THE EARLIEST ANTLER AND BONE HARPOONS FROM THE EAST BALTIC

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Abstract

The East Baltic Stone Age is well known for its rich array of bone and antler artefacts. The collections consist of stray finds as well as inventory from stratified settlement sites. Seven hunting and fishing tool complexes, made from bone and antler, were singled out in Latvia, characterising each stage of the Baltic Stone Age. The oldest of these complexes was formed at the very end of the Late Glacial period when the ice sheet retreated and the conditions for human habitation were created. This complex consists of 18 bone and antler artefacts, harpoons of archaic forms and spearheads, found in Latvia and Lithuania. Unfortunately, they are all stray finds and determined as Late Palaeolithic only typologically. Harpoons in similar morphological forms are known from all of northwest and Central Europe, associated with Late Palaeolithic reindeer hunter cultures. Some of the finds were made from reindeer antler. The new carbon 14 data of reindeer bones, obtained in Helsinki University by H. Jungner, testified to the presence of reindeer in the Eastern Baltic from Alleröd times till the beginning of the Preboreal climatic period.

Key words: Late Palaeolithic, Late Glacial, East Baltic, harpoons of bone and antler, reindeer.

Introduction

all such finds as barded points, without making any finer distinctions.

Holding an important place among the rich variety of ancient antler and bone hunting weapons from the East Baltic are harpoons, various forms of which have been found on archaeological sites and as stray finds, spanning the whole of the Stone Age.

Both archaeologists and ethnographers have expressed various opinions on exactly what a harpoon is and what kinds of implements can be included in this artefact category. Thus:

- harpoons are taken to include all barbed bone points, regardless of the manner of hafting;
- harpoons are regarded as including only those barbed bone and antler implements that are detachable from the shaft, specially modified at the base for better attachment. Other barbed points are classed as various kinds of spears;
- certain researchers have doubted whether true harpoons are actually represented in the Stone Age at all, regarding the thickening and perforations in the lower part of the stem as having served only to improve the fixed attachment to the shaft;
- there is also a widespread practice of distinguishing true (*echte*, *eigentlichen*, *nastoyashchye*) harpoons from other barbed points, at the same time retaining the traditional practice of referring to the rest as harpoons too;
- 5) since bone and antler implements are preserved in a fragmented state, there is also a practice of classing

In the author's opinion, the second view, also the most widely held, provides the best possibility for distinguishing harpoons from other kinds of barbed weapons. Thus: Stone Age harpoons are taken to include throwing weapons with barbed bone or antler points, detachable from the shaft, with a special modification at the base for attaching a line, and connected by this line to the shaft of the weapon or the harpooner's hand. When the quarry was hit, the bone harpoon detached from the shaft, hindering the animal's escape and facilitating its capture. The hafting of the point had to be sufficiently loose to become detached at the required moment, and stable enough for this not to happen before the weapon struck. Harpoons could be thrown by hand, but might also have been thrown using a spear thrower, a frequent class of find on Late Palaeolithic settlement sites. According to research opinion, harpoons were used for hunting large terrestrial game and marine animals: seals, porpoises, etc. Well known are finds of seal skeletons from marine layers together with bone harpoon points, the classic examples being harpoon finds from Närpiö, in the River Oulu, and other locations in Finland (Edgren 2000: 49-56).

The appearance of harpoons in Europe in the Final Palaeolithic must be regarded as a progressive phenomenon in the development of hunting weaponry. Barbed harpoons were more complicated in form, compared with the straight spear points used in earlier periods of the Palaeolithic. This represented the first use of a weapon consisting of two parts, where the tip of the



Fig. 1. The Daugava river valley, archaeological monuments and stray finds: 1 Salaspils Laukskola; 2 Ikšķiles Elkšņi; 3 Skrīveru Lielrutuļi; 4 Spietiņi-Plāteri; 5 Dviete; 6, 9 Lake Lubana; 7 Ogre; 8 Odziena; 10 Vinkelmaņi; 11 Čabas; 12 Sēlpils; 13 Lejasdopeles; 14 Bebruleja

weapon was detachable from the support. It seems that the barbs on the tip were developed earlier, the principle of detachment being a later development (Семёнев 1968: 285–293; Faustel 1973: 157–159).

