

## FISHING IN THE TERRITORY BETWEEN THE DANUBE AND THE BLACK SEA, IN THE IV-XVII<sup>TH</sup> CENTURIES: ARCHAEOZOOLOGICAL DATA

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**Abstract.** The present paper represents an archaeozoological synthesis for sites of the IV-XVII<sup>th</sup> centuries from Dobrudja. Generally, archaeological assemblages were not sieved, which may have caused an under-representation of fish remains, compared with the faunistical remains belonging to other animals. The analyses show that fishing was an important economic resource for some settlements situated in Dobrudja at that time. Some documents also inform about the high commercial value of fish, especially of the fish extracted from the Danube River.

**Keywords:** Fishing, IV-XVII centuries, Archaeozoology.

**Rezumat.** Pescuitul în spațiul dintre Dunăre și Marea Neagră, secolele IV-XVII. Lucrarea reprezintă o sinteză arheozoologică pentru unele așezări de secole IV-XVII din Dobrogea. În general, sedimentul arheologic nu a fost cernut, ceea ce a dus la o subevaluare a resturilor de pește, în comparație cu resturile faunistice de la animale de talie mare. Analiza indică faptul că pescuitul reprezenta o resursă economică importantă pentru unele așezări din Dobrogea. Unele documente cuprind de asemenea informații în legătură cu valoarea comercială ridicată pe care o aveau peștele, în special cel provenind din Dunăre.

**Cuvinte cheie:** pescuit, secolele IV-XVII, Arheozoologie.

### Introduction

Dobrudja came under Roman government after its annexation to Moesia (46 AD), and it remained integral part of the Empire until year 602 AD. After the year 395 AD, when the Empire is divided between the Western and the Eastern Roman Empire, Dobrudja was part of the latter. In 587 AD Dobrudja was devastated by the Avars, and beginning with the 8<sup>th</sup> century it is extensively populated by Slavic people. By the end of the 10<sup>th</sup> century, these regions of the Lower Danube knew a temporary Byzantine domination.

### Material and Methods

The present paper synthesizes the archaeozoological data of ten assemblages belonging to nine archaeological settlements. Chronologically, the settlements are dated from the IV<sup>th</sup> century AD to the XVII<sup>th</sup> century AD. Fish remains were quantified by the NISP method, but some biases to the archaeozoological study need to be mentioned: the assemblages were not sieved, which have caused an undervaluation of the fish remains. Archaeozoological data correlate with the documentary information concerning fishing on the territory of Romania during medieval times.

### Results and Discussion

The quantitative and qualitative analyses of the animal remains collected from the archaeological sites show the main ways of exploiting the faunistic reserves of the local settlements by fishing, hunting and raising tame animals. During the IV<sup>th</sup> and the XVII<sup>th</sup> centuries fishing was particularly important for the population in the territory

between the Danube and the Black Sea. Unfortunately, the fish remains from the archaeological sites were underestimated because sieving of the sediments was not used in order to recover the very small skeletal elements and, as a result, some very small fish species caught at the time may not be identified in our studies. Anyhow, archaeozoological studies have summarily evaluated the fish remains, too, which were found in different sites, fishing being thus evinced as a paleoecological and paleoeconomic possible indicator.

Two samples from Slava Rusa have been studied; the one from Baza 3 Sector (Stanc, 2004) refers to 240 fish remains, which represents 17% of the total animal remains; the second sample, the one from Curtina G Sector (Stanc *et al.*, 2008) presents a higher frequency of the fish remains, namely, 7482 remains out of 9702 fragments of the whole sample. At Garvăn Dinogetia (the IV-VI centuries) fish remains represents 15.5% of the whole remains (Haimovici, 1991), while at Adamclisi, this type of remains has a very low representation, in the two samples under study, only three fragments out of 241 remains (Haimovici, 2001; Stanc, 2006). In the sample from Hârșova, about 600 fish remains have been identified, representing 36.65% of the material under study and in the sample from Capidava 370 remains, representing 25.34% (Bejenaru, 2003; Bejenaru, Stanc, 2002). 580 fish remains have been identified at Oltina, representing 23.5% of the whole sample (Stanc *et al.*, 2006) (Table 1).

