

# Language extinction triggers loss of unique medicinal knowledge

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A Yucuna man overlooking Indigenous Lands in the Amazonian rainforest, where many languages are predicted to go extinct by the end of the 21st century. Credit: UZH / Rodrigo Cámara-Leret

Language is one of our species' most important skills, as it has enabled us to occupy nearly every corner of the planet. Among other things, language allows indigenous societies to use the biodiversity that surrounds them as a "living pharmacy" and to describe the medicinal

properties of plants. Linguists estimate that there are nearly 7,400 languages in the world today.

Most of these languages, however, are not recorded in writing, and many languages are not being passed on to the [next generation](#). This has led linguists to estimate that 30 percent of all languages will disappear by the end of the 21st century. For [indigenous cultures](#) who mostly transmit knowledge orally, this high risk of [language](#) extinction also threatens their knowledge of medicinal plants.

## **Threatened languages support most of unique knowledge**

Researchers from the University of Zurich have now assessed the degree to which indigenous knowledge of medicinal plants is linked to individual languages. Senior researcher Rodrigo Cámara-Leret and Jordi Bascompte, professor of ecology, analyzed 3,597 medicinal species and 12,495 medicinal applications associated with 236 [indigenous languages](#) in North America, northwest Amazonia and New Guinea. "We found that more than 75 percent of all medicinal plant services are linguistically-unique and therefore only known to one language," Cámara-Leret points out.

To quantify how much of this linguistically-unique knowledge may vanish as languages or plants go extinct, the researchers turned to the Glottolog catalog of the world's languages and the IUCN Red List of Threatened Species to gain information on the threat to languages and medicinal plant species, respectively. They found that threatened languages support over 86 percent of all unique knowledge in North America and Amazonia, and 31 percent of all unique knowledge in New Guinea. By contrast, less than 5 percent of medicinal plant species were threatened.

## International Decade of Indigenous Languages

The findings of this study indicate that each indigenous language provides unique insights into the medicinal applications associated with biodiversity. Unfortunately, the study suggests that language loss will be even more critical to the extinction of medicinal knowledge than biodiversity loss. The study coincides with the United Nations proclaiming the next 10 years as the International Decade of Indigenous Languages to raise global awareness of the critical situation of many indigenous languages. "The next steps, in line with the vision of the UN, will require mobilizing resources for the preservation, revitalization and promotion of these threatened languages," Bascompte says. Additionally, launching large-scale community-based participatory efforts will be crucial to document endangered medicinal knowledge before it vanishes.

**More information:** Rodrigo Cámara-Leret et al, Language extinction triggers the loss of unique medicinal knowledge, *Proceedings of the National Academy of Sciences* (2021). [DOI: 10.1073/pnas.2103683118](https://doi.org/10.1073/pnas.2103683118)

Provided by University of Zurich

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