



Common Name: **Springtails**  
Scientific Name: **Superclass Hexapoda;**  
**Class Entognatha; Order Collembola**

## SPRINGTAILS



**Introduction.** The springtail common name comes from the fact that most species have a furcula (spring-like structure), which allows these insects to jump. A 3/16-inch long springtail can jump 3 to 4 inches. They are nuisance pests which are attracted to areas of high moisture. Springtails are worldwide in distribution with over 675 species occurring in the United States and Canada.

**Recognition.** Adult springtails range 1/32 to 1/8 inch in length, have a soft, compact body, are wingless, and are usually whitish or gray, but sometimes purple, blue, green, yellow, or orange. Springtails have chewing mouthparts, sometimes modified for sucking or filtering and small eyes (with no more than 8 facets each). They have short antennae and are usually equipped with a forked structure (furcula) attached beneath the abdomen. The catapult-like furcula at rest is folded forward and held by a clasp-like structure (tenaculum). The small tubular structure (collophore) on the underside of the first abdominal segment is used for water uptake and/or salt excretion. Springtails have rather short, slender legs. Immature springtails are very similar to adults.

**Similar Groups.** (1) Other small, wingless insects (e.g. fleas and lice) all lack a forked furcula and collophore. (2) Millipede hatchlings (class Diplopoda) lack legs on the first segment behind the head. (3) Mites and ticks (class Acari) lack antennae and usually have 4 pairs of legs.

**Biology.** Female springtails deposit eggs singly or in clusters in moist situations and this usually occurs several times. There are usually 5 to 10 molts before becoming an adult. Adults continue to molt throughout their life, with some species molting up to 50 times; although there is no increase in size after the 15th molt. Developmental time (egg to adult) usually requires 2 to 3 months; but it varies greatly with species and temperature, ranging from 1 week to over 2 years.



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Springtails lack spiracles and a tracheal (breathing tube) system. Rather, springtails exchange oxygen and carbon dioxide by cuticular respiration -- through the cuticle (cutaneous). This also means that water passes readily through the cuticle.

A few springtail species have attracted attention due to their habits. The so-called “snowflea”, *Hypogastrura nivicola* (see photo top right), is a dark species sometimes found in abundance on snow and exterior foundation surfaces in the winter. *Entomobrya nivalis* has been reported as causing an itching dermatitis in humans. *Seira platani*, *Entomobrya griseoolivata*, and *Orchesella albosa* have been reported as infesting human hair, and the latter as also infesting pubic areas, but without causing dermatitis.

**Habits.** Springtails inhabit only moist or damp areas because they can rapidly lose water through their cuticle. Most species occur in the soil and in enormous numbers, such as up to 50,000 per cubic foot of forest litter or up to 2800 per square foot in planted fields. They often invade structures in search of moisture when their habitat becomes dry. They can enter through door thresholds, utility penetrations, weep holes, missing mortar joints, crawl space vents and through window screens. They are frequently brought into structures, including offices, in potted plants. They are attracted to lights.

Springtails feed on decaying vegetation, fungi, bacteria, pollen, algae, lichens, arthropod feces, and carrion. Damp, moldy exterior wall voids and the damp undersurfaces of cedar shakes provide excellent breeding sites for these pests. Indoors, they are commonly found in the high-moisture areas occurring in bathrooms and kitchens, damp crawlspaces and basements and damp wall voids. They can often be found trapped in sinks and tubs. Moldy bedding, mattresses, couches, and stuffed chairs have been found to support large infestations. If mildew can be smelled, springtails may be a problem. In offices, the most common source is potted plants. Outdoors, sources include leaf litter, mulch, under debris on the ground, firewood or logs on the ground, decaying railroad ties and landscape timbers.

**Cultural Control & Preventative Measures.** The best control is simply to dry out the site of infestation and the springtails will die or leave. This can be achieved through (1) mulch management, (2) sound irrigation practices, (3) leak repairs and (4) interior humidity control by improving ventilation in crawlspaces and basements and by using dehumidifiers in these sites. High numbers of springtails indoors can often be quickly reduced with a vacuum cleaner.

**Professional Control.** Exterior perimeter barrier treatments with water-based and granular residual insecticide formulations are effective in markedly reducing springtail invasion if applications penetrate deep into activity zones in the mulch and soil next to the foundation. A Varmet Guard technician will also target the exterior foundation wall and treat beneath any siding at the sillplate level using a residual liquid insecticide.

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Strategically-injected insecticide aerosol formulations can reduce numbers of springtails breeding in wall voids, thresholds and bay window understructure. However, these sites can become re-infested if moisture retention and mold growth persists in these sites. A quarterly pest management service program may be required in cases where large populations of springtails are present and where landscaping conditions are conducive to their propagation.