Fishing and hunting gear from osseous raw materials in the Early Neolithic from Serbia

Selena Vitezović

Institute of Archaeology, Kneza Mihaila 35/IV, Belgrade, Serbia

ARTICLE INFO

Article history:
Received 22 September 2017
Received in revised form 12 January 2018
Accepted 21 January 2018
Available online xxx

Keywords:
Early Neolithic
Starcevo culture
Osseous raw materials
Projectile points
Fish hooks

ABSTRACT

The methods of fishing and hunting in prehistory are a complex subject that needs to be analysed from different perspectives. Comprehensive analysis may enable reconstruction not only of subsistence and economy, but also of technology, social organization and cultural attitude towards the environment. Such studies must include various perspectives and also combine diverse data available from the archaeological record. The identification of fishing and hunting gear is not always easy or straightforward; some artefacts may have had another function, some parts may have been made from perishable materials. Among the Neolithic communities in South-East Europe, hunting and fishing preserved a certain role in the economy after the introduction of domesticated plants and animals. However, findings of hunting and fishing gear are not particularly rich, thus raising questions on the raw materials used and adequate identification of these items. In this paper, an overview will be offered of osseous artefacts identified as hunting and fishing gear recovered from Starcevo culture sites in Serbia; their techno-typological traits will be discussed, as well as their general place within the osseous industry and in the wider context of these communities.

© 2018 Elsevier Ltd and INQUA. All rights reserved.

1. Introduction

Wild animals represent one of the vital resources for hunter-gatherer groups and they kept their economic and socio-cultural role among numerous agro-pastoralist communities. Hunted animals can be dangerous and aggressive, or timid, very fast and/or well hidden; therefore, to catch them without putting themselves in danger or before they escape, human groups had to invent diverse techniques and weapons which enabled them to mortally wound animals from a safe distance (cf. Julien, 2016).

Hunting and fishing techniques in prehistoric societies represent a complex subject of study, which may enable reconstruction not only of subsistence and economy, but also of technological level, social organization and cultural attitude towards the environment. Such studies must include various perspectives and also combine diverse data available from the archaeological record. Analyses are, however, connected with numerous obstacles, such as insufficient preservation of fish remains, inadequate recovery of small bones, many of the structures used in hunting and fishing were made from perishable materials, identification of exact function of some artefacts may not be straightforward, and many more.

Hunting and fishing equipment is an important evidence not only for the presence of these activities, but also for their role within given communities. Weapons are often an important part of the material culture (cf. Knecht, 1997a,b; Pétillon, 2006; inter al.). Beside their main, purely utilitarian role, they may also serve as symbols of status, identity, belonging to a group (cf. Wiessner, 1983; Sinclair, 1995).

There is a long history of research of projectile technology and hunting techniques in general (e.g., Knecht ed., 1997; Pétillon et al., 2009; Pétillon et al., 2011; Lovita and Sano eds., 2016; inter al.), especially when it concerns the Palaeolithic period. Studies of lithic projectiles have longer tradition, but analyses regarding those made from osseous raw materials are increasing in past few decades (e.g., Delporte, et al., 1988; Pétillon, 2006; Langley ed., 2016).

The introduction of agriculture affected the place that hunting and fishing had in both subsistence and in the social life. The change of animals’ role in economy is tightly linked to the change of perception of animals and their role in social and cultural life; the two are mutually dependent (cf. Seethah, 2005, p. 6).

The role of hunting and fishing among the agricultural societies in the South-Eastern Europe were previously discussed from the
viewpoint of the faunal remains (e.g., Bartosiewicz and Bonsall, 2004; references therein; Dinu, 2010; Galik et al., 2015; inter al.). Studies focused especially on the hunting and fishing gear are not particularly numerous (e.g., Stratouli, 1996; Cristiani et al., 2016), and comprehensive studies have yet to ensue (with some notable exceptions, e.g., Benczeck et al., 2013).

When it concerns the Starčevo culture, studies on hunting and fishing are relatively scarce. The Starčevo material culture includes rich and diverse tool assemblages from lithic and osseous raw materials (cf. Antonović, 2003; Šarić, 2014; Vitezović, 2011a), however, very few artefacts can be linked with certainty with fishing and hunting activities.

It is very interesting that chipped stone artefacts that may have been used in hunting are almost non-existing; only three arrows were identified within Starčevo culture sites (Šarić, 2005, pp. 13–14). As for other lithic artefacts, possible hunting and fishing gear includes artefacts interpreted as weights and bullet slings, all found in small quantities and at selected sites only (Antonović, 2003, pp. 63–64).

Ceramic artefacts that may be linked with hunting and fishing activities may be somewhat more numerous, although there is a problem with the identification of the exact function. Clay weights are relatively abundant at most of the Starčevo sites and display wide range of shapes, dimension and weight (e.g., Bogdanović, 2004; Vuković et al., 2016, and references therein). They may have served as net or loom weights; however, they were mainly analysed from typological and stylistical viewpoint and clear criteria for function identification have not been established so far. Also, occasional finds of artefacts that can be interpreted as bullet slings are reported only briefly and even for these there are several hypotheses on their function (see Vuković et al., 2016, pp. 192).

This paper will be limited to the study of hunting and fishing equipment made from osseous raw materials from Starčevo culture sites, as a contribution to a wider study, which will ensue, of the role of hunting and fishing and its economic and social aspects in general among the Early Neolithic communities. Osseous hunting and fishing weapons are important not only as indirect evidence for these activities, but also display some interesting technological traits, important for studies of Neolithisation processes (cf. Vitezović, 2016a).

