e-GRO Alert

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Eats Shoots and Leaves

Although are not often pests of flowers crops, some caterpillars keep re-appearing in production. Here are some we see most often in northeast US floriculture.

Yellowstriped armyworm on zinnia.

In gardens and managed landscapes some plants are specifically chosen to attract certain caterpillars, such as swamp milkweed or butterfly weed (monarchs) and parsley (black swallowtails), that are equally as attractive as their adult forms to hopefully follow. Dr. Doug Tallamy at University of Delaware has also highlighted the ecological importance of caterpillars in our landscapes for sustaining bird populations, suggesting 'each plant in your landscape you should think of as a bird feeder.' In floriculture and herbaceous perennial production, however, they can be an unpleasant surprise. While among the less common pests encountered, in my experience, a review of those that keep popping up might be of interest to readers.

Yellowstriped armyworm (*Spodoptera ornithogalli*) is among the most troublesome species I've seen in greenhouses, usually entering during the onset of cool fall weather and sometimes remaining into spring. I have found them chewing on cyclamen, zonal geraniums, begonias, and other annuals as well as vegetable transplants. The older stages are mostly dark with two thin bright yellow sometimes broken lines long the back and notorious for resistance or tolerance to some insecticides.

European pepper moth (EPM, *Duponchelia fovealis*) hasn't quite turned into the widespread serious pest in greenhouses we were expecting, but it's been persistent around some operations and caused some losses. Despite a long list of host plants (see https://edis.ifas.ufl.edu/publication/IN910) and reports of crop damage in California we mostly find it in chrysanthemums chewing lower stems and foliage. It pupates in silk cocoons covered with soil or media and frass attached to the plant, the pot or soil surface. The small (to 30mm/1.25") whitish to light brown caterpillars, with small dark spots, may vary in color according to the host plant. Pheromone traps can be used to monitor moth (male) activity.

Celery leaftier (*Udea rubigalis*), sometimes called greenhouse leaftier, also has rather broad host range but chrysanthemum, lettuce, and related plants seem to top the list of favorites. Apparently, a migratory species to our area, the pale greenish caterpillars reach 1mm/0.75" and typically feed on lowest leaves. Though damage can be mistaken for that caused by EPM, this one pupates in a loose web with leaves often in the lower plant canopy.

Florida fern caterpillar (*Callopistria floridensis*) has several color forms varying from light green to black. Boston and other sword ferns, maidenhair, silver and several other ferns are hosts. Young caterpillars often feed undetected due to cryptic coloring and early damage can be easily missed on highly divided fern leaves. They reach about 30 mm/1.25" and have a reputation for resistance to some insecticides.

Fern moth (*Herpetogramma theseusalis*) is native to the eastern US and attracts attention for constructing curious homes, balling up terminals on fern fronds where they can feed protected within. The caterpillars overwinter around the base of plants and resume feeding on leaves in spring when the structures are formed. Though plants still thrive the balled tips are very noticeable and along with some feeding damage render them unmarketable or require trimming before

Celery leaftier caterpillar

Celery leaftier damage to chrysanthemum

Florida fern caterpillars (*Callopistria*)

Fern moth shelter (*Herpetogramma*)

Bidens borer caterpillar in stem

sale. Ostrich fern has been most affected, though marsh and sensitive ferns are also reported hosts.

