



Press Release

Archaeologists long underestimated early hominins

Excavations at the Lower Paleolithic site of Schöningen change our views on human evolution. A special volume of the *Journal of Human Evolution* presents the state of research

Tübingen, 1/28/2016

Hominins of the Lower Paleolithic are much more like modern humans than was previously thought. By 300,000 years ago, *Homo heidelbergensis* in Schöningen used highly sophisticated weapons and tools. The hominins at Schöningen lived in social groups that practiced coordinated group hunting, a division of labor, and were able to communicate about the past, present and future. These are cultural traits that archaeologists typically attribute to modern humans. The excavations in the open-cast coal mine in Schöningen running from 1994 until today show that we have long underestimated the cultural capacities of *Homo heidelbergensis*. Schöningen is a key site for documenting both a high resolution record of past climatic change and how hominins lived in northern Europe during the Ice Age. Since 2008 Professor Nicholas Conard and Dr. Jordi Serangeli of the University of Tübingen have led the excavations with a major international research team in close cooperation with the Cultural Heritage Office of Lower Saxony.

A landmark special issue of the leading international publication *Journal of Human Evolution* presents all of the results from the long-research excavation in Schöningen. Papers in the volume address the importance of the many well preserved spears and wooden artifacts found at Schöningen. This assemblage of wooden tools is unique in terms of its great age and diversity. Papers present the stone tools and many newly discovered bone tools from Schöningen that greatly expand our knowledge of the material culture of the Lower Paleolithic. The research demonstrates that many animals, most notably large and fast Ice Age horses, were repeatedly killed and butchered on the marshy shores of a former lake, thereby demonstrating a high level of social and economic coordination and sophisticated forms of communication 300,000 years ago. The many artifacts made from bone include a hammering tool made from the humerus of a sabertooth cat (*Homotherium latidens*). This find is the only one of its kind ever recovered.

Universität of Tübingen
Public Relations Department

Dr. Karl Guido Rijkhoek
Director

Antje Karbe
Press Officer

Phone +49 7071 29-76788
+49 7071 29-76789
Fax +49 7071 29-5566
karl.rijkhoeck[at]uni-tuebingen.de
antje.karbe[at]uni-tuebingen.de

www.uni-tuebingen.de/aktuell

Senckenberg Gesellschaft für
Naturforschung
Stabsstelle Kommunikation

Dr. Sören Dürr
Leitung

Judith Jördens
Telefon +49 69 7542 1434
judith.joerdens[at]senckenberg.de

pressestelle[at]senckenberg.de
www.senckenberg.de/presse

A particularly fascinating discovery is that there is no firm evidence for the controlled use of fire at Schöningen. Previous observations suggested that Schöningen offered key examples for the early use of fire. Researchers from Tübingen used innovative methods (Mikromorphologie, Fourier-Transformations-Infrarotspektrometer, organische Petrologie und Thermolumineszenz) to refute this claim. Professor Christopher Miller of Tübingen University and the Senckenberg Centre for Human Evolution and Palaeoenvironment (HEP) argues: “The findings from Schöningen suggest that archaic humans may have been able to survive in the Ice Age landscape of northern Europe without being able to make and control fire.”

“The unique preservation and high quality excavations have led to a major paradigm shift or ‘Schöningen Effect’ that changed our views of human evolution during the late Lower Paleolithic”, states Nicholas Conard, head of the research team and of the Department of Early Prehistory and Quaternary Ecology of the University of Tübingen and member of the Senckenberg Centre for Human Evolution and Palaeoenvironment (HEP).

All the papers from the special volume of Journal of Human Evolution can be found at the open-access site: <http://www.sciencedirect.com/science/journal/00472484/89>

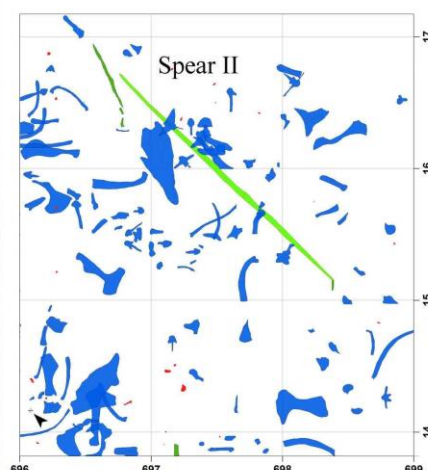
This research was funded by the Ministry of Science and Culture of Lower Saxony and the Germany Science Foundation (DFG).

Contact:

Prof. Nicholas J. Conard Ph.D.
University of Tübingen
Department of Early Prehistory and Quaternary Ecology
nicholas.conard@uni-tuebingen.de

Dr. Jordi Serangeli, Scientific head of the excavation
University of Tübingen
Department of Early Prehistory and Quaternary Ecology
Telefon +49 (0)178-9219630
[jordi.serangeli\(at\)uni-tuebingen.de](mailto:jordi.serangeli(at)uni-tuebingen.de)

Prof. Dr. Christopher Miller
University of Tübingen
Institute for Archaeological Sciences
[christopher.miller\(at\)uni-tuebingen.de](mailto:christopher.miller(at)uni-tuebingen.de)



Spear II and horse bones at the interface of the calcareous marl and the peat-like organic horizon. The photo was taken when the new finds were presented on November 1, 1995.

Photo: Nicholas J. Conard. Plan: Utz Böhner



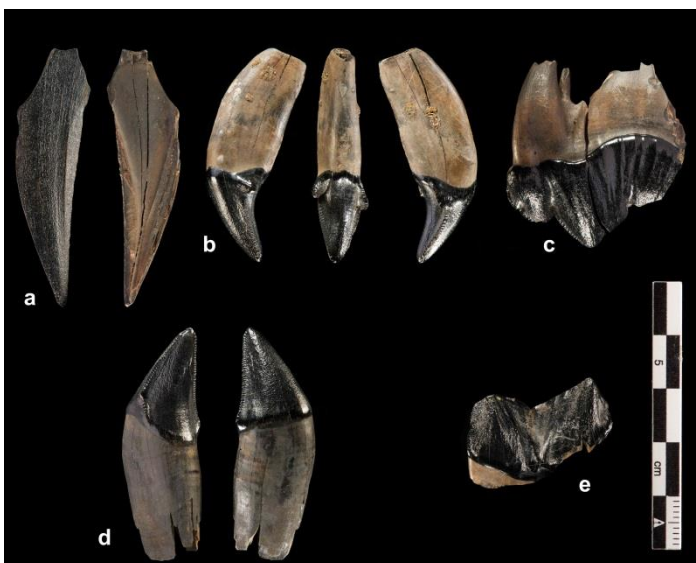
View on the ongoing excavations at Schöningen in 2014

Photo: Jordi Serangeli



Part of a skull with horn from a water buffalo (*Bubalus murrensis*) from Schöningen 12 II-1. The maximal width is approximately 87 cm.

Photo: Jordi Serangeli.



Teeth of a young sabertooth cat (*Homotherium latidens*)

Photo: Volker Minkus



Bone of an older and stronger sabertooth cat (*Homotherium latidens*), which was used as a hammering tool.

Photo: Volker Minkus



Schöningen 13 II-4, Spear Horizon. Concentration of mammal fauna with flint artifact (scraper) on top.

Photo (1995): Klaus Cornelius



Special Issue of the *Journal of Human Evolution*