

Chinese pigs 'direct descendants' of first domesticated breeds

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Several species of native wild boar are found in the Philippines, though all domestic pigs, including this one, were originally domesticated in East Asia and introduced by incoming farmers. Credit: Image courtesy of Michael Herrera

Modern-day Chinese pigs are directly descended from ancient pigs which were the first to be domesticated in the region 10,000 years ago, a new archaeological and genetic study has revealed.

An international team of researchers, led by Durham University (UK) and the China Agricultural University, in Beijing, say their findings suggest a difference between patterns of early [domestication](#) and movement of [pigs](#) in Europe and parts of East Asia.

The research, published today (Monday, April 19) in the [Proceedings of](#)

[the National Academy of Sciences](#) USA, looked at the [DNA sequences](#) of more than 1,500 modern and 18 ancient pigs.

Lead author Dr Greger Larson, in the Department of Archaeology, at Durham University, said: "Previous studies of European domestic pigs demonstrated that the first pigs in Europe were imported from the Near East. Those first populations were then completely replaced by pigs descended from European wild boar.

"However, despite the occurrence of genetically distinct populations of wild boar throughout modern China, these populations have not been incorporated into domestic stocks.



The remains of a 4,000-year-old pig found at the Chinese archaeological site of Taosi. The descendants of this domestic pig are now found all over the world.
Credit: Image courtesy of Jing Yuan

"The earliest known Chinese domestic pigs have a direct connection with modern Chinese breeds, suggesting a long, unbroken history of pigs and people in this part of East Asia."

The finding is part of a wider research project into pig domestication and early human migration in East Asia.

The study also uncovered multiple centres of pig domestication and a complex picture of human migration across East Asia.

After pigs were incorporated into domestic stocks in Southeast Asia, the animals then migrated with people south and east to New Guinea, eventually reaching the remote Pacific, including Hawai'i, Tahiti, and Fiji, the researchers said.

The [DNA analysis](#) also found that wild boar were probably domesticated in many places including India and peninsular Southeast Asia several thousand years ago.

As current interpretations of archaeological records in these regions do not yet support these findings, the group has referred to them as "cryptic domestications".

They suggest that additional archaeological digs and new analytical techniques may help to resolve the problem.



Though pigs are not native to New Guinea, since being introduced by people from Southeast Asia, they are now a dominant part of the culture. Credit: Image courtesy of Will Millard

Dr Larson added: "Our evidence suggests an intriguingly complex pattern of local domestication and regional turnover and calls for a reappraisal of the archaeological record across South and East Asia.

"We may even find additional centres of pig domestication when we take a closer look at the picture in that part of the world."

The research is part of an ongoing research project based at Durham University which aims to re-evaluate the archaeological evidence for pig domestication and husbandry and explore the role of animals in reconstructing ancient [human migration](#), trade and exchange networks.

The DNA testing was carried out at the China Agricultural University and was analysed at Durham University and Uppsala University,

Sweden.

More information: Patterns of East Asian pig domestication, migration, and turnover revealed by modern and ancient DNA, Greger Larson et al, Proceedings of the National Academy of Sciences USA, 19-23 April 2010, [DOI:10.1073/pnas.0912264107](https://doi.org/10.1073/pnas.0912264107)

Provided by Durham University

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