

Even wild mammals have regional dialects

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Credit: Cardiff University

Researchers from Cardiff University's Otter Project have discovered that genetically distinct populations of wild otters from across the UK have their own regional odours for communicating vital information to each other. The findings could have implications for wild mammal conservation efforts.

The study, which profiled chemical secretions from the Eurasian otter, suggests that genetically distinct populations of wild mammals have different odour dialects, which may have been driven by geographical separation. It also revealed that groups of otters with the most distinctive odour profiles were the most genetically diverse.

Dr Elizabeth Chadwick, from Cardiff University's School of Biosciences, said: "Many mammals have scent glands for leaving chemical messages that provide identifying information regarding sex and age. Our new research reveals that these odours might also reveal genetic differences..."

Chemical communication is essential for most [mammal](#) species and allows them to mark territory, identify other animals, attract a mate, and identify key information. Otters use a pair of anal glands in scent marking, and previous Otter Project research has shown that the odour of their secretions is associated with an [otter](#)'s age, sex, reproductive

status, and individual identity.

Dr Chadwick added: "Our findings raise some interesting questions. In the same way that people from London may not understand some of the verbal [dialect](#) of people from Cardiff, groups of otters with different [odour](#) dialects may not be able to pick up identifying information from each other.



Credit: Cardiff University

"Without further research, it is unclear how the otters interpret the [chemical](#) difference in secretions. If they don't 'like' or 'understand' unfamiliar scents these differences might hinder mixing - in the same way that people sometimes avoid those who are culturally different. On the other hand, genetic diversity makes individuals healthier – so being attracted to unfamiliar-smelling otters might be part of an evolutionary mechanism to avoid inbreeding, and drive genetic mixing.

"Given the evidence that difference in [scent](#) does reflect genetic differentiation, it is something that ought to be given more attention, for instance in species recovery programs and captive releases."

The research 'Odour dialects among wild mammals' is published in *Scientific Reports*.

More information: Eleanor Freya Kean et al.
Odour dialects among wild mammals, *Scientific Reports* (2017). [DOI: 10.1038/s41598-017-12706-8](https://doi.org/10.1038/s41598-017-12706-8)

Provided by Cardiff University

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