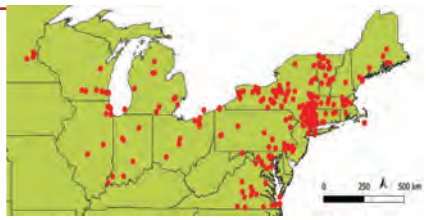
INVASIVE SPECIES FOR HOMEOWNERS

ASIAN JUMPING WORM

Amynthas agrestis, A. tokioensis, and *Metaphire hilgendorfi.* Family Megascolecidae

BACKGROUND

Earthworms might be a friendly sight in gardens or your favorite tool for catching fish, but most earthworms in the northeast U.S. are non-native. Jumping worms, a group of species originally from Asia, are invasive species that alter soil qualities and make it inhospitable for some plants and animals. They do this by consuming the upper organic layer of soil, which leaches nutrients and erodes the ground.This makes it hard for many plants (including garden plants) to grow and threatens even the most well-tended lawns. What's worse–humans spread worms without realizing it, carrying jumping worm egg cases (cocoons) in soil, mulch, potted plants, landscaping equipment, and even the treads of shoes and tires.

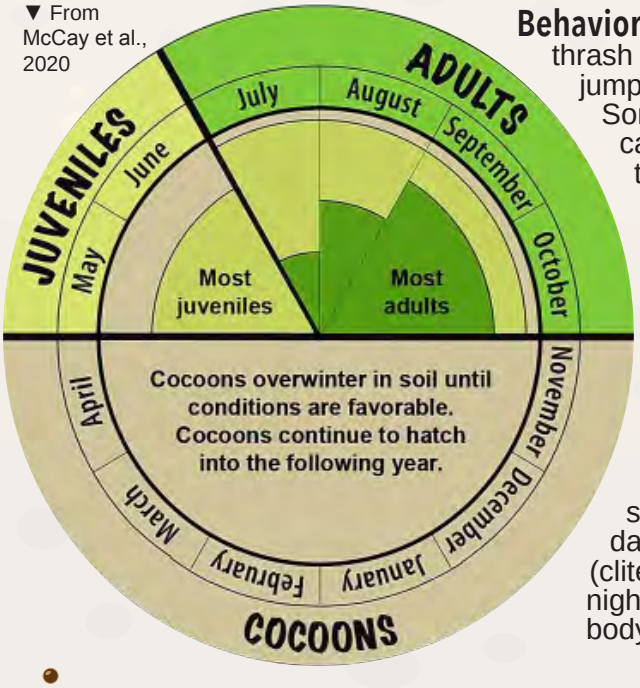


▲ Recorded sightings of jumping worm (red) in the Northeast and Midwest U.S. Data from iMapInvasives (2020).

KNOW THE WORM

Life Cycle: Most jumping worms have an annual life cycle. In the spring they hatch from poppy-seed-sized cocoons and after 70-90 days become mature and can produce new cocoons. In the late fall, adults die but the cocoons over-winter to start the next generation.

▼ From McCay et al., 2020



Behavior: These worms thrash wildly and often jump or flip over. Sometimes they cast off the end of their tail.

IN A NUTSHELL

When jumping worms invade, they consume and degrade soil which threatens the future of gardens, forests, and lawns.

Jumping worms are often spread by people through mulch, compost, gardening tools, and treads.

Stop the spread! Use our checklist (pg. 2) to be worm-smart.

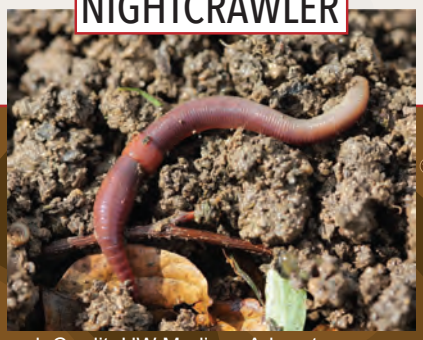
Castings: Their castings (feces) appear like coarse coffee grounds that create a loose layer between leaf litter and mineral soil beneath. ►

Look-alikes: Jumping worms might be confused with another invasive worm, the nightcrawler (*Lumbricus* spp.); both can be large with dark coloring. Jumping worm adults have a smooth milky-white collar (clitellum) close to the head end (14-16 segments away), whereas nightcrawlers have a raised pink-red collar more central along the worm's body.

