

300,000-year-old snapshot: Oldest human footprints from Germany found

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Potential hominin footprint discovered in Schöningen 13 II-2 Untere Berme.
Credit: University of Tübingen

In a study published today in the journal *Quaternary Science Reviews*, an international research team led by scientists from the University of Tübingen and the Senckenberg Center for Human Evolution and Paleoenvironment presents the earliest human footprints known from Germany. The tracks were discovered in the roughly 300,000-year-old Schöningen Paleolithic site complex in Lower Saxony. The footprints, presumably from *Homo heidelbergensis*, are surrounded by several animal tracks—collectively, they present a picture of the ecosystem at that time.

In an open birch and [pine forest](#) with an understory of grasses sits a lake, a few kilometers long and several hundred meters wide. On its muddy shores, herds of elephants, rhinoceroses, and even-toed ungulates gather to drink or bathe. In the midst of this scenery stands a small family of "Heidelberg people," a species of human long since extinct.

"This is what it might have looked like at Schöningen in Lower Saxony 300,000 years ago," explains the lead author of the newly published study, Dr. Flavio Altamura, a fellow at the Senckenberg Center for Human Evolution and Palaeoenvironment at the University of Tübingen (SHEP). "For the first time, we conducted a detailed investigation of the fossil footprints from two sites in Schöningen.

"These [tracks](#), together with information from sedimentological, archaeological, paleontological, and paleobotanical analyses, provide us with insights into the paleoenvironment and the mammals that once lived in this area. Among the prints are three tracks that match hominin footprints—with an age of about 300,000 years, they are the oldest human tracks known from Germany and were most likely left by *Homo heidelbergensis*."



Fossil footprints from the site Schöningen 13 II-2 Untere Berme. Credit: University of Tübingen

The scientists attribute two of the three human tracks at Schöningen to [young individuals](#) who used the lake and its resources in a small mixed-age group. "Depending on the season, plants, fruits, leaves, shoots, and mushrooms were available around the lake. Our findings confirm that the extinct human species dwelled on lake or river shores with shallow water. This is also known from other Lower and Middle Pleistocene sites with hominin footprints," says Altamura.

The various tracks at Schöningen offer a snapshot of a family's daily life

and may provide information about the behavior and social composition of hominin groups as well as spatial interactions and coexistence with elephant herds and other, smaller mammals, according to the study.

"Based on the tracks, including those of children and juveniles, this was probably a family outing rather than a group of adult hunters," says the archaeologist and expert on fossil footprints.

In addition to the human tracks, the team analyzed a series of elephant tracks attributable to the extinct species *Palaeoloxodon antiquus*—an elephant with straight tusks that was the largest land animal at the time and whose adult bulls reached a body weight of up to 13 tons.

"The elephant tracks we discovered at Schöningen reach an impressive length of 55 centimeters. In some cases, we also found wood fragments in the prints that were pushed into the—at that time still soft—soil by the animals," explains Dr. Jordi Serangeli, excavation supervisor at Schöningen. "There is also one track from a rhinoceros—*Stephanorhinus kirchbergensis* or *Stephanorhinus hemitoechus*—which is the first footprint of either of these Pleistocene species ever found in Europe."

More information: Flavio Altamura et al, Fossil footprints at the late lower Paleolithic site of Schöningen (Germany): A new line of research to reconstruct animal and hominin paleoecology, *Quaternary Science Reviews* (2023). [DOI: 10.1016/j.quascirev.2023.108094](https://doi.org/10.1016/j.quascirev.2023.108094)

Provided by University of Tübingen

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