EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN

Public Relations Department

Christfried Dornis
Director

Stefan Bentele
Press Officer

Phone +49 7071 29- 76724
stefan.bentele[at]uni-tuebingen.de

presse[at]uni-tuebingen.de
www.uni-tuebingen.de/aktuell

Press Release

Award for research into prehistoric mammal migrations in East Africa

Tübingen Prize for Early Prehistory and Quaternary Ecology goes to Kaedan O'Brien – First evidence of seasonal migration during the last glacial period

Tübingen, 31.01.2025

The 2025 Tübingen Early Prehistory and Quaternary Ecology Prize goes to anthropologist and zoologist Professor Kaedan O'Brien of the State University of New York at Oneonta for his doctoral thesis on prehistoric animal migrations. O'Brien examined the fossil records of 18 animal species that lived in East Africa during the ice age between 115,000 and 11,700 years ago, becoming the first to demonstrate prehistoric migration in two animal species. He also found that for many species it is not possible to draw direct conclusions about past behavior from today's migrations.

The prize is endowed with 7,500 euros, donated by mineral water brand EiszeitQuell. The Institute of Prehistory and Medieval Archaeology is awarding it for the 27th time. The award will be presented on **Thursday, February 6, 2025 at 11 am in the Fürstenzimmer in Hohentübingen Castle (Burgsteige 11)**, Tübingen. **Media representatives are cordially invited** to the award ceremony and an interview with Professor O'Brien can be arranged.

"Kaedan O'Brien's thesis has wider importance for early prehistory and Quaternary ecology," says Dr. Dorothée Drucker from the Senckenberg Centre for Human Evolution and Palaeoenvironment at the University of Tübingen. O'Brien's overarching research goal is to identify the prehistoric factors that controlled human evolution in Africa. In this context, he investigates the seasonal migration patterns of large herbivores that were among the prey of early humans. In mapping out the prehistoric environment, O'Brien also established relationships between animals and humans. "One implication of his results is that Late Stone Age human groups subsistence was not depending on a highly seasonal availability of their large mammal prey in contrast to the Middle Stone Age period. Moreover, the migratory pattern among large bovids and equids is

suggested by his results to be a recent behavior in this region, likely influenced by the increasing competition with the livestock introduced by humans," says Dorothée Drucker.

Investigation of isotopes in tooth enamel

For his doctoral thesis, Kaedan O'Brien first reviewed the current conditions in eastern Africa. There, large herbivores in the savannah migrate in order to avoid seasonal food shortages. O'Brien's work shows that such migrations did not take place in times past. Using the fossil records of 18 animal species from the Ice Age, he investigated the pattern of oxygen, strontium and carbon isotopes that were deposited in the tooth enamel of a total of 79 antelopes, buffalo, and zebras The results provide information about the habitat, eating habits and seasonal changes and allow conclusions to be drawn about the behavior of the animals during the last ice age.

In 16 of the 18 animal species studied, there is no clear evidence of past migrations. This includes the blue wildebeest. Yet the blue wildebeest living in the Serengeti today do move long distances. This indicates that these animals either developed their migratory habits toward the end of the ice age, or that in the past this behavior was greatly limited in space and time. In addition, Kaedan O'Brien's research results suggest that during the ice age there was, unlike today, no correlation between diet, dietary adaptation, body size and migratory movements among the animal species studied. O'Brien's research could be used as a model for further studies, which he is already undertaking with regard to southern Africa.

O'Brien studied at the University of Wisconsin-Madison. He completed his Master's degree in anthropology at the University of Utah in Salt Lake City and subsequently received his doctorate there in spring 2024. During his doctoral research, he was a Graduate Research Fellow of the National Science Foundation. He now works as an assistant professor of Biological Anthropology at the State University of New York at Oneonta.

Contact:
Professor Nicholas Conard
University of Tübingen
Senckenberg Centre for Human Evolution and Palaeoenvironment (SHEP)
Institute of Prehistory and Medieval Archaeology
Phone +49 7071 29-72416
nicholas.conard@uni-tuebingen.de

Dr. Kaedan O'Brien receives the 2025 Early Prehistory and Quaternary Ecology.

Photo supplied by Dr. O'Brien

You can download a high-resolution photo from the following link and use it free of charge for reporting http://www.pressefotos.uni-tuebingen.de/20250131KaedanOBrien.zip