

SPONDYLUS SHELL ARTEFACTS IN HAMANGIA CULTURES

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Descoperirea unor piese noi de *Spondylus* în așezarea Hamangia de la Cheia ne-a determinat să reluăm în discuție ipoteze mai vechi privind originea, cronologia, tipologia, funcționalitatea și nu în ultimul rând semnificația acestora. Chiar dacă numărul siturilor Hamangia rămâne, în continuare, foarte mic (sub 20), totuși, prezența pieselor de *Spondylus* atât în așezări cât și în necropole demonstrează clar preferința comunităților Hamangia pentru podoabe tăiate din acestă scoică.

O simplă analiză cronologică și chorologică a descoperirilor indică o repartiție uniformă a lor, indiferent de fază, regiune sau tip de sit. Majoritatea pieselor descoperite în așezări provin din contexte arheologice neprecizate. Singurele informații certe le avem pentru fragmentul de brățară din groapa nr.1 de la Medgidia Satu Nou, mărgelile tubulare și figurina antropomorfă descoperite în locuința L.2 de la Cheia. Cele mai importante date rămân cele care privesc contextul funerar. Dacă pentru necropola de la Cernavoda, informațiile păstrate se rezumă la rapoarte preliminare, monografia necropolei de la Durankulak constituie baza interpretărilor noastre. Din cele 750 morminte Hamangia, 96 morminte conțin podoabe și/sau accesorii vestimentare de *Spondylus*, constituind, până în prezent, cel mai bogat și variat lot de piese *Spondylus* din cultura Hamangia.

Originea obiectelor/materiei prime *Spondylus* a fost mult timp discutată, conturându-se până în prezent două teorii. Deoarece scoica se dezvoltă, astăzi, în stare naturală, pe litoralul stâncos al Mediteranei – la fel ca în perioada neo-eneolitică - majoritatea arheologilor au presupus, încă de acum un secol, proveniența egeo-adriatică. Adepții celei de a doua teorii, pornind mai ales de la frecvența ridicată a descoperirilor din vestul Mării Negre și de la dovezi privind existența, în neo-eneolitic, a unui climat mai cald, au presupus originea locală a speciei. Prezente atât în așezări cât și în necropole, piesele de *Spondylus* folosite de comunitățile Hamangia se încadrează, în general, în tipologia cercului estic, excepție făcând pandantivele antropomorfe.

Valoarea pieselor de Spondylus reiese cel mai bine din context funerar. Asocierea podoabelor de Spondylus cu morminte bogate demonstrează prețuirea de care se bucurau acestea, fiind nu doar elemente decorative la modă, ci și indicii privind statutul superior al posesorului.

The recent archaeological researches done in the settlement of Cheia (Constanța county), situated in Casimcea valley, in the central Dobrujan karstic area have enriched a lot the old impression on the settlements and the economical life of Hamangia communities¹. The new found *Spondylus* items determined us to take into consideration older hypotheses regarding the origin, the cronology, the typology and the functionality, and not least their semnification.

Among these items there is to be noticed an antropomorphic pendant, found inside the destruction level of L.2 house, different from the type already known in the necropolis from Durankulak (VOINEA, NEAGU 2008, p. 15). The item, almost complete, having only the head broken in the past, measures as follows: height = 26 mm, width = 11 mm, depth = 55 mm (pl. 3/1). In the umbilicala area there is a circular perforation (D = 5 mm). On the back side of the figurine, the legs were separated both from the abdomen as well as between them by incised lines. We notice the exquisite finishing of the surfaces, very well polished, the depth and the shape of the profile suggesting the processing of a very large shell. In the settlement of Cheia, there were also found tubular *Spondylus*, beads, together with perforated *Dentalium* shells; a *Spondylus* sample has, at the edge of the cylindrical side two close perforations (D = 1,2 mm, pl. 3/3), used probably to sew the item on a textile support (clothing applied ornament ?).

Even if the number of the sites searched is still very small (under 20), though, the *Spondylus* item presence both in settlements and necropolis shows clearly the preference of the Hamangia communities for ornaments cut in this kind of shell. A simple cronological and chorological analysis of the finds indicates their homogeneous distribution, no matter of the stage, region or site type.

Based only on the seven absolute data, known until now, coming from the settlements Ceamurlia de Jos and Cheia, from Șabla lake and the necropolis from Durankulak, the division into periods of Hamangia culture is the following:

Hamangia I-II: 5250/5200 – 4950/4900 cal.BC.

Hamangia III: 4950/4900 – 4650/4600 cal.BC.

Hamangia IV: 4650/4600 – 4550/4500 cal.BC (BOJADŽIEV 2002, p. 67 – 69; VOINEA, NEAGU 2005 – 2006; 2008, p. 16). As a consequence, the usage of *Spondylus* ornaments by Hamangia communities correspond to a tendency widely spread in SE of Europe, mainly in the first half of the 5th millenium B.C.

Making a synthesis the findings of this type in Hamangia spreading area we notice the following distribution:

¹The archaeological researches in this place, begun in 2001 and still continuing have been published in reports (VOINEA, DOBRINESCU 2002 – 2003; VOINEA *et alii* 2007; VOINEA, NEAGU 2008) and studies (BĂLĂȘESCU, RADU 2002 – 2003; VOINEA, NEAGU 2006; BĂLĂȘESCU 2008; RADU 2008).

