

# Lay Summary

**Title:** Comparative analysis of mycorrhizal communities associated with *Struthiopteris spicant* (L.) Weiss across Europe and North America

**Simplified Title (non-expert audience):** More than rain and light: How mycorrhizal fungi shape a fern population

**Audience:** Knowledgeable non-specialists and general public interested in ecology and conservation

**Reference:** [Guillen-Otero et al. \(2024\)](#), Plant Symbiotic Interactions

A strong lay summary is an unbeatable positioning tool: it reaches multiple audiences faster and deeper than any abstract. Lay summaries are increasingly required by journals, funders, and ethics committees. From a 5000 words peer reviewed publication, I developed a 400-word lay summary that relies on storytelling to reach a curious non-specialist audience. I highlighted the relevance of fern-fungus relationships in a lay language while maintaining its scientific rigor.

The screenshot shows the front page of a scientific article in Frontiers in Plant Science. The title is 'Comparative analysis of mycorrhizal communities associated with *Struthiopteris spicant* (L.) Weiss across Europe and North America'. The authors listed are Thais Guillen-Otero, Dietrich Hertel, Luis G. Quintanilla, Marcus Lehnert, Mattia Schmid, Davit Kharazishvili, Susan Fawcett, and Michael Kessler. The article is dated 04 June 2024. The page includes sections for 'OPEN ACCESS', 'CHECK FOR UPDATES', and 'CITATION'. The abstract is partially visible, starting with 'Introduction: Ferns constitute the second largest group of vascular plants. Previous studies have shown that the diversity and composition of fern communities are influenced by resource availability and water stress, among other factors. However, little is known about the influence of these environmental factors on their biotic interactions, especially regarding the relationship between mycorrhizal fungi and ferns. The present study compares the mycorrhizal communities associated with 36 populations of *Struthiopteris spicant* L. Weiss across Europe and North America. This species exhibits a great tolerance to variations in light, nutrient, and pH conditions, and it can survive with and without mycorrhizae.'

## LAY SUMMARY

**Sample based on:** [Guillen-Otero et al. \(2024\)](#), published in *Plant Symbiotic Interactions*, doi: [10.3389/fpls.2024.1402946](https://doi.org/10.3389/fpls.2024.1402946)

**Title:** Comparative analysis of mycorrhizal communities associated with *Struthiopteris spicant* (L.) Weiss across Europe and North America

**Lay title:** More than rain and light: How mycorrhizal fungi shape a fern population

**Intended audience:** Knowledgeable non-specialists, general public

**Word count:** 443

**Date:** 19.03.2026

**Prepared by:** Thais Guillen Otero

From surface to depth, how and why underground fungi in partnership with a common fern species are completely different depending on where in the world it grows.

### THE PROBLEM

With about 11000 species worldwide, ferns play a vital role in numerous ecosystems. They protect the soil from erosion, improving its quality and providing shelter for diverse microorganisms and wildlife. Yet, we know little about the strategies they use to succeed in the harshest environments. The answer might lie underground. Mycorrhizal fungi are soil fungi that form physical bonds with most plants. This association is often beneficial for both parties: the plant "feeds" the fungus and the fungus helps the plant to have better access to water and nutrients, resist infections, and grow faster and stronger. In the case of ferns, we have limited data on whether they interact with specific fungi and under which climatic and soil conditions. This information is essential to predict if a fern population can survive in a given region or succeed despite climate change.

### WHAT WE DID

We studied 36 populations of a single fern species (*Struthiopteris spicant*) to learn whether the type and number of mycorrhizal fungi in their roots changed depending on where they lived. *Struthiopteris spicant*, also known as the deer fern, grows naturally in both Europe and North America. We took root, leaf and soil samples from 105 plants in 11 countries and also made a smaller study across Switzerland.

To read the full summary, click [here](#).