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**THE STUDY OF THE ARCHAEOZOOLOGICAL REMAINS FROM  
COGEALAC (CONSTANȚA COUNTY)  
BELONGING TO THE HELENISTIC PERIOD**

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The settlement from Cogealac is situated in Dobrogea, in the north of Constanța department, near the village with the same name. The settlement is placed at 20 Km WSW by the Greek fortress of Histria, part of its "hinterland" area in the old times. From the geomorphological point of view, we are placed in the eastern part of the Histria plate made of kimmerien formations over a hercinic nucleus and covered by a Quaternary layer of loess.

The average altitude of the place is less than 100 m, and to the north there is a peak of 132 m altitude, kneed under the name of Cogealac. The Cogealac stream is flowing near by and is united with the Nuntași (Duingi) stream with its rocky banks. Soils are different types of cernozioms and the present vegetation is represented by xerophilic lawns with termophilic elements specific to the steppe in Dobrogea in addition to the agricultural cultures, the wooden vegetation being very rare.

The archaeozoological remains are in small quantity, only 108 have been determined (for 6, we could not determine the species, but these remains belong to mammals, for sure); the fauna material is quite diverse as a systematical group and even as species for the mammals (see table no. 1 and 2). Therefore, taking into consideration the fragmentation degree, it is clear that this material represents typical rubbish remains.

**Table no. 1**  
**The remains frequency of systematical groups**

<b>The systematical group</b>	<b>No. fragments</b>	<b>%</b>
<i>Mollusca (Unio)</i>	2	1,85
<i>Pisces</i>	10	9,26
<i>Chelonia</i>	1	0,93
<i>Aves</i>	1	0,93
<i>Mammalia</i>	94	87,03
	108	

As we see in the table no.1, the mammals have the highest frequency (87%), their frequency being higher than the sum of the other four groups (13%).

The *Mollusca* are represented by 2 different sized valves of *Unio* .

The *Pisces* are represented by 10 remains: one lepidotrichium by dorsal fin belonged to the *Acipenser sp.* (this individual wasn't too big, it could be *Acipenser ruthenus*); 9 fragments belonging to the *Teleosteans* are represented by: one left dental of *Silurus glanis* (an individual about some Kilos), the II-V vertebra belonging to an individual of *Cyprinus carpio* (about 2 kilos), 4 radialis by dorsal and annal fins belonging to relatively big individuals, 3 ribs of big sized fish.

We mention that such specimen could not be found in that two brooks described before, so that individuals were caught in the Razim lagoon systems.

The *Chelonia* are represented by one bony fragment of *Testudo*'s shell with three lateral and coastal plates.

From the *Aves* (the birds) it results one fragment of humerus, which has the same size as the similar bone of hen, but this fragment belongs, for sure, to a wild species and not to *Gallus domesticus*.

The mammals are represented by nine domestic and wild species and, probably, by a hybrid; the table no. 2 contains their frequency and the annex, the distribution of skeleton parts. Table no. 3 contains the measurements of bone remains.

**Table no. 2**  
**The remains frequency by mammals species**

Species	No of fragments	%
<i>Bos Taurus</i>	44	46,81
<i>Ovicaprinae (Ovis and Capra)</i>	23	24,47
<i>Sus scrofa domesticus</i>	1	1,06
<i>Equus caballus</i>	18	19,15
<i>Mulus</i>	1	1,06
<i>Canis familiaris</i>	1	1,06
<i>Sus scrofa ferus</i>	1	1,06
<i>Cervus elaphus</i>	3	3,19
<i>Capreolus capreolus</i>	1	1,06
<i>Bos primigenius</i>	1	1,06

*Bos taurus* (the cattle) has the most remains, almost a half from mammals remains found in site. There is a horn core, belonging, probably, to a female; this horn core is the "*brachyceros*" type, very gracile and

small; it has a cut base, that meaning it has been thrown into the pit with the previous recovery of the epidermal horn, which was used for diverse purpose. There was also found a bigger fragment of neural skull, which belonged, morphoscopic, to a small sized, graceful individual; a whole mandible belonging to a mature individual was founded, on the basis of which it was calculated a wither height of 1107 mm. We mention the existence of four measurable distal epiphysis of the humerus bone, two whole metatarsals (one of them with distal epiphysis) and phalanx. The executed measurements show low-sized individuals; we have calculated 3 withers height with an average of 1082 mm.