On the North European Plain during the closing stages of the Late Glacial, in similar ecological conditions (tundra vegetation and reindeer as the main prey), two types of harpoons were characteristic: one type was a biserial harpoon head with a pointed spade-shaped base; the second type was a uniserial harpoon head, ie harpoons with one row of barbs and a spade-shaped base (Clark 1975: 70–71). During the Late Glacial, such harpoon heads were in use throughout northern Europe, from Denmark in the west to Poland in the east. Both types, with some variations, are known in the eastern Baltic too.

The history of research

Bone and antler harpoons of archaic form were found in Latvia even before the 1940s. The first find, from 1938, was a small biserial harpoon from Dviete (Fig. 1, Fig. 2: 3), possibly made of reindeer antler. Then, in the years 1938–1940, following the regulation of the water level in Lake Lubāna, a unique collection of stray finds of bone and antler artefacts was recovered (Fig. 1). They were collected in the drained part of the lake, on the former shores, islands and shallows of the lake in the southwest and western part of the former lake. Among the finds were 11 harpoons of archaic form. These are now kept at the History Museum of Latvia (A 10519; A 9636; A 11928).

E. Šturms published the first information on the finds immediately after their discovery (Šturms 1939: 31–44, Fig. 4: 2), later providing an interpretation of the finds in his monograph on the Stone Age cultures of the Baltic (Šturms 1970: 14–17). In later years, these harpoon heads were frequently discussed by Stone Age specialists. All authors characterised them as Late Palaeolithic on the basis of the morphology, but they were dated to the Early Mesolithic Preboreal Period, ie the eighth millennium BC (JIo3e 1964: 13–15, III: 2,3; 1966: 109–110, 2: 1, 2; Vankina 1970: 55–60, Fig. 51:

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Fig. 2. Antler and bone harpoons from Lake Lubana (1, 2, 4–7) and Dviete (3): 1 A 9636:39; 2 A 10519:1838; 3 A 9586:54; 4 A 11928:489; 5 A 10519:1490; 6 A 10519:1488; 7 A 10519:1487

1, 4; Fig. 53: 1). Later, following the discovery of the Late Palaeolithic settlement site with a flint inventory at Salaspils Laukskola, it became possible to date the mentioned bone and antler harpoons to the Late Glacial, the ninth millennium BC (Zagorska 1972: 81–85, Fig. 1: 1–7; 1994: 14–17, Fig. 1: 1–12; 1999: 139–140, Fig. 3: 1–11; Fig. 4: 3; Vankina 1999: 27–28, Fig. 1: 1, 4–13).

Environmental situation

The first appearance of human settlement in the east Baltic was conditioned by the environmental situation. If there were any indications of human presence during the interglacial periods, they must have been destroyed by ice. More specific evidence of the climate, flora and fauna, and of the peopling of this area, has been obtained only for the final phase of the last glaciation.

Geologists consider that southeast Latvia was the first part of the country to become ice-free, followed by the rest of present-day Latvia, which was covered by tundra vegetation. All the mentioned finds of bone and antler harpoons are concentrated in the valley of the River Daugava, the central and largest river in Latvia (Fig. 1). The river valley is oriented SE-NW, flowing through eastern and central Latvia. With the retreat of the ice sheet, the glacial meltwaters "carved out" and formed the basis of the river and lake systems in the Baltic area. One of the first to develop was the Daugava valley. The River Daugava partly made use of an older river bed and partly formed a new one, gradually lengthening its course downstream. Fairly quickly, the river cut through the ten to 20-metrethick till and sand/gravel deposits in an area of undulating hills, reaching the hard dolomite surface. The River Daugava received meltwater from several basins. One of the largest was the Lake Lubāna residual basin, the drainage system of which was closely linked to the Daugava valley (Fig. 1). Lake Lubāna is situated in the lowlands of eastern Latvia, has gently sloping shores, and before its regulation was the country's largest lake (90.4 sq. km, mean depth

1.2m). Several streams enter the lake, and its only outlet is the River Aiviekste, a right bank tributary of the Daugava. A second important valley was the Dviete valley-like depression, developed in Quaternary strata above a buried earlier valley formed in the Devonian bedrock (Fig. 1). This valley is more than 20 kilometres long, with a width of 0.8 to two kilometres and a depth of five to ten metres. The River Dviete, flowing through this valley, formed two glacial lakes along its course, and enters the Daugava on its left bank close to Daugavpils (information from D. Gruberts 2003). It seems that the formation of the Daugava river valley was largely complete in the Younger Dryas period. The river waters flowed into a broad estuary, entering the Baltic Ice Lake near Salaspils (Эберхард 1972: 60; Eberhards 1991: 18-23).