Type of the item	Necropolis				Settlements			Casual findings	
	<i>Durankulak</i>	<i>Cernavoda</i>	<i>Mangalia</i>	<i>Limanu</i>	<i>Ceamurlia de Jos</i>	<i>Medgidia Satu Nou</i>	<i>Cheia</i>	<i>Agigea</i>	<i>Palazu Mare</i>
Tubular broods	x	x		X	x		x		x
Discoidal broods	x	x							
Rhomboidal broods	x								
Rectangular narrow perforated small plates	x							x	
Rectangular broad perforated small plates	x								
«L» shaped perforated small plates	x								
Rhomboidal perforated plates	x								
Bracelets	x	x	x	X	x	x		x	x
Rings				X					
Antropomorphic Pandants	x						x		
Perforated valves	x								

Fig. 1 – *Spondylus* items found in Hamangia culture.

The most numerous *Spondylus* items are gathered in the necropolis in Cernavodă (BERCIU 1966, p. 78 - 81), Mangalia (VOLSCHI, IRIMIA 1968, p. 57 - 58), Limanu (VOLSCHI, IRIMIA 1968, p. 81-85) and Durankulak (DURANKULAK 2002). Less items are to be found in settlements, in Ceamurlia de Jos (BERCIU 1966, p. 78), Medgidia - Satu Nou (HAȘOTTI 1987, p. 41; 1997, p. 47), Cheia (VOINEA, NEAGU 2008). The bracelets included in Horia Slobozianu collection come from an uncertain archaeological framework, probably a settlement situated near Agigea¹. For the tomb found by accidentally on Siutghiol - Palazu Mare lake

¹ According H. Slobozianu „a settlement situated even on the itinerary of the railway (Agigea – Eforie)”(SLOBOZIANU 1959, p. 741). E. Comșa „many accidental findings coming no doubt from a necropolis”(COMȘA 1973, p. 64) and according to P. Hașotti come from a destroyed settlement (HAȘOTTI 1997, p. 47).

side, including ceramical items- support small table and one leg fruit bowl – identical with those in Hamangia IV tombs from Durankulak, D. Galbenu mentions also shell ornaments, not specifying the species - „a bracelet, some shell broads” (GALBENU 1971, p. 74, fig 5/p. 81).

Among the *Spondylus* type items identified until now, in Hamangia spreading area, the most frequent are *the tubular broads* found both in settlements and necropolis, often items used for necklaces, single is associated with broads made of *Dentalium*, malachite, marble, lignite, chalcedony, copper and gold. More rarely, they make up bracelets, belts and tiaras. He most beautiful belt, made of 73 *Spondylus* broads of different sizes (length 5 - 18 mm), comes from a man tomb from the necropolis of Durankulak (DURANKULAK 2002, tabl. 203/1 - M.49, Hamangia III). Sometimes, due to their almost identical aspect, the *Dentalium* tubular broads were used together with the *Spondylus* ones to made belts worn both by adults (DURANKULAK 2002, p. 35, tabl. 9/1 – M.114, Hamangia III) and children (DURANKULAK 2002, tabl. 38/10 – M.313, Hamangia IV).

Spondylus tubular broads or/and *Dentalium* ones, used as clothing applied ornaments, seem to underline the specific status of their owner. This way, in the tomb of the young „priestess” from the necropolis of Durankulak, with a rich inventory in idols and ornaments, There were found *Dentalium* tubular broads applied on a shirt (DURANKULAK 2002, tabl. 103/1 – M.609, Hamangia III). The tubular pearl with perforations on the side, found in the L.2 house from Cheia suggests the same usage (pl. 3/3).

Spondylus tubular broads, simple or associated with broads made of other materials (malachite, *Dentalium*), decorated tiaras. Their fashion appeared from the beginning of Hamangia culture (stages I- II), being worn both by men (DURANKULAK 2002, p. 62 – M.631) and women (DURANKULAK 2002, tabl. 113/15 – M.658; tabl. 134/7 – M.793).

Other *Spondylus* broads shapes appear more rhomboidal rarely, making up the same categories of ornaments as the tubular ones: *rhomboidal broads*, together with plates and *Spondylus* tubular broads fixed on tiaras (DURANKULAK 2002, tabl. 86/16 – M.527, Hamangia IV), *discoidal broads* fixed in chains as at Durankulak (DURANKULAK 2002, tabl. 2/4 – M.13, Hamangia III) and Cernavodă (BERCIU 1966, p. 79).

In the 4th stage of Hamangia culture, when the funerary inventory is more diverse and rich, we notice the preference for larger tiaras, made of *small rectangular plates*, perfored on ends (DURANKULAK 2002, tabl. 80/5, 6 - M.263, M. 506). A simple analysis of the illustration for *the bent- shaped pendant* found in Agigea determines us to consider it in the same category of itmes (SLOBOZIANU 1959, p. 737, fig 2/5).

We mention in the men tombs a great variety of *small plates*, broader than the former type, *with rounded edges* (DURANKULAK 2002, tabl. 173/4, 5, 6 - M.1037, Hamangia III; tabl. 189/6 – M.1152, Hamangia IV).

