – 8,5 cm; W – 4,5 cm; H – 2,2 cm
Stone casting mould for the hollow base of a bronze handle. Used together with inv. № 1183.
NAIM-BAS, Inv. № 5087
Unpublished
LL

Cat. № 267
Mould

Stone
L – 5 cm; W – 3,7 cm; H – 2,2 cm
Fragment of a stone casting mould for the hollow base of a bronze handle or disc-shaped hilt.
NAIM-BAS, Inv. № 5088
Unpublished
LL

Cat. № 268
Semi-finished stone article for modelling a mould

Stone
L – 54,5 cm; W – 12 cm; W – 11,188 kg
Semi-finished stone article for modelling a parallelepiped-shaped mould. Rectangular cross-section.Broken into two parts.Restored.
RMH Razgrad, Inv. № 1177 and 1182 6
DVD

Cat. № 269
Semi-finished stone article for modelling a mould

Stone
L – 42,3 cm; W – 9,6 cm; W – 5,750 kg
Semi-finished stone article for modelling parallelepiped-shaped mould. Trapezoidal cross-section.
RMH Razgrad, Inv. № 1178
DVD

Cat. № 270
Semi-finished stone article for modelling a mould

Stone
L – 27,7 cm; W – 11,5 cm; W – 3,696 kg
Semi-finished stone article for modelling a prismatic-shaped mould. Polygonal cross-section.
RMH Razgrad, Inv. № 1179
DVD

Cat. № 271
Mould for casting an ingot

Stone
L – 58 cm; W – 9 cm; L – 67 cm; W – 12 cm; W – 9,826 kg
Stone mould for casting a massive metal ingot. At the time of its finding it was broken into several pieces. Restored.
RMH Razgrad, Inv. № 1180, 1181, 1182 A, 1200
DVD

Cat. № 272-273
Mould for casting a bulb-shaped handle

Stone
L – 10,2 cm; W – 9,5 cm;
W – 1,2 kg
L – 9,24 cm; W – 9,1 cm;
W – 1,040 kg
The mould is composed of three parts, only two of them have reached us. They are roughly processed and prismatically shaped. The excess gases are vented through a number of obliquely arranged channels during the casting process.
RMH Razgrad, Inv. № 1183A, B
DVD

Cat. № 274-275
Mould for casting a handle of a short sword

Stone
L – 13,3 cm; W – 8,1 cm; W – 709 g
L – 13,2 cm; W – 8,4 cm; W – 751 g
Two-piece mould for casting metal handles of short swords. The two halves are provided with channels allowing excess gases to be vented off during the casting process. There are channels on both sides of the handle for moving the molten metal directly to the blade.
RMH Razgrad, Inv. № 1184A,B
DVD

Cat. № 276-277
Mould

Stone
L – 8,7 cm; W – 8 cm; W – 674 g
L – 8,9 cm; W – 7,8 cm; W – 616 g
The mould consists of at least five parts, only two of them have reached us. The casting mould is cubic. There are two channels on the upper surface for pouring the metal. The excess gases are vented through obliquely arranged channels during the casting process.
RMH Razgrad, Inv. № 1185 а,б
DVD

Cat. № 278-279
Mould for casting a round plate

Stone
L – 5,1 cm; W – 4,7 cm; W – 137 g
L – 5,2 cm; W – 4,4 cm; W – 90 g
The mould is composed of three parts, only two of them have reached us. It is made of fragments of an older scrapped mould and is shaped as an irregular prism with roughly processed external sides. The channel for pouring metal is longitudinally placed.
RMH Razgrad, Inv. № 1186 а,б
DVD

Cat. № 280-281
Mould for casting a chisel, a socketed axe (celt) and a handle

Stone
L – 9,2 cm; W – 6,6 cm; W – 545 g
L – 9,2 cm; W – 6,7 cm; W – 580 g
A two-piece mould, only one parallelepiped-shaped piece is preserved. Originally, a casting form for a long and narrow hollow chisel was carved in negative on the shorter side. A casting matrix for a hollow axe was carved on the longer side. After the mould had been damaged, the stone piece was cut into two pieces reworked into a casting matrix for a disk-shaped metal handle.
RMH Razgrad, Inv. № 1187 а,б
DVD

Cat. № 282
Mould for casting a scepter-tip and buttons (or rivets)

Stone
L – 7,2 cm; W – 6,7 cm; W – 207 g
Originally, the mould consisted of four pieces. It was modelled for casting a bronze tip for a scepter with three horns. After the mould had been scraped, casting forms for three objects of hemispherical shape – buttons or decorative rivets – were carved in negative on the opposite side.
RMH Razgrad, Inv. № 1188
DVD

Cat. № 283
Lid/mould for metal ornaments

Stone
L – 7,6 cm; W – 5,6 cm; W – 204 g
Stone piece of parallelepiped shape. It was originally used as a casting mould for two pendants with a spherical-shaped body. Subsequently, it was used as a cover for other composite moulds, which is evidenced by numerous holes for pegs drilled on the opposite side.
RMH Razgrad, Inv. № 1189
DVD

Cat. № 284
Lid

Stone
L – 7 cm; W – 6,7 cm; W – 189 g
A cover of composite casting mould for bronze objects. It is made from a small and thin stone piece. A groove in which a thin rope was placed is preserved on the opposite side.
RMH Razgrad, Inv. № 1190
DVD

Cat. № 285
Mould for casting a metal vessel

Stone
L – 8,7 cm; W – 8 cm; W – 766 g
Mould for casting a hollow metal vessel with handles protruding above the rim (kantharos). Only a part of the mould is preserved. Based on the channels arranged to direct the molten metal into the mould cavity, it can be assumed that the vessel had a foot or other type of stand.
RMH Razgrad, Inv. № 1191
DVD

Cat. № 286
Mould for casting decorative discs

Stone
L – 11,6 cm; W – 10,7 cm; W – 1,335 kg
Two-sided mould for casting disk-shaped tips for metal handles. The disc is rosette-shaped on one side and undecorated on the other side. Channels providing an exit for venting the excess gases during the casting process are arranged on the rest of the surface of the mould.
RMH Razgrad, Inv. № 1192
DVD

Cat. № 287-288
Mould for casting a hammer

Stone
L – 15,7 cm; W – 10,9 cm; W – 1,317 kg
L – 15,7 cm; W – 10,5 cm; W – 1,116 kg
A three-piece mould, only two pieces are preserved. It was used for casting a massive bronze hammer decorated with fine vertical ribs terminating with hemispheres.
RMH Razgrad, Inv. № 1193 а, б
DVD

Cat. № 289-290
Mould for casting a scepter

Stone
L – 27 cm; W – 18 cm; W – 3,799 kg
L – 27,4 cm; W – 18 cm; W – 3,513 kg
A three-piece mould, only two pieces are preserved. It was used for casting a ceremonial axe with a spiral-shaped blade. Its hollow metal handle was mounted on a wooden rod.
RMH Razgrad, Inv. № 1194 а,б
DVD

Cat. № 291
Mould for casting an axe

Stone
L – 18 cm; W – 7,8 cm; W – 1,035 kg
Mould for casting a bronze axe of "Hungarian type". Old break in the rear section of the one half is discernible. The core for modelling the insertion is missing. Vertical grooves used as signs for fitting the components of the mould are visible on the narrow sides.
RMH Razgrad, Inv. № 1195
DVD

Cat. № 292
Mould for casting an axe

Stone
L – 15,5 cm; W – 9,5 cm; W – 1,216 kg
Fragment of mould for casting a bronze axe of "Hungarian type". Old break in the rear section is discernible. Three vertical grooves used as signs for fitting the other half of the mould are visible on the front side.
RMH Razgrad, Inv. № 1196
DVD

Cat. № 293-294
Mould for casting an axe and an wedge

Stone
L – 10,2 cm; W – 9,5 cm; W – 1,200 kg
L – 9,24 cm; W – 9,1 cm; W – 1,040 kg
Mould for casting a bronze axe of "Hungarian type". The core for modelling the insertion is missing. A casting form of narrow wedge with rhomboid cross-section is carved in negative underneath the blade.
RMH Razgrad, Inv. № 1197 A, B
DVD

Cat. № 295-296
Mould for casting an axe, a cross-shaped axe and a hollow chisel

Stone
L – 20 cm; W – 8 cm; W – 1,577 kg
L – 20 cm; W – 7,7 cm; W – 1,520 kg
Three-side mould for casting a bronze axe of "Hungarian type", a T-crossed axe and a hollow chisel. The cracks in the stone are caused by long-term use of the mould. Both halves are repaired by drilling channels and filling them with molten metal. The casting form for the chisel carved in negative became unusable after the repair.
RMH Razgrad, Inv. № 1198 а, б
DVD

Cat. № 297-298
Mould for casting a short sword of type Krasnomayak

Stone
L – 41,1 cm; W – 9,5 cm;
W – 3,340 kg
L – 41,1 cm; W – 10 cm;
W – 3,682 kg
A mould for casting a short sword with a wide blade. The casting mould for the blade is composed of two parallelepiped-shaped halves. One of them was damaged in ancient times and subsequently repaired using wooden pegs.
RMH Razgrad, Inv. № 1199 A, B
DVD

Valchitran gold treasure.

Includes 12 gold vessels – one kantharos, one large and three small kyathoi, two large and five smaller lids with bulbous knobs, and one tripartite gold and electron vessel. Discovered accidentally in 1924, during land cultivation, in the vicinity of Valcitran, Pleven region, approximately 30 cm beneath the modern surface, within a 0,80 sq.m. area. The large vessel (the kantharos), was arranged tilted on one handle; in it were the small vessels. In front of it, the lids were arranged upright, back to back.
Late Bronze Age (Second half of 2nd millennium BC)
NAIM-BAS
Миков 1958; Venedikov 1987; Sherratt, Taylor 1989
KC

Cat. № 299
Kantharos

Gold, 22 ct
H – 22,4 cm; D (max.) – 30 cm; W – 4,395 kg
The kantharos has two handles, a wide mouth, slightly profiled lip, bulging body and low, profiled base. Strap handles, drawn from the lip and attached to the body of the vessel by three rivets and by silver solder. Handles are decorated with five equally well pronounced parallel ribs, decorated with oblique, parallel narrow notches. At the base of the handle the mid rib splits into two symmetrically raised arches, by which it merges with the outturned ends of the adjacent ribs.
Inv. № 3192

Cat. № 300
Kyathos

Gold, 22 ct
H – 18,3 cm; D (rim) – 16,2 cm; W – 919 g
The kyathos has a high strap, vertical handle, slightly profiled lip and a narrow bottom. The handle is drawn from the lip and attached to the body by three rivets and by silver solder. Decoration is of five parallel pronounced ribs. The ribs are decorated with oblique notches, as the midrib terminates at both ends in short arcs, merging with the adjacent ribs.
Inv. № 3193

Cat. № 301
Kyathos

Gold, 22 ct
H – 8,2 cm; D (rim) – 8,8 cm; W – 130 g
Wide mouth, rounded walls and low narrow profiled base. High strap handle, drawn out. The handle is drawn from the lip and attached to the body by three rivets. Decoration consists of three parallel horizontal ribs below the rim and three parallel ribs on the handle: one broad midrib with semi-circular section and two narrow lateral ribs. The midrib splits at the top into gentle arches, merging with the top horizontal rib along the rim. Oblique notches on the ribs. The base is profiled, with a single pronounced ledge.
Inv. № 3194

Cat. № 302
Kyathos

Gold, 22 ct
H – 8,9 cm; D (rim) – 8,9 cm; W – 132 g
Identical to kyathos with Inv. № 3194.
Inv. № 3195

Cat. № 303
Kyathos

Gold, 22 ct
H – 8,9 cm; D (rim) – 8,8 cm; W – 123 g
Identical to kyathos with Inv. № 3194 and 3195.
Inv. № 3204

Cat. № 304
Lid with bulbous knob

Gold, 22 ct
H – 12,6 cm; D – 36,8 cm; W – 1,850 kg
The lid consists of five components, soldered together. Only the exterior is decorated with a silver band with geometric ornaments, pronounced ribs and notches, distributed in four concentric registers. The handle is also decorated with a silver band with geometric ornaments. The tip of the handle is ornamented with a bi-conical stud upon which are found shallow oblique notches.
Inv. № 3196

Cat. № 305
Lid with bulbous knob

Gold, 22 ct
H – 12,6 cm; D – 37 cm; W – 1,755 kg
Identical to the lid with Inv. № 3196.
Inv. № 3197

Cat. № 306
Lid with bulbous knob

Gold, 22 ct
H – 11,5 cm; D – 21,6 cm; W – 588 g
The lid is made from one piece. Slightly convex shape. The handle is three-partite, decorated with pronounced ribs and incisions.
Inv. № 3198

Cat. № 307
Lid with bulbous knob

Gold, 22 ct
H – 11,6 cm; D – 21,6 cm; W – 462 g
Identical to the lid with Inv. № 3198.
The main part of the periphery is cutted off.
Inv. № 3199

Cat. № 308
Lid

Gold, 22 ct
H – 3,1 cm; D – 21,6 cm; W – 369 g
Identical to the lids with Inv. № 3198 and 3199.
The handle is cutted off.
Inv. №. 3200

Cat. № 309
Lid

Gold, 22 ct
H – 4,8 cm; D – 21,6 cm; W – 300 g
Identical to the lids with Inv. № 3198, 3199 and 3200.
Pieces of the knob and the periphery were cuted off.
Inv. № 3201

Cat. № 310
Lid

Gold, 20 ct
H – 3,1 cm; D – 21,6 cm; W – 207 g
Identical to the lids with Inv. № 3198, 3199, 3200 and 3201. Decorated with pronounced ribs, edged by a row of dints. The knob, and major portion of the periphery, are cut.
Inv. № 3202

Cat. № 311
Tripartite vessel

Gold, 22 ct
H – 5,3 cm; L – 28,9 cm; W – 1,190 kg
Made from a gold sheet and electrum. Consists of three identical elongated containers, pointed and upturned at one end, the opposite endis rounded. The containers are joined through crescent-shaped tubesof electrum. Other bent tubes extend from the rounded ends of the containers: the two outer tubes merge into the larger middle tube.
Inv. № 3203

Cat. № 312
Lid

Electrum
D – 30,5 cm
Vicinity of Cherven Bryag, Pleven region, stray find
Late Bronze Age (Middle – second half of the 2nd millennium BC)
It is of a slightly conical shape, the periphery is turned downwards. There is a handle of slightly elongated bulb in the central part.
NHM, Inv. № 38050
Unpublished
MH

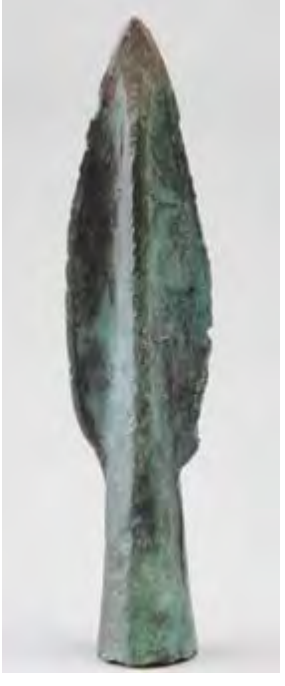
Cat. № 313
Lid

Electrum
D – 33 cm
Vicinity of Cherven Bryag, Pleven region, stray find
Late Bronze Age (Middle – second half of the 2nd millennium BC)
It is of a slightly conical shape, the periphery is turned downwards. There is a handle of slightly elongated bulb in the central part.
NHM, Inv. № 38049
Unpublished
MH

Finds from the Late Bronze Age goldmine at Ada Tepe

Cat. № 314
Axe – Kalugerovo Type

Bronze
L – 15,5 cm; W – 10 cm; W – 454 g
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Double-axe head, one corner of the bit slightly upturned.
NAIM-BAS
Inv. № 4861
Haag et al. 2017, 189, № 285
ST



Cat. № 315
Local-type spearhead with cast socket

Bronze
L – 10,3 cm;
W – 2,4 cm;
W – 40 g
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Blade is elongated; socket is conical. Traces of hammering.
NAIM-BAS
Inv. № 5262
Лещаков 2015, 211, 352, 36: 1
ST

Cat. № 316
Jug

Pottery
H – 10,7 cm; D (max.) – 12,7 cm
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Handmade of clay with smallinclusions and mica. The vessel is with oblique rim, conical neck, spherical body, flat base. The surface is smoothed, grey-black, with brown spots. Decorated with Furchenstich ornament with incrustation, consisting of three oval medallions.
RMH Kardzhali, Inv. № 13316
Попов 2011b, 136, Обр. 2
YD

Cat. № 317
Vessel

Pottery
H – 7,6 cm;
D (max.) – 6,4 cm
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Handmade of clay with small quartz and mica inclusions. The vessel is with oblique, profiled rim, transitioning into a bi-conical body, which at the maximum diameter is formed like a disk. The bottom is hollow, conical foot. The handle isvertical, high, raised above the rim and with triangular section. Even, grey-brown surface, with brown and black spots. Decoration consists of a single band of small Kerbschnitt triangles at the base of the 'disc'.
RMH Kardzhali, Inv. № 13317
Haag et al. 2017, 177, № 116
YD

Cat. № 318
Kantharos

Pottery
H – 7,5 cm;
D (max.) – 7,5 cm
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Handmade of clay with small quartz and mica inclusions. The vessel is with slightly outturned rim, cylindrical neck and spherical body, flat base, vertical handles with triangular section, raised high above the rim. Smoothed, dark-grey and brown surface. Decoration occupies the entire surface and consists of Furchenstich ornaments, arranged in two symmetrical trapezoidal panels on the opposite sides.
RMH Kardzhali, Inv. № 13318
Haag et al. 2017, 177, № 117
YD

Cat. № 319
Amphora

Pottery
H – 22,2 cm; D (max.) – 17,1 cm
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Handmade of clay with small quartz and mica inclusions. The vessel is with thickenedmouth rim, conical neck, ovoid body, flat base and two vertical handles at the maximum diameter. The surfaceis smoothed withbrown to dark browncolour with grey-black spots. The body is decorated with Furchenstich and Kerbschnitt ornaments arranged in symmetrical vertical bands. Traces of white pasteincrustation.
RMH Kardzhali, Inv. № 13319
Попов, Ников 2014, 121, Обр. 3
YD

Cat. № 320
Jug

Pottery
H – 26,2 cm; D (max.) – 23 cm
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Handmade of clay with medium and large quartz and mica inclusions. The vessel is with oblique, outturned rim, conical neck, semi-spherical upper body and conical lower body,flat base and one vertical handle, triangular in section. The surface is smoothed, light brown incolour, with grey-black spots. The decoration consists of vertical notches on the lip and three vertical rows of conical knobs on the body.
RMH Kardzhali, Inv. № 13320
Haag et al. 2017, 177, № 119
YD

Cat. № 321
Spindle whorl

Ceramics
H – 3,4 cm; D (max.) –3,5 cm; W – 26,4 g
Ada Tepe by Krumovgrad,
Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Formed as truncated conus with slightly concave walls. Made of clay with small quartz and mica inclusions, with smooth surface, light brown in colour, with some grey spots. The decoration is of triangular Furchenstich ornaments;on the narrow base – aband of fine pinholes; on the wide base – circles, made of Furchenstich, Kerbschnitt triangles and fine pinholes.
RMH Kardzhali, Inv. № 13321
Haag et al. 2017, 178, № 120
YD

Cat. № 322
Spindle whorl

Ceramics
H – 2,9 cm; D (max.) – 4 cm; W – 44,3 g
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
In the form of flattened sphere, made of clay with fine quartz and mica inclusions. The surface is smoothed, dark grey to brown in colour. The decoration consists of seven radiating triangles in Furchenstich technique; two more triangles on the maximum diameter.
RMH Kardzhali, Inv. № 13322
Haag et al. 2017, 178, № 121
YD

Cat. № 323
Spindle whorl

Ceramics
H – 2,5 cm; D (max.) – 3,5 cm; W – 24,8 g
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Bi-conicalin form; made of clay with small and large quartz and mica inclusions, with burnished, dark brown to grey-black surface.
RMH Kardzhali, Inv. № 13323
Haag et al. 2017, 178, № 122
YD

Cat. № 324
Knife

Bronze
L – 8,1 cm; W (max) – 1,1 cm; W – 8,6 g
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
One-sided knife with triangular section of the blade. The blade is decorated with shallow grooves along its length.
RMH Kardzhali, Inv. № 13324
Haag et al. 2017, 178, № 123
YD

Cat. № 325
Bead

Gold
L – 0,8 cm; D (max.) – 0,65 cm; W – 2.4 g
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Gold bead, bi-conical in form.
RMH Kardzhali, Inv. № 13325
Popov et al. 2015, 55, Abb. 16
YD

Cat. № 326
Smelt

Gold
D – 0,4 by 0,3 cm; W – 0,6 g
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Gold smelt, spherical in form.
RMH Kardzhali, Inv. № 13326
Tcherkezova et al. 2014, 211, Abb. 2: e
YD

Cat. № 327
Mould for casting of Beguntsi type double axe

Yellow-brown sandstone
L – 12,4 cm; W – 6,2 x 8 cm; W – 522 g
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Fragment of a double-sided mould. Part of one of the halves is preserved, with the beds for the bit and the ribbed shaft. The piece is trapezoidal, with oval section. A line is carved on the short exterior transverse wall as a 'fitting mark'.
RMH Kardzhali, Inv. № 13327
Popov et al. 2015, 58, Abb. 19: 1
YD

Cat. № 328
Mould

Stone
L – 9,1 cm; W – 5,4 cm; W – 334,4 g
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Rectangular, with rounded rectangular cross section. Three longitudinal channels are carved in the work surface.
RMH Kardzhali, Inv. № 13328
Haag et al. 2017, 178, № 127
YD

Cat. № 329
Flake with denticulated retouche

Flint
L – 4,2 cm;
W – 2,5 cm;
T – 1 cm
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Flake with bifacial denticulated retoucheand a polish on the right edge.
RMH Kardzhali, Inv. № 13329
Haag et al. 2017, 178, № 128
ST

Cat. № 330
Blade with denticulated retouche

Flint
L – 4,7 cm; W – 2,1 cm;
T – 0,7 cm
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Blade with bifacial denticulated retoucheand a polish on the right edge, semi-abruptretou-cheof the left edge.
RMH Kardzhali, Inv. № 13330
Haag et al. 2017, 178, № 129
ST

Cat. № 331
Blade with denticulated retouche

Flint
L – 5,5 cm; W – 2 cm; T – 0,8 cm
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Blade with bifacial denticulated retouche (semi-abrupt on the dorsal side and obverse/backing retouche on the ventral surface) and polish on the left edge.
RMH Kardzhali, Inv. № 13331
Haag et al. 2017, 178, № 130
ST

Cat. № 332
Blade with denticulated retouche

Flint
L – 8 cm; W – 1,8 cm; T – 0,8 cm
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Blade with bifacial denticulated retoucheand a polish on the right edge.
RMH Kardzhali, Inv. № 13332
Haag et al. 2017, 178, № 131
ST

Cat. № 333
Adze

Stone
L – 4,9 cm; W – 4,3 cm; W – 60,2 g
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Trapezoidal in shape; asymmetrical longitudinal profile, trapezoidal transverse section. Polished, black-grey surface.
The butt is broken off.
RMH Kardzhali , Inv. №13333
Haag et al. 2017, 178, № 133
YD

Cat. № 334
Adze

Stone
L – 7,6 cm;
W – 4,3 cm;
W – 66,7 g
Ada Tepe
by Krumovgrad,
Kardzhali region
Late Bronze Age
(Second half of the
2nd millennium BC)
Trapezoidal in shape; asymmetrical longitudinal profile; trapezoidal transverse section. Smoothed surface, light grey-beige; chiped butt.
RMH Kardzhali, Inv.
№ 13334
Попов 2011a, 35
YD

Cat. № 335
Adze

Stone
L – 7 cm; W – 4,8 cm; W – 128,6 g
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Trapezoidal in shape; asymmetrical longitudinal profile, trapezoidal transverse section. Light grey surface color, chips and damages, mostly of the butt and the bit.
RMH Kardzhali, Inv. № 13335
Haag et al. 2017, 178, № 134
YD

Cat. № 336
Whetstone

Stone
L – 5,5 cm; W – 1,1 cm; W – 10,7 g
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Rectangular in form; rectangular long and quadrangular transverse section. Ground surface, grey-beige in color. A hole for suspension is pierced in the proximal, tapered end. Above the hole – are visible traces of a former suspension hole.
RMH Kardzhali, Inv. № 13336
Haag et al. 2017, 179, № 135
YD

Cat. № 337
Pestle

Quartz
L – 13,7 cm; W – 10,4 cm; W – 1,614 kg
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Oval in shape; traces of thermal exposure and obvious abrasion upon both working surfaces.
RMH Kardzhali, Inv. № 13337
Haag et al. 2017, 179, № 136
YD

Cat. № 338
Pestle

Quartz
L – 9,4 cm; W – 8,5 cm; W – 587 g
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Oval in shape; traces of abrasion along the entire periphery.
RMH Kardzhali, Inv. № 13338
Haag et al. 2017, 179, № 137
YD

Cat. № 339
Pestle

Quartz
L – 8,8 cm; W – 8,2 cm; W – 728 g
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Oval in shape; four working platforms with traces of significant abrasion.
RMH Kardzhali, Inv. № 13339
Haag et al. 2017, 179, № 138
YD

Cat. № 340
Whetstone

Stone
L – 4,7 cm; W – 0,9 cm
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Rectangular in form; rectangular long and transverse sections. Ground surface, grey-green in color. A hole for suspension is pierced in the proximal end
RMH Kardzhali
Unpublished
YD

Cat. № 341
Knife

Bronze
L – 5,1 cm; W (max) – 0,7 cm
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
One-sided knife with triangular section of the blade. The blade and part of the handle are preserved.
RMH Kardzhali
Unpublished
YD

Cat. № 342
Implement

Bronze
L – 9,1 cm; W (max) – 0,5 cm
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age (Second half of the 2nd millennium BC)
Implement with rectangular cross-section. One of the tips is pointed and the other is flattened.
RMH Kardzhali
Unpublished
YD

Cat. № 343
Sword pommel

Marble
H – 2 cm; D – 4 cm
Ada Tepe by Krumovgrad, Kardzhali region
Late Bronze Age
Convex circle with a tang for attachment.
RMH Kardzhali, Inv. № 13315
Unpublished
ST

Cat. № 344
Rapier of Early Mycenaean type

Bronze
L – 88,2 cm; W – 6,2 cm; W – 735 g
Provenance unknown
Late Bronze Age

Elongated triangular blade and a grip which has nearly the shape of a trapezium with two drilled rivet holes. Two thin lines are incised on both sides of the central edge.
NMH Sofia, Inv. No 52530
Христова, Христов 2009
MH

Cat. № 345
Rapier of Pre-Mycenaean type

Bronze
L – 67,50 cm; W (max) – 3,4 cm
Village of Yonkovo, Isperih Municipality, Razgrad region
Middle to Late Bronze Age

Casted and hammered. The blade is with a midrib; four rivet holes are preserved at the proximal end of the blade.
RMH Razgrad, Inv. № 1081
Panayotov 1980, 177, Fig. 2: 1
YD

Cat. № 346
Rapier of Early Mycenaean type

Bronze
L – 61 cm; W (max) – 4,9 cm
Village of Drama, Yambol region
Late Bronze Age (16th – 14th century BC)

Blade very well preserved. Midrib with lozenge cross-section. Decorated with narrow paralel incised lines. Handgrip missing. One rivethole preserved. Covered with patina.
MH Nova Zagora, Inv. № 6105
Kănchev, Kăncheva 1993
LL

Cat. № 347
Rapier of Early Mycenaean type

Bronze
L (preserved) – 71 cm; W (max) – 4,5 cm
Tumulus necropolis (tumulus № 1) in the Lilovo locality, Municipality Devin, Smolyan region
Late Bronze Age (1st phase)

The rapier is cast and polished. The tang is flanged – likely secondary modification. Along the length of the blade there is a midrib flanked by two pairs of parallel lines.
RMH Smolyan, Inv. № A-01821
Бориславов, Иванова 2007, 87-91
DND

Cat. № 348
Pommel

Bronze
D – 2,7 cm; H – 4 cm;
W – 3,65 g
Tumulus necropolis (tumulus № 1) in the Lilovo locality, Municipality Devin, Smolyan region
Late Bronze Age (1st phase)
Convex circle with a tang for attachment.
RHM Smolyan,
Inv. № A-01692
Бориславов, Иванова 2007, 87-91
DND

Cat. № 349
Sword

Bronze
L – 18,7 cm; W (blade) – 5,2 cm
North-East Bulgaria, unknown location
15th–14th century BC
Part of a sword, probably of East Aegean type, broken at its proximal and distal ends. Three rivet-holes preserved; elongated triangular form of the blade with mid-rib; four small, sharply edged ribs running along the entire length of the blade.
RMA Varna, Inv. № I-3762
Athanassov et al. 2009
VS

Cat. № 350
Local-type rapier with horned handguard

Bronze
L – 76 cm; W (max) – 3 cm
Perushtitsa, stray find
Late Bronze Age
The blade is narrow, with diamond section and pronounced midrib. Horned projections functioning as handguard.
RMA Plovdiv, Inv. №1191
Panayotov 1980, 176, fig. 1:4
YD, RM

Cat. № 351
Local-type rapier with horned handguard

Bronze
L – 57 cm; W (max) – 1 cm; W – 226 g
Village of Doktor Yosifovo, Montana region
Late Bronze Age (Second half of the 2nd millennium BC)
Narrow blade, diamond section and high midrib. Horned projections functioning as handguard.
NAIM-BAS, Inv. № 3960
Panayotov 1980, 176, Fig. 1: 5
ST

Cat. № 352
Local-type rapier with horned handguard

Bronze
L – 78 cm; W (max) – 2,6 cm; W – 500 g
Village of Levski (Kalaglare, Dolno Levski), Pazardzhik region
Late Bronze Age (Second half of the 2nd millennium BC)
Blade has diamond section; tang has rectangular section and six rivet-holes. Horned projections functioning as handguard.
NAIM-BAS, Inv. № 616
Panayotov 1980, 176, Fig. 1: 3
ST

Cat. № 353
Mycenaean-type rapier with horned handguard

Bronze
L – 52,5 cm; W (max) – 9,7 cm
Village of Gorski Izvor, Haskovo region
Late Bronze Age
Along the blade there is a pronounced midrib starting under/at the handgrip; the blade point is not preserved; both edges of the blade are jagged. Horned projections functioning as handguard. The grip-tongue is fanged and terminates in a short tongue for attaching the pommel. On the tang there are several rivet holes.
RMH Haskovo, Inv. № A-2217
Аладжов 1997, 59-60, Обр. 25; Петров 2007, 33
SI

Cat. № 354
Mycenaean-type rapier with horned handguard

Bronze
L– 86,2 cm; W (max) – 3,1 cm
Village of Galatin, Vratsa region, stray find
15th – 14th century BC
Casted and hammered. Midrib at the blade. Horned projections functioning as handguard. The middle part is twisted.
RHM Vratsa, Inv. № A 954
Черных 1978, 240, Табл. 65/6; Panayotov 1980, 179, Fig. 1/2
TH

Cat. № 355
Sword pommel

Marble
H – 2,4 cm; W – 4,7 cm
Village of Dolno Cherkovishte, Stambolovo Municipality, Haskovo region
Late Bronze Age
Irregular oval shape with a cylindrical blind hole at the bottom. Two smaller rivet holes for attaching the pommel to the metal part of the weapon.
RMH Haskovo,
Inv. № A-5053
Нехризов 2008а, 132, Обр. 2:3
SI

Cat. № 356
Cutting sword

Bronze
L – 63,6 cm; W (max) – 3,6 cm
Village of Hirevo, Sevlievo region, stray find
Late Bronze Age
Blade and tang cast in a single mould. Solid, elongated willow-leaf shaped blade; two rivets left for attaching the tang; the tang is missing. Decoration – 2 groups of 3 incised lines running from the tang to the edge.
MH Sevlievo, Inv. № 1879
Unpublished
SA

Cat. № 357
Cutting sword of Central European type (type Nenzingen)

Bronze
L – 63,50 cm; W (max) – 3,4 cm; W – 725 g
Baykal, Municipality Oryahovo, stray find
Late Bronze Age (Second half of the 2nd millennium BC)
Long trapezoidal blade; four rivet holes for the attachment of the hilt to a grip.
NAIM-BAS, Inv. № 20
Черных 1978, 238-239, Табл. 64: 4; Panayotov 1980, 182, Fig. 4: 1
ST

Cat. № 358
Cutting sword of Central European type (type Nenzingen)

Bronze
L – 70 cm; W (max) – 3,6 cm
Oryahovo, stray find
Late Bronze Age
Long trapezoidal blade; four rivet holes for the attachment of the hilt to a handgrip. Tip is missing.
NAIM-BAS, Inv. № 3020
Panayotov 1980, 181, Fig. 3: 2
ST

Cat. № 359
Cutting sword

Bronze
L – 58,5 cm; W (max) – 5 cm; W – 285 g
Provenance unknown
Late Bronze to Early Iron Age

An elongated leaf-shaped blade rhomboid widened at the section of the grip and then narrowed again. There are four rivet holes on it.
NMH Sofia, Inv. № 32913
Konova 2004, Kat. № 142
MH

Cat. № 360
Cutting sword

Bronze
L – 85,5 cm; W (max) – 2,5 cm
Village of Pavelsko, Chepelare Municipality, Smolyan region

Late Bronze Age
Long trapezoidal blade with profiled middle; 5 rivet-holes for fastening the hilt.
RMA Plovdiv, Inv. № 272
Panayotov 1980, 181, Fig. 3:1
YD, RM

Cat. № 361
Single-edged cutting sword

Bronze
L – 44,5 cm; W (max) – 6,4 cm
Village of Cherkovna, Varna region
Late Bronze Age
Mushroom-like hilt terminating in a flattened disc. The hilt gradually, without a defined fender, becomes a solid thick rib, in which a leaf-shaped blade is inserted – thus resulting in asingle-edged cutting weapon. The tip is rounded. Upon the hilt shallow incised grooves trace hatched triangles. The rib closer to the hilt also features two rows of hatched triangles with joined at the middle of the rib points. During casting, in both faces of the blade proximal to the hilt were formed three parallel delicate ribs, converging to a point just below the base of the hilt.
RMA Varna, Inv. № I.828
Chernikh 1978; Черных, 1978, 235, Табл. 63: 16; 237
VS

Cat. № 362
Cutting sword of Central European type (type Nenzingen)

Bronze
L – 69,8 cm; W (max) – 3,6 cm; W – 856 g
Village of Smirov dol, Pernik region
Late Bronze Age

Cast; elongated willow-leaf shaped blade with lens-shapedcross-section; flanged tang withtwo fishtails/ears at the end. Eight rivets for attaching the tang-plates. Two pairs of two incised lines running from the tang to the edge.
RMH Pernik, Inv. № AI 151
Čohadžiev 1981
SA

Cat. № 363
Cutting sword

Bronze
L – 65,5 cm; W (max) – 3,8 cm
Village of Pchela, Elhovo region, stray find
Late Bronze to Early Iron Age
Elongated willow-leaf shaped blade with lens-shaped cross-section; flanged tang withtwo fishtails/ears at the end. Four rivets for attaching the tang-plates. Two pairs of two incised lines running from the tang to the edge.
MEA Elhovo, Inv. № A-56
Unpublished
DA

Cat. № 364
Shaft-hole axe

Basalt
L – 12,6 cm; W (max) – 4,8 cm; W – 357,30 g
Gabrovo, Goranova mogila locality, stray find
Early Bronze Age (3rd millennium BC)
Elongated ovoid form with oval base and concave cutting part; thickened on both sides of the shaft-hole. Decoration with fine parallel or zig-zag incised lines on both upper and lower parts and around the thickening at the shaft-hole.
RMH Gabrovo, Inv. № 5A
Койчева-Мечева1979, Табл. IX/2
SA

Cat. № 365
Scepter

Stone
L – 15,3 cm; W – 532 g
Lyulin, Burgas region
Late Bronze Age
Shaft-hole stone scepter, tapering bit, semi-globular butt, horizontally drilled hole, two cylindrical protuberances on both sides of the hole. "Flutes" run from the protuberances to the bit.
NAIM-BAS, Inv. № 3500
Александров, Гладичева 1993:48, 50, Табл. XI: 4
ST

Cat. № 366
Scepter

Stone
L – 18 cm
Village of Glavan,
Radnevo region
Late Bronze Age
Shaft-hole stone scepter, made of well-polished stone. The tip is crescent-shaped, the butt is spherical, decorated with s-shaped channels.
NAIM-BAS, Inv. № 8430 a
Василева 2008
LL

Cat. № 367
Oxhide Ingot

Copper
L – 46 cm; W – 26 cm; W – 25,9 kg
Provenance unknown
Late Bronze Age (ca.1300 BC)
A pillow-shaped oxhide ingot. There is a sign on the bottom left corner similar to the signs found on the ingots in the shipwrecked vessel near Uluburun (Turkey) dated to ca. 1300 BC.
RHM Ruse, Inv. № IV 4291
Doncheva 2012, Fig. 15: a-c
DYD

Cat. № 368
Oxhide Ingot

Copper
L – 58 cm; W – 34 cm; W – 26 kg
Village of Cherkovo, Cheshmichkata locality, Burgas region
Late Bronze Age
Rectangular shape with concave sides. Small chips off the corners. Poriferous surface, covered in thick green patina. Upon one side are incised a "+" and a "<" signs. The first is applied prior to the metal cooling, the second – perhaps of natural origin.
RHM Burgas, Inv. № 2874
Карайотов 1978
MK

Cat. № 369
Oxhide ingot

Copper
L (max.) – 72 cm; W (max.) – 34 cm; W – 26,2 kg
Village of Chernozem, Elhovo region
Late Bronze Age (14th–13th c. BC.)
Oxhide ingot, four prominent tongue-shaped extensions, folded sides. The upper side is very rugged, uneven, with shrinkholes, severely creased. In most creases sticks a matt grey, non-metal substance, probably from the casting.The surface was left untreated after casting, with one exception– a smoothed patch on the 'top' surface, in which with a broad-tip chisel was cut a 'double-T'mark.
MEA Elhovo, Inv. № A – 458
Lichardus et al. 2002, 135, Abb 17-18
HH

Cat. № 370
Ingot

Copper
L – 69 cm; W (max.) – 41 cm; T – 1,5-5,1 cm; W – 24,7 kg
Village of Kamenovo, Kubrat Municipality, Razgrad region
Late Bronze Age
Oxhide ingot. The extremities are thicker than the middle, wider section.
RMA Varna, Inv. № I.3772
Русев и др. 2006
VS

Cat. № 371
Ingot

Copper
L – 68,5 cm; W (max.) – 39 cm; T – 2,4-4,5 cm; W – 27,2 kg
Village of Kamenovo, Kubrat Municipality, Razgrad region
Late Bronze Age
Oxhide ingot. The extremities are thicker than the middle, wider section
RMA Varna, Inv. № I.3773
Русев и др. 2006
VS

Cat. № 372
Torque/ingot

Bronze
D – 13,8 cm; W (max) – 1,6 cm
Lovech region
Middle of 2nd millennium BC
Incomplete circle. Made from a thick wire with round section, towards the terminals tapers gradually. At both terminals the wire is flattened, folded at 90 degrees to form 'eyes'.
RHM Lovech,
Inv. № 257
Unpublished
MV

Semerdzhievo Hoard: Discovered by Yordan Georgiev, village resident, while digging for building foundations

The hoard consists of two bronze axes (celts) and three copper ingots.
Semerdzhievo, Ruse region
Late Bronze Age (14th c. BC)
NAIM-BAS
Попов 1936, 27-37
ST

Cat. № 373
Ingot

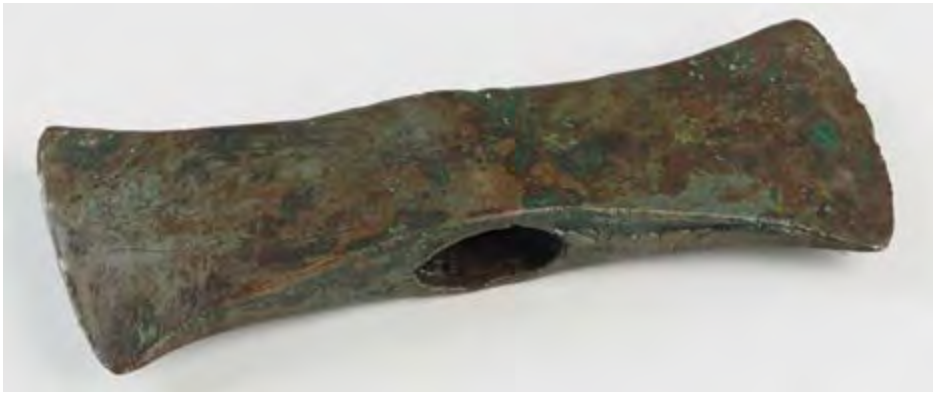
Copper
L– 16 cm; W – 14,3 cm; T – 3,3 cm
The ingot is oval in form.
Inv. № 2852-a

Cat. № 374
Ingot

Copper
L– 15,2 cm; W – 14,2 cm; T – 3,1 cm
The ingot is rectangular in form.
Inv. № 2852-б

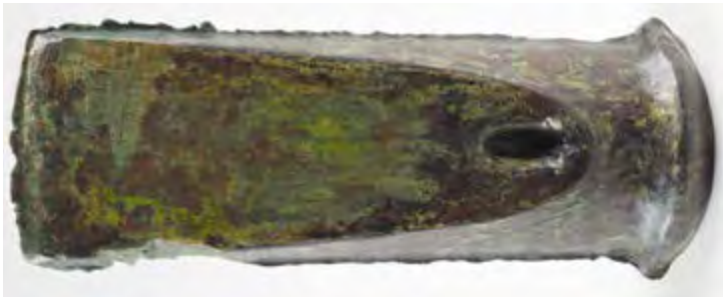
Cat. № 375
Ingot

Copper
L – 14,7 cm; W – 10 cm; T – 2,4 cm
The ingot is oval in form.
Inv. № 2852-в



Cat. № 376
Double axe of Mycenaean type

Bronze
L – 19 cm;
W (max.) – 7,2 cm
Double-axe; the shafthole is indistinguishable from the body.
Inv. № 2851



Cat. № 377
Socketed axe (celt)

Bronze
L– 14,8 cm; W (socket hole) – 5,1 cm
Crescent-shaped front side with half-drilled hole.
Inv. № 2850

Moulds from Sokol

Cat. № 378
Combined mould for casting a socketed axe and a chisel.

