

Gall (Eriophyid) Mites

Unique and sometimes colorful leaf distortions

Name and Description—Eriophyidae family

Eriophyid mites are soft-bodied, tiny to microscopic mites that feed on many species of plants. They are unique among the mites and other arachnids because they have only two pairs of legs instead of four, and they are shaped more carrot-like than spider-like. Eriophyid mites pierce the plant cells and suck up the plant's juices. Many are found on leaves, but some feed on flowers, fruits, or buds. Most species are restricted to feeding on one plant species and many are undescribed.

Hosts—Hardwoods and conifers

Life Cycle—There are several overlapping generations during the plant growing season. Growing-season forms include both sexes. Eriophyid mites develop through four stages: egg, first nymph, second nymph, and adult. Dormant-season forms are fertile females that hide under bud scales or other protected sites. Species are often hard to identify because growing and dormant season forms can be different shapes and sizes.

Damage—Infestations of eriophyid mites produce a variety of symptoms on plants. The saliva in some mites produce bladder, bead, pouch, or finger galls of bright colors; others may cause leaf bronzing or brittleness. Some induce irregular leaf blisters and some stunt or distort buds or flowering parts (figs. 1-3). In fact, it is often possible to identify a causal organism by the type of gall induced on the host. Eriophyid mites can induce changes in plant hairs that produce velvety or cottony patches called erineum (fig. 4-5).

Management—Plants can tolerate large populations of mites, and management is often not needed. When management is desired, affected leaves or plant parts can be pruned or destroyed. A horticultural oil spray can be applied in the fall to smother overwintering females of some species. However, the horticultural oil may also remove beneficial predaceous mites.



Figure 1. *Aceria macrorrhyncha* on maple. Photo: Milan Zubrik, Forest Research Institute, Slovakia, Bugwood.org.



Figure 2. *Eriophyes celtis* on hackberry. Photo: Whitney Cranshaw, Colorado State University, Bugwood.org.



Figure 3. *Eriophyes parapopuli* on *Populus* spp. Photo: Whitney Cranshaw, Colorado State University, Bugwood.org.



Figure 4. *Eriophyes calcercis* on Rocky Mountain Maple. Photo: William M. Ciesla, Forest Health Management International, Bugwood.org.



Figure 5. *Colomerus vitis* on grape. Photo: Jody Fetzner, New York Botanical Garden, Bugwood.org.

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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.