In the 4th stage of Hamangia culture also appear other clothing accessories, destined, probably to enrich the clothes with a high social status. In an infant tomb (*Infans I*), with a very rich inventory (tiara, copper *Glycymeris* bracelets, *Spondylus* rhomboidal pearls necklace) there weere found, near the knees, „two

rhomboidal small plates", of different sizes (L = 20 mm and 40 mm), each of them with a central perforation, probably sewn on clothes (DURANKULAK 2002, p. 53, tabl. 71/8, 9 – M.464). Similar clothes can be found in another rich tomb (with a sceptre), in the neighbourhood: a man having sewn near the knees two „L"-shaped *small plates* with four perforations. The placement of the two tombs and their rich inventory suggests the prestigious clothing practice, no matter age, family status, motivating, probably, the high status of the person (DURANKULAK 2002, tabl. 75/4 – M.461).

Bracelets (pl. 3/4). Following the tubular broads, bracelets represents the most numerous category in Hamangia sites. Often, in the necropolis of Durankulak, on both arms, above the elbow, there was fixed a *Spondylus* bracelet or made of an identical material (*Glycymeris* – M.88, M.464, M.964; marble - M.606), according to the fashion of that time². The majority of their bracelets were stored complete (some with traces of use), unlike the practice of the next period – Varna – when the items were fragmentary, probably for a ritual purpose and deposited partially (CHAPMAN 2003, p. 81; CHAPMAN *et alii* 2008).

Rings (pl. 3/2). We mention for this category a single item found in the necropolis of Limanu (VOLSCHI, IRIMIA 1968, p. 80).

Antropomorphic pendants. In the necropolis of Durankulak the five *Spondylus* antropomorphic pendants were found only in Hamangia III tombs - one in the tombs M.108, M. 609, M. 644 (DURANKULAK 2002, tabl. 2/11, 9/6, 103/7, 111/2) and two in the tombs M.621 (DURANKULAK 2002, p. 62, tabl. 105/17). The items are almost identical: the human silhouette cut in a *Spondylus*, small plate has the three parts –head, body, legs-scantly marked. Their hight varies between 25 mm – 36 mm. We mention these kind of items mostly in the women tombs, only in one situation being stored two pendants in a child tomb. (M.621).

The item from Cheia, even is considered to be of the same sizes, is different from those described previously by the fine workmanship – the surfaces are very well polished, and the anatomic details are marked by fithin incisions. The perforation in the umbilical area can not be found in no *Spondylus*, figurine, the only similar representation being the marble statuette in the necropolis of Cernavoda³. Otherwise, marble copies of *Spondylus* items appear rather frequently in Hamangia spreading area: antropomorphic pendants in the settlement of Ia Ceamurlia de Jos (BERCIU 1966, p. 79) and the necropolis of Cernavoda (BERCIU 1966, p. 100, fig 56/2); bracelets in the necropolis of Mangalia (VOLSCHI, IRIMIA 1968, p. 57), Cernavoda (BERCIU 1966, p. 79, fig. 38/5) and Durankulak (DURANKULAK 2002, tabl. 104/7 – M.606, Hamangia I - II).

Otherwise, this practice can be also found in another eneolithic communities. Among the numerous examples, we mention only some of them: marble beads

² The figurines of the cultural group Szakálhát remember the same fashion: above the forearm there have been shaped in relief two broad strips, representing probably the type of bracelets made of *Spondylus* (HANSEN 2004 – 2005, p. 27). Their tradition eas preserved for a long period as Gumelnița figurine form Căscioarele has on the right arm a bracelet shaped in relief (ANDREESCU 2002, pl. 17/3).

³ Raluca Kogălniceanu, *Some Neolitical tombs found in Hamangia necropolis from Cernavoda in 1962*, paper, session Pontica 2 - 3 October, 2008.

and pendants, dated in Bolintineanu – Boian, stage, from the necropolis Cernica (COMȘA, CANTACUZINO 2001, p. 169), Sultana – Valea Orbului (ȘERBĂNESCU 2002, p. 71) and later ones - Varna II - in the necropolis of Durankulak (DURANKULAK 2002, p. 65 - M.673), marble bracelets in the settlements Vinča (DIMITRIJEVIĆ, TRIPKOVIĆ 2006, p. 246).

Perforated valves. In the woman tomb M.527, Hamangia culture stage IV with a rich inventory including ornaments (rhomboidal, tubular beads and *Spondylus* bracelet, beads made of *Dentalium*, chalcedony, malachite and gold, copper rings), there was found, right near the chest a valve made of *Spondylus*, with four perforations. Similar items appear later on in Varna tombs (DURANKULAK 2002, p. 40, tabl. 20/2, 3 – M.224). The same practice, but using other shellfishes can be found to Boian neighbourhood communities. In the necropolis of Cernica „a special item, reflecting probably a custom related to chastity is represented by an *Ostrea edulis* valve, found on the pubis of the skeleton of a young woman skeleton, of M.43” (COMȘA, CANTACUZINO 2001, p. 171). In the pubian area of some young women skeletons, from the necropolis of Sultana „Valea Orbului”, there was found a „bucklet” (totally - four shells and a clay one). Some authors consider that practice to be an old custom related „*custos virginittatis*” or „it is possible the items to have been part of a belt, and the ornamental buckle made of shell valve to make evident the pubian area or to cover it for pudency.”(ȘERBĂNESCU et alii 2007, p. 351, pl. 69/473 – M.207).

Archaeological framework

The majority of the items found in *settlements* come from unknown archaeological frameworks. The only certain information we have for the bracelet fragment come from the pit nr. 1 from Medgidia Satu Nou, tubular beads and antropomorphic figurine found in the house L.2 from Cheia.

