



The evolution of maize is more complex than thought

New evidence reveals that the evolution of Maize in South America is more complex than initially thought, and there was a further geographical area in which partial domestication occurred in the Southwest Amazon - according to an international collaboration of researchers including the University of Warwick, and published in the journal 'Science'.

It was originally thought that maize - one of the world's most important crops, domesticated once, with only minor changes happening from its original state as teosinte, to fully developed maize we know today - called diverse landraces.

However, researchers have found that domesticated maize started

evolving 9,000 years before present (BP) in Mexico under human influences, at 7,500BP it traversed to Central America, and 6,500BP into South America, into a geographical area known as a secondary improvement centre.

This was discovered by analysing forty landrace (developed maize) and archaeological maize genomes, from South America. Based on the genomic, linguistic, archaeological and paleoecological data, researchers suggest that South-western Amazonian maize was a secondary improvement centre for partially domesticated maize, therefore, maize didn't fully form in South America until it had left its homeland of Mexico.

Professor Robin Allaby from

the School of Life Sciences at the University of Warwick comments, "this work fundamentally changes our understanding of maize origins. It shows that maize did not have a simple origin story, that it did not really form the crop as we know it, until it left its homeland."

The first Author, Dr Logan Kistler of the Smithsonian's National Museum of Natural History in Washington DC comments, "it's the long-term evolutionary history of domesticated plants that makes them fit for the human environment today," he says. "Understanding that history gives us tools for assessing the future of corn as we continue to drastically reshape our global environment and increase our agricultural demands on land around the globe."