

Springtails



Michigan State University Extension – Oakland County

Springtails are tiny insects belonging to the order *Collembola*. About 700 species of springtails occur in North America, and more than 6,000 worldwide. They are wingless and have limited vision. These and other primitive features have convinced some scientists to exclude springtails from the class *Insecta*, placing them instead in a separate, exclusive class called *Collembola*.

Springtails are only about 1 to 2 mm long but can rapidly move 3 to 4 inches in a single motion. This represents a distance of about 100 times their body length. Springtails move rapidly because of a “springing” device on their abdomen called a furcula. The furcula is a hinged appendage that is bent forward and is held in place by a latch mechanism called a tenaculum. When the furcula is released, it springs down, sending the springtail through the air.

Another interesting anatomical feature of springtails is a ventral tube called a colophore, which projects down under the first abdominal segment. The colophore is wet and sticky, and helps a springtail adhere to surfaces. It is also used for water uptake.

Springtails are able to breathe through their thin body covering. Water is also able to pass through this covering. Because of the ease with which moisture can escape their bodies, springtails are extremely sensitive to drying

out, and many species inhabit soil. It has been estimated that as many as 50,000 springtails can inhabit 1 cubic foot of organic topsoil.

The soil contains sufficient moisture and food for springtails to survive. Their food includes decaying vegetation, fungi, bacteria, pollen, algae, lichens and insect feces. The feeding activities of springtails enrich the soil by breaking down these forms of organic matter and releasing the nutrients they contain. Because of these activities, springtails are considered to be a good indicator of soil health.

HABITS

Springtails occur in moist habitats almost everywhere except under water. Many species of springtails even live in the tidal zones of the seashore. They often attract attention when large numbers are seen floating on the surface of trapped tidal pools. Other species are called snow fleas because large groups of them will occasionally congregate on old snow banks, where they feed on algae and fungal spores. Snow fleas are usually a velvety black color and stand out in vivid contrast to the snow.

Springtails invade structures in search of moisture when their usual habitat becomes dry. Their usual outdoor habitats include mulch, leaf litter, other decaying organic matter, firewood, logs and landscape timbers. They are attracted to light and are so small that they can enter houses through cracks and crevices around

doors, utility pipes, window screens, etc. They can also be brought indoors in the soil of potted plants. Indoors, they are most often found in high-moisture areas such as bathrooms, kitchens, crawlspaces and basements. Moldy furniture is also able to support large infestations.

MANAGEMENT

Homeowners who see these tiny, grayish insects in and around houseplant containers are often concerned that they are likely to harm their plants; however, this is not the case. Springtail activity is an indication of healthy, moist, organically rich soil. If springtails remain confined to the soil of houseplants, it is not necessary to initiate control measures unless there are so many that they cause a nuisance.

When springtails are found in and around bathtubs and showers, these areas must be cleaned thoroughly and kept dry to correct the problem. For a temporary solution to indoor springtail problems, you can use a household aerosol spray; however, the problem will recur if the sources of moisture and organic matter are not removed.

Springtails may be found in wooden windowsills where moisture is causing the wood to decay. Removing the cause of the moisture and refinishing the wood surface will eliminate the attractiveness of these areas.

Occasionally, large numbers of springtails congregate on the surface of the soil in masses as large as a softball. Often, these masses appear on a sidewalk, patio or concrete porch. Usually there is no need to do anything, because the masses usually disappear in a day or two. However, if immediate removal is desired, just spray the mass with water to disperse or wash it away.

If control is necessary, treat the soil surface of potted plants with an insecticide dust or aerosol that lists springtails on the label. Several products containing pyrethroids (products with various names ending in *-thrin*) are labeled for use around the home.

Springtails sometimes cause alarm to homeowners when seen outdoors in enormous numbers, appearing as "piles of soot" in driveways, backyards, on mud puddle surfaces, etc. Occasionally, they enter the home where dampness occurs such as in basements cellars, bathrooms, and kitchens, especially near drains, leaking water pipes, sinks and in the soil of overwatered house plants. They usually appear in the spring and early summer but can be found all year round. Some are known as "snow fleas" appearing on the top of snow during late winter and early spring. These very small, leaping insects do not bite humans, spread disease, nor damage household furnishings. They are usually a nuisance by their presence.

IDENTIFICATION

Springtails are minute, wingless insects about 1/16 to 1/8 inch (1 to 2 mm) long. Colors vary from white, gray, yellow, orange, metallic green, lavender to red with some being patterned or mottled. They get their name from the ability to catapult themselves (leap) through the air three to four inches by means of a tail-like mechanism (furcula) tucked under the abdomen. When disturbed, this appendage functions as a spring, propelling them into the air away from the danger source. Young resemble adults except for size and color. Eggs are spherical.

LIFE CYCLE AND HABITS

Springtails occur in nearly every climatic condition throughout the world, such as in high mountain regions, pools, streams, snow-covered fields,

forest floors, etc. They live in the soil, in leaf mold, under bark, in decaying logs, on the surface of freshwater pools, in organic mulches, in termite nests, in snow, in greenhouses, in mushroom cellars, etc. Populations are often high, up to 100,000 per cubic meter of surface soil, or many millions per acre. Most feed on algae, fungi, and decaying vegetable matter. They are abundant only in damp, moist or very humid locations. Others feed on plant roots or nibble on young plant leaves and germinating seeds in hotbeds. Actually, they are beneficial by reducing decayed vegetation to soil (they are good recyclers). For example, they are among the few organisms known to break down DDT in the soil. Some can reproduce at temperatures as low as 40 degrees F. They move by crawling or jumping, followed by periods of rest.

Sometimes they may become a pest by their presence when very abundant, and by entering homes through doorways, screens, or other openings. Buildings with constant high humidity may be overrun with springtails.

CONTROL MEASURES

Prevention

Springtails are commonly found where there are sources of moisture. Any means to provide a drying effect in the home is very effective, such as the use of a fan or dehumidifier, or repairing plumbing leaks and dripping pipes. Avoid overwatering potted house plants and allow the soil to dry between watering, if possible. Outside the home, remove excessive mulch, moist leaves,

prune shrubbery and ground cover, and eliminate low, moist areas around the house foundation to permit proper air circulation. Remove wet, moldy wood or other moldy items. Since springtails are attracted to light and may pass under lighted doorways at night, use good light discipline.

Insecticides

Although springtails may cause some damage in the greenhouse or mushroom cellar, they are primarily a nuisance by their presence. Household pressurized aerosol spray cans, containing pyrethrin or resmethrin, will quickly reduce troublesome populations in the home. The dead springtails can be later collected with a strong suction vacuum cleaner.

Outdoor residual sprays of diazinon and/or dursban formulations applied around the house foundation (as a perimeter treatment), in mulched shrubbery, in flower beds, in grassy areas, etc., can be effective in reducing springtail populations. Also, springtails can be treated with bendiocarb (Ficam) 1% dust. Likewise, Safer's Insecticidal Soap is registered for control of springtails in and around the home. Only the licensed pest control operator or applicator can use Empire 20 and fluvalinate (Mavrik, Yardex) Pyrethrins (Microcare) are labeled as a spray on dust. Always read the label carefully and follow directions and safety precautions.

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