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During the Alleröd, with marked climatic amelioration, the frequency of pine (Pinus sylvestris) and birch (Betula sect. Nanae, Betula sect. Humilis) increased, with a continuing significant presence of periglacial plants. In the next stage, the Younger Dryas, pollen and spore analyses indicate subarctic conditions and park tundra once again, with pine, dwarf birch, black alder (Alnus glutinosa) and a great number of grasses, sedges and mosses. These features also characterised the very beginning of the Post Glacial age (Stelle 1997: 95-98; Kalnina et al 1999: 55-62).

The only evidence of Late Glacial fauna consists of finds of reindeer (Rangifer tarandus L.) remains. More than 20 specimens of subfossil reindeer remains have been recorded from Latvia. These are stray finds from bogs and mires, deriving from peat layers and sediments under the peat. Some of the finds were collected from lakes, including Lake Lubāna (Fig. 4), and from river terraces, such as the bank of the Daugava by Ogre. Most importantly, eight of these reindeer antlers and bones are now dated by radiocarbon (Zagorska et al 2005, forthcoming). Now it is confirmed that reindeer were present in Latvia at the end of the Late Glacial, in the Alleröd, the Younger Dryas and the very beginning of the Preboreal, corresponding to



Fig. 3. Antler and bone harpoons from Lake Lubana: 1 A 10519:1486; 2 A 11928:495; 3 A 10519:1485; 4 A 10519:1489; 5 A 10519:1522

the time period approximately 11,500–10,000 BP (uncalibrated) (Table 1, 2).

Table 1. Reindeer antler datings from Latvia (Groningen Cal-25 Programme, 1 sigma interval, H. Jungner, Dating Laboratory of the University of Helsinki)

| Lab.nr. | Site | Years BP | Cal. years BP |
|---------------|------------|-----------------|---------------|
| 1) Hela - 606 | Nitaure | 11565 ± 80 | 13760 - 13460 |
| 2) Hela - 604 | Odziena | 11030 ± 80 | 13110 - 12990 |
| 3) Hela - 602 | Tirelpurvs | 10890 ± 135 | 13050 - 12850 |
| 4) Hela - 603 | Olaine | 10780 ± 90 | 12930 - 12700 |
| 5) Hela - 608 | Tetele | 10345 ± 75 | 12500 - 12010 |
| 6) Hela - 607 | Lubana | 9980 ± 70 | 11560 - 11290 |

tation of Late Palaeolithic finds: settlement sites with a flint inventory, one Devonian flint outcrop and the above-mentioned reindeer skull from Ogre. Reindeer antler finds are known from the Lake Lubāna shallows (Zagorska 1996: 263–272; 1999: 137–147). Among all these finds, important and impressive are 12 bone and antler harpoons of archaic form (Fig. 2, 3).

The banks of the River Daugava have the best represen-

The earliest bone and antler harpoons

On the shores of Lake Lubāna and at Dviete, a total of 12 bone and antler harpoons of archaic form have been recovered. Typologically, these harpoons can be divided into three groups:

 biserial harpoons with asymmetrically arranged, widely spaced angular or rounded barbs and a spade-shaped base;



Fig. 4. Reindeer antlers found in the shallows of Lake Lubana (CVVM A 111894)

- biserial harpoons with slanting, symmetrically or asymmetrically arranged barbs and a spade-shaped base;
- 3) a uniserial harpoon with widely spaced and strong
 - ly curved beak-like barbs and an irregularly formed spade-shaped base.

Belonging to the first group are seven implements from Lubāna and one from Dviete (Fig. 2: 1–7). Three of these are intact, and four are fragmented. The intact pieces from Lubāna are about 20 centimetres long, while the harpoon from Dviete is smaller, about 16 centimetres long. The barbs are widely spaced, angular or slightly rounded, four to six on each side, arranged alternately. The bases are spade-shaped, with a basal inverse barb on one or both sides. In cross-section, the artefacts are triangular, rounded or plane-convex.

