Hunting and fishing in Germania libera et romana during the Roman empire

Manfred TEICHERT

Résumé
Les recherches archéozoologiques ont mis en évidence que l'alimentation carnée des Germains pendant l'Empire romain était fondée à 95 % sur les animaux domestiques et à 5 % sur les animaux sauvages. Les os de petits mammifères d'oiseaux et de poissons se retrouvent en faibles quantités, rareté imputable aux conditions de collecte. En nombre de restes osseux, le cerf et le sanglier semblent avoir été les deux principales espèces chassées par les Germains. Mais selon les poids de viande déduits des nombres minimaux d'individus, ce résultat ne reste vrai que pour les habitants de la Germania romana. En Germania libera, en effet, c'est plutôt l'aurochs et le bison qui prédomonent parmi les espèces chassées.

Abstract
Archaeozoological investigations have revealed that with regard to the meat yield aurochs and bison were the most important game for the people of Germania libera, and not – as suggested so far – red dear and wild boar.

Had Caesar (100-44 BC) still emphasized the great importance of hunting for the Sueves, a Germanic tribe in the north of the river Maine, Tacitus (55-115 AC) (Germania 15) mentioned it merely as an art of the nobles (Jankuhn, 1969 : 146). These rather deviating communications by two ancient authors about the economic rank of hunting in Germanic settlements in Roman times have been compared with archaeozoological discoveries at numerous sites in the north of the Alps.

The majority of bones found in excavations belonged to large or medium-large animals. They represent only a part of the originally existing secondary or

anthropogenic thanatocenosis which means that they were mainly food remnants from
the inhabitants.

Owing to the fact that most excavations made in Germany in the past decades
included only random elutriations of excavated fragments or none at all, we may reliably
assume that unconspicuous bone remains from smaller mammals, birds and fish are
underrepresented. They surely got lost.

Bone finds from excavations in settlements revealed that in the majority of localities
investigated in Germania libera and romana the share of domestic animals amounted to
95 % and that of wild animals to less than 5 %. Particularly in the coastal region of the
North and the Baltic Sea game accounted for a very low proportion. According to
Benecke (1992 : 132) they reached an average of only 0.5 % in this area. The partially
frequent occurrence of fish remains in faunal complexes from the times of the peoples’
migration (5th to 7th century AC), however, indicated for this region a greater role of
fishing for food provision.

In inner Germanic settlements the role of game was usually slightly greater than in
the coastal region of the North and the Baltic Sea. According to estimates made by
Benecke (1992 : 132) for 16 localities in Germania libera its share game to an average
of about 2.8 %. An exception were the faunal remains from Eggolsheim in the rural
district of Forchheim, Upper Franconia. Here the proportion of game amounted to
32.8 %. According to Breu (1986, 148) it were surely extended forests with their rich
animal life around the place which stimulated hunting there.

In Germania romana, too, the share of game was mostly small. Faunal remains from
37 localities accounted for a mean share of 1.9 %. Benecke (1992 : 133) succeeded to
prove that in settlements of the type "Villa rustica" (= estate) roughly 2 to 4 times more
game bones were found than in usual settlements, towns, Roman camps and garrisons.
As plausible explanation he states that the land owners and their families belonging to
the nobility are assumed to have made full use of their right of regular hunting. On the
other hand Roman contemporaries (Varro III, 13 and Columella IX, 1) reported that
landowners had used to keep young captured deer, fawns, wild pigs and hares as living
meat reserve in enclosures where they were later available for human nutrition. The fact
that areas for game were not only fenced in by the Romans in their homeland Italy but
also in Germania romana was witnessed by two skeletons each of red deer and aurochs
found in wells of Roman towns near Bad Wimpfen, district Heilbronn, and Rottweil on
the river Neckar. In view of the fact that the bones of both skeletons showed neither
traces of killing nor carving, Frey (1988 : 143) and Kokabi (1988 : 201) assumed that the
animals had died in enclosures and subsequently were thrown into wells no longer in
use. For a better evaluation of the significance of the most popular game species for
human nutrition the authors cited in their publications not only the number of certain
bones but also the minimum number of individuals derived therefrom as well as the
carcase dressing percentage. The latter was defined by Schmidt, Patow and Kliesch
(1950 : 132) as the weight of the dehided, completely gutted body without head but with
kidneys and kidney fat in per cent of the living weight.

For ill-fed cattle and pigs it amounted only to about 50 % and 75 % resp. These
findings were applied accordingly to the corresponding wild animals. Since most
bone remains of game belonged to adult or subadult individuals, their mean carcase
dressing percentage was determined according to Brink (1957). The data are to be
understood as a rough approach because – as commonly known – for domestic and
game species this criterion is strongly related to the state of nutrition at the moment of
killing.