The most important data concern *the funerary framework*. If for the necropolis of Cernavoda, the preserved information represent only preliminary reports, the monograph of Durankulak necropolis represents the basis of our interpretation. Of the 750 Hamangia tombs, 96 of them include ornaments and/or *Spondylus* made clothing accessories, considered to be the richest and the most varied group of *Spondylos* items belonging to Hamangia culture.

Before the presentation of the distribution of the items in tombs related to stages, sex and age, we consider necessary some methodological explanations. A simple analysis of the catalogue makes difficult the understanding of the criteria for a cronological delimitation of the tombs. This way, the funerary complexes, included in Hamangia I-II stages, never clearly defined does not present different artefacts compared to those dated in the stage Hamangia III (especially the ceramics). The plan of the necropolis, as well does not indicates a a clear topographical delimitation among the three Hamangia stages.

As much difficult is the cronological delimitation between the stages Hamangia IV and Varna I, many tombs being published Hamangia IV/Varna I. Not having the possibility of a direct analysis of the ceramic material, that used for this delimitation, we have considered conventionally as belonging to the last stage, together with those dated Hamangia IVa si IVb.

Major difficulties appear also to identify the age and sex of the defunct. The differences between the antropological and *archaeological* determinations are more than 100 of the total number of 750 Hamangia tombs. Not insisting upon the errors of archaeological interpretation of the funerary findings, we underline the items considered by the contemporary culture accessories specific to *feminine* or *masculine*, had, for the Neolithic communities some other value. *The fashion* of that time does not illustrate, as it is usually today, only the aesthetic aspect. The bracelets, the necklaces or the tiaras undelined the high social status of their owner-man or woman, adult or child. The items with a religious value or/and social symbols, appear in all the tombs, without representing *feminine* accessories as they were interpreted many times (COMȘA 1973, p. 62). Taking into consideration the above data, we always made our choice for the antropological determinations.

The cronological distribution of Hamangia tombs appears as follows: 196 Hamangia I – II tombs, 390 Hamangia III tombs, 164 morminte Hamangia IV/Varna I tombs. Tombs with Spondylus items (perls, bracelets, small plates, and more rarely, antropomorphic pendants) appear in all the stages of Hamangia culture: 21 Hamangia I – II tombs, two Hamangia I – III tombs, 31 Hamangia III tombs and 41 Hamangia IV tombs.

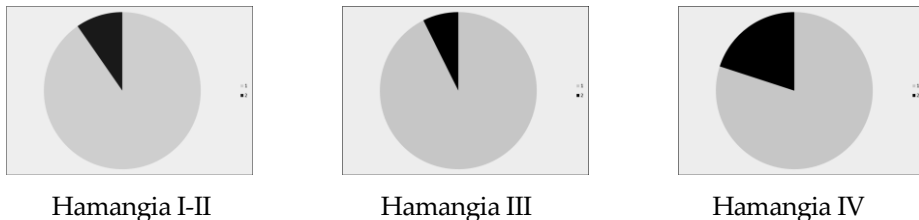


Fig. 2 - The cronological distribution of the tombs with Spondylus items from the necropolis of Durankulak.

Comparing the frequency on stages, we notice a percentage increase in the last stage (fig. 2). Otherwise, this tendency continues during the „Varna period” as well.

Studying *the area distribution* of the tombs with *Spondylus items*, we notice a group of those in the stages Hamangia I-II și Hamangia III, suggesting, once again, the shallowness of the cronological delimitation suggested by H. Todorova (pl. 1)⁴.

There can be notice on the plan of the necropolis a group of Hamangia IV tombs with a rich inventory, silmilar , including *Spondylus* items (M.450, M.454,

⁴ Taking into consideration the original plan of the necropola from Durankulak, we have selected groups of tombs with Spondylus made artefacts in the plates pl. 1 (Hamangia I-II and III) and pl. 2 (Hamangia IV). We mention that we used different symbols from those used on the initial plan, as our intention was to demonstrate the cronological relationships among the tombs with artefacts of the same type. (Hamangia I-II and III) and the repartition of the tiaras related to age/sex in the stage Hamangia IV, according to the antropological determinations (not archaeological as appear on the initial plan).

M.460, M.461, M.463, M.464, M.470, M.490, M.527, M.554), gathered in the SV area of the necropolis (pl. 2). The presence of the ceramic imports (vessels painted with Marica/Boian type graphite – M.461, M.527) in the same group we consider that proves more than the choice of the new fashion. Otherwise, other elements as well appearing in Hamangia IV stage (stone arrangements, new ceramic pieces, sceptres, rings with copper rings on the teeth) reflects the penetration of some foreign groups of Southern origin.⁵

The statistical analysis of the *Spondylus* items distribution in the tombs of Hamangia tombs from Durankulak, related to age/sex of the defunct appears as follows:

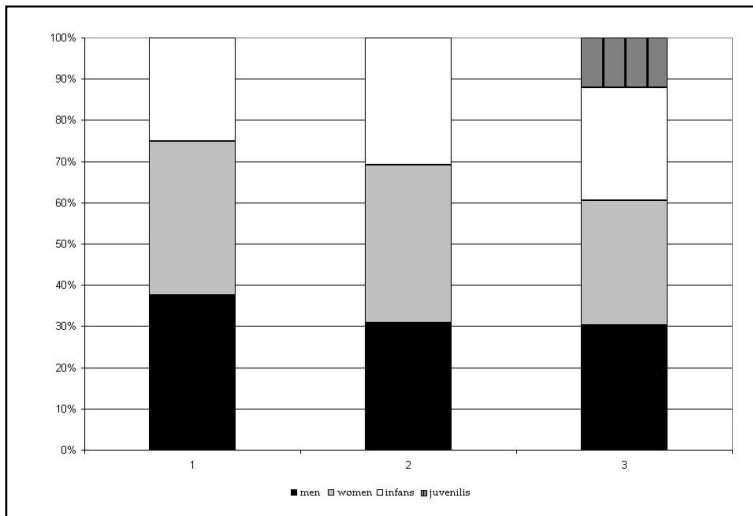


Fig. 3 – The distribution related to age/sex of the *Spondylus* items in the tombs Hamangia I - II (1), Hamangia III (2) and Hamangia IV (3).