*Ovis* and *Capra* (known as *Ovicaprinae*) have less fragments than the cattle (table no. 2). As we expected, the sheep are better represented than the goats; a horn core ("*prisca*" type) belonging to a female goat was found; it has a cut base. The sheep are represented by two horn core remains, very deteriorated, sagittally sectioned; the both are originated from female individuals, showing the existence of a horn female. Due to the lacking of some long, integer bones we couldn't establish the height neither for the sheep nor for the goats. The few executed measurements are not conclusive regarding the possibility to determine the *Capra* and *Ovis* size, although they seem little and gracile.

*Sus scrofa domesticus* (the pigs) are represented by only one bone – a fragment of femur diaphysis without the both epiphysis. Their lower frequency must be taken into consideration.

*Equus caballus* (the horse) has about 1/5 from the mammal remains. The two upper teeth, maybe P<sup>4</sup> and M<sup>1</sup>, shown through the protoconus length and also through the horse pleat (only sketched) the typical horse character. We included this horse into eastern horses group because the islands enamel is low pleated. It can be established by a whole metatarsus a whiter height of 1,38 m, so a relative high-sized, like some horse of the getic people from the same epoch. (HAIMOVICI 1987)

*Mulus* – the hybrid between horse and donkey – is represented by an articulation part from the one gracile scapula with donkey characteristics at the head level. We think that the hybrid is between mare and jackass, which is more known and economical and is not the one between jenny-ass and the stallion, which is rarely used. It would be for the first time when in Romanian archaeozoology the presence of this hybrid used from II a.Chr. millenium by west Asian people and Egypt is known.

We must present the slaughters characteristics of zooarchaeological material belonging to the three groups of mammals: the cattle, the *Ovicaprinae* and the horse.

Regarding *Bos taurus*, the slaughter age was relative tardy (estimated by the teeth), showed the existence of adults and mature individuals and also of three individuals of 7-10 years old and one over 10 years. The slaughters age estimated by the vertebrae and long bones is lower but none individuals has under 1,5 year.

The ovicaprins slaughter age is lower than the cattle; their average slaughter age is higher, only one individual was under 1,5 year; but, by the teeth and the vertebrae, the slaughter age of the individuals was by 5-7 years.

For the horse, a vertebral corpus without epiphysis showed an individual less than 4-5 years but taking into consideration the teeth and also the III<sup>rd</sup> phalanx the slaughter age was by 10-12 years.

*Canis familiaris* (the dog), considered a domestic mammal too, is represented by a dental fragment with only a part of corpus (the premolar side) within premolar alveolus, that teeth was fallen.

The wild mammals are represented by four *Artiodactyla species*: the wild boar, the red deer, the roe deer and the aurochs, species relative commune for the rubbish remains.

*Sus scrofa ferus* (the wild boar) is represented by a masive metacarpus fragment; nowadays it is rarely present in the Central Dobrogea.

*Cervus elaphus* (the red deer) is represented by three remains: one broken calcaneus, whose tuberosus is without epiphysis (shown a slaughters age under 3,5 years) and two radius: a deteriorate proximal epiphysis, with articular surface breadth by (54) mm and a distal epiphysis, broken by a fresh cut; the red deer could be found at the beginning of the II<sup>nd</sup> millenium in Dobrogea, at the Danube.

*Capreolus capreolus* (the roe deer) is represented by a metacarpus with proximal breadth by 20 mm and a diaphysis fragment longitudinal sectioned (a reject of bone used in making tools process); the roe deer is present nowadays in Dobrogea.

