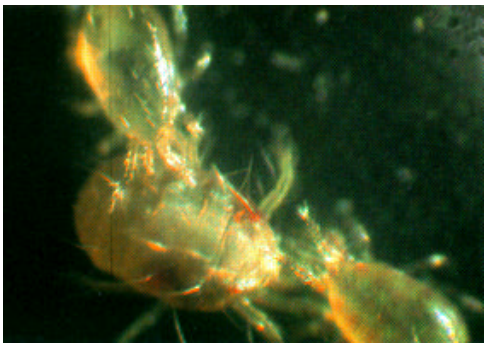
Modified from Ralph E. Berry. 1998©. *Insects and Mites of Economic Importance in the Northwest*. 2nd Ed. 221 p.

PREDATOR MITES Acari: Physoseiidae *Typhlodromus* spp. *Amblyseius* spp.

DESCRIPTION

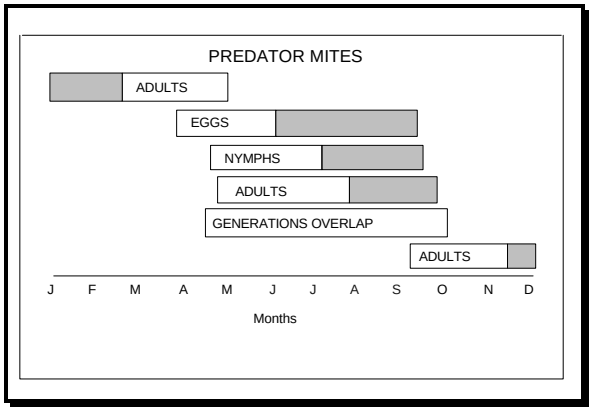
There are many species of *Typhlodromus (=Metaseiulus*) and *Amblyseius* which feed on injurious plant-feeding mites. Probably the most common species is *Typhlodromus occidentallis* (orchard predator mite) which is about 0.25 to 0.5 mm long, shiny white-gray or yellow, with long, stout dorsal hairs on the body, whereas *T. pyri* has short, thin doral hairs. *Amblyseius fallacis*, a common predator found in field and orchard crops also has long, stout dorsal hairs. Another species, *Zetzelli mali* (yellow predator mite, family Stigmaeidae) has short hairs, and a narrower body than *Typholodromus* spp. or *Amblyseius* spp. The European red mite, which may be confused with *Z. mali*, has conspicuous white spots on the back and long hairs. The number of hairs, their position, and length are used to identify the different species.



Predator mites

LIFE HISTORY

Predator mites overwinter as adult females beneath tree bark, in soil debris, on leaves, and in other protected places. Adults become active in the spring (late April and May) and begin feeding on available prey. Eggs, which are laid singly on the foliage, hatch in two to three days. Predator larvae feed on prey for one to two days consuming about one or two prey before molting to the protonymph stage. The protonymph stage consumes about two prey and completes development to the deutonymph stage in one or two days. The deutonymph stage lasts one to two days and two or three prey are consumed. Adult females consume nearly two prey per day during a five to six week period (ca. 75 to 80 total prey). Males consume about one prey per day during a four to five week period (ca. 30 total prey). The female deposits an average of 33 eggs during her lifetime. The life cycle from egg to adult requires about six days and there are at least 10 generations each year.



IMPORTANCE

Female predator mites produce about the same number of eggs as the prey. This phenomenon reduces the lag of predator populations behind those of the prey, and may account for the effectiveness of many mite predators in integrated pest management programs. Also, the predators respond quickly to increasing abundance of prey, resulting in the ability to rapidly increase their numbers when plant-feeding mite populations are high. Lack of available prey, however, retards predator reproduction. Injurious mites which are attacked by predator mites include twospotted spider mite, McDaniel mite, European red mite, yellow spider mite, brown mite, and others. *T. occidentalis* provides the basis for the effective integrated mite control programs on tree fruit and *A. fallacis* is the most important predator in mite management in mint. Treatment of plant-feeding mites must be established by a knowledgeable person since improper use of acaricides or insecticides reduces predator populations, which could result in a rapid build-up of injurious mites.

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