Stone
L – 9 cm
North of the village of Sokol, Nova Zagora region
End of the Late Bronze Age – Beginning of the Early Iron Age (11th – 10th c. BC)
Trivalve casting mould for a medium sized socketed axe and a socketed chisel.
MH Nova Zagora, Inv. № 1234
Койчев 1950, Обр. 142; Черных 1978, Табл. 60, 8; Wanzek 1989, T. 46, 3, a-b
LL

Cat. № 379
Mould for casting a bronze spearhead

Stone
L – 22,3 cm
North of the village of Sokol, Nova Zagora region
End of the Late Bronze Age – Beginning of the Early Iron Age (11th – 10th c. BC)
Bivalve casting mould for a big bronze spearhead. Long leafshaped blade. Midrib with oval cross-section. Long socket.
MH Nova Zagora, Inv. № 1237
Койчев 1950, Обр. 146; Черных 1978, Табл. 60, 5; Лещаков 2015, Т. 54, 4
LL

Cat. № 380
Mould for casting a bronze javelin head

Stone
L – 12 cm
North of the village of Sokol, Nova Zagora region
End of the Late Bronze Age – Beginning of the Early Iron Age (11th – 10th c. BC)
Bivalve casting mould for a medium sized bronze spearhead. Leafshaped blade. Midrib with oval cross-section. Long socket.
MH Nova Zagora, Inv. № 1239
Койчев 1950, Обр. 145 Б; Черных 1978, Табл. 60, 8; Лещаков 2015, Т. 33, 4
LL

Cat. № 381
Mould for casting a bronze spearhead

Stone
L – 18 cm
North of the village of Sokol, Nova Zagora region
End of the Late Bronze Age – Beginning of the Early Iron Age (11th – 10th c. BC)
Bivalve casting mould for a medium sized bronze spearhead. Leafshaped blade. Midrib with oval cross-section. Long socket.
MH Nova Zagora, Inv. № 1238
Койчев 1950, Обр. 145 А; Черных 1978, Табл. 60, 6; Лещаков 2015, Т. 2, 6
LL

Cat. № 382
Combined mould for casting three bronze awls and an unidentified item

Stone
L – 9 cm
North of the village of Sokol, Nova Zagora region
End of the Late Bronze Age – Beginning of the Early Iron Age (11th – 10th c. BC)
Fragment of a casting mould for three bronze awls and for an unidentified item.
MH Nova Zagora, Inv. № 1240
Койчев 1950, Обр. 147
LL

Collective find of 15 moulds from the village of Mogilitsa, Smolyan region

13th – 12th c. BC
RHM Smolyan
Damyanov 2007
DND

Cat. № 383
Mould

Stone – biotite-amphibole gneiss shale
L (preserved) – 21,5 cm; W – 4-6 cm; T – 2,5 cm; W – 517 g
Mould with smooth flat underside, trapezoidal shape, and two parallel beds: for a drill and a hilt (probably). Part of a composite multi-piece mould.
Inv. № A-01414

Cat. № 384
Mould

Stone – biotite-amphibole gneiss shale
L (preserved) – 13,8 cm; W (preserved) – 5,5 cm; T – 2,4 cm; W – 315 g
Part of a composite multi-piece mould. Trapezoidal, with smooth flat underside. Cast: an adze-chisel, with two projections for fixing a haft/grip.
Inv. № A-01415

Cat. № 385
Mould

Stone – biotite-amphibole gneiss shale
L – 10,5 cm; W – 3,4-5,2 cm; T (max.) – 1,8 cm; W –128 g
Part of a two-piece mould. Trapezoidal shape, smooth flat underside. Cast: adze-chisel with two horns for fixing a haft/grip.
Inv. № A-01416

Cat. № 386
Mould

Stone – biotite-amphibole gneiss shale
L –11 cm; W – 3,2-4,7 cm; T –1,2-1,6 cm; W – 128 g
Part of a two-piece mould. Trapezoidal shape, smooth flat underside. Cast: two items
Inv. № A-01417

Cat. № 387
Mould

Stone – biotite-amphibole gneiss shale
L – 11 cm; W – 2,8-3,4 cm; T – 1,8-2,2 cm; W – 103 g
Double-sided piece from a composite mould. Trapezoidal shape. Casts: two items.
Inv. № A-01418

Cat. № 388
Mould

Stone – biotite-amphibole gneiss shale
L – 10,1 cm; W – 5,5-6,2 cm; T – 2,2 cm; W – 223 g
Part of a two-piece mould. Trapezoidal shape. Casts: two curved knives.
Inv. № A-01419

Cat. № 389
Mould

Stone – biotite-amphibole gneiss shale
L (preserved) – 6,2 cm; W (min.) – 5,5 cm; T – 1,6 cm; W – 80 g
Part of a two-piece mould. Trapezoidal shape. Casts: two curved knives.
Inv. № A-01420

Cat. № 390
Mould

Stone – biotite-amphibole gneiss shale
L – 5,4 cm; W – 1,8-2,1 cm; T – 1,3-1,5 cm; W – 28,55 g
One half of a mould piece, from a multi-piece composite mould. Parallelepiped shape. Cast: one half of a buckle.
Inv. № A-01421

Cat. № 391
Mould

Stone – biotite-amphibole gneiss shale
L – 6,5 cm; W – 1,4; T – 2,2 cm; W – 30,9 g
One half of a mould piece, from a multi-piece composite mould. Cast: ornamental rivet with round head.
Inv. № A-01422

Cat. № 392
Mould

Stone – biotite-amphibole gneiss shale
L (preserved) – 5 cm; W – 2,3 cm; T – 2 cm; W – 47 g
One half of a mould piece, part of a multi-piece composite mould. Casts: a pair of rivets with round heads or a single 'figure-eight' decorative plate.
Inv. № A-01423

Cat. № 393
Mould

Stone – biotite-amphibole gneiss shale
L – 2,5 cm; W – 2 cm; T – 1,1-1,5 cm; W – 28,8 g
One half of a two-piece component, part of a multi-piece composite mould. Casts: conjoined round decorations or 'figure eight' item; four round ornamental items (rivets); one half of a hoop.
Inv. № A-01424

Cat. № 394
Mould-lid

Stone – biotite-amphibole gneiss shale
L – 6,5 cm; W (preserved) – 6,9 cm;
W – 79,8 g
A tablet, trapezoidal section, rounded exterior with a broad shallow longitudinal groove; flat interior.
Inv. № A-01834

Cat. № 395
Mould-lid

Stone – biotite-amphibole gneiss shale
L (preserved) – 4,3 cm; W (preserved) – 5,7 cm; T – 1,5 cm; W – 63,5 g
A tablet with flat interior and rounded exterior; trapezoidal longitudinal section.
Inv. № A-01835

Cat. № 396
Core for a composite mould

Stone – biotite-amphibole gneiss shale
L – 5,5 cm; W – 2,4-3 cm;
T – 1,1-1,5 cm; W – 30,9 g
One half of a core for casting an implement with a shafthole/socket.
Inv. № A-01836

Cat. № 397
Mould-lid

Stone – biotite-amphibole gneiss shale
L – 4,6 cm; W – 4,6 cm; T – 1,3 cm; W – 51,5 g
Tablet with flat interior and rounded exterior.
Inv. № A-01837

Cat. № 398
Casting mould for a large bronze spearhead

Clay
L – 24,5 cm
Tell „Tsigankata mogila" at the outskirts of Nova Zagora, II[nd] building level.
Late Bronze Age
Clay casting mould for a bronze spearhead. Long, dropshaped blade. Long conical socket. Midrib with oval cros-section.
MH Nova Zagora, Inv. № КВП 7248
Катинчаров 1974, Обр. 7; Черных 1978, 151, Рис. 82: 3; Leshtakov 2011, 33, Fig. 3: 1
LL

Cat. № 399
Mould (two parts) for casting razors and adzes

Micaceous talc-schist
Both parts have equal measurements: L – 10,1 cm;
W – 5,3 x 4,6 cm; T (max.) – 1,4 cm; W (the bipartite mould) – 163 g; W (the single mould) – 173,90 g
Village of Furen, Skoskoto locality, Vratsa region, stray find
Late Bronze Age
Trapezoidal form. On the inner side of both partsa razor in a leaf form is carved; the leaf is cut at the end resembling swallow's tail. On the outer side of one of the moulds a flat, rectangular adze having apophysis for attaching a handle is carved.
RMH Vratsa, Inv. № A 4058
Николов 1974, 48 Обр. 9-10
TH

Cat. № 400
Casting mould for a bronze razor

Stone
L – 15,5 cm; W – 8,7 cm; H – 1,9 cm
Provenance unknown.
Late Bronze Age (13th -12th century BC)
Bivalve casting mould for a big bronze razor. Long heart-shaped blade. Mid-rib with lozenge cross-section. Grip missing.
RMH Nova Zagora, Inv. № 1237
Дерчачев 2011, 237
LL

Cat. № 401-402
Casting mould

Stone
L – 10,6 cm; W – 4,8 cm; T – 2,3 cm; L – 10,7 cm; W – 4,9 cm; T – 2,5 cm
Village of Dojrentsi, Lovech region
Late Bronze Age
Two-piece composite mould for socketed (hollow) chisels.
RMH Lovech, Inv. № Б 39
Unpublished
MV

Cat. № 403
Mould for casting 5 sickles

Stone
H – 23 cm; W – 27 cm
Village of Branitsa, Harmanli region
Late Bronze Age
A parallelepiped shaped mould for casting sickles. One of the halves is hollowed out into five formally similar but different sized forms of sickles with a longitudinal rib. The surface of the mould is disturbed by later interventions.
RMH Haskovo, Inv. № А-574
Аладжов 1997, 31, Обр. 9;
Петров 2007, 34
SI

Cat. № 404-405
Casting mould for double axes

Stone
L – 22 cm; W – 8 cm
Breznik region
Late Bronze Age (14th–13th c. BC)
Large stone mould for casting a double axe of Beguntsi type. Two components are preserved. Very finely worked surfaces – polished on all sides. The Beguntsi Type is distinguished by the relatively narrow bit and the presence of two solid metal rings, on top and the bottom ends of the shafthole.
NAIM-BAS, Inv. № 3959
Черных 1978, 206, Т. 42: 3;
Panayotov 1980, 190
LL

Cat. № 406
Mould for casting a T-shaped axe and chisels

Clay
H – 16,6 cm; W – 7,2 cm
Provenance unknown
Late Bronze Age
A parallelepiped shaped clay mould. One of the surfaces is hollowed out for casting T-shaped axes and the other two opposite surfaces – for casting chisels (or ingots). The surface is smoothed out, traces of thermal impact are visible.
RMH Haskovo, Inv. № A-4540
Петров 2007, 34
SI

Cat. № 407
Mould for casting a bronze tanged dagger

Stone
L – 15 cm; W – 5,6 cm
Village of Pchela, Elhovo region, stray find
Late Bronze Age
Fragment of bivalve casting mould for a bronze dagger. Leaf-shaped blade. Narrow midrib with lozenge cross-section. Short tang with two small protrusions.
MEA Elhovo, Inv. № A-337
Unpublished
LL, DA

Cat. № 408-409
Casting mould for a socketed axe

Stone
L – 14,2 cm; W – 7,6 cm
Village of Zhelio Voivoda, Sliven region
Late Bronze Age (14th–12th c. BC)
Bivalve casting mould for a bronze socketed axe. Socket decorated with two massive horizontal ribs with cross-section. Blade decorated with three fine vertical ribs.
RMH Sliven, Inv. № 101 A
Бацова-Костова 1971, 66, Обр 11:a; Черных 1978, 195, Табл. 36: 5; Сираков 2006, 86
LL

Cat. № 410-411
Casting mould for a socketed axe

Stone
L – 13,1 cm; W – 6,8 cm
Village of Zhelio Voivoda, Sliven region
Late Bronze Age (14th–12th c. BC)
Bivalve casting mould for a bronze socketed axe. Socket decorated with fine vertical ribs and volutes. One valve is damaged.
RMH Sliven, Inv. № 102 A
Бацова-Костова, 1971, 66, Обр. 11:b; Сираков 2006, 87
LL

Cat. № 412-413
Mould for casting bronze knives

Stone
L – 29,9 cm; W – 7,5 cm; L – 30 cm;
W – 8 cm
Provenance unknown
Late Bronze Age (13th–12th c. BC)
Mould for casting a bronze knife with straight edge and arched hilt. One of the mould's halves is unfinished, presents evidence of the chaîne opératoire. According to shapeof the tang, the knife belongs to the Griffplattenmesser group.
NAIM-BAS, Inv. № П272, П273
Черных 1978, Т. 63: 17
LL

Cat. № 414
Melting pot

Stone
L – 11,8 cm; W – 7,7 cm
Kazanlak tell
Late Bronze Age
The pot is ladle-shaped and is a cylindrical small bowl with a short, conical, horizontal handle. In the base of the handle is made a hole. Very well smoothed surface.
МН „Iskra" Kazanlak, Inv. № МИКА1 384
Unpublished
DGA

Cat. № 415
Melting pot

Talc-schist
Devetaki Cave, Lovech region
L – 16,2 см; W – 5,2 cm
Late Bronze Age
Round shape and massive long handle.
NAIM, Inv. № п275
Миков, Джамбазов 1960, 119, Обр. 89
ST

Ovcha Mogila hoard

Stray find, discovered in 1996, consists of 32 bronze axes (celts), a rapier, two spearheads, a razor-blade, a copper ingot. Found near the village of Ovcha Mogila, Svistov Municipality, Veliko Tarnovo region.
1420 – 1300 BC
RMH Veliko Tarnovo
Илчева 2000, 457-46; Krauß 2005, 199–210
NE

Cat. № 416
Socketed axe (celt)

Bronze
L – 8,1 cm; W – 3,2 cm; T – 2,3 cm; W – 136 g
Hollow; trapezoidal shape; six vertically arranged "rib" ornaments on each side.
Inv. № 2277

Cat. № 417
Socketed axe (celt)

Bronze
L – 10,5 cm; W – 3,8 cm;
T – 2,8 cm; W – 161 g
Hollow; trapezoidal shape and concave sides; two almond-shaped holes; decorated with relief 'omega' motif with two dots on the side.
Inv. № 2278

Cat. № 418
Socketed axe (celt)

Bronze
L – 8,9 cm; W – 3,3 cm;
T – 2,5 cm; W – 147 g
Hollow; trapezoidal shape with concave sides; almond-shaped hole; decorated with relief 'omega' motif.
Inv. № 2279

Cat. № 419
Socketed axe (celt)

Bronze
L – 7 cm; W – 4,6 cm;
T – 2,8 cm; W – 142 g
Hollow; trapezoidal shape with concave sides; singe 'eye' on the side; decorated with relief bands.
Inv. № 2280

Cat. № 420
Socketed axe (celt)

Bronze
L – 7,8 cm; W – 4 cm;
T – 2,9 cm; W – 150 g
Hollow; trapezoidal shape with concave sides; decorated with five parallel relief bands.
Inv. № 2281

Cat. № 421
Socketed axe (celt)

Bronze
L – 8.5 cm; W – 3,9 cm;
T – 2,9 cm; W – 150 g
Hollow; trapezoidal shape with trapezoidal sides; decorated with five parallel relief bands.
Inv. № 2282

Cat. № 422
Socketed axe (celt)

Bronze
L – 7.3 cm; W – 3,1 cm;
T – 2,6 cm; W – 110 g
Hollow; trapezoidal shape with concave sides; decorated with relief 'Omega' motif framed by four dots.
Inv. № 2283

Cat. № 423
Socketed axe (celt)

Bronze
L – 7,1 cm; W – 3,1 cm;
T – 2,7 cm; W – 99 g
Hollow; trapezoidal shape and sides; decorated with five parallel relief bands.
Inv. № 2284

Cat. № 424
Socketed axe (celt)

Bronze
L – 8 cm; W – 4,1 cm;
T – 2,9 cm; W – 168 g
Hollow; trapezoidal shape and sides; decorated with two parallel vertically arranged bands.
Inv. № 2285

Cat. № 425
Socketed axe (celt)

Bronze
L – 7,1 cm; W – 3,7 cm;
T – 2,9 cm; W – 110 g
Hollow; trapezoidal shape and sides; decorated with five parallel vertically arranged relief bands; a tiny hole by the socket hole.
Inv. № 2286

Cat. № 426
Socketed axe (celt)

Bronze
L – 8,1 cm; W – 3,6 cm;
T – 2,8 cm; W – 121 g
Hollow; trapezoidal shape and sides; decorated with five parallel vertically arranged relief bands and a small hole by the socket hole.
Inv. № 2287

Cat. № 427
Socketed axe (celt)

Bronze
L – 8,7 cm; W – 4 cm;
T – 3,6 cm; W – 157 g
Hollow; trapezoidal shape and sides; decorated with four parallel vertically arranged relief bands terminating in dots.
Inv. № 2288

Cat. № 428
Socketed axe (celt)

Bronze
L – 6,1 cm; W – 2,8 cm;
T – 2,3 cm; W – 91 g
Hollow; trapezoidal shape and sides; decorated with four parallel vertically arranged relief bands.
Inv. № 2289

Cat. № 429
Socketed axe (celt)

Bronze
L – 7,7 cm; W – 4,1 cm;
T – 2,7 cm; W – 121 g
Hollow; trapezoidal shape and sides; decorated with three parallel vertically arranged relief bands.
Inv. № 2290

Cat. № 430
Socketed axe (celt)

Bronze
L – 6 cm; W – 3,9 cm;
T – 2,5 cm; W – 121 g
Hollow; trapezoidal shape and sides; decorated with three parallel vertically arranged relief bands.
Inv. № 2291

Cat. № 431
Socketed axe (celt)

Bronze
L – 7,9 cm; W – 3,4 cm;
T – 3,1 cm; W – 141 g
Hollow; trapezoidal shape and convex sides; relief 'Omega' motif framing a perforation on one side.
Inv. № 2292

Cat. № 432
Socketed axe (celt)

Bronze
L – 9,2 cm; W – 4,2 cm;
T – 2,3 cm; W – 156 g
Hollow; trapezoidal shape and sides; decorated with five parallel relief bands.
Inv. № 2293

Cat. № 433
Socketed axe (celt)

Bronze
L – 6,5 cm; W – 3,2 cm;
T – 2,4 cm; W – 100 g
Hollow; trapezoidal shape and sides; decorated with four parallel relief bands terminating with a dot.
Inv. № 2294

Cat. № 434
Socketed axe (celt)

Bronze
L – 8,3 cm; W – 4 cm;
T – 2,8 cm; W – 138 g
Hollow; trapezoidal shape and concave sides; decorated with a curved relief band.
Inv. № 2295

Cat. № 435
Socketed axe (celt)

Bronze
L – 6,8 cm; W – 3,7 cm;
T – 2,7 cm; W – 109 g
Hollow; trapezoidal shape and sides; decorated with three parallel vertically arranged relief bands.
Inv. № 2296

Cat. № 436
Socketed axe (celt)

Bronze
L – 7,2 cm; W – 3,5 cm;
T – 2,8 cm; W – 111 g
Hollow; trapezoidal shape and convex sides; decorated with two bowed parallel relief bands.
Inv. № 2297

Cat. № 437
Socketed axe (celt)

Bronze
L – 7,6 cm; W – 3,8 cm;
T – 2,4 cm; W – 110 g
Hollow; trapezoidal shape and sides; decorated with three parallel vertically arranged relief bands.
Inv. № 2298

Cat. № 438
Socketed axe (celt)

Bronze
L – 9 cm; W – 3,9 cm;
T – 3,3 cm; W – 206 g
Hollow; trapezoidal shape and sides; decorated with five parallel vertically arranged relief bands.
Inv. № 2299

Cat. № 439
Socketed axe (celt)

Bronze
L – 8,1 cm; W – 3,8 cm;
T – 3 cm; W – 131 g
Hollow; trapezoidal shape and concave sides; decorated with three parallel vertically arranged relief bands.
Inv. № 2300

Cat. № 440
Socketed axe (celt)

Bronze
L – 7,7 cm; W – 4,4 cm;
T – 2,8 cm; W – 131 g
Hollow; trapezoidal shape and concave sides; decorated with two parallel bowed relief bands.
Inv. № 2301

Cat. № 441
Socketed axe (celt)

Bronze
L – 8,6 cm; W – 3,7 cm;
T – 3 cm; W – 168 g
Hollow; trapezoidal shape and concave sides; almond-shaped hole on one wall; small perforation on its side.
Inv. № 2302

Cat. № 442
Socketed axe (celt)

Bronze
L – 7,8 cm; W – 4 cm;
T – 2,5 cm; W – 151 g
Hollow; trapezoidal shape and concave sides.
Inv. № 2303

Cat. № 443
Socketed axe (celt)

Bronze
L – 10,6 cm; W – 3,5 cm;
T – 2,9 cm; W – 156 g
Hollow; trapezoidal shape and concave sides; a small hole below an oval hole on one wall.
Inv. № 2304

Cat. № 444
Socketed axe (celt)

Bronze
L – 9 cm; W – 3,4 cm;
T – 2,9 cm; W – 154 g
Hollow; trapezoidal shape and concave sides; small oval hole inside a relief 'omega' motif on one side.
Inv. № 2305

Cat. № 445
Socketed axe (celt)

Bronze
L – 6,2 cm; W – 3,1 cm; T – 2,2 cm;
W – 86 g
Hollow; trapezoidal shape and sides; decorated with four parallel vertically arranged relief bands.
Inv. № 2306

Cat. № 446
Socketed axe (celt)

Bronze
L – 10,2 cm; W – 4,4 cm; T – 3,1 cm;
W – 208 g
Hollow; trapezoidal shape and concave sides; two concentric almond-shaped relief ornaments.
Inv. № 2307

Cat. № 447
Socketed axe (celt)

Bronze
L – 7 cm; W – 4,5 cm; T – 3,7 cm;
W – 150 g
Hollow; trapezoidal shape, concave sides; broken-off bit.
Inv. № 2308

Cat. № 448
Mycenaean-type rapier with horned handguard

Bronze
L – 77,5 cm; W – 4,2 cm; W – 641 g
Cross-shaped hilt with curved shoulders and upturned 'horns', attached to the rapier with six metal rivets; broad midrib along the length of the blade. The sword is folded. Made of three fused parts. One "horn" is missing.
Inv. № 2312

Cat. № 449
Mycenaean-type spearhead

Bronze
L – 40,5 cm; W – 4,2 cm;
T – 3 cm; W – 579 g
Long leaf-shaped blade with long midrib; short split socket. The tang is set within a narrow rectangular 'ring'; two small perforations above the 'ring'.
Inv. № 2311

Cat. № 450
Local-type spearhead with cast socket

Bronze
L – 17 cm; W – 3,5 cm,
T – 2 cm; W – 106 g
Short leaf-shaped blade, long socket; long midrib along the blade; a perforation in the socket base.
Inv. № 2309

Cat. № 451
Razor-blade

Bronze
L – 8,4 cm; W – 1,4 cm; T – 1 cm; W – 10 g
Single-edged; with hilt; the brim opposite the cutting edge is curved.
Inv. № 2310

Cat. № 452
Ingot – fragment

Copper
L – 6,4 cm; W – 6,1 cm;
T – 1,8 cm; W – 265 g
Irregular rectangular shape.
Inv. № 2313

Varbitsa I Collective find (hoard)

Discovered in 1930, stray find. Consists of 35 bronze socketed axes (celts) and 52 bronze sickles placed in a ceramic vessel.
village ofVarbitsa village, Pleven region
Late Bronze Age (second half of the 2nd millennium BC)
NAIM-BAS
Черных 1978; Дергачев 2011
ST

Cat. № 453
Sickle

Bronze
L – 13 cm;
W – 2,5 cm;
W – 47 g
Crescent-shape, poorly modelled handle.
Inv. № 2824

Cat. № 454
Sickle

Bronze
L – 14 cm; W – 2 cm;
W – 60 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2825

Cat. № 455
Sickle

Bronze
L – 12,5 cm; W – 2,4 cm;
W – 59 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2826

Cat. № 456
Sickle

Bronze
L – 12,7 cm; W – 2,5 cm;
W – 50 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2827

Cat. № 457
Sickle

Bronze
L – 15,2 cm; W – 2,1 cm;
W – 62 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2828

Cat. № 458
Sickle

Bronze
L – 16,4 cm; W – 2,3 cm;
W – 66 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2829

Cat. № 459
Sickle

Bronze
L – 11,7 cm; W – 2,4 cm;
W – 50 g
Crescent-shape, poorly modelled handle.
Inv. № 2830

Cat. № 460
Sickle

Bronze
L – 13,3 cm; W – 2 cm;
W – 51 g
Crescent-shape, poorly handle with a knob.
Inv. № 2831

Cat. № 461
Sickle

Bronze
L – 13,3 cm; W – 2,4 cm;
W – 57 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2832

Cat. № 462
Sickle

Bronze
L – 13,4 cm; W – 2 cm;
W – 59 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2833

Cat. № 463
Sickle

Bronze
L – 13,5 cm; W – 2 cm;
W – 50 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2834

Cat. № 464
Sickle

Bronze
L – 13,8 cm; W – 2,2 cm;
W – 58 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2835

Cat. № 465
Sickle

Bronze
L – 14 cm; W – 1,9 cm;
W – 56 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2836

Cat. № 466
Sickle

Bronze
L – 12,4 cm; W – 2,3 cm;
W – 61 g
Crescent-shape, poorly modelled handle.
Inv. № 2837

Cat. № 467
Sickle

Bronze
L – 14,8 cm; W – 1,8 cm;
W – 54 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2838

Cat. № 468
Sickle

Bronze
L – 13,1 cm; W – 2,3 cm;
W – 81 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2839

Cat. № 469
Sickle

Bronze
L – 13,6 cm; W – 2,2 cm;
W – 52 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2840

Cat. № 470
Sickle

Bronze
L – 12,5 cm; W – 2 cm;
W – 52 g
Crescent-shape, poorly modelled handle with a knob. Broken-off tip.
Inv. № 2841

Cat. № 471
Sickle

Bronze
L – 12,4 cm; W – 2,3 cm;
W – 61 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2842

Cat. № 472
Sickle

Bronze
L – 12,8 cm; W – 2,5 cm;
W – 58 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2843

Cat. № 473
Sickle

Bronze
L – 13 cm; W – 2,5 cm;
W – 55 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2844

Cat. № 474
Sickle

Bronze
L – 13,4 cm; W – 2,4 cm;
W – 55 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2845

Cat. № 475
Sickle

Bronze
L – 11,5 cm; W – 2,4 cm;
W – 42 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2846

Cat. № 476
Sickle

Bronze
L – 13,1 cm; W – 2,3 cm;
W – 55 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2847

Cat. № 477
Sickle

Bronze
L – 12,3 cm; W – 2,4 cm;
W – 65 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2848

Cat. № 478
Sickle

Bronze
L – 13,6 cm; W – 2,1 cm;
W – 53 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2897

Cat. № 479
Sickle

Bronze
L – 12,7 cm; W – 2,4 cm;
W – 59 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2898

Cat. № 480
Sickle

Bronze
L – 17,8 cm; W – 2,5 cm;
W – 58 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2899

Cat. № 481
Sickle

Bronze
L – 13,2 cm; W – 2,2 cm;
W – 51 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2900

Cat. № 482
Sickle

Bronze
L – 12,8 cm; W – 2,4 cm;
W – 58 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2901

Cat. № 483
Sickle

Bronze
L – 12,5 cm; W – 2,3 cm;
W – 53 g
Crescent-shape, poorly modelled handle with a knob, broken tip.
Inv. № 2902

Cat. № 484
Sickle

Bronze
L – 12,3 cm; W – 2,2 cm;
W – 44 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2903

Cat. № 485
Sickle

Bronze
L – 12,7 cm; W – 2,1 cm;
W – 55 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2904

Cat. 486
Sickle

Bronze
L – 13 cm; W – 2,2 cm;
W – 49 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2905

Cat. № 487
Sickle

Bronze
L – 11,8 cm; W – 2,1 cm;
W – 57 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2906

Cat. № 488
Sickle

Bronze
L – 12,7 cm; W – 2 cm;
W – 60 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2907

Cat. № 489
Sickle

Bronze
L – 13,1 cm; W – 2,2 cm;
W – 56 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2908

Cat. № 490
Sickle

Bronze
L – 13,4 cm; W – 2,3 cm;
W – 51 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2909

Cat. № 491
Sickle

Bronze
L – 12 cm; W – 2,1 cm;
W – 53 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2910

Cat. № 492
Sickle

Bronze
L – 11,7 cm; W – 2,1 cm;
W – 48 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2911

Cat. № 493
Sickle

Bronze
L – 12,8 cm; W – 2,2 cm;
W – 65 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2912

Cat. № 494
Sickle

Bronze
L – 12,5 cm; W – 2,2 cm;
W – 49 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2913

Cat. № 495
Sickle

Bronze
L – 14,7 cm; W – 2 cm;
W – 56 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2914

Cat. № 496
Sickle

Bronze
L – 11,8 cm; W – 2 cm;
W – 45 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2915

Cat. № 497
Sickle

Bronze
L – 13,1 cm; W – 2,2 cm;
W – 59 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2916

Cat. № 498
Sickle

Bronze
L – 11,8 cm; W – 2,4 cm;
W – 52 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2917

Cat. № 499
Sickle

Bronze
L – 11,8 cm; W – 2,4 cm;
W – 48 g
Crescent-shape, poorly modelled handle with a knob.
Inv. № 2918

Cat. № 500
Sickle

Bronze
L – 11,2 cm; W – 2 cm;
W – 42 g
Crescent-shape, poorly modelled handle with a knob; broken-off near the tip.
Inv. №2919

Cat. № 501
Sickle

Bronze
L – 11,7 cm; W – 2,4 cm;
W – 55 g
Crescent-shape, poorly modelled handle with a knob, broken in half.
Inv. № 2920

Cat. № 502
Sickle

Bronze
L – 11,5 cm; W – 2,2 cm;
W – 49 g
Crescent-shape, poorly modelled handle with a knob, broken in half.
Inv. № 2921

Cat. № 503
Sickle

Bronze
L – 12 cm; W – 2,1 cm;
W – 52 g
Crescent-shape, poorly modelled handle with a knob, broken in half.
Inv. № 2922

Cat. № 504
Sickle

Bronze
L – 12,8 cm; W – 55 g
Crescent-shape, poorly modelled handle with a knob, broken in half.
Inv. № 2923

Cat. № 505
Socketed axe (celt)

Bronze
L – 11 cm; W – 4 cm;
W – 176 g
Hollow; a hole on one side.
Inv. No 2799

Cat. № 506
Socketed axe (celt)

Bronze
L – 11 cm; W – 4,7 cm;
W – 246 g
Hollow; decorated with vertical ribs.
Inv. № 2800

Cat. № 507
Socketed axe (celt)

Bronze
L – 11,1 cm; W – 4,1 cm;
W – 193 g
Hollow, a hole on one side.
Inv. № 2801

Cat. № 508
Socketed axe (celt)

Bronze
L – 11,1 cm; W – 4 cm;
W – 195 g
Hollow, undecorated.
Inv. № 2802

Cat. № 509
Socketed axe (celt)

Bronze
L – 10,6 cm; W – 3,9 cm;
W – 201 g
Hollow, decorated with crescent-shape ribs.
Inv. № 2803

Cat. № 510
Socketed axe (celt)

Bronze
L – 9,6 cm; W – 3,7 cm;
W – 196 g
Hollow, decorated with vertical ribs.
Inv. № 2804

Cat. № 511
Socketed axe (celt)

Bronze
L – 9,3 cm; W – 4,3 cm;
W – 204 g
Hollow, undecorated.
Inv. № 2805

Cat. № 512
Socketed axe (celt)

Bronze
L – 10,4 cm; W – 4,2 cm;
W – 239 g
Hollow, decorated with vertical ribs.
Inv. № 2806

Cat. № 513
Socketed axe (celt)

Bronze
L – 10,2 cm; W – 4,3 cm;
W – 215 g
Hollow, decorated with crescent-shape ribs.
Inv. № 2807

Cat. № 514
Socketed axe (celt)

Bronze
L – 9,7 cm; W – 4,2 cm;
W – 162 g
Hollow, decorated with vertical ribs.
Inv. № 2808

Cat. № 515
Socketed axe (celt)

Bronze
L – 9,6 cm; W – 4,1 cm;
W – 143 g
Hollow, decorated with vertical ribs.
Inv. № 2809

Cat. № 516
Socketed axe (celt)

Bronze
L – 9,2 cm; W – 4,2 cm;
W – 139 g
Hollow, decorated with vertical ribs.
Inv. № 2810

Cat. № 517
Socketed axe (celt)

Bronze
L – 9,1 cm; W – 4,2 cm;
W – 157 g
Hollow, decorated with crescent-shape ribs.
Inv. № 2811

Cat. № 518
Socketed axe (celt)

Bronze
L – 9,7 cm; W – 4 cm;
W – 209 g
Hollow, decorated with crescent-shape ribs.
Inv. № 2812

Cat. № 519
Socketed axe (celt)

Bronze
L – 8,2 cm; W – 3,8 cm;
W – 157 g
Hollow, decorated with vertical ribs.
Inv. № 2813

Cat. № 520
Socketed axe (celt)

Bronze
L – 7,9cm; W – 3,8 cm;
W – 133 g
Hollow, decorated with vertical ribs.
Inv. № 2814

Cat. № 521
Socketed axe (celt)

Bronze
L – 7,8 cm; W – 4 cm;
W – 13 3g
Hollow, decorated with vertical ribs.
Inv. № 2815

Cat. № 522
Socketed axe (celt)

Bronze
L – 7,7 cm; W – 3,9 cm;
W – 157 g
Hollow, decorated with vertical ribs; cracked along the middle.
Inv. № 2816

Cat. № 523
Socketed axe (celt)

Bronze
L – 7,3 cm; W – 3,5 cm;
W – 100 g
Hollow, undecorated.
Inv. № 2817

Cat. № 524
Socketed axe (celt)

Bronze
L – 6,8 cm; W – 3,7 cm;
W – 98 g
Hollow, undecorated.
Inv. № 2818

Cat. № 525
Socketed axe (celt)

Bronze
L – 6,1 cm; W – 3,6 cm;
W – 112 g
Hollow, undecorated.
Inv. № 2819

Cat. № 526
Socketed axe (celt)

Bronze
L – 7,2 cm; W – 4,3 cm;
W – 135 g
Hollow, undecorated.
Inv. № 2820

Cat. № 527
Socketed axe (celt)

Bronze
L – 6,8 cm; W – 3,4 cm;
W – 87 g
Hollow; undecorated.
Inv. № 2821

Cat. № 528
Socketed axe (celt)

Bronze
L – 8,4 cm; W – 3,6 cm;
W – 176 g
Hollow; decorated with vertical ribs.
Inv. № 2822

Cat. № 529
Socketed axe (celt)

Bronze
L – 9,8 cm; W – 4,4 cm;
W – 255 g
Hollow; decorated with curved ribs. Broken off piece of the bit.
Inv. № 2886

Cat. № 530
Socketed axe (celt)

Bronze
L – 9,6 cm; W – 4,3 cm;
W – 174 g
Hollow; decorated with vertical ribs.
Inv. № 2887

Cat. № 531
Socketed axe (celt)

Bronze
L – 9,8 cm; W – 4,3 cm;
W – 214 g
Hollow; decorated with vertical ribs.
Inv. № 2888

Cat. № 532
Socketed axe (celt)

Bronze
L – 9,3 cm; W – 4,5 cm;
W – 244 g
Hollow; decorated with crescent-shape ribs.
Inv. № 2889

Cat. № 533
Socketed axe (celt)

Bronze
L – 9,4 cm; W – 4,5 cm;
W – 244 g
Hollow; decorated with vertical ribs.
Inv. № 2890

Cat. № 534
Socketed axe (celt)

Bronze
L – 9,8 cm; W – 4,6 cm;
W – 232 g
Hollow; decorated with vertical ribs.
Inv. № 2891

Cat. № 535
Socketed axe (celt)

Bronze
L – 11,4 cm; W – 4 cm;
W – 216 g
Hollow; decorated with vertical ribs.
Inv. № 2892

Cat. № 536
Socketed axe (celt)

Bronze
L – 5,7 cm; W – 1,3 cm;
W – 73 g
Hollow; decorated with vertical ribs.
Inv. № 2893

Cat. № 537
Socketed axe (celt)

Bronze
L – 8,6 cm; W – 4,7 cm;
W – 211 g
Hollow; decorated with crescent-shape ribs.
Inv. № 2894

Cat. № 538
Socketed axe (celt)

Bronze
L – 5,5 cm; W – 4,7 cm;
W – 76 g
Hollow; undecorated.
Inv. № 2895

Cat. № 539
Socketed axe (celt)

Bronze
L – 9,5 cm; W – 4,5 cm;
W – 271 g
Hollow; broken in two.
Inv. № 2896

Cat. № 540
Mycenaean-type spearhead

Bronze
L – 34 cm; W (max) – 3,9 cm
Perushtitsa, stray find
Late Bronze Age (LH II – LH IIIC)
Split socket. Long, leaf-shaped blade. Midrib with hexagonal cross-section. Found together with a bronze rapier, possibly in a destroyed grave.
RMA Plovdiv, Inv. № 1192
Черных, 1978, 231, Т. 61: 4; Höckmann 2007; Лещаков 2015, 30
LL

Cat. № 541
Mycenaean-type spearhead

Bronze
L – 29,3 cm;
W (max) – 4,1 cm
Village of Levski (Kalaglare, Dolno Levski), Pazardzhik region
Late Bronze Age
Long leaf-shaped blade with long midrib; short split socket.
NAIM-BAS, Inv. № 617
Миков 1933, Обр. 66
ST

Cat. № 542
Local-type spearhead with cast socket

Bronze
L – 22,6 cm;
W (max) – 2,4 cm
Tell „Himitliyata“, Village of Sokol, Nova Zagora region
Late Bronze Age
Long socket and willow-shaped blade. Midrib with lozenge cross-section.
RMA Plovdiv, Inv. № 3220
Детев 1950, 72; Черных 1978, Табл. 62:3; Leshtakov 2011, 30, Fig. 2:3
LL

Cat. № 543
Local-type spearhead with cast socket

Bronze
L – 16,3 cm;
W – 3,6 cm;
D (socket) – 3 cm
Lovech region
Late Bronze Age
Flame-shaped blade; round midrib gradually converges with the socket. Short, conical socket with two rivet holes.
RMH Lovech, Inv. № 226
Миков 1933b, 389, Обр. 169a; Лещаков 2015, 425, Т. 109 – 7
MV

Cat. № 544
Local-type spearhead with casted socket

Bronze
L – 9 cm; W – 2,6 cm;
D (socket) – 1,9 cm
Village of Glozhene, Lovech region, stray find
Late Bronze Age
Small spearhead with short, leaf-shaped blade and short conical socket with a single rivet-hole. The rounded midrib gradually converges with the socket.
RMH Lovech, Inv. № 227
Миков 1933b, 389, Обр. 169 с.; Лещаков 2015, 332, Т. 16 – 7
MV

