

LATE GLACIAL TIME IN BALTIC SEA REGION: REINDEER HUNTERS COLONIZING THE NORTHERN TUNDRA DESERTS – THE CLIMATE AND LANDSCAPE CHANGES IN SPACE AND TIME

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Abstract

Eurasian and North American continental glaciers reached Last Glacial Maximum around 21 kyr back. Lower sea level exposed *Bering land bridge* that opened human migration routes from Asia to North America. Large ice sheets blanketed much of the northern hemisphere. Northern Europe underwent significant ecological shifts at that time and later. Pleistocene–Holocene transition transformed also Baltic Sea Region, it was one of last colonized areas by Paleolithic societies. Periglacial environments with glacier retreat process made up deglaciated territories and during Younger Dryas and Preboreal time major shifts in climate happened whilst animals and plants adapted to new environments. Inland dunes were forming and sporadic eventual settlements of ancient reindeer hunters appeared near shorelines of rivers. Human colonization process is difficult to be assessed for that time due to sparse findings, fluctuations of sea level and natural processes that destroyed archaeological evidence, however geomorphological, paleobotanic and archaeological evidence has been studied for the region. Research of the Fennoscandian ice sheet retreat, deglaciation phases, ancient shores and following paleoecological processes of the Late Weichselian and Preboreal include modern analytical methods in combination with geomorphological studies. Thus it is possible to fill the gap of poor archaeological evidence through restoration of environmental situation. Modern humans first arrived and quickly spread across southern Europe c. 45–40,000 cal BP. Around 14–15 kyr back in history Southern Baltic region experienced the Hamburgian and Ahrensburgian traditions with remarkable site locations of archaeological findings, some of which are extended also in Scania and Denmark regions, however most part of Fennoscandia and Baltic remained under ice cover. Tremendous environmental transformations occurred during deglaciation phases when changes in plant and animal communities occurred, e.g., presence of reindeer herds became important for human approaching the harsh northern tundra deserts. Finally, the human colonization is point in prehistory when Paleolithic societies of southern Europe migrated north and settled new developed ecosystems. Recognition and chronology of the Late Weichselian deglacial phases is complicated and have yet unresolved regional and local interpretations however end moraines and geomorphological evidence help to restore the prehistorical geographical map and history of ancient sea stages. Ages are based on radiocarbon, cosmogenic isotopes ³⁶Cl and ¹⁰Be, OSL and thermoluminescence dating, supplemented by ‘floating’ chronologies based on laminas of ice-dammed lake deposits counting, nevertheless not continued until the present. Hundreds of thermoluminescence dates from glacial sediments were seriously questioned and available ages usually are interpreted together providing sketch in a regional context. Interesting works have been performed on inland dunes using OSL, they pinpoint on stabilization of periglacial and post-glacial dunes stabilization during Younger Dryas and Preboreal. The results suggest that distribution of parabolic dunes is in close association with distribution of sandy glaciofluvial and glaciolacustrine sediments. High-precision spatial analysis suggest that, e.g., in Latvia, at least four morphological types of inland dunes can be distinguished and the parabolic dunes are dominant.

They have started to form under cold and dry climate approximately 12.3 –11.3 kyr OSL years ago. Later degree of aeolian processes and parabolic sand dune formation gradually subsided. Inland dunes still serve as geomorphological proxies helping to restore Periglacial and Post-Glacial landscape history in Baltic Sea Region helping also archaeologists to explain their findings. The East Baltic Stone Age is known for its array of bone and antler artefacts. Several hunting and fishing tool sets of bone and antler were determined, in, e.g., Latvia, pointing each stage of the Baltic Stone Age. Oldest were formed when ice sheet retreated and the conditions for human habitation made possible. The ethnic and cultural identity of paleolithic people in East Baltic is not known, but it is accepted view that they were reindeer hunters and anthropologically close to nowadays saami (Lapland) and nency cultures in Russia Far North. C14 evidence in East Baltic points that reindeers were present from Alleröd times till beginning of Preboreal.

Keywords: Northern Hemisphere; Baltic Sea Region; deglaciation; late glacial time; reindeer hunter people; inland dunes