2. Archaeological background

The Early/Middle Neolithic Starčevo culture is a part of the Starčevo-Körös-Criș cultural complex, widespread in present-day Serbia and adjacent areas (Arandelović Garasanić, 1954; Garasanić, 1979; for AMS dates, cf. Whittle et al., 2002).

Starčevo culture communities were agricultural; they cultivated different plant resources (Filipović and Obradović, 2013, and references therein) and practiced animal herding. Hunting and fishing were also practised, but their importance differs from region to region and over time. The analyses of faunal records from Starčevo culture sites were not systematic and differ in quality; sample bias is present at all sites, since the material is rarely sieved and, at some sites, probably selectively collected during excavations. However, some general trends may be noted. Faunal analyses of sites in Vojvodina region (southern parts of the Pannonian plain) show the predominance of domestic animals. At the eponymous site of Starčevo-Grad, situated on the banks of the Danube (Fig. 1), domestic animals constituted about 65% of the fauna. The most numerous species is cattle (Bos taurus) (cca 66%), followed by caprinae (Ovis aries/Capra hircus) (30%) and domestic pigs (Sus scrofa domestica) and dog (Canis familiaris). Large wild animals comprised approximately 33% of the fauna: wild pig (Sus scrofa) 26%, red deer (Cervus elaphus) 28%, and aurochs (Bos primigenius) 10%. Also, Equus przewalski, badger, otter, small carnivores, rodents, as well as fish and birds were present (Clason, 1982). Material studied from the site of Donja Branjevina also showed approx. 66% of domestic animals. Caprinae were predominant, almost 50% of the total fauna, followed by cattle (15%), and with small percentages of pig and dog. Among wild species, most numerous were aurochs, followed by red and roe deer. Fish, birds and turtles were also noted in considerable quantities (Blažič, 2005, pp. 74–75). At the site of Lučas-Budžak, domestic animals comprised about 80%: mainly caprinae (68%), followed by cattle (10%), and pig, dog, red deer, aurochs, roe deer were discovered in small percentage, as well as fish and birds (Bokonyi, 1974, pp. 436).

Domestic fauna was also predominant at the site of Divostin, in the Pomoravlje region (over 90%): Bos taurus was the most common species (47%), followed by caprinae (41%). Also, smaller quantities of bones from domestic and wild pig, red deer, aurochs and dog were discovered (Bokonyi, 1988).

The Iron Gates region showed a somewhat different picture. S. Bokonyi’s preliminary analysis of the faunal remains from the site of Ušće Kamenickog Potoka, revealed the predominance of the wild fauna, mainly wild pig and red deer; goat, cattle, fish and birds were also present (Stanković, 1986a). In the faunal record from Hajdučka Vodena, red deer (over 50% of NISP) was predominant, followed by domestic pig and cattle (Greenfield, 2008). Only the site of Knejiqeše had higher ratio of domestic vs. wild fauna; among wild fauna, red deer was predominant, followed by aurochs, and also small carnivores, turtles and diversity of fish were found (Bokonyi, 1992).

The percentage of different animals varied due to different environmental conditions, diverse economy and perhaps even local preferences; however, we may note the presence of wild fauna at all the sites: red deer, aurochs and wild pig, with occasional presence of roe deer, small carnivores, etc. Fishing and fowling are thus far confirmed on the sites of Starčevo and Donja Branjevina, located lowlands on the river Danube banks, probably in a marshy environment, and Ušće Kamenickog Potoka and Knejiqeše, also located on the banks of the river Danube, only in a different, more elevated environment. Keeping in mind that the presence and relative percentages of fish and bird remains are largely dependent on recovery methods, we may assume that fishing and fowling were not rarely practised activities, although their importance was probably mainly linked with environmental conditions.

3. Material and methods

Material from approximately 20 Starčevo culture sites with preserved osseous assemblages was analysed by author from technological and typological viewpoint, while manufacture and usewear traces were observed at low magnification (up to 20×) (Vitezović, 2011a). Some of the assemblages were collected during excavations in the early or mid-20th century and sample bias may be present, therefore, the absence of some types at some of the sites must not be considered definite. Artefacts interpreted as projectile points and fish hooks, analysed here (Table 1) were discovered at the sites of Starčevo-Grad, Donja Branjevina, Lučas Budžak, Golokut-Vižić, Obrež- Baştine, Grivac, Divostin, Zmajevac, Mestureč, Drenovac, Velesnica, Knjepi, Bubanj and Pavlovac (Fig. 1).

Analytical criteria for the technological and functional interpretation of manufacture and usewear traces were established based upon the work of numerous authors (Newcomer, 1974; Semenov, 1976; Peltier, 1986; Campagna, 1989; Christidou, 1999; Maigrot, 2003, pp. 63–64).

Analyses at higher magnification were not possible for technical reasons, as the material was inspected within the premises of the museums where the material is stored.
دریافت فوری متن کامل مقاله

| امکان دانلود نسخه تمام متن مقالات انگلیسی | ✓ |
| امکان دانلود نسخه ترجمه شده مقالات | ✓ |
| پذیرش سفارش ترجمه تخصصی | ✓ |
| امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله | ✓ |
| امکان دانلود رایگان ۲ صفحه اول هر مقاله | ✓ |
| امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب | ✓ |
| دانلود فوری مقاله پس از پرداخت آنلاین | ✓ |
| پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات | ✓ |