

Paper set to open door to new phase of evolutionary biology

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(PhysOrg.com) -- Research by evolutionary biologist Professor Roger Thorpe and his world-leading team of herpetologists at Bangor University's School of Biological Sciences is contributing to a change in the way we think about evolution. Their surprising results are opening the door to the next phase in our understanding of how biodiversity came about.

Their paper, published in the online science journal [PLoS Genetics](#) (April 29) has been widely reported, including in leading journals, *Science* and *Nature* .

Martinique, in the Lesser Antilles, is comprised of land masses that were once separate islands, which have joined together in more recent

geological timescale to form the current landmass. Genetic analysis of the lizard 'species' that had evolved on these originally separate islands for 6-8 million years, showed that they were fully interbreeding, although they were not expected to do so.

A surprising result of this genetic study is that there is less inter-breeding between [lizards](#) originating from the same island that live in different, but adjacent, habitats, than between lizards originating from different islands.

Professor Roger Thorpe explains: "What this suggests is that isolation is not the sole factor causing speciation and may be less important than suggested historically. Other factors such as habitat also come into play and have more influence in biodiversity and speciation than previously assumed.

"The next step for science is to understand the way that speciation is controlled by specific genes. In the same way that genetic research is leading to a better understanding of human diseases, a clearer understanding of how specific genes influence speciation will lead us to a better basic understanding of how biodiversity was created and how it will be impacted by [climate change](#)."

More information: Thorpe RS, Surget-Groba Y, Johansson H (2010) Genetic Tests for Ecological and Allopatric Speciation in Anoles on an Island Archipelago. PLoS Genet 6(4): e1000929.

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Provided by Bangor University

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