



Press Release

Human activity is influencing the behavior of Germany's wildcats

Tübingen's Senckenberg Centre for Human Evolution and Palaeoenvironment team used existing samples, analyzed isotopes preserved in hair to determine where animals hunt

Tübingen, 26.02.2026

A research team led by Dr. Chris Baumann and Dr. Dorothée Drucker from the Senckenberg Centre for Human Evolution and Palaeoenvironment at the University of Tübingen has found that the European wildcat is increasingly using agricultural land as hunting grounds in some parts of Germany, especially in summer when grain crops provide cover. Wildcats normally live in forests; this kind of behavioral change is seen as a response to pressure from human influences such as the fragmentation or destruction of forest areas and more intense agriculture. A cat's lifestyle is indirectly documented in its hair by the isotopic signature of what it has eaten. The team is now seeking to use this non-invasive isotopic analysis to track long-term ecological changes in wildcat behavior and to gather more data to help protect these shy animals. In this work, zoological collections comprise valuable long-term archives and provide samples for historical comparison. The study has been published in the journal *PLOS ONE*.

The European wildcat (*Felis silvestris*) has been protected in Germany since 1935. In recent decades, it has spread both in Germany and the rest of Europe. They are usually active at dusk and dawn, and are solitary creatures which stay close to their territory and normally avoid humans. Yet now they are being sighted on roads and in human settlements with increasing frequency. "Undisturbed forest areas, which are ideal habitats for wildcats, are shrinking, and there is a high risk of them being run over on our roads," says Chris Baumann. Stray, feral, or free-roaming domestic cats (*Felis catus*) also pose a threat to wildcats, as they can transmit diseases or influence their genetic pool through crossbreeding.

University of Tübingen
Public Relations Department

Christfried Dornis
Director

Janna Eberhardt
Research reporter
Phone: + 49 7071 29-77853
janna.eberhardt[at]uni-tuebingen.de

presse[at]uni-tuebingen.de
www.uni-tuebingen.de/aktuell

Senckenberg Nature Research Society
Press Office

Sabine Wilke
Director

Judith Jördens
Press & Social Media
Phone +49 69 7542 1434
judith.joerdens[at]senckenberg.de

pressestelle[at]senckenberg.de
www.senckenberg.de/presse

No new samples needed

To further research wildcats in Germany, the team is focusing on their diet. This indirectly reveals the developments to which animals are adapting, where they live, and which other species they compete with. "We only used samples of wildcat hair that had been collected in previous studies," says Baumann. The researchers included a case study comparing a wildcat population with a low hybridization rate in Germany's Taunus region with one in the Markgräflerland region, where crossbreeding with domestic cats was common. "In this study, hair samples for genetic monitoring were collected using sticky traps," Baumann says. In addition, the University of Jena's Phyletic Museum has stored wildcat hair samples from Thuringia over the past 26 years; some of these came from animals killed in road accidents.

The team analyzed the samples from the three regions for patterns of stable isotopes of carbon, nitrogen, and sulfur. These atoms of the same chemical element with different masses yield patterns, or "signatures," that are characteristic of organisms from specific regions and with specific diets. "The isotopic signature in the cells of the animals the cats ate, or from the food provided by humans, is incorporated into the cats' isotopic signature," explains Baumann. Interpreting the data is a complex business, but the team was able to draw some reliable conclusions.

The results revealed different feeding habits among the cats: "Wildcats, especially those in the Taunus population, which lived in their typical forest habitat, had a fairly uniform isotopic signature; they were highly specialized ecologically," says Baumann. "The hybrids, on the other hand, occupied a broad ecological niche; their isotopic signature overlapped significantly with that of the wildcats in regions where both species coexist." There was little overlap between domestic cats and wildcats, with little competition between them for food. But in Thuringia, the carbon isotope values, especially in fur grown in summer, indicated the wildcats were taking an increasing proportion of their prey from agricultural land.

This study contributes to the monitoring of wildcat populations in Germany. It also helps establish the non-invasive, retrospective method of isotope monitoring, which allows researchers to use archived tissue.



A wildcat on the hunt in a field of grain – outside its usual forest habitat. Artist's impression: Peter Nickolaus

Publication:

Chris Baumann, Sabrina Streif, Ayenne S. Akarsu, Carsten Nowak, Dorothée G. Drucker: Retrospective isotope monitoring reveals spatial and temporal effects of anthropogenic pressures on the trophic ecology of European wildcats (*Felis silvestris*) in Germany. *PLOS ONE*, <https://doi.org/10.1371/journal.pone.0343705>

Contact:

Dr. Chris Baumann
University of Tübingen
Geo- and Environmental Science – Biogeology
Senckenberg Center for Human Evolution and Palaeoenvironment
Phone +49 7071 29-78900
chris.baumann@uni-tuebingen.de