Cat. № 545
Local-type spearhead with casted socket

Bronze
L – 19,2 cm; W (max) – 4,1 cm; W – 169 g
Village of Sarantsi, Sofia region, stray find
Late Bronze Age (Second half of the 2nd millennium BC)
Blade is leaf-shaped; socket decorated with horizontal lines, hatched triangles and incised lines outlining diamonds.
NAIM-BAS, Inv. № 2755
Лещаков 2015, 217-218, 393, Т. 77:2
ST

Cat. № 546
Tanged dagger

Bronze
L – 18,6 cm;
W (max) – 4,6 cm
T – 0,6 cm;
W – 357,30 g
Yambol region, stray find
Late Bronze Age
Cast and hammered.
Elongated leaf-shaped blade with mid-rib. Reversed cruciform tang.
RMH Yambol,
Inv. № I-4140
Unpublished
TV

Cat. № 547
Tanged dagger

Bronze
L – 22 cm;
W (max) – 7,1 cm
T – 0,5 cm;
W – 357,30 g
Village of Popovo, Yambol region, stray find, from a destroyed tumular grave
Late Bronze Age
Cast and hammered.
Elongated leaf-shaped blade with mid-rib. Reversed cruciform tang.
RMH Yambol,
Inv. № I-1518
Илиев 2000
TV

Cat. № 548
Tanged dagger

Bronze
L – 21,3 cm; W – 4,7 cm;
T (max.) – 0,15 cm;
W – 105,40 g
Sliven region, stray find
Cast and hammered.
Elongated leaf-shaped blade with mid-rib. Reversed cruciform tang.
Late Bronze Age
RMH Sliven, Inv. № 103A
Unpublished
SA

Cat. № 549
Double axe

Bronze
L – 24,4 cm; W (blade) – 5,3 cm; W – 1,143 kg
Village of Beguntsi, Karlovo region
Late Bronze Age
Double-bit axe with symmetrical shoulders; profiled shaft hole with ring swells on both sides. RMA Plovdiv,
Inv.№ I-111
Panayotov 1980, 188, Fig. 6:1
RM

Cat. № 550
Double-axe

Bronze
L – 22 cm; W – 5,3 cm; W (blade) – 4,9 cm
Lovech region, stray find
Late Bronze Age
Double-axe head of Beguntsi Type. Profiled shafthole with two horns on the underside.
RMH Lovech, Inv. № 336a
Черных 1978, 205, Табл. 41-10
MV

Cat. № 551
Double axe

Bronze
L – 23,5 cm; W (blade) – 4,4 cm
Village of Kirkovo, Kardzhali region, stray find
Late Bronze Age
Double axe of type Beguntsi; bi-conical shafthole decorated with vertical channels and ring-like thickening at the bases of the shafrhole.
RMH Kardzhali, Inv.№ 2412
Popov et al. 2015, 58, Abb. 19: 2
DK

Cat. № 552
Harpoon head

Bronze
L – 7,2 cm; W – 3,3 cm
Lovech region, stray find
Late Bronze Age
Triangular blade with two flues; the rounded midrib gradually converges with the socket. Two conical projections out of the socket, parallel to the flues.
RMH Lovech, Inv. № 1225
Unpublished
MV

Cat. № 553
Casting mould for a bronze harpoon

Stone
L – 6,3 cm;
W – 6,2 cm;
H – 3,1 cm
Village of Ostrov, Oryahovo Municipality, Vratsa region, stray find
Late Bronze Age
Bivalve casting mould for a harpoon. Two arrowshaped blades and a short socket. Narrow midrib.
NAIM-BAS, Inv. № 5678
Unpublished
LL

Cat. № 554
Sickle

Bronze
L – 16,7 cm; W – 2,5 cm; T (max.) – 0,8 cm
Late Bronze Age settlement,
village of Chepintsi, Sofia region
Late Bronze Age (13th – 12th century BC)
Bronze sickle with a protruding knob at the base of the blade, belonging to the so-called Knopfsichel type. The handle is decorated with three embossed lines disposed at an acute angle.
NAIM-BAS, Inv. № 5263
Христова, Петрова 2016, 27
TH

Bronze razors from East Bulgaria

The find comes from the eastern parts of the Balkan mountain range. It consists of two bronze razors; casted and additionally hammered and sharpened.
Late Bronze Age (Reinecke Br. D)
RMH Dobritch
Hristova 2015, 159-160, Fig. 3/1,2
TH

Cat. № 555
Razor with tang

Bronze
H – 14 cm; W (max.) – 8,3 cm; T (max.) – 0,8 cm;
W – 50,70 g
Casted and hammered. Leaf shaped blade with mid-rib and elongated rhomboidal cross-section; cut at the rear to the tang end. The two leaf-blades are separated by a Ω-shaped cut. Tang with two rings.
Inv. № Aa 3251a

Cat. № 556
Razor with tang

Bronze
H – 13,7 cm; W (max.) – 8,7 cm; T (max.) – 1 cm;
W – 60,70 g
Casted and hammered. Leaf shaped blade with mid-rib and elongated rhomboidal cross-section; cut at the rear to the tang end. The two leaf-blades are separated by a Ω-shaped cut. Tang with two rings.
Inv. № Aa 3251b

Settlement from second half of the 2nd millennium BC near village of Baley, Vidin region

RMH Vidin
SA

Cat. № 557
Hair-ring

Bronze
D – 1,4 x 1,3 cm; W – 1,40 g
Level IVb
15th century BC
Made of 0,1 cm thick flattened bar, spirally twisted into 1,5 turns, one of the ends bent backwards into 0,5 turn.
Inv. № ВдМ Ип – 279
Unpublished

Cat. № 558
Pin with hull-shape head

Bronze
L – 18,26 cm; W – 11,75 g
Level II
14th – first half of 13th century BC
Casted and hammered. The head is hull-shaped.The body, 0,3 cm thick, has a rectangular cross-section of the bar in the upper and lower parts, twisted in the middle part.
Inv. № ВдМ Ип – 264
Unpublished

Cat. № 559
Pin with hull-shape head

Bronze
L – 19,37 cm; W – 11,80 g
Level II
14th – first half of 13th century BC
Casted and hammered. The head is hull-shaped.The body, 0,3 cm thick, has a rectangular cross-section of the bar in the upper part, twisted in the middle part and rounded to the lower one.
Inv. № ВдМ Ип – 270
Unpublished

Cat. № 560
Pin with ball-head

Bronze
L – 12,6 cm; W – 6,50 g
Level II
14th – first half of 13th century BC
Casted and hammered. Made of rounded bar, 0,3 cm thick. The head is ball-shaped, 0,8 cm in diameter.
Baley 1981, № 213
Unpublished

Cat. № 561
Pin with round head

Bronze
L – 15,0 cm; W – 10,35 g
Level III
14th – first half of 13th century BC
Casted and hammered. Made of rounded bar, 0,3 cm thick. The head is round, 1 cm in diameter.
Inv. № ВдМ Іп – 300
Черных 1978, Табл. 66/13

Cat. № 562
Human shaped pendant

Bronze
H – 3,6 cm; W – 5,55 g
Level II
14th – first half of 13th century BC
Casted in a single mould. Rounded form with "arms". The lower part is decorated with relief "spoke-motives".
Inv. № ВдМ Іп – 280
Черных 1978, Табл. 66/22

Cat. № 563
Human shaped pendant

Bronze
H – 3,8 cm; W – 5,25 g
Level III
14th – first half of 13th century BC
Casted in a single mould. Rounded form with "arms"; the left "arm" is broken. The lower part is decorated with relief "spoke-motives".
Inv. № ВдМ Іп – 396
Unpublished

Cat. № 564
Palstave (Flanged axe)

Bronze
L – 11,9 cm; W (blade) – 3,1 cm; W (max) – 2,1 cm; W – 152,25 g
Stray find
Third quarter of the 2nd millennium BC
Casted and hammered. Rectangular upper part; cast flanges – in the middle. Concave cutting part.
Inv. № ВдМ Іп – 318
Unpublished

Cat. № 565
Socketed axe (celt)

Bronze
L – 8,5 cm; W – 2,6 cm; T – 1,9 cm; W – 134,50 g
Level II
14th – first half of 13th century BC
Casted. One-eared celt with trapezoidal form and hexagonal cross-section.
Inv. № ВдМ Іп – 357
Черных 1978, Табл. 40/5

Cat. № 566
Awl with bone handle

Bronze and bone
L – 11,23 cm;
L (working part) – 4,41 cm;
W – 11,80 g
Level II
14th – first half of 13th century BC
The awl is casted and hammered, made of 0,3 cm thickbar; shoved into a smoothed bone handle.
Inv. № ВдМ Iп – 174
Unpublished

Cat. № 567
Arrowhead

Bronze
L – 5 cm; W – 3 g
Level II
14th – first half of the 13th century BC
Casted and hammered. Triangular form with mid-rib. The lower part is broken.
Inv. № ВдМ Iп – 268
Unpublished

Late Bronze Age settlement near village of Koprivlen, Blagoevgrad region

Late Bronze Age
NAIM-BAS, Inv. № 4836
Alexandrov 2002
SA

Cat. № 568-573
Tanged arrowheads – 6 pcs

Bronze
L – 6,6 cm;
L – 5,5 cm;
L – 4,7 cm;
L – 5,7 cm;
L – 5,7 cm;
L – 5,6 cm
Level I
Cast and hammered. Triangular form with mid-rib and tang, spring wires extending sideways from the tip.

Kamenitsa (Plovdiv) depot

Consists of 44 whole vessels: 19 amphorae, 10 jugs, 5 kantharoi, 4 cups and 1 vessel with a handle over the mouth (bucket?). Found during construction works in 1964 in a deep pit – well. The vessels were arranged in 6 levels, divided from each other by layers of clay.
Kamenitsa, Plovdiv
Late Bronze Age
RMA Plovdiv
Детев 1964
EB

Cat. № 574
Kantharos

Pottery
H – 16,5 cm
Vessel with a conical neck, spherical body and flat bottom. Two symmetrical, high vertical handles with triangular cross-section are attached to the mouth rim and the maximum diameter of the body. The surface is black and polished.
Inv. № I – 393

Cat. № 575
Amphora

Pottery
H – 26 cm
A big vessel with a funnel-like mouth, conical neck and spherical body on a hollow pedestal. Four small vertical handles are symmetrically attached to the maximum diameter of the body. Between them are placed four small knobs. The surface is smoothed, black, with brown spots.
Inv. № I – 386

Cat. № 576
Amphora

Pottery
H – 28,5 cm
A vessel with funnel-like mouth, low conical neck, elongated, ovoid body and flat bottom. Two small vertical handles are symmetrically attached to the maximum diameter of the body. The surface is smoothed, black, with brown spots. A vertical crack is restored with a thick band of resin.
Inv. № I – 387

Cat. № 577
Amphora

Pottery
H – 28 cm
A big vessel with a funnel-like mouth, conical neck and enhanced transition to the body. The body is elongated, ovoid and flat bottomis ring-shaped. Two small vertical handles are symmetrically attached to the maximum diameter of the body. The surface is precisely smoothed, light-brown and grayish in colour.
Inv. № I – 402

Cat. № 578
Jug

Pottery
H – 27 cm
A vessel with a funnel-like mouth, oblique rim, conical neck and enhanced transition to the ovoid body. A vertical handle with triangular section is attached to the upper part of the neck, goes above the mouth rim and ends in the maximum diameter of the body. The surface is polished and black.
Inv. № I – 414

Cat. № 579
Cup

Pottery
H – 8,5 cm
Izvor
Late Bronze Age
A small vessel with S-shaped body and slight oblique mouth rim. A vertical handle with triangular section is attached to the mouth rim, goes above it and ends in the maximum diameter of the lower part of the body. Flat bottom. The surface is burnished, with brown and grey spots. Decorated with geometrical Furchenstich ornaments with white paste incrustation.
RMA Plovdiv, Inv. № 1277
Детев 1960, 350, Фиг. 6
EB

Cherkovna depot

Consists of 8 vessels – 3 amphorae, 3 kantharoi and 2 small, deep bowls. The depot was found in 1963 during geological works in the western part of the village. The vessels were found at 8 meters of depth, under a Roman well, in the remains of an older well.
Village of Cherkovna, Razgrad region
Late Bronze Age
RMH Razgrad
Hänsel 1976, Taf. IX
YD, DVD

Cat. № 580
Amphora

Pottery
H – 21,5 cm
A vessel with funnel-like mouth, semi-spherical body and flat bottom. Two small vertical handles are symmetrically attached above the maximum diameter of the body. The surface is polished, dark-grey.
Inv. № 645

Cat. № 581
Amphora

Pottery
H – 22,5 cm
A vessel with ovoid body and flat bottom. Two small vertical handles are symmetrically attached to the maximum diameter of the body. The surface is smoothed, dark, with brown spots.
Inv. № 809

Cat. № 582
Amphora

Pottery
H – 27 cm
A vessel with ovoid body and flat bottom. Two small vertical handles are symmetrically attached to the maximum diameter of the body. The surface is smoothed, black, with brown spots.
Inv. № 807

Cat. № 583
Jar

Pottery
H – 19 cm
A vessel with elongated ovoid body and flat bottom. Two symmetrical, high vertical handles with triangular cross-section are attached to the mouth rim and the upper part of the body. On the mahimum diameter are incised geometrical motifs.
Inv. № 646

Cat. № 584
Kantharos

Pottery
H – 16,5 cm
A vessel with spherical body and flat bottom. Two symmetrical, high vertical handles with triangular cross-section are attached to the mouth rim and the maximum diameter of the body. The sirface is brown with spots and polished.
Inv. № 647

Cat. № 585
Kantharos

Pottery
H – 16,8 cm
A vessel with spherical body and flat bottom. Two symmetrical, high vertical handles with triangular cross-section are attached under the mouth rim and the maximum diameter of the body. The sirface is black and polished. The body and handles are decorated with incised geometrical motifs.
Inv. № 808

Cat. № 586
Bowl

Pottery
H – 15 cm
A vessel with elongated s-shaped profile and flat bottom. Under the mouth rim and the maximum diameter of the body are symmetrically attached two small, vertical handles. Polished, dark brown surface.
Inv. № 805

Cat. № 587
Bowl

Pottery
H –15,5 cm
A vessel with elongated s-shaped profile and flat bottom. At the maximum diameter of the body are symmetrically attached two small, vertical handles. Smoothed, spotted, brown surface.
Inv. № 806

Cat. № 588
Cutting sword

Iron
L – 73 cm; W – 4,5 cm
Haskovo, stray find

Early Iron Age
Double-edged sword. The blade is thicker at the top and thinner at the section of the pommel. A protruding rounded edge runs along the blade. Three rivets are preserved on the pommel which is shaped in the the lower part as a "bell-shaped" guard. The handle is elliptical and ends with a "swallow tail" shaped extension.
RMH Haskovo, Inv. № A-4586
Петров 2006, 193, Обр. 1; Петров 2007, 36
SI

Cat. № 589
Cutting sword

Iron
L – 68,5 cm; W – 5,5 cm

Village of Alexandrovo, Lovech region
Early Iron Age (10th – 8th century BC).
Leaf-shaped blade, narrowing below the showlder, with maximum width a little above the middle; slightly profiled midrib.
RMH Lovech, Inv. № 247
Попов 1928/29, 277, Обр. 138.7, Обр. 144
MV

Cat. № 590
Cutting sword

Iron

L – 61,2 cm; W – 3,2 cm
Village of Hlevene, Lovech region
10th – 8th century BC
Leaf-shaped blade, narrowing near the shoulders, with maximum width right above the middle; sligthly profiled midrib.
RMH Lovech, Inv. № Б 169
Валентинова 2006, 10-12
MV

Cat. № 591
Bowl

Gold, 23,6 ct
H – 12,5 cm; D – 27 cm; W – 1,050 kg

Village of Kazichene, Sofia region
9th-8th century BC

The vessel is semispherical in form, forged. The body is decorated with vertical canelures. The inner surface of the bottom is decorated with three concentric circlesmade of relief bands and one of semispherical dots. The center of the bottom is emphasized by a semispherical dot.
RMH Sofia, Inv. № МИС А 3011
Станчева 1973; Фол 1975; Шалганова 2003; cf. Stoyanov and Borislavov, this volume
YD

Cat. № 592
Bowl

Gold, 23.65 ct
H – 7,3 cm; D (rim) – 11,3 cm;
D (bottom) – 4,3 cm;
W – 77,4 g (81,17 g after the polymer restoration)
Belene Island, Pleven region
9th-8th century BC
The vessel is hammered out of a thin gold sheet. The necklace is cylindrical, decorated with two relief bands – the lower one is a pseudo-string pattern of oblique notches. The body of the bowl has a hemispherical shape. There are twelve buckles running around the widest section, just below the neck. They are shaped as a truncated cone, hollow inside. Vertical grooves run from the base of the buckets to the bottom of the vessel. The bottom is convex, circular and outlined with a cut line.
RMH Pleven, Inv. № 3898
Лазарова 1993; cf. Stoyanov and Borislavov, this volume
VN

"Grave" find from Devetaki

Includes a ceramic cup with two handles (kantharos); a bronze sword with the hilt; two plates, likely edging the sword's shoulder; a bent cross-shaped bronze ornamental plate and an open-ended bronze hoop (clamp). The find comes from a low, now destroyed, tumulus with earth-and-stone embankment; part of a necropolis located above Cave Devetaki.
Village of Devetaki, Lovech region
Early Iron Age (10th – 9th century BC)
RMH Lovech
Валентинова 2010
MV

Cat. № 593
Hilt and plates edging the sword shoulder

Bronze, iron
L – 7,7 cm; W – 3,1 cm; L – 6,4 cm; W – 1 cm
Tongue-shaped hilt with convex outlines, culminating in a swallow-tailed butt. Three rivet-holes along the length; parts of iron rivets preserved in two of the holes. Part of iron rivets also preserved in the holes on the two plates.
Inv. № Б 188

Cat. № 594
Cup (kantharos)

Pottery
H – 4,9 cm; D – 9,6 cm
Cup with two high handles (kantharos) and low squat bi-conical body with emphasized carination between the two parts. Slightly profiled, interior beveled lip. Two knobs at the maximum diameter, attached symmetrically between the handles.
Inv. № 3078

Collective find from Krivodol

The find consisting of 6 spearheads, 6 axes, 3 sickles, a knife and a hammer weight.
Iron
Krivodol, Vratsa region
Early Iron Age
RMH Vratsa
Николов 1970
SA

Cat. № 595
Socketed spearhead

Iron
L – 34 cm; W – 7,6 cm
Leaf-shaped blade with relief mid-rib and diamond-shape cross-section.
Inv. № A976a

Cat. № 596
Socketed spearhead

Iron
L – 26 cm; W – 4,5 cm
Leaf-shaped blade with relief mid-rib and diamond-shape cross-section.
Inv. № A9766

Cat. № 597
Socketed spearhead

Iron
L – 24 cm; W – 5,5 cm
Leaf-shaped blade with relief mid-rib and diamond-shape cross-section.
Inv. № A976в

Cat. № 598
Socketed spearhead

Iron
L – 35 cm; W – 3,5 cm
Leaf-shaped blade with relief mid-rib and diamond-shape cross-section.
Inv. № A978a

Cat. № 599
Socketed spearhead

Iron
L – 33 cm; W – 3,9 cm
Leaf-shaped blade with relief mid-rib and diamond-shape cross-section.
Inv. № A978б

Cat. № 600
Spearhead

Iron
L – 30,5 cm; W – 5 cm
Leaf-shaped blade with relief mid-rib and diamond-shape cross-section.
Inv. № A978в

Cat. № 601
Axe

Iron
L – 15.5 cm; W – 3 cm
Trunnion axe. Two small apophyses form the shape of an elongated cross.
Inv. № A968

Cat. № 602
Axe
Iron

L – 16 cm; W – 2,6 cm
Trunnion axe. Two small apophyses form the shape of an elongated cross.
Inv. № A969

Cat. № 603
Axe

Iron
L – 13,5 cm; W – 2,6 cm
Trunnion axe. Two small apophyses form the shape of an elongated cross.
Inv. № A970

Cat. № 604
Axe
Iron

L – 19,5 cm; W – 3,5 cm
Trunnion axe.
Inv. № A971

Cat. № 605
Axe

Iron
L – 19,5 cm; W – 6,2 cm
Trunnion axe. Two small apophyses form the shape of an elongated cross.
Inv. № A972

Cat. № 606
Axe

Iron
L – 17 cm; W – 2,8 cm
Trunnion axe.
Inv. № A973

Cat. № 607
Sickle

Iron
L – 23,5 cm; W – 2,7 cm
Crescent-shape, poorly modelled handle with a knob.
Inv. № A975a

Cat. № 608
Sickle

Iron
L – 17,5 cm; W – 2,5 cm
Crescent-shape, poorly modelled handle with a knob.
Inv. № A975б

Cat. № 609
Sickle

Iron
L – 13 cm; W – 1,9 cm
Crescent-shape, poorly modelled handle with a knob.
Inv. № A975в

Cat. № 610
Hammer weight

Iron
L – 9 cm; W – 6,3 cm
Rectangular form with elongated ellipsoidal hole in the middle.
Inv. № A977

Cat. № 611
Fibula

Iron
L – 9 см, W – 9 см
Village of Progled, Chepelare region
Early Iron Age
Casted, double spiral asymmetric bronze fibula with high triangular needle holder. There are three bumps on the bow.
RMA Plovdiv, Inv. № 2132
Милчев 1958, Табл. XI, Обр. 4.
KN

Barzitsa treasure

Found by chance in 1922; it consists of different objects, but there are one gold and four silver belts/torques and one pair of gold earrings kept in NAIM.
Village of Barzitsa (Sheremet up to 1934), Provadia Municipality, Varna region
Early Iron Age (9th –7th century BC)
NAIM-BAS
Миятев 1934; Гергова 1982; Бонев 2003, 134-136
KC

Cat. № 612
Belt/torque

Gold
D – 23,5 cm; L – 65 cm;
W – 211 g
It is made of round wire, 0,6 cm in diameter. The edges are flattened, expanding and triangular in shape, with one round hole. The upper surface is decorated with engraved fish bone pattern.
Inv. № 2114
Миятев 1934, 231,
Обр. 151

Cat. № 613
Belt/torque

Silver
D – 25,5 cm; L – 72 cm;
W – 315 g
It is made of round wire, 0,75 cm in diameter. The edges are flattened, expanding and triangular in shape, with one round hole. The upper surface is decorated with hollow points.
Inv. № 2117
Миятев 1934, 231, Обр. 152

Cat. № 614
Belt/torque

Silver
D – 29,5 cm; L – 86 cm;
W – 465 g
It is made of round wire, 0,8 cm in diameter.
The edges are flattened, expanding and terminating in spiral volutes. The upper surface is decorated with engraved geometric pattern.
Inv. № 2115
Миятев 1934, 232, Обр. 153

Cat. № 615
Belt/torque

Silver
D – 25,5 cm; L – 81 cm;
W – 470 g
It is made of round wire, 0,9 cm in diameter.
The edges are flattened, expanding and terminating in spiral volutes. The upper surface is decorated with engraved geometric pattern.
Inv. № 2116
Миятев 1934, 232, Обр. 154

Cat. № 616
Earrings – 2 pcs

Gold
H – 11 cm; 10,5 cm, W – 6,5 cm; 6 cm;
W – 40 g
The earrings are made of leaf-like plates modelled into the shape of a boat. Their ends are elongated in a long and thin wire terminating in a hook. The hooks are attached to the other end of the earring where a small, round hole is made. There is a decoration on the outer side made with punches in a matrix.
Inv. № 2113
Миятев 1934, 233, Обр. 155

Grave inveVtory in burial in tumulus № 4 (Ptichata Mound) from the necropolis near the village of Belogradets, Vetrino Municipality, Varna region

The grave inveVtory were placed in a wooden burial facility – a grave of a 40-45-year-old man. They consisted of ceramic vessels, weaponry – bronze arrowheads, spearheads, an iron dagger, a wooden scabbard with gold casing, etc.
Early Iron Age (First half of the 7th century BC)
NAIM-BAS
Тончева 1976; Tončeva 1980
KC

Cat. № 617
Dagger

Iron, gold
L – 42 cm; W – 3 cm; T – 1 cm;
L (handle) – 3 cm; L (blade) – 27 cm

The dagger is of so-called Kimmerian type. It is hammered out of iron. The blade is a rectangular plate with sharpened cutting edges. The handle has a rectangular cross-section and terminates in an expansion. The dagger is decorated with thin gold twisted wire.
Inv. № 8265
Тончева 1976, 52, Обр. 1, 5в; Tončeva 1980, 19, Pl. XII.1

Cat. No 618
Sheath

Gold, amber
L – 20.5 cm; W – 4.4 cm
It is made of a thick gold double-curved parallelepiped-shaped plate. The back is arched-curved. The back plate is riveted at both ends. The front side is decorated with three embossed four-leaf rosettes, circles and semi-circles. Some of the amber beads inlaid in them are preserved. The decoration was formed by using the techniques of pseudo-philigrane, au repoussé and inlay.
Inv. № 8268
Тончева 1976, 53, Обр. 3; Tončeva 1980, 19, Pl. XII.3a, 3b


Baley
(Cat. №№ 170; 557-567)
Topolovets
(Cat. №№ 165-167)
Archar (Cat. № 176)
Oryahovo (Cat. №№ 147; 358)
Mihailovo (Cat. № 146)
Furen
(Cat. № 399)
Tarnava
(Cat. №№ 41-42)
Ostrov
(Cat. № 553)
Baykal
(Cat. № 357)
Doktor Yosifovo (Cat. № 351)
Galatin (Cat. № 354)
Varbitsa
(Cat. №№ 453-5
Mitrovtsi (Cat. № 189)
Byala Slatina
(Cat. № 175)
Oryahovo region
(Cat. № 191)
Krivodol (Cat. №№ 595-610)
Valchitran (Cat. №№ 299-313)
Chomakovtsi
(Cat. №№ 161-162)
Dojrentsi
(Cat. №№ 401-402
Goran-Slatina (Cat. №№ 43-47)
Lovech Region (Cat. №№ 372; 543; 550; 552)
Lovech
Prelo
Tabashka Cave (Cat. №№ 243-249)
Hlevene
(Cat. № 590)
Berie
(Cat. №№
Petarch (Cat. № 185)
Glozhene (Cat. № 544)
Chepintsi (Cat. № 554)
Kraveni
(Cat. №№ 187
Breznik Region
(Cat. №№ 404-405)
Golyam Kade
Sarantsi (Cat. № 545)
Smirov Dol (Cat. № 362)
Kazichene (Cat. № 591)
Dabene (Cat. №№ 54-64)
Beguntsi (Cat.
Dolno Levski (Cat. №№ 352; 541
Plovdiv (Cat. №№ 574-5
Perushtitsa (Cat. №№ 350; 540)
Izvor (Cat. № 579)
Lilovo (Cat. №№ 347-348)
Pavelsko (Cat. № 360
Rupite (Cat. №№ 85-96)
Progled (Cat. № 611)
Petrich (Cat. №№ 97-105)
Koprivlen (Cat. №№ 568-573)
Mogilitsa (Cat. №№ 383-397)
Provenance unknown (Cat. №№ 150; 174; 344; 349; 359; 367; 400; 406; 412-413; 555-556)

Място на откриване на артефактите, включени в каталога на сборника
Findspots of the artifacts included in the catalogue

Цитирана литература / Bibliography

Авдев 2005: С. Авдев. История на златодобива по българските земи. София, 2005.

Аладжов 1969: Д. Аладжов. Находки от бронзовата епоха в Хасковския музей. – Археология, 4, 1969, 63-60.

Аладжов 1997: Д. Аладжов. Селища, паметници, находки от Хасковския край. Хасково, 1997.

Александров 2007: С. Александров. Златни накити от могилен гроб от II хил. пр. Хр. до с. Овчарци, община Раднево – В: Сборник в чест на ст.н.с. Христо Буюклиев (Известия на исторически музей Стара Загора, 2). Стара Загора, 2007, 74-84.

Александров 2009a: С. Александров. Златна торква от бронзовата епоха от фонда на Националния археологически институт с музей, София. – В: Б. Петрунова, А. Аладжов, Е. Василева (ред.). LAUREA. *In honorem Margaritae Vaklinovae*. Книга I. София, 2009, 15-19.

Александров 2009b: С. Александров. Украшения за коса от злато и сребро през бронзовата епоха в Северна България, in: Археология, 50, 1-2, 2009, 7-20.

Александров 2011: С. Александров. Златни торкви от бронзовата епоха в българските земи – Археология, 52, 2, 2011, 7-15.

Александров 2015: С. Александров. Могилни гробове от ранната бронзова епоха в Тракия (55 години по-късно) – Археология, 54, 1/2, 2015, 33-48.

Александров 2017: С. Александров. Украшения от благороден метал от ранната бронзова епоха във фонда на Националния археологически институт с музей – София. – В: Попов, Хр., Ю. Цветкова (ред.). *KARETES*. Сборник в чест на 65-годишнината на проф. Делев. София 2017, 194-207.

Александров, Гладичева 1993: С. Александров, И. Гладичева. Каменни брадви и чукове в колекцията на НАМ. – ГНАМ, 9, 1993, 45-51

Александров, Танева 2012: Ст. Александров, Ст. Танева. Скиптри-чукалки от късната бронзова епоха във фонда на НАИМ-БАН. – Археология, 53, 2012, 1, 72-76.

Александров, Христова 2014: С. Александров, Т. Христова. Селище от ранната и средната бронзова епоха до Димово, Видинско (Северозападна България) – Археология, 55, 2014, 83-93.

Ангелов 1959: Н. Ангелов. Златното съкровище от Хотница – Археология, 1, 1/2, 1959, 38-46.

Андонов 1987: Б. Андонов. Горно и Долно Уйно. София, 1987.

Атанасов 2002: В. Атанасов. Древният рудник за злато Перперикон край село Стремци, Кърджалийско. – Годишник на Минно-геоложкият университет „Св. Иван Рилски", т. 45, свитък I, Геология. София, 2002, 89-96.

Атанасов и др. 2012: Б. Атанасов, И. Гацов, М. Гюрова, П. Неделчева. Кремъчни артефакти от селището от късната бронзова епоха на Големия остров в дуранкулашкото езеро, Североизточна България. Състояние на проучванията. Годишник на Департамент „Археология", 7, 2012, 48-67.

Атанасов и др. 2016: Б. Атанасов, И. Кулов, Ф. Щокхамер, Д. Горчик, Х. Адам, Щ. Айзенман, Н. Димитрова, Щ. Драйброт, С. Иванов, Е. Илиева, В. Караилиева, Д. Коп, М. Лепек, Е. Маринова, П. Неделчева, Н. Олдсен, Ф. Уатсон, Ж. Узунов, А. Шпанхаке, Й. Цветанов. Проучвания в Бресто, с. Баня, община Разлог през 2015. – Археологически открития и разкопки през 2015 г. София 2016, 187-190

Атанасов и др. 2008: Г. Атанасов, С. Александров, С. Стойчев, Златни украшения от бронзовата епоха от фонда на РИМ-Шумен. - В: Митология, изкуство, флоклор, 14, 2008, 64-74.

Атанасов, Бабаджанов 2008: Г. Атанасов, И. Бабаджанов. Някои аспекти на прехода от бронза към желязото според археологическите материали от фонда на РИМ-Шумен. – В: Тракия и околният свят, 2 (= МИФ, 14), София, 2008, 44-55.

Бацова-Костова 1971: Е. Бацова-Костова. Праисторически селищни могили около Сливен. – Археология, 1, 1971, 66, обр. 11: а

Богданов 1987: Б. Богданов. Медните находища в България. София, 1987.

Божинова 2014: Е. Божинова. Крепостта на връх Драгойна от II-I хилядолетие пр. Хр. Стратиграфия, хронология и интерпретация (резултати от археологическите проучвания 2004-2012 г.). Годишник на Регионален археологически музей Пловдив XII, 2014, 44-88.

Бонев 1988: А. Бонев. Тракия и Егейският свят през втората половина на II хилядолетие пр. н. е. (Разкопки и проучвания, 20). София, 1988.

Бонев 2003: А. Бонев. Ранна Тракия. Формиране на тракийската култура – края на второто-началото на първото хилядолетие пр. Хр. (Разкопки и проучвания, 31), София, 2003.

Бориславов 1999: Б. Бориславов. Южна Тракия в края на бронзовата – началото на ранножелязната епоха. Проблеми на прехода. Автореферат на дисертация. СУ „Св. Кл. Охридски", София, 1999.

Бориславов 2005: Б. Бориславов. Археологически разкопки на тракийски култов комплекс „Семерчето" в землището на с. Доситеево, общ. Харманли. – Археологически открития и разкопки през 2004 г., София, 2005, 112-114.

Бориславов 2009: Б. Бориславов. Сондажни проучвания на обект Радинчовския хисар, с. Йерусалимово, община Любимец. – Археологически открития и разкопки през 2008 г. София, 2009, 185-188.

Бориславов 2017: Б. Бориславов. Могила № 3, с. Изворово, община Харманли. – В: Археологически открития и разкопки през 2016 г. София, 2017, 130-133.

Бориславов, Иванова 2007: Б. Бориславов, Н. Иванова. Археологически разкопки на тракийски могилен некропол в м. Лилово, община Девин, Смолянска област – Археологически открития и разкопки през 2006 г., 2007, 87-91.

Бориславов, Иванова 2008: Б. Бориславов, Н. Иванова. Археологически разкопки на тракийски могилен некропол в м. Лилово, община Девин, област Смолян. – Археологически открития и разкопки през 2007 г. София, 2008, 265-269.

Ботушарова 1963: Л. Ботушарова. Стратиграфски проучвания на Небеттепе – Годишник на народния археологически музей – Пловдив, V, 1963, 61-76.

Бояджиев 2014: К. Бояджиев. Въоръжение през Халколита в българските земи (Дисертации, 7). София, 2014.

Бояджиев и др. 2009: Я. Бояджиев, Й. Асланис, С. Терзийска-Игнатова, В. Мацанова. Селищна могила Юнаците – проучвания през 2008 г. – Археологически открития и разкопки през 2008г., София, 2009, 103-106.

Бояджиев и др. 2011: Я. Бояджиев, Й. Асланис, Ст. Терзийска – Игнатова, В. Мацанова. Селищна могила Юнаците – проучвания през 2001-2010 г. – Годишник на Регионален исторически музей-Пазарджик, II, 2011, 42-55.

Булатовић, Станковски 2012: А. Булатовић, Ј. Станковски. Бронзено време во басенот на јужна Морава и долината на Пчиња. Белград-Куманово 2012

Буюклиев 1964: Х. Буюклиев. Две раннотракийски могилни погребения от Старозагорско. – Археология, V/4, 1964, 63-65.

Валентинова 2006: М. Валентинова. Железен меч от ранножелязната епоха от с. Хлевене, Ловешко (съобщение). – Известия на Исторически музей – Ловеч, VII, 2006, 10-12.

Валентинова 2010: М. Валентинова. Нови данни за началото на Ранножелязната епоха в Централна Северна България (Могилна находка от Деветаки). – В: Б. Борисов (ред.). Великотърновският университет „Св. Св. Кирил и Методий“ и българската археология. Т. 1, В. Търново, 2010, 139-146.

Василева 2008: М. Василева. Каменна брадва-скиптър от с. Главан, община Гълъбово. – В: Д. Димитрова (ред.). По пътя на миналото. Сборник научни статии по повод 65-годишнината на д-р Георги Китов. София, 2008, 61-67.

Василева 2016: Ж. Василева. Ювелирно производство в Южна Тракия и Егея през Ранната бронзова епоха. Дисертация, СУ „Св. Климент Охридски“. София, 2016.

Велков 1924: И. Велков. Новооткрити старини. – Известия на Българския археологически институт, II, 1923-1924, 225-229.

Велков 1927: И. Велков. Новооткрити старини. – Известия на Българския археологически институт IV, 1926-1927, 312-320.

Велков 1955: И. Велков, Драгойново – един тракийски селищен център. – ИАИ XIX, 85-94.

Велков 1965: В. Велков. Нови данни за икономиката и историята на античния град при днешно Малко Търново – Известия на народния музей – Бургас, 2, 1965, 75-100.

Велков 1972: В. Велков. Рудодобиване и минно дело в древна Тракия. – Годишник на Националния политехнически музей, 2, 1972, 23-39.

Велчев 2002: В. Велчев. Основни характеристики и закономерности в разпространението на съвременната растителност – В: География на България. София, 2002.

Венедиков, Герасимов 1973: И. Венедиков, Т. Герасимов. Тракийското изкуство. София, 1973.

Върбанова 1994: М. Върбанова. За тройния съд и двата големи диска от Вълчитрънското съкровище – Археология, 36, 3/4, 1994, 25-29.

Георгиев 1987: Г. Георгиев. Полезните изкопаеми от времето на траките. София, 1987.

Георгиев 2002: М. Георгиев. Физическа география на България. София, 2002.

Георгиев 2007a: В. Георгиев. Източнородопски руден район. – В: В. Милев, Н. Обретенов, В. Георгиев, А. Аризанов, Д. Желев, И. Бонев, И. Балтов, В. Иванов. Златните находища в България. София, 2007, 100-102.

Георгиев 2007b: В. Георгиев. Златно находище „Седефче“. – В: В. Милев, Н. Обретенов, В. Георгиев, А. Аризанов, Д. Желев, И. Бонев, И. Балтов, В. Иванов. Златните находища в България. София, 2007, 132-134.

Георгиев 2007c: В. Георгиев. Златно-полиметално находище „Попско“. – В: В. Милев, Н. Обретенов, В. Георгиев, А. Аризанов, Д. Желев, И. Бонев, И. Балтов, В. Иванов. Златните находища в България. София, 2007, 137-138.

Георгиев 2007d: В. Георгиев. Златно-полиметално находище „Чала“. – В: В. Милев, Н. Обретенов, В. Георгиев, А. Аризанов, Д. Желев, И. Бонев, И. Балтов, В. Иванов. Златните находища в България. София, 2007, 124-129.

Георгиев 2007e: В. Георгиев. Златно-полиметално находище „Сребрен“. – В: В. Милев, Н. Обретенов, В. Георгиев, А. Аризанов, Д. Желев, И. Бонев, И. Балтов, В. Иванов. Златните находища в България. София, 2007, 141.

Георгиев 2012: В. Георгиев. Металогения на Източните Родопи. София, 2012.

Георгиев, Ангелов 1952: Г. Георгиев, Н. Ангелов. Разкопки на Русенската селищна могила. – Известия на археологическия институт, XVIII, 1952, 119-194.

Георгиев и др. 1979: Г. Георгиев, Н. Мерперт, Р. Катинчаров. Езеро. Раннобронзовото селище. София, 1979.

Георгиев 2014: П. Георгиев. Стратиграфски преглед на селищни обекти от късната бронзова и ранната желязна епохи в Горнотракийската низина – Be-Ja, 4, 3, 2014, 17-30.

Георгиева 1997: М. Георгиева. Фибули от старожелязната епоха във Варненския археологически музей. – ИНМВ, 29 (44), 1993 (1997), 14-28.

Георгиева 2002: Р. Георгиева. Паметници на тракийската култура от Карнобатско. – В: Д. Момчилов (ред). История и култура на Карнобатския край. 4, Варна, 2002, 144-155.

Георгиева 2003: Р. Георгиева. Керамиката от ранната желязна епоха в Югозападна България и феноменът „Цепина“. – Pyraichmes, 2, 2003, Kumanovo, 159-185.

Георгиева 2005: В. Георгиева. Бронзов връх за копие от Източна България. – в: Heros Hephaistos. Studia in Honorem Liubae Ognenova-Marinova, „Faber“, Велико Търново 2005, 209-213.

Георгиева и др. 2008: Р. Георгиева, К. Ников, Д. Момчилов. Тончова могила край с. Венец, Карнобатско. – В: Археологически открития и разкопки през 2007 г. София, 2008, 231-232.

Гергова 1982: Д. Гергова. Произход, характер и датировка на съкровището от с. Бързица (б. Шеремет), Варненски окръг – Археология, 24, 3/4, 1982, 6-9.

Гергова 1987: Д. Гергова. Съкровищата от Тракия и хиперборейския мит – В: Доклади на Втория международен конгрес по българистика. Българските земи в древността VI, България през средновековието. София, 1987, 53-74.

Гетов, Цанова 1967: Л. Гетов, Г. Цанова. Народен музей Казанлък – старо изкуство (каталог). София, 1967.

Гоцев и др. 2016: А. Гоцев, Д. Генов, П. Павлов, В. Кацаров, И. Иванов, П. Георгиева, И. Начева, Д. Върбанова, Т. Новакова. Спасителни археологически проучвания на обект № 7 по трасето на Междусистемна газова връзка България-Сърбия, м. Метилявец, с. Петърч, община Костинброд, област София, 2015 г. – В: Археологически открития и разкопки през 2015 г. София, 2016, 168-172.

