



**Fishes – Culture – Environment  
Through Archaeoichthyology, Ethnography  
& History**

**STOWARZYSZENIE ARCHEOLOGII ŚRODOWISKOWEJ SAS**

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Nicola Trzaska-Nartowski & Mirosław Makohonienko



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**THE 15<sup>TH</sup> MEETING OF THE ICAZ  
FISH REMAINS WORKING GROUP (FRWG)**

**September 3–9, 2009 in Poznań & Toruń, Poland**

**Fishes – Culture – Environment  
Through Archaeoichthyology, Ethnography  
& History**



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## CONTENTS

	page
<b>PREFACE</b>	9
<b>PROGRAM</b>	11
<b>LIST OF PARTICIPANTS AND CONTRIBUTORS</b>	19
<b>SUMMARIES OF PAPERS</b>	
<b>PREHISTORIC AND MEDIEVAL FISHING IN THE NORTH ATLANTIC REGION</b>	27
<i>The medieval origins of commercial Sea Fishing Project: a preliminary synthesis</i>	29
James BARRETT, Cluny JOHNSTONE, Jennifer HARLAND, Wim VAN NEER, Anton ERVYNCK, Daniel MAKOWIECKI, Dirk HEINRICH, Anne Karin HUFTHAMMER, Inge BØDKER ENGHOFF, Colin AMUNDSEN, Andrew K. G. JONES, Alison LOCKER, Sheila HAMILTON-DYER, Leif JONSSON, Lembi LÕUGAS & Michael RICHARDS	
<i>Freshwater fisheries in Belgium during medieval and postmedieval times: looking for markers for the onset of overfishing and pollution</i>	31
Wim VAN NEER, Anton ERVYNCK, Benjamin T. FULLER, Patrick DEGRYSE & Wim WOUTERS	
<i>From Dover to New Romney: medieval fishing in south-east Kent, England</i>	35
Ian RIDDLER & Nicola TRZASKA-NARTOWSKI	
<i>Pre-Columbian estuarine fishing along the lower St. Johns River, Florida, USA</i>	38
Arlene FRADKIN	
<i>Cod, calves and clerics: the remains from Skriðuklaustur monastery, Iceland</i>	40
Sheila HAMILTON-DYER	
<i>Puzzling out medieval herring from a pan-European perspective</i>	43
Richard C. HOFFMANN	
<i>Fishing in the Netherlands in Roman times</i>	46
Monica DÜTTING	
<b>FISHES AND FISHERY IN THE BALTIC / BLACK SEA DRAINAGE BASINS</b>	48
<i>Palaeolithic fish from southern Poland: a palaeozoogeographical approach</i>	49
Lembi LÕUGAS	
<i>Late Mesolithic fishing in Northwest Zealand, Denmark</i>	51
Ken RITCHIE	
<i>Some aspects concerning the Holocene development of the vertebrate fauna and the related environmental change in the south-western Baltic area</i>	55
Dirk HEINRICH & Ulrich SCHMÖLCKE	

<i>Archaeoichthyology and archaeology in reference to fishing in Late Bronze Age and Early Iron Age in Polish Lowland</i> Mirosława ZABILSKA	59
<i>Fish in the menu of the Cistercians from Łekno and Bierzwnik (Poland). An historical and archaeoichthyological consideration</i> Andrzej M. WYRWA & Daniel MAKOWIECKI	63
<i>The fishes and fishery in the Teutonic Knights State in Prussia according to written and archaeozoological sources</i> Adam CHEĆ	69
<i>What do we know about the extinction of sturgeon in Poland?</i> Stanisław CIOS	72
<i>Historical accounts of grayling, <i>Thymallus thymallus</i> (L.), in Poland, during the 14<sup>th</sup>-19<sup>th</sup> centuries</i> Stanislaw CIOS	81
<i>Fish remains from the Site of Kal, a 5<sup>th</sup> – 7<sup>th</sup> century settlement in the Mazovian Lakeland. Preliminary data</i> Mirosława ZABILSKA, Jerzy M. ŁAPO & Janusz JANOWSKI	89
<i>Fishery organization in medieval Pskov: fishing tool owners' marks as a historical source</i> Elena SALMINA	93
<i>The governmental projects of modernization of herring fisheries in Russia (18<sup>th</sup> – 19<sup>th</sup> cc.)</i> Alexei V. KRAIKOVSKI	96
<i>The ancient fishing of Belarusion Polessye</i> Elona LYASHKEVICH	99
<i>Fish remains from a stratigraphic sequence from the Roman civil town of Carnuntum (Lower Austria)</i> Alfred GALIK, Günther Karl KUNST & Silvia RADBAUER	103
<i>Cyprinid fishing in Dobrudja (Romania) from prehistory to the Middle Ages</i> Simina STANC, Valentin RADU & Luminita BEJENARU	108
<b>FISHES AND FISHING IN MEDITERRANEAN AND AFRICA REGION</b>	<b>115</b>
<i>Fish remains from the Casa do Governador - a Roman fish processing factory in Lusitania</i> Sónia GABRIEL, Carlos FABIÃO & Iola FILIPE	117
<i>The onset of commercial fishing in the western Mediterranean: Castro Marim (Algarve, Portugal) and Los Gavilanes (Murcia, Spain)</i> Eufrasia ROSELLO IZQUIERDO & Arturo MORALES MUÑIZ	120