Similar biserial harpoons are distributed along the south and southwest shores of the Baltic Sea: in Poland, Lachmirowice, Dziwnowa; in Germany, Havelland, the Ahrensburgian complex from Stellmoor; and in Denmark, Skaftelev on Zealand (Stimming 1928: 112, Fig. 84–94; Taute 1968: 205–206, Fig. 161, 162, map 8; Galinski 1986: 70–86; Fig. 1.13; Andersen 1988: 523–547, Fig. 16, 17). Based on the Stellmoor find (Fig. 5: 3), they are dated to the end of the Palaeolithic, the Younger Dryas-the beginning of Preboreal period (Taute 1968: 205–206; Kozlowski et al 1976: 213). The Stellmoor tunnel valley is still of fundamental importance for understanding the chronology of the Palaeolithic cultures of the Late Glacial. The upper layer of Stellmoor has furnished more suitable material for pollen analyses and carbon 14 data. New carbon 14 datings of the finds from the Ahrensburgian strata have given data covering a few hundred years around 10,000 BP, ie 10140 ± 103 BP and 9810 ± 100 BP (Fischer, Tauber 1986: 7–13, Table 2).

It must be noted, though, that the barbs on the harpoons found further to the west, in Denmark and western Germany, are larger and more angular, with a longer base (Fig. 5: 1–3). In the basin of the River Havel, both types of harpoons have been found: examples with biserial, angular barbs and others with smaller, more rounded barbs. This last form, harpoons with smaller, more rounded, beak-shaped barbs and a shorter base, is also present in Poland and Latvia (Fig. 5: 4; Fig. 2: 1–7). S.K. Kozlowski describes these two types as Stellmoor-type and Lachmirowice-type (Kozlowski et al 1976: 213; Galinski 1986: 16–17, Fig. 1.2b;



Fig. 5. Antler and bone harpoons from the North European Plain: 1 Gortz, Havelland; 2 Skaftelev (Seeland); 3 Ahrensburg, Stellmoor (Holstein); 4 Lachmirowice (Masovian); 5 Skellinhsted Bro (Seeland); 6 Wojnowo (Olsztyn). After: W. Taute (1968); S.H. Andersen (1988); S.K. Kozlowski (1981)

Verhart 1990: 143, Fig. 4; Zagorska 1994: 14, Fig. 1). It is difficult to explain these differences, whether they are territorial, chronological, functional or cultural. It is clear that these differences are territorial, and, maybe, also cultural.

This kind of hunting weapon is very characteristic of the Late Glacial reindeer cultures of the North European Plain, beginning from Upper Magdalenian times in France. Both types of harpoons, with angular barbs and also with rounded, beak-like barbs, are found together in the rich bone and antler collections of the West European Magdalenian (Julien 1982: 98-104, Fig. 43-44). In the British Isles, fragments of similar barbed points, or organic samples from the layers where they were found, have been radiocarbon dated. Some of these biserial harpoons are probably older than 11,000 BP (Smith, Bonsall 1988: 209, Fig. 191:3).

It seems clear that the bone and antler harpoons from the River Daugava basin and the Lake Lubāna basin typologically resemble the north European harpoon heads and may be attributed to the same chronological period: the end of the Late Glacial. Moreover, K. Paaver, the Estonian palaeozoologist, has

suggested that the Dviete harpoon is made of reindeer antler, so it might be dated to the Alleröd or Younger Dryas.

Belonging to the second group are four harpoon heads, all from the Lake Lubāna region (Fig. 3: 1-4). These harpoons are fragmented: three of them are fragments of the tip, while the fourth is a basal section. This is a type of biserial harpoon with slanting barbs and a spade-shaped base. The largest fragment, 16.5 centimetres long, has biserial, slanting barbs, arranged symmetrically, only the lower barbs are asymmetrical. The tip is rhombic in cross-section (Fig. 3: 1). Two other quite short points have slanting, asymmetrical barbs, and are rhombic and irregular in cross-section (Fig. 3: 2, 3). The basal section of a biserial harpoon is provided with slanting, shallow-cut and widely spaced barbs. The spade-shaped base has slanting shoulders facing the stem. The piece is triangular in cross-section (Fig. 3: 4). Typologically, they are very close to the first type of biserial harpoon, only the barbs are more oblique.



Fig. 6. Late Palaeolithic bone and antler artefact finds: 1 point; 2–4 spearheads from Kalniškai (Klaipeda, Lithuania) and Lyngby; 5 club from Mauršaičiu (Kaliningrad district, Russia). After R. Rimantienė (1994, 1996).

Similar finds have been obtained in Denmark, where they are considered to be from the Younger Dryas (Andersen 1988: 535, Fig. 17: 2, 3).