At Isaccea, from 2295 faunistic remains only 148 are of fish, and at Piuța Petrii from 398 identified remains only 11 are of fish (Bejenaru, 2003) (table 1). In these cases the archaeological results don't correspond to historical information concerning, for instance, the old Danubial towns Vicina (at present Isaccea) and the Town of Floci (today Piuța Petrii) which were important fish markets (Bejenaru *et al.*, 2007).

**Table 1.** Percentage distribution of remains from archaeozoological samples on taxonomic groups.

Archaeologic site	Molluscs	Fish	Reptiles	Birds	Mammals	Bibliography
Hârșova (IX-XII <sup>th</sup> centuries)	0	37	0	6	57	Bejenaru, 2003
Capidava (early feudalism)	1.1	25.34	0.07	3.08	70.41	Haimovici, Ureche, 1979
Isaccea (XI-XIII <sup>th</sup> centuries)	0	6.44	0	0.78	92.76	Bejenaru, 2003
Piuța Petrii (XV-XVI <sup>th</sup> centuries)	0.4	1.47	0	2.8	95.33	Bejenaru, 2003
Slava Rusă (Baza 3 Sector, VI <sup>th</sup> )	0	9.1	0	0.6	90.3	Stanc, 2004
Slava Rusă (Curtina G Sector, V <sup>th</sup> )	0.29	78.97	0	1.23	19.5	Stanc <i>et al.</i> , 2008
Oltina (X-XI <sup>th</sup> centuries)	0.9	23.5	0	5.2	70.4	Stanc, Bejenaru, 2005
Garvăn Dinog. (IV-VI <sup>th</sup> centuries)	8.89	15.56	0	3.89	71.67	Haimovici, 1991
Adamclisi (V-VII <sup>th</sup> centuries)	0	1.24	0.41	0.41	97.94	Haimovici, 2001; Stanc, 2006
Dumbrăveni (IX-X <sup>th</sup> centuries)	0.95	27.61	2.06	5.08	64.3	Haimovici, 2000

For the samples under study, the highest percentage of fish bones is in those from Slava Rusa and the faunistic list from this sample is also the most varied.

Thirteen species have been identified plus the Acipenser genus, belonging to the families: Acipenseridae, Esocidae, Cyprinidae, Siluridae, Percidae. The most frequently represented are the Cyprinids, as compared to the other families of fish. All species of teleostei are from fresh waters, caught in the Danube as well as in the lakes and rivers next to the settlements as are the Slava river and the Babadag and Razilm-Sinoe Lakes in the

case of Slava Rusa settlement, the Oltina Lake and the Danube in the case of Oltina settlement and the Danube river in the case of the settlements Isaccea, Garvan Dinogetia, Capidava, Piuă Petrii, Harsova.

The studies done up to the present moment for these settlements do not show the presence of sea bony fish species and this may be a fact indicating that the population of these settlements could not have fished in the Black Sea and that they did not have trading relations with other population who did that. There is one exception, though. In a sample from Slava Rusa, different from the two samples discussed in this study, there has been identified a fragment of a mandible belonging to a sea mammalian (a dolphin), coming from the Black Sea. For the time being, because of lack of more faunistic information, we can only suppose that in the case of this settlement there must have existed some trade relations with populations which had access to fishing in the Black Sea. We can not suppose that the inhabitants of Slava Rusa had themselves direct access to the marine resources.

The population of these settlements could get the fish by fishing it themselves or by other means: as an imposed tax or as goods to be sold or traded or bartered or, as in the case of monastic settlement at Dumbrăveni it could have been a donation.

The Russian and the Bizantine chronicles mention the presence of fishermen and abundance of fish in the Lower Danube region (Giurescu, 1964). Archaeological materials confirm it by the fishing tools discovered as, for instance, in Garvan Dinogetia (fishing net of largely meshed hempen rope, trawling-nets and weights, fishing lines with hooks, harpoons) and even some archaeological structures as well clayed and burned holes for storing fish (Barnea, 1953). In Slava Rusa has been found fishing hooks, weights for nets and in Oltina - weights for nets and trawls, fishing hooks and a fragment of harpoon made of bone.

