

What 300,000 year old eggshells reveal about the environment of the Paleolithic

March 31 2015



Fragment of a 300,000 year old eggshell from a whooper swan on top of an intact modern day egg belonging to this species. Credit: Jordi Serangeli

In the 1990s the discovery of the oldest man made and completely preserved wooden hunting weapons made the Paleolithic excavation site in Schoningen internationally renowned. Contained within the 300,000

year-old deposits on a former lake shore in what is now Lower Saxony organic materials remain excellently preserved, including eggshells that Dr. Jordi Serangeli and Professor Nicholas Conard of the University of Tübingen, together with colleagues from the Martin Luther University Halle-Wittenberg and the Lower Saxony State Service for Cultural Heritage (NLD) were able to identify as eggshell remains from various species of birds. This represents an exceptionally rare category of finds and with the systematic evaluation of these eggshells, the researchers expect within the next years to achieve significant contributions to the reconstruction of the climatic conditions during this inter glacial period as well as new insights into the behavior of migratory birds and the human diet 300,000 years ago.

The finds are few centimeters width and less than a millimeter thick. They were recovered during the actual fine excavations and the sorting of the residual finds, and have been compared with the eggs of today's European birds in the Natural History Museum in Braunschweig and in the University of Halle-Wittenberg. Based upon the thickness, the curvature and the surface texture of the eggshells as well as the distance between and the shape of the pores allowed us to define five excellently preserved fragments: One showed similarity with the eggshell of the crane (*Grus grus*), a further fragment a duck (probably Mallard, *Anas platyrhynchos*).

Three other fragments show similarities with the eggs of modern day whooper swans (*Cygnus cygnus*). These birds today breed, as a rule in sub-arctic-temperate areas such as Iceland, Scandinavia and Siberia. This landscape is characterized by low vegetation, the temperature being a few degrees lower than in Central Europe.

The eggshells also raise the question whether in addition to horsemeat eggs could have played a role in the human diet between March and the end of May as an important food source for the people in the spring.

This could also be another reason why the hunters and gatherers sought out the lakeshore.

Provided by University of Tübingen

Citation: What 300,000 year old eggshells reveal about the environment of the Paleolithic (2015, March 31) retrieved 2 May 2024 from <https://phys.org/news/2015-03-year-eggshells-reveal-environment-paleolithic.html>

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