Study Finds Ants Are Contaminated With Phthalates, a Widespread Plastic Additive

by Morgana Matus, 01/09/13

Chemical compounds known as phthalates are used as plasticizers and softeners in products ranging from vinyl to cosmetics. They're suspected of being endocrine disrupters (substances that interfere with the way hormones work), and the CDC has cautioned against the widespread use of the chemicals until more research can be done. Lab testing has shown that pretty much every human has some level of phthalate contamination, and a new study shows that even the smallest creatures are exposed to the substance. A report in the Science of the Total Environment by entomologist Dr. Alain Lenoir has shown that all of the insects in his study were contaminated with the compound.

Dr. Lenoir and his team executed several experiments where they measured the levels of phthalates in ants. In one instance, they found the chemical made up 0.59 percent of the cuticles in the specimens collected in a field near Tours, France. In another, they kept the ants in an open plastic box that contained no phthalates, but found that the level of the chemicals increased regardless, suggesting that they were present in the environment. They also took samples from ants which had no direct contact with plastics in Egypt, Greece, Spain, Morocco, Burka Faso, and Hungary – and all were found to test positive for phthalates. The researchers even found the substance in crickets and honeybees.

Phthalates, which are colorless and odorless, are not bound chemically to plastics meaning they are released as plastics degrade. Once they enter the human body, they are broken down into metabolites and released through urine. However studies on mice show that phthalates such as DEHP have impaired the development of male reproductive systems, which raised concern with health officials as to how they interact in other mammals. In ants, the fertility of the queen was observed to decrease, posing future questions as to how phthalates affect the world's organisms.

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