Градев 1982: Д. Градев (ред.). Троя и Тракия. Каталог на изложба София и Берлин. София, 1982.

Делев 1990: П. Делев. Археологически и епиграфски паметници – В: Сборник „Странджа – древност и съвремие“, 1990, 141-150.

Делев 2002: П. Делев. Районът на Средна Места в древността – В: Копривлен. Спасителни археологически проучвания по пътя Гоце Делчев – Драма. Том 1. 1998–1999. София, 2002, 13-29.

Делев 2014: П. Делев. История на племената в Югозападна Тракия през I хил. пр. Хр. София, 2014.

Делирадев 1926: П. Делирадев. Витоша. София, 1926.

Дергачёв 2011: В. Дергачев. Топоры-кельты поздней бронзы Карпато-Подунавья. Выпуск 2: Кельты и серпы Нижнего Подунавья. Кишинёв, 2011.

Детев 1950: П. Детев. Старините в рида Св. Илия. – Известия на народния музей Бургас, I, 1950, 67-100.

Детев 1960: П. Детев. Праисторически селища и находки в южна България. – Годишник на музеите в Пловдивска област, 3, 1960, 345-356.

Детев 1963: П. Детев. Разкопки на Небеттепе в Пловдив. – Годишник на Народния археологически музей Пловдив, V, 1963, 27-40.

Детев 1964: П. Детев. Колективна находка от глинени съдове в Пловдив – Археология, 4, 1964, 66-70.

Джамбазов 1963: Н. Джамбазов. Ловешките пещери. – Известия на българския археологически институт, XXVI, 1963, 198-238.

Дзис, Черняков 1981: Г. Дзис, Т. Черняков. Золотая чаша Вълчетрънского типа из северо-западного причерномория – Советская археология, 1, 1981, 151-161.

Димитров 1942: Д. П. Димитров. Нов принос към културните отношения на Тракия и Троя през втората половина на III хилядолетие пр. Хр. – Беломорски преглед, 1, 1942, 149-156.

Димитрова 2012: Д. Димитрова. Могили от бронзовата епоха при с. Камен, Сливенско. – Наука, 2012, 1, 36-41.

Димитрова 2014: Д. Димитрова. Гробове от бронзовата епоха при Камен, Сливенско. – Археология, 55, 1-2, 2014, 69 -75.

Дойков, Петров 2005: В. Дойков, Г. Петров. По река Негованка. Еменският каньон. Силистра, 2005.

Домарадски 1995: М. Домарадски. Трако-гръцки търговски отношения. Емпорион Пистирос. Том 1. София, 1995.

Дончева 2012: Д. Дончева. The Northern „Journey" of the Late Bronze Age Copper – В: ΗΡΑΚΛΕΟΥΣ ΣΩΤΗΡΟΣ ΘΑΣΙΩΝ. Изследвания в чест на Иля Прокопов от приятелите и учениците му по случай неговата 60-годишнина. Велико Търново, 2012, 671-714.

Дражева, Недев 2013: Ц. Дражева, Д. Недев. Спасителни археологически проучвания на обект „Крепостна стена и прилежащите ѝ съоръжения в участъка на пл. Хан Крум, църква „Св. Св. Кирил и Методий" и южна крайбрежна алея, УПИ XIX-523 и 525, XXII-526 и УПИ XXI-527, кв. 27 по плана на гр. Созопол". – В: Археологически открития и разкопки през 2012 г., София, 2013, 468-470.

Дремсизова-Нелчинова 1984: Ц. Дремсизова-Нелчинова. Тракийската крепост край с. Вишеград, Кърджалийско – Thracia, 6, 1984, 104-133.

Еленски 2010a: Н. Еленски. Материали от ранния неолит, открити в Еменската пещера, Великотърновско. – Известия на Регионален исторически музей – Велико Търново, XXIV-XXV, 2010, 61-74.

Еленски 2010b: Н. Еленски. Сребърен нагръдник от бронзовата епоха открит край язовир „Росица", Великотърновско. – В: Б. Борисов (ред). Великотърновският университет „Св. Св. Кирил и Методий" и българската археология. Том 1, В. Търново, 2010, 121-125.

Еленски 2015: Н. Еленски. Материали от ранния неолит, произхождащи от Еменската пещера, Великотърновско. – „Марица-Изток". Археологически проучвания, 7, 2015, 11-21.

Желев 2007: Д. Желев. Златно находище „Хан Крум", участък „Ада тепе" – В: Златните находища в България. София, 2007, 104-114.

Змейкова 1990: И. Змейкова. Към проблематиката на керамиката от бронзовата епоха, открита в Табашката пещера. – Експедиционен годишник на СУ, 5А, 1990, 105-107.

Иванов 1978: И. Иванов. Раннохалколитни гробове до град Варна. – Известия на народния музей – Варна, XIV/XXIX/, 1978, 81-93.

Иванов 2007: Г. Иванов. Погребалните практики през късната бронзова епоха в Централните Балкани. София, 2007.

Иванов, Аврамова 1997: И. Иванов, М. Аврамова. Варненски некропол. София, 1997.

Илиев, Бакърджиев 2008: И. Илиев, С. Бакърджиев. Уникално гробно съоръжение от ранната бронзова епоха. – Вести на Ямболския музей, III/4, 2008, 4-5.

Илчева 1997: В. Илчева. Технология и класификация на керамиката на селища от преходния период от енеолита към бронзовата епоха в средния басейн на река Янтра. – Известия на исторически музей – Велико Търново, XIII, 1997, 91-113.

Илчева 2000: В. Илчева. Нова колективна находка от бронзови изделия от късната бронзова епоха от село Овча Могила, Ловеша област. – В: Палеобалканистика и старобългаристика. Втори есенни международни четения „Професор Иван Гълъбов", Велико Търново, 14-17 ноември 1996 г. Велико Търново, 2000, 457-468.

Илчева 2003: В. Илчева. Керамиката от пласт В на Еменската пещера. – Добруджа, 21, 2003, 261-278.

Илчева 2009: В. Илчева. Преходният период от каменно-медната към бронзовата епоха. Велико Търново, 2009.

Телль Юнаците 2007: Телль Юнаците. Эпоха бронзы. Том 2, часть 1, Москва, 2007.

Йовчев 2014: Д. Йовчев. Самородно злато и платина в речните наслаги от р. Двойница и десните притоци на р. Камчия, България – В: Българско геологическо дружество, Национална конференция с международно участие „ГЕОНАУКИ 2014", 2014, 33.

Йовчев 2015: Д. Йовчев. Самородно злато и платина в речните наслаги от района на селата Горен чифлик и Дюлино, Източна Стара планина – Списание на Българското геологическо дружество, 76, 2/3, 2015, 51-63.

Йоцова и др. 2012: А. Йоцова, С. Александров, Т. Христова, Г. Иванов. Селище от късната бронзова епоха до с. Балей (Северозападна България). Стратиграфия и археологически комплекси. – Археология, 53, 2, 2012, 7-26.

Калчев 1994: П. Калчев. Ранотракийски могилни гробове край с. Овчарци, Старозагорско. – В: Първи международен симпозиум „Севтополис. Надгробните могили в Югоизточна Европа". В. Търново, 1994, 131-138.

Карайотов 1978: И. Карайтоов. Критски меден слитък от село Черково, Бургаски окръг. – Нумизматика, 12, № 1, 1978, 12–17.

Катинчаров 1972: Р. Катинчаров. Основные результаты раскопок первобытного поселения в г. Нова Загора (Южная Болгария) в 1968 и 1970 гг. – Советская археология, 1, 1972, 242 – 247.

Катинчаров 1974: Р. Катинчаров. Периодизация и характеристика на културата през бронзовата епоха в Южна България. – Археология, 16, 1, 1974, 1-22.

Катинчаров 1979: Р. Катинчаров. Разлагане на първобитнообщинния строй. Бронзова епоха. – Във: Велков, В. (ред.) История на България. Том 1. София, 1979, 86-110.

Катинчаров и др. 1995: Р. Катинчаров, Н. Я. Мерперт, В. С. Титов., В. Х. Мацанова, Л. И. Авилова. Селищна могила при с. Юнаците (Пазарджишко). История на проучванията. Обща стратиграфия. Пласт А. Том I, София, 1995.

Катинчаров, Аврамова 1994: Р. Катинчаров, М. Аврамова. Едно очаквано съкровище – Проблеми на изкуството, 27, 4, 1994, 4-6.

Катинчарова 2005: Д. Катинчарова. Находища на метални руди със следи от металургична дейност от късножелязната епоха в района на емпорион „Пистирос". – В: Г. Китов, Д. Димитрова (ред.). Земите на България. Люлка на тракийската култура. Т. 2, София, 2005, 188-194.

Кисьов 1993: К. Кисьов. Керамиката от късната бронзова епоха в гробните комплекси от Централните Родопи – Археология 35, 2, 1993, 1-12.

Китов и др. 1991: Г. Китов, И. Панайотов, П. Павлов. Могилни некрополи в Ловешкия край. Ранна бронзова епоха. Некрополът Горан – Слатина. (= Разкопки и проучвания, том 23), София 1991.

Китов, Павлов 1973: Г. Китов, П. Павлов. Гробна находка от бронзовата епоха в Ловеч. – Музеи и паметници на културата, 2, 1973, 4-9.

Ковачев 1994: В. Ковачев. Медните находища в България и възможностите за тяхната експлоатация в древността – В: Проблеми на най-ранната металургия. Трудове на Минно-геоложкия университет, 4. София, 1994, 90-119.

Ковачева 1967: Т. Ковачева. Нова колективна находка от бронзовата епоха при с. Върбица, Плевенски окръг. – Археология, 2, 1967, 51-59.

Койчев 1950: Н. Койчев. Колективна находка на калъпи за бронзови брадвички и върхове за бронзови копия в землището на с. Сокол, Новозагорска околия. – Известия на археологическия институт, XVII, 1950, 218-221.

Койчева-Мечева 1979: К. Койчева-Мечева. Праисторически каменни сечива от Габровски окръг. – В: Годишник на музеите от Северна България, V, 1979, 5-19.

Колев 1976: К. Колев. Нумизматични данни за рудодобива на Балканския полуостров. – В: Първи симпозиум по история на минното дело в Югоизточна Европа. Сборник доклади, Варна, 3-6 ноември 1975 г. Т. 2. Варна, 1976, 70-76.

Конова 2003: Л. Конова. Сребърно съкровище от бронзовата епоха в НИМ (Предварително съобщение). – В: Ал. Фол (ред), Пътят. Сборник научни статии и съобщения, посветени на живота и творчеството на д-р Г. Китов. София, 2003, 107-120.

Константинов 1949: М. Константинов. Старото златодобиване в Крайщето. – Минно дело, 4, 1949, 81-84.

Коняров 1953: Г. Коняров. Принос към историята на рударството и металургията в България. София, 1953.

Кънчев 1991: М. Кънчев. Некрополи от бронзовата епоха в района на „Марица-Изток". – В: Марица изток. Археологически проучвания, 1, София, 1991, 41-70.

Кънчев, Кънчева 1990: М. Кънчев, Т. Кънчева. Некропол от късната бронзова епоха източно от Нова Загора – Археология, 32, 4, 1990, 8-14.

Кънчева-Русева, Лещаков 2008: Т. Кънчева-Русева, К. Лещаков. Характеристика и датировка на праисторическото селище до селищната могила Нова Загора – В: Археологически проучвания в Новозагорско, 2. София, 2008, 51-84.

Лазарова 1993: С. Лазарова. Вести: Златен съд от о. Белене (Персина). – Известия на музеите в Северозападна България, 20, 1993, 261-263.

Лещаков 1990: К. Лещаков. Украса на къснобронзовата керамика от връх Алада в Източните Родопи. – Археология, XXXII, 1, 1990, 1-17.

Лещаков 2000: К. Лещаков. Изследвания върху бронзовата епоха в Тракия I. Сравнителна стратиграфия на селищните могили от ранната бронзова епоха в Югоизточна България. – Годишник на Софийския университет, Исторически факултет, 84/85, 1992. София, 2000, 5-119.

Лещаков 2002: К. Лещаков. Теренни обхождания в землищата на с. Резово и с. Синеморец през 2001. – В: Археологически открития и разкопки през 2001 г. София, 2002, 36-38.

Лещаков 2006: К. Лещаков. Бронзовата епоха в Горнотракийската низина – Годишник на Софийския университет, Исторически факултет 3, 2002 (2006), 141-216.

Лещаков 2007: К. Лещаков. Керамика с белези на прехода от КБЕ към РЖЕ по данни от последните разкопки на Перперикон. – Древна и модерна Тракия. (Известия на Старозагорския исторически музей, II), Стара Загора, 2007, 85-99

Лещаков 2010: К. Лещаков. Спасителни разкопки на обект 18А, м. Бозаджийска кория, землището на с. Чокоба, община Сливен (АМ „Тракия" – ЛОТ 3, км. 270+300 – 270+500). – В: Археологически открития и разкопки през 2009 г. София, 2010, 129-131.

Лещаков 2015: Л. Лещаков. Типология и технология на бронзовите върхове за копия от късната бронзова епоха и ранножелязната епоха в Югоизточна Европа. София, 2015.

Лещаков и др. 2002: К. Лещаков, П. Калчев, С. Саватинов, Н. Тодорова, К. Костова, В. Петрова. Спасителни разкопки на светилището Черна гора 1. Предварителни резултати от разкопките 1997-1999 г. – Известия на Старозагорския Исторически музей, т. II, 2002, 19-44.

Лещаков и др. 2012: К. Лещаков, Г. Кацаров, Ж. Василева, Н. Николова. Сондажни археологически разкопки в рида Мечковец – Археологически открития и разкопки през 2011 г., 2012, 133-134.

Лещаков, Димитров 2016: П. Лещаков, К. Димитров. Издирвания на археологически обекти в прохоровското рудно находище. – Археологически от крития и разкопки през 2015 г., София, 2016, 872-875.

Лещаков и др. 2016: П. Лещаков, К. Димитров, Р. Кунзе. Издирване на археологически обекти в Зидаровското и Росенското рудни полета – Археологически открития и разкопки през 2015 г., 2016, 878-882.

Лихардус и др. 2001: Я. Лихардус, А. Фол, Л. Гетов, Ф. Бертемес, Р. Ехт, Р. Катинчаров, И. Илиев. Изследвания в микрорегиона на с. Драма (Югоизточна България). София, 2001.

Маразов 2011: И. Маразов. Тракия и Древният свят XV–I в. пр. Хр. „Колекция Васил Божков". София, 2011.

Марков, Георгиев 1953: Г. Марков, Г. Георгиев. Живот и култура на първобитния човек в нашите пещери. – Природа и знание, VI, 1953, 7, 9-12.

Марфунин 1987: А. Марфунин. История золота. Москва, 1987.

Мелюкова 2001: А. Мелюкова. Новые данные о скифах в Добрудже (к вопросу о „Старой Скифии" Геродота). – Российская Археология, 2001, 4, 20-32.

Миков 1929: В. Миков. Ловчанско в предисторическо време. – В: Ловеч и Ловчанско, I, 1929, 57- 65.

Миков 1933: В. Миков. Предисторически селища и находки в България. София, 1933.

Миков 1933b: В. Миков. Приноси към предисторическата епоха у нас. – Известия на българския археологически институт, XII, 1933, 384-396.

Миков 1934: В. Миков. Последни могилни находки. – В: Мадара. т. I, София 1934, 429-438.

Миков 1939: В. Миков. Стари могилни гробове при Калугерица и Кюлевча. – В: Мадара, 2, София, 1939.

Миков 1940: В. Миков. Селищна могила при с. Юнаците /Пазарджишко/. – Годишник на Пловдивската народна библиотека и музей, 1937-1939 (1940), 55-84.

Миков 1948: В. Миков. Предисторическото селище до с. Михалич, Свиленградско. – В: Разкопки и Проучвания, I, 1948, 7-25.

Миков 1958: В. Миков. Златното съкровище от Вълчитрън. София, 1958.

Миков, Джамбазов 1960: В. Миков, Н. Джамбазов. Деветашката пещера. София, 1960.

Милев и др. 2007: В. Милев, Н. Обретенов, В. Георгиев, А. Аризанов, Д. Желев, И. Бонев, И. Балтов, В. Иванов. Златните находища в България. София, 2007.

Милчев 1958: А. Милчев. Към въпроса за най-древните фибули в българските земи. – В: Изследвания в чест на акад. Д. Дечев. София, 1958.

Минков 2013: П. Минков. Раннобронзова керамична кана от експозицията на РИМ-Бургас. – Археология, LIX, 2, 2013, 113-122.

Миятев 1934: Кр. Миятев. Новооткрито старобългарско съкровище. – Известия на Българския археологически институт, VIII, 1934, 230-253.

Нехризов 1996: Г. Нехризов. Археологически проучвания при с. Долно Луково, Ивайловградско – Археологически открития и разкопки през 1995 г., 1996, 31-33.

Нехризов 2003: Г. Нехризов. Спасителни археологически проучвания на обект „Ада тепе“ при гр. Крумовград през 2002 г. – Археологически открития и разкопки през 2002 г., 2003, 67-68.

Нехризов 2006a: Г. Нехризов. Спасителни разкопки на тракийското светилище „Ада тепе“ – Археологически открития и разкопки през 2005 г., 2006, 140-142.

Нехризов 2006b: Г. Нехризов. Ямно светилище от желязната епоха и селище от ранната бронзова епоха при Свиленград. – в: В. Николов, Г. Нехризов, Ю. Цветкова (ред.). Спасителни археологически разкопки по трасето на железопътната линия Пловдив – Свиленград през 2004 г., Велико Търново, 2006, 397-501.

Нехризов 2008a: Г. Нехризов. Тракийско светилище „Аул кая“ при С. Долно Черковище, Хасковско – Археологически открития и разкопки през 2007 г., 2008, 130-134.

Нехризов 2008b: Г. Нехризов. Класификационна схема на трапезната керамика от ранната желязна епоха в Източните Родопи – В: Phosphorion. Studia in Honorem Mariae Čičikova. София, 2008, 114-131.

Нехризов 2009: Г. Нехризов. Наблюдения върху формирането и развитието на селищната система в областта Царичина, Източни Родопи – Известия на Регионалния исторически музей Благоевград, 5, 2009, 124-139.

Нехризов 2010a: Г. Нехризов. Източнородопските долмени. Мегалитни гробни съоръжения във водосборния район на Бяла река – В: Югоизточна България през II-I хилядолетие пр. Хр. Варна, 2010, 85-95.

Нехризов 2010b: Г. Нехризов. Спасителни разкопки на надгробна могила на вр. Коджадаа при Момчилград – Археологически открития и разкопки през 2009 г., 2010, 220-221.

Нехризов, Бонев 2010: Г. Нехризов, П. Бонев. Селище от ранната бронзова епоха при с. Седлари, общ. Момчилград, рентгенофлуоресцентен анализ на златни пластини от обекта – В: Научна конференция с международно участие „Наука и общество“, Кърджали 13–14 октомври 2010 (Научни трудове, IV, част I), Кърджали 2010, 204-211.

Нехризов, Миков 2002: Г. Нехризов, Р. Миков. Спасителни археологически проучвания на обект „Ада тепе“ при гр. Крумовград през 2001 г. – Археологически открития и разкопки през 2001г., 2002, 42-44.

Нехризов, Цветкова 2010: Г. Нехризов, Ю. Цветкова. Спасителни археологически разкопки на могилен некропол при с. Стамболово, община Хасково – Археологически открития и разкопки през 2009 г., 2010, 221-224.

Ников, Георгиева 2015: К. Ников, Р. Георгиева. Спасително археологическо проучване на обект от ранната бронзова и ранната желязна епоха в м. „Ветата мая“, Енергиен комплекс „Марица – Изток“ – В: Археологически открития и разкопки през 2014 г., София, 2015, 166 - 168

Ников, Георгиева 2017: К. Ников, Р. Георгиева. Спасително археологическо проучване на обект от ранната бронзова епоха и ранната желязна епоха в м. Ветата мая в землището на с. Полски Градец, община Раднево. – В: Археологически открития и разкопки през 2016 г. София, 2017, 128-130.

Ников и др. 2016: К. Ников, Х. Попов, Р. Стойчев, П. Георгиев. Спасително археологическо проучване на Ада Тепе, бщина Крумовград. Кампания 2015 г. – Археологически открития и разкопки през 2015 г. София, 2016, 190-193.

Николов 1970: Б. Николов. Колективна находка от железни предмети до град Криводол. Врачански окръг – Археология, 12, 1, 1970, 51-57.

Николов 1974: Б. Николов. Находки от края на бронзовата епоха във Врачанско. – Археология, 1, 1974, 41-50.

Николов 1976: Б. Николов. Могилни погребения от ранната бронзова епоха при Търнава и Кнежа, Врачанско. *Археология*, 16, 3, 1976, 38-51.

Николов 2004: В. Николов. Сондажни проучвания на Юрганджийската селищна могила до Коньово, Новозагорско. – Археология, 45, 3-4, 2004, 37-46.

Николов, Жекова 1982: В. Николов, В. Жекова. Колективна находка от керамични съдове от късната бронзова епоха в с. Есеница, Варненски окръг – Известия на Народния музей – Варна, 18 (33), 1982, 87-92.

Николова, Ангелов 1961: Я. Николова, Н. Ангелов. Разкопки на Еменската пещера. – Известия на археологическия институт. XXIV, 1961, 297-316.

Овчаров и др. 2008: Н. Овчаров, К. Лещаков, З. Димитров, Д. Коджаманова. Ранните периоди в историята на светилището при с. Татул – Археология, 49, 1-4, 2008, 34-45.

Омир, Илиада. Превод А. Милев, Б. Димитрова. София, 1969

Панайотов 1989: И. Панайотов. Ямната култура в българските земи (Разкопки и проучвания, 21). София, 1989.

Панайотов, Александров 1995: С. Александров, И. Панайотов. Могилен некропол от ранната бронзова епоха в землищата на селата Медникарово и Искрица. В: – Марица-Изток. Археологически проучвания. Т. 3, Раднево, 1995, 87-113.

Панайотов и др. 1991: И. Панайотов, К. Лещаков, С. Александров, И. Змейкова, Ц. Попова, Т. Стефанова. Селищна могила Гълъбово: енеолит, ранна и средна бронзова епоха. – Марица–Изток. Археологически проучвания, 1. София, 1991, 139-205.

Папазовска 2005: А. Папазовска. Погребуваньата на Вардарски Рид – В: Вардарски рид. Skopje 2005, 385-400.

Пеев 1975: И. Пеев. Следи и веществени паметници от златодобивна дейност по българските земи – В: Първи симпозиум по история на минното дело в Югоизточна Европа. Сборник доклади. Варна, 3-6 ноември 1975 г., 1975, 93-105.

Перницка 1994: Е. Перницка. Състояние на природонаучните изследвания върху най-древните метали. – В: Х. Тодорова, Т. Маринов (ред.). Проблеми на най-ранната металургия. София, 1994, 14-89.

Петров 2006: И. Петров. Железен меч от Хасковско. – Известия на Исторически музей – Хасково, 3, 2006, 193-194.

Петров 2007: И. Петров. Хасковският край през праисторията, античността и средновековието. – В: Г. Граматиков (ред.). Регионален исторически музей Хасково. Избрано от фондовете. Каталог. София, 2007, 18-59. = **Petrov 2007:** I. Petrov. The Region of Haskovo during the Prehistory, Antiquity and the Middle Age. – In: G. Gramatikov (ed.). Regional Museum of History, City of Haskovo. Selected from the Stocks. Catalogue. Sofia, 2007, 18-59.

Петрова, Кацаров 2010: В. Петрова и Г. Кацаров. Спасителни разкопки на обект от бронзовата епоха край с. Чокоба, Сливенско (Обект 18, Лот 3 по трасето на АМ „Тракия“, Км 270+000-

270+300) – В: Археологически открития и разкопки през 2009 г., София, 2010, с. 126 - 129

Попов 1913: Р. Попов. Единични находки от бронзовата и халщатската епохи. – Известия на българското археологическо дружество, 3, 1912-1913, 291-300.

Попов 1920: Р. Попов. Материали за предисторията на България. А. Изучавания около Разград. Б. Спелеологични изследвания в околността на гр. Търново, с. Беляковец, Дряновския манастир и с. Карлуково. – Годишник на Народния музей за 1920, I, 39-56.

Попов 1928/1929: Р. Попов. Новооткрити паметници от желязната епоха в България – Известия на българския археологически институт, V, 1928/29, 273-290.

Попов 1932: Р. Попов. Могилните гробове при с. Ендже – Известия на Българския археологически институт, 6, 1930/1931 (1932), 89-116.

Попов 1936: Р. Попов. Новооткрити предисторически материали в България. – Годишник на Народния Музей, VI (1932-1934). София, 1936, 27-37.

Попов 1984: Н. Попов. Новопостъпили находки от бронзовата и ранната желязна епоха в праисторическия отдел на Шуменския окръжен музей. – Годишник на музеите в Северна България, 10, 1984, 5-11.

Попов 1989: Д. Попов. Въведение в тракийското изворознание I: От Омир до Ксенофонт. – В: А. Фол, Д. Попов (ред.). Христоматия по тракология. Т. I. София, 1989, 8-57.

Попов 2009: Х. Попов. Куш кая. Характеристика на обитаването през късната бронзова и ранната желязна епоха – Археология, 50, 1-2, 2009, 21-39.

Попов 2011a: Х. Попов. Ада тепе и тайните на древното рударство. Ada Tepe and the secrets of ancient mining. София, 2011.

Попов 2011b: Х. Попов. Спасителни археологически разкопки на златодобивен рудник от късната бронзова и ранната желязна епохи Аде тепе, община Крумовград. – В: Археологически открития и разкопки през 2010 г. София, 2011, 134-137.

Попов и др. 2009: Х. Попов, З. Цинцов, С. Илиев. Методи за теренна регистрация при издирване на следи от антични рударство и металургия в района на Източните Родопи – Известия на Регионалния исторически музей Благоевград, 5, 2009, 140-153.

Попов и др. 2015: Х. Попов, П. Георгиев, Р. Стойчев. Антични рудници при с. Седефче, община Момчилград. – В: Археологически открития и разкопки през 2014 г. София, 2015, 563-566.

Попов, Илиев 2006: Х. Попов, С. Илиев. Антични рудни разработки, западен склон на Ада тепе – Археологически открития и разкопки през 2005 г., 2006, 154-156.

Попов, Ников 2014: Х. Попов, К. Ников. Спасителни археологически проучвания на златодобивен рудник от късната бронзова епоха Ада тепе, община Крумовград – Археологически открития и разкопки през 2013 г., 2014, 118-121.

Попова 2009: Ц. Попова. Палеоботанически каталог на местоположения и проучени растителни останки на територията на България (1980-2008) – Интердисциплинарни проучвания, 20/21, 2009, 71-165.

Пушкаров 1922: Н. Пушкаров. Витоша през ледниковата епоха – Естествознание и география, 6, 4, 1922, 34-55.

Радославов 1948: Б. Радославов. Минното дело в развитието на човешката култура. София, 1948.

Рашев, Станилов 1994: Р. Рашев, С. Станилов. Старобългарски езически некропол при с. Дибич, Шуменско – Археологически открития и разкопки през 1994 г., 1995, 133-134.

Русев et al. 2006: Р. Русев, В. Славчев, Й. Бояджиев, З. Атанасова. Медта и технологичните основи на европейската цивилизация. Структурни особености на медни слитъци от бронзовата епоха. – Научни известия на НТСМ XIII, №3(86) (=XXI национална конференция Дефектоскопия‘2006. Варна, 2006, 301-306.

Сираков 2006: Н. Сираков. Калъпи за бронзови брадви от фонда на музея в Сливен. – Известия на музеите в южна България, XXII, 2006, 86-88.

Станчева 1973: М. Станчева Тракийският златен съд от София. – **Музеи и паметници на културата 3,** 1973, 59-63.

Станчева 1973b: М. Станчева. Тракийски златоносни рудни разработки край София – Археология, 15, 1, 1973, 53-65.

Стоянов 2000: Т. Стоянов. Контакти на Североизточна Тракия с Анатолия, Кавказ и Източното Средиземноморие преди колонизацията. – ИНМ Бургас, III, 2000, 50-61.

Стоянов 2004: Т. Стоянов. Още за ранните контакти на Вътрешна Тракия с Егеида. – В: Академични четения в чест на 110 години от рождението на проф. Янко Тодоров, Годишник на Департамент „Средиземноморски и източни изследвания“, НБУ, т. 2, 2004, 167-174.

Тачева 2006: М. Тачева. Царете на Древна Тракия. Том 1. София, 2006, 30-45.

Тодорова 1984: Х. Тодорова. Добруджа през праисторическата Епоха. В: История на Добруджа, София, 1984, 23-71.

Тодорова 1994: Х. Тодорова. Най-ранната металургия в България – В: Проблеми на най-ранната металургия. Трудове на Минно-геоложкия университет, 4. София, 1994, 5-13.

Тончева 1973: Г. Тончева. Калъпи за отливане на сечива и украшения от с. Есеница. – Археология, 2, 1973, 39-45.

Тончева 1976: Г. Тончева. Кинжал кимерийски тип от с. Белоградец, Варненски окръг. – Археология, XX, 3, 1976, 52-56.

Топалов 1994: С. Топалов. Одриското царство от края на V до средата на IV в. пр. н. е. Приноси към проучването на монетосеченето и историята му. София, 1994.

Филиповић и др. 2015: В. Филиповић, Д. Милановић, П. Милојевић. Микенски мач из околине Алексинца – Вестник, 42, 2015, 9-17.

Филипович, Стоянова 1990: Л. Филипович, В. Стоянова. Палинологично изследване на торфище край Садово – Фитология, 38, 1990, 22-40.

Фол 1975: А. Фол. Символичното погребение от Казичене, Софийско. – **Изкуство, 3-4**, 1975, 11 – 13.

Фол 1993: В. Фол. Скалата, конят и огънят. София, 1993.

Христов 2004: И. Христов. Тракийски накитни съкровища (IX-VI в. пр. Хр.) от фонда на Национален исторически музей. – Известия на Националния исторически музей, XIV, 2004, 43-67.

Христов 2005: М. Христов. Могилен некропол от ранната бронзова епоха край Дъбене, Карловско (предварително съобщение) – Археология, 46, 2005, 127-137.

Христов 2012: М. Христов. Една ритуална структура от м. Балинов герун край с. Дъбене, Карловско – Известия на Националния исторически музей, 24, 2012, 9-32.

Христова 2002: Т. Христова. Данни за култура Тей от Централна Северна България – Минало, 4, 2002, 4-8.

Христова, Иванов 2010: Т. Христова и Г. Иванов. Спасителни археологически проучванияна на обект 10 (КМ 257+200 – 257+400), ЛОТ 3 по АМ „Тракия“, в землището на с. Биково, община Сливен. – В: Археологически открития и разкопки през 2009 г., София, 2010, с. 123-126

Христова, Петрова 2016: Т. Христова, В. Петрова. Селище от късната бронзова епоха при Чепинско шосе (Обект 7, Северна скоростна тангента на София). – В: К. Бояджиев, П. Андреева (ред.) Българската археология 2015 г. Каталог към изложба. София 2016, 27–28.

Христова, Христов 2009: Т. Христова, М. Христов. Рапира от бронзовата епоха от фонда на НИМ. – Известия на Националния исторически музей, том XX. Велико Търново, 2009, 17-21.

Цинцов 1997: З. Цинцов. Минерали от групата на платината в алувиални седименти от Благоевградския грабен. Автореферат на дисертация, БАН. София, 1997.

Цинцов 2015: З. Цинцов. Кратка сравнителна характеристика на минерали на елементите от групата на платината от седименти в България – В: Българско геологическо дружество. Национална конференция с международно участие „ГЕОНАУКИ 2015", 2015, 39-40.

Цинцов, Радойков 2006: З. Цинцов, К. Радойков. Следи от древен добив на разсипно злато в района на с. Горно Уйно. – Известия на Регионалния исторически музей в Кюстендил, 2006, 419-428.

Цончев 1938: Д. Цончев. Приноси към старата история на Пловдив. София, 1938.

Черных 1974: Е. Черных. Об основных этапах древнейшей металлургии меди на территории Болгарии (IV – начало I тыс. до н. е.). – Thracia, 3, 1974, 379-395.

Черных 1976: Е. Н. Черных. Древняя металлобработка на Юго-Западе СССР. Москва, 1976.

Черных 1978a: Е. Черных. Горное дело и металлургия в древнейшей Болгарии. София, 1978.

Черных 1978b: Е. Черных. Металлургические провинции и периодизация эпохи раннего металла на территории СССР. – Советская археология, 4, 1978, 53-82.

Черных 2007: Е. Черных. Каргалы, том V. Каргалы: феномен и парадоксы развития. Москва, 2007.

Чилингиров 1920: А. Чилингиров. Рапорт върху изучванията му на предисторичните селища в североизточна България – Годишник на Народния археологически музей 1, 1920, 68-76.

Шалганова 2000: Т. Шалганова. Съкровищата от бронзови предмети от къснобронзовата и ранножелязната епоха от България – Митология, изкуство, фолклор (МИФ), 6, 2000, 178-215.

Шалганова 2003: Т. Шалганова. Скъпоценните съдове от бронзовата епоха на Балканския полуостров – Митология, изкуство, фолклор (МИФ), 8, 2003, 76-96.

Шалганова 2005: Т. Шалганова. Изкуство и обред на бронзовата епоха. Култура на инкрустираната керамика по Долен Дунав (Монографии МИФ, 3). София, 2005.

Юнаците 2007: Тель Юнаците. Эпоха бронзы. Том II, част 1. Восточная литература РАН, Москва, 2007.

Aali, Stöllner 2015: A. Aali, T. Stöllner (eds). The Archaeology of the Salt Miners. Interdisciplinary Research 2010-2014. Metalla (Bochum), 21.1-2, 2014 (2015).

Alexandrescu 1973: A. Alexandrescu. La nécropole du bronze recent de Zimnicea (dep. De Teleorman). – Dacia, 17, 1973, 77-97.

Alexandrescu 1974: A. Alexandrescu. La nécropole du bronze ancien de Zimnicea (dép. de Teleorman). - Dacia N.S., XVIII, 1974, 79-93.

Alexandrov 1998: S. Alexandrov. Pottery from the End of Early Bronze Age in the West Bulgaria. – In: M. Stefanovich, H. Todorova, H. Hauptmann (eds.). The Steps of James Harvey Gaul, 1, Sofia, 1998, 223-233.

Alexandrov 2002: S. Alexandrov. The Late Bronze Age settlement at Koprivlen. In: A. Bozkova, P. Delev, D. Valcheva (eds). Koprivlen 1. Rescue Archaeological Investigations along the Gotse Delchev – Drama Road 1998-1999. Sofia, 2002, 63-82; 321-343.

Alexandrov 2005: S. Alexandrov. The earliest Mycenaean pottery imports in Bulgaria. – In: J. Bouzek, L. Domaradzka (eds.). The Culture of Thracians and their Neighbours. Proceedings of the International Symposium in Memory of Prof. Mieczyslaw Domaradzki, with a Round Table „Archaeological Map of Bulgaria" (= BAR International Series, Vol. 1350). Oxford, 2005, 47-49.

Alexandrov 2007: S. Alexandrov. Bronze Age materials from Bagacina (North-West Bulgaria). – In: M. Stefanovich, H. Angelova (eds.). PRAE. In Honorem Henrieta Todorova. Sofia, 2007, 225-248.

Alexandrov 2009: S. Alexandrov. Golden jewellery from a 2nd millennium BC tumulus grave at Ovchartsi, Radnevo district. – In: B. Horejs, P. Pavúk (eds.). Aegean and Balkan Prehistory. Bratislava/ Wien, 2009, [http://www.aegeobalkanprehistory.net/article.php?id_art=15 (zuletzt: 3.11.2016)]

Alexandrov 2011: S. Alexandrov. Prehistoric barrow graves between Danube and Balkan range: stratigraphy and relative chronology. In: E. Borgna, S. Müller Celka (eds), Ancestral Landscapes. Burial mounds in the Copper and Bronze Ages (Central and Eastern Europe – Balkans – Adriatic – Aegean, 4th-2nd millennium B.C.). Proceedings of the International Conference held in Udine, Maison de l'Orient et de la Méditerranée – Jean Pouilloux, (Travaux de la Maison de l'Orient 58), Lyon, 2011, 307-320.

Alexandrov 2017a: S. Alexandrov. Die Früh- und Mittelbronzezeit in Bulgarien. Chronologie, Periodisierung, kulturelle Kontakte und Edelmetallfunde. – In: S. Haag, H. Popov, B. Horejs, S. Alexandrov, G. Plattner (Hrsg.). Das erste Gold. Ada Tepe: Das Älteste Goldbergwerk Europas. Ausstellungkatalog. Wien 2017, 29-33.

Alexandrov 2017b: S. Alexandrov. Der Hortfund von Šumen. - In: S. Haag, H. Popov, B. Horejs, S. Alexandrov, G. Plattner (Hrsg.). Das erste Gold. Ada Tepe: Das Älteste Goldbergwerk Europas. Ausstellungkatalog. Wien 2017, 126-127.

Alexandrov 2017c: S. Alexandrov. Der Hortfund nahe Petrič. – In: Haag, S., Ch. Popov, B. Horejs, S. Alexandrov, G. Plattner (Hrsg.). Das erste Gold. Ada Tepe: Das älteste Goldbergwerk Europas. Ausstellungskatalog Kunsthistorisches Museum Wien (Wien 2017), 124-125.

Alexandrov et al. 1998: St. Alexandrov, N. Sirakov, E. Petkov, B. Gajdarska. Trial excavations of a Bronze Age site near Tutrakan, North-East Bulgaria. Archaeologia Bulgarica 1988, 3, 7-30.

Alexandrov et al. 2017: S. Alexandrov, T. Christova, M. Marinov. Der Hortfund von Svištov. – In: S. Haag, H. Popov, B. Horejs, S. Alexandrov, G. Plattner (Hrsg.). Das erste Gold. Ada Tepe: Das Älteste Goldbergwerk Europas. Ausstellungkatalog. Wien 2017, 133-136.

Alexandrov et al. 2007: S. Alexandrov, V. Petkov, G. Ivanov. The Late Bronze Age Necropolis in the Town of Sandanski, Southwest Bulgaria. – In: H. Todorova, M. Stefanovich, G. Ivanov (eds.). The Struma/Strymon River Valley in Prehistory. In the Steps of James Harvey Gaul. Vol. 2. Sofia, 2007, 373-387.

Alexandrov et al. 2016: S. **Alexandrov**, G. **Ivanov**, T. **Hristova.** The necropolis of Baley in Northwest Bulgaria and its significance for the end of the Bronze Age and the beginning of the Iron Age in the Lower Danube region. – In: K. Bachvarov, R. Gleser (eds.). Southeast Europe and Anatolia in prehistory: Essays in honor of Vasil Nikolov on his 65th anniversary (=Universitätsforschungen zur Prähistorischen Archäologie, Bd. 293). Bonn, 2016, 439-456.

Alexandrov, Kaiser 2016: S. Alexandrov, E. Kaiser. The Early Barrow Graves in West Pontic Area. Cultures? Migrations? Interactions? – In: V. Nikolov W. Schier (Hgg.). Der Schwarzmeerraum vom Neolithikum bis in die Früheisenzeit (6000-600 v. Chr.): Kulturelle

Interferenzen in der zirkumpontischen Zone und Kontakte mit ihren Nachbargebieten (=Prähistorische Archäologie in Südosteuropa, Bd. 30). Rahden/Westfalen, 2016, 359-370.

Andree 1922: J. Andree. Bergbau der Vorzeit. Bd. 1: Bergbau auf Feuerstein, Kupfer, Zinn und Salz in Europa. Leipzig, 1992.

Andreou, Psaraki 2007: S. Andreou, K. Psaraki. Tradition and innovation in the Late Bronze Age pottery of the Thessaloniki Toumba. Food and drink consumption and „tableware" ceramic. – In: H. Todorova, M. Stefanovich, G. Ivanov (eds.). The Struma/Strymon River Valley in Prehistory. In the Steps of James Harvey Gaul. Vol. 2. Sofia, 2007, 397-420.

Andrieșescu 1925: I. Andrieșescu. Considerațiuni asupra tezaurului dela Vâlci-Trân, lângă Plevna (Bulgaria) – Academia Română, Memorii Sectiunii Istorice Seria III, V. V, mem. 2, 1925, 8-48.

