# Small mammals have a 'Celtic fringe' too

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The origin of the 'Celtic fringe' of genetically and culturally distinctive people in the northern and western British Isles is the source of fierce academic controversy.

But new research into the movement of small mammals, such as voles and shrews, at the end of the last Ice Age, could provide important new clues to resolve the debate. The research is published in the latest issue of Proceedings of the Royal Society B.

An international team of scientists, led by Professor Jeremy Searle of the University of York, has discovered that end-Ice Age colonization of Britain by small mammals generates a remarkably 'human-like' geographic pattern of genetic variation.

The study showed that mitochondrial DNA lineages of three small mammal species - bank vole, field vole and pygmy shrew - form a 'Celtic fringe'. The researchers say that these small mammals colonized Britain, when it was still connected to continental Europe, in a two-phase process at the end of the last Ice Age.

They say there was partial replacement of the first wave of colonists by a second -- the two groups are too genetically distinctive to have evolved from each other while in Britain. The sudden change in climate at the end of the last Ice Age may have been important to allow the second type to invade Britain and partially replace the first type.

These events at the end of the Ice Age resulted in a peripheral

geographical distribution of the first colonists - the 'Celtic fringe'. The distribution mirrors the genetically distinctive human Celtic fringe found in Scotland, Northern Ireland, Eire, Wales, the Isle of Man and Cornwall.

Professor Searle, of the University's Department of Biology, said: "We believe this study of the distribution of small mammals can help us to understand why humans in the British Isles form a Celtic fringe. This study represents a novel example of the way that study of animals can help to shed light on human history."

Source: University of York