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Clues of Britain's First Humans

By NICHOLAS WADE

The last time the British Museum claimed that the earliest known human was British, some 98 years ago, its evidence was the Piltdown skull, which the British archaeological establishment did not concede was a forgery until 1953.

Researchers from the British Museum and other institutions on Wednesday announced a more modest claim, that an eroding cliff in Norfolk, England, had yielded evidence of the earliest substantial record of the human presence in Northern Europe.

The discovery of 78 flint tools, more than 800,000 years old, shows that early humans, thought to survive only in warm, Mediterranean-style climates, could penetrate much colder regions and survive with a kit of crude tools.

The world at the time confronted serious climate change in the form of global cooling. It was the middle of the Pleistocene, the last great ice age that ended 10,000 years ago.

The dense Northern European forests of the Pleistocene ice age contained few animals or edible plants, but food would have been more abundant in the flood plain where the flint tools were

found. Mammoth, red deer and elk grazed the grasslands, preyed upon by two species of saber-toothed tigers, the dirk-toothed cat and the scimitar-toothed cat.

Humans fit into this ecosystem in a very humble role, that of cleaning up after the giant hyenas that took over the bones left by the saber-toothed tigers.

But the hyenas were of great help to the team of British excavators, led by Simon A. Parfitt and Chris B. Stringer of the Natural History Museum and Nick M. Ashton of the British Museum.

Just above the layer where the flints were found, near the Norfolk village of Happisburgh (pronounced HAZE-bura) lay a hyena coprolite, the paleontologist's term for a fossilized piece of dung. Pollen grains from the coprolite showed the area was once a grassland that covered a flood plain.

Flint flakes cannot be dated directly. Archaeologists must find clues to their age in the layers of material above and below a find. From fossil voles, of which one species replaced another at a known date, and from records of magnetism in rocks, the archaeologists estimate that the flints were made 780,000 to 990,000 years ago.

They further narrowed the date with the help of fossil beetles of a species that lived only in temperatures that are quite warm. The presence of this species suggests that the region was occupied during one of the two periods between glacial advances that occurred 950,000 and 840,000 years ago.

"Collectively, this evidence provides a strong case for the Happisburgh site as the oldest uncontested site of human occupation of Europe," said Andrew P. Roberts, an expert on paleomagnetic dating at the Australian National University. The site is known to archaeologists as the Cromer Forest-bed Formation.

But Richard G. Klein, a paleoanthropologist at Stanford University, said he would like to see a better dated site closer to this age before accepting that early humans ranged so far north.

To prove that humans were present, such a site would ideally contain animal bones bearing the cut marks of stone tools. “I know this sets a high bar, and it may be an impractical standard to apply in the context of the Cromer Forest-bed, particularly where it is being exposed by wave erosion,” he said.

The makers of the flints would have been archaic humans, of a so far unknown species, whose ancestors left Africa at least a million years before the emergence of modern humans about 100,000 years ago.

Archaic humans have been documented in the Mediterranean area at this time, but their presence so far north is unexpected, said Ian Tattersall, an anthropologist at the American Museum of Natural History in New York. The new find “does tell us that hominids could tackle boreal forest environments with what seem to be pretty crude tool kits and it confirms they got that far north amazingly early,” he said.

The place where the flint tools were found lay on the ancestral banks of the Thames, which 900,000 years ago reached the sea 90 miles north of its present river mouth. It was joined just before its exit to the sea by the Bytham, now vanished, a river that drained central England. The estuary of these two ancient rivers lay to the north of a broad land corridor that then joined southeast England to continental Europe.

In 2005, 32 flint tools were excavated from the same site, but they were about 100,000 years younger. Probably all archaic humans were driven out of the British Isles during the Last Glacial Maximum, the last fling of the Pleistocene ice age, when the glaciers returned a final time some 20,000 years ago and made most of Europe uninhabitable except for refuges in Spain and southern France. The settlers who repopulated Europe after the glaciers’ retreat were modern humans who had first left the African cradle of humankind just 50,000 years ago.