

## Colorado Insect of Interest

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# Elm Leafminer

**Scientific Name:** *Kaliofenusa ulmi* (Sundeval)

**Order:** Hymenoptera (Bees, Wasps, Ants, Sawflies, etc.)

**Family:** Tenthredinidae (Common Sawflies)

**Identification and Descriptive Features:** Adults are small, stout-bodied black wasps about 3.5 mm long, usually seen resting on leaves. The larvae, which develop within blotchy leaf mines, are cream colored, flattened with a dark brown head.

**Distribution in Colorado:** An introduced species, native to Europe, the elm leafminer is now found in most communities along the Front Range. Elsewhere in the state the insect is not commonly established, although local infestations may be present.

**Life History and Habits:** Winter is spent as a full-grown larvae within a cocoon in the soil near a previously infested elm tree. Pupation occurs in late winter and adults are present shortly after new elm leaves emerge, often visible while resting on leaves.



**Figure 2.** Elm leafminer adult.



**Figure 1.** Elm leafminer larvae in a leaf that is extensively mined.

Females insert eggs into the upper surface in the center of leaves, producing a dark oviposition wound. The larvae develop between the leaf surfaces, producing meandering leafmines that become generally blotchy as the larva grows and the mine expands. The larvae become full-grown within 3-4 weeks after eggs are laid then cut through the bottom of the leaf and drop to the ground. They tunnel into the soil, form a small chamber then spin a protective cocoon. Only a single generation is produced each year.

**Related Species:** **Hawthorn leafminer**, *Profenusa canadensis* Marlatt, produces blotch mines in some hawthorn species, notably *Crateagus crus-galli*, *C. persimilis*, and *C. erectus*. Adults are active in early May, about the time of lilac bloom. Eggs are inserted into the leaf near the midrib. At egg hatch the larvae tunnel into the leaf ultimately forming an enlarged blotch-type mine along the edge of the leaf. When full-grown they cut their way through the lower surface,



**Figure 3.** Wounds made by elm leafminer during egg laying (oviposition injuries).



**Figure 4.** Early stage leaf mines produced by elm leafminer larvae.

drop to the ground and pupate. A single generation of this insect is produced annually, with the adults emerging the following spring.

**Birch leafminer,** *Fenusa pusilla* (Lepelletier), produces large dark leaf mines in white, gray and some other birches. *Fenusa dohrnii* (Tischbein), the **European alder leafminer,** produces blotch leafmines on alder. Life history of these is generally similar to the other sawfly leafminers. Both are introduced species native to Europe.

**Notes on Host Susceptibility.** American, Siberian, and English elm are all susceptible to elm leafminer. Observations in the National Elm Trial indicate a wide range in susceptibility among *Ulmus* cultivars. These are summarized as follows:

Extremely Susceptible

‘Morton Stalwart’ Commendation (*U. carpinifolia*  
X *U. pumila* X *U. wilsoniana*)

Highly Susceptible

‘Pioneer’ (*U. glabra* X  
*U. carpinifolia*)

‘Morton Red Tip’ Danada Charm (*U. japonica* X  
*U. wilsoniana*)

(*U. glabra* X *U. carpinifolia* X *U. parvifolia*)

(*U. japonica* X *U. wilsoniana*)

(*U. pumila* X *U. japonica*)

Less Preferred

(*U. glabra* X *U. carpinifolia* X *U. pumila* X *U. wilsoniana*)

(*U. americana*)

(*U. propinqua*)

(*U. americana*)

(*U. pumila* X *U. japonica*)

(*U. carpinifolia* X *U. parvifolia*)

(*U. americana*)

(*U. wilsoniana*)

Least Preferred

(*U. pumila* X *U. japonica* X *U. wilsoniana*)

(*U. americana*)

‘Homestead’

‘Morton’ Accolade

‘New Horizon’

‘Patriot’

New Harmony

Clone D

‘Valley Forge’

‘Morton Plainsman’ Vanguard

‘Frontier’

‘Princeton’

‘Prospector’

‘Morton Glossy’ Triumph

Jefferson