Apostolaki 2008: E. Apostolaki. Hammer-Axe (Catalogue entry). – In: M. Andreadaki-Vlazzaki, G, Rethemiotakis, N. Demopoulou-Rethimiotaki (eds.) From the Land of the Labyrinth. Minoan Crete, 3000-1100 B.C. Alexander S. Onassis Public Benefit Foundation (USA), 2008, 245, No. 199.

Armbruster 2003: B. Armbruster. Edelmetallgefäße der Bronzezeit – eine technologische Betrachtung. – In: G. U. Grossmann (Hg.). Gold und Kult der Bronzezeit. Ausstellungskatalog. Nürnberg, 2003, 64-85.

Armbruster 2005: B. Armbruster. Tauschierungstechnik im bronzezeitlichen Nord- und Mitteleuropa. – In: H. Meller, F. Bertemes (Hgg.). Der Griff nach den Sternen. Wie Europas Eliten zu Macht und Reichtum kamen. Internationales Symposium in Halle (Saale) 16.–21. Februar 2005 (= Tagungen des Landesmuseums für Vorgeschichte Halle, Bd. 5). Halle 2005, 779-790.

Aslanis, Boyadziev 2008: I. Aslanis, Y. Boyadziev. Die Frühbronzezeitliche Befestigung in Yunatsite. – Cultura si civilizatie la Dunarea de Jos, XXIV, 2008, 93-98.

Aström 1936: L. Aström. The Late Cypriotic Bronze Age. Other arts and crafts (= The Swedish Cyprus Expedition, Vol. 4, Part 1D). Stockholm, 1936.

Aström 1972: L. Aström. Relative and Absolute Chronology. Foreign Relations and Historical Conclusions. Lund, 1972.

Athanassov 2011 : B. Athanassov. Siedlungsmobilität im zweiten Jahrtausend v. Chr. auf dem Ostbalkan. – In: V. Nikolov, K. Bachvarov, H. Popov (Hgg.). Interdisziplinäre Forschungen zum Kulturerbe auf der Balkanhalbinsel. Sofia, 2011, 177-208.

Athanassov et al. 2009: B. Athanassov, R. Krauß, V. Slavčev. Ein Bronzeschwert ägäisch-anatolischen Typs aus dem Museum von Varna, Bulgarien. – Analele Banatului, Sn., Arheologie – Istorie, 17, 2009, 17-32.

Athanassov et al. 2016: B. Athanassov, J. Gorczyk, I. Kulov, Ph. W. Stockhammer. Eine Eberzahnlamelle aus der spätbronzezeitlichen Siedlung von Bresto. – In: K. Bachvarov, R. Gleser (eds.). Southeast Europe and Anatolia in prehistory: Essays in honor of Vasil Nikolov on his 65th anniversary (=Universitätsforschungen zur Prähistorischen Archäologie, Bd. 293). Bonn, 2016, 465-474.

Athanassov, Krauß 2015: B. Athanassov, R. Krauß. Der Ostbalkanraum zwischen mediterranen Hochkulturen und dem südöstlichen Europa in der Spätbronzezeit. – In: Gerda von Bülow (Hg.). Kontaktzone Balkan: Beiträge des Internationalen Kolloquiums „Die Donau-Balkan-Region als Kontaktzone zwischen Ost-West und Nord-Süd" vom 16.– 18. Mai 2012 in Frankfurt a. M. (= Kolloquien zur Vor- und Frühgeschichte, Bd. 20). Bonn, 2015, 63-79.

Avramova, Todorieva 2005: M. Avramova, B. Todorieva. A Bronze Age metal work hoard from southeastern Bulgaria. – In: The Bronze Age in Europe and the Mediterranean. BAR. International Series, 1337, 2005, 69-73.

Bachmann, Tsintsov 2003: H.-G. Bachmann, Z. Tsintsov. Placer gold in SW Bulgaria: past and present. – Gold Bulletin, 36, 4, 2003, 138-143.

Bader 1978: T. Bader. Epoca bronzului în nord-vestul Transilvaniei. Cultura pretracică și tracică. București, 1978.

Bader 1983: T. Bader. Die Fibeln in Rumänien (= Prähistorische Bronzefunde, Abt. XIV, Bd. 6). München, 1983.

Bader 1991: T. Bader. Die Schwerter in Rumänien (= Prähistorische Bronzefunde, Abt. IV, Bd. 8). Stuttgart, 1991.

Băjenaru 2006: R. Băjenaru. Piesele de metal din așezarea de epoca bronzului de la Odaia Turcului (jud. Dâmbovița). – Studii și cercetari de istorie veche și arheologie, 57/1-4, 2006, 129-142.

Băjenaru 2010: R. Băjenaru. Between Axe and Dagger. Early Bronze Age Weaponry in the Lower Danube Area. – In: R. Băjenaru, G. Bodi, C. Opreanu, V. Vintilă Zirra (eds.), Recent Studies on Past and Present I. Human Heritage and Community: Archaeology in the Carpathians and Lower Danube Area from Prehistory to the Early Medieval Age, Transylvanian Review 19, Supplement No. 5:1, 2010, 151-162.

Băjenaru 2013: R. Băjenaru. Identități culturale, structuri de putere și conflict militar în nordul peninsulei balcanice în mileniile IV-III a. Chr. Bucuresti, 2013.

Băjenaru 2014: R. Băjenaru. Sfârșitul bronzului timpuriu în regiunea dintre Carpați și Dunăre. Cluj-Napoca, 2014.

Băjenaru, Popescu 2012: R. Băjenaru, A-D. Popescu. Pumnalele de metal cu limbă la mâner din bronzul timpuriu și mijlociu din spațiul carpato-dunărean. – In: V. Sîrbu, S. Matei (eds.), Un monument din Carpații Orientali cu reprezentări din Preistorie și Evul Mediu. Nucu-„Fundu Peșterii", județul Buzău, Brăila/Buzău, 2012, 363-433.

Balliana et al. 2013: E. Balliana, M. Aramendía, M. Resano, C. Barbante, F. Vanhaecke. Copper and tin isotopic analysis of ancient bronzes for archaeological investigation: development and validation of a suitable analytical methodology. – Anal. Bioanal. Chem., 405, 2013, 2973-2986.

Bankoff 1977: H. A. Bankoff. Metal ores and trade on the Middle Danube. – In: V. Markotic (ed.). Ancient Europe and the Mediterranean. London, 1977, 13-17.

Baralis, Riapov 2007: A. Baralis, A. Riapov. Le massif des Rhodopes occidentaux et ses marges (XIème–VIème s. av. J.C.): aperçu sur l'archéologie d'une région montagneuse de la Thrace. – In: Eirene. Prague, 2007, 8-24.

Bartelheim 2007: M. Bartelheim. Die Rolle der Metallurgie in vorgeschichtlichen Gesellschaften. Rahden, 2007.

Bartels et al. 2006: C. Bartels, A. Bingener, R. Slotta (eds.). Das Schwazer Bergbuch. Vol. 1. Der Bochumer Entwurf von 1554 – Faksimile. Veröff. Deutsches Bergbau-Museum, 2006, p. 922.

Bartosiewicz 2013: L. Bartosiewicz. Animals in Bronze Age Europe – In: The Oxford Handbook of the European Bronze Age. Oxford, 2013.

Bass 1986: G. Bass. A Bronze Age shipwreck at Ulu Burun (Kas): 1984 Campaign. – American Journal of Archaeology, 90, 1986, 269–296.

Bátora 2000: J. Bátora. Das Gräberfeld von Jelšovce/Slowakei. Ein Beitrag zur Frühbronzezeit im nordwestlichen Karpatenbecken. (=Prähistorische Archäologie in Südosteuropa, 16). Kiel, 2000.

Bátora, Pernicka 2000: J. Bátora, E. Pernicka. Chemische Zusammensetzung der Kupferartefakte aus dem fühbronzezeitlichen Gräberfeld von Jelšovce. – In: J. Bátora. Das Gräberfeld von Jelšovce/Slowakei. Ein Beitrag zur Frühbronzezeit im nordwestlichen Karpatenbecken. (=Prähistorische Archäologie in Südosteuropa, 16). Kiel, 2000, 579–592.

Beckman et al. 2011: G. M. Beckman, T. R. Bryce, E. H. Cline. The Ahhiyawa Texts (= Writings from the Ancient World, V. 28). Atlanta, 2011.

Becks et al. 2006: R. Becks, P. Hnila, M. Pieniążek-Sikora. Troia in der frühen Eisenzeit – Troia VIIb1–VIIb3. – In: M. Korfmann (Hg.). Troia. Archäologie eines Siedlungshügels und seiner Landschaft. Mainz, 2006, 181-188.

Begemann et al. 1992: F. Begemann, S. Schmitt-Strecker, E. Pernicka. The metal finds from Thermi III-V. A chemical and lead-isotope study. – Studia Troica, 2, 1992, 219–239.

Begemann et al. 2001: F. Begemann, S. Schmitt-Strecker, E. Pernicka, F. Lo Schiavo. Chemical Composition and Lead Isotopy of Copper and Bronze from Nuragic Sardinia. – European Journal of Archaeology, 4, 2001, 43-85.

Bejinariu 2007: I. Bejinariu. Depositul de bronzuri de la Brâglez. Cluj – Napoka, 2007.

Benzi 1992: M. Benzi. Rodi e la civiltà micenea (= Incunabula Graeca, Vol. 94). Rom, 1992.

Berciu 1961: D. Berciu. Die Verbicioara-Kultur. Vorbericht über eine neue, in Rumänien entdeckte bronzezeitliche Kultur. – Dacia N.S. 5, 1961, 123-161.

Berciu et al. 1951: D. Berciu, E. Comșa, G. Marin, S. Morintz, C. Nicolaescu-Plopșor, S. Popescu-Ialomița, C. Preda. Șantierul arheologic Verbicioara-Dolj. – Studii și cercetări de istorie veche I/2, 1951, 229-245.

Berciu et al. 1961: D. Berciu, P. Purcărescu, P. Roman. Săpături și cercetări arheologice în raionul R. Vîlcea – Materiale și cercetări arheologice, 7, 1961, 131-137.

Berger 2012: D. Berger. Bronzezeitliche Färbetechniken an Metallobjekten nördlich der Alpen – eine archäometallurgische Studie zur prähistorischen Anwendung von Tauschierung und Patinierung anhand von Artefakten und Experimenten. Forschungsberichte des Landesmuseums für Vorgeschichte Halle., 2, Halle a. d. Saale, 2012.

Berger et al. 2010: D. Berger, R. Schwab, C. H Wunderlich. Technologische Untersuchungen zu den bronzezeitlichen Metallziertechniken nördlich der Alpen vor dem Hintergrund des Hortfundes von Nebra. – In: H. Meller, F. Bertemes (eds). Der Griff nach den Sternen. Internationales Symposium in Halle (Saale) 16.–21. Februar 2005 (=Tagungen des Landesmuseums für Vorgeschichte Halle, Bd. 5). Halle (Saale), 2010, 751-777.

Bertemes 2004: F. Bertemes. Zur Entstehung von Macht, Herrschaft und Prestige in Mitteleuropa. – In: H. Meller (ed.). Der geschmiedete Himmel. Die weite Welt im Herzen Europas vor 3600 Jahren. Stuttgart, 2004, 150-153.

Bilgi 2001: O. Bilgi. Metallurgists of the Central Black Sea Region. Istanbul, 2001.

Billamboz 2013: A. Billamboz. Der Standpunkt der Dendroarchäologie zu den Auswirkungen der Thera-Eruption nördlich der Alpen. – In: H. Meller, F. Bertemes, H. R. Bork, R. Risch (Hgg.). 1600 – Kultureller Umbruch im Schatten des Thera-Ausbruchs? 4. Mitteldeutscher Archäologentag vom 14. bis 16. Oktober 2011 in Halle (Saale) (= Tagungen des Landesmuseums für Vorgeschichte Halle, Bd. 9). Halle (Saale), 2013, 89-99.

Bočkarev, Leskov 1980: V. Bočkarev, A. Leskov. Jung- und spätbronzezeitliche Gussformen im nördlichen Schwarzmeergebiet (= Prähistorische Bronzefunde, Abt. XIX, Bd. 1). München, 1980.

Bolohan 2011: N. Bolohan – Resuming the research of the Coslogeni Group (Late Bronze Age) settlement systems. First step. In: CCDJ 28, 2011, 128-138.

Bóna 1975: I. Bóna. Die mittlere Bronzezeit Ungarns und ihre südöstlichen Beziehungen (= Archaeologia Hungarica, Bd. 49). Budapest, 1975.

Bondoc 2006: D. Bondoc. Un disc de tip Vălcitrăn descoperit la Călărași (jud. Dolj). – Studii și cercetări de istorie veche și arheologie, 54/56, 2003/2005, 2006, 279-285.

Bonev 1984: A. Bonev. Datierung des Goldschatzes von Valchitran. – Studia Prehistorica, 7, 1984, 164-177.

Borislavov 2008: B. Borislavov. A Thracian Tumular Necropolis in Devin, Smolian Region. – in: I. D. Cholakov, K. Chukalev. Archaeology in Bulgaria, 2006 Season. – American Journal of Archaeology, 112, 2008, 143-170.

Borislavov 2010: B. Borislavov. The Izvorovo Gold. A Bronze Age Tumulus from Harmanli District, Southeastern Bulgaria (Preliminary Report) – Archaeologia Bulgarica, 14, H. 1, 2010, 1-33.

Born, Hansen 2001: H. Born, S. Hansen. Helme und Waffen Alteuropas (= Sammlung Axel Guttmann, Bd. 9). Mainz, 2001.

Boroffka 1991: N. Boroffka. Die Verwendung von Eisen in Rumänien von den Anfängen bis in das 8. Jahrhundert v. Chr. Bemerkungen. Berlin, 1991.

Boroffka et al. 2016: N. Boroffka, B. Nessel, M. Prange, H. Ciugudean, M. Takács. Neues Licht auf alte Fragen – Einige besondere Metallobjekte aus dem Depotfund von Aiud, Kreis Alba, Rumänien. – In: M. Bartelheim, B. Horejs, R. Krauss (eds.). Von Baden bis Troia. Ressourcennutzung, Metallurgie und Wissenstransfer. Eine Jubiläumsschrift für Ernst Pernicka zu seinem 65. Geburtstag. Rahden/Westfalen, 2016, 399–421.

Borza 1990: E. Borza. In the Shadow of Olympus. The Emergence of Macedon. Princeton, 1990.

Bouzek 1985: J. Bouzek. The Aegean, Anatolia and Europe: Cultural interrelations in the second millenium B.C. (= Studies in Mediterranean Archaeology, V. 29). Göteborg/Prague, 1985.

Bouzek et al. 1989: J. Bouzek, D. Koutecky, K. Simon. Tin and prehistoric mining in the Erzgebirge (Ore Mountains): some new evidence. - Oxford Journal of Archaeology, 8/2, 1989, 203-212.

Bouzek, Graninger 2015: J. Bouzek, D. Graninger. Geography. – In: J. Valeva, E. Nankov, D. Graninger (eds.). A Companion to Ancient Thrace. Malden/Oxford, 2015, 12-21.

Boyadzhiev 1995: Y. Boyadzhiev Chronology of prehistoric cultures in Bulgaria. – In: D. W. Bailey, I. Panayotov (eds.). Prehistoric Bulgaria (=MWA, 22). Madison, 1995, 149-192.

Boyadzhiev et al. 2011: Y. Boyadzhiev, I. Aslanis, S. Terzijska-Ignatova, V. Macanova. Yunatsite: Ein Bulgarisch-Griechisches Grabungsprojekt. Dia Jahre 2002-2008. – In: Y. Boyadzhiev, S. Terzijska-Ignatova (eds.) The Golden Fifth Millenium. Thrace and its Neighbour Areas in the Chalcolithic. Sofia, 2011, 21-37.

Bozhilova et al. 2011: E. Bozhilova, M. Lazarova, S. Tonkov. The postglacial vegetation history of the Western Rhodopes. – In: P. Beron (ed.). Biodiversity of Western Rhodopes (Bulgaria and Greece), II (= Biodiversity of Bulgaria, V. 4.), Sofia 2011, 11-19.

Bozhinova et al. 2013: E. Bozhinova, R. Jung, H. Mommsen. Dragojna. Eine spätbronzezeitliche Höhensiedlung in den bulgarischen Rhodopen mit importierter mykenischer Keramik – Mitteilungen des Deutschen Archäologischen Instituts, Athenische Abteilung, Bd. 125 (2010), Darmstadt/Mainz, 2013, 45-98.

Bratu 2009: O. Bratu. Depuneri de bronzuri între Dunărea mijlocie și Nistru în secolele XIII-VII a. Chr. București, 2009.

Bronzezeit 1992: Bronzezeit in Ungarn. Forschungen in Tell-Sidlungen an Donau und Theiss. Frankfurt am Mein, 1992.

Brügmann et al. 2017: G. Brügmann, D. Berger, E. Pernicka. Tin stable isotopic composition in tin-bearing metals and tin minerals determined by MC-ICP-MS. – Geostandards and Geoanalytical Research, 41, in print.

Buchholz 1983: H. G. Buchholz. Doppeläxte und die Frage der Balkanbeziehungen des Ägäischen Kulturkreises. – In: A. Poulter (ed.). Ancient Bulgaria. Papers presented to the International Symposium on the Ancient History and Archaeology of Bulgaria, University of Nottingham 1981. Part 1. Nottingham, 1983, 43-134.

Buchholz 1999: H.-G. Buchholz. Ein außergewönliches Steinzepter im östlichen Mittelmeer. – Prähistorische Zeitschrift 74.1, 1999, 68-78.

Buchholz, Weisgerber 2005: H.-G. Buchholz, G. Weisgerber. Prominenz mit Steingerät. – In: Ü. Yalçın, C. Pulak und R. Slotta (eds.). Das Schiff von Uluburun: Welthandel vor 3.000 Jahren. Katalog der Ausstellung des Deutschen Bergbau-museums Bochum vom 15. Juli 2005 bis 16. Juli 2006. Bochum, 2005, 149-153.

Bühler 1998/1999: B. Bühler, mit einem Beitrag von H. Herdits. Untersuchungen zu Guss, Oberflächenbearbeitung und Vergoldung an frühmittelalterlichen Bunt- und Edelmetallgegenständen – Archaeologia Austriaca, 82/83, 1998/1999, 429-478.

Burda 1979: Ş. Burda. Tezaure de aur din România. Bucureşti, 1979.

Cahill 2006: M. J. Cahill. Windele's golden legacy – prehistoric and later gold ornaments from Co. Cork and Co. Waterford. Proceedings of the Royal Irish Academy, Vol. 106C, 2006, 219–337.

Căpitanu, Ursachi 1979: V. Căpitanu, V. Ursachi. Descoperiri arheologice aparţinând epocii bronzului din judeţul Bacău. – Carpica, XI, 1979, 135-148.

Carancini 1984: G. L. Carancini. Le asce nell'Italia continentale II. – Prähistorische Bronzefunde, Abt. IX, Band 12, München 1984.

Casson 1926: S. Casson. Macedonie, Thrace and Illyria. Oxford, 1926, 59-71.

Castleden 2005: R. Castleden. Mycenaenas. New York, 2005.

Chernykh 1978: E. Chernykh. Aibunar – a Balkan copper mine of the fourth millenium B.C. – Prehistoric Society, 44, 1978, 203-218.

Chernykh 1992: E. Chernykh. Ancient metallurgy in the USSR: the early metal age. Cambridge, 1992.

Chernykh et al. 2002: E. Chernykh, L. Avilova, L. Orlovskaya. Metallurgy of the Circumpontic Area: From Unity to Disintegration. – In: Ü. Yalçın (ed.). Anatolian Metal, II (= Der Anschnitt, Beiheft 15). Bochum, 2002, 83-100.

Chidioşan 1980: N. Chidioşan. Contribuţii la istoria tracilor din nord-vestul României. Aşezarea Wietenberg de la Derşida. Oradea, 1980.

Christov 2008: M. Christov. On the age of some gold artifacts from the Kraishte region in South-West Bulgaria. – In: Proceedings of International Conference "Geoarchaeology and archaeomineralogy", 2008, 219-221.

Christova 2017: T. Christova. Chortfunde im unteren Donauraum wärend der späten Bronzezeit. – In: S. Haag, H. Popov, B. Horejs, S. Alexandrov, G. Plattner (Hrsg.). Das erste Gold. Ada Tepe: Das Älteste Goldbergwerk Europas. Ausstellungkatalog. Wien 2017, 43-47.

Ciobanu et al. 2002: C. Ciobanu, N. Cook, H. Stein. Regional setting and geochronology of the Late Cretaceous Banatitic Magmatic and Metallogenetic Belt. – Mineralium Deposita, 37, 2202, 541-567.

Ciugudean 1996: H. Ciugudean. Epoca timpurie a bronzului în centrul şi sud-vestul Transilvaniei, Bibliotheca Thracologica 13, Bucureşti, 1996.

Ciugudean 2010: H. Ciugudean. Piesele de aur din depozitul Cugir I şi relaţia lor cu sistemele metrologice din Bronzul târziu. – Apulum, 47, 2010, 23-40.

Ciugudean et al. 2006: H. Ciugudean, S. A. Luca, A. Georgescu. Depozitul de bronzuri de la Dipşa. Sibiu, 2006.

Clayton et al. 2002: R. Clayton, P. Andersson, N.H. Gale, C. Gillis, M.J. Whitehouse. Precise determination of the isotopic composition of Sn using MC-ICP-MS. – Journal of Analytical Atomic Spectrometry, 17, 2002, 1248-1256.

Čohadžiev 1981: M. Čohadžiev. Epée de bronze du village Smirov dol, département de Pernik. Studia Praehistorica, 5-6, 1981, 146-149.

Collet et al. 2006: H. Collet, F. Hubert, C. Robert, J.-P. Joris. The flint mines of Petit-Spiennes (province de Hainault): an update. – In: G. Körlin, G. Weisgerber. Stone Age – Mining Age. VIII International Flint Symposium 1999. Der Anschnitt 2006, Beiheft 19., 67-72.

Comşa 1965: E. Comşa. Descoperirea de la Poarta Albă. – Studii şi cercetări de istorie veche, 16/1, 1965, 149-158.

Comşa 1966: E. Comşa. La dépôt en bronze de Cioclovina (Carpates Méridionales). – Acta Archaeologica Carpathica, 8, 1966, 1-2, 169-174.

Comşa 1981: E. Comşa, Contribuţie privind ritul funerar al purtătorilor culturii Monteoru (Necropola nr. 3 de la Sărata Monteoru. – Thraco-Dacica, 2, 1981, 111-124.

Constantinescu 2006: B. Constantinescu. Analiza tehnică (XRF) a discului metalic de la Călăraşi. – Studii şi cercetări de istorie veche şi arheologie, 54-56, 2003-2005, 2006, 286-289.

Damjanov 2017: D. Damjanov. Der Gussformenhort von Mogilica. – In: S. Haag, H. Popov, B. Horejs, S. Alexandrov, G. Plattner (Hrsg.). Das erste Gold. Ada Tepe: Das Älteste Goldbergwerk Europas. Ausstellungkatalog. Wien 2017, 150-151.

Damyanov 2007: D. Damyanov. A Collective Find of Moulds for Casting Bronze Objects from the Middle Rhodops. – Thracia, 17, 2007, 269-280.

Dart, Beaumont 1969: R.A. Dart, P. Beaumont. Evidence of Iron Ore Mining in Southern Africa in the Middle Stone Age. Current Anthropology 10/1, 1969, 127-128.

David 2002: W. David. Studien zu Ornamentik und Datierung der bronzezeitlichen Depotfundgruppe Hajdúsámson-Apa-Ighiel-Zajta (= Bibliotheco Musei Apulensis, Bd. 18). Alba Iulia, 2002.

David 2007: W. David. Bronzezeitliche Goldornate aus Süddeutschland und ihre donauländisch-balkanischen Beziehungen. – In: H. Todorova, M. Stefanovich, G. Ivanov (eds.). The Struma/Strymon River Valley in Prehistory. In the Steps of James Harvey Gaul. Vol. 2. Sofia, 2007, 421-441.

David 2007: W. David. Gold and Bone Artefacts as Evidence of Mutual Contact between the Aegean; the Carpathian Basin and Southern Germany in the Second Millennium BC. – Aegaeum, 27, 2007, 411-417.

David 2008: W. David. Älterbronzezeitliche Depotfunde Ostbayerns in Lichte ihrer überregionalen Bedeutung. – In: Karl Schmotz (Hg.). Vorträge des 26. Niederbayerischen Archäologentages. Rahden/ Westfalen 2008, 197-237.

David-Elbiali, Hafner 2013: M. David-Elbiali, A. Hafner. Gräber, Horte und Pfahlbauten zwischen Jura und Alpen. Die Entwicklung elitärer sozialer Strukturen in der frühen Bronzezeit der Westschweiz. – In: H. Meller, F. Bertemes, H. R. Bork, R. Risch (Hgg.). 1600 – Kultureller Umbruch im Schatten des Thera-Ausbruchs? 4. Mitteldeutscher Archäologentag vom 14. bis 16. Oktober 2011 in Halle (Saale) (= Tagungen des Landesmuseums für Vorgeschichte Halle, Bd. 9). Halle (Saale), 2013, 217-238.

Davidescu 1981: M. Davidescu. Un tezaur de podoabe tracice descoperit la Hinova – Mehedinţi. – Thraco-Dacica, 2, 1981, 7-22.

Davidescu 1982: M. Davidescu. Un trésor d'objets de parure thraces découvert dans le Castellum Romain de basse époque de Hinova – Mehedinţi. – Drobeta, 5, 1982, 5-48.

Davidescu, Vulpe 2010: M. Davidescu, A. Vulpe, The Urnfield in Hinova, Mehedinți County (Roumania). – Dacia N.S., 54, 2010, 43-95.

De Laeter, Jeffery 1965: J.R. De Laeter, P.M. Jeffery. The isotopic composition of terrestrial and meteoritic tin. – Journal of Geophysical Research, 70/12, 1965, 2895-2903.

De Laeter, Jeffery 1967: J.R. De Laeter, P.M. Jeffery. Tin: its isotopic and elemental abundance. – Geochimica Cosmochimica Acta 31, 1967, 969-985.

Delev 1984: P. Delev. Megalithic Thracian Tombs in South-Eastern Bulgaria. – Anatolica, 11, 1984, 17-45.

Delev, Tonkova 2017: P. Delev, M. Tonkova. Gold und Silber für die thrakische Aristokratie- In: S. Haag, H. Popov, B. Horejs, S. Alexandrov, G. Plattner (Hrsg.). Das erste Gold. Ada Tepe: Das Älteste Goldbergwerk Europas. Ausstellungkatalog. Wien 2017, 111-117.

Dergačev 2002: V. Dergačev. Die äneolithischen und bronzezeitlichen Metallfunde aus Moldavien (= Prähistorische Bronzefunde, Abt. 20, Bd. 9). Stuttgart 2002.

Detev 1981: P. Detev. Le tell Razkopanica – Известия на Археологическия институт, 36, 1981, 141-188.

Diakonu 2014: V. Diakonu. Simboluri sociale în Epoca Bronzului. Sceptre de corn și os. – Tyragetia, serie nouă, vol. VIII (XXIII). Istorie Antică, Chișinău 2014, 173-184.

Dimitrov 2002: K. Dimitrov. Die Metallfunde aus den Gräberfeldern von Duran-kulak. – In: H. Todorova (Hg.). Durankulak, Bd. 2: Die prähistorischen Gräberfelder von Durankulak, Teil 1. Sofia, 2002, 127-158.

Dimitrov 2013: K. Dimitrov. Technological development of the old working techniques in Varna. – In: H. Angelova, M. Özdoğan (eds.). Where are the Sites? Research, Protection and Management of Cultural Heritage. International Conference in Ahtopol, 5-8 December 2013. Sozopol, 2013, 53-80.

Dimitrova, Čukalev 2017: J. Dimitrova, K. Čukalev. Der Schatz von Välčitrăn. – In: S. Haag, H. Popov, B. Horejs, S. Alexandrov, G. Plattner (Hrsg.). Das erste Gold. Ada Tepe: Das Älteste Goldbergwerk Europas. Ausstellungkatalog. Wien 2017, 140-142.

Diod. Diodorus Siculus. Bibliotheca Historica. (= Diodorus of Sicily. Historical Library [transl. C. H. Oldfather]. In Loeb Classical Library. London, 1967).

Domergue 2008: C. Domergue. Les mines antiques. La Production des métaux aux époques grecques et romaine. Paris, 2008.

Doncheva 2012: D. Doncheva. The Northern „Journey" of the Late Bronze Age Copper. – In: E. Paunov, S. Filipova (eds.). ΗΡΑΚΛΕΟΥΣ ΣΩΤΗΡΟΣ ΘΑΣΙΩΝ. Изследвания в чест на Иля Прокопов от приятелите и учениците му по случай неговата 60-годишнина. Veliko Tărnovo, 2012, 671-714.

Dörpfeld 1927: W. Dörpfeld. Alt Ithaka. Ein Beitrag zur Homer-Frage. II, München, 1927.

Dunand 1939: M. Dunand. **Fouilles de Byblos**, *vol. I, 1926-1932. Paris, 1939.*

Dunăreanu-Vulpe 1958: E. Dunăreanu-Vulpe. Tezaurele antice. – In: Studii asupra tezaurului restituit de U.R.S.S, București 1958, 33-56.

Durman 1997: A. Durman. Tin in Southeastern Europe? – Opuscula Archeologia, 21, 1997, 7-14.

Echt et al. 1991: R. Echt, W.-R. Thiele, I. Ivanov. Varna: Untersuchungen zur kupferzeitlichen Goldverarbeitung. – In: J. Lichardus (Hrsg.). Die Kupferzeit als historische Epoche. Symposium Saarbrücken und Otzenhausen 6.-13.11.1988. Saarbrücker Beiträge zur Altertumskunde 55, Bonn 1991, 633-691.

Eder, Jung 2015: B.Eder, R. Jung. „Unus pro omnibus, omnes pro uno" : The Mycenaean Palace System. - In: J. Weilhartner, F. Ruppenstein (eds.). Tradition and Innovation in the Mycenaean Palatial Polities. Proceedings of an International Symposium held at the Austrian Academy of Sciences, Institute for Oriental and European Archaeology, Aegean and Anatolia Department, Vienna, 1-2 March 2013. Wien 2015, 113-140.

Efe, Fidan 1995: T. Efe, M. E. Fidan. Pre-middle Bronze Age metal objects from inland Western Anatolia: a typological and chronological evaluation. – Anatolia Antiqua, 14, 2006, 15-43.

Efe, Fidan 2006: T. Efe, M. Fidan. Pre-middle Bronze Age metal objects from inland Western Anatolia: a typological and chronological evaluation. – Anatolia Antiqua, 14, 2006, 15-43.

Ehrich, Bankoff 1992: R.W. Ehrich, H.A. Bankoff. Absolute chronology of southeastern Europe: Mesolithic through eneolithic. – In: R.W. Ehrich (ed.). Chronologies in Old World Archaeology, Chicago, Chicago University Press, 1, 1992, 375-394; 2, 1992, 341-363.

Eurip. Euripides. В: Извори за история на Тракия и траките. Т. 1. София, 1981.

Feuer 1983: B. Feuer. The Northern Mycenaean Border in Thessaly (=BAR International Series, Vol. 176). Oxford, 1983.

Filipović 2013: V. Filipović. Нова истраживања некропола развијеног бронзаног доба у северозападној Србији, хронолошка и терминолошка питања. – Glasnik srpskog arheološkog društva, 29, 2013, 51-84.

Filipovich, Stefanova 1998: L. Filipovich – I. Stefanova. Anthropogenic changes in the vegetation of the Balkan Range according to data obtained from pollen and macrofossil analyses. – Phytologia Balcanica, 4, H. 1/2, 1998, 37-44.

Freudenreich, Filipp 2014: M. Freudenreich, J. Filipp. Dieskau Revisited II. Eine mikroregionale Betrachtung. – In: H. Meller, R. Risch, E. Pernicka (Hgg). Metals of Power – Early Gold and Silver. 6th Archaeological Conference of Central Germany, October 17–19, 2013 in Halle (Saale), Bd. 2 (=Tagungen des Landesmuseums für Vorgeschichte Halle, Bd. 11). Halle (Saale), 2014 , 753-760.

Frînculeasa et al. 2015: A. Frînculeasa, B. Preda, V. Heyd. Pit-Graves, Yamnaya and Kurgans along the Lower Danube: Disentangling IVth and IIIrd Millennium BC Burial Customs, Equipment and Chronology. – Praehistorische Zeitschrift, 90/1-2, 2015, 45-112.

Furmánek et al. 1991: V. Furmánek, L. Veliačik, J. Vladár. Slovensko v dobe bronzovej. Bratislava, 1991.

Galabova, Atanassova-Timeva 2015: B. Galabova, N. Atanassova-Timeva, Preliminary Anthropological Data from the Necropolis near the Village of Baley (North-West Bulgaria). – Oltenia. Studii și comunicări. Arheologie-Istorie. XX-XXI/2013-2014, 5-11.

Gale, Stos-Gale 2005: N. H. Gale, Z. A. Stos-Gale. Zur Herkunft der Kupferbarren aus dem Schiffswrack von Uluburun und der spätbronzezeitliche Metallhandel im Mittelmeerraum. – In: C. Pulak, R. Slotta (Hgg.). Das Schiff von Uluburun. Welthandel vor 3000 Jahren. Bochum, 2005, 117-131.

Galili et al. 1986: E. Galili, N. Shmueli, M. Artzy. Bronze Age ship's cargo of copper and tin. – International Journal of Nautical Archaeology, 15, 1986, 25-37.

Garashanin 1978: M. Garashanin. Betrachtungen zum Schatz von Välči Tran. – In: Studia in honorem Veselini Beševliev. Sofia, 1978, 284-287.

Garnett, Bassett 2005: R. H. Garnett, N. C. Bassett. Placer deposits. J. W. Hedenquist, J. F. H. Thompson, R. J. Goldfarb, J. P. Richards (eds.) Economic Geology. One Hundredth Anniversary Volume 1905-2005. Littleton, 2005, 813-843.

Găvan 2013: A. Găvan. Metalurgia tell-urilor epocii bronzului din vestul României (II). – Terra Sebus 5, 2013, 141-192.

Georgiev 1961: G. Georgiev. Kulturgruppen der Jungstein- und Kupferzeit in der Ebene von Thrakien (Südbulgarien). – In: J.

Bohm, S. de Laet (eds.). L'Europe à la fin de l'âge du pierre. Actes du Symposium consacre au neolitique europeen, Prague/Liblice/Brno 5.–12.10.1959. Prag, 1961, 45-102.

Georgiev, Hühns 1981: G. Georgiev, E. Hühns (Hrsg.). Troja und Thrakien. Ausstellungskatalog. Berlin/Sofia, 1981.

Georgieva 2001: R. Georgieva. Thracian Culture of the Early Iron Age. – In: I. Panayotov, B. Borisov, R. Georgieva (eds). Maritsa-Iztok. Archaeological Research. Vol. 5, Radnevo, 2001, 83-94.

Gergova 1987: D. Gergova. Früh-und Altereisenzeitliche Fibeln in Bulgarien. (= Prähistorische Bronzefunde, XIV, 7) München, 1987.

Gergova 1994: D. Gergova. The Treasure from Vulchitrun and the Amber Route in Balkans. – In: H. Ciugudean, N. Boroffka (eds.). The Early Hallstatt Period (1200-700 BC) in South-Eastern Europe. Proceedings of the International Symposium from Alba Iulia, 10-12 June 1993. Alba Iulia, 1994, 67-79.

Gergova 2000: D. Gergova. The Tripartite Vessel from Vulchitrun – Epoch and Function. – Thracia, 13, 2000, 137-147.

Gerloff 1993: S. Gerloff. Zu Fragen mittelmeerländischer Kontakte und absoluter Chronologie der Frühbronzezeit in Mittel- und Westeuropa. – Prähistorische Zeitschrift, 68, 1993, 58-102.

Gieseke et al. 2007: T. Gieseke, T. Hickler, T. Kunkel, M. Sykes, R. Bradshaw. Towards an understanding of the Holocene distribution of Fagus sylvatica L. – Journal of Biogeography, 34, 2007, 118-131.

Gjerstad et al. 1934: E. Gjerstad, J. Lindros, E. Sjöqvist, A. Westholm. Finds and results of the excavations in Cyprus 1927-1931 (=The Swedish Cyprus Expedition, Vol. 1: Plates). Stockholm, 1934.

Gläser, Thomas 2012: R. Gleser, M. Thomas. Merdžumekja-Südosthang. Späte Kupferzeit und früheste Bronzezeit: Ergebnisse siedlungsarchäologischer Forschungen (=Drama. Forschungen in einer Mikroregion, Bd. 1). Bonn, 2012.

Gogâltan 1997: F. Gogâltan. O rapiera de tip micenian de la Densuş (jud. Hunedoara). – Apulum, 34, 1997, 55-65.

Gogâltan 1999: F. Gogâltan. Bronzul timpuriu şi mijlociu în Banatul românesc şi pe cursul inferior al Mureşului: cronologia şi descoperirile de metal (=Bibliotheca Historica et Archaeologica Banatica, Vol. 23). Timişoara, 1999.

Gogâltan 2005: F. Gogâltan. Der Beginn der bronzezeitlichen Tellsiedlungen im Karpatenbecken: Chronologische Probleme. – In: B. Horejs, R. Jung, E. Kaiser, B. Teržan (Hgg.). Interpretationsraum Bronzezeit. Festschrift Bernhard Hänsel (=Universitätsforschungen zur prähistorischen Archäologie, Bd. 121). Bonn, 2005, 161-179.

Goldenberg 2015/2016: G. Goldenberg. Prähistorische Kupfergewinnung aus Fahlerzen der Lagerstätte Schwaz-Brixlegg im Unterinntal, Nordtirol. – In: T. Stöllner, K. Oeggl (Hgg). Bergauf Bergab: 10.000 Jahre Bergbau in den Ostalpen. Bochum/Bregenz, 2015/2016, 151-163.

Görsdorf, Bojadžiev 1996: J. Görsdorf, J. Bojadžiev. Zur absoluten Chronologie der bulgarischen Urgeschichte. – Eurasia Antiqua, 2, 1996, 105-173.

Gyuzelev 2008: M. Gyuzelev. The West Pontic Coast between Emine Cape and Byzantion during the First Millennium BC. Burgas, 2008.

Haag et al. 2017: S. Haag, H. Popov, B. Horejs, S. Alexandrov, G. Plattner (Hrsg.). Das erste Gold. Ada Tepe: Das Älteste Goldbergwerk Europas. Ausstellungkatalog. Wien 2017

Hammond 1967: N. G. L. Hammond. Epirus. The Geography, the Ancient Remains, the History and the Topography of Epirus and Adjacent Areas. Oxford, 1967.

Hänsel 1968: B. Hänsel. Beiträge zur Chronologie der Mittleren Bronzezeit im Karpatenbecken. Bonn 1968.

Hänsel 1970: B. Hänsel. Bronzene Griffzungenschwerter aus Bulgarien. – Prähistorische Zeitschrift, 45, 1970, 26-41.

Hänsel 1973: B. Hänsel. Eine datierte Rapierklinge mykenischen Typs von der unteren Donau. – Prähistorische Zeitschrift, 48, 1973, 200-206.

Hänsel 1976: B. Hänsel. Beiträge zur regionalen und chronologischen Gliederung der älteren Hallstattzeit an der unteren Donau (=Beiträge zur ur- und frühgeschichtlichen Archäologie des Mittelmeer-Kulturraumes. Bd. 16–17), 2 Bde. Bonn, 1976.

Hänsel 1996: B. Hänsel. Bronzezeitliche Siedlungssysteme und Gesellschaftsformen in Südosteuropa: Vorstädtische Entwicklungen und Ansätze zur Stadtwerdung. – In: C. Belardelli, R. Peroni (eds.). The Bronze Age in Europe and the Mediterranean. XIII International Congress of Prehistoric and Protohistoric Sciences Forlì (Italia) 8/14 September 1996. Colloquia. 11, Forlì, 1996, 241-251.

Hänsel 1997: A. Hänsel. Ferdinandshof, Kr. Ückermünde, Prov. Pommern. - In: A. Hänsel, B. Hänsel (Hgg.). Gaben an die Götter. Schätze der Bronzezeit in Europa. Berlin, 1997, 131.

Hänsel, Hänsel 1997: A. Hänsel, B. Hänsel (Hgg.). Gaben an die Götter. Schätze der Bronzezeit in Europa. Berlin, 1997.

Hänsel 2005: A. Hänsel. Un depozit de bronzuri din ţinutul Sucevei. – In: T. Soroceanu (Hrsg.), Bronzefunde aus Rumänien/Descoperiri de bronzuri din România. II. Bistriţa/Cluj-Napoca, 2005, 285-299.