*Bos primigenius* (the aurochs) is represented by a distal epiphysis of humerus, also broken by a fresh cut, that remains only the condilar parts, very massive. The aurochs was found in Dobrogea even at the beginning of the II<sup>nd</sup> millenium.

That four wild mammal species represents 6,37% of mammal remains.

Taking into consideration the morphological characteristics of the archaeo-zoological remains, some biometrical characteristics resulted from the measurements of the remains (see table no. 3), the distribution and the frequency of the determined species (table no.1, 2 and annex) we must evidentiate the particularity of the animals economy but not only to human population from Cogealac site (belonging to the Hellenistic epoch). The Cogealac village was developed in the same time with the Greek citadel Histria, being part of the "hinterland" of this fortress.

One of the basic characteristics of any human society, which is apparently common, is to guarantee the food necessity to the people; the assurance of the animal protein necessity for the diet was of a very great importance even if the people didn't remark it. Therefore, the human society was concerned to satisfy (empirical) this necessity in different ways, which represent the different occupation.

One of the ancient occupation is the picking the small animals (in addition to the vegetal food), especially the mollusks, if the environment characteristics were favorable for their development. There were two *Unio* valves; a problem that is to be solved is, if this *Lamellibranchiatae* was picked up from Cogealac zone or another zone. We believe that two small brooks with stone banks and a valley digged as a canyon do not represent a favorable environment for shells development. We believe that there was picked up from the some other part such as the bank of the lagoons organized in the well known Razim system, placed at 20-25 km far from the site. Otherwise, the big-sized terrestrial mollusks – *Helix* sp. – wasn't found, even that is easy to be picked up and eatable. The *Helix* sp. environment is represented by humid prairie and not by steppe zone, characteristics for this site.

The fish remains (sweet water and salmaster species), according to their sizes, shown that don't belong to individuals from that two brooks, so that was taken from Histria fortress or from other sites of "hinterland", places in the same region. Therefore, we may say that picking and fishing, ancient occupation, wasn't used by the people from Cogealac because the environment wasn't favorable for it; the fish and, eventually, mollusks "import" substitute that.

The most important occupation must to be consider domestic animal breeding including also the dog, which is considered uneatable but was used in different purpose.

*Bos taurus* is the most important domestic species considering his very high frequency (almost 50% of the total fragments) and his high-size; we must show that the cattle offered the greatest quantity of meat in

comparison to other domestic and eatable mammals, covering, by slaughters, almost 2/3 of the animal protein necessity. The missing of young individuals in the fauna remains can be explained by the fact that was provided alive to the Histria inhabitants; the soft meat of the young cattle was eaten only by the fortress inhabitants.

Ovicaprines have a lower frequency than *Bos taurus*; we may ascertain that the sheep are most frequent than the goats. According to their size, we must say that their contribution to the meat necessity was very low.

As regarding the horse and also the *mulus*, we must say that they are used for meat too; this fact is shown by their frequency and some characteristics of the skeleton parts founded. Concerning the size, the horse and the *mulus* are offered a quantity of meat lower than the cattle but higher than ovicaprines.

The pig has a very low frequency. A problem is if this monovalent species (bread only for meat and fat) was considered a taboo food and almost unused in the inhabitants economy; this important problem could be solved if the fauna material will be more plentiful.

If the cattle, the ovicaprines and the horse have covered (in a small extend, the fish too) the animal protein necessity of human society from Cogeaalac, that three polyvalents species being used for different purpose, which couldn't be study only through the fauna remains but could be demonstrated by some skeleton characteristics. Therefore, both the female cattle and the female ovicaprines offered meat and milk, which importance must to take into consideration for guarantee both animal protein and fat for human society. Even more, their milk could be processed and the stable product resulted could be send in the market. Also, the cattle and the horse and the *mulus* too being used for different activities, which cannot be detailed; we mention the existence of geld cattle; the horse has a high-size and, probably, it was used for riding. The sheep been used for their wool, which is very important (in this temperate zone) for clothes making. We must mention that the sheep was less frequent in the last century in Dobrogea.

