

Research reveals longstanding cultural continuity at oldest occupied site in West Africa

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A core from the Middle Stone Age stone tool assemblage from Bargny 1. Credit: Khady Niang

Evidence from West Africa about human evolution remains scarce, but

recent research has indicated unique patterns of cultural change in comparison to other regions of the continent. A new article in the journal *Nature Ecology and Evolution* adds to our understanding with a study of the oldest directly dated archaeological site in West Africa. The site shows technological continuity spanning roughly 140,000 years and offers insights into the ecological stability of the region.

Our species emerged in Africa about 300 thousand years ago and until about 30–60 thousand years ago typically used tools and tool-making techniques referred to as Middle Stone Age toolkits. Around that time, distinct Later Stone Age toolkits began to emerge in northern, eastern, and southern Africa. While recent evidence suggests Middle Stone Age toolkits persisted in West Africa much later, to around 10,000 years ago, the antiquity of these technologies is poorly understood.

The new study, led by scientists from the Max Planck Institute of Geoanthropology, Université Cheikh Anta Diop de Dakar, University of Sheffield, and University of South Florida, extends the timeframe in which Middle Stone Age toolkits are known from West Africa to 150 thousand years ago, based on excavations from the near-coastal site of Bargny 1.

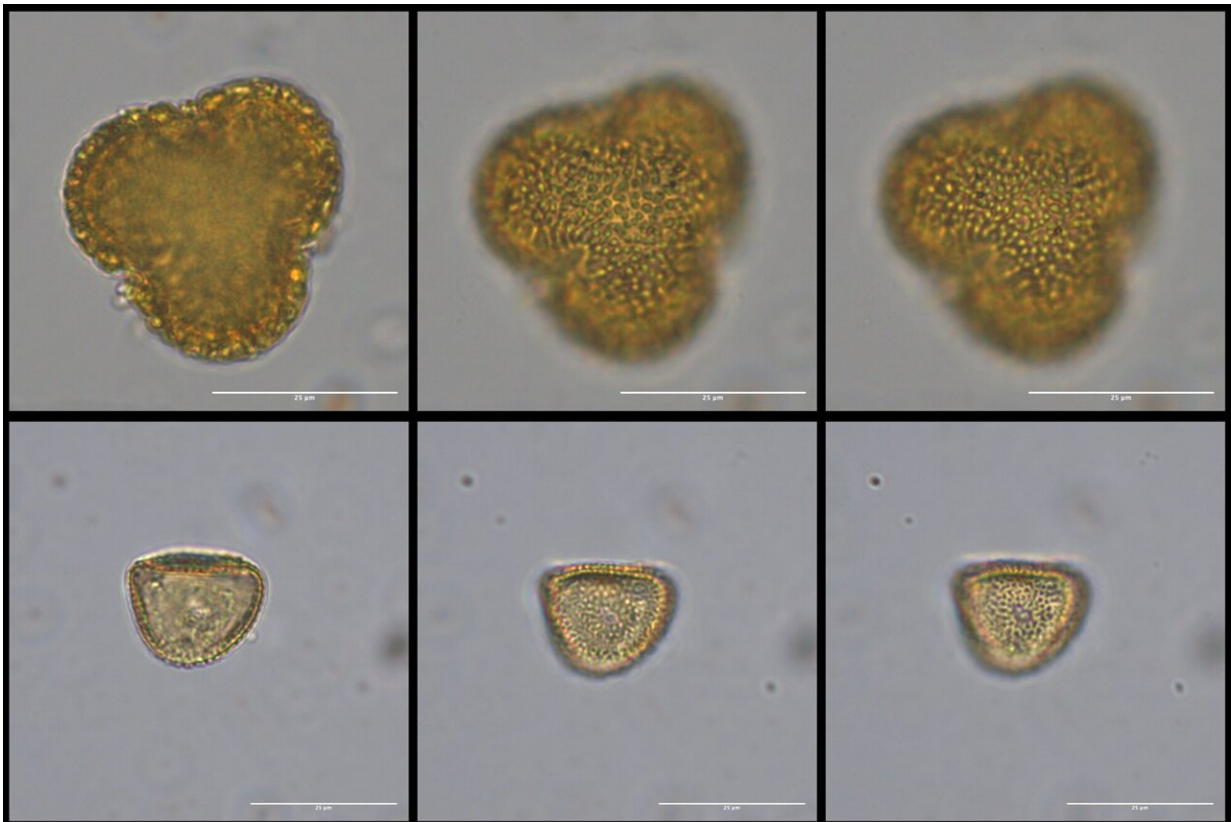


150-thousand-year-old sediments at Bargny 1 that contain West Africa's oldest Middle Stone Age toolkits. Credit: Jimbob Blinkhorn

"The stone tool assemblage dating from 150 thousand years ago shows classic features of the Middle Stone Age, with the use of Levallois and discoidal reduction methods and the use of small retouched flake tools rather than larger implements," says Dr. Khady Niang, lead author of the study. "The assemblage from Bargny 1 is closely comparable to those of a similar age from across the continent, and is the first site from West Africa dating to the Middle Pleistocene, prior to the onset of substantial technological regionalization elsewhere in Africa."

The site itself is located close to the modern coastline, south of Dakar, Senegal. While no artifacts indicating direct human engagement with

coastal resources were recovered at the site, study of the associated environments offer a wider perspective.



Pollen from the Bargny 1 including *Avicennia* (top) and *Typha* (bottom), that demonstrate the proximity of the site to estuary environments in the past. Scale is 25 microns. Credit: Chris Kiahtipes

"We found mangrove and brackish wetland plant microfossils associated with the site's occupation," adds Dr. Chris Kiahtipes of the University of South Florida, co-author on the study. "This is particularly interesting because it shows that the site was located near an estuary and demonstrates how important these habitats are to humans past and present."

The study highlights long-term durability of core elements of Middle Stone Age toolkits in West Africa without evidence for the appearance of specialized technological developments observed elsewhere.

"Middle Stone Age populations adapted to a wide range of habitats and engaged with climatic changes across Africa. But in West Africa, we see considerable environmental stability over the past 150 thousand years," adds Dr. Jimbob Blinkhorn.

"One explanation for the enduring cultural continuity we observe is that it was a stable behavioral adaptation to stable [environmental conditions](#), whilst potential isolation from other populations across Africa may have led to demographic stability too. Ultimately, our study helps illustrate the persistent utility of Middle Stone Age technologies to inhabit the diverse habitats found across Africa."

More information: Khady Niang, Longstanding behavioural stability in West Africa extends to the Middle Pleistocene at Bargny, coastal Senegal, *Nature Ecology & Evolution* (2023). [DOI: 10.1038/s41559-023-02046-4](#).
www.nature.com/articles/s41559-023-02046-4

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