Hänsel 2008: A. Hänsel. Die handgemachte Keramik der VII. Ansiedlung in der Berliner Sammlung. – In: M. Wemhoff, D. Hertel, A. Hänsel (Hgg.), Heinrich Schliemanns Sammlung Trojanischer Altertümer – Neuvorlage, Bd. 1: Forschungsgeschichte, keramische Funde der Schichten VII bis IX, Nadeln, Gewichte und durchlochte Tongeräte (Berliner Beiträge zur Vor- und Frühgeschichte, N. F., Bd. 14), Berlin 2008, 57-92.

Hänsel et al. 2010: B. Hänsel, B. Horejs, R. Jung, B. Weninger. Die absolute Chronologie der Schichten des Prähistorischen Olynth. – In: B. Hänsel, I. Aslanis (Hgg.). Das Prähistorische Olynth. Ausgrabungen in der Toumba Agios Mamas 1994-1996 (=Prähistorische Archäologie in Südosteuropa, Bd. 23). Rahden/Westfalen, 2010, 301-381.

Hänsel, Weihermann 2000: B. Hänsel, P. Weihermann. Ein neuer Goldhort aus dem Karpatenbecken im Berliner Museum für Vor- und Frühgeschichte. – Acta Praehistorica et Archaeologica, 32, 2000, 7-29.

Hansen 2005: S. Hansen. Neue Forschungen zur Metallurgie der Bronzezeit in Südosteurop. – In: Ü. Yalçın (ed.). Anatolian Metal, III (= Der Anschnitt, Beiheft 18). Bochum, 2005, 89-103.

Hansen 2010: S. Hansen. Der Hort von Nebra: seine Ausstattung. – In: H. Meller, F. Bertemes (Hgg.). Der Griff nach den Sternen. Internationales Symposium in Halle (Saale) 16.–21. Februar 2005 (=Tagungen des Landesmuseums für Vorgeschichte Halle, Bd. 5). Halle (Saale), 2010, 77-89.

Hansen 2011: S. Hansen. Technische und soziale Innovationen in der zweiten Hälfte des 4. Jahrtausends v. Chr. in: S. Hansen, J. Müller (Hgg.). Sozialarchäologische Perspektiven: Gesellschaftlicher Wandel 5000 – 1500 v. Chr. zwischen Atlantik und Kaukasus (=Archäologie in Eurasien, Bd. 24). Darmstadt, 2011, 153-191.

Harding 1995: A. Harding. Die Schwerter im ehemaligen Jugoslawien (=Prähistorische Bronzefunde, Abt. IV, Bd. 14). Stuttgart, 1995.

Harding 2000: A. Harding. European Societies in the Bronze Age. Cambridge University Press, Cambridge, 2000.

Harding, Kavruk 2010: A. Harding, V. Kavruk. A prehistoric salt production site at Băile Figa, Romania. – Eurasia Antiqua, 16, 2010, 131-167.

Harding, Kavruk 2013: A. Harding, V. Kavruk. Explorations in Salt Archaeology in the Carpathian Zone (=Archaeolingua, Vol. 28). Budapest, 2013.

Harmankaya 1995: S. Harmankaya. Kozman Deresi Mevkii (Şarköy, Tekirdağ) Maden Buluntuları. – In: H.Çambel (ed.). Prehistorya yazıları: Halet Çambel için. Istanbul, 1995, 217-254.

Hauptmann et al 2002: A. Hauptmann, R. Maddin, M. Prange. On the Structure and Composition of Copper and Tin Ingots Excavated from the Shipwreck of Uluburun. – Bulletin of the American Schools of Oriental Research, 328, 2002, 1-30.

Haustein et al. 2010: M. Haustein, C. Gillis, E. Pernicka. Tin isotopy: a new method for solving old questions. – Archaeometry, 52, 2010, 816-832.

Hdt. Herodotus. Historiae (= Херодот. История [прев. П. Димитров]. Т. 1-2. София 1986-1990; Herodotus. History. [transl. A. D. Godley]. In: The Loeb Classical Library. T. 1-4. London 1975).

Heyd 2011: V. Heyd. Yamnaya groups and tumuli west of the Black Sea. - In: E. Borgna, S. Müller Celka (eds.). Ancestral Landscapes. Burial Mounds in the Copper and Bronze Ages (Central and Eastern Europe – Balkans – Adriatic – Aegean, 4th–2nd millennium B.C.). Proceedings of the International Conference held in Udine, May 15th–18th 2008 (=Travaux de la Maison de l'Orient et de la Méditerranée, Bd. 58). Lyon, 2011, 535-555.

Heyd et al. 2016: V. Heyd, Ş. Aydıngün, E. Güldoğan. Kanlıgeçit – Selimpaşa – Mikhalich and the Question of Anatolian Colonies in Early Bronze Age Southeast Europe. – In: B. P. C. Molloy (ed.). Of Odysseys and Oddities. Scales and modes of interaction between prehistoric Aegean societies and their neighbors. Oxford/Philadelphia, 2016, 169-202.

Hiller, Nikolov 1997: S. Hiller, V. Nikolov (Hrsg.). Karanovo. Die Ausgrabungen im Südsektor 1984-1992. Salzburg,Sofia, 1997, I.1 – Text; I.2 – Tafeln.

Hiller, Nikolov 2002: S. Hiller, V. Nikolov. Tell Karanovo 2000-2001. Salzburg 2002.

Hiller et al. 2005: S. Hiller, V. Nikolov, F. Lang. Tell Karanovo 2002-2004. Vorbericht. Salzburg, 2005.

Hîrtopanu, Fairhurst 2014: P. Hîrtopanu, R.J. Fairhurst. Mineralogy of the Gradistea de Munte rare element minerals occurrence, Sebes Mts., South Carpathians, Romania. Part 1: Oxides and Carbonates. – Romanian Journal of Mineral Deposits, 87, 2014, 53-56.

Hochstetter 1984: A. Hochstetter. Kastanas. Ausgrabungen in einem Siedlungshügel der Bronze- und Eisenzeit Makedoniens 1975–1979. Die Handgemachte Keramik, Schichten 19 bis 1 (=Prähistorische Archäologie in Südosteuropa, Bd. 3). Berlin, 1984.

Höckmann 2007: O. Höckmann. Zu Lanzenspitzen ägäischer Art aus Bulgarien. – In: In: M. Stefanovich, H. Angelova (eds.). PRAE. In Honorem Henrieta Todorova. Sofia, 2007, 215-224.

Hohlbein 2016: M. Hohlbein. Die Messer in Süd- und Westdeutschland. – Prähistorische Bronzefunde, Abt. VII, Band 6, Franz Steiner Verlag, Stuttgard 2016.

Homeri, II. Homeri. Homeri carmina et cycli epici reliquiae. Editore Ambrosio Firmin-Didot, Paris, 1881.

Horejs 2007a: B. Horejs. Das prähistorische Olynth. Ausgrabungen in der Toumba Agios Mamas 1994–1996. Die spätbronzezeitliche handgemachte Keramik der Schichten 13 bis 1 (=Prähistorische Archäologie in Südosteuropa, Bd. 21). Rahden/Westfalen, 2007.

Horejs 2007b: B. Horejs. Macedonia: Mediator or Buffer Zone Between Cultural Spheres? - In: I. Galanaki, H. Tomas, Y.Galanakis, R. Laffineur (eds.). Between the Aegean and Baltic Seas: Prehistory Across Borders. Proceedings of the International Conference Bronze and Early Iron Age Interconnections and Contemporary Developments between the Aegean and the Regions of the Balkan Peninsula, Central and Northern Europe. University of Zagreb, 11–14 April 2005 (=Aegaeum, Vol. 27). Eupen, 2007, 293-306.

Horejs 2017: B. Horejs. Zum Alltagsleben der Ada Tepe Goldproduzenten im 15. Jh. v. Chr. Das Fundensemble aus Haus 7 in funktionaler und kontextueller Analyse. – Archaeologia Austriaca, 101, 2017, 205-268.

Horejs, Jung 2017: B. Horejs, R. Jung. Netzwerke und Kulturkontakte in die Ägais. – In: S. Haag, Ch. Popov, B. Horejs, S. Alexandrov, G. Plattner (eds.) Das erste Gold. Ada Tepe: das älteste Goldbergwerke Europas. Wien, 2017, 99-103.

Hristov 2000: M. Hristov. Bronze Age Gold and Electron Adornments from Tabashka Cave in the Osum River Drainage. – In: L. Nikolova (ed.). Technology, Style and Society. Contribution to the Innovations between the Alps and the Black See in Prehistory (=BAR International Series, 854), Oxford, 2000, 277-279.

Hristov 2010: M. Hristov. Early Bronze Age Ritual Structures and Cemetery at Dabene, near Karlovo (preliminary report). – In: Studia Praehistorica, 13, 2010, 293-317.

Hristov 2015: M. Hristov. New Evidence for Funeral and Ritual Activity in the Northern Part of the Balkan Peninsula: A Case Study from Southern Bulgaria in the Second Half of the 3rd Millennium BC to the First Half of the 2nd Millennium BC. - In: H. Meller, H. W. Arz, R. Jung, R. Risch (Hgg.). 2200 BC – Ein Klimasturz als Ursache für den Zerfall der Alten Welt? 7. Mitteldeutscher Archäologentag vom 23. bis 26. Oktober 2014 in Halle (Saale) (=Tagungen des Landesmuseums für Vorgeschichte Halle, Bd. 12). Halle (Saale), 2015, Bd. 2, 483-501.

Hristov 2016: M. Hristov. Dabene and its Probable Contacts with the Aegaeo-Anatolian Region. – In: E. Pernicka, S. Ünlüsoy, S. W. E. Blum (eds.). Early Bronze Age Troy: Chronology, Cultural Development, and Interregional Contacts. Proceedings of an International Conference held at the University of Tübingen, May 8-10, 2009 (=Studia Troica Monographien, Bd. 8). Bonn, 2016, 229-237.

Hristova 2006: T. Hristova. Data on the burial rites during the Middle Bronze Age period in today's northen Bulgaria. – Archaeologia Bulgarica, 10, 2, 2006, 1-8.

Hristova 2011a: R. Hristova. Characteristic Features of the Bronze Age Pottery from a Site Near the Village of Vratitsa, Municipality of Kameno. – Arkeoloji, Anadolu & Avrasya, 1-2, 2011, 104-137.

Hristova 2011b: R. Hristova. Late Bronze Age Pottery from the Site of Vratitsa, Eastern Bulgaria: Definition, Chronology and its Aegean affinities. – In: B. Horejs, P. Pavúk (eds.). Aegean and Balkan Prehistory. Bratislava/Wien, 2011, [http://www.aegeobalkanprehistory.net/article.php?id_art=19 (zuletzt: 3.11.2016)]

Hristova 2015: T. Hristova. Relations between the Bulgarian lands and the Northwestern Pontic region during the Late Bronze Age (according to the metal finds data). – In: V. Nikolov, W. Schier (Hrsg.). Der Schwarzmeerraum vom Neolithikum bis in die Früheisenzeit (6000-600 v. Chr.). Kulturelle Interferenzen in der zirkumpontischen Zone und Kontakte mit ihren Nachbargebieten. Humboldt-Kolleg Varna, Bulgarien, 16-20. Mai 2012. (=Prähistorische Archäologie in Südosteuropa, Band 29). Rahden/Westf., 2015, 153-162.

Hristova 2016: T. Hristova. Relations between Bulgarian lands and Northwestern Pontic region during the Late Bronze Age (according to the metal finds data). – In: V. Nikolov, W. Schier (Hgg.). Der Schwarzmeerraum vom Neolithikum bis in die Früheisenzeit (6000-600 v. Chr.): Kulturelle Interferenzen in der zirkumpontischen Zone und Kontakte mit ihren Nachbargebieten (=Prähistorische Archäologie in Südosteuropa, Bd. 30). Rahden/Westfalen, 2016, 467-476.

Hundt 1986: H. J. Hundt. Zu einigen vorderasiatischen Schaftlochäxten und ihrem Einfluss auf den donauländischen Guss von Bronzeäxten. – Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz 33, 1986, Teil 1, 131-159.

Huska et al. 2014: A. Huska, W. Powell, S. Mitrovic, H.A. Bankoff, A. Bulatović, V. Filipović, R. Boger. Placer tin ores from Mt. Cer, West Serbia, and their potential exploitation during the Bronze Age. – Geoarchaeology, 29, 2014, 477-493.

Irimia 1981: M. Irimia. Observaţii privind epoca bronzului în Dobrogea în lumina unor cercetări recente. – Studii şi cercetari de istorie veche şi arheologie, 32/3, 1981, 347-369.

Irimia 2008: M. Irimia. Sceptre de piatră inedite din județul Constanța și unele considerații privind legăturile zonei vest-pontice cu spațiul Egean în Bronzul târziu. – Pontica, 41, 2008, 79-117.

Ivanov 1978: I. Ivanov. Les fouilles archéologiques de la nécropole chalcolithique à Varna (1972–1975). – Studia Praehistorica 1/2, 1978, 13-26.

Jantzen 2008: D. Jantzen. Quellen zur Metallverarbeitung im Nordischen Kreis der Bronzezeit (=Prähistorische Bronzefunde, Abt. XIX, Bd. 2). Stuttgart, 2008.

Jockenhövel 2017: A. Jockenhövel. Gieser und Schmiede im bronzezeitlichen Bulgarien. – In: S. Haag, H. Popov, B. Horejs, S. Alexandrov, G. Plattner (Hrsg.). Das erste Gold. Ada Tepe: Das Älteste Goldbergwerk Europas. Ausstellungkatalog. Wien 2017, 75-79.

Jockenhövel, Popov 2008: A. Jockenhövel, H. Popov. Archaeometallurgical surveys in the Eastern Rhodopes 2004-2006. – In: Ü. Yalçın, H. Özbal, A. G. Paşamehmetoğlu (eds.). Ancient mining in Turkey and the eastern Mediterranean. International Conference AMITEM 2008, June 15-22, 2008, Ankara, Turkey (=Turkey Historical Research Applications and Research Center publications, Vol. 2). Ankara, 2008, 251-270.

Jovanović 1982: B. Jovanović. Rudna Glava. Der älteste Kupferbergbau im Zentralbalkan. Posebna Izdania, 17, Beograd, 1982.

Jovanovic 1982: B. Jovanovic. Rudna Glava: Najstarije rudarstvo bakra na centralnom Balkanu. Bor/Beograd, 1982.

Jung 2005: R. Jung. Aspekte des mykenischen Handels und Produktenaustauschs. – In: B. Horejs, R. Jung, E. Kaiser, B. Teržan (Hgg.). Interpretationsraum Bronzezeit. Festschrift Bernhard Hänsel (=Universitätsforschungen zur prähistorischen Archäologie, Bd. 121). Bonn, 2005, 45-70.

Jung 2015/2016: R. Jung. Vom Stechen zum Hauen – die Verbreitung neuer Schwerter am Ende des zweiten Jahrtausends v.u.Z. – In: H. Meller, M. Schefzik (Hgg.). Krieg – eine archäologische Spurensuche. Halle (Saale), 2015/2016, 329-332.

Jung 2017: R. Jung. Krieger und Waffen auf dem Zentral- und Ostbalkan - In: S. Haag, H. Popov, B. Horejs, S. Alexandrov, G. Plattner (Hrsg.). Das erste Gold. Ada Tepe: Das Älteste Goldbergwerk Europas. Ausstellungkatalog. Wien 2017, 69-73

Jung, Weninger 2015: R. Jung, B. Weninger. Archaeological and environmental impact of the 4.2 ka cal BP event in the central and eastern Mediterranean. – In: H. Meller, H. W. Arz, R. Jung, R. Risch (Hgg.). 2200 BC – Ein Klimasturz als Ursache für den Zerfall der Alten Welt? 7. Mitteldeutscher Archäologentag vom 23. bis 26. Oktober 2014 in Halle (Saale) (=Tagungen des Landesmuseums für Vorgeschichte Halle, Bd. 12). Halle (Saale), 2015, Bd. 2, 205-234.

Jung et al. 2017: R. Jung, S. Alexandrov, E. Bozhinova, H. Mommsen. Mykenische Keramik in der Rhodopenregion. Herkunft, regionaler Kontext und sozialökonomische Grundlagen. – Archaeologia Austriaca, 101, 2017, 269-302

Kacsó 2014: C. Kacsó. Date noi cu privire la tezaurul de aur din epoca bronzului de la Căuaș, – In: R. Gindele (ed.). Arheologie în context regional și european. Studii în onoarea lui Németi János la aniversarea a 75 de ani. SatuMare. – Studii și comunicări: seria arheologie, 30/1, 2014, 105-124.

Kacsó 1987: C. Kacsó. Beiträge zur Kenntnis des Verbreitungsgebietes und der Chronologie der Suciu de Sus-Kultur. – Dacia, N.S. 36, H. 1/2, 1987, 51-75.

Kacsó 2007: C. Kacsó. Descoperiri de bronzuri din nordul Transilvaniei (I). Colecția Ferenc Floth. seria Studii și cercetări maramureșene 2. Baia Mare, 2007.

Kalčev 2002: P. Kalčev. Das frühbronzezeitliche Gräberfeld von Stara Zagora „Bereketska Mogila" (Bulgarien). – SASTUMA, 8, 2002, 5-130.

Kalicz 1984: N. Kalicz. Die Hatvan-Kultur – In: N. Tasić (Hg.). Kulturen der Frühbronzezeit des Karpatenbeckens und Nordbalkans. Beograd, 1984, 191-218.

Kamuro 2007: H. Kamuro (ed.). A study of the archaeological and environmental background of the initial period of the Bronze Age in Bulgaria (Report of the Dyadovo excavations 2010–2012). Tokio, 2015.

Kamuro 2015: H. Kamuro (ed.). A study of the archaeological and environmental background of the initioal period of the Bronze Age in Bulgaria. Report of the Dyadovo excavations 2010-2012. Tokai University 2015.

Kănchev, Kăncheva 1993: M. Kănchev, T. Kăncheva. Ein Bronzerapier vom mykenischen Typ aus Drama (Bulgarien) im Museum Nova Zagora. – Saarbrücker Studien und Materialien zur Altertumskunde, 2, 1993, 225-228.

Karageorghis 1960: V. Karageorghis. Fouilles de Kition 1959. – Bulletin de Correspondance Hellénique, 84, 1960, 504-588.

Katinčarova-Bogdanova 1996: D. Katincharova-Bogdanova. Traces of metallurgical activity in the Emporion. – In: I. Bouzek, L. Domaradzka, Z. Archibald (eds.). Pistiros I. Prague, 1996, 103-108.

Katincharova-Bogdanova 1996: D. Katincharova-Bogdanova. Traces of metallurgical activity in the Emporion. – In: J. Bouzek, L. Domaradzka, Z. H. Archibald (eds.). Pistiros. Bd. 1: Excavations and Studies. Prag, 1996, 103-108.

Kavruk, Sfintu 2012: V. Kavruk, G. Sfintu. Tin and salt in the Carpathian Basin (part 2). – Revista Arheologică NS, 8, 2012, 16-36.

Kern et al. 2008: A. Kern, K. Kowarik, A. Rausch, H. Reschreiter (eds.). Salz-Reich. 7000 Jahre Hallstatt. Veröffentlichungen der Prähistorischen Abteilung des Naturhistorischen Museums Wien, 2, Wien, 2008.

Kibbert 1984: K. Kibbert. Die Äxte und Beile im mittleren Westdeutschland II. – Prähistorische Bronzefunde Abt. IX, Band 13, München.

Kienlin 2010: T. L. Kienlin. Traditions and Transformations: Approaches to Eneolithic (Copper Age) and Bronze Age Metalworking and Society in Eastern Central Europe and the Carpathian Basin. Oxford, 2010.

Kienlin 2012: T. L. Kienlin. Beyond Elites: An Introduction. – In: T. L. Kienlin, A. Zimmermann (eds.). Beyond Elites. Alternatives to Hierarchical Systems in Modelling Social Formations. International Conefrence at the Ruhr-Universität Bochum, Germany, October 22-24, 2009. Bonn, 15-32.

Kilian 1975: K. Kilian. Fibeln in Thessalien von der mykenischen bis zur archaischen Zeit (=Prähistorische Bronzefunde, Abt. XIV, Bd. 2). München, 1975.

Kilian 1977: K. Kilian. Nordgrenze des ägäischen Kulturbereiches in mykenischer und nachmykenischer Zeit. – In: Jahresbericht des Instituts für Vorgeschichte der Universität Frankfurt a. M. 1976 (1977), 112-129.

Kilian-Dirlmeier 1985: I. Kilian-Dirlmeier. Noch einmal zu den „Kriegergräbern" von Knossos. – Jahrbuch des Römisch-Germanischen Zentralmuseums, 32, 1985, 196-214.

Kilian-Dirlmeier 1993: I. Kilian-Dirlmeier. Die Schwerter in Griechenland (außerhalb der Peloponnes), Bulgarien und Albanien (=Prähistorische Bronzefunde, Abt. IV, Bd. 12). Stuttgart, 1993.

Kilian-Dirlmeier 1995: I. Kilian-Dirlmeier. Reiche Gräber der mittelhelladischen Zeit. – In: R. Laffineur, W. D. Niemeier (eds.). Politeia: Society and State in the Aegean Bronze Age (=Aegaeum, Vol. 12). Liège/Austin, 1995, 49-53.

Kiss 2012: V. Kiss. Middle Bronze Age Encrusted Pottery in western Hungary. Budapest, 2012.

Klemm, Klemm 2013: R. Klemm, D. Klemm. Gold and Gold Mining in Ancient Egypt and Nubia. Geoarchaeology of the Ancient Gold Mining Sites in the Egyptian and Sudanese Eastern Deserts. Berlin/Heidelberg, 2013.

Kločko 1995: V. Kločko. Zur bronzezeitlichen Bewaffnung in der Ukraine. Die Metallfunde des 17.–10. Jhs. v. Chr. – Eurasia Antiqua, 1, 1995, 81-163.

Kohl 2002: P. L. Kohl. Bronze Production and Utilization in Southeastern Daghestan, Russia: c. 3600-1900 BC. – In: M. Bartelheim, E. Pernicka, R. Krause (eds.). Die Anfänge der Metallurgie in der Alten Welt. The beginnings of metallurgy in the Old World. Forschungen zur Archäometrie und Altertumswissenschaft, 1. Rahden/Westfalen, 161-183.

Konova 2004: L. Konova. Kat. № 142. – In: Die Thraker. Das golden Reich des Orpheus. Bonn, 2004, 89.

Koukouli–Chrysantaki 1982: Ch. Koukouly-Chrysanthaki. Late Bronze Age in Eastern Macedonia. – Thracia Praehistorica, Suppl. Pulpudeva, 3, Sofia, 1982, 231-258.

Kovács 1975: T. Kovács. Der Bronzefund von Mende. – Folia Archaeologica XXVI, 1975, 2-43.

Kowarik et al. 2017: K. Kowarik, H. Reschreiter, G. Wurzer. Diskussion wirtschaftsarchäologischer Aspekte am Beispiel der prähistorischen Salzbergwerke von Hallstatt. – In: P. Eisenach, Th. Stöllner, A. Windler (eds.). Resources, Innovation, Technologies and Economy of Ancient Cultures. The RITaK conferences 2013-2014. Der Anschnitt Beiheft (im press 2017).

Kowiańska-Piaszykowa, Kurnatowski 1953: M. Kowiańska-Piaszykowa, S. Kurnatowski. Kurhan kultury unietyckiey w Łękah Małych pow. Kościan. – Fontes Archaeologici Posnanienses, 4, 1953, 43-76.

Krauß 2005: R. Krauß. Der Depotfund von Ovča Mogila, Kreis Svištov (Bulgarien): Zur Datierung der Bronzehorte von der unteren Donau über mykenische Schwerter. – In: B. Horejs, R. Jung, E. Kaiser, B. Teržan (Hgg.). Interpretationsraum Bronzezeit. Festschrift Bernhard Hänsel (=Universitätsforschungen zur prähistorischen Archäologie, Bd. 121). Bonn, 2005, 199-210.

Krauß 2006a: R. Krauß. Die prähistorische Besiedlung am Unterlauf der Jantra vor dem Hintergrund der Kulturgeschichte Nordbulgariens. Prähistorische Archäologie in Südosteuropa, Bd. 20. Rahden, 2006

Krauß 2006b: R. Krauß. Indizien für eine Mittelbronzezeit in Nordbulgarien – Archaeologia Bulgarica, 10, 2006, 3-26.

Krauß et al. 2014: R. Krauss, S. Zäuner, E. Pernicka. Statistical and Anthropological Analysis of the Varna Necropolis. – In: H. Meller, R. Risch, E. Pernicka (Hgg.). Metalle der Macht – Frühes Gold und Silber. 6. Mitteldeutscher Archäologentag vom 17. bis 19. Oktober 2013 in Halle (Saale) (=Tagungen des Landesmuseums für Vorgeschichte Halle, Bd. 11), Halle (Saale), 2014, Bd. 2, 371-387.

Krause 2010: R. Krause. Bronzezeitliche Kupfergewinnung in den Alpen – Überlegungen zur Organisation des Metallkreislaufs. – In: H. Meller, F. Bertemes (eds.). Der Griff nach den Sternen. Wie Europas Eliten zu Macht und Reichtum kamen. Tagungen des Landesmuseum für Vorgeschichte Halle (Saale), 5. Halle a. d. Saale, 2010, 845-865.

Kremenetski et al. 1999: C. Kremenetski, O. Chichagova, N. Shishlina. Palaeoecological evidence for Holocene vegetation, climate and land use change in the low Don Basin and Kalmuk area, southern Russia. – Vegetation History and Archaeobotany, 8, 1999, 233-246.

Kristiansen 2013: K. Kristiansen. Female Clothing and Jewellery in the Nordic Bronze Age. – In: S. Bergerbrant, S. Sabatini (Eds). Counterpoint: Essays in Archaeology and Heritage Studies in Honour of Professor Kristian Kristiansen, BAR International Series 2508, 2013, 755-769.

Kristiansen, Earle 2015: K. Kristiansen, T. Earle. Neolithic versus Bronze Age social formations: A political economy approach. – In: K. Kristiansen, L. Šmejda, J. Turek (eds.). *Paradigm Found*. Oxford, Oxbow, 2015, 234-247.

Kunze et al. 2017: R. Kunze, P. Leshtakov, J. Abele, T. Rödel, K. Dimitrov, R. Krauß. Archaeometallurgical Prospections in the Highlands of *Medni Rid*, southeastern Bulgaria. Preliminary Report on Fieldwork 2013–2015 with a focus upon remote sensing methods by means of LiDAR. – Eurasia Antiqua, 2016 (in press).

Kutschera 2013: W. Kutschera. Dating of the Thera/Santorini volcanic eruption. – In: H. Meller, F. Bertemes, H.-R. Bork, R. Risch (Hgg.), 1600 – Kultureller Umbruch im Schatten des Thera-Ausbruchs? 4. Mitteldeutscher Archäologentag vom 14. bis 16. Oktober 2011 in Halle (Saale) (= Tagungen des Landesmuseums für Vorgeschichte Halle, Bd. 9). Halle (Saale), 2013, 59-64.

Laffineur 2008: R. Laffineur. Aspects of Early Bronze Age Jewellery in the Aegean. – In: H. Erkanal, H. Hauptmann, V. Şahoğlu, R. Tuncel (eds.). Proceedings of the International Symposium. The Aegean in the Neolithic, Chalcolithic and the Early Bronze Age, 13–19 October 1997, Urla/Izmir. Ankara, 2008, 323-332.

Lamb 1936: W. Lamb. Excavations at Thermi in Lesbos. Cambridge, 1936.

László 2006: A. László. Drajna de Jos-Pobit Kamak-Uluburun. Sur les relations á longue distance dans l'âge tardiff du bronze. – Studia Antiqua et Archaeologica, XII, 2006, Iaşi 2007, 43-57.

Lazăr 1998: V. Lazăr. Consideration on some objects of copper discovered at Sincai-"Cetatea Paganilor", Mures county. – Apulum, 35, 1998, 43-76.

Lazarova et al. 2015: M. Lazarova, E. Marinova, S. Tonkov, I. Snowball. A 5000-year pollen and plant macrofossil record from the Osogovo Mountain, Southwestern Bulgaria: Vegetation history and human impact. – Review of Palaeobotany and Palynology, 223, 2015, 1-9.

Leahu 1966: V. Leahu. Cultura Tei. Bucureşti, 1966.

Leahu 1978: V. Leahu. Cu privire la raporturile culturii Tei cu unele culturi ale epocii bronzului din Balcani. – Studii şi Cercetări de Istotie Veche şi Arheologie, XXIX/1, 1978, 43-71.

Leahu 1992: D. Leahu. Tezaurul de aur din epoca bronzului descoperit pe teritoriul judeţul Argeş / The gold treasure of the Bronze Age found in Argeş county. – Cercetări Arheologice, IX, 1992, 111-114.

Leahu 1997: D. Leahu. Tezaurul de la Turnu Măgurele. I. Condiţiile descoperirii şi istoricul cercetărilor. – Cercetări Arheologice X, 1997, 325-336.

Leahu 1999-2000: D. Leahu. Tezaurul de la Turnu Măgurele. O nouă ipoteză privind încadrarea sa cronologică şi culturală. - Buletinul Muzeului „Teohari Antonescu", 5-6, 1999-2000, 205-215.

Leahu 2003: D. Leahu. Consideraţii cu privire la falerele de aur din epoca bronzului descoperite pe teritoriul României, – Cercetări Arheologice XII, 2003, 89-107.

Leštakov 1993: K. Leštakov. Die mittelbronzezeitliche Besiedlung des Siedlungshügels von Galabovo in Südbulgarien. – Saarbrücker Studien und Materialien zur Altertumskunde 2. Bonn, 91-222.

Leshtakov 1995: K. Leshtakov. Bronze Age graves at Debelt, Bourgas region. – In: B. Schmid-Sikimic (Hg.). Trans Europam. Beträge zur Bronze- und Eisenzeit zwischen Atlantik und Altai. Festschrift für Margarita Primas (=Antiquitas, Reihe, 3). Bonn, 1995, 39-44.

Leshtakov 1996: K. Leshtakov. Trade centres from the Early Bronze Age III and the Middle Bronze Age in Upper Thrace (on the Interpretation of Baa dere – Konstantia – Galabovo). – In: L. Nikolova (ed.). Early Bronze Age Settlement Patterns in the Balkans (=Reports of Prehistoric Research Projects, Vol. 1/2). Sofia, 1996, 239-287.

Leshtakov 2000: K. Leshtakov. The pottery from Maltepe tell near Ognyanovo (characteristics, chronology and interrelations). – In: L. Nikolova (ed.). Technology, Style and Society. Contributions to the Innovations Between the Alps and the Black Sea in Prehistory (=BAR International Series, Vol. 854). Oxford, 2000, 241-271.

Leshtakov 2002a: K. Leshtakov. Galabovo pottery and a new synchronisation for the Bronze Age in Upper Thrace with Anatolia. – Anatolica, 28, 2002, 171-211.

Leshtakov 2002b: K. Leshtakov. Some Suggestions Regarding the Formation of the „Thracian religion" in the Light of New Archaeological Data from South Bulgaria. – In: L. Nikolova (ed.). Material Evidence and Cultural Pattern in Prehistory: Contributions to the Theory and History of the Household and Burial Customs (=Reports of Prehistoric Research Project, Vol. 5). Sofia, 2002, 19-51.

Leshtakov 2004: K. Leshtakov. The Thracian Settlement at Assara (Constantia) near Simeonovgrad. – Известия на Исторически Музей – Хасково, 2, 2004, 23-76.

Leshtakov 2006: K. Leshtakov. Structure, function and interpretation of Cherna Gora I enclosure in Upper Thrace (Southeast Bulgaria). – In: M.-C. Frere-Sautot (ed.). Des trous...: Structures en creux pré- et protohistoriques. Actes du colloque de Dijon et Baume-les-Messieurs, 24-26 mars 2006. Montagnac., 2006, 405-430.

Leshtakov 2007: K. Leshtakov. The Eastern Balkans in the Aegean economic system during the LBA. Ox-hide and bun ingots in Bulgarian lands. – In: I. Galaniki, H. Tomas, Y. Galanakis, R. Laffineur (eds.). Between the Aegean and Baltic Seas: prehistory across borders. Proceedings of the International Conference Bronze and Early Iron Age interconnections and contemporary developments between the Aegean and the regions of the Balkan Peninsula, Central and Northern Europe, University of Zagreb, 11-14 April 2005 (=Aegaeum, Bd. 27). Liége, 2007, 447-458.

Leshtakov 2009: K. Leshtakov. The Second millennium BC in the Northern Aegean and the adjacent Balkan lands: Main dynamics of cultural interaction. – In: Z. Mponias, J. Perreault (eds.). Πρακτικά του διεθνούς Συμποσίου „Έλληνες και Θράκες στην παράλια ζώνη και την ενδοχώρα της Θράκης στα χρόνια πριν και μετά τον μεγάλο αποικισμό", Θάσος, 26– 27 Σεπτεμβρίου 2009. Thasos, 2009, 53-82.

Leshtakov 2011a: L. Leshtakov. Late Bronze and Early Iron Age Bronze Spear- and Javelinheads in Bulgaria in the Context of Southeastern Europe. – Archaeologia Bulgarica, 15, H. 2, 2011, 25-52.

Leshtakov 2011b: K. Leshtakov. Bronze Age mortuary practices in Thrace. A prelude to studying the long-term tradition. – In: E. Borgna, S. M. Celka (eds.). Ancestral Landscapes. Burial Mounds in the Copper and Bronze Ages (Central and Eastern Europe – Balkans – Adriatic – Aegean, 4th-2nd millennium BC) (=Travaux de la Maison de l'Orient, Vol. 58). Lyon, 2011, 567-578.

Leshtakov 2013: P. Leshtakov. Archaeometallurgical research in the southern Bulgarian Black Sea coast: the site of Akladi Cheiri and the copper deposits of Medni Rid range. – In: H. Angelova, M. Özdoğan (eds.). Where are the Sites? Research, Protection and Management of Cultural Heritage. International Conference in Ahtopol, 5-8 December 2013. Sozopol, 2013, 35-54.

Leshtakov 2014: K. Leshtakov. Troy and Upper Thrace: What Happened in the EBA 3? (Interrelations Based on Pottery Evidence). – In: E. Pernicka, S. Ünlüsoy, W. E. Blum (eds.) Early Bronze Age Troy: Chronology, Cultural Development, and Interregional Contacts. An International conference held at the University of Tübingen May 8-10, 2009. Studia TroicaMonographien 8. Bonn 2014, 321-337.

Leštakov 2015: K. Leštakov. Klassifikation und Chronologie der mittelbronzezeitlichen Keramik aus Gălăbovo (Südostbulgarien) im Vergleich zu anatolischen Siedlungsfunden. Teil 1. – In: Studia Archaeologica Universitatis Serdicensis 5, 2015, 5-115.

Leshtakov 2016: K. Leshtakov. Troy and Upper Thrace: What Happened in the EBA 3? (Interrelations Based on Pottery Evidence). – In: E. Pernicka, S. Ünlüsoy, S. W. E. Blum (eds.). Early Bronze Age Troy: Chronology, Cultural Development, and Interregional Contacts. Proceedings of an International Conference held at the University of Tübingen, May 8-10, 2009 (=Studia Troica Monographien, Vol. 8). Bonn, 2016, 239-255.

Leshtakov, Tsirtsoni 2016: K. Leshtakov, Z. Tsirtsoni. Caesurae in the Bronze Age Chronology of Eastern Bulgaria. – In: V. Nikolov W. Schier (Hgg.). Der Schwarzmeerraum vom Neolithikum bis in die Früheisenzeit (6000-600 v. Chr.): Kulturelle Interferenzen in der zirkumpontischen Zone und Kontakte mit ihren Nachbargebieten (=Prähistorische Archäologie in Südosteuropa, Bd. 30). Rahden/Westfalen, 2016, 477-491.

Leštakov 2016: K. Leštakov. Klassifikation und Chronologie der mittelbronzezeitlichen Keramik aus Gălăbovo (Südostbulgarien) im Vergleich zu anatolischen Siedlungsfunden. Teil 1. Studia Archaeologica Universitatis Serdicensis, Tome 5, 2015, 5-114.

Leštakov 2017: L. Leštakov. Der Hortfund von Pobit Kamak. – In: S. Haag, Ch. Popov, B. Horejs, S. Alexandrov, G. Plattner (eds.) Das erste Gold. Ada Tepe: das älteste Goldbergwerke Europas. Wien, 2017, 137-139.

Leusch et al. 2014: V. Leusch, E. Pernicka, B. Armbruster. Chalcolithic gold from Varna – Provenance, circulation, processing and function. – In: H. Meller, R. Risch, E. Pernicka (Hgg). Metals of Power – Early Gold and Silver. 6th Archaeological Conference of Central Germany, October 17-19, 2013 in Halle (Saale), Bd. 1 (=Tagungen des Landesmuseums für Vorgeschichte Halle, Bd. 11). Halle (Saale), 2014, 165-182.

Leusch et al. 2015: V. Leusch, B. Armbruster, E. Pernicka, V. Slavčev. On the Invention of Gold Metallurgy: The Gold Objects from the Varna I Cemetery (Bulgaria) – Technological Consequence and Inventive Creativity. – Cambridge Archaeological Journal, 25, 2015, 353-376.

Leusch et al. 2016: V. Leusch, M. Brauns, E. Pernicka. Precise and Accurate Analysis of Gold Alloys: Varna, the Earliest Gold of Mankind – A Case Study. – In: L. Dussubieux, M. Golitko, B. Gratuze (eds.). Recent Advances in Laser Ablation ICP-MS for Archaeology. Berlin/Heidelberg, 2016, 95-113.

Lichardus 2001: J. Lichardus. Die Gewiehaxt von Duderkov und die spätmykenischen Einflüsse im Ukrainische Raum. – Eurasia Antiqua 7, 2001, 75-94.

Lichardus et al. 2002: J. Lichardus, R. Echt, I. Iliev. H. Hristov, J. S. Becker, W. R. Thiele. Die Spätbronzezeit an der unteren Tundža und die ostägäischen Verbindungen in Südostbulgarien. – Eurasia Antiqua, 8, 2002, 135-184.

Lo Schiavo et al. 2009: F. Lo Schiavo, J. Muhly, R. Maddin, A. Giumlia-Mair. Oxhide ingots in the central Mediterranean (=Biblioteca di antichità cipriote, Bd. 8). Rom, 2009.

Lull et al. 2013: V. Lull, R. Micó, C. R. Herrada, R. Risch. Political collapse and social change at the end of El Argar. – In: H. Meller, F. Bertemes, H. R. Bork, R. Risch (Hgg.). 1600 – Kultureller Umbruch im Schatten des Thera-Ausbruchs? 4. Mitteldeutscher Archäologentag vom 14. bis 16. Oktober 2011 in Halle (Saale) (= Tagungen des Landesmuseums für Vorgeschichte Halle, Bd. 9). Halle (Saale), 2013, 283-302.

Manning 2010: S. W. Manning. Chronology and Terminology. – In: E. H. Cline (ed.). The Oxford Handbook of the Bronze Age Aegean (ca. 3000-1000 BC). Oxford, 2010, 11-28.

Maran 2001: J. Maran. Der Depotfund von Petralona (Nordgriechenland) und der Symbolgehalt von Waffen in der ersten Hälfte des 3. Jahrtausends v. Chr. zwischen Karpatenbecken und Ägäis. - In: R. M. Boehmer, J. Maran (Hgg.). Lux orientis. Archäologie zwischen Asien und Europa. Festschrift für Harald Hauptmann zum 65 Geburtstag. Rahden/Westfalen, 2001, 275-284.

Maran 2004: J. Maran. Kulturkontakte und Wege der Ausbreitung der Wagentechnologie im 4. Jahrtausend v. Chr. – In: M. Fansa, S.

Burmeister (eds.). Rad und Wagen. Der Ursprung einer Innovation. Wagen im Vorderen Orient und Europa. Katalog der Ausstellung im Landesmuseum für Natur und Mensch. Oldenburg, 429-442.

Marazov 2011: I. Marazov Thrace and the Ancient World. Vassil Bojkov Collection. Thrace Foundation, Sofia, 2011.

Marechal et al. 1999: C.N. Marechal, P. Telouk, F. Albarede. Precise analysis of copper and zinc isotopic compositions by plasma-source mass spectrometry. – Chemical Geology, 156, 1999, 251-273.

Mareş 2002: I. Mareş. Metalurgia aramei în neo-eneoliticul României. Suceava, 2002.

Marinescu-Bîlcu 1981: S. Marinescu-Bîlcu. Târpeşti. From Prehistory to History in Easten Romania. BAR IS, 107, 1981.

