

## ARTICLES

# COMMENTS CONCERNING THE GAPS BETWEEN SCHLESWIG-HOLSTEIN AND THE MIDDLE ODER IN THE EXPANSION AREA OF HAMBURGIAN CULTURE

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### Abstract

The author maintains that the soils formed by the Pomeranian Glacier during the Bölling Interstadial at the time of Hamburgian Culture stood under rising moisture and were not yet lixiviated enough. The main food sources of reindeer, especially reindeer-moss (*Cladonia rangiferina*) and dwarf birch-trees (*Betula nana*), require a sandy, dry, non-calcareous soil and therefore could not flourish in the highly calcareous moraine clay.

Because the reindeer herds probably avoided the plains in eastern Germany between Schleswig-Holstein and the Middle Oder during the Bölling Interstadial, it is highly improbable that the discovery of any sites of Hamburgian Culture in this area could be reckoned with in the future.

Key words: Hamburgian Culture, reindeer-moss, Schleswig-Holstein, soil, migration, hunters, reindeers.

Since the discovery of several sites of Hamburgian Culture in the Middle Oder area (Burdukiewicz 1987: 144, Fig. 1), the question has been asked repeatedly how the gaps in the expansion area of these Late Palaeolithic reindeer hunters, in the plains between Schleswig-Holstein in the west and the Middle Oder in the east, could be explained (Terberger 2003: 584; Terberger/Lübke 2004: 19). Concern regarding any inadequacy in research can be virtually excluded, because the care of natural park reserves in the former GDR was of a high quality, and this quality is being strongly continued in the new German states.

Geological maps that also show the expansion area of Hamburgian Culture clearly demonstrate that sites of this culture lay, for the most part, outside the area of the younger moraines (Tromnau 1975a: 12, Fig. 3; Bokelmann 1979: 16, Fig. 2; Bratlund 1994: 79, Fig. 4). Within the area that is characteristic of the young moraine region, these sites, as a rule, are not to be found north of the border zone of the ice from the younger moraines of the "Pomeranian Stadium" region. (Kobusiewicz 1999: 198, Fig. 2; Terberger/Lübke 2004: 18, Fig. 2). The very few exceptions belong either to more recent Hamburgian Culture with Havelte points, or they can correctly be considered as being very questionable, as in the case of the sites at Grömitz in the

Bay of Lübeck (Bokelmann 1979: 15–17; Burdukiewicz 1987: 157–158).

The Solbjerg (Lolland), Koge Bay and Mölleröd (south Sweden) sites listed by Lars Larsson and, in the case of the first two, further considered in the Hamburgian Culture expansion area map of Thomas Terberger and Harald Lübke (Terberger/Lübke 2004: 18, Fig. 2) are, in my opinion, questionable, and were therefore not included in the illustration for this paper. "Zinken" was mentioned as circumstantial proof of the existence of Hamburgian Culture in Solbjerg and Mölleröd (Larsson 1993: 279, 281). These examples are of isolated occurrence in the northern Mesolithic, and also belong to the standard inventory of tools found in the northern TBK Culture during the Young Stone Age (Schwabedissen 1954: 10; Tromnau 1975b: 35). The reindeer antler fragment bearing traces of workmanship found in the Bay of Koge was carbon-14 dated as being from circa 12,100 BP (Larsson 1993: 282) and is presumably younger than Hamburgian Culture.

The common occurrence of discarded antlers from reindeer bucks in Schleswig-Holstein and Denmark are evidence that, in these areas, reindeer were present in winter as well, since male deer shed their antlers in the months of November and December (Gripp 1964: 274). According to the most recent research, reindeer did indeed inhabit these northern areas in winter.