The above graphic shows clearly the practice of the storage of the *Spondylus* ornaments does not respect customs related to age, or sex, only the defuncts belonged to a group with a high social status. Otherwise, the frequency of the *Spondylus* items in the tombs with a rich inventory is obvious. The small perforated items, the bracelets appear, mostly in the stage Hamangia IV, together with sceptres, golden, copper, malachite beads.

Following the cronological distribution of every type of item we notice the preference for beads and/or bracelets in all the stages of Hamangia culture.

⁵ The subject of our study does not allow us to approach the stages of Hamangia culture. Conventionally, we accept the stages suggested by the Bulgarian scholars, and in a future study we are going to analyse all the cultural elements, beyond the ceramic typology (VOINEA 2005; VOINEA, NEAGU 2006), which allow us to consider „Varna” stage as included in Hamangia culture.

Hamangia. The analysis of the way the two categories of items can be associated does not allow the identification of a funerary custom (CHAPMAN 2003).⁶

There are also types of items which fashion appears later on. This way, the small *Spondylus* perforated plates with a longer shape, found, frequently, right near the head, appear exclusively in the stage Hamangia IV, both at children and adults. For the previous stage we mention only the broad *Spondylus* small plates from the man tomb M. 1037, found, together with tubular beads, near the head (tiara?). The gathering of the tombs with tiaras made of *Spondylus* small plates—a man tomb M.461 surrounded by women tombs – M.450, M.454, M.527 - and a teenager girl tomb M.463 seem to suggest the existence of a clothing custom with a social value; the tiaras were worn only by the members of a privileged group—as a prove we have the rich funerary inventory accompanying them, mostly the man tomb M.461 (antler sceptre, copper ring on the teeth, *Spondylus*, malachite, chalcedony beads, two *Spondylus* angular small plates right near the knees).

As regarding *the distribution of the items related to age/sex* there wasn't noticed major differences. The bracelets, the beads and the applied ornaments were found in all the categories of tombs.

The presence of the ornaments in all categories of tombs, no matter of age/sex can be found, otherwise, also at other contemporary Neolithic communities. The closest chronological and area example is offered by the necropolis of Cernica, assigned to Boian – Bolintineanu communities. The publication of the antropological anlyses, after a monograph study, change the old interpretations regarding the *feminine destination* of the bracelets. Their distribution on sex/age is the following:

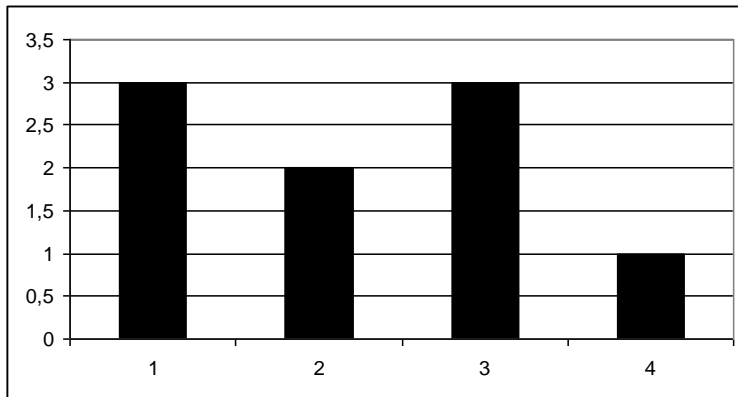


Fig. 4 - The distribution of the bracelets on sex / age in the necropolis of Cernica: 1 – men, 2 – women, 3 – children, 4 – not determined.

⁶ Analysing the *Spondylus* bracelets from the necropolis Durankulak and Varna, J. Chapman tried to identify funerary customs based on the association with other items of the same material bracelets– beads; bracelets – pendants, bracelets – beads – pendants. The published tables show clearly there were no rules related to age or sex, the items being present single or associated in all the categories of tombs.

Though, the analysis of the archaeological framework where appear antropomorphic pendants reflects a custom of Hamangia communities. The preference of the women fro this kind of ornament is obvious: in the necropolis of Durankulak, among the four tombs with antropomorphic pandants, dated in the stage in stage Hamangia III, they belong to some women (M.108, M.609, M.644) and the fourth, situated close of M.644, to a child (M.621 little girl?), certain related to the closest feminine in the neighbourhood. The richness of the funerary inventory associated with them offer social and religious values to the items under disscussion; certainly, their owners had a priviledged social status.

Among numerous shellfishes used, both as food and as raw material necessary to make some special artefacts, *Spondylus* attracted the attention to many specialists, provoking numerous disputes, provoking the origin of the raw material, the processing centres, its distribution directions, the signification of the made objects.⁷ We undeline the differnt underspecies of *Spondylus* have known a large usage in time and as spreading area, mostly in Europe, Mesoamerica, South America and the Pacific Island. This is the origin of diverse types from applied ornaments, buttons, possible buckles⁸, beads, rings⁹ bracelets up to geometrical pandants and antropomorphic figurines. No matter of the ornaments type or the clothing, it is obvious the social value or/and religious, the high status of the owner.

