



# *Stratiolaelaps scimitus* 'Womersley'

## Predatory Mite

### DESCRIPTION:

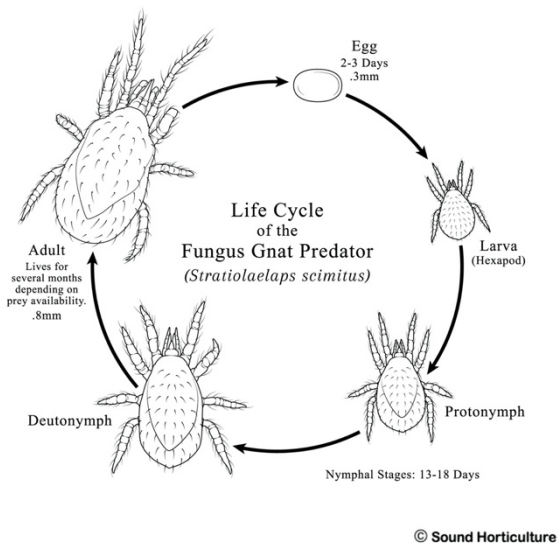
*Stratiolaelaps* is a native species of soil dwelling mite, which feeds on small insects and mites (e.g., springtails, root mealybug crawlers, spider mites). Adults are tan in color, less than 1/20 inch (1 mm) long. They move rapidly over the soil surface.

### TARGET PEST:

Fungus gnats (*Bradysia* spp.)  
Western flower thrips (*Frankliniella occidentalis*)



*Stratiolaelaps scimitus*



### LIFE CYCLE:

The complete life cycle takes about 18 days at 68°F (20°C). The sex ratio is equal, 1:1 females to males. Eggs hatch in 2-3 days into young nymphs. Each *Stratiolaelaps* consumes 1-5 prey per day. It can also survive as a scavenger, feeding on algae and plant debris. Populations will naturally fluctuate throughout the growing season.

### MONITORING TIPS:

Use a headband magnifier or 10-15 X hand lens to look for the mites in the top 1 inch (10-20 mm) of soil or growth media and at the base of plants.

### USE IN BIOLOGICAL CONTROL:

*Stratiolaelaps* are used primarily to control young larvae of fungus gnats in the soil or planting media (for information on fungus gnats, see Fungus Gnats). They also help control soil stages of thrips and may account for up to 30% of thrips control (see Thrips). *Stratiolaelaps* do not control shore flies or moth flies, but will feed on other soil organisms, such as springtails and root mealybugs.

They have been used successfully in bedding and potted plant production, seedling, and cutting propagation, and poinsettia stock. They adapt well to the various growth media and capillary mats used in plant production, but do not survive freezing or flooding conditions.

For more information, Please contact **Sound Horticulture**

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## PRODUCT INFORMATION:

*Stratiolaelaps* is supplied in a pasteurized peat/bran mixture in 1 qt (1 L) containers with shaker lids for distributing the mixture over the soil. There are 15,000-20,000 predators per quart (liter), or about 15-20 predators per cc. The mixture may also contain another species of mites as a food source for the predators. To check the product for live mites, inspect under a 10-15 X magnification. The predators are tan and move quickly compared to the food source mites, which are white or translucent, and move slowly. The predators should be applied as soon as received. Do not refrigerate.

If necessary, containers can be held, stored on their side out of direct sunlight, at 60-70°F (16-21°C) for up to 7 days.

## INTRODUCTION RATES:

*Stratiolaelaps* is most effective when applied before fungus gnat populations become established or while numbers are still low (below 10/trap/week). Two applications of *Stratiolaelaps* per crop cycle is usually sufficient used early in the season. The second application should be made 2-3 weeks after the first.

- Soil Culture – Apply 5 *Stratiolaelaps*/sq. ft to the soil at the time of planting, repeated in 2-3 weeks. Be sure to treat wet, exposed areas of soil, where fungus gnats are likely to breed.
- Sawdust bag or Rockwool culture – Apply 5 in/sq. ft or 500,000/hectare. Apply 4cc (1tsp.) per every 2nd. bag or rockwool slab, repeat in 2-3 weeks.
- Pot Culture – Apply 1 qt/2000 sq. ft (1L/ 200 m<sup>2</sup>) of bench area. Treat the floor of the greenhouse weekly if it provides wet conditions

for fungus gnats to breed and occasionally treat the perimeter of the greenhouse.

It is not necessary to apply mites to every flat of bedding plants if applications are done early and at the full rate, to allow them time to spread to all flats. Mites can also be applied to propagation media before striking cuttings.

## FOR BEST RESULTS:

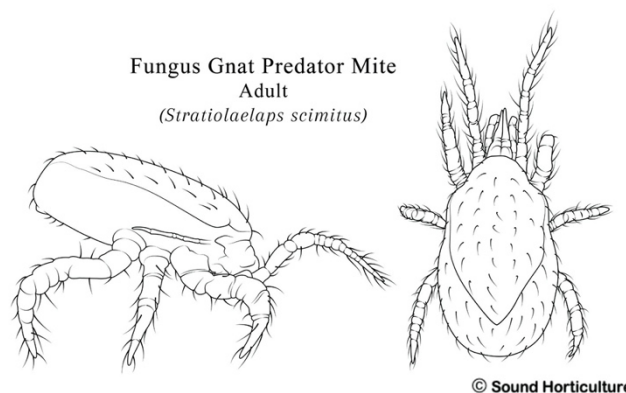
Do not mix predators into the growth media before potting because they do not survive. Apply *Stratiolaelaps* shortly within the first few weeks of planting and before fungus gnat levels reach more than 20 adults/trap/week. To control high numbers of fungus gnats, use of *Stratiolaelaps* can be integrated with insect parasitic nematodes (e.g., *Steinernema* spp.) or *Bacillus thuringiensis israelensis* (BTI), both of which control the larval stage of fungus gnats.

## USING CHEMICALS:

Contact Sound Horticulture to determine expected effects of pesticides on *Stratiolaelaps*. In general, do not apply *Stratiolaelaps* to soil that has been treated with lime or pesticides (particularly soil treated with Diazinon). It is likely that foliar sprays are less harmful than soil drenches, depending upon how much pesticide reaches the soil surface.

Fungicide drenches containing benzimidazoles are known to reduce reproduction of *Stratiolaelaps*. Microbial pesticides should not harm *Stratiolaelaps*, however, check with Sound Horticulture for current recommendations.

**Content Courtesy of  
Applied Bio-nomics Ltd**



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