Killer Invasive Species Strikes Again!

U.S. crayfish and their British cousins do not get along. First the U.K. was [invaded by the American signal crayfish](http://blogs.scientificamerican.com/extinction-countdown/2009/07/28/british-crayfish-get-a-safe-haven-from-american-invaders-and-a-fungus-that-eats-them-from-the-inside-out/) (*Pacifastacus leniusculus*) carrying the deadly crayfish plague, which has killed 95 percent of Britain’s native white-clawed crayfish (*Austropotamobius pallipes*) over the past 20 years. Now another invasive crayfish species—the virile crayfish (*Orconectes virilis*), native to the U.S. and Canada—is starting to spread in the rivers around East London. The species also carries crayfish plague.

The disease, caused by a water mold (*Aphanomyces astaci*), is a pretty nasty killer. It literally eats a crayfish from the inside out, leaving nothing but an empty shell behind. Death occurs within weeks of infection. Virile crayfish were first spotted in East London’s waterways in 2004, probably after being dumped into a pond from a home aquarium. Since then, they have colonized 17 kilometers of the River Lee and surrounding waterways. River Lee has no native white-clawed crayfish left—they were all wiped out by the signal crayfish invasion in the 1980s.

Hoping to find out how quickly the virile crayfish will spread to other areas, the U.K.’s [Environment Agency](http://www.environment-agency.gov.uk/default.aspx) (EA) attached tiny radio transmitters to several virile crayfish in the river. The news wasn’t good: According to preliminary results, the crayfish are moving 500 meters per month, far faster than the rate of the signal crayfish invasion in the 1980s. Those first American invaders can now be found throughout England, Wales and Scotland. “By tracking the colonization of the River Lee by virile crayfish, we will better understand how this species impacts the environment and our native wildlife,” EA environmental monitoring officer Adam Ellis said in a [prepared statement](http://www.environment-agency.gov.uk/news/136035.aspx). “However, one of the most important ways to protect our wildlife is to stop the spread of non-native invasive species. We’re appealing to the public not to release unwanted pets into the wild.”

Signal and virile crayfish were imported to the U.K. as food, bait and pets. The two species are larger than native white-clawed crayfish and are more prodigious hunters. They also damage river banks by burrowing into them to lay eggs. Both species enjoy immunity to crayfish plague that the U.K. species does not share. [Several other invasive crayfish](http://www.buglife.org.uk/conservation/currentprojects/Species%2BAction/UK%2BCrayfish%2BWebsite/Crayfish%2Bfor%2Beveryone/The%2BInvaders/Red%2Bswamp%2Bcrayfish) live in British waters. The Turkish [narrow-clawed crayfish](http://www.buglife.org.uk/conservation/currentprojects/Species%2BAction/UK%2BCrayfish%2BWebsite/Crayfish%2Bfor%2Beveryone/The%2BInvaders/Narrow-clawed%2Bcrayfish) (*Astacus leptodactylus*) lives in a few areas, but it is not immune to crayfish plague. The [red swamp crayfish](http://www.buglife.org.uk/conservation/currentprojects/Species%2BAction/UK%2BCrayfish%2BWebsite/Crayfish%2Bfor%2Beveryone/The%2BInvaders/Red%2Bswamp%2Bcrayfish) (*Procambarus clarkii*) from northern Mexico and the southern U.S. carries the killer plague, eats both water plants and small animals, and can turn lakes into muddy pits devoid of life. According to EA, invasive species cost the U.K. economy at least $2.6 billion in damage annually.

*Photo courtesy of Environment Agency*