Spondylus represents a shell type present in so-called tropical seas. This type includes more than ten species: *Spondylus anacanthus*, *Spondylus japonica*, *Spondylus americanus*, *Spondylus princeps*, *Spondylus calcifer* ş.a.; rather having big sizes, it has thick and resistant valves, aspect making easier their processing.

Beginning with the Middle Paleolithic – 92 000 BC (BORELLO, 2004, p. 19), the shells were processed to obtain different items especially ornaments and clothing accessories, the findings of this type being more numerous for the next periods-the Superior Paleolithic (TRUBBIT, 2003, p. 244) and Mesolithic (LENNEIS, 2007, p. 133 – 136).

The Neolithic communities in Europe used the species *Spondylus gaederopus*, defined by Linné in his famous classification from 1758. Its spreading include the neighbourhood areas to the Aegean and Adriatic seashore where it is to be found in a natural state until to large distances, on the valleys of the Danube, Rhin and

⁷ Some synthesis regarding the items of *Spondylus* from the Neo-Eneolithic of Europe have been acheived by S. Vencl (VENCL 1959), C. Willms (WILLMS 1985), J. Müller (MÜLLER 1997), M.L. Séfériadès (SÉFÉRIADÈS 1995). For Hamangia spreading area we mention the studies: E. Comşa - *Parures néolithiques en coquillages marins découvertes en territoire roumain*, (COMŞA 1973), Ch. Schuster - *Zu den Spondylus-Funden in Rumänien* (SCHUSTER 2002), H. Todorova - *Die Spondylus-Problematik heute* (TODOROVA 2000).

⁸ *Spondylus* valves were used for ovoid-shaped bucklets, with an angular opening, cut in the fastening area there were cut ovoidal bucklets with an angular opening cut in the fastening area (IFANTIDIS 2006).

⁹ The beads and rings made of shells – *Chama pacifica*, *Beguina semiorbiculata*, *Anadara granosa*, *Atrina vexillum* ş.a. - were sometimes interpreted as coins (PRENTICE 1987; GOTO 1996).

of their affluents but also in the West and in the North of the Black Sea, missing practically only the in the Western Mediteranean area and in the Northern Europe¹⁰.

Until present there were delimited two cultural areas where can be seen the changes with objects made of *Spondylus*: one was developed in the centre and in the Western area of the Balkans and in the Central Europe and in the second in the Aegean region and the Western area of the Black Sea. Among them, there are cronological and typological differnces. Thus, in the neighbourhood of the Adriatic Sea, the objects of *Spondylus* began to be used about 5500 BC ¹¹, aproximatelly one hundred years later, reaching the Central Europe as well, and after 4600 BC disappear. In the other cultural area, the oldest artefacts, both for the region of the Aegean Sea and the Black Sea, appear around 5100 BC, their tradition preserving until about 4300 B.C (MÜLLER, 1997).

Beside the cronological differences, we distinguish some typological differences. If regarding the bracelets and beads, tehy are less visible, it is not the same for pendants. Thus, in the Adriatic area, we can see geometrical pendants - often discoidal ones - and in the SE of Europe, the variety is increased, beside the geometrical ones there appear the zoomorphical ones (*Kosmemata tes ellenikes* 1999, fig 109/p. 76) and antropomorphic (Hamangia culture- Durankulak and Cheia).

The objects origin/raw materrial *Spondylus* was disscusseed a long period of time, being developed two theories. As the shell existes today in a natural manner, on the rocky seashore of Mediterana-similar to the Neo-Eneolithic period - the majority of the archaeologists supposed, even a century ago, the Aegean - Adriatic origin.

The followers of the second theory, beginning mostly the numerous findings in the Western area of the Black Sea and proves regarding the existence in Neo-Eneolithic of a warmer climate, supposed the local origin of the species. Initially mentioned by D. Berciu (BERCIU 1939 - 1940), the theory was completed, later on, with new archaeological and zoological arguments: the shells *Spondylus* and *Glycymeris*, as other species of Mediteranean origin, penetrated at the beginning of the Neolithic in the Black Sea, the climate changes at the and of Atlantic determining their loss (COMŞA 1973, p. 75 - 76).

Three decades later, pleading for the same theory, H. Todorova achieved a complete description of *Spondylus* findings in the Balkan Peninsula, but ignoring the most convincing elements - the results of the physical - chemical analyses (TODOROVA 2000; 2002). According to the scenario suggested by the author, in the same time with the Neolithic Marine Transgression, Mediteranean invasive

¹⁰ See different maps at CLARK 1986, p. 8; BOGUCKI 1988, p. 125; TODOROVA 2000, p. 419, Abb. 1; DIMITRIJEVIĆ, TRIPKOVIĆ 2002, p. 48.

¹¹ There are findings which could be earlier comparing to those in Starčevo spreading area, but they are mostly sporadically, and the archaeological frameworks and the cornology of the sites are still uncertain. More, there are situations as Gura Baciului type - in a level dated într-un nivel datat 7000 BC -, where it is not certain if the object is made of *Spondylus* or another shell (VLASSA 1976, fig. 14/11; LAZAROVICI, MAXIM 1995, p. 154, fig. 26/1).

species, fishes and shellfishes could have penetrated in the Black Sea. The climate warming of the Atlantic period, the rocky shores Of the West-Pontic seaside-as well as the contribution of the Danube with sweet oxygenated water – all could form a favourable environment for increasing the number of *Spondylus* colonies. Their exploitation and trade on a huge area, to the Central Europe and the Parisian Basin could help the development of the Eneolithic centres in Varna region.