We also should say that the hunting was a noticeable occupation in comparison to nowadays when the hunting becomes a sport. The four wild species, three of them: the wild boar, the red-deer and especially the aurochs big-sized and one of them, roe-deer, small-sized (as a goat) offered a great quantity of animal protein (higher than ovicaprines). Therefore, the inhabitants of Cogeaalac could use both domestics and wild animals for a series of subproducts such as: cattle horns, ovicaprines

horns, antlers, bones, tendons, viscere and so on. We must mention that it is for the first time when the Helenistic archaeo-zoological material founded in a site being part of the "Hinterland" linked to the Histria fortress is studied. Alexandra Bolomey (1965) has studied the fauna remains by different age from Histria fortress itself and for the V–IV a.Chr. the fauna remains found in the "sacred zone" were in a very low quantity and belonging to cattle and sheep.

In the end, taking into consideration the characteristics of present environment, shown in the first chapter, and the study of fauna remains, we must refer to the environment of the sit on the end of I<sup>st</sup> millenium a.Chr.

From what has been known, the wild boar and the red deer are part of the forest ecological group and roe deer and the aurochs are representative for opened subtrees areas.

It is sure that the site's environment was represented by a forest with *Quercetum mixtae*. The site inhabitants used to have a destructively action upon the forest in order to get new lands for agriculture. The soils were specific for wood areas and the pedogenetic factors were acting upon them for changing into cernozioms. The typical steppe was not well defined, being more a sylvo-steppe with typical anthropic character.

Translated by *Monica Popa*

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Table no. 3 The measurements of the principle mammals species bones (mm)

Species/the measurements	<i>Bos Taurus</i>	Ovicaprinae ( <i>Ovis=o, Capra=c</i> )	<i>Equus caballus</i>	<i>mulus</i>
<b>Horn core</b>				
Greatest length	138	139		
Circumference	114	72		
Greatest diameter	37	28		
Smallest diameter	33	15		
Sex	f	f; c		
<b>Upper teeth</b>				
Length			P <sup>4</sup> M <sup>1</sup>	
Breadth			27 25	
Protocon length			15 15	
Protocon index			55,55 60,00	
<b>Mandible</b>				
Greatest length	332			
P <sub>2</sub> -M <sub>3</sub> length	112	77		
M <sub>1</sub> -M <sub>3</sub> length	82; 85	55		
M <sub>3</sub> length	35; 37	25; 22		
<b>Scapula</b>				
Greatest length of artic. head		34	90	79
Artic. surface length		27	57	47
Artic. surface breadth		20	45	41
Breadth of colum		19 o	65	46
<b>Humerus</b>				
Distal breadth	59; 65; 65; 68			
Distal artic. surface breadth	- ; 58; 60; 61			
<b>Radius</b>				
Proximal breadth			- 75	
Proximal artic. surface breadth			64; 70	
<b>Tibia</b>				
Distal breadth	52		64	
Distal artic. surface breadth	48		53	
<b>Talus</b>				
Greatest length		(28)		
Distal breadth		16 0		
<b>Metacarpus</b>				
Greatest length			223	
Lateral length (K)			215	
Proximal breadth			50	
Distal breadth			50	
Smallest diaphysis			34	
Gracile index			15,24	
Whiters height			1378	
<b>Metatarsus</b>				
Greatest length	(196) 220			
Proximal breadth	(46) 48			
Distal breadth	- 56			
Smallest diaphysis	22 55			
Index I	(23,24) 21,81			
Index II	- 25,45			
Index III	(11,22) 11,36			
Sex	f geld			
Whiters height	1038 1101			
<b>Phalanx I</b>				
Greatest length	54			
Proximal breadth	26			
Smallest diaphysis	23			
Gracile index	42,59			
<b>Phalanx II</b>				
Greatest length	(37)			

