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Centipedes and Millipedes in and Around the Home

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Fast Facts

- Centipedes and millipedes are arthropods that can occasionally enter the home
- While some centipedes can inflict a painful bite and millipedes have distasteful defensive chemicals, neither are broadly dangerous to humans
- Minimizing moisture and debris in and around homes and sealing entry points can help keep centipedes and millipedes out of the home
- With the exception of house centipedes, most centipedes and millipedes cannot survive in the drier environment inside the home

Introduction

Centipedes and millipedes are closely related to insects and spiders, belonging to the same large group of animals known as arthropods. They share many similarities with insects, including hardened exoskeletons and jointed appendages. Also like some insects, both centipedes and millipedes hatch from eggs and need to shed their hardened exoskeleton in order to grow. They have several immature life stages prior to the adult stage and undergo "incomplete metamorphosis", in which the immature stages resemble smaller versions of the adult, growing bigger with each molt until reaching their mature size.

Both centipedes and millipedes play important roles in the environment. Commonly found under rocks and logs, millipedes feed on decaying plant material and organic matter, while centipedes are generalist predators, feeding on a wide array of other invertebrates, including small insects and earthworms.

Centipedes and millipedes are associated with damp, moist areas, found under rocks, leaf litter or mulch, or in the soil. Such conditions close to the home can attract both groups and facilitate their occasional entry into the home.

Identification

While the largest centipede in Kentucky, the Eastern bark centipede (Hemiscolopendra marginata) can reach up to three inches in length (Figure 1), most centipedes in Kentucky are considerably smaller (half an inch to an inch in length). Centipedes have flattened bodies, with distinct heads, long antennae, and modified front legs (called "forcipules") (Figure 2). The forcipules are pincer- or fang-like and are used by centipedes to subdue prey and inject venom (Figure 3). The final pair of legs are also modified (called "ultimate legs" or "caudal legs"). The exact structure and function of the ultimate legs can vary by species and they can be used for grasping prey or for defense.



Figure 1: Eastern bark centipede (*Hemiscolopendra marginata*) is the largest centipede in KY. Photo by Blake Newton, University of Kentucky.



Despite what their name suggests, most centipede species have far fewer than "100 legs", though the number of pairs of legs can vary between species. Of those in Kentucky, most centipedes have between 15 and 30 pairs of legs. Most species of centipedes are adapted for running and can move quickly.



Figure 2: A centipede (*Lithobius forficatus*, the brown centipede), measuring approximately one inch in length. Photo by Johnalyn Gordon, University of Kentucky.



Figure 3: Close-up of modified, pincer-like first pair of legs (forpicules) on a centipede. Photo by Lee H. Townsend.

One of the most common centipedes encountered in the home is the house centipede (*Scutigera coleoptrata*). Approximately one inch in length, house centipedes have a distinct appearance, with grayish-brown to yellowish-brown bodies, three dark bands running down their bodies, up to 15 pairs of spindly banded legs, long, thin, and slender antennae and ultimate legs (Figure 4). This is the only species of centipede that can survive inside of structures. Like other centipedes, house centipedes are predators, and feed on a variety of arthropods within the home, including (but not limited to) cockroaches, crickets, pillbugs/sowbugs, and silverfish. To aid in hunting, house centipedes

can run very quickly across floors and up walls. Despite their widespread distribution, which includes Kentucky, house centipedes are thought to have been introduced to North America from the Mediterranean. Though they are capable of surviving in the comparably drier environment inside a structure, house centipedes do associate with the more humid areas of human-made structures, such as bathrooms, but they can often be found in other rooms inside a home.



Figure 4: House centipedes are some of the most encountered indoor arthropods. They are the only centipede that survives indoors. Photo by Johnalyn Gordon, University of Kentucky.

Similarly, millipedes don't quite have one thousand legs, with most species having between 30 and 300 legs, arranged in two pairs on each body segment. The number of legs per body segment can be used to distinguish centipedes from millipedes, with centipedes having one pair (two legs total) per body segment. Millipedes can also be distinguished from centipedes by their shorter, elbowed antennae and rounded bodies (most species). Millipedes are usually slower-moving compared to centipedes, often opting to curl up tightly when threatened (Figure 5).



