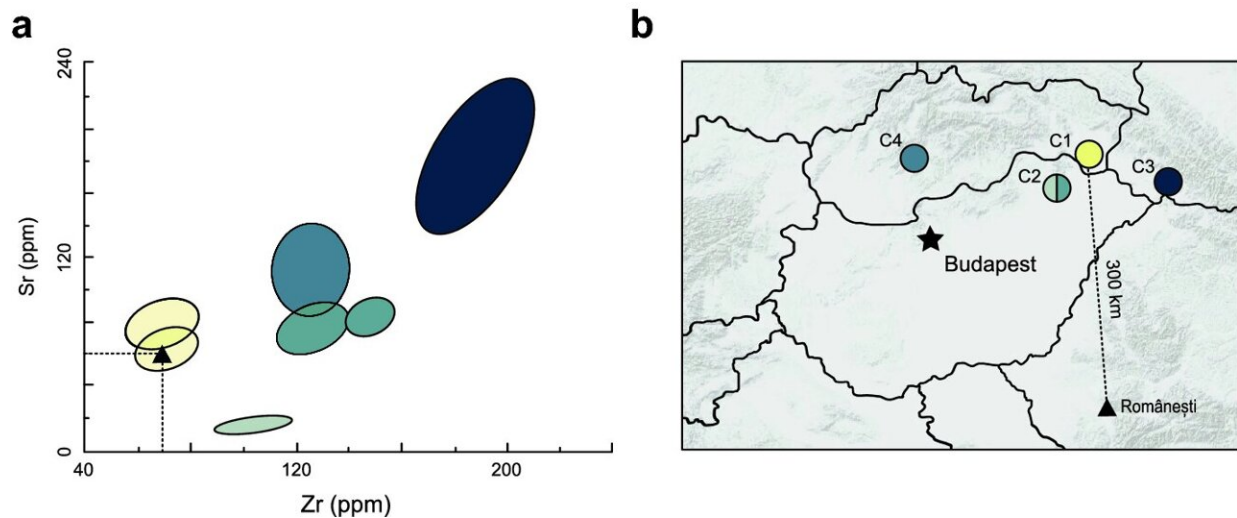


# Archaeological excavations in Romania show life of earliest modern humans in Europe

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Source of the obsidian artifact from Românești-Dumbrăvița I, GH3. (a) Bivariate plot of 90% confidence intervals of Zr and Sr concentrations of Carpathian obsidian sources. Credit: and the single obsidian artifact from Românești; (b) map of Carpathian obsidian sources and the site of Românești. *Scientific Reports* (2022). DOI: 10.1038/s41598-022-15544-5

