



Newsday Photo / Bill Davis

Worms like to get down and dirty and, thus, are great for the garden. But they're not so hot when it comes to life in the woods, where they endanger plants.

The Real Dirt on Earthworms

They're not beneficial in every area

When it comes to heroes, the natural world is full of surprises. A few chapters back, I expressed my disillusion upon discovering that ladybugs were not all sweetness and light. Now another icon has lost some of its luster. I have to turn on worms.

As a gardener, I have always thought of earthworms as friends. I had every reason to believe that. I still do, which is what makes this so hard. Recently, I learned that the goodness of worms depends on where they do their dirty work. In fact, if it weren't for my husband's squeamishness, I'd practice vermiculture. I'd keep worms in my kitchen — a container full of red wigglers to feed my food scraps to. This is big in horticultural circles because the wigglers gobble up the garbage and excrete odorless waste products called castings that are pure gold in the garden.

There's no question that worms possess fascinating qualities. They breathe through their skin and have

primitive brains. As most curious children know, you can cut off a worm's head or tail and if enough tissue is left, it can regrow the body part. And worms are hermaphrodites — each one has male and female sex organs. There's nothing terribly kinky about this — a worm can't have sex with itself, but when two of them connect, they can inseminate each other simultaneously and stay belly to belly for hours.

Estimates vary, but it seems safe to say that more than 4,000 species of earthworms burrow about the globe. Some scientists believe that worms

may inherit the earth. Aristotle called them "the intestines of the soil," and Charles Darwin kept a colony of earthworms in his study and conducted countless experiments in his yard. He demonstrated that the worms actually decided how to best draw twigs and leaves and even paper triangles into their burrows. His fellow scientists didn't necessarily buy this, but, hey, some people still don't believe his theory of evolution. Darwin also wrote a book about worms in which he explained how their excretions create nutrient-rich soil. Not only that, but how, as they burrow, they're actually plowing the planet.

As garden writer Amy Stewart says in a terrific new book on worms — I love her title, "The Earth Moved" (Algonquin Books of Chapel Hill, \$23.95) — that's "a stupendous achievement for a blind and deaf creature with no spine, no teeth and a length of only 2 or 3 inches."

All that said, I'm still disillusioned. Worms aren't the do-gooders they're cracked up to be. For a worm-lover like me this is not easy to accept, but there's very little wriggle room.

Evidence is piling up that shows what's good for the cultivated garden is not always good for the natural world. Throughout the northern United States, worms that add nitrogen to flower and vegetable beds are eating up the forest floor. They feast on humus, leaf litter and a spongy layer of decomposing vegetation known as duff that sits beneath the leaf litter.

Actually, there shouldn't be any worms in the woods. All the native worms were wiped out tens of thousands of years ago by the great glaciers. All 15 or so species known to inhabit the northeast hitched rides with plants or soil from Europe or Asia. And about seven — including the fisherfolk's favorite, *Lumbricus terrestris*, the night crawler — are invasive.

"I was astounded when I found out the truth about earthworms," says Marilyn Jordan of the Nature Conservancy's Long Island chapter. "I grew up thinking earthworms were great. They're good in the garden, where you want plants to grow quickly and where they're limited by the nutrients available to them, especially nitrogen."

There is, of course, a "but" and Marilyn sums it up this way: "In the woods, many wildflowers root in the duff layer. When these voracious non-native earthworms move into the woods and eat that duff layer,

the plants are toast. They literally keel over and die. Earthworms are decimating wildflowers on the forest floor. What's left is mineral-rich soil that stimulates the growth of non-native weedy plants — the last thing you want in the forest."

Right on. Some of our Island's loveliest wildflowers could bite the dust — huckleberry, Canada mayflower, and wild orchids such as lady slippers. As Marilyn points out, many of these plants are eaten from above by deer. If they're endangered from below by worms, forget it.

Ecologists are also concerned that as worms deplete the forest floor, they'll change habitats and affect wildlife such as salamanders and ground-nesting birds.

Clearly, there's more groundwork to be done. "This whole earthworm thing is amazing," Marilyn says. "People almost don't want to hear it. But we can't ignore the potential damage. We need a worm inventory on Long Island."

In the meantime, she has advice for anglers. "Never dump a bait bucket on the ground, especially in wooded and wilderness areas. Worms can't spread very far on their own — less than a half mile over a hundred years. But with human help, there's no telling how far they can travel."

I'm hoping for a middle ground in all this. I'll still welcome worms in my garden but I'll stay on guard in the woods. One thing I know is that I'll never look at them the same way again.

It's further proof that no organism is perfect and it's dangerous to have heroes. After all, some ladybugs are invasive and even Bambi has a dark side. I guess that's how the worm turns.

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Irene Virag