FrontiersEcoPics

Ants actively carry microplastics

Microplastics (<5 mm in diameter) are found in many regions of the world – from urban to relatively undeveloped areas, from the tropics to the arctic – and are recognized as a critical environmental issue. Certain biotic and abiotic factors (such as soil fauna and wind, respectively) may affect the distribution of microplastics in the environment. For example, it has been reported that earthworms (Lumbricidae) can incidentally ingest microplastics (*Sci Rep* 2017; doi.org/10.1038/s41598-017-01594-7), and springtails (Collembola) crawl over and push microplastics aimlessly in laboratory settings (*Environ Pollut* 2017; doi.org/10.1016/j.envpol.2017.03.009). However, we found that – unlike the accidental transport of microplastics by these fauna – ants (*Pheidole* sp; body length ~2 mm) were seemingly interested in microplastics, and actively carried them to their nests in both the field and lab.

Given the abundance and diversity of ants worldwide, ant-based transport of microplastics may be common in terrestrial ecosystems, which could further expand the distribution of these plastics and increase the probability that they enter groundwater. Questions that warrant further investigation include: Is this behavior associated with all, or only some, ant species? Why do ants carry microplastics into their nests? Do ants feed microplastics to their young? And do microplastics have a negative impact on ant populations?

Yan Zhu, Lingyu Zhang, Xin Liu, and Jingjing Wang
Department of Ecology, College of Biology and the Environment, Nanjing Forestry University, Nanjing, China
doi:10.1002/fee.2642