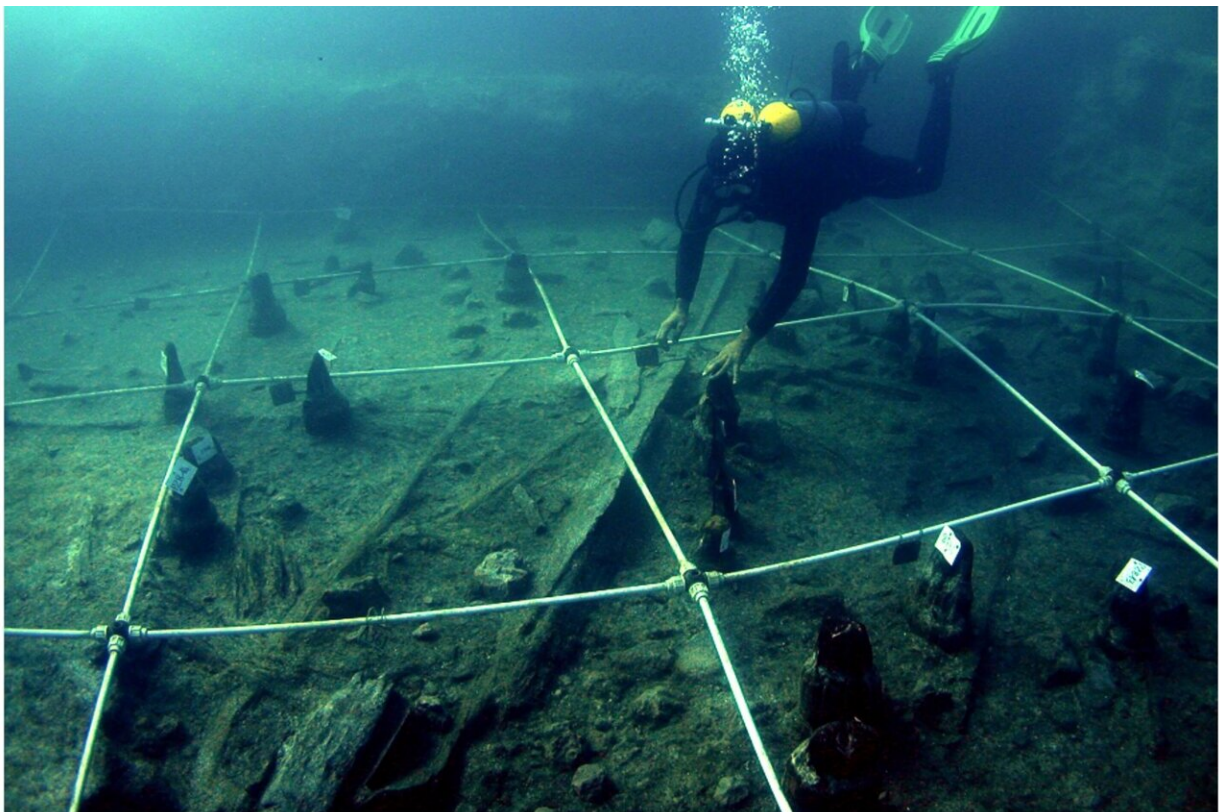


Neolithic boats excavated in the Mediterranean reveal advanced nautical technology

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Excavation of Canoe 5. Credit: *PLOS ONE* (2024). DOI: 10.1371/journal.pone.0299765, [CC-BY](#)