The type of biserial harpoon with slanting barbs is represented already among Magdalenian finds (Julien 1982: 98–104, type A dc, type B dc). Harpoons of this type, in terms of the form of the barbs, resemble the well-known Azilian harpoons of Central and Western Europe, dated to the Early Mesolithic. Harpoon heads in northern Europe with uniserial and biserial slanting barbs were widely used during the whole of the Stone Age, differing only in terms of material and carving technique. This is also confirmed by radiocarbon dating (Smith, Bonsall 1988: 209, Fig. 19: 1; Larsson 1999: 168–171, Fig. 8).

The third type includes a uniserial harpoon of reindeer antler with two robust, strongly curved barbs, rounded in cross-section, with a spade-shaped base with slanting shoulders, and a broken point, that stands apart from all other finds (Fig. 3: 5). This harpoon head was ARCHAEOLOGIA BALTICA 7

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Fig. 7. Antler and bone artefact complex from the North European Plain (Late Glacial–Early Post Glacial period): 1 biserial harpoons with angular barbs (1st group); 2 biserial harpoons with slanting barbs (2nd group); 3 uniserial harpoons with strongly curved barbs (3rd group); 4 point of the Gumbinnen type (spindle-shaped point); 5 paddle-shaped spearheads (Pentekinnen type); 6 the area of the distribution of Lyngby Culture; 7 the area of the distribution of Ahrensburgian Culture; 8 the area of the distribution of Swiderian Culture. After: W. Taute (1968); S.K. Kozlowski (1981); T. Galinski (1986); L.B.M. Verhart (1990); I. Zagorska (1994)

recovered in the Lake Lubāna area. According to K. Paaver, it is made from reindeer antler. The harpoon closely resembles reindeer antler harpoons found at Stellmoor (Ahrensburgian complex) and those from Wojnowo (Eckertsdorf), formerly East Prussia. Both harpoons, palinologically and by carbon 14 method, are dated to the Younger Dryas (Gross 1940: 60, taf. 4: c; Fisher, Tauber 1986: 7–13, Table 2).

Conclusions

The earliest antler and bone harpoons from Latvia date from the very end of the Late Glacial. Typological dating is confirmed by the newly obtained dates for reindeer remains from the Alleröd and Younger Dryas, reaching slightly into the first half of the Preboreal (Zagorska et al 2005, forthcoming). It seems that reindeer antler was used to make a large harpoon with two markedly curved barbs (Fig. 3: 5) and one of the biserial harpoons (Fig. 2: 3). Similar harpoon forms, many of them also made of reindeer antler, were widespread in the Late Palaeolithic in the southern and southwestern parts of the Baltic basin, all of them belonging to the so-called "Havel type" (Clark 1975; Taute 1968; Kozlowski 1976, 1977, 1981; Verhart 1990).

These harpoon finds are regarded as characteristic of the northern reindeer hunting tribes, represented

by flint tanged points and belonging to the Bromme, Ahrensburgian and Swiderian archaeological cultures (Fig. 7).

Typologically earlier, it seems, are harpoons with large, markedly curved and widely spaced barbs: Clark's type 12A or S. Kozlowski's type 12 (Variant 6) (Kozlowski 1976, 1977, 1981). These are most common in Denmark, on the island of Zealand (Løjesmøle, Frøbjaerg and Tjørnelunde Raamose), in Brandenburg and elsewhere in north Germany (Wachow, Fohrde, Wustermark and Gortz), Poland (Orzycz and Wojnowo) and former East Prussia (Pogrimmen). Based on the Stellmoor find, this whole group is dated to the Younger Dryas (Gross 1940: 59–60; Kozlowski 1981: 83; Fisher, Tauber 1986: Table 2). In later periods of the Stone Age, such harpoons no longer occur.

Biserial harpoons with angular or slightly rounded barbs are also included among the Late Palaeolithic artefacts of northern Europe (Clark's type 12B, or Kozlowski's type 13.2). As already mentioned, this type is distributed from Denmark in the west to Latvia in the northeast (Taute 1968; Kozlowski 1976; Zagorska 1972, 1994). The origins of this harpoon form may be traced back to the Magdalenian of Western Europe, and, based on the Stellmoor finds, it is dated to the Younger Dryas and Younger Dryas/Preboreal transition (Fisher,

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Tauber 1986: 9–10). These harpoons also do not occur in later periods of the Stone Age in northern Europe.