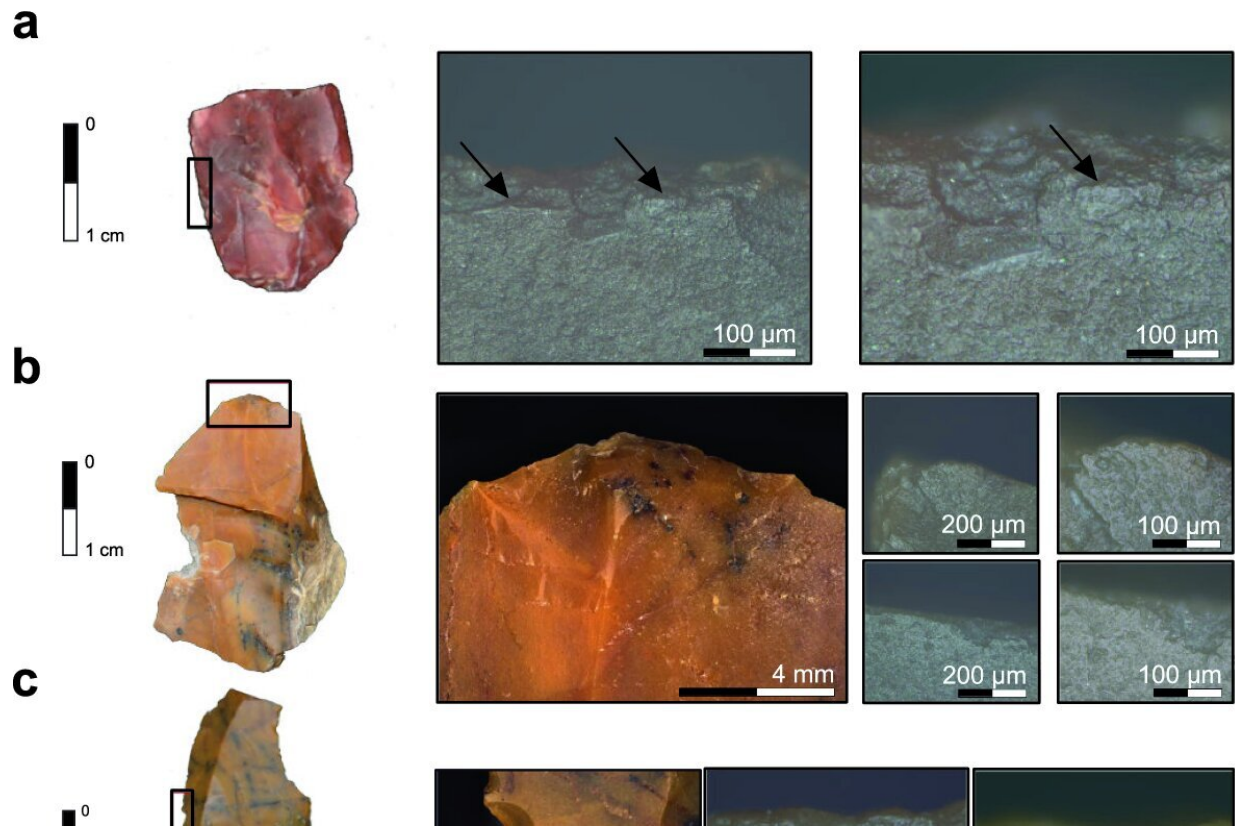
In a new article in the journal *Scientific Reports*, Leiden archaeologist Wei Chu and colleagues report on recent excavations in Western Romania at the site of Românești, one of the most important sites in southeastern Europe associated with the earliest Homo sapiens. The site gives an important glimpse in how modern humans adapted to their new

European environment.

Many early Homo sapiens fossils have been found in Southeastern Europe, presumably because they first entered the continent through the Balkan Peninsula. Still, few Homo sapiens fossils have been found in association with cultural remains, making Românești an important window into observing how the first European Homo sapiens coped with their new environments.

So how did Homo sapiens cope with this new continent? The researchers found that [artifacts](#) at Românești were geared towards producing highly standardized chipped stone bladelets that could have been used as inserts for arrows or spears. Peculiar grindstones might have also been used to straighten wooden shafts, suggesting that Românești was a kind of a projectile workshop.

Thousands of artifacts, some of which come from over 300 km away, combined with evidence for onsite fire use demonstrate that Românești was an important place in the landscape that was repeatedly returned to. Microscopic analyses of the artifact surfaces demonstrate that most of them were not used, suggesting that the site may have been used as a place for manufacturing tools that were later transported offsite.



Use-wear traces found on lithic artifacts from Româneşti-Dumbrăviţa I, GH3. (a) Localized microfracturing and compact polish of the lateral edge characteristic of hard animal material scraping (on the right side, 10 × and 20 × objective); (b) Abrasive polish and rounding of the distal end of the ventral surface characteristic for hide-scraping (on the right side, 10 × and 20 × objective); (c) Striated and extensive polish on the ventral surface of a steeply notched lateral edge characteristic of wood scraping (on the right side, 10 × and 20 × objective); (d) Macrofracture traces found on a lithic artifact. (left) spin-off fracture initiated on the dorsal distal tip on the lateral side with feather termination. (right) lateral ventral notching and edge scarring. Credit: *Scientific Reports* (2022). DOI: 10.1038/s41598-022-15544-5

## Modern humans and Neandertals

The results of the large lithic assemblages and their high-quality contexts

from the new excavations at Românești indicate changes in the ways Homo sapiens subsisted compared to Neandertals, helping to explain their success.

The next step is trying to elaborate on what the relationship of these early Homo sapiens was to earlier Neandertals. Nearby contemporary fossils indicate that Homo sapiens and Neandertals were interbreeding, but we still don't know what that means for the ways in which their mutual lifestyles were changing and how we can see that in their [archaeological remains](#).

**More information:** Wei Chu et al, Aurignacian dynamics in Southeastern Europe based on spatial analysis, sediment geochemistry, raw materials, lithic analysis, and use-wear from Românești-Dumbrăvița, *Scientific Reports* (2022). [DOI: 10.1038/s41598-022-15544-5](https://doi.org/10.1038/s41598-022-15544-5)

Provided by Leiden University

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