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Enemies Of The Environment: Estrogen Mimics

The excess birth control hormones that are being introduced into the environment around the world may be poisoning organisms of all types and sizes. This project was designed to test the effects of endocrine-disrupting chemicals on the macro organisms that live in the effluent wastewater below wastewater treatment facilities. The question addressed in this research project was whether or not the survivorship, reproductive biology, appearance, or behavior of *Daphnia magna* would be affected by trace amounts of 17 β -estrodial and estrone, two chemicals commonly used in birth control pills. The two chemicals were successively diluted until their concentrations reached those commonly found in the environment. After baseline data were recorded, the *Daphnia magna* were added into the chemical solutions. After four days, the survivorship, reproductive biology, appearance, and behavior. The estrone increased the mortality rate of the *Daphnia* whereas the 17 β -estrodial increased the birth rates. Both chemicals affected the appearance, behavior, and heart rates of the *Daphnia*. This research raises important questions on what effects endocrine-disrupting chemicals like estrone and estrodial have on organisms, and has fueled my interest in the subject. Much more research must be done to determine if these chemicals have similar effects on vertebrates, including humans.