Recently, the archaeologist-zoologist S. Haimovici underlined the differences existing between the present fauna and the prehistoric one, giving examples by the presence in the Neo-Eneolithic in Dobruja of some species today existing no more: lion (*Panthera leo* L.), stag (*Dama dama* L.), the fish called „aurata“ (*Sparus auratus*) and the savage donkey (*Equus hydruntinus*) (HAIMOVICI 2007).

Less subjective are the physical-chemical analyses. But, their number is very small, the disputes about the origin of the species *Spondylus* being still not solved.. The analyses of the first group by the metod of the isotope 18O, including samples of Goljamo Delcevo, Gradetsnica (Bulgaria) and Vinča (Serbia) show clearly the Mediteranean origin of the raw material. Two decades later there was analysed a group of Neolithic items, found in the Central-European area (Austria and Ungaria). Using the strontium isotopes methode(Sr) there have been distinguished the shells processed of *Spondylus* recently (7000 old) of them of *Spondylus* fosile (20 mil old.). Thus, it was demonstrated once again the circulation of the *Spondylus* shells at great distances, but the problem of their origin was still unsolved (SHACKELTON, ELDERFIELD 1990).

Rather surprising seems to be the map of the distribution of the *Spondylus*; objects; we notice their increased presence in the Western area of the Black Sea and in the centre of Europe, comparing with the Aegean and Adriatic seaside areas, more probable as origin. It is possible that an ordinary raw material, used by the tribes of the Cardial ceramics as food to have had a special value for the communities in the West of the Black Sea, South-Eas and Central Europe, aspect proved best by the funerary framework they appear in. Otherwise, this role was preserved until the modern period for many traditional communities, both continental and on the islands¹².

In the Balkan Peninsula, the first *Spondylus* items can be found sporadically at the Mesolithic communities of Schela Cladovei - Lepenski Vir (BORIĆ 2006). Later on, in Starčevo IV and Vinča cultures findings are more numerous (DIMITRIJEVIĆ, TRIPKOVIĆ 2002; 2006). An interesting situation is offered by the settlement of Anza: there have been identified *Spondylus* beads in a level dated C¹⁴ 6100 cal.BC (date disputed by V. Miložčić). If their source would be the area of the Adriatic Sea, we should accept the changes in the cultural area are with half of the millenium earlier than there was considered initially. But, from a topographic point of view, the settlement of Anza is connected rather by the Aegean area, where the majority of the findings are post 5100 BC (DIMITRIJEVIĆ, TRIPKOVIĆ 2002, p. 55). Later on, the Vinča communities in the Danube area preferred ornaments made of Aegean *Spondylus*.

¹² More exemples at MALINOWSKI 1922.

In the Mesolithic from Central and Western Europe, the shell ornaments appear frequently, the preference being transmitted later on to the communities in the area of linear ceramics complex. Though, relating the number of tombs with *Spondylus* ornaments (under 100) to the total number of searched tombs belonging to the Linear Ceramics Complex (more than 2500), we notice the reduced frequency of the items under discussion, by comparison with that in the Hamangia necropolis. The majority of the findings are gathered in the East of the Central Europe (Rin, Bavaria, Austria, Moravia). We mention also the single items found in two tombs in the necropolis of Eisisheim (Alsacia). As in the situation of the Hamangia, spreading area, the *Spondylus* ornaments are associated to the tombs with a rich inventory (ceramics, small chisels, ornaments of other species of shellfishes, perforated teeth). Among the numerous examples, we mention the tomb of Eisisheim necropolis, where, beside of an antropomorphic bone figurine (the only sample of this kind of the linear ceramics complex), there were found 35 *Spondylus* beads (JEUNESSE 1997, p. 86 – 87). There is no exclusivity, the objects belong to defuncts of both sexes, whose age category goes from *Infans II* to *senile* (LENNEIS 2007, p. 132 – 136).

Conclusions

Present both in settlements and in necropolis, the *Spondylus* items used by Hamangia communities are to be considered, generally, to be included into the Eastern area, excepting the antropomorphic pendants. This kind of artefacts, specific only to some limited cultural groups, suggest the existenc of a local production, thus complicating matters of the origin of the raw mateial. The transformation of some massive items like bracelets in beads¹³ or clothing applied ornaments does not mean obligatory the direct exploitation of these species of shellfish. The finding of a row e *Glycymeris* valve in the tell of Durankulak – The Great Island- we consider it is not an absolute argument regarding the presence and, implicitly, the exploitation of the two species of shellfish from the Black Sea.

The number and the diversity of the *Spondylus* type items produced by hamangia communities have been considered reasons for the role of main „provider“ of these ones in the framework of a „pan-european change system“(TODOROVA 2002, p. 180). We do not exclude the possibility of the own production, the most convincing example being the antropomorphic pendants - specific for the stage Hamangia III. Though, a simple analysis of the archaeological realities in the Dobrujan area does not indicate, up to present, the existence of an exploitation/processing centre of *Spondylus*/*Glycymeris* shells. As a consequence, the problem of the raw material is still not solved, the necessity of physical - chemical analyses is more tahn obvious.