Figure 5: Millipede curling in defensive posture. Photo by Johnalyn M. Gordon.

Of the millipede species documented in Kentucky, some such as the giant American millipede (*Narceus americanus*) can grow up to four inches in length. However, most species that enter the home are considerably smaller (around one inch in length). There are several groups of millipedes in Kentucky, including flat millipedes (Figure 6) and garden millipedes (Figure 7).



Figure 6: Kentucky flat millipede (*Apheloria virginiensis*). Photo by Ricardo Bessin, University of Kentucky.



Figure 7: Garden millipedes are common near homes and landscapes. Photo by Joseph Berger, Bugwood.org

Issues with Centipedes and Millipedes

While centipedes and millipedes can be very beneficial as predators and decomposers in their natural environment, their presence on and inside the home can be unsettling and they are often viewed as nuisance pests (Figure 8).

Millipedes can be seen in large congregations, sometimes on sidewalks, pavers, and foundations and other times indoors in basements and garages. This can be coincident with heavy rains but it is

unclear what exactly causes such "migrations". If it is happening outside the home, there is likely no issue to be resolved. If it is happening inside, the millipedes won't be able to survive, and usually are found dead in piles. Simply sweep them up and eliminate the entry point to prevent further issues.



Figure 8: A millipede crawling up an exterior wall to a home. Photo by Amy Lettre.

Further, there can be complications when handling either type of critter. While centipedes use their forcipules and venom for capturing prey, they can inflict painful bites on humans when handled. While this bite is unlikely to cause serious harm, especially from smaller centipede species, care should be taken when handling centipedes. House centipedes, the most frequently encountered centipede inside the home, pose a minimal bite hazard as their forcipules are so small, that it is difficult for them to successfully pierce human skin. Many species of millipedes will secrete unpleasantsmelling fluids when threatened, which can cause dermatological reactions similar to a burn. It is true that some millipedes can excrete hydrogen cyanide, but it isn't in high enough quantities to harm humans.

Management

Centipedes and millipedes are very sensitive to moisture loss. Thus, high moisture conditions, facilitated by the use of mulch and plants close to the homes is thought to create conducive conditions for millipede habitat.

Most millipedes and centipedes will die shortly after entering a structure due to the lack of

moisture. Thus, the application of pesticides inside the home is rarely necessary for millipede or centipede control. Instead, modifying the environment around the home to reduce centipede and millipede populations that can accidentally make their way inside is the best way to prevent their entry.

Moisture-collecting areas around a structure's foundation can often be resolved by removing or reducing mulch, woodpiles, or paving stones close to the home. This can help dry out moist areas that would otherwise attract pests like centipedes and their prey items, as well as millipedes. Additionally, attention should be paid in crawl spaces and close to air conditioning units, hose bibs/sillcocks, and sprinklers for leaks and accumulation of water, and to downspouts and gutters to ensure they are properly moving water away from the structure. Finally, dethatching the lawn can help reduce harborage and food for millipedes in particular.

Sealing entry points is also an effective tool for preventing centipedes and millipedes from entering the home. Possible entry points include any openings in the foundation walls, door thresholds and windowsills. Gaps and cracks can be sealed by apply caulk and gaps underneath exterior doors and windows can be addressed by installing door sweeps or weather stripping.

Residual insecticides can be applied in cracks and crevices around the foundation to reduce centipede and/or millipede entry. Residual spray insecticides can be applied to entry points such as exterior door thresholds and window jambs/sills, the foundation where it is in contact with the soil, and inside the structure where moisture issues are present, such as within crawl spaces and basements. Insecticidal dusts can be applied to utility penetrations and cracks and crevices in the foundation. Inside the home, glue traps can be used to catch house centipedes and insecticidal dusts can be applied in voids and cracks where house centipedes might hide.

CAUTION! ALWAYS READ AND FOLLOW LABEL DIRECTIONS FOR SAFE USE OF ANY PESTICIDE! Pesticide recommendations in this publication are registered for use in Kentucky, USA ONLY! The use of some products may not be legal in your state or country. Please check with your local county agent or regulatory official before using any pesticide mentioned in this publication.

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