

Lab test commonly used to assess water toxicity

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Hyalella azteca are invertebrates that are widely used for sediment and water toxicity studies. Investigators have found that *H. azteca* collected from sites influenced by agricultural/urban runoff are as much as 2-times less sensitive to pyrethroid insecticides than lab-grown *H. azteca*. In contrast, the insecticide sensitivities of *H. azteca* collected from undeveloped sites beyond the influences of agricultural/urban runoff were similar to those of lab-grown populations.

The results suggest that standard compliance testing of ambient waters, stormwater, and [agricultural runoff](#) and sediments using lab-grown *H. azteca* populations may not accurately reflect the health of resident *H. azteca* and the environments in which they live.

"Although [laboratory tests](#) can predict effects in the field, care should be taken when using the lab data for 303(d) listing if alternative field data indicate that the organisms of concern are not affected by the constituent of concern, such as pyrethroids," said Stephen Clark, lead author of the *Environmental Toxicology and Chemistry* study.

More information: Clark, S. L., Ogle, R. S., Gantner, A., Hall, L. W., Mitchell, G., Giddings, J., McCoole, M., Dobbs, M., Henry, K. and Valenti, T. (2015), Comparative sensitivity of field and laboratory populations of *Hyalella azteca* to the pyrethroid insecticides bifenthrin and cypermethrin. *Environmental Toxicology and Chemistry*. [DOI: 10.1002/etc.2907](#)

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