The value of the *Spondylus* items is to be seen mostly in a funerary environment. The association of the jewels made of *Spondylus* with rich necropolis demonstrates the ornaments were very appreciated, being not only decorative elements on fashion, but also indicating the social status of their owner. The

¹³ In Gumelnița house L.5 of Hârșova tell there was found an „workshop“ of *Spondylus* ornaments, in fact a vessel containing many complete and fragmentary bracelets, some of them cut and perforated partially to be transformed in beads (GALBENU, 1963, p. 501).

existence of privileged social groups can be also clearly identified in the necropolis area building - the tombs with *Spondylus* items shows are associated in two distinguished groups, corresponding to the stages Hamangia I-III and IV. Lacking the DNA analyses, we though dare to identify the family groups in the necropolis of Durankulak.

We do not insist upon the religious signification of the ornaments made of shells, the subject being generously discussed by M. Eliade¹⁴. But, there are still necessary some notes on the matter. In a profoundly religious community it was naturally that a privileged group to legitimate its power also by objects with a fetish value used in rituals (idols) or worn (pandants-amulets). That is the reason we consider to rigid the way they area analysed from a strictly sociological or religious perspective. For the Neolithic man, the supperio forces and power/the energy of the leading person are fusing, imposing the order ans assuring the group security. Both living and in death, the same order should be preserved, the affiliation to a social group being a birth destiny.

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¹⁴ Among the interpretations suggested by author we insist only upon their funerary signification. „The shells are associated with a complex symbolism, which is not only a sexual one : they represent the living members of the family, and the shell stands for the husband of the defunct woman, as the object is not to be found in the tomb, the young recently arrived in the other world, will „ask for a husband”, thus provoking the death of a young member of the tribe....” (ELIADE 1991, p. 22).

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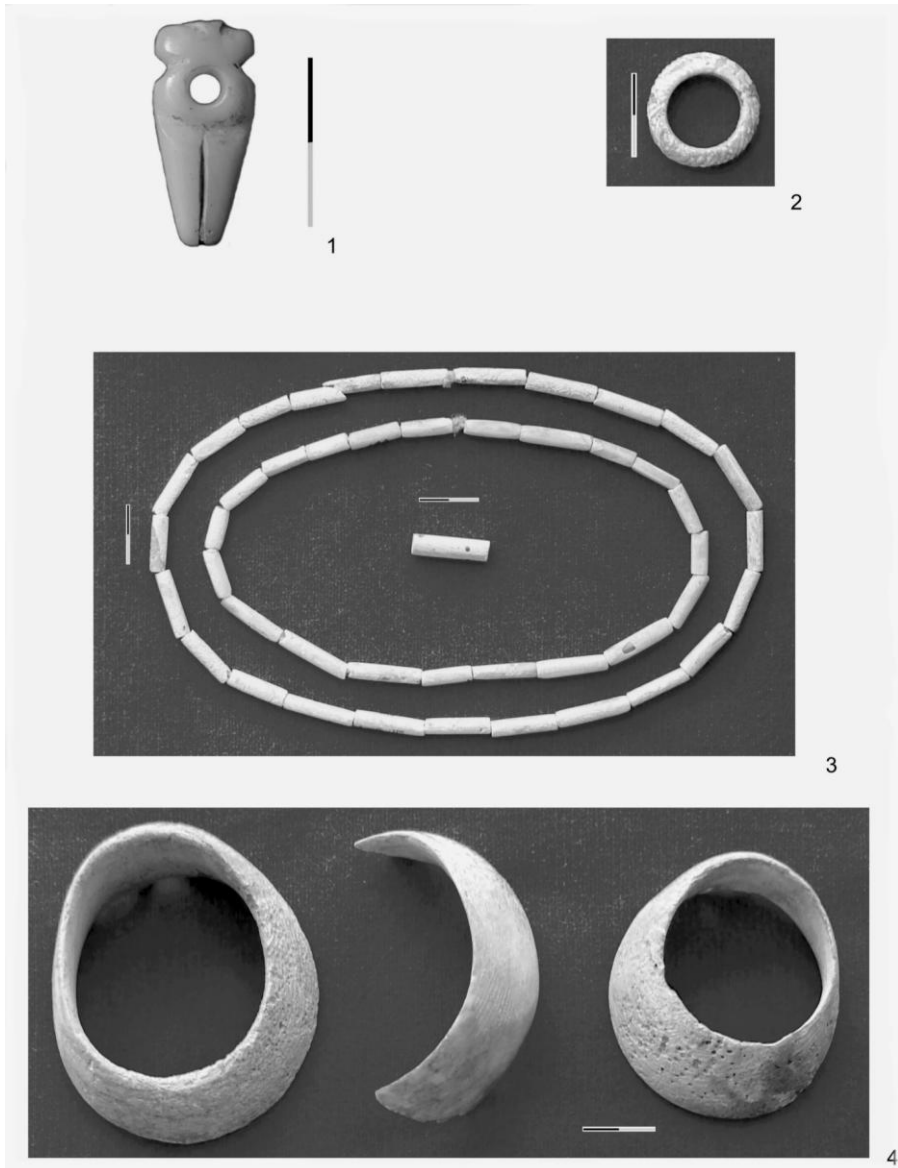
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Pl. 3 – Spondylus artefacts: 1 –pendant (Cheia), 2 – ring (Limanu);
3 – tubular beads (Limanu, Mangalia, Cheia); 4 – bracelets (Limanu).