<i>Fish as a food source in Greek dietetics. An overview of late antique and early Byzantine doctrines</i> Maciej KOKOSZKO	122
<i>Fishbones vs. fishhooks: a comparative study from the Neolithic lakeside settlement of Dispilio, Greece</i> Tatiana THEODOROPOULOU & Georgia STRATOULI	126
<i>Fish speciation and endemism in the Paleo Lake Hula, Israel</i> Irit ZOHAR & Rebecca BITON	131
<i>The archaeology and archaeoichthyology of fish and fishing at Tell el Farkha, Egypt – predynastic and early dynastic times</i> Marek CHŁODNICKI & Daniel MAKOWIECKI	135
<i>Swahili fishing culture and fish consumption in coastal East Africa</i> Eréndira Quintana MORALES	141
<i>Roman fish sauce: an experiment in archaeology</i> Sally GRAINGER	143
<b>FISHES AND FISHING IN THE WEST AND NORTH PACIFIC OCEAN REGION</b>	147
<i>Prehistoric fishing in the northern Philippines: ecological and cultural implications in islands of southeast Asia</i> Fredeliza Z. CAMPOS	149
<i>Ancient transport in the Japanese archipelago revealed through carbon and nitrogen stable isotope ratios of excavated marine fishes</i> Eriko ISHIMARU, Ichiro TAYASU, Tetsuya UMINO, Minoru YONEDA & Takakazu YUMOTO	151
<i>What kind of fish are these? Bones from the Bancho site and the Yokkaichi site of the Edo period (17<sup>th</sup>-19<sup>th</sup> century) in Japan</i> Eriko ISHIMARU	154
<i>3000 Years of Fishing on Nayau, Lau Group, Fiji</i> Sharyn JONES	156
<i>Fish remains from ancient Aleutian archaeological site (Adak island, Aleutian chain) and environmental changes</i> Olga KRYLOVICH	161
<b>FISHES AND FISHING IN THE EAST PACIFIC OCEAN REGION</b>	165
<i>Fishing at pre-Hispanic settlements on the Pearl Island archipelago (Panama, Pacific), I: Pedro González Island (4030-3630 cal BCE)</i> Richard COOKE & Máximo JIMÉNEZ	167
<i>Fishing at pre-Hispanic settlements on the Pearl Island archipelago (Panama, Pacific), II: Bayoneta Island (900-1300 CE)</i> María Fernanda MARTÍNEZ, Máximo JIMÉNEZ & Richard COOKE	172

<i>Fishing the Chilean Fjords in pre-Hispanic times. Evidence from Juan Stuven Island</i> Philippe BÉAREZ	176
<i>The golden fish. Subsistence changes and dietary implications of littoral fishing among sea nomads of Tierra del Fuego</i> Atilio Francisco ZANGRANDO	179
<i>Zoomorphs of Shark and Rays in the Brazilian Prehistory</i> Manoel M. B. GONZALEZ	184
<b>ARCHAEOICHTHYOLOGY – METHODOLOGY &amp; METHODS</b>	187
<i>Length reconstruction of cyprinids from the measurement of vertebrae: methods and applications on azilian fish bones from Pont d'Ambon (Bourdeilles, Dordogne)</i> Stéphanie CRAVINHO	189
<i>Zoo-MS: Zooarchaeology by Mass Spectrometry, collagen as a molecular fingerprint for fish remains?</i> Matthew COLLINS, Jennifer HARLAND, Mike BUCKLEY & Andrew JONES	191
<i>Site formation processes and conservation in Neolithic lakeside settlements. Some examples from Arbon / Bleiche 3 (Lake Constance, Switzerland)</i> Heide HÜSTER-PLOGMANN, Kristin ISMAIL-MEYER & Philippe RENTZEL	194
<i>Osteological differences within the family of the Cyprinidae</i> Wim WOUTERS	197
<b>FISHES THROUGH ETHNOGRAPHY</b>	199
<i>Archaeoichthyology and museum. An exhibition about fish and fishing in the past</i> Simone HÄBERLE	201
<i>Fishing and fishermen. Collections, exhibitions and research of the Ethnographic Museum in Toruń</i> Artur TRAPSZYC	207
<i>Loach - a poor man's fish</i> Adriana GARBATOWSKA	210
<b>FIELD TRIP PROGRAM</b>	212
<b>CHRONICLE OF THE I.C.A.Z. FISH REMAINS WORKING GROUP MEETINGS – FROM 1981 TO 2009</b>	215