Marinova, Filipova 2016: E. Marinova, M. Filipova. Umwelt, Landnutzung und klimatische Veränderungen der bulgarischen Schwarzmeerküste und benachbarter Regionen in der Vorgeschichte - In: V. Nikolov W. Schier (Hgg.). Der Schwarzmeerraum vom Neolithikum bis in die Früheisenzeit (6000-600 v. Chr.): Kulturelle Interferenzen in der zirkumpontischen Zone und Kontakte mit ihren Nachbargebieten (=Prähistorische Archäologie in Südosteuropa, Bd. 30). Rahden/Westfalen, 2016, 265-272.

Mason et al. 2016: A. H. Mason, W. G. Powell, H. A. Bankoff, R. Mathur, A. Bulatovich, V. Filipovich, J. Ruiz. Tin isotope characterization of bronze artifacts of the central Balkans. – Journal of Archaeological Science, 69, 2016, 110-117.

Matsas 1991: D. Matsas. Samothrace and the Northeastern Aegean: the Minoan Connection. – Studia Troica, 1, 1991, 159-179.

Matthäus 1989: H. Matthäus. Mykenai, Der mittlere Donauraum während des Hajdúsámon-Horizontes und der Schatz von Vălčitran. – In: J. Best, N. De Vries (eds.). Thracians and Mycenaeans. Proceedings of the Fourth International Congress of Thracology, Rotterdam, 24–26 September 1984. Leiden, 1989, 86-105.

Matthäus 2005: H. Matthäus. Kulturaustausch, Handel und Seefahrt im Mittelmeerraum während der Späten Bronzezeit. – In: Ü. Yalçın (ed.). Das Schiff von Uluburun – Welthandel vor 3.000 Jahren, Bochum, Katalog der Ausstellung des Deutschen Bergbau-museums Bochum vom 15. Juli 2005 bis 16. Juli 2006, 333-366.

Mazanova 1996: V. Mazanova. Die Struktur der Siedlungen im Siedlungshügel Junazite während der Frühbronzezeit. – Reports of Prehistoric Research Projects. Vol.1. Nos.2-4. Part 2, Sofia 1996, 187-200.

Mazanova 2004: V. Mazanova. Die Architektur der frühbronzezeitlichen Siedlungen in Tell Yunacite. – In: V. Nikolov, K. Băčvarov (Hrsg.). Von Domica bis Drama. Gedenkschrift für Jan Lichardus. Sofia, 2004, 139-148.

Mazanova 2011: V. Mazanova. Erforschungsgeschichte der Tellsiedlungen Yunatzite, Pasardzikregion. – In: Y. Boyadzhiev and S. Terzijska-Ignatova (eds.). The Golden Fifth Millenium. Thrace and its Neighbor Areas in the Chalcolithic. Sofia, 2011, 9-21.

McGeehan-Liritzis, Taylor 1987: V. McGeehan-Liritzis, J.W. Taylor. Yugoslavian tin deposits and the early Bronze Age industries of the Aegean region. – Oxford Journal of Archaeology, 6/3, 1987, 287-300.

McNaughton, Loss 1990: N.J. McNaughton, R.D. Loss. Stable isotope variations of tin. – In: H.K. Herbert, S.E. Ho (Eds.). Stable Isotopes and Fluid Processes in Mineralization. University of Western Australia, 1990, 269-276.

McNaughton, Rosman 1991: N.J. McNaughton, K.J.R. Rosman. Tin isotope fractionation in terrestrial cassiterites. – Geochimica Cosmochimica Acta, 55, 1991, 499-504.

McSweeney, Bacvarov 2017: K. McSweeney K. Bacvarov. Processed babies: Early Bronze Age infant burials from Bulgarian Thrace. – In: E. Murphy & M. Le Roy (eds.) Children, death and burial: archaeological discourses. (Archaeology of Childhood 5) Oxford: Oxbow 2017.

Mehofer (in preparation): M. Mehofer. Spätchalkolithische und frühbronzezeitliche Metallurgie auf dem Çukuriçi Höyük. Metallverarbeitung im 4. und 3. Jt. v. Chr. in Westanatolien (=Oriental and European Archaeology).

Meier-Arendt 1992: W. Meier-Arendt (Hg.). Bronzezeit in Ungarn. Forschungen in Tell-Siedlungen an Donau und Theiß. Frankfurt am Main, 1992.

Meliksetyan, Pernicka 2010: C. Meliksetian, E. Pernicka. Geochemical characterisation of Armenien Early Bronze Age artefacts and their relation to copper ores. – In: S. Hansen, A. Hauptmann, I. Motzenbäcker u. a. (eds.). Von Majkop bis Trialeti. Gewinnung und Verbreitung von Metallen und Obsidian in Kaukasien im 4.-2. Jt. v. Chr. Beiträge des Internationalen Symposiums in Berlin vom 1.-3. Juni 2006. (=Kolloquien zur Vor- und Frühgeschichte 13), Bonn, 2010, 41-58.

Meller 2010: H. Meller. Nebra: Vom Logos zum Mythos – Biographie eines Himmelsbildes. – In: H. Meller, F. Bertemes (Hgg.). Der Griff nach den Sternen. Internationales Symposium in Halle (Saale) 16-21 Februar 2005 (=Tagungen des Landesmuseums für Vorgeschichte Halle, Bd. 5). Halle (Saale), 2010, 23-73.

Metzner-Nebelsick 2010: C. Metzner-Nebelsick. Die Ringe der Macht – Überlegungen zur Kontinuität frühbronzezeitlicher Herrschaftssymbole in Europa. – In.: H. Meller, F. Bertemes (Hgg.). Der Griff nach den Sternen. Internationales Symposium in Halle (Saale) 16.–21. Februar 2005 (=Tagungen des Landesmuseums für Vorgeschichte Halle, Bd. 5). Halle (Saale), 2010, 177-197.

Metzner-Nebelsick 2013: C. Metzner-Nebelsick. Gedanken zur Frage des kulturellen Wandels in der Zeit um 1600 v. Chr. in Nordwest-Rumänien und Nordost-Ungarn. – In: H. Meller, F. Bertemes, H. R. Bork, R. Risch (Hgg.). 1600 – Kultureller Umbruch im Schatten des Thera-Ausbruchs? 4. Mitteldeutscher Archäologentag vom 14. bis 16. Oktober 2011 in Halle (Saale) (= Tagungen des Landesmuseums für Vorgeschichte Halle, Bd. 9). Halle (Saale), 2013, 327-353.

Morintz, Anghelescu 1970: S. Morintz, N. Anghelescu. O nouă cultură a epocii bronzului în Romania. Cultura de tip Coslogeni. Stud. Cerc. Ist. Veche 21, 1970, 373-415.

Motzoi-Chicideanu, Gugiu 2004: I. Motzoi-Chicideanu, D. Gugiu, Un mormânt din epoca bronzului descoperit la Cârlomăneşti (jud. Buzău). – Studii şi cercetări de istorie veche şi arheologie, 52-53, 2001-2002 (2004), 5-41.

Motzoi-Chicideanu, Olteanu 2002: I. Motzoi-Chicideanu, G. Olteanu. Un mormânt în cistă din piatră descoperit la Văleni-Dâmboviţa. – Studii şi Cercetări de Istorie Veche şi Arheologie, 51/1-2, 2000, 2002, 3-70.

Motzoi-Chicideanu, Şandor-Chicideanu 1999: I. Motzoi-Chicideanu, M. Şandor-Chicideanu. Cercetările arheologice de la Năeni-Zănoaga (jud. Buzău). Campaniile 1982-1986, 1988-1993 şi 1996. – Materiale şi Cercetări Arheologice (serie nouă) 1, 1999, 59-97.

Motzoi-Chicideanu, Şandor-Chicideanu 2015: I. Motzoi-Chicideanu, M. Şandor-Chicideanu. Câteva date noi privind cronologia culturii Monteoru. – Mousaios, XX, 2015, 9-52.

Motzoi-Chicideanu et al. 2015: I. Motzoi-Chicideanu, M. Chicideanu-Şandor, D. Pârcălabu, M. Constantinescu. Şantierul arheologic Cârlomăneşti – Arman. Campania 2014. – Mousaios, XX, 2015, 173-189.

Moucha 2005: V. Moucha. Hortfunde der frühen Bronzezeit in Böhmen. Praha, 2005

Mozsolics 1968: A. Mozsolics. Goldfunde des Depotfundhorizontes von Hajdúsámson. – Bericht der Römisch-Germanischen Kommission, 46-47 (1965-1966) 1968, 1-76.

Mozsolics 1973: A. Mozsolics, Bronze- und Goldfunde des Karpatenbeckens. Depotfundhorizonte von Forró und Ópályi. Budapest, 1973.

Muhly 1985: J. Muhly. Sources of tin and the beginnings of bronze metallurgy. - American Journal of Archaeology, 89, 1985, 275-291.

Munteanu, Dumitroaia 2010: R. Munteanu, G. Dumitroaia. Spada de bronz de la Piatra Şoimului. - Memoria Antiqvitatis, 25-26, 2008-2009 (2010), 323-328.

Müller 2002: J. Müller. Modelle zur Einführung der Zinnbronzetechnologie und zur sozialen Differenzierung der mitteleuropäischen Frühbronzezeit. – In: J. Müller (ed.). Vom Endneolithikum zur Frühbronzezeit: Muster sozialen Wandels? Tagung Bamberg 14-16 Juni 2001 (=Universitätsforschungen zur prähistorischen Archäologie, 90). Bonn, 267-289.

Müller-Karpe 1980: H. Müller-Karpe. Handbuch der Vorgeschichte. Bd. IV: Bronzezeit. München, 1980.

Müller-Karpe 2008: A. Müller-Karpe. The Hittite Empire. – In: J. Aruz, K. Benzel, J. M. Evans (eds.) Beyond Babylon. Art, Trade, and Diplomacy in the Second Millennium B.C. New York, New Haven and London 2008, 170-193.

Muscarella 1988: O. W. Muscarella. Bronze and Iron. New York, 1988.

Mylonas 1964: G. Mylonas. Grave circle B of Mycenae. Lund, 1964.

Needham 1996: S. Needham. Chronology and Periodisation in the British Bronze Age. – Acta Archaeologica, 67, 1996, 121-140.

Nechrizov, Cvetkova 2017: G. Nechrizov, J. Cvetkova. Die Bronzezeit in den ostlichen Rhodopen – In: S. Haag, H. Popov, B. Horejs, S. Alexandrov, G. Plattner (Hrsg.). Das erste Gold. Ada Tepe: Das Älteste Goldbergwerk Europas. Ausstellungkatalog. Wien 2017, 49-55

Nekhrizov 1995: G. Nekhrizov. Late Bronze Age Pottery in the Eastern Rhodopes. – In: D. Bailey, I. Panayotov (eds.). Prehistoric Bulgaria (=Monographs in World Archaeology, Vol. 22). Madison, 1995, 309-325.

Nekhrizov 2005: G. Nekhrizov. Cult places of the Thracians in the Eastern Rhodope Mountains (End of the 2nd-1st millennium B.C.). – In: J. Bouzek, L. Domaradzka (eds.). The Culture of Thracians and their Neighbours. Proceedings of the International Symposium in Memory of Prof. Mieczyslaw Domaradszki, with a Round Table „Archaeological Map of Bulgaria" (=BAR International Series, Vol. 1350). Oxford, 2005, 153-158.

Nekhrizov 2015: G. Nekhrizov. Dolmens and Rock-Cut Monuments. – In: J. Valeva, E. Nankov, D. Graninger (eds.). A Companion to Ancient Thrace. Malden/Oxford, 2015, 126-143.

Nessel et al. 2015: B. Nessel, G. Brügmann, E. Pernicka. Tin isotopes and the sources of tin in the Early Bronze Age Únětice Culture. – In: J. M. Mata Perelló, M. A. Hunt Ortiz, E. Orche García (eds.). Libro de resúmenes del XV Congreso Internacional sobre Patrimonio Geológico y Minero y de la XIX Sesión Científica de la SEDPGYM, Logrosán (Cáceres), 25-28 de Septiembre del 2014. Logrosán (Cáceres) 2015, 11-28.

Nessel et al. 2017: B. Nessel, G. Brügmann, E. Pernicka. Tin isotope ratios in Early and Middle Bronze Age bronzes from central and southeastern Europe. Latest Results and Examination Methodologies of Pre- and Protohistoric Metals and Other Inorganic Materials. 1st International Scientific Conference of the UISPP Commission on Archaeometry of Pre- and Protohistoric Inorganic Artifacts, Materials and Technologies, 14th October 2016, Miskolc, Hungary (forthcoming 2017).

Nestor 1944: I. Nestor. Étude sur l'exploitation préhistorique du cuivre en Roumanie. Le dépôt de barres colliers de Deva. – Dacia IX-X, 1941-1944, 165-181.

Neugebauer 1994: J. W. Neugebauer. Bronzezeit in Ostösterreich (=Wissenschaftliche Schriftenreihe Niederösterreich, Bde. 98-101). St. Pölten/Wien 1994.

Nickel et al. 2012: D. Nickel, M. Haustein, T. Lampke, E. Pernicka. Identification of forgeries by measuring tin isotopes in corroded bronze objects. – Archaeometry 54, 2012, 167-174.

Nikolov 2011: V. Nikolov. Tell Karanovo, Südbulgarien: das grosse Apsidenhaus. – In: Panonski prapovijesni osviti. Zbornik radova posvecenih Korneliji Minichreiter uz 65. obljetnicu zivota. Zagreb, 2011, 283-287.

Nikolov 2013: M. Nikolov. Stone Axe-Scepter From the Collection of Shumen Museum of History. – In: K. Rabadjiev, H. Popov, M. Damyanov, V. Katsarova (eds.) Studies in memory of academician D. P. Dimitrov. Sofia, 2013, 42-47.

Nikolov, Petrova 2016: V. Nikolov, V. Petrova. Tell Karanovo: the hiatus between the Late Copper and the Early Bronze Age. - In: Z. Tsirtsoni (ed.). The Human Face of Radiocarbon. Reassessing chronology in prehistoric Greece and Bulgaria, 5000–3000 cal BC (=Travaux de la Maison de l'Orient et de la Méditerranée, Bd. 69). Lyon, 2016, 127-141.

Nikolova 1999: L. Nikolova. The Yunatsite culture. Periodisation, chronology and synhronisations. – Reports of Prehistoric Research Projects, 2-3, 1999, 33-97.

Nikov 2016: K. Nikov. The origin of the early iron age pottery decoration in Southern Thrace. - In: K. Bachvarov, R. Gleser (eds.). Southeast Europe and Anatolia in prehistory: Essays in honor of Vasil Nikolov on his 65th anniversary (=Universitätsforschungen zur Prähistorischen Archäologie, Bd. 293). Bonn, 2016, 457-464.

Nikov 2017: K. Nikov. Die Keramik vom Ada Tepe im Kontext der spätbronzezeitlichen Keramik in Thrakien. - In: S. Haag, H. Popov, B. Horejs, S. Alexandrov, G. Plattner (Hrsg.). Das erste Gold. Ada Tepe: Das Älteste Goldbergwerk Europas. Ausstellungkatalog. Wien 2017, 63-67.

Nowell et al. 2002: G. Nowell, R. Clayton, N.H. Gale, Z.A. Stos-Gale. Sources of tin e is isotopic evidence likely to help? - In: M. Bartelheim, E. Pernicka, R. Krause (eds.). Die Anfänge der Metallurgie in der Alten Welt. The beginnings of metallurgy in the Old World. Forschungen zur Archäometrie und Altertumswissenschaft, 1. Rahden/Westfalen, 161-183.

O'Brian 2015: W. O'Brian. Prehistoric Copper Mining in Europe. 5500-500 BC. Oxford, 2015.

Oancea 1981: A. Oancea. Considérations sur l'étape finale de la culture de Monteoru. - Dacia N.S., 25, 1981, 131-191.

Oanţă-Marghitu 2013: R. Oanţă-Marghitu (ed.). Aurul şi argintul antic al României, Bucureşti, 2013.

O'Brien 2014: W. O'Brien. Prehistoric Copper Mining in Europe 5500-500 BC. Oxford University Press, Oxford, 2014.

Oddy 1977: A. Oddy. The Production of Gold Wire in Antiquity. - Gold Bulletin, 10/3, 1977, 79-87.

Ognenova-Marinova 1978: L. Ognenova-Marinova. Le trésor de Valčitran – un jalon dans l'étude de la religion Thrace. – Pulpudeva, 2, Supplementum, 1978, 240-244.

Panayotov 1980: I. Panayotov. Bronze rapiers, swords and double axes from Bulgaria. – Thracia, 5, 1980, 173-198.

Panayotov 1995: I. Panayotov. The Bronze Age in Bulgaria: studies and problems. – In: D. Bailey, I. Panayotov (eds.). Prehistoric Bulgaria (=Monographs in World Archaeology, Vol. 22). Madison, 1995, 243-252.

Pany, Reschreiter 2010: D. Pany, H. Reschreiter. Auf den Kopf gestellt? – Überlegungen zur Kinderarbeit und Transport im prähistorischen Salzbergwerk von Hallstatt. Mitteilungen Anthropologischen Gesellschaft in Wien 140, 2010, 39-68.

Pare 2000: C. F. E. Pare. Bronze and Bronze Age. – In: C. F. E. Pare (ed.). Metal makes the world go round. Supply and Circulation of Metals in Bronze Age Europe. Oxford, 2000, 1-38.

Pare 2004: C. F.E. Pare. Die Wagen der Bronzezeit in Mitteleuropa. – In: M. Fansa, S. Burmeister (Hrsg.). Rad und Wagen. Der Ursprung

einer Innovation Wagen im Vorderen Orient und Europa. Mainz, 2004, 355-372.

Pavúk 2014: P. Pavúk. Troia VI Früh und Mitte. Keramik, Stratigraphie, Chronologie (=Studia Troica Monographien, Bd. 3). Bonn, 2014.

Pavúk 2017: P. Pavuk. Thrakien, Troia und Anatolien. Troia und seine Kontakte in den Balkan. – In: S. Haag, Ch. Popov, B. Horejs, S. Alexandrov, G. Plattner (eds.) Das erste Gold. Ada Tepe: das älteste Goldbergwerke Europas. Wien, 2017, 105-109.

Penhallurick 1986: Penhallurick. Tin in antiquity. London: Institute of Metals, 1986.

Pernicka 1987: E. Pernicka. Erzlagerstätten in der Ägiäs und ihre Ausbeutung im Altertum: Geochemische Untersuchungen zur Herkunftsbestimmung archäologischer Metallobjekte. – Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz, 34, 1987, 607-614.

Pernicka et al. 1993: E. Pernicka, F. Begemann, S. Schmitt-Strecker, G. Wagner. Eneolithic and Early Bronze Age copper artefacts from the Balkans and their relation to Serbian copper ores. - Prähistorische Zeitschrift, 68, 1993, 1-54.

Pernicka et al. 1997: E. Pernicka, F. Begemann, S. Schmitt-Strecker, H. Todorova, I. Kuleff. Prehistoric Copper in Bulgaria. – Eurasia Antiqua, 3, 1997, 41-178.

Pernicka et al. 2003: E. Pernicka, T. Seeliger, G. Wagner, F. Begemann, S. Schmitt-Strecker, C. Einber, Ö. Öztunali, I. Baranyi. Archaeometallurgische Untersuchungen in Nordwestanatolien. – Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz, 31, 2003, 533-599.

Pernicka et al. 2016: E. Pernicka, B. Nessel, M. Mehofer, E. Safta. Lead Isotope Analyses of Metal Objects from the Apa Hoard and Other Early and Middle Bronze Age Items from Romania. – Archaeologia Austriaca, 100, 2016, 57-86.

Persson 1931: A. W. Persson. The Royal Tombs at Dendra near Midea. Lund, 1931.

Pétrequin et al. 2012: P. Pétrequin, S. Cassen, M. Errera, T. Tsonev, K. Dimitrov, L. Klassen, R. Mitkova. Les haches en „jades alpins" en Bulgarie. – In: P. Pétrequin, S. Cassen, M. Errera, L. Klassen, A. Sheridan, Anne-Marie Pétrequin (eds.), JADE. Les Grandes haches alpines du Néolithique européen, V^{e} au IV^{e} millénaires av. J.-C. Besançon, 2012, 1231-1279.

Petrescu-Dîmboviţa 1977: M. Petrescu-Dîmboviţa. Depozitele de bronzuri din România. Bucureşti, 1977.

Petrescu-Dîmboviţa 1998: M. Petrescu-Dîmboviţa. Der Arm- und Beinschmuck in Rumänien, Prähistorische Bronzefunde X/4, Stuttgart, 1998.

Petrov 2007: I. Petrov. The Region of Haskovo during the Prehistory, Antiquity and the Middle Ages. – In: G. Gramatikov (ed.). Regional Museum of History Haskovo. Selected from the Stocks. Sofia, 2007, 26-59.

Photos et al. 1988: E. Photos, Ch. Koukouli-Chrysanthaki, R. Tylecote, G. Gialoglou. Precious Metals Extraction in Palaia Kavala, N.E. Greece. An Archaeological Attempt to Locate Skapte Hyle. – In: A. Hauptmann, E. Pernicka, G. A. Wagner (Hgg.). Archäometallurgie der Alten Welt. Beiträge zum Internationalen Symposium „Old World Archaeometallurgy". Heidelberg, 1987 (=Der Anschnitt, Beiheft 7). Bochum, 1988, 179-190.

Piotrovski 2013: J. Piotrovski (ed). Bronzezeit. Europa ohne Grenzen. 4-1 Jahrtausend v. Chr. Ausstellungskatalog. St. Petersburg, 2013.

Pleiner 2000: R. Pleiner. Iron in Archaeology. The European Bloomery Smelters. Praha, 2000.

Pliny. Pliny. Natural History. [transl. H. Rackham]. In: The Loeb Classical Library. Vol. IX. Books 33-35. London. 1952.

Popescu 1956: D. Popescu. IV. Prelucrarea aurului în Transilvania înainte de cucerirea romană. – Materiale şi Cercetări Arheologice, 2, 1956, 196-250.

Popescu 2010: A. D. Popescu. Silver artifacts of the third and second millennia BC at the Lower and Middle Danube. – In: R. Băjenaru, G. Bodi, C. Opreanu, V. Zirra (eds.). Recent Studies on Past and Present. Vol. 1: Human Heritage and Community: Archaeology in the Carpathians and Lower Danube Area from Prehistory to the Early Medieval Age (=Transylvanian Review, 19, Beilage Nr. 5.1). Cluj-Napoca, 2010, 163-182.

Popescu 2013: A. D. Popescu. Consideraţii prvind unele podoabe de aur din epoca bronzului de pe teritoriul României. – In: A. Stavilă, D. Micle, A. Cîntar, C. Floca, S. Forţiu (eds.). In memoriam Liviu Măruia interdisciplinaritate în Arheologşi Istorie: Timişoara, 7 decembrie 2013 (ArheoVest, Vol. 1). Szeged, 2013, 163-174.

Popescu 2015: A. D. Popescu. Halbmondförmige Silberobjekte von der Unteren Donau. Ein Überblick über ihre Verwendung und Datierung. – Das Altertum, 60, 2015, 101-124.

Popescu, Frînculeasa 2016: A-D. Popescu, A. Frînculeasa. Versatile artefacts: some remarks concerning a few Early Bronze Age metal blades from the Lower Danube. – Materiale şi Cercetări Arheologice, S.N. XII, 2016, 73-88.

Popescu, Popescu 1955: D. Popescu, V. Popescu. Asupra tezaurului de aur de la Ostrovul Mare. – Studii şi cercetări de istorie veche VI/3-4, 1955, 865-881.

Popov et al. 2011a: H. Popov, A. Jockenhövel, C. Groer. Ada Tepe (Ost-Rhodopen, Bulgarien): Spätbronzezeitlicher – ältereisenzeitlicher Bergbau. Kampagne 2008. – In: Ü. Yalçın (ed.). Anatolian Metal, V (=Der Anschnitt, Beiheft 24). Bochum, 2011, 111-126.

Popov et al. 2011b: H. Popov, A. Jockenhövel, Z. Tsintsov, S. Iliev. Montanarchäologische Forschungen in den Ostrhodopen, Südostbulgarien. – In: V. Nikolov, K. Bachvarov, H. Popov (Hgg.). Interdisziplinäre Forschungen zum Kulturerbe auf der Balkanhalbinsel. Sofia, 2011, 253-290.

Popov et al. 2014: H. Popov, Z. Tsintsov, A. Jockenhövel, P. Georgiev. Experiment und Versuch: Feuersetzen beim Abbau der goldhaltigen Quarzgänge im spätbronzezeitlichen Goldbergwerk auf dem Ada Tepe, Südbulgarien. – Experimentelle Archäologie in Europa, 13, 2014, 27-44.

Popov et al. 2015: H. Popov, K. Nikov, A. Jockenhövel. Ada Tepe (Krumovgrad, Bulgarien) – ein neu entdecktes spätbronzezeitliches Goldbergwerk im balkanisch-ägäischen Kommunikationsnetz. – In: Gerda von Bülow (Hg.). Kontaktzone Balkan. Beiträge des internationalen Kolloquiums „Die Donau-Balkan-Region als Kontaktzone zwischen Ost-West und Nord-Süd" vom 16-18 Mai 2012 in Frankfurt a. M. (=Kolloquien zur Vor- und Frühgeschichte, Bd. 20). Bonn, 2015, 45-62.

Popov et al. 2017: H. Popov, M. Koleva, A. Andonova, J. Dimitrova, I. Vălčev. Das Goldbergwerk auf dem Ada Tepe. Zu Topografie, Stratigrafie, Chronologie und Interpretation des Nordareals – Archaeologia Austriaca, 101, 2017, 161-204.

Popov, Jockenhövel 2011: H. Popov, A. Jockenhövel. At the Northern Borders of the Mycenaean World: Thracian Gold Mining from the Late Bronze and the Early Iron Age at Ada Tepe in the Eastern Rhodopes. – Anodos. Studies of the Ancient World, 10 (2010), 2011, 265-281.

Popov, Jockenhövel 2017: Ch. Popov, R. Jockenhövel. Das spätbronzezeitliche Goldbergwerk auf dem Ada Tepe. – In: S. Haag, Ch. Popov, B. Horejs, S. Alexandrov, G. Plattner (eds.) Das erste Gold. Ada Tepe: das älteste Goldbergwerke Europas. Wien, 2017, 57-61.

Popov, Nikov 2017: H. Popov, K. Nikov. Ada Tepe Late Bronze Age Gold Mine Project: Between Borders. – In: Archaeology across past and present borders (=BAR International Series), 2017 (in print).

Popova, Bozhilova 1998: T. Popova, E. Bozhilova. Palaeoecological and palaeoethnobotanical data for the Bronze Age in Bulgaria. – In: M. Stefanovich, H. Todorova, H. Hauptmann (eds.). James Harvey Gaul: In memoriam. In the Steps of James Harvey Gaul. Vol. 1. Sofia, 1998, 391-397.

Primas 1995: M. Primas. Gold and silver during 3rd Mill. cal. B.C. – In: G. Morteani, J. P. Northover (eds.). Prehistoric Gold in Europe. Mines, Metallurgy and Manufacture, NATO ASI Series, Dordrecht/ Boston/London, 1995, 77-93.

Pulak 1988: C. Pulak. The Bronze Age Shipwreck at Uluburun, Turkey: 1985 Campaign. – American Journal of Archaeology 92, 1988, 1-37.

Pulak 1997: C. Pulak.The Uluburun Shipwreck. – In: S. Swiny, R. L. Hohlfelder, H. W. Swiny (eds.) Res Maritimae. Cyprus and the Eastern Mediterranean from Prehistory to Late Antiquity. Atlanta, GA, 1997, 233-262.

Pulak 1998: C. Pulak. The Uluburun shipwreck: an overview. – The International Journal of Nautical Archaeology, 27.3, 1998, 188-224.

Pulak 2005: C. Pulak. The Uluburun Shipwreck. – In: Ü. Yalçın, C. Pulak und R. Slotta (eds.). Das Schiff von Uluburun: Welthandel vor 3.000 Jahren. Katalog der Ausstellung des Deutschen Bergbau-museums Bochum vom 15. Juli 2005 bis 16. Juli 2006. Bochum, 2005, 233-262.

Pulak 2008a: C. Pulak. The Uluburun Shipwreck and Late Bronze Age Trade. – In: J. Aruz, K. Benzel, J. M. Evans (eds.) Beyond Babylon. Art, Trade, and Diplomacy in the Second Millennium B.C. New York, New Haven and London 2008, 289-385.

Pulak 2008b: G. Pulak. Morthern „Mercenary". – In: J Aruz, K. Benzel, J Evans (Eds). Beyond Babylon: Art, Trade, and Diplomacy in the Second Milenium BC. New York, 2008, 372-373.

Pulszky 1877: F. de Pulszky. L'Age du Cuivre en Hongrie. – In: Congrès International d'Antropologie et d'Archéologie Préhistorique. Compte-rendu de la huitième session à Budapest 1876. Bd. 1. Budapest, 1877, 220-236.

Radivojević et al. 2013: M. Radivojević, T. Rehren, J. Kuzmanović-Cvetković, M. Jovanović, J. P. Northover. Tainted ores and the rise of tin bronzes in Eurasia, c. 6500 years ago. – Antiquity, 87/338, 2013, 1030-1045.

Radivojević, Rehren 2016: M. Radivojević, Th. Rehren. Paint It Black: The Rise of Metallurgy in the Balkans. – Journal of Archaeological Method and Theory, 23, 1, 2016, 200-237.

Radivojevich, Rehren 2016: M. Radivojevich, T. Rehren. Paint It Black: The Rise of Metallurgy in the Balkans. – Journal of Archaeological Method and Theory, 23, H. 1, 2016, 200-237.

Rapp 2009: G. Rapp. Archaeomineralogy. Springer-Verlag Berlin, Heidelberg, 2009.

Rassmann 2010: K. Rassmann. Die frühbronzezeitlichen Stabdolche Ostmitteleuropas – Anmerkungen zu Chronologie, Typologie, Technik und Archäometallurgie. – In: H. Meller, F. Bertemes (Hgg.). Der Griff nach den Sternen. Internationales Symposium in Halle (Saale) 16.–21. Februar 2005 (=Tagungen des Landesmuseums für Vorgeschichte Halle, Bd. 5). Halle (Saale), 2010, 807-821.

Rehren et al. 2016: T. Rehren, P. Leshtakov, P. Penkova. Reconstructing chalcolithic copper smelting at Akladi cheiri, Chernomorets, Bulgaria. – In: V. Nikolov, W. Schier (Hgg.). Der Schwarzmeerraum vom Neolithikum bis in die Früheisenzeit (6000–600 v. Chr.): Kulturelle Interferenzen in der zirkumpontischen Zone und Kontakte mit ihren Nachbargebieten (=Prähistorische Archäologie in Südosteuropa, Bd. 30). Rahden/Westfalen. 2016, 205-214.

Reinholdt 2008: C. Reinholdt. Der frühbronzezeitliche Schmuckhortfund von Kap Kolonna. Ägina und die Ägäis im Goldzeitalter des 3. Jahrtausends v. Chr. (=Ägina-Kolonna, Bd.2). Wien, 2008.

Renfrew 1969: C. Renfrew. The Autonomy of the South-East European Copper Age. – Proceedings of the Prehistoric Society, 35, Part 2, 1969.

Renfrew 1972: C. Renfrew. The Emergence of Civilization: Cyclades and the Aegean in the Third Millennium B.C. (Study in Prehistory). London/New York, 1972.

Renfrew 1978: C. Renfrew. Varna and the social context of the early metallurgy. – Antiquity, 52, 1978, 199-203.

Reschreiter, Kowarik 2015/2016: H. Reschreiter, K. Kowarik. Die prähistorischen Salzbergwerke von Hallstatt. – In: T. Stöllner, K. Oeggl (Hgg.). Bergauf Bergab: 10.000 Jahre Bergbau in den Ostalpen. Bochum/Bregenz, 2015/2016, 289-296.

Robb 2012: L. Robb. Introduction to ore-forming processes. Blackwell Publishing, 2012.

Rohling et al. 2002: E. Rohling, P. Mayewski, A. Hayes, R. Abu-Zied, J. Casford. Holocene atmosphere-ocean interactions. Records from Greenland and the Aegean Sea. – Climate Dynamics, 18, 2002, 573-592.

Roman 1976: P. Roman. Cultura Coţofeni. Bucureşti, 1976.

Roman et al. 1992: P. Roman, A. Dodd-Opriţescu, P. János. Beiträge zur Problematik der schnurverzierten Keramik Südosteuropas. Mainz am Rhein, 1992.

Romer, Kroner 2016: R. Romer, U. Kroner. Phanerozoic tin and tungsten mineralization – Tectonic controls on the distribution of enriched protoliths and heat sources for crustal melting. - Gondwana Research, 31, 2016, 60-95.

Rotea 2000/2001: M. Rotea. Die mittlere Bronzezeit im Karpaten-Donau-Raum (19.–14. Jahrhundert v. Chr.). - In: M. Rotea, T. Bader (Hgg.). Thraker und Kelten beidseits der Karpaten. Eberdingen, 2000/2001, 22-30.

Rotea 2004: M. Rotea. Non-Ferrous Metallurgy in Transylvania of Bronze Age. - Acta Musei Napocensis, 39-40, 2004, 7-17.

Rotea et al. 2011: M. Rotea, M. Wittenberger, M. Tecar. Bronze Age metallurgy in Transylvania: craft, art and ritual/magic. – Acta Musei Napocensis, 45/46 (2008/2009), 2011, 7-38.

Rudolf 1995: W. Rudolf. A Golden Legacy. Ancient jewelry from the Burton Y. Berry collection at the Indiana University Art Museum. Bloomington/Indianapolis, 1995.

Ruseva-Slokoska 1991: L. Ruseva-Slokoska. Roman Jewellery. A Collection of the National Archaeological Museum – Sofia. Sofia, 1991.

Rusu 1972: M. Rusu. Consideraţii asupra metalurgiei aurului din Transilvania în Bronz D şi Hallstatt A. – Acta Musei Napocensis, 9, 1972, 29-63.

Şahoğlu 2005: V. Şahoğlu. The Anatolian trade network and the Izmir region during the Early Bronze Age. – American Journal of Archaeology, 24, 2005, 339-360.

Sapouna-Sakellarakis 1978: E. Sapouna-Sakelarakis. Die Fibeln der griechischen Inseln. (= Prähistorische Bronzefunde, XIV, 4). München, 1978.

Schaeffer 1949: C. F. A. Schaeffer. Mission de Ras Shamra 5. Ugaritica: études relatives aux découvertes de Ras Shamra 2. Nouvelles études relatives aux découvertes de Ras Shamra (=Bibliothèque archéologique et historique, Bd. 47). Paris, 1949.

Schalk 1998: E. Schalk. Die Entwicklung der prähistorischen Metallurgie im nördlichen Karpatenbecken. Eine typologische und metallanalytische Untersuchung (= Internationale Archäologie, Naturwissenschaft und Technologie, 1). Rahden/Westfalen, 1998.

Schubert 1973: E. Schubert. Studien zur frühen Bronzezeit an der mittleren Donau. – Bericht der Römisch-Germanischen Kommission, 54, 1973, 1-105.

Schwartz et al. 2006: G. Schwartz, H. Curvers, S. Dunham, J. Weber. A Third-Millennium B.C. Elite Mortuary Complex at Umm el-Marra, Syria: 2002 and 2004 Excavations. – American Journal of Archaeology, 110, 2006, 603-641.

Séfériadès 2010: M. L. Séfériadès. Spondylus and Long-Distance Trade in Prehistoric Europe. – In: D. Anthony (ed.). The Lost World of Old Europe: The Danube Valley, 5000–3500 BC. Vicenza, 2010, 177-191.

Severeanu 1935: G. Severeanu. Zwei Dolchaxte aus Gold, - Bucureştii. Revista Muzeului şi Pinacotecii Municipiului Bucureşti, 1, 1935, 7-11.

Severeanu 1937: G. Severeanu, The gold treasure of the „Ostrovul Mare". – Bucureştii. Revista Muzeului Municipiului Bucureşti, 1-2, 1937, 5-19.

Seyring 1954: H. Seyring. Note sur le trésor de Tod. – Syria, 31, 1954, 221-224.

Shennan 1986: S. J. Shennan. Interaction and Change in Third Millennium BC Western and Central Europe. – In: C. Renfrew, J. F. Cherry (eds.). Peer Polity Interaction and Socio-Political Change. New Directions in Archaeology. Cambridge, 1986, 137-148.

Sherratt, Taylor 1989: A. Sherratt, T. Taylor. Metal Vessels in Bronze Age Europe and the Context of Vulchetrun. – In: J. Best, N. De Vries (eds.). Thracians and Mycenaeans. Proceedings of the Fourth International Congress of Thracology, Rotterdam, 24-26 September 1984. Leiden, 1989, 107-134.

Shishlina 2013: N. Shishlina. Der Schatzfund von Borodino. – In: Y. Piotrovsky (Ed). Fortsetzung Suche Bronzezeit. Europa ohne grenzen. 4-1 Jahrtausend v. Chr. Ausstellungskatalog. St. Petersburg, 2013, 156-169.

Smith 1986: H. P. H. G. Smith. A Study of 9th-7th century Metal Bowls from Western Asia. – Iranica Antiqua, XXI, 1986, 1-88.

Snodgrass 1967: A. M. Snodgrass. Arms and armor of the Greeks. Ithaca, NY, 1967.

Snodgrass 1989: A. Snodgrass. The coming of the Iron Age in Greece: Europe earliest Bronze/Iron transition. – In: M. L. S. Sørensen, R. Thomas (eds.) The Bronze Age – Iron Age Transitions in Europe. BAR International series, 483(I), 1989, 22-35.

Soroceanu 2012: T. Soroceanu. Die Kupfer- und Bronzedepots der frühen und mittleren Bronzezeit in Rumänien. Cluj-Napoca, 2012.

Stanczik, Tárnoki 1992: I. Stanczik, J. Tárnoki. Jászdózsa-Kápolnahalom. – In: W. Meier-Arendt, I. Bóna (Hgg.). Bronzezeit in Ungarn. Forschungen in Tell-Siedlungen an Donau und Theiss. Frankfurt am Main, 1992, 120-127.

Steel 2012: L. Steel. Materiality and Consumption in the Bronze Age Mediterranean. – Routledge Studies in Archaeology, 2012, 118-121.

Stefanova 2000: M. Stefanova. Control excavation at Mihalich in 1998-1999, preliminary communication. – Reports of the Prehistoric Research Project, 4, 2000, 21-31.

Stefanova 2004: M. Stefanova. Kontextuelle Probleme der Becher depas amphikepellon in Thrakien. – In: V. Nikolov, K. Bačvarov (Hgg.). Von Domica bis Drama. Gedenkschrift für Jan Lichardus. Sofia, 2004, 197-201.

Stefanova 2005: M. Stefanova. Fortified Settlement Mihalich. Monumental Construction and Natural Landscape (Archaeological Investigations in 2002). – Годишник на Нов Български Университет, Департамент Археология, 6, 2005, 175-180.

Stefanova 2015: M. Stefanova. Vessels, Ingots, and Chains from the El-Tod Threasure. – In: A. Oppenheim, D. Arnold, D. Arnold, K. Yamamoto (Eds). Ancient Egypt transformed: the Middle Kingdom. New York, 2015, 287-289.

Stefanova, Ammann 2003: I. Stefanova, B. Ammann. Late glacial and Holocene vegetation belts in the Pirin Mountains (southwestern Bulgaria). – The Holocene, 13, 1, 2003, 97-107.

Stefanovich, Bankoff 1998: M. Stefanovich, H. A. Bankoff. Kamenska Čuka 1993–95. Late Bronze Age Site in Southwest Bulgaria: Preliminary Findings. – In: M. Stefanovich, H. Todorova, H. Hauptmann (eds.). James Harvey Gaul: In memoriam. In the Steps of James Harvey Gaul. Vol. 1. Sofia, 1998, 255-338.

Stika, Heiss 2013: P. Stika, A. Heiss. Plant cultivation in the Bronze Age. - In: H. Fokkens, A. Harding (eds.). The Oxford Handbook of the European Bronze Age. Oxford, 2013.

Stoia 1989: A. Stoia. The Beginning of Iron Technology in Romania. - In: M. L. S. Sørensen, R. Thomas (eds.) The Bronze Age - Iron Age Transition in Europe. BAR International series, 483(I), 1989, 43-67.

Stojić 2000: M. Stojić. The Brnjica cultural group in the South Morava basin. Starinar L. 2000, 9-59.

Stöllner 2010: Th. Stöllner. Copper and Salt – Mining Communities in the Alpine Metal Ages. – In: P. Anreiter, G. Goldenberg, K. Hanke, R. Krause, W. Leitner, F. Mathis, K. Nicolussi, K. Oeggl, E. Pernicka, M. Prast, J. Schibler, I. Schneider, H. Stadler, T. Stöllner, G. Tomedi P. Tropper (Hrsg.). Mining in European History and its Impact on Environment and Human Societies. Proceed. 1st Mining in European History – Conference SFB HiMAT 12-15 November 2009, Innsbruck. Insbruck, 2010, 297-314.

