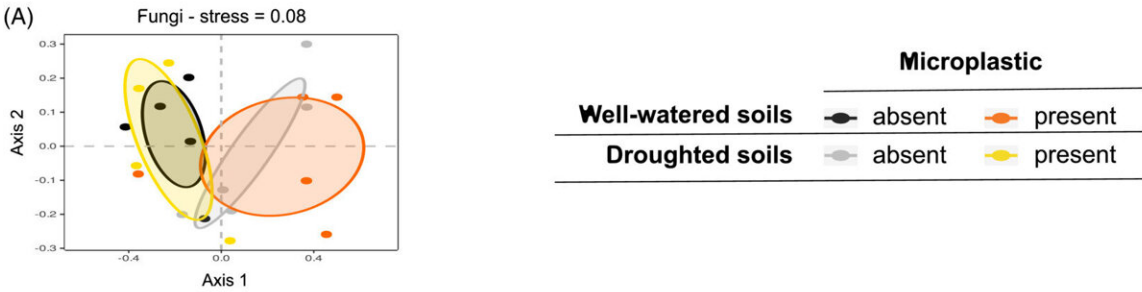


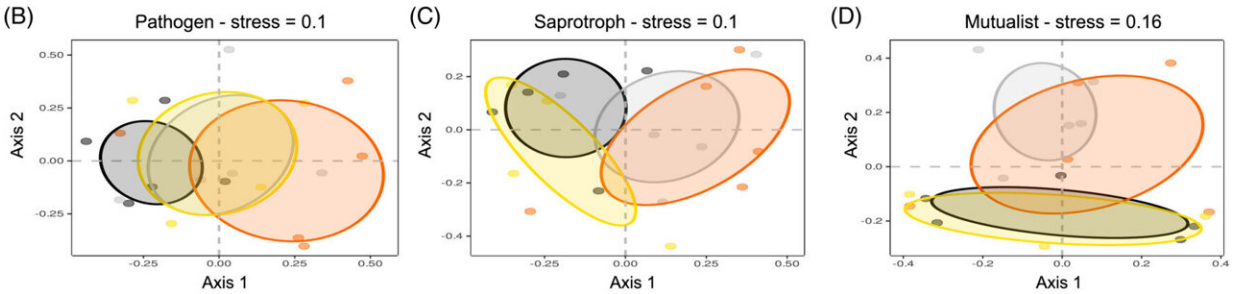
Research finds microplastics affect soil fungi depending on drought conditions

January 10 2024

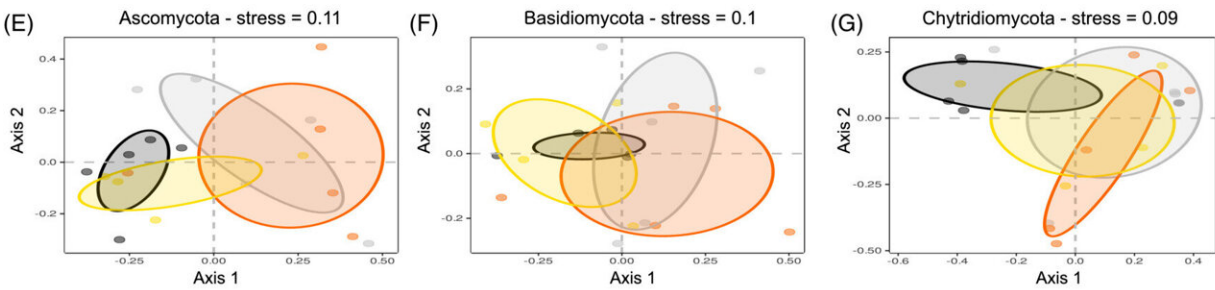
Total fungal community



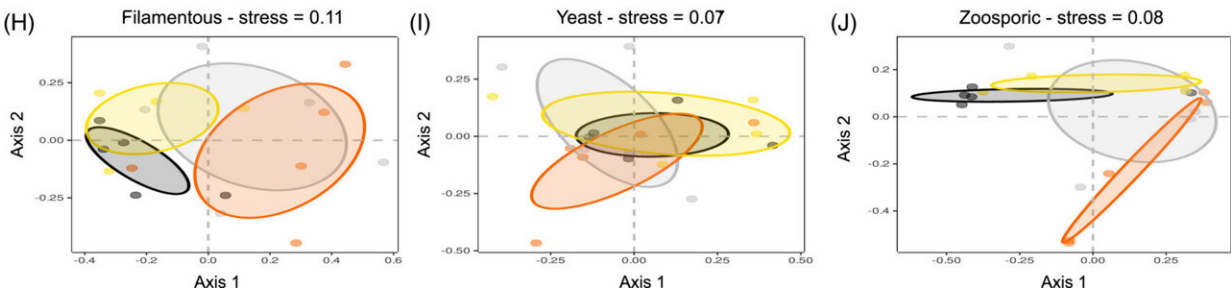
Fungal functional groups



Fungal taxonomical groups



Fungal morphological groups



Fungal community composition. Non-metric multidimensional scaling (NMDS) of Jaccard dissimilarities between samples belonging to (A) total fungal community, (B–D) fungal functional groups, (E–G) fungal taxonomical groups and (H–J) fungal morphological groups. The first two axes of each ordination are shown. Each point represents a sample in the bi-dimensional space. The colored

ellipses represent one standard deviation of the group centroid. Credit: *Environmental Microbiology* (2024). DOI: 10.1111/1462-2920.16549

Moisture levels in the soil can impact the effects that microplastic pollution has on soil fungi, according to new research [published](#) in *Environmental Microbiology*.

By studying [soil samples](#) mixed with microplastics under different conditions, investigators found that when soil is well-watered, [toxic chemicals](#) in microplastics can leach into the soil and hinder soil fungal richness. With dry soil, however, the leaching of water-extractable chemicals is less pronounced and therefore less impactful on soil fungal structure.

The researchers also noted that under dry conditions, microplastics help soil hold water for longer, which could help mitigate the effects of drought. Although this could be considered a desirable scenario, these interactions imply complex challenges for land management.

"Microplastics in soil alter soil fungal communities, which negatively affect soil ecosystem functions," said corresponding author Yudi M. Lozano, Ph.D., of Freie Universität Berlin and the Berlin-Brandenburg Institute of Advanced Biodiversity Research, in Germany.

More information: Y. M. Lozano et al, Microplastic fibres affect soil fungal communities depending on drought conditions with consequences for ecosystem functions, *Environmental Microbiology* (2024). [DOI: 10.1111/1462-2920.16549](https://doi.org/10.1111/1462-2920.16549)

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