

The Good, the Bad and the Bugly



Identification of Predatory Mites

- A good hand lens is necessary to observe these arthropods.
- Mites lack segmented bodies, antennae, or wings
- Most predatory mites are long-legged, pear shaped, and shinier because they have fewer tiny hairs.
- Many are translucent but often take on the color of its host

Identification of Predatory Mites

- Predatory species are more active than plant feeding species and stop moving only to feed.
- Blow or gently touch them to get them to move – the predatory species generally will move more quickly than pest species.

Identification of Predatory Mites

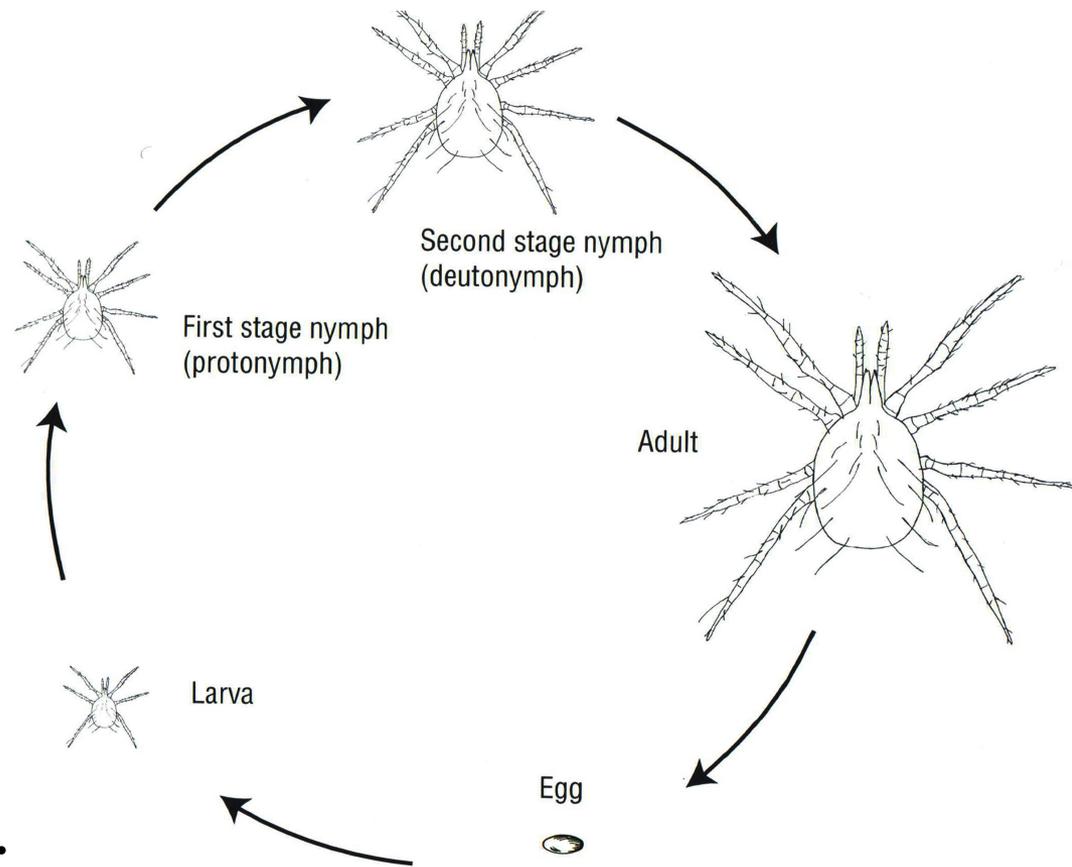
- Under magnification, predatory species mouthparts extend in front of bodies to pierce their prey. Pest species mouthparts extend downward to feed on plants.

Identification of Predatory Mites

- Predaceous mite eggs are more translucent, pearl-colored, and oblong eggs of plant-feeding mites which tend to be round, colored or opaque



Most mites, such as *Phytoseiulus persimilis*, hatch from eggs and develop through 3 immature stages before becoming an adult in about 1-2 weeks. The six-legged mite larva is relatively inactive apparently not feeding before becoming a nymph. The 8-legged nymphs are active feeders.



Western Predatory Mite

Galendromus (Metaseiulus) occidentalis

- Teardrop shaped, clear to red
- Most dependable predator
- Can complete life cycle in 7 days
- Can provide complete control of spider mites (*Tetranychus* spp)
- Feeds on mites from various genera and will feed on pollen



Commercially Available Species

PREDATOR

PREFERRED PREY

- *Phytoseiulus persimilis* → spider mites
- *Phytoseiulus longipes* → spider mites
- *Metaseiulus occidentalis* → spider mites
- *Neoseiulus californicus* → greenhouse mites
- *Amblyseiulus spp* → greenhouse mites and thrips
- *Euseiulus spp* → citrus mites and thrips
- *Hypoaspis miles* → fungus gnat larvae and thrip pupae

Commercial Applications...

- Against spider mites (*Tetranychus* spp) on
 - Tomatoes, cucumbers, and peppers (greenhouse)
 - Walnuts
 - almonds
 - Roses
 - Citrus
 - Strawberries
 - Apples, plums, peach
 - Corn, cotton, grapes



- http://www.ipm.ucdavis.edu/PMG/NE/western_predatory_mite.html
- <http://www.biocontrol.entomology.cornell.edu/predators/Galendromus.php>
- Mary Louise Flint and Steven Dreistadt. 1998. ***Natural Enemies Handbook. The Illustrated Guide to Biological Pest Control.*** pp106-110.