Biserial harpoons with slanting barbs also occur in the Magdalenian of Western Europe, but, unlike the previous two forms, different variants of these harpoons remained in use throughout the Stone Age (variations of Clark's types 10 and 11). Thus, great care is needed in dating these kinds of harpoons. Such examples might be dated to the Palaeolithic on the basis of the raw material (reindeer antler or bone), the symmetrical biserial arrangement of the barbs, and the spade-shaped base with sloping shoulders.

Certain authors have tried to connect particular harpoon types with one or another of the above-mentioned Palaeolithic archaeological cultures, or so-called "social territories". Thus, harpoons with slanting barbs have been linked to Bromme Culture influences, while harpoons with large, markedly curved barbs have been regarded as typically Ahrensburgian. The type of harpoon with biserial angular barbs might be connected with Ahrensburgian Culture, while the variant with more rounded barbs might relate to the Swiderian traditions. However, the authors themselves admit that such ideas are hypothetical and would only be confirmed by the discovery of Late Palaeolithic sites with an associated bone, antler and flint inventory (Kozlowski 1981: 83–85; Verhart 1990: 139–151).

As has been noted by several researchers, all the abovementioned Palaeolithic cultures developed in similar environmental conditions, their main source of subsistence being reindeer, and these tribes evidently also had a similar social structure and world-view. The reindeer hunters were very mobile, influencing each other and mixing (Kobusiewicz 2002: 117-122). This promoted the development of a complex of similar hunting implements across the whole of northern Europe, from the Jutland Peninsula in the west to the Daugava valley in the east, characterised by flint tanged points, antler and bone harpoons and Lyngby clubs (Fig. 7). Many of the harpoons were made from reindeer antler and bone, and are closely connected with the tundra environment of the Late Glacial, which was very suitable for the species Rangifer tarandus L. Thus, these harpoons may be regarded as one of the characteristic forms of hunting weapon from the end of the Late Glacial in northern Europe, which seems to have been used mainly for hunting reindeer. The reindeer, which moved in autumn and spring in very large herds along accustomed routes, was an easy quarry to hunt. Reindeer could be harpooned when they forded a river or were coming ashore. The reindeer approaching the shore began to run as soon as their legs touched the riverbed, so the hunters even waded into the water. Reindeer caught in

this manner are even described in ethnographic literature as "shore reindeer".

The complex of Late Palaeolithic bone hunting weapons is significantly augmented by four bone and antler implements, so-called "paddle-shaped spearheads", found in western Lithuania near Klaipėda, one spindleshaped spearhead and a Lyngby-type axe found near the border with the Kaliningrad district (Fig. 6). All are made of reindeer antler and bone (Rimantienė 1970, 1994) and are dated to the Alleröd or Younger Dryas (Rimantienė 1971: 34–37; Rimantienė 1994: 37).

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ANKSTYVIAUSI KAULINIAI IR RAGINIAI ŽEBERKLAI RYTŲ BALTIJOS REGIONE

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Santrauka

Akmens amžiaus laikotarpis Rytų Baltijos kraštuose pasižymi gausiais išlikusiais dirbiniais iš kaulo ir rago. Kolekcijas sudaro tiek atsitiktiniai pavienių dirbinių radiniai, tiek radinių kompleksai iš ištirtų stratifikuotų gyvenviečių. Latvijoje yra išskirti septyni medžioklės ir žvejybos inventoriaus iš kaulo ir rago kompleksai, atitinkantys atskirus Pabaltijo akmens amžiaus laikotarpius. Seniausias iš šių kompleksų susiformavo pačioje vėlyvojo ledynmečio pabaigoje. Jį sudaro 18 radinių iš kaulo ir rago – archajiškų formų žeberklai ir ietigaliai, aptikti Latvijoje ir Lietuvoje. Deja, tai vis atsitiktiniai radiniai ir vėlyvajam paleolitui priskiriami tik tipologiškai. Panašių formų žeberklai yra žinomi visoje Šiaurės bei Centrinėje Europoje ir yra siejami su vėlyvojo paleolito šiaurės elnių medžiotojų kultūromis. Nustatyta, kad kai kurie radiniai yra pagaminti iš šiaurės elnio ragų. Pagal naujausias iš šiaurės elnio kaulų gautas radiokarbonines datas, šiaurės elniai Rytų Baltijos kraštuose buvo paplitę nuo aleriodo iki preborealio pradžios.