▲ Jumping worms hold their eggs in cocoons the size of a poppy seed, like this. *Can you find the 7 other cocoons?*

JUMPING WORM

NIGHTCRAWLER



▲ Note the collar's color and its distance from the head. Credit: UW Madison Arboretum

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Jumping Worm Outreach, Research & Management
JWORM WORKING GROUP

CHECKLIST

Jumping worms present on your property: Focus on preventing spread

No jumping worms present on your property: Focus on monitoring and preventing introductions

Before Planting: Act before planting to prevent jumping worm introductions

MINIMIZE THE SPREAD

Be a worm-wise buyer

Do not buy or use jumping worms for bait, vermi-composting, or gardening. Purchased earthworms may also be mislabeled, so learn to identify jumping worms by their look and behavior.

Scout the Soil: Check new mulch, compost, and soil for jumping worms and inquire with providers if measures have been taken to reduce the spread of jumping worms.

Use mulch, compost and soil that are free of jumping worms and cocoons.

If you can't confirm the source is jumping worm-free, only purchase or trade mulch, compost, and soil that has been heated to appropriate temperatures and duration following protocols for reducing pathogens (104 - 130˚F for three days is sufficient).

Scan the Plants: Check the soil and roots of potted plants and trees for jumping worms or castings before planting them in your yard.

When the option exists, choose bare-root plants over potted plants, ensuring no soil remains affixed.

If you find jumping worms in materials you bring in, dispose of all contaminated soil and castings in the trash and kill worms by freezing or leaving in a bag out in the sun, then discard. Alternatively, worms may be killed using vinegar or rubbing alcohol.

KNOW THE SIGNS

- Educate yourself and others to recognize jumping worms.
- Educate yourself and others about the life cycle of jumping worms.
- Learn to recognize the soil signature of jumping worms.

Clean boots, gear, and even roots

Clean compost, soil and debris from vehicles, personal gear (clothing and boot treads), equipment, and gardening tools before moving to and from sites. Anything larger than a poppy seed could contain jumping worm cocoons.

When working with logging and landscaping companies, request equipment arrive and leave clear of soil– and encourage your neighbors and local government to do the same.

If jumping worms are present on your property, minimize the sharing and moving of plants where possible. If you do move or share plants, wash roots and share them either bare-root or re-pot in sterile potting soil.

When sharing or moving seedlings and small plants, rinse roots to minimize jumping worm spread when possible: gently massage roots in a basin of water to remove soil clumps, until no soil remains affixed. Afterwards, strain the water and place any solids larger than a poppy seed in a trash bag in the sun before disposing.

TAKE INITIATIVE

Check your property periodically for jumping worms by raking leaf layer, checking underneath.

Use mustard to count the earthworms on your property: Mix 1 gallon of water with 1/3 cup of ground yellow mustard seed and pour slowly into the soil. When worms come to the surface, look for jumping worms. Note: 1) this method is safe for most plants 2) mustard is not lethal to earthworms and is not an effective control.

Report jumping worm observations to your state department of natural resources or your local cooperative extension.

Help advance jumping worm research by taking part in citizen science, a bioblitz, or use recording apps like iMapInvasives.

Jumping Worm Outreach, Research, & Management Working Group, 2021

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Questions?
Visit: **http://www.nyisri.org/research/jworm-2/**
Email: nyisri@cornell.edu

Report your sightings

Go to **https://www.imapinvasives.org/** to record any sightings of jumping worms.

We actively use this data for early detection and understanding the invasion.