## Cyprinid fishing in Dobrudja (Romania) from prehistory to the Middle Ages

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The studied settlements lie in the area between the Danube and the Black Sea; they are located on rivers (Slava), lakes (Oltina, Babadag, Razim-Sinoe) or the Danube. There were optimum places for fishing next to these sites. For the settlements of this area, in all the historical periods, fishing represented an important occupation, which ensured a remarkable amount of animal protein for feeding people. This is reflected in the amount of fish remains; in some samples, they are at a very high amount, over 50% of the entire faunal sample: Harsova – the developed Eneolithic level (91.88%), Slava Rusa (78.97%), Navodari (70.26%), Isaccea – former Eneolithic level (66.19%), Harsova – former Eneolithic level (66.61%) and Luncavita (50.38%). Fish remains are at about 20% in the samples from Dumbraveni (27.61%), Capidava (25.34%), Hamangia (23.48%) and Oltina (23.52%).

The method applied in order to collect the fish remains differs, which also explains the differences in the sizes of the studied samples. The small amount of fish remains in the samples from the 1st and 2nd millennia A.C. is due to hand collection. The Eneolithic samples were collected both by hand and by sieving a certain amount of sediment; with this method, the number of fish remains is much bigger (see Table 1).

Archaeozoological studies that refer to the most ancient cyprinid remains from Dobrudja are from settlements dating to the Eneolithic period (5000 – 3700 B.C.). Then, for a period of about four millennia, in the area between the Danube and the Black Sea, material from just two sites has been analyzed. One should not conclude from this lack that fishing was not popular, but rather that it reflects the lack of research in the referred area. Another group of samples belongs to the 1st and 2nd millennia A.C.

The diversity of sample size, as well as method of analysis, created difficulties for comparison. For the Carcaliu, Dinogetia, Capidava sites, the number of remains for each of the determined species is not specified, though the total number of remains is mentioned.

Along with the cyprinid remains, one could also observe the remains of *Acipenser* sp., *Silurus glanis*, *Perca fluviatilis*, *Stizostedion lucioperca* and *Esox lucius*. Among the Cyprinidae, 11 species could be identified: *Abramis brama* (bream), *Alburnus alburnus* (bleak), *Aspius aspius* (asp), *Blicca bjoerkna* (white bream), *Carassius carassius* (crucian carp), *Cyprinus carpio* (common carp), *Leuciscus idus* (ide), *Pelecus cultratus* (ziege), *Rutilus rutilus* (roach), *Scardinius erythrophthalmus* (rudd) and *Tinca tinca* (tench).

The greatest diversity of species is found at the settlements of Harsova, Luncavita, Slava Rusa and Oltina. Among the cyprinid species, the highest percentage belongs to the common carp; this species is followed (in terms of the percentage) by *Abramis brama* and *Rutilus rutilus*. *Abamis brama* (bream) was identified in ten of the studied samples, while *Rutilus rutilus* (roach) occurs in eight of them. The carp appears at almost all sites, except for the samples from Techirghiol and