Prevalence of identified fish species (Table 2):

- *Acipenseridae*. Sturgeon bones have not been specifically identified, but they have been mentioned in most of the samples under study: Piuă Petrii, Hârșova, Isaccea, Oltina, Dumbrăveni, Garvăn Dinogetia, Slava Rusă.
- *Esox lucius*. Pike has been identified at Hârșova, Isaccea, Capidava, Oltina, Dumbrăveni, Garvan, Slava Rusă, Adamclisi.
- *Cyprinus carpio*. Common carp remains have been identified in all samples, except the one from Piuă Petrii.
- *Silurus glanis*. Sheat fish remains have been identified in all samples, except the ones at Adamclisi and Dumbrăveni.
- *Stizostedion lucioperca*. Zander has been found among the remains from Hârșova, Oltina, Garvăn, Slava Rusă and Dumbrăveni.
- Other fish species have been noticed in less than five settlements dealt with in this study: *Abramis brama*: Capidava, Oltina, Slava Rusă. *Aspius aspius*: Capidava, Oltina, Garvăn, Slava Rusă. *Blicca bjoerkna* and *Scardinius erythrophthalmus*: Slava Rusă. *Carassius carassius*: Capidava, Dumbrăveni. *Pelecus cultratus* and *Rutilus rutilus*: Oltina and Slava Rusă. *Tinca tinca*: Hârșova and Oltina. *Perca fluviatilis*: Capidava, Oltina and Slava Rusă.

### Conclusions

All species identified in the analyzed samples can be found nowadays in the rivers and lakes of that area. In the samples for which we showed the quantitative prevalence of various species the predominance of Cyprinides can be remarkable, and especially that of common carp.

**Table 2.** Fish species identified in archaeozoological samples under study.

Familie/Species	Piua Petrii	Hârşova	Isaccea	Capidava	Oltina	Garvân Dinog. (IX-XII <sup>th</sup> )	Slava Rusă (Baza 3)	Slava Rusă (Curtina G)	Garvân Dinog. (IV-V <sup>th</sup> )	Adamclisi	Dumbrăveni
	NISP	NISP	NISP	NISP	NISP	NISP	NISP	NISP	NISP	NISP	NISP
ACIPENSERIDAE											
<i>Acipenser</i> sp.	3	*	5		6	*	2	26			9
ESOCIDAE											
<i>Esox lucius</i>		*	1	*	96	*	8	149	*	1	2
CYPRINIDAE											
<i>Abramis brama</i>				*	4		1	33			
<i>Aspius aspius</i>				*	4	*		9			
<i>Blicca bjoerkna</i>								3			
<i>Carassius carassius</i>				*							1
<i>Cyprinus carpio</i>		*		*	126	*	59	1135	*	2	4
<i>Pelecus cultratus</i>					1			6			
<i>Rutilus rutilus</i>					2			24			
<i>Scardinius erythrophthalmus</i>								3			
<i>Tinca tinca</i>		*			1			3			
SILURIDAE											
<i>Silurus glanis</i>	1	*	11	*	66	*	36	217	*		
PERCIDAE											
<i>Perca fluviatilis</i>				*	1			4			
<i>Sizostedion lucioperca</i>		*			36	*	7	170			1
<b>Identified remains</b>							<b>113</b>	<b>1782</b>			
Ciprimidae unidentified			8					242			
Teleostei unidentified	7		123		237		127	6313			157
<b>Total</b>	<b>11</b>	<b>600</b>	<b>148</b>	<b>370</b>	<b>580</b>	<b>-</b>	<b>240</b>	<b>8337</b>	<b>28</b>	<b>3</b>	<b>174</b>

\* recorded species but unquantified; NISP = identified remains number

The fish remains collected in the site at Garvan Dinogetia, Hârșova, Capidava, Oltina, Slava Rusă are relatively numerous and they represent an evident proof of fishing having been practised on the lower Danube, in the Razelm, Sinoe and Oltina lakes and in some rivers (Slava).

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