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The Quest to Uncover Wine's Origins

What was the first wine appellation? According to new research from leading scientists, mankind's long history of cultivating grapes for wine may have begun in southeast Anatolia, in modern-day Turkey. Their research has also shown that our favorite grapes are more closely related than previously thought.

When Dr. José Vouillamoz, a Swiss botanist and grape geneticist, began research with biomolecular archaeologist Patrick McGovern a decade ago, he set out to find where wild and cultivated *Vitis vinifera* vines showed the closest relationship to one another. Researchers believe that whenever wild grapevines show the most diversity and share the most similarities with cultivated varieties—the European species of vines encompassing most of the top wine grape varieties—would be where early man first started growing vines specifically for wine.

Southeast Anatolia has long been considered a likely birthplace of viticulture, along with areas in Transcaucasia—Georgia, Armenia and Azerbaijan. Southeast Anatolia is part of the Fertile Crescent, where farmers are believed to have first domesticated wild grains. These crops provided a steady food supply, allowing our nomadic ancestors to settle down.

After collecting hundreds of grape samples, Vouillamoz compared small portions of DNA called microsatellites—repeating sequences that are helpful for comparing genomes—and used them to create DNA profiles of different grape varieties. The densest concentration of similarities between wild and cultivated *Vitis vinifera* appeared in southeast Anatolia. “We propose the hypothesis that it is most likely the first place of grapevine domestication,” said Vouillamoz after he and McGovern presented their findings at the November 2012 EWBC Digital Wine Communications Conference in Imit, Turkey.

Evidence suggests that grapevines were once abundant in the region. But why would people start planting vines rather than continue to gather wild grapes, as they had done for centuries? Wild grapes, it seems, would not have been easy pickings—the vines climbed up trees, making



These vines at Kizil, in eastern Anatolia, are close relatives of their wild cousins.



José Vouillamoz



Patrick McGovern

berries difficult to reach.

McGovern, author of *Ancient Wine*, has used chemical analysis to identify organic compounds left behind by wine in old containers. He's testing ancient Anatolian clay mineral vessels, clearly intended for liquids, that date as far back as 9000 B.C. McGovern and Vouillamoz say they believe that grapes were first domesticated between 6000 and 8000 B.C.

Vouillamoz became interested in grape DNA while working on his postdoctoral thesis at the University of California, Davis, and recently co-authored a book called *Wine Grapes*, which includes the origins of 1,368 varieties. There are some surprising connections, such as the revelation that Syrah is a great-grandchild of Pinot Noir.

As Vouillamoz charted grape genealogies, patterns emerged that made him rethink theories about today's varieties and how they arrived in Europe. “There was this idea that most of the oldest and most important grape varieties in Western Europe were introduced independently from somewhere in the Middle East, Near East or Egypt, Turkey or Greece, at different times and in different places,” explains Vouillamoz. “These introductions were not as numerous as we think. A small number of grape varieties were the founders of what we cultivate today.” Vouillamoz believes that these prolific founders either originated in or descended directly from the grapes cultivated in southeast Anatolia, which in turn descended from the local wild vines.

For European wine grapes, 13 “founder grapes”—three ancestors of our favorite varieties—have been isolated so far, including Pinot Noir, Gouais Blanc, Sauvignon, Cabernet Sauvignon, Merlot, Malbec, Cabernet Franc, Nebbiolo, Teroldego, Lugliardo, Muscat Blanc à Petits Grains, Carignan, and Tintillo.

As far as where the first grapegrowers started their work, Vouillamoz and McGovern say that while Anatolia shows the most promise, they can't rule out Transcaucasia and Iran yet. The earliest wine jar to date, according to chemical analysis by McGovern, was found in northwest Iran, dating to around 5800–5000 B.C. But so far the team has been unable to collect vine samples from the region, which would allow them to determine when locals made the leap from grape foraging to grapegrowing.

—Suzanne Masciacchi

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