Table 1. Cyprinid remains quantification

Historical dating	Assemblage	References	Pisces total	Cyprinidae unidentified	Bream <i>Abramis brama</i>	Asp <i>Aspius aspius</i>	Bleak <i>Alburnus alburnus</i>	White bream <i>Blicca bjoerkna</i>	Crucian carp <i>Carrasius carassius</i>	Common carp <i>Cyprinus carpio</i>	Ide <i>Leuciscus idus</i>	Ziege <i>Pelecus cultratus</i>	Roach <i>Rutilus rutilus</i>	Rudd <i>Scardinius erythrophthalmus</i>	Tench <i>Tinca tinca</i>	Cyprinidae identified
former Eneolithic 5000-4500 B.C.	Techirghiol	Necrasov, Haimovici, 1962	17	1												1
	Hamangia	Haimovici, 1987	27	19						1						1
	Cernavoda	Balasescu <i>et al.</i> , 2005	2							2						2
	Isaccea	Balasescu <i>et al.</i> , 2005	8021	218	41					594		1	4		5	645
	Harsova	Balasescu, Radu, 2004	5095	1002	40	1		4		506		1	14		3	569
	Luncavita	Haimovici, Dardan, 1970	39							1						1
	Carcaliu	Haimovici, 1996	41							+						
	Harsova	Balasescu <i>et al.</i> , 2005	260478	77843	1868	102	14	491	2	6448	78	166	1680	421	47	11317
	Luncavita	Balasescu <i>et al.</i> , 2005	1853	127	7	2				212	1		4	1	6	233
	Navodari	Radu, 2001	1278	133						114			46			160
Babadag X-IX <sup>th</sup> centuries B.C.	Harsova	Balasescu <i>et al.</i> , 2005	12329	4056	44	3	6	11		481	3		32	17	1	598
	Argamum	Radu, 2006	284	2						57						59
Geto-Daci 2 <sup>th</sup> century B.C. 2-3 <sup>th</sup> centuries A.D.	Satu Nou	Radu, inedit	97							40						40
	Isaccea	Stanc, Bejenaru, 2009	12							4						4
	Horia	Haimovici, 1996	11	9						2						



Isaccea (medieval) (see Table 1). The common carp bones, which attain the largest dimensions among cyprinids, were collected more frequently than those of other Cyprinidae.

Table 2 contains the data concerning the dimensions of the cyprinids from the studied samples.

Table 2. Cyprinid size reconstruction.

Species	Assemblage	MNI	TL range (mm)	Mean TL (mm)	Weight range (g)
<i>Abramis brama</i>	Isaccea – former Eneolithic	9	376 - 510	454.77	648 - 1741
	Harsova – former Eneolithic	4	319 - 446	393.25	379 - 1122
	Harsova – developed Eneolithic	240	101 - 562	310.32	10 - 2381
	Luncavita – developed Eneolithic	1	509	-	1723
	Slava Rusa	14	229 – 588.5	367	130 – 2757
	Oltina	4	400.2 – 470	429.3	790.2 – 1330.3
<i>Aspius aspius</i>	Harsova – former Eneolithic	1	499	-	1241
	Harsova – developed Eneolithic	22	271 - 656	478.59	177 - 2966
	Luncavita – developed Eneolithic	2	548; 590	-	1670; 2113
	Slava Rusa	2	405; 585	-	636; 2055
	Oltina	3	477.2 – 532.8	503.66	1075.2 – 1527.4
<i>Cyprinus cyprinus</i>	Isaccea – former Eneolithic	35	437 - 1257	727.31	1269 - 28902
	Harsova – former Eneolithic	13	418 - 803	661.54	1112 - 7667
	Harsova – developed Eneolithic	289	96 - 1216	587.81	15 - 26186
	Luncavita – developed Eneolithic	20	454 - 1021	672.2	1420 - 7189
	Slava Rusa	52	20 – 1092	679	120 - 19063
	Oltina	31	370.2 – 886	-	776.7 – 10259.8
<i>Rutilus rutilus</i>	Isaccea – former Eneolithic	2	155; 487	-	43; 2025
	Harsova – former Eneolithic	6	143 - 317	216,66	32 - 475
	Harsova – developed Eneolithic	321	85 - 404	216.95	6 - 1082
	Luncavita – developed Eneolithic	2	270; 317	-	276; 475
	Slava Rusa		231 – 380	293	165 – 873
	Oltina	2	310; 363	-	439; 753
<i>Scardinius erythrophthalmus</i>	Harsova – developed Eneolithic	79	98-389	214.35	10 - 973
	Slava Rusa	2	315; 414	-	483.5; 1191.5
<i>Blicca bjoerkna</i>	Slava Rusa	2	245; 310	-	157; 266
	Harsova – former Eneolithic	3	147 - 164	158.33	51 - 65
	Harsova – developed Eneolithic	177	88 - 295	179.51	17 - 239
<i>Pelecus cultratus</i>	Slava Rusa	1	320	-	200
	Harsova – former Eneolithic	1	268	-	148
	Harsova – developed Eneolithic	36	133 - 427	245.08	41 - 312

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