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Silverfish

Lepisma saccharina (Linnaeus)



GENERAL INFORMATION

Silverfish and firebrats are placed in the order Thysanura which is considered one of the most primitive of the living insect orders. There are four species considered common in North America; the Firebrat (*Thermobia domestica*), the Common Silverfish (*Lepisma saccharina*), the Gray or Longtailed Silverfish (*Ctenolepisma longicaudata*), and the Four-Lined Silverfish (*Ctenolepisma quadriseriata*). Though most are generally comopolitan in distribution, the Gray Silverfish is found in the Midwest to California and South. Presence of either silverfish or firebrats indicate a warm humid environment. Firebrats will favor areas of higher temperatures (95-105F) while Silverfish prefer slightly cooler environments. Adverse to light, they tend to be found in dark areas of suitable climate with an abundant supply of food. However, their presence at a feeding site not warm or humid may indicate a nearby preferred microclimate.

SIGNS OF INFESTATION

Damage from silverfish and firebrats on paper products is often characterized by ragged scaped areas and irregular holes. Damage to textiles is indicated by the presence of feces (described as small, dark, and visible to the naked eye), scales (visible with a hand lens), and ground fibers. A yellow stain is often apparent at the damaged area.

FOOD SOURCES

Silverfish and firebrats are particularly fond of starch and items containing starch. They can often be found to be feeding on wallpaper and its adhesive paste as well as glazed paper, as both have a high starch content. They are also reported to feed upon other paper products, book bindings, textiles, cotton, silk and other glues.



DIAGNOSTIC MORPHOLOGY

Adults:

- size up to 12.5 mm
- flattened fish or carrot shaped outline
- long segmented antennae
- body covered with scales
- 3 tail - like appendages
- Silverfish Coloration; Common Silverfish= silvery gray, gray silverfish = dull gray, four lined silverfish = dark and light scales appear as four lines running down back



Immature Stage:

- Nymphs appear as young adults.
- Scales do not appear until after the third molt.



LIFE CYCLE

Eggs of the Silverfish tend towards a yellowish white hue. Generally eggs hatch anywhere from 19-45 days and young spend 3-4 months as nymphs. The average lifespan for the various silverfish species can be from 2-3.5 years.

Sexual maturity is reached in a few months. With a high birth rate both species can multiply quickly and have an enormous biotic potential.

CONTROL & TREATMENT

Silverfish and Firebrats thrive in warm moist environments. Climate control in terms of reducing humidity and lowering temperature can cause populations to decline significantly. Also controlling nearby micro-environments where pests can migrate from is important.

Controlling food sources such as removing cardboard boxes and removing paper products not part of a collection is advised. It is also recommended whenever possible that books and documents be placed in sealed containers.

Cleaning around bookcases in cracks and crevices with a HEPA vacuum and sealing afterward can reduce potential breeding habitat.