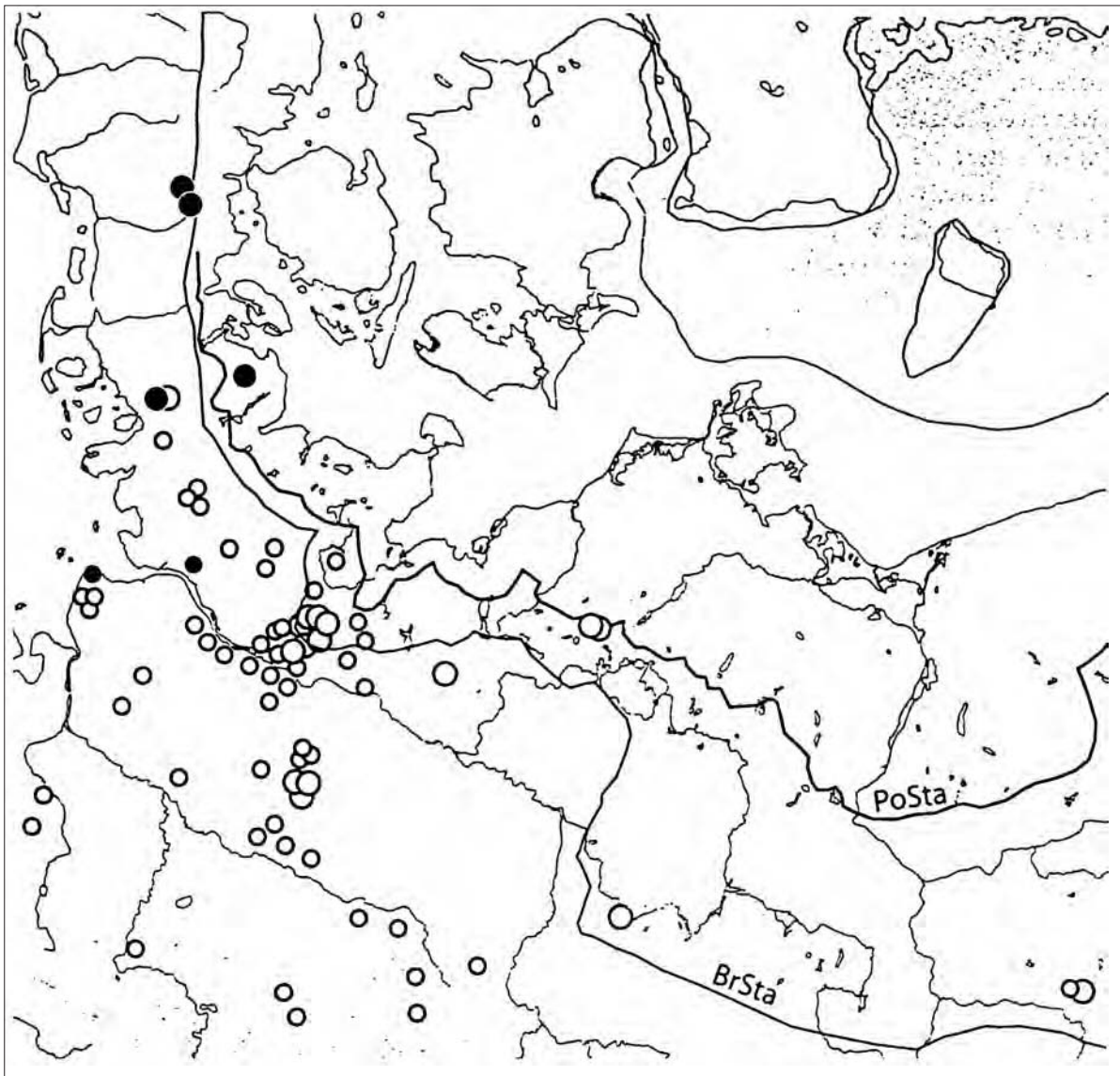


Fig. 1. Map of Hamburgian sites. Black dots: Younger Hamburgian Culture (with Havelte points). Pattern from Terberger/Lübke 2004, p. 18, Fig. 2

According to a projection of reindeer migration patterns suggested by Klaus Bokelmann, the hunting groups of Hamburgian Culture followed the reindeer herds during the autumn into the winter grazing areas north across the Elbe and established winter camps in western middle Schleswig-Holstein and Jutland (Bokelmann 1979: 19, Fig. 4). Due to the thin snow blanket, the reindeer were able to find enough to graze on, especially reindeer-moss. At the beginning of winter, the reindeer herds dissolved into smaller groups. Analyses of reindeer bone fractures in the Bölling Interstadial stratifications from Meiendorf and Stellmoor in Schleswig-Holstein show no evidence of battue but, instead, of stalking, probably by Hamburgian Culture hunters moving in a group (Bratlund 1990: 33). This scenario fits in with the above-mentioned projection.