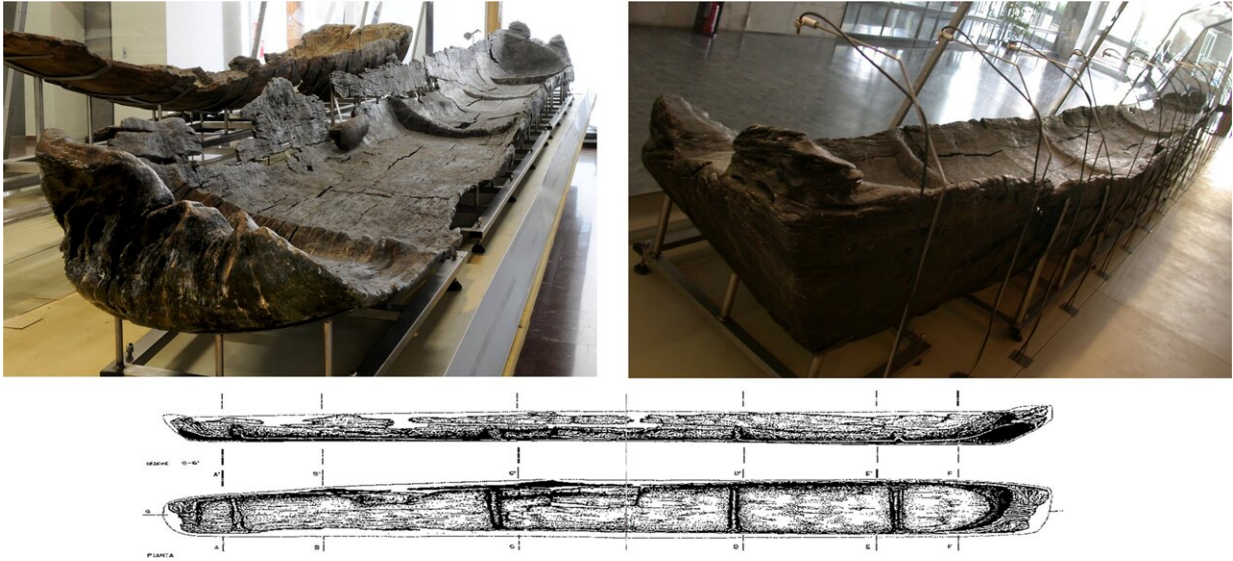
More than 7,000 years ago, people navigated the Mediterranean Sea

using technologically sophisticated boats, according to a study published March 20, 2024, in the open-access journal *PLOS ONE* by Juan F. Gibaja of the Spanish National Research Council, Barcelona and colleagues.

Many of the most important civilizations in Europe originated on the shores of the Mediterranean Sea. During the Neolithic, communities clearly traveled and traded across the water, as evidenced by watercraft in the [archaeological record](#) and the presence of settlements on coasts and islands. In this study, Gibaja and colleagues provide new insights into the history of seafaring technology through analysis of canoes at the Neolithic lakeshore village of La Marmotta, near Rome, Italy.

Excavation at this site has recovered five canoes built from hollowed-out trees (dugout canoes) dating between 5700 and 5100 BC. Analysis of these boats reveals that they are built from four different types of wood, unusual among similar sites, and that they include advanced construction techniques such as transverse reinforcements.

One canoe is also associated with three T-shaped wooden objects, each with a series of holes that were likely used to fasten ropes tied to sails or other nautical elements. These features, along with previous reconstruction experiments, indicate these were seaworthy vessels, a conclusion supported by the presence at the site of stone tools linked to nearby islands.



Canoe Marmotta 1. On display in the Museo delle Civiltà in Rome. Credit: *PLOS ONE* (2024). DOI: 10.1371/journal.pone.0299765, [CC-BY](#)

The authors describe these canoes as exceptional examples of prehistoric boats whose construction required a detailed understanding of structural design and wood properties in addition to well-organized specialized labor.

Similarities between these canoes and more recent nautical technologies support the idea that many major advances in sailing were made during the early Neolithic. The authors suggest there may be more boats preserved near La Marmotta, a potential avenue for future research.

The authors add, "Direct dating of Neolithic canoes from La Marmotta reveals them to be the oldest in the Mediterranean, offering invaluable insights into Neolithic navigation. This study reveals the amazing technological sophistication of early agricultural and pastoral communities, highlighting their woodworking skills and the construction

of complex vessels."

More information: The first Neolithic boats in the Mediterranean: The settlement of La Marmotta (Anguillara Sabazia, Lazio, Italy), *PLOS ONE* (2024). [DOI: 10.1371/journal.pone.0299765](https://doi.org/10.1371/journal.pone.0299765)

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