

Genetic fingerprinting explains evolution of tree species unique to Avon Gorge

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Sorbus bristoliensis

(PhysOrg.com) -- The evolution of unique tree species found only in Bristol's Avon Gorge can be explained by new genetic fingerprinting evidence, say scientists from the University of Bristol. Their findings have important implications for the conservation of trees in the gorge.

The research, led by Professor Simon Hiscock from the University's School of Biological Sciences, examined fifteen types of *Sorbus* tree, more commonly known as whitebeams, rowan or wild service tree, including three of the rarest trees in Britain.

By studying the trees' DNA, the researchers showed that these trees are hybridizing with each other. These hybrids then reproduce asexually, in an ongoing process that adds to the diversity of *Sorbus* trees found in the gorge.

This evolutionary process has implications for the [conservation](#) of the rare *Sorbus* species as all tree types and the process which formed them must be taken into account in any conservation plans.

Professor Hiscock said: "The *Sorbus* tree breeding system plays a critical role in determining the likelihood of their long-term survival and our

findings are already helping guide work being carried out by the Avon Gorge and Downs Wildlife Project and the National Trust to aid the conservation of these rare species.

"Conservation strategies for these rare trees should not be simply species-based but rather should aim to conserve the [evolutionary processes](#) that have been responsible for their formation by conserving all types of *Sorbus* within the Avon Gorge equally.

"At a time of unprecedented speed of [climate change](#) the identification and preservation of such dynamic evolutionary processes will be essential for maintaining biodiversity."

The research, funded by The Leverhulme Trust and published in the online version of *Journal of Molecular Ecology*, was carried out by scientists from the Universities of Bristol and Oxford in collaboration with the National Museum of Wales, Bristol City Council and the Avon Gorge and Downs Wildlife Project.

More information:

www3.interscience.wiley.com/jo.../123320649/abstract

Provided by University of Bristol

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