<table>
<thead>
<tr>
<th>Species</th>
<th>Number of bones</th>
<th>Min. No.</th>
<th>Meat / kg per individual</th>
<th>Meat in kg total</th>
<th>Meat %</th>
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</thead>
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<tr>
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<td>12</td>
<td>350</td>
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<tr>
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<td>67</td>
<td>70</td>
<td>4890</td>
<td>17,9</td>
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<tr>
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<td>52</td>
<td>70</td>
<td>3640</td>
<td>13,9</td>
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<tr>
<td>other game</td>
<td>284</td>
<td>85</td>
<td></td>
<td>1763</td>
<td>6,7</td>
</tr>
<tr>
<td>total</td>
<td>4487</td>
<td>264</td>
<td></td>
<td>26193</td>
<td>100</td>
</tr>
</tbody>
</table>

(1) Am Donnersberg (Thesing 1978)
Berlin-Schöneberg (Pohle 1958)
Dienstedt (Barthel 1987)
Erbbrink (Bossneck u.a. 1966)
Eggolsheim (Breu 1986)
Gielde (Schaal 1968)
Haarhausen (Barthel 1987)
Hildesheim.-B. (Missel 1987)

Table 1. Survey about the most important game species (Mammalia) in Germania libera from 14 sites (1).

<table>
<thead>
<tr>
<th>Species</th>
<th>Number of bones</th>
<th>Min. No.</th>
<th>Meat/kg per individual</th>
<th>Meat in kg total</th>
<th>Meat %</th>
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<td>red deer</td>
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<td>75</td>
<td>70</td>
<td>5250</td>
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<tr>
<td>wild boar</td>
<td>347</td>
<td>42</td>
<td>70</td>
<td>2940</td>
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<tr>
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<td>175</td>
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<tr>
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<td>32</td>
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<td>90</td>
<td>990</td>
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<td>350</td>
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<tr>
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<tr>
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<td>528</td>
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<td>604</td>
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<tr>
<td>total</td>
<td>2026</td>
<td>257</td>
<td></td>
<td>12783</td>
<td>100</td>
</tr>
</tbody>
</table>

(1) Bad Wimpfen (Frey 1991)
Bentumersiel (Zawatka 1977)
Breisach (Schmidt-Pauly 1980)
Butzbach (Habermehl 1959/60)
Dornagen (Mennerich 1964)
Epfach (Boessneck 1964)
Frotzhaim (Mennerich 1968)
Gellepp (Mennerich 1968)
Hüfingen (Sauer-Neubert 1968)
Hjemgumkloster (Zawatka 1977)
Künzing-Quintana (Sweigat 1976)
Pfaffenhofen (v. Houwald 1971)
Rainau-Buch (Gude 1985)
Rottweil (Kokabi 1982 u. 1988)
Wehringen (v. Houwald 1971)
Xanten (Waldmann 1966)

Abbreviation: Min. No. = Minimum number of individuals.

Table 2. Survey about the most important game species (Mammalia) in Germania romana from 16 sites (1).
Numerous bone finds have furnished the proof that in the Roman times in Germania red deer was the most frequently hunted game. In Germania libera 2,415 bones of red deer found at 13 localities could be identified as belonging to 67 individuals. The carcase dressing percentage derived therefrom was 4,690 kg = 17.9%.

Comparative data have been obtained from 16 sites of discovery in Germania romana. Here 1,023 bones from deer were found stemming from at least 75 individuals. They are supposed to have provided a carcase dressing percentage of 5,250 kg which was
equivalent to 41.1 % of that of the most important game species.

Aurochs and bison were two other essential game animals in Germania libera. The aurochs could be identified at 6 localities by means of 122 bones from 12 individuals whereas the bison was represented at 3 places with 61 bones from 6 animals. These results have been essentially supported by another 735 bones from aurochs or bison stemming from 14 individuals at 4 places. The average living weight of adult individuals of these two wild cattle species was calculated by Brink (1957: 148) with about 700 kg, the dressing percentage being 350 kg. Regarding the higher body weight, our minimum of 32 identified aurochs and bison is supposed to have delivered a carcase dressing percentage totalling 11 200 kg = 42.7 % meat. When we compare these figures with the 67 red deer specimens found in Germania libera we get only 4 690 kg = 17.9 %.

This ratio demonstrates that for the Germanics not red deer – as has been assumed so far – but aurochs and bison ranked first among game animals.

The results obtained for Germania romana were different. Judging from bone finds red deer seemed to have been the most important game species there whereas aurochs and bison were represented by 5 bones from 2 animals only, the latter being the equivalent of a carcase dressing percentage of merely 700 kg, i.e. 5.4 %.

Numerous bones from the wild boar found at almost all excavation sites north of the Alps furnished the proof that these animals represent another game species which had been widely spread during the Roman era. Both in Germania libera and romana 791 and 347 identifiable bones resp. went to the account of wild pigs. In Germania libera they belonged to at least 52 individuals with a carcase dressing percentage of 13.9 or about 3 640 kg. The 347 wild pig bones identified for Germania romana came from not more than 42 animals with a dressing percentage of 23 % or some 2 940 kg.

