

Spiders

Fact Sheet No. 30

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General Description and Habits

Spiders, like insects, are arthropods (animals with jointed legs and exoskeletons) but can be distinguished from insects by two major body sections (insects have three), four pairs of legs (insects have three pairs), lack of antennae and the presence of spinnerets. Spiders vary widely in color, shape, size, and habits. With the exception of two small groups, all spiders are venomous - that is they produce venom and are poisonous to their normal prey. Very few spiders are considered poisonous to humans. All spiders are predacious carnivores and generally use venom, injected through hollow fangs or chelicerae, to immobilize their prey. Most spiders feed on insects and other small arthropods, but some large tropical species capture small mice, rats, birds, or fish. At least one group of spiders in the United States includes members that commonly feed on small fish. Spiders do not eat solids but ingest only liquids. Digestive fluids are either injected into the prey or regurgitated on it after maceration, the spider then imbibes the digested material. Spiders are generally considered to be beneficial because of the large number of insects they consume and because they are of almost no importance as disease carriers. Spiders do not, however, differentiate between beneficial and destructive insects in their diet.

All spiders produce silk which is extruded as a liquid through the spinnerets and hardens on contact with air. Many different types and textures of silk are made by various species. The silk is used for a number of purposes, including construction of snares or webs, egg sacs, drag-lines, and ballooning threads. Many spiders produce web snares of various designs in which to trap prey. All spiders construct some form of a silk sac in which to deposit their eggs. The sacs may be quite elaborate with four or more distinct types and layers of silk or they might be nothing more than a few individual strands. Drag-lines are strands of silk laid down and attached to the substrate at intervals by most species wherever they go. This is why a spider always seems to have a silk thread to hang by if it is knocked from its perch.

"Ballooning" is the term applied to the habit that young spiders (spiderlings) have of sailing through the air. The young spiders climb to a high point and release silk strands into the wind. When the strands reach a length sufficient for the wind drag on the silk to support the weight of the spider, it lets go and sails away, sometimes for considerable distances. It is these ballooning threads (sometimes called "gossamer") that literally fill the air on clear fall days as spiderlings disperse to new areas.

Life History

All spiders reproduce by laying eggs which in turn hatch into spiderlings. For a spider to grow it must shed or "molt" its rigid outer skin. The increase in size from one growth stage to the next occurs between the time the old skin is shed and the new one hardens. Some tarantulas can live up to 20 years. Depending on the species, spiders may overwinter as eggs, spiderlings in the egg sac, immature spiders living outside the egg sac or as adults.

Spider Bites and Poisonous Spiders

Spiders attempt to bite humans only as a last resort when cornered, injured, trapped in clothing or otherwise threatened. They prefer retreat to attack and generally will avoid contact with humans. A large proportion of the spiders commonly encountered cannot even penetrate human skin with their fangs. The majority of those capable of biting people produce a venom that is either ineffective against humans or is injected in insufficient quantities to cause a significant reaction.

The typical reaction to a bite from a nonpoisonous spider consists of localized inflammation, swelling, and pain similar in intensity and duration to that resulting from a wasp or bee sting. Symptoms usually disappear in 12- 24 hours. A very small percentage of people may suffer an allergic reaction to bites from spiders not considered poisonous to man. Two groups that occur in the United States are known to commonly cause a significant toxic reaction in humans--the widow group and the recluse (or violin spiders) group.

Anyone who believes they have been bitten by a poisonous spider should see a physician immediately, and if possible, capture and/or kill the spider (try to keep it as intact as possible) and take it with them for a positive identification. If the medical personnel are unable to identify the specimen, it should be taken to the local county Extension office. Alternatively, specimens can be placed in a crushproof container with a preservative, preferably alcohol, and sent to: Plant Pest Diagnostic Lab, Dept. of Biology, 5305 Old Main Hill, Utah State University, Logan, UT 84322-5305. Persons most likely to suffer severe or prolonged effects from toxic bites are the very young, the aged, or people in poor health.

Control

The consistent presence of spider in structures is often a sign of significant insect infestation as the spiders could not survive long periods without food. If this is the case, control efforts directed at the insects should eventually decrease or eliminate the spiders as well.

Removal of spider webs, egg sacs, and harborage, and frequent cleaning of closets, attics, basements, and other storage areas will discourage the establishment of spiders. Clean frequently behind furniture, under baseboard heaters or radiators, in closets, and in other undisturbed areas. Remove and destroy any egg sacs that are found.

Exclusion measures include sealing holes where pipes enter the house, sealing cracks or crevices in the foundation, installing seals around doors that have large gaps, and repairing broken screens or windows that may provide a path of entry for spiders.

Traps can be useful for detecting spiders in the home and can provide some degree of control as well. Traps should be placed along baseboards or in other areas where spiders are seen. Commercial sticky traps designed for insect or rodent control work well and can capture relatively large numbers of spiders in some situations.

Insecticides applied directly to spiders, webs, and areas frequented by spiders should control existing infestations. Reinvasion from outdoors, or hatch of hidden eggs, will necessitate additional treatments. Do not contaminate food, water, utensils, or food handling and preparation areas.

Insecticides labeled for spider control include over 500 homeowner-type and over 200 commercial-type formulations. These include ready-to-use solutions, pressurized liquids, and emulsifiable concentrates. The majority of these products are labeled for both indoor and outdoor uses, but should be applied only to sites specifically listed on the label.

Active ingredients in products labeled for spider control include allethrin, bendiocarb, bifenthrin, boric acid, chlorpyrifos, cyfluthrin, cypermethrin, deltamethrin, diazinon, dichlorvos, esfenvalerate, fenvalerate, imiprothrin, permethrin, phenothrin prallethrin, propoxur, pyrethrins, resmethrin, tetramethrin, and tralomethrin. Chemically, all of these insecticides are pyrethroids except the carbamates bendiocarb and propoxur, and the organophosphates chlorpyrifos, diazinon, and dichlorvos. Many of these products are formulated as combinations of more than one of the above ingredients. Some formulations of bifenthrin and chlorpyrifos are restricted-use-pesticides.

NOTE: Many home uses of chlorpyrifos and diazinon have recently been canceled or will be canceled in the near future. However, formulations of these insecticides that are in the possession of a homeowner can still be used according to label directions.

Precautionary Statement

All pesticides have both benefits and risks. Benefits can be maximized and risks minimized by reading and following the labeling. Pay close attention to the directions for use and the precautionary statements. The information on pesticide labels contains both instructions and limitations. Pesticide labels are legal documents, and it is a violation of both federal and state laws to use a pesticide inconsistent with its labeling. The pesticide applicator is legally responsible for proper use. Always read and follow the label.

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