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Fish and Fishing Communities: Understanding Ancient and Modern Fisheries through Archaeological Fish Remains

EDITORS' NOTE

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The papers in this special issue of the *International Journal of Osteoarchaeology* (IJO) were presented at the 19th biennial meeting of the Fish Remains Working Group (FRWG) of the International Council of Archaeozoology (ICAZ), which was held in Alghero and Stintino, Sardinia, Italy, from October 1–7, 2017. Entitled *Fish and Fishing Communities: Understanding Ancient and Modern Fisheries through Archaeological Fish Remains,* this conference brought together a diverse group of 120 scholars from 29 countries with specializations in archaeology, zoology, history, and anthropology. These fish specialists ranged from undergraduate students to emeritus professors.

As the second largest island in the Mediterranean Sea, and important for its marine and fish-based economies throughout its long cultural history, Sardinia was an ideal location for a conference on the analyses of fish remains in archaeozoology and within the broader discipline of archaeology as a whole. Conference activities were scheduled at a number of venues along the west coast of the island.

Organized by the Archaeozoological Laboratory of the Department of Nature and Environmental Science at the University of Sassari[1] the conference was hosted by Gabriele Carenti and Barbara Wilkens. The conference included 47 oral presentations and a session in which 15 posters were presented. The program encompassed a wide array of topics related to fish, fishing strategies, and fishery products, ranging from analytical methods to archaeometrics to environmental changes and historical records to DNA studies, thus reflecting the characteristic integrative and interdisciplinary nature of the FRWG meetings. Engaging and lively discussions, both formal and informal, took place throughout the duration of the conference as participants exchanged ideas and perspectives on research methodologies and recent advances in the study of archaeological fish remains in different parts of the world.

Field excursions afforded conference participants the opportunity to learn about Sardinia's distinctive cultural and natural history and, in particular, its fish and fisheries, both past and present. A visit to the Museo della Tonnara (Tuna Fishing Museum) in Stintino provided historical information on this village's local Atlantic bluefin tuna (*Thunnus thynnus*) fishing heritage through state-of-the-art multimedia exhibits as well as photographs and boat replicas. A number of conference attendees participated in the three-day field trip, which included visits to several archaeological sites of the unique Nuragic civilization—Mont'e Prama, Nuraghe Losa, and Santa Cristina—as well as the Museum of Cabras, and to the renowned Phoenician/Roman

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site of Tharros. The field trip also included a stopover at Pontis, where mullets (Mugilidae) are bred and fished using ancient traditional methods.

The 12 articles in this special issue are grouped into four sections, according to a number of topics and themes covered in the sessions held at the conference. These four sections consist of archaeological fish studies conducted in northeast Atlantic Europe and the Mediterranean basin, Neolithic Europe and adjoining regions, medieval and historic Europe, and pre-Columbian Americas and colonial archaeology.

The two papers included within the first section of this issue present research on fish and fishing practices within northeast Atlantic Europe and the Mediterranean basin. The relevance of genetic analyses to archaeological fish remains is demonstrated in the paper by Puncher et al. Through the application of ancient DNA analyses, they were able to accurately identify Atlantic bluefin tuna among fish remains recovered from a number of archaeological sites in the north Atlantic and Mediterranean regions dating from the Late Iron Age (2nd century BC) to the early 20th century. Carannante presents a detailed examination of fish sauce, or garum, recovered from the Roman site of Pompeii. These remains were discovered from within an amphora in a "garum shop" whereby young female picarels (*Spicara smaris*) were identified as the sauce's primary ingredient.

The second section consists of two papers that focus on the Neolithic of Europe and adjoining regions. Zabilska-Kunek examines the predominance of wels catfish (*Silurus glanis*) at the site of Rakushechny Yar in the Russian Federation, which is one of the earliest Neolithic sites in the lower Don River valley region. Theodoropoulou studies the fish remains from an Early Neolithic cave near the Aegean Sea in Greece to determine fish exploitation practices, species choices, and social organization. She shows how subsistence strategies and preferences changed over time from harvesting pelagic to inshore fish resources.

The next section includes four papers on fishing in Europe during medieval and/or historic times. Borvon presents an overview of fishing and patterns of fish consumption in the Alsace region of

eastern France by examining fish bone assemblages from 11 archaeological sites dating from the Roman through medieval and early modern times. The articles by Häberle and Plogmann and by Lõugas et al. both integrate ichthyoarchaeological data with historical records. Häberle and Plogmann examine the results of the analyses of fish bones recovered from 20 archaeological sites in northern and eastern Switzerland in order to determine fish exploitation patterns in the medieval and early modern periods. Their study shows that both the archaeological data and historical documents similarly indicate that fisheries were strongly regulated and often selective in the captured and/or traded species. Lõugas et al. focus on the archaeological faunal evidence for a duty on fish at a medieval castle and customs station in eastern Estonia as recorded in historical sources. They believe that the large quantity of fish remains found, including long distance imports, may possibly indicate a duty taken on the trading of fish. The article by Oueslati examines the faunal assemblages from two sites in northern France, dating between the 9th and 11th centuries AD. He correlates innovative fishing tackle and capture grounds with changing architectural building styles and shows that these sites were primarily used for fish processing, especially of large Atlantic cod (*Gadus morhua*) and haddock (*Melanogrammus aeglefinus*), rather than for consumption purposes.

The final section of this issue consists of four papers on fishing in pre-Columbian America and at colonial period sites. Grouard et al. examine ichthyoarchaeological remains from 14 assemblages representing 11 islands of the Lesser Antilles in the Caribbean region. They present a methodological approach for comparing fish exploitation patterns by estimating the size of archaeological fish, focusing on eight fish families. From the estimated total lengths of the archaeological fish, they are able to infer the various strategies and implements used by Amerindian fisherfolk. Jiménez Cano examines ancient fishing practices and coastal adaptations among the pre-Hispanic Maya living in the northern lowlands of the Yucatan Peninsula during the Classic (AD 500-900) and Postclassic (AD 900-1400) periods. She uses archaeological fish remains as proxies to demonstrate shifts in fish procurement strategies over time due to environmental stress episodes, such as droughts. The final articles by Fradkin and by Béarez and Bouffandeau involve colonial period sites. Fradkin compares archaeological fish remains recovered at a mid-18th-century British colonial settlement vis-à-vis modern fish data collected

in the northern Indian River Lagoon along the Atlantic coast of Florida, USA, and demonstrates that these fish populations are comparable in relative frequency and size. Although the lagoon has been altered since colonial times due to anthropogenic and natural influences, her research indicates that fish communities have been relatively resilient and continue to thrive in this estuarine system today. Béarez and Bouffandeau investigate the plight of Malagasy slaves, who were shipwrecked and marooned on the island of Tromelin in the Indian Ocean in the mid-18th century. The few surviving slaves used a number of fishing strategies to exploit marine resources in order to subsist and survive.

The articles in this special issue offer additional perspectives and present new insights into the study of archaeological fish remains. Such contributions, in turn, should enhance our understanding of the role of fish and fishing among past human populations.