Due to his relatively high body weight the elk as well provided a remarkable carcase dressing percentage which exceeded in Germania libera even that of red deer. Here at 5 excavation localities 79 bones from at least 28 elks were identified, their dressing percentage was assumed to have reached 4 900 kg = 18.7 %. In Germania romana, too, elks were discovered at 5 places, although the number of bones amounted to only 23 from at least 11 individuals. Their dressing weight is supposed to have equalled 1 925 kg = 15.1 %.

In the region north of the Alps roes were widely spread and hunted in the Roman era as can be concluded from bone finds at a great many places. Owing to the low body weight – according to Brink (1957: 146) not more than 12 to 27 kg – the dressing percentage of males and females had presumably not been higher than 9 kg per animal on the average. Regarding the minimal number of identified individuals (37 in Germania romana and 28 in Germania libera) and their low body weight it becomes clear that this species with its low dressing weight of 333 kg = 2.6 % and 252 kg = 1 % had rather a low significance for human nutrition compared with the before mentioned game animals. This applies more or less also to other species like hare, beaver and dachs. Bear, wolf, fox and otter as well were identified by means of bone finds on various localities in Germania libera et romana. These animals had not only been hunted for their valuable fur but also for meat provision as was demonstrated by partially smashed tubular bones.

Birds were captured as well. This was revealed at localities in Germania libera and romana although in most cases only one or few bones from single animals were found,
preferably from larger species like greylag, mallard, shoveller, white-egged duck, garrot, smew, common swan, crane, ringdove, stockdove, buzzard, marsh harrier, goshawk, sea eagle, black vulture, griffon, eagle owl, black grouse, hazel hen, common raven, carrion crow, rook, jackdaw and magpie.

The meat of some of the mentioned species was regarded as delicacy. Therefore they were probably captured with bow and arrow or sweepnets. Due to the very small amount of meat offered by the few individuals of identified bird species in Germania they are assumed not to have had greater importance for human nutrition.

Fishing has been practised for thousands of years as was manifested by fish bones and finds of fish-hooks from early and prehistorical times. Fishes could always be captured very easily. Due to their high rate of reproduction they use to occur in huge numbers. Nevertheless, fish remains in archaeologicaI finds have been rather limited or completely obsolete. According to Lepiksaar and Heinrich (1977 : 9) this might be due mainly to bad conservation conditions and insufficient recovering of finds. When making excavations in Haithabu these authors succeeded to prove that systematic elutriations of the material allowed to secure a remarkably higher number of small and inconspicuous finds. Analyses revealed that bones of the cranial capsule were obsolete in most of the identified fish species or had got lost to a large extent. The authors explained this fact by assuming that fish heads which had been cut off and thrown away by man were eaten or scattered by dogs, cats, crows and gulls.

In Haithabu the percentage of fish species rich in fat was particularly low with one exection – the herring. This decomposition of bones may be attributed to a sort of "autolysis" of the bone substance by endogenous fatty acids (Lepiksaar, Heinrich 1977 : 116). It becomes clear that for the above-mentioned reasons the proportion of fish remains in archaeozoological finds has even been smaller than that of small mammals and birds. As bone losses of fish finds have been especially high, it may be presumed that fish played a much greater role as foodstuff in Germania than could be confirmed by bone finds. Both in Germania libera and romana fish could be identified only at sites in the vicinity of waters, i.e. near rivers, crooks, lakes or ponds which offered the corresponding living-space for these animals.

Thirty bones of at least three sturgeons were found in Bentumersiel and Jemgumkloster on the lower Ems in Eastern Friesland and in Xanten in the Lower Rhine. This species lived on the North Sea coast and migrated upstream for spawning. According to Bauch (1966, 156) yet in 1890 sturgeons of 2 to 4 meters in length and up to 250 kg in weight were offered on the fish market in Hamburg. In former times this fish was more widely spread here and had obtained economic importance. Its eggs, the famous caviar, are wellknown as a delicacy.

The silurid is a predator living in stagnant and flowing waters of Eurasia. Bauch (1966 : 125) gives its length as maximal 2 m and its weight up to 100 kg. Six bones of at least three silurids were identified in the Germanic settlement Waltersdorf. This place and also Kablow are located in the lake district around Berlin where skull remains of pike, tench, roach, bream and perch were predominant.

At the Roman site Breisach on the Upper Rhine beside pike, barbel and salmon were identified. Salmons are migrators which in former times were rather frequent in the rivers of Germany (Driesch 1982). According to Bauch (1966 : 128) they could reach 1 m in length and 8 kg in weight and were essential and popular food.
Winding up it can be stated that in Roman times meat provision was only to a low degree secured by hunting and fishing and much more by animal husbandry. Among the identified game species aurochs, bison, red deer, wild boar and elk had obtained major importance for foodstuff provision. Due to the fact that in most excavations in Germany elutriations were not practised smaller bird and fish bones surely are underrepresented.

Bibliography


