

# Spider Mites

Dry or dusty looking foliage

## **Name and Description**—Family Tetranychidae

The spider mites family includes about 1600 species, some of which are well-known due to their habits that are often injurious to plant life. These mites range in size from 1/25-1/20 inch (0.9-1.25 mm) long and are often visible to the naked eye. They are spider-like in appearance with two body parts and four pairs of legs. The common name, spider mites, is derived from mites' habits of spinning webbing on the plants they have colonized. Most frequently, it is the discovery of the webbing that will lead an observer to determine the infestation of spider mites (fig. 1).

## **Hosts**—Hardwoods and conifers

**Life Cycle**—Spider mites typically develop through five stages: egg, nymph, two immature stages, and adult. Many overwinter in the egg or adult female stage, and there are often several generations a year, with a generation being completed in as little as a week.

**Damage**—Unlike spiders, spider mites are herbivorous and feed upon host plants by piercing individual plant cells with their mouthpart and sucking out the fluids. The damage takes on a stippled yellow or brown appearance as large numbers of cells are affected on an infested plant part. Some species will feed upon a wide range of host plants, while others have a very limited host range. The presence of webbing, which may contain a large number of visible mites, and damage to plant tissue are indicative of spider mite activity.

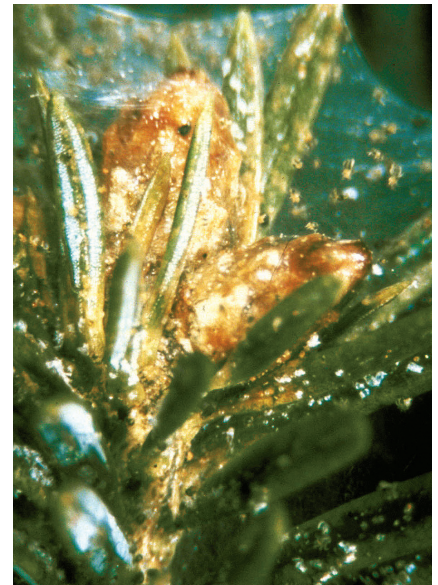


Figure 1. Spruce spider mites, *Oligonychus ununguis* (Tetranychidae). Note the fine webbing. Photo: USDA Forest Service, Intermountain Region, Bugwood.org.

Spider mites rarely achieve pest status in a forested setting. However, in landscape situations, greenhouses, and, at times, in forest plantations or other planted areas, spider mites can damage high-value plants. Even in these circumstances, an outbreak of spider mites is indicative of another condition that is allowing the spider mites to thrive. Outbreaks of spider mites are frequently associated with hot or dry conditions, and, even in forested settings, their numbers increase during periods of drought. Another situation in which spider mites can reach outbreak levels is when host plants are subjected to large amounts of dust like what might be found along a dirt road. Finally, spider mite outbreaks can be caused by the use of insecticides or fungicides that have been employed to deal with another pest. The use of these chemicals can kill off the organisms that normally keep spider mites under control, resulting in a secondary outbreak of the spider mites.

**Management**—Control of spider mites needs to start with investigation of the cause of an infestation. Often, removal of a causal factor results in the rapid and complete collapse of a spider mite infestation. Sometimes these causal factors can be somewhat obscure; in one case, spruce spider mites were infesting large numbers of host trees in an urban setting. Only later was it discovered that frequent spraying for mosquitoes contributed to the outbreak of spider mites. Adjustment of the spray schedule caused the spider mite population to decline.

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1. Cranshaw, W.S.; Leatherman, D.A.; Jacobi, W.R.; Mannix L. 2000. Insects and diseases of woody plants of the central Rockies. Bulletin 506A. Fort Collins, CO: Colorado State University, Cooperative Extension. 284 p.
  2. Dreistadt, S. 1994. Pests of landscape trees and shrubs. Publication 3359. Berkeley, CA: University of California Press. 327 p.
  3. Furniss, R.L.; Carolin, V.M. 1977. Western forest insects. Misc. Publ. 1339. Washington, DC: U.S. Department of Agriculture, Forest Service. 654 p.