Stöllner 2012a: Th. Stöllner. Der vor- und frühgeschichtliche Bergbau in Mitteleuropa bis zur Zeit der Merowinger. – In: C. Bartels, R. Slotta (Hrsg.). Geschichte des deutschen Bergbaues I. Der alteuropäische Bergbau. Von den Anfängen bis zur Mitte des 18. Jahrhunderts. Münster 2012, 25-110.

Stöllner 2012b: Th. Stöllner. Mining and Elites: A Paradigm Beyond the Evidence in European Metal Ages. – In: T. L. Kienlin, A. Zimmermann (eds.). Beyond Elites. Alternatives to Hierarchical Systems in Modelling Social Formations. (=Universitätsforsch. Prähist. Archäologie 215). Bonn, 2012, 433-448.

Stöllner 2014: T. Stöllner. Gold in the Caucasus: New research on gold extraction in the Kura-Araxes Culture of the 4th millennium BC and early 3rd millennium BC. – In: H. Meller, R. Risch, E. Pernicka (Hgg.). Metalle der Macht – Frühes Gold und Silber. 6. Mitteldeutscher Archäologentag vom 17. bis 19. Oktober 2013 in Halle (Saale) (=Tagungen des Landesmuseums für Vorgeschichte Halle, Bd. 11), Halle (Saale), 2014, 71-110.

Stöllner 2015/2016: T. Stöllner. Der Mitterberg als Großproduzent für Kupfer in der Bronzezeit. – In: T. Stöllner, K. Oeggl (Hgg). Bergauf Bergab: 10.000 Jahre Bergbau in den Ostalpen. Bochum/Bregenz, 2015/2016, 175-185.

Stöllner 2015: Th. Stöllner. Humans approach to resources: Old World mining between technological innovations, social change and economical structures. A key note lecture. – In: A. Hauptmann, D. Modarressi-Tehrani (eds.). Archaeometallurgy in Europe III. Proceedings of the 3rd International Conference Deutsches Bergbau-Museum Bochum 2011. Der Anschnitt, Beiheft 27, Bochum, 2015, 63-82.

Stöllner 2016: Th. Stöllner. The Beginnings of Social Inequality: Consumer and Producer Perspectives from Transcaucasia in the 4th and the 3rd Millennia BC. – In: M. Bartelheim, B. Horeijs, R. Krauss (Hrsg.). Von Baden bis Troia. Ressourcennutzung, Metallurgie und Wissenstransfer. Eine Jubiläumsschrift für Ernst Pernicka. Oriental and European Archaeology, Volume 3. Rahden/Leidorf, 2016, 209-234.

Stöllner 2017: Th. Stöllner. The ritual interplay: Gold mining practice in the late 4th and early 3rd millenium BC. Festschrift für Claus von Carnap (in press 2017).

Stöllner et al. 2011: Th. Stöllner, Z. Samaschev, S. Berdenov, J. Cierny, M. Doll, J. Garner, A. Gontscharov, A. Gorelik, A. Hauptmann, R. Herd, G. Kusch, V. Merz, T. Riese, B. Sikorski, B. Zickgraf. Tin from

Kazakhstan – Steppe Tin for the West? – In: Ü. Yalçın (ed.). Anatolian Metal, V. Der Anschnitt, Beiheft 24. Bochum, 2011, 231-251.

Stöllner et al. 2016: Th. Stöllner, C. V. Rüden, E. Hanning, J. Lutz, S. Kluwe. The Enmeshment of Eastern Alpine Mining Communities in the Bronze Age. From Economic Networks to Communities of Practice. – In: G. Körlin, M. Prange, Th. Stöllner, Ü. Yalçın (eds.). From Bright Ores to Shiny Metals. Festschrift for Andreas Hauptmann on the occasion of 40 Years Research in Archaeometallurgy and Archaeometry. Der Anschnitt, Beiheft 29. Bochum, 2016, 75-107.

Stöllner, Gambashidze 2011: T. Stöllner, I. Gambashidze. Gold in Georgia II: The oldest gold mine in the world. - In: Ü. Yalçın (ed.). Anatolian Metal, V (=Der Anschnitt, Beiheft 24). Bochum, 2011, 187-199.

Stoyanov 2012: T. Stoyanov. Sinope as a trade and cultural agent in Thrace of Classical and Early Hellenistic Times – In: D. Kassb Tezgör (ed.) Sinope. The Results of fifteen Years of Research. International Symposium, Sinop 7-9 May 2009. Leiden, Boston, 2012, 405-428, 557-558.

Stoyanov, Nikov 1997: T. Stoyanov, K. Nikov. Rescue Trench Excavations of the Early Iron Age Settlement and Sanctuary Near the Village of Rogozinovo, Harmanli district (preliminary report). – Maritsa Project. Vol.1. Rescue Archaeological Excavations along the Maritsa motorway. Sofia, 1997, 167-238.

Strahm 1994: C. Strahm. Die Anfänge der Metallurgie in Mitteleuropa. – Helvetia Archaeologica, 25, 1994, 2-39.

Strahm 2002: Ch. Strahm. Tradition und Wandel der sozialen Strukturen vom 3. zum 2. vorchristlichen Jahrtausend. – In: J. Müller (ed.), Soziochronologische Studien zum Jung- und Spätneolithikum im Mittelelbe-Saale-Gebiet (4100-2700 v. Chr.). Vorgeschichtliche Forschungen 21, Rahden, p. 175-194.

Sutzu 1883: M. Sutzu. Tesaurul de la Turnu Măgurele. – Revista pentru istorie, arheologie şi filologie, 1, 1883, 1-16.

Ţârlea et al. 2009: A. Ţârlea, M. Florea, G. Niculescu. At the end of the line: two „Ösenring" hoards from Romania. – Analele Banatului, 17, 2009, 307-335.

Ţârlea, Popescu 2010: A. Ţârlea, A. D. Popescu. L'arte dell'oro e dell'argento in Romania. Età del Bronzo e primaetà del Ferro. – In: E. Oberländer-Târnoveanu, L. Ungaro (eds.). Ori antici della Romania. Prima e dopo Traiano. Milano, 2010, 47-52.

Tasić 1984: N. Tasić. Die Vatin-Kultur. - In: N. Tasić (Ed.). Kulturen der Fruhbronzenzeit das Karpatenbeckens und Nordbalkans. Beograd: Balkanološki institut SANU, 1984, 59-81.

Tasić 2001: N. Tasić. The Problem of the Belegiš (Belegiš-Cruceni, Belegiš-Bobda) Culture. Genesis, duration and periodisation. – In: F. Drasovan (Ed.). Festschrift fur Gheorghe Lazarovici. Timisoara, Muzeul Banatului, 2001, 311-321.

Tatu 1992: M. Tatu. Cassiterite-bearing greisens in the highis¸ granitoids. – Romanian Journal of Mineralogy, 75-76, 1992, 45-55.

Taylor 1983: J.W. Taylor. Erzgebirge tin: A closer look. – Oxford Journal of Archaeology, 2, 1983, 295–298.

Tcherkezova et al. 2014: E. Tcherkezova, H. Popov, A. Jockenhövel. LiDAR-Daten zur Unterstützung der montanarchäologischen Untersuchungen am spätbronzezeitlichen Goldbergwerk Ada Tepe, Rhodopen/Südostbulgarien. – In: ArchaeoMontan 2013. Dresden, 2014, 209-223.

Thomas 2015/2016: P. Thomas. Holz im bronzezeitlichen Bergbau der Ostalpen- In: T. Stöllner, K. Oeggl (Hgg). Bergauf Bergab: 10.000 Jahre Bergbau in den Ostalpen. Bochum/Bregenz, 2015/2016, 247-253.

Thomas 2017: P. Thomas. Studien zu den bronzezeitlichen Bergbauhölzern im Mitterberger Gebiet. Mitterberg-Forschung 1. Der Anschnitt Beiheft, Bochum (in print).

Thorndycraft et al. 1999: V.R. Thorndycraft, D. Pirrie, A. Brown. Tracing the record of early alluvial tin mining on Dartmoor, – UK. Geological Society, London, Special Publications, 165, 1999, 91-102.

Thorndycraft et al. 2004: V.R. Thorndycraft, D. Pirrie, A. Brown. Alluvial records of medieval and prehistoric tin mining on Dartmoor, southwest England. – Geoarchaeology, 19, 2004, 219-236.

Thuc. Thucydides. Historiae (= Тукидид. История на Пелопонеската война [прев. М. Мирчев]. С., 1979; Thucydides. History of the Peloponnesian War [transl. Ch. F. Smith]. In: The Loeb Classical Library, T. 1-4, London 1958).

Todorova 1983: H. Todorova. Ausgrabungen in Durankulak, Bezirk Tolbuchin (Bulgarien), in der Periode 1975-1981. Nachrichten aus Niedersachens Urgeschichte, 1983, 52, 77-89.

Todorova 1995: H. Todorova. Die Anfänge der Metallurgie an der westlichen Schwarzmeerküste. – In: A. Hauptmann, E. Pernicka, T. Rehren, Ü. Yalçin (Hgg.). The beginnings of metallurgy. Proceedings of the International Conference „The beginnings of metallurgy" (=Der Anschnitt, Beiheft 9). Bochum, 1995, 237-246.

Todorova 1999: H. Todorova. Die Anfange der Metallurgie an der Westlichenschwarzmeerkunste. – In: The Begining of Metallurgy. (= Der Anschnitt, 9). Bohum, 1999, 237-246.

Todorova 2002: H. Todorova. Die Sozialstruktur im Licht der Auswertungsergebnisse, in: H. Todorova (Hg.). Durankulak, Bd. 2: Die prähistorischen Gräberfelder von Durankulak. Teil 1. Sofia, 2002, 267-277.

Todorova et al. 2002: H. Todorova, T. Dimov, J. Bojadziev, M. Avramova, I. Vajsov, K. Dimitrov. Durankulak, Bd. II, Teil 2. Katalog der prähistorischen Gräberfelder von Durankulak. Sofia, 2002.

Tončeva 1977: G. Tončeva. Fouilles d'un necropole et d'un site de age du bronze recent du village Yagnilo, dep. de Varna. – Thracia, 4, 1977, 147-164.

Tončeva 1980: G. Tončeva. Necropole tumulaire pres du village Belogradec du VIIe s. av. n. epe. – Thracia, V, Serdicae, 1980, 5-52.

Tonkov et al. 2008: S. Tonkov, E. Bozhilova, E. Marinova, H. Jungner. History of vegetation and landscape during the last 4000 years in the area of Straldzha mire (SE Bulgaria). – Phytologia Balcanica, 14, 2008, 185-191.

Tonkov et al. 2013: S. Tonkov, E. Bozhilova, G. Possnert. Postglacial vegetation history as recorded from the subalpine Lake Ribno (NW RilaMts), Bulgaria – Central European Journal of Biology, 8/1, 2013, 64-77.

Tonkov et al. 2014a: S. Tonkov, E. Marinova, M. Filipova-Marinova, E. Bozhilova. Holocene palaeoecology and human-environmental interactions at the coastal Black Sea Lake Durankulak, northeastern Bulgaria. – Quaternary International, 2014, 277-286.

Tonkov et al. 2014b: S. Tonkov, E. Bozhilova, G. Possnert. Postglacial vegetation history as recorded from the subalpine Lake Ribno (NW Rila Mts), Bulgaria. – Central European Journal of Biology, 8, part 1, 2013, 64-77.

Tonkova 2008: M. Tonkova. Archaeological evidence for the exploitation of gold ore deposits at the villages of Kolio Marinovo (Sarnena Gora Mountain) and Babyak (western Rhodopes) in antiquity. – In: R. I. Kostov. B. Gaydarska, M. Gurova (eds.). Geoarchaeology and Archaeomineralogy. Proceedings of the International Conference, 29-30 October 2008, Sofia 2008, 266-270.

Tsintsov 1992: Z. Tsintsov. Unique finds of golden articles in alluvial placers. – Compt. Rend. Acad. Bulg. Sci., 45, 6, 1992, 59-61.

Tsintsov 2000: Z. Tsintsov. Unique finds of golden articles in alluvial placers in Bulgaria. – Japanese Magazine of Mineralogical and Petrological Sciences, 29, 2, 2000, 52-58.

Tsintsov 2005: Z. Tsintsov. Gold artefacts from the alluvial sediments of Bulgaria – indicators for gold mining and metallurgy during the

Bronze Age – In: Proc. Anniversary Intern. Scientific Conference „80 Years Bulgarian Geological Society", 17-18, November 2005. Sofia, 2005, 217-220.

Tufnell, Ward 1966: O. Tufnell, W. A. Ward. Relations between Byblos, Egypt and Mesopotamia at the end of the third millennium B.C. A study of the Montet jar. – Syria: revue d'art oriental et d'archéologie, 43, 1966, 165-241.

Uhnér 2012: C. Uhnér. Society and Power: Political Economy in Bronze Age Tell-Building Communities. – In: M. Jaeger, J. Czebreszuk, K. P. Fischl (eds.). Enclosed Space – Open Society. Contact and Exchange in the Context of Bronze Age Fortified Settlements in Central Europe. (=Studien zur Archäologie Ostmitteleuropas/Studia nad Pradziejami Europy Środkowej, 9). Poznań, Bonn 2012.

Ulanici 1976: A. Ulanici. Noi cercetări arheologice la Braneț. – Cercetări Arheologice, 2, 1976, 33-72.

Unger 1987: H. J. Unger. Das Pangaion, ein altes Bergbauzentrum in Ostmakedonien – Prähistorische Zeitschrift, 62, 1987, 87-112.

Uşurelu 2012: E. Uşurelu. Apariția și evoluția așa-numitelor „Sape" în epoca bronzului din Europa de est / Entstehung und Entwicklung der sog. „Hacken" in der Bronzezeit Osteuropas. – Revista Arheologică, 8, 1/2, 2012, 50-57.

Valla 2007: M. Valla. A Late Bronze Age Cemetery in Faia Petra, East of the Middle Strymon Valley. – In: H. Todorova, M. Stefanovich, G. Ivanov (eds.). The Struma/Strymon River Valley in Prehistory. In the Steps of James Harvey Gaul. Vol. 2. Sofia, 2007, 359-372.

Varberg et al. 2016: J. Varberg, B. Gratuze, F. Kaul, A., Hansen, M. Rotea, M. Wittenberger. Mesopotamian glass from Late Bronze Age Egypt, Romania, Germany, and Denmark. – Journal of Archaeological Science, 74, 2016, 184-194.

Vasileva 2004: M. Vasileva. Early Bronze Age Gold Find in the Central Balkan Mountains. – Archaeologia Bulgarica, VIII/3, 2004, 9-20.

Vasileva 2017: Z. Vasileva. The Early Bronze Age Rings of Type Leukas – New Considerations Regarding their Origin, Distribution and Function. – Archaeologia Bulgarica, XXI, 1, 2017, 1-13.

Vasiliu 2007: I. Vasiliu. Noi informații privind epoca bronzului în nordul Dobrogei. – Peuce S.N., 5, 2007, 113-138.

Vavelidis, Andreou 2008: M. Vavelidis, S. Andreou. Gold and Gold Working in Late Bronze Age Northern Greece. – Naturwissenschaften, 95, H. 4, 2008, 361-366.

Venedikov 1987: I. Venedikov. The Vulchetrun Treasure.Sofia, 1987.

Vladár 1977: J. Vladár. Zur Problematik der befestigten Siedlungen der ausgehenden älteren Bronzezeit in der Slowakei. – In: O.-H. Frey (ed.). Festschrift zum 50 jährigen Bestehen des Vorgeschichtlichen Seminars Marburg. (=Marburger Studien zur Vor- und Frühgeschichte. 1). Gladenbach, 1977, 175-192.

Vulpe 1970: A. Vulpe. Die Äxte und Beile in Rumänien I & II (=Prähistorische Bronzefunde, Abt. 9, Bde. 2 & 5). München, 1970.

Vulpe 1974: A. Vulpe. Probleme actuale privind metalurgia aramei și a bronzului în epoca bronzului în România. – Revista de Istorie, 27/2, 1974, 243-255.

Vulpe 1995: A. Vulpe. Der Schatz von Perșinari in Südrumänien, – In: A. Jockenhövel (ed.). Festschrift für Hermann Müller-Karpe zum 70. Geburtstag, Bonn, 1995, 43-62.

Vulpe 1997: A. Vulpe. Tezaurul de la Perșinari. O nouă prezentare. – Cultură și Civilizație la Dunărea de Jos 15, 1997, 265-301.

Vulpe 2010: Al. Vulpe. Epoca bronzului. - In: M. Petrescu-Dîmbovița, A. Vulpe (eds.), Istoria românilor I. Moștenirea timpurilor îndepărtate, București, 2010, 209-232.

Vulpe, Mihăilescu-Bîrliba 1985: A. Vulpe, V. Mihăilescu-Bîrliba. Der Goldschatz von Rădeni, Jud Neamț, in der Westmoldau, Rumänien - Prähistorische Zeitschrift, 60, 1985, 47-69.

Wagner, Weisgerber 1988: G. Wagner, G. Weisgerber (Hgg.). Antike Edel- und Buntmetallgewinnung auf Thasos (=Der Anschnitt, Beiheft 6). Bochum, 1988.

Wanner et al. 2008: H. Wanner, J. Beer, J. Bütikofer, T. Crowley, U.Cubasch, J. Flückiger, H. Goosse, M. Grosjean, F. Joos, J. Kaplan, M. Küttel, S. Müller, I. C. Prentice, O. Solomina, T. Stocker, P. Tarasov, M. Wagner, M. Widmann. Mid- to Late Holocene climate change: an overview. – Quaternary Science Reviews, 27, 2008, 1791-1828.

Wanzek 1989: B. Wanzek. Die Gußmodelle für Tüllenbeile im südöstlichen Europa (=Universitätsforschungen zur prähistorischen Archäologie, Bd. 2). Bonn, 1989.

Wardle 1980: K. A. Wardle. Excavations at Assiros, 1975 – 9. A Settlement Site in Central Macedonia and its Significance for the Prehistory of South-East Europe. – The Annual of the British School at Athens, 75, 1980, 229-267.

Wardle, Wardle 2001: K. Wardle, D. Wardle. Metal Working in Late Bronze Age Central Macedonia – Το Αρχαιολογικό Έργο στη Μακεδονία και Θράκη, 13, 1999 (2001), 29-48.

Wardle, Wardle 2007: K. A. Wardle, D. Wardle. Assiros Toumba. A brief history of the settlement- In: H. Todorova, M. Stefanovich, G. Ivanov (eds.). The Struma/Strymon River Valley in Prehistory. In the Steps of James Harvey Gaul. Vol. 2. Sofia, 2007, 451-479.

Weisgerber 1991: G. Weisgerber. Bergbau im alten Ägypten. Das Altertum 37/3, 1991, 140-154.

Weisgerber et al. 1999: G. Weisgerber, R. Slotta, J. Weiner (eds.). 5000 Jahre Feuersteinbergbau. Die Suche nach dem Stahl der Steinzeit. Ausstellungskatalog. Veröffent. Deutsches Bergbau-Museum 22, 77, Bochum, 1999.

Weisgerber et al. 2008: G. Weisgerber, J. Cierny, Ch. Koukouli-Chrysanthaki. Zu paläolithischer Gewinnung roter Farbmineralien auf der Insel Thasos. – In: Ü. Yalçın (ed.). Anatolian Metal IV. Der Anschnitt Beiheft 21. Bochum, 2008, 179-190.

Weisgerber, Pernicka 1995: G. Weisgerber, E. Pernicka. Ore Mining in Prehistoric Europe: An Overview. – In: G. Morteani, J. Northover (Hgg.). Prehistoric Gold in Europe. Mines, Metallurgy and Manufacture. Dordrecht/Boston, 1995, 159-183.

Wesse 1990: A. Wesse. Die Ärmchenbeile der Alten Welt. Ein Beitrag zum Beginn des Eisenzeit im Östlichen Mitteleuropa. (Universitätsforschungen zur Prähistorischen Archäologie, 3). Bonn, 1990.

Wilke 1929: G. Wilke. Vâlci-Trân. – In: M. Ebert (Hg.). Reallexikon der Vorgeschichte, Bd. XIV. Berlin, 1929, 227 f.

Woltermann 2016: G. Woltermann. Die prähistorischen Bernsteinartefakte aus Deutschland vom Paläolithikum bis zur Bronzezeit. Methodische Forschungen zu Lagerstättengenese, Distributionsstrukturen und sozioökonomischem Kontext (=Universitätsforschungen zur prähistorischen Archäologie, Bd. 290). Bonn, 2016.

Woolley 1934: L. Woolley. The royal cemetery: a report on the predynastic and Sargonid graves excavated between 1926 and 1931. Text and plates (=Ur excavations, Bd. 2). London, 1934.

Xen. Xenophon. Hellenica [transl. C. L.Brownson,]. In. The Loeb Classical Library. T. 1-2, London 1919-1921.

Yalçın et al. 2005: Ü. Yalçın, C. Pulak und R. Slotta (eds.). Das Schiff von Uluburun: Welthandel vor 3.000 Jahren. Katalog der Ausstellung des Deutschen Bergbau-museums Bochum vom 15. Juli 2005 bis 16. Juli 2006. Bochum, 2005.

Yalcin et al. 2005: Ü. Yalcin, C. Pulak, R. Slotta. Das Schiff von Uluburun – Welthandel vor 3000 Jahren. Bochum, 2005.

Yamazaki et al. 2013: E. Yamazaki, S. Nakai, T. Yokoyama, S. Ishihara, H. Tang. Tin isotope analysis of cassiterites from southeastern and eastern Asia. Geochemical Journal, 47, 2013, 21-35.

Yener et al. 2015: K. A. Yener, F. Kulakoglu, E. Yazgan, R. Kontani, Y. S. Hayakawa, J. W. Lehner, G. Dardeniz, G. Öztürk, M. Johnson, E. Kaptan, A. Hacar. New tin mines and production sites near Kültepe in Turkey. A third-millennium BC highland production model. – Antiquity, 89/345, 2015, 596-612.

Zaharia 1959: E. Zaharia. Die Lockenringe von Sărata-Monteoru und ihre typologischen und chronologischen Beziehungen. – Dacia N.S, 3, 1959, 103-134.

Zaharia 1990: E. Zaharia. La culture Monteoru. Sa deuxieme étape de développement a la lumiere des fouilles de Sărata Monteoru (dep. de Buzău). - Dacia N.S., XXXIV, 1990, 23-52.

Zhelev, Hasson 2002: D. Zhelev, S. Hasson. Geology of Khan Krum deposit – Bulgarian Geological Society, Annual Scientific Conference, Sofia, 21-22 November 2002, 2002, 58-59.

Zschocke, Preuschen 1932: K. Zschocke, E. Preuschen. Das urzeitliche Bergbaugebiet von Mühlbach-Bischofshofen. Anthropologische Gesellschaft. Wien, 1932.

Andreou, Kotsakis 1997: Σ. Ανδρέου, Κ. Κωτσάκης. Η προϊστορική Τούμπα της Θεσσαλονίκης. Παλιά και νέα ερωτήματα – Το Αρχαιολογικό Έργο στη Μακεδονία και Θράκη, 10Α, 1996 (1997), 369-387.

Baziou-Efstathiou 1991: Α. Μπάτζιου-Ευσταθίου. Μυκηναϊκά από τη Νέα Ιωνία Βόλου – Αρχαιολογικόν Δελτίον, 40Α', 1985 (1991), 17-71.

Grammenos 1979: Δ. Γραμμένος, Τύμβοι της Ύστερης Εποχής Χαλκού και άλλες αρχαιότητες στην περιοχή του Νευροκοπίου Δράμας – Β: Αρχαιολογική Εφημερίς, 1979, 26-71.

Karamitrou-Mentessidi 2013: Γ. Καραμήτρου-Μεντεσίδη. Αιανή, Βασιλική Νεκρόπολη: Η έρευνα σε «μυκηναϊκές», αρχαϊκές, κλασικές, ελληνιστικές ταφές – Το Αρχαιολογικό Έργο στην Άνω Μακεδονία, 2, 2011 (2013), 84-153.

Koukouli-Chrusanthaki 1992: Χ. Κουκούλη-Χρυσανθάκη. Πρωτοϊστορική Θάσος. Τα νεκροταφεία του οικισμού Καστρι. Μέρος Α-Γ (Αθήνα 1992).

Mavroidi et al. 2006: Ι. Μαυροειδή, Σ. Ανδρέου, Μ. Βαβελίδης. Μεταλλικά αντικείμενα και μεταλλοτεχνικές δραστηριότητες κατά την Εποχή του Χαλκού στην Τούμπα Θεσσαλονίκης – Το Αρχαιολογικό Έργο στη Μακεδονία και Θράκη, 18, 2004 (2006), 315-328.

Theocharis, Theochari 1970: Δ. Θεοχάρης, Μ. Θεοχάρη. Εκ του νεκροταφείου της Ιωλκού – Αρχαιολογικά Ανάλεκτα εξ Αθηνών, 3, 1970, 198-203.

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Бронзова „рогата“ рапира от Овча могила, Велико Търновско. XV-XIV в. пр. Хр.
РИМ Велико Търново

Mycenaean-type bronze rapier with horned handguard from Ovcha Mogila, Veliko Tarnovo region, 15th/14th cent. BC.
RMH Veliko Tarnovo

AUTHORS OF ARTICLES

National Archaeological Institute and Museum – Bulgarian Academy of Sciences
2 Saborna str., 1000 Sofia
www.naim.bg

Borislav Borislavov
b_borislavov@hotmail.com

Diana Dimitrova
kittemp@abv.bg

Georgi Ivanov
givanov@naim.bg

Georgi Nekhrizov
nehrizov@gmail.com

Hristo Popov
hristo.popov@naim.bg

Kalin Dimitrov
kalin.d@abv.bg

Kamen Boyadzhiev
kamen.boyadzhiev@naim.bg

Krassimir Nikov
k_nikov29@yahoo.com

Krastyu Chukalev
chukalev@naim.bg

Lyuben Leshtakov
l_leschtakow@abv.bg

Petya Penkova
petyapenkova@gmail.com

Plamen Georgiev
pl_georgiev@hotmail.com

Stanimira Taneva
stanimira.taneva@gmail.com

Stefan Alexandrov
stefanalexandrov@abv.bg

Tanya Hristova
tnaidenova@abv.bg

Vassil Nikolov
vassil.nikolov@abv.bg

Viktoria Petrova
viki5rova@yahoo.com

Yana Dimitrova
yanadimitr@yahoo.com

Yavor Boyadzhiev
yavordb@abv.bg

Institute of Art Studies – Bulgarian Academy of Sciences
21 Krakra str., 1504 Sofia
www.artstudies.bg

Ruslan Stoychev
ruslan.stoychev@gmail.com

Institute of Mineralogy and Crystallography – Bulgarian Academy of Sciences
Bl. 107 Akad. Georgi Bonchev str., 1113 Sofia
http://www.imc.bas.bg

† Zdravko Tsintsov

Institute for Balkan Studies and Centre of Thracology – Bulgarian Academy of Sciences
45 Moskovska str., 1000 Sofia
www.balkanstudies.bg

Rumyana Georgieva
rumyana_g@abv.bg

Institute of Oriental and European Archaeology (OREA) – Austrian Academy of Sciences
11-13 Hollandstr., 1020 Vienna
www.orea.oeaw.ac.at

Barbara Horejs
barbara.horejs@oeaw.ac.at

Reinhard Jung
Reinhard.Jung@oeaw.ac.at

„Vasile Pârvan" Institute of Archaeology – Romanian Academy of Sciences
11 Henri Coandă str., 010667 Bucharest
www.instarhparvan.ro

Anca-Diana Popescu
ancadiana_popescu@yahoo.com

Radu Băjenaru
radu.bajenaru@gmail.com

Archaeological Institute, Serbian Academy of Sciences
35/IV Kneza Mihaila str., 11000 Belgrade
www.ai.ac.rs

Alexander Bulatović
abulatovic3@gmail.com

Voislav Filipovich
vfilipov1@gmail.com

Royal Belgian Institute of Natural Sciences, Brussels
29 Vautierstraat, 1000 Brussels
www.naturalsciences.be

Bea De Cupere
bdecupere@naturalsciences.be

Sofia University "St. Kliment Ohridski"
15 Tsar Osvoboditel blvd, 1504 Sofia
www.uni-sofia.bg

Antoaneta Andonova
andonova_a@mail.bg

Julia Tzvetkova
tzvetkova09@gmail.com

Krassimir Leshtakov
leshtakov@abv.bg

Petar Minkov
petraki_orlovski@abv.bg

Totko Stoyanov
totko.stoyanov@gmail.com

Zheni Vasileva
vassileva.jeni@gmail.com

New Bulgarian University
21 Montevideo str., 1618 Sofia
www.nbu.bg

Bogdan Athanassov
bo.atana@nbu.bg

Maya Vassileva
lavagetas@hotmail.com

Heidelberg University
Im Neuenheimer Feld 234-236, 69120 Heidelberg
www.uni-heidelberg.de

Bianka Nessel
bianka.nessel@geow.uni-heidelberg.de

Heidelberg University
Im Neuenheimer Feld 234-236, 69120 Heidelberg
www.uni-heidelberg.de

Curt-Engelhorn-Zentrum Archäometrie, Mannheim
D5, Museum Weltkulturen, 68159 Mannheim

www.cez-archaeometrie.de

Ernst Pernicka
Ernst.Pernicka@geow.uni-heidelberg.de
ernst.pernicka@cez-archaeometrie.de

Westfälische Wilhelms-Universität
2 Schlossplatz, 48147 Münster
www.uni-muenster.de

Am Biederlackturm 7
48282 Emsdetten
Albrecht Jockenhövel
jockenh@arcor.de

Eberhard Karls Tübingen University
1 Burgsteige, D-72070 Tübingen
www.uni-tuebingen.de

Raiko Krauß
raiko.krauss@uni-tuebingen.de

Ludwig-Maximilians-Universität München
Schellingstraße 12, 80799 München
www.dasgehirn.info

Max-Planck-Harvard Research Center for the Archaeoscience of the Ancient Mediterranean
Kahlaische Str. 10, 07745 Jena
www.sohp.fas.harvard.edu
Philipp Stockhammer
philipp.stockhammer@lmu.de

Institute for Archaeological Science, Ruhr University – Bochum
German Mining Museum – Bochum
Am Bergbaumuseum 31, D-44791 Bochum
www.ruhr-uni-bochum.de
www.bergbaumuseum.de
Thomas Stöllner
thomas.stoellner@bergbaumuseum.de

Vienna Institute for Archaeological Science, Vienna University
1 Franz Klein-Gasse str., A-1190 Wien
www.univie.ac.at
Mathias Mehofer
mathias.mehofer@univie.ac.at

Charles University Prague
Celetná 20, CZ-110 00 Prague 1
www.cuni.cz
Peter Pavúk
peter.pavuk@ff.cuni.cz

Brooklyn College, City University of New York
2900 Bedford Avenue, Brooklyn, 11210 NY
www.brooklyn.cuny.edu
Arthur Bankoff
abankoff@brooklyn.cuny.edu
Wayne Powell
WPowell@brooklyn.cuny.edu

Juniata College, Pennsylvania
1700 Moore St, Huntingdon, 16652 PA
www.juniata.edu
Ryan Mathur
mathurr@juniata.edu

State Office for Cultural Heritage Baden-Württemberg
9 Fischersteig, 78343 Gaienhofen-Hemmenhofen
www.denkmalpflege-bw.de
Elena Marinova
elena_marinova@gmx.de

National Museum of History – Sofia
16 Vitoshko lale str., 1618 Sofia
www.historymuseum.org
Lyubava Konova
l_konova@mail.bg
Martin Hristov
martohristov@yahoo.com

National History Museum of Romania – Bucharest
12 Calea Victoriei str., 030026 Bucureşti, sector 3
www.mnir.ro
Rodica Oanță-Marghitu
rodicamarghitu@yahoo.com

Regional Museum of History Blagoevgrad
1 Rila str., Varosha h. e., 2700 Blagoevgrad
www.museumblg.bg
Ilia Kulov
iliakulov@yahoo.com

Regional Museum of History Haskovo
19 Svoboda sq., 6300 Haskovo
www.haskovomuseum.com
Stanislav Iliev
utah1912@abv.bg

Museum of History Karnobat
4 D. Polyanov str., 8400 Karnobat
www.museology.bg/bg/museums/i58/
Rositsa Hristova
rositsa11@yahoo.com

Regional Museum of History Lovech
1 Todor Kirkov sq., Varosha h.e., 5500 Lovech
www.lovech-museum.bg
Maya Valentinova
maiadimitrova@hotmail.com

Regional Museum of Archaeology Plovdiv
Saedinenie 1 sq., 4000 Plovdiv
www.archaeologicalmuseumplovdiv.org
Elena Bozhinova
elena.bozhinova@gmail.com

Regional Museum of History Razgrad
70 Aprilsko vastanie blvd, 7200 Razgrad
www.abritvs.atspace.com
Dilen Dilov
dilen@mail.bg

Regional Museum of History Smolyan
3 Dicho Petrov str., 4700 Smolyan
www.museumsmolyan.eu
Damyan Damyanov
ddam_sm@abv.bg

Museum of History Svishtov
6 Klokotnitsa str., p.o. box 123 5250 Svishtov
www.istoricheskimuzei-svishtov.com
Marin Marinov
m_marinov82@abv.bg

Regional Museum of History Yambol
2 Byalo more str., 8600 Yambol
www.yambolmuseum.eu
Ilia Iliev
ilia.krastev.iliev@gmail.com
Stefan Bakardzhiev
st_bakarjiev@abv.bg

Metropolitan Museum New York
1000 5th Avenue, New York 10028 NY
www.metmuseum.org
Morena Stefanova
morena.stefanova@metmuseum.org

American Museum of Natural History
Central Park West at 79th Street, New York, NY 10024-5192
www.amnh.org
Andrea Mason
amason@amnh.org

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Catalogue №

Artefact

Material

Dimensions (L – length; H – height; D – diameter; W – width and weight)

Provenance

Date

Short description

Museum and inventory №

Bibliography

Abbreviation of the annotation author

The annotations of hoards and complexes follow similar structure:

Short description of the complex

Date

Museum

Bibliography

Abbreviation of the annotation author

Catalogue №

Artefact

Material

Dimensions (L – length; H – height; D – diameter; W – width and weight)

Short description

Inventory №

AUTHORS OF ANNOTATIONS AND ABBREVIATED NAMES

National Archaeological Institute and Museum – Bulgarian Academy of Sciences
2 Saborna str., 1000 Sofia
www.naim.bg
Alexey Gotzev – AG
alexaim@abv.bg
Borislav Borislavov – BB
b_borislavov@hotmail.com
Daniela Agre – DA
daniela.agre@abv.bg
Diana Dimitrova – DD
kittemp@abv.bg
Krassimir Nikov – KN
k_nikov29@yahoo.com
Krastyu Chukalev – KC
chukalev@naim.bg
Lyuben Leshtakov – LL
l_leschtakow@abv.bg
Stefan Alexandrov – SA
stanimira.taneva@gmail.com
Stanimira Taneva – ST
stanimira.taneva@gmail.com
Tanya Hristova – TH
tnaidenova@abv.bg
Yana Dimitrova – YD
yanadimitr@yahoo.com

RMH Burgas
69 Slavyanska str., 8000 Burgas
www.burgasmuseums.bg
Miroslav Klasnakov – MK
miro_klasnakov@abv.bg

MEA Elhovo
4 Shipka str., 8700 Elhovo
www.museum-elhovo.com
Hristo Hristov – HH
museum_elhovo@abv.bg

RMH Haskovo
19 Svoboda sq., 6300 Haskovo
www.haskovomuseum.com
Stanislav Iliev – SI
utah1912@abv.bg

RMH Kardzhali
4 Republikanska str., 6600 Kardzhali
www.rim-kardzhali.bg
Daniela Kodzhamanova – DK
daniani5@abv.bg

MH „Iskra" Kazanlak
8 P. R. Slavejkov str., 6100 Kazanlak
www.muzei-kazanlak.org
Dessislava Andreeva – DGA
d. andreeva_@ abv.bg

RMH Lovech
1 Todor Kirkov sq., Varosha h.e., 5500 Lovech
www.lovech-museum.bg
Maya Valentinova – MV
maiadimitrova@hotmail.com

National Museum of History – Sofia
16 Vitoshko lale str., 1618 Sofia
www.historymuseum.org
Martin Hristov – MH
martohristov@yahoo.com

RMH Pleven
3 Stoyan Zaimov str., 5800 Pleven
www.rim-pleven.com
Vladimir Naydenov – VN
vl_naydenov@abv.bg

RMA Plovdiv
1 Saedinenie sq., 4000 Plovdiv
www.archaeologicalmuseumplovdiv.org
Elena Bozhinova – EB
elena.bozhinova@gmail.com
Rositsa Mitkova – RM
rosi.mitkova@gmail.com

RMH Razgrad
70 Aprilsko vastanie blvd, 7200 Razgrad
www.abritvs.atspace.com
Dilen Dilov – DVD
dilen@mail.bg

RMH Ruse
3 Alexander Batenberg, 7000 Ruse
www.museumruse.com
Deyan Dragoev – DYD
dragoev78@yahoo.com

RMH Shumen
17 Slavianski blvd, 9700 Shumen
www.museum-shumen.eu/bg
Ivan Babadzhanov – IB
babadjanov77@abv.bg

RMH Smolyan
3 Dicho Petrov str., 4700 Smolyan
www.museumsmolyan.eu
Damyan Damyanov – DND
ddam_sm@abv.bg

MH Svishtov
6 Klokotnitsa str., p.o. box 123 5250 Svishtov
www.istoricheskimuzei-svishtov.com
Marin Marinov – MM
m_marinov82@abv.bg

RMA Varna
41 Maria Louiza blvd, 9000 Varna
www.archaeo.museumvarna.com
Vladimir Slavchev – VS
vladosl@yahoo.com

RMH Veliko Tarnovo
6 Nikola Pikolo str., 5000 Veliko Tarnovo
www.museumvt.com/bg

Nedko Elenski – NE
diviat@abv.bg

RHM Yambol
2 Byalo more str., 8600 Yambol
www.yambolmuseum.eu
Todor Valchev – TV

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Museum of Ethnography and Archaeology Elhovo

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Dobrinka Kostova

РЕГИОНАЛЕН ИСТОРИЧЕСКИ МУЗЕЙ ГАБРОВО

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Museum of History „Iskra“ Kazanlak

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Kapka Kuzmanova – Director
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Radoslav Gushterakliev

Исторически музей - Нова Загора

Museum of History Nova Zagora

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Regional Museum of History Pernik
Ventsislava Krumova – Director
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Regional Museum of History Pleven
Dr. Volodya Popov – Director
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Regional Museum of Archaeology Plovdiv
Assoc. prof. Dr. Kostadin Kisyov – Director
Elena Bozhinova
Rositsa Mitkova

Museum of Archaeology "Maritsa-Iztok" Radnevo
Plamen Karailiev – Director

Regional Museum of History Razgrad
Ivan Ivanov – Director
Dilen Dilov
Dr. Galena Radoslavova

Regional Museum of History Ruse
Prof. Dr. Nikolay Nenov – Director
Deyan Dragoev
Varbin Varbanov

Museum of History Sevlievo
Nayden Petrov – Director
Nadezhda Boteva

Regional Museum of History Shumen
Daniel Rumenov – Director
Ivan Babadzhanov
Stanimir Stoychev
Yuri Yorgov

Regional Museum of History Sliven
Nikolay Sirakov – Director
Ivan Ivanov

Regional Museum of History Smolyan
Tanya Mareva – Director
Damyan Damyanov

Regional Museum of History Sofia
Dr. Nadezhda Kirova – Director
Dr. Veneta Handzhiiska – Director
Lyuba Dafova

Regional Museum of History Stara Zagora
Petar Kalchev – Director
Maria Kamisheva

Museum of History Svishtov
Ivelina Ivanova – Director
Marin Marinov – MM

Regional Museum of History Varna
Prof. d.hist. sc. Valentin Pletnyov † – Director
Assoc. prof. Igor Lazarenko – Director
Olga Pelevina
Vladimir Slavchev

Regional Museum of History Veliko Tarnovo
Dr. Ivan Tsarov – Director
Miglena Petkova – Vice Direktor
Alexander Chohadzhiev
Nedko Elenski

Regional Museum of History Vidin
Fionera Filipova – Director
Nikolay Kazhashki

Regional Museum of History Vratsa
Georgi Ganetsovski – Director
Nartsis Torbov

Regional Museum of History Yambol
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