In my opinion, such migration patterns do not apply to the plains between Schleswig-Holstein and the Mid-

dle Oder because a basic precondition was not present during the Bölling: the reindeer did not have a food source necessary for winter survival, particularly reindeer-moss.

Reindeer-moss (*Cladonia rangiferina*) needs an acidic soil poor in minerals. As with dwarf birch-trees (*Betula nana*), of which the twigs and blossoms are a delicacy for reindeer, reindeer-moss requires a sandy, dry, non-calcareous soil.

The soil of the region formed by the Pomeranian Glacier during the Bölling Interstadial at the time of Hamburgian Culture stood under rising moisture and was not yet lixiviated enough. The fertile boulder clay is normally 20%, often 30%, sometimes even 60% alkaline. Even in the sandbars within the main moraine, there is an alkaline presence on average of 10% to 15% (Schott 1958: 66). As time progresses, the fine,

alkaline, watery elements of the upper soil strata are drained off and dispersed. As a result, between the glacial periods, the soil becomes loamy and the uppermost zones, for the most part, are lixiviated in that the lye is cleared due to the effects of water infiltration through acidic humus soil (Gripp 1964: 260).

It can be assumed that, for the plains in eastern Germany, as well as for Schleswig-Holstein, eastern Jutland, and the Danish islands, the soil conditions during the Bölling Interstadial were extremely unfavourable for the spread of reindeer-moss and dwarf birch-trees. For this reason, the reindeer herds probably avoided these areas north of the region formed by the Pomeranian Glacier. Therefore, it can hardly be assumed that further sites of Hamburgian Culture will come to light in the future.

The reindeer hunters of Ahrenburgian Culture, who hunted in the northern middle European plains 2,000 years later during the Younger Dryas, could expand their activities much further toward the north and north-east (Taute 1968: map 1; Baales 1996: 333, Fig. 240) after the surface of the originally alkaline and water-saturated boulder clay was weathered down enough to be transformed into the sandy, lixiviated glacial loam that supported the reindeer's winter food source, reindeer-moss and dwarf birch-trees.

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## KOMENTARAS APIE TERITORIJOS ERDVĖ TARP ŠLEZVIGO-HOLŠTEINO IR ODERIO VIDURUPIO HAMBURGO KULTŪROS PLĖTROS AREALE

### Gernot Tromnau

#### Santrauka

Tarp Šlezvigo-Holšteino žemės ir Oderio vidurupio Hamburgo kultūros laikotarpiu (biolinge) dirva dar buvo gana kalkėta. Hamburgo kultūros gyventojų pagrindinis maisto šaltinis buvo šiaurės elniai, kuriems išgyventi reikėjo elninių samanų (*Cladonia rangiferina*) ir žemaūgių beržų (*Betula nana*). Šie augalai galėjo augti smėlingame, drėgname dirvožemyje. Minėta teritorija tuo metu buvo padengta kalkingu moreniniu molžemiu, kuriame šiaurės elniams maistui tinkami augalai augti negalėjo.

Todėl šiaurės elnių bandos biolingo laikotarpiu tikriausiai vengė tarp Šlezvigo-Holšteino ir Oderio vidurupio esančių teritorijų, kuriose nevesėjo jiems tinkami maistui augalai. Neįtikėtina, kad ateityje minėtoje teritorijoje galima būtų aptikti Hamburgo kultūros gyventojų, nes čia šiaurės elniai neapsistodavo.