

# Ant Study Finds Phthalates Are Pervasive

January 16, 2013 By Dale McGeehon

Phthalates are everywhere. Just ask the insects.

Well, you can ask, but you won't get an answer. Unless you're a scientist like Alain Lenoir, of the Francois Rabelais University in Tours, France. He has found that phthalates are on the cuticles of ants all over the world. His team has found phthalates on wood crickets and honeybees, too, reports *The New York Times*.

Lenoir has been studying ants since 1968. He's discovered how ants use their antennae to detect hydrocarbons on other ants' cuticles. With chemical analyses, such as gas chromatography, Lenoir consistently detected the chemical additive group, phthalates, on all the ants he studied. A summary of his work was published in a paper in *Science of the Total Environment*.

Other scientists had found the same thing but dismissed the finding as contamination that occurred in the lab. But Lenoir kept investigating. He found that as much as 0.59% of the cuticles of ants in a field near Tours was made up of phthalates.

*The New York Times* describes another experiment:

Dr. Lenoir's team kept the ants in the laboratory in an open plastic box that contained no phthalates. Nonetheless, the amount of the chemicals on the ants' cuticles actually increased — indicating that the phthalates were present in the air and stuck to the ants' cuticles. (The quantity of phthalates on the cuticles of ants in closed boxes did not increase).

“Phthalates are everywhere in the atmosphere,” says Lenoir. He suspects that some of the phthalates detected on the ants in the lab came from other plastics there.

Lenoir checked elsewhere, too. He found that ants in Hungary, Spain, Morocco, Greece, Burkina Faso, and Egypt — places where the insects did not have direct contact with plastics — tested positive for phthalates, albeit some with just trace amounts. Wood crickets and honeybees had the chemicals on them, too.

Phthalates are used to make plastics softer and more pliable. They are found in products ranging from toys to construction materials to cosmetics. They have been helpful in making normally brittle plastic — polyvinyl chloride — soft enough to create blood bags for blood storage.

Yet, phthalates are believed to be endocrine disruptors, affecting the way the body's hormone system works. Some research has found a link between childhood asthma and phthalates. Other investigations found an association between child obesity and phthalates. The Centers for Disease Control reports that people are exposed to the chemicals by eating and drinking food that has been in contact with plastic containers.

As for ants, the long-term effects of phthalates on their populations are not known. However, Lenoir has noticed that when phthalates were placed on queen ants' abdomens, their fecundity appeared to decrease. He wants to study that phenomenon further.

Source: "[Ant Study Deepens Concern About Plastic Additives](#)," *The New York Times*, 1/7/13

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