

Analysis of ancient incense found at Famen Royal Temple reflects importance of incense trade along the Silk Road

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The begonia-shaped silver container with the aromatic powder (Hexiang) inside, discovered in the underground palace of Famen Temple. Credit: Xinlai Ren and Xinyi Wang

A team of researchers affiliated with the Palace Museum, the Famen

Temple Museum and the University of Chinese Academy of Sciences, all in China, has conducted an analysis of ancient incense found at the Famen Royal Temple. In their paper published in *Proceedings of the National Academy of Sciences*, the group describes what they found through their analysis and why they believe their findings reflect the importance of the incense trade to the development of the Silk Road.

The Famen Royal Temple, located at the Famen Town of Fufeng County, was built between the years 499 and 532 CE for the explicit purpose of housing a [finger bone](#) from Sakyamuni, the founder of Buddhism. Excavations at the site in 1987 revealed a previously unknown underground palace at the [temple](#). In addition to the finger, the palace also contained several containers of incense. In this new effort, the researchers have turned their attention to study of the incense.

The researchers subjected the materials in the containers to Fourier-transform infrared spectroscopy and [gas chromatography](#)/mass spectrometry analysis. Together, the two techniques revealed the ingredients in the incense. In one container, agarwood and elemi resin had been mixed, the latter of which was considered to be highly aromatic. Another [container](#) held a mixture of frankincense and agarwood, which is the earliest known example of a special blending process known as Hexiang. Also, most of the ingredients found in the incense are native to places thousands of kilometers from the temple—a finding, the researchers suggest, that highlights the important role that incense played in [trade routes](#) across China. Frankincense, for example, would have come from parts of Africa or Arabia, and the agarwood originated in India or southeast Asia. The researchers suggest that the transport of incense could have been a major factor in the development of the Silk Road.



Gilt silver ball-shaped incense burner offered by Emperor Xizong of the Tang Dynasty, discovered in the underground palace of Famen Temple. Credit: Xinlai Ren and Xinyi Wang

The environment in which the incense was found suggests it was made during the Tang Dynasty, and texts from the period describing the mixing of aromatic materials have been dated to between 619 and 907 CE. The finding of the incense in the temple pushes its use back even farther.

More information: Meng Ren et al, Characterization of the incense sacrificed to the sarira of Sakyamuni from Famen Royal Temple during the ninth century in China, *Proceedings of the National Academy of Sciences* (2022). [DOI: 10.1073/pnas.2112724119](https://doi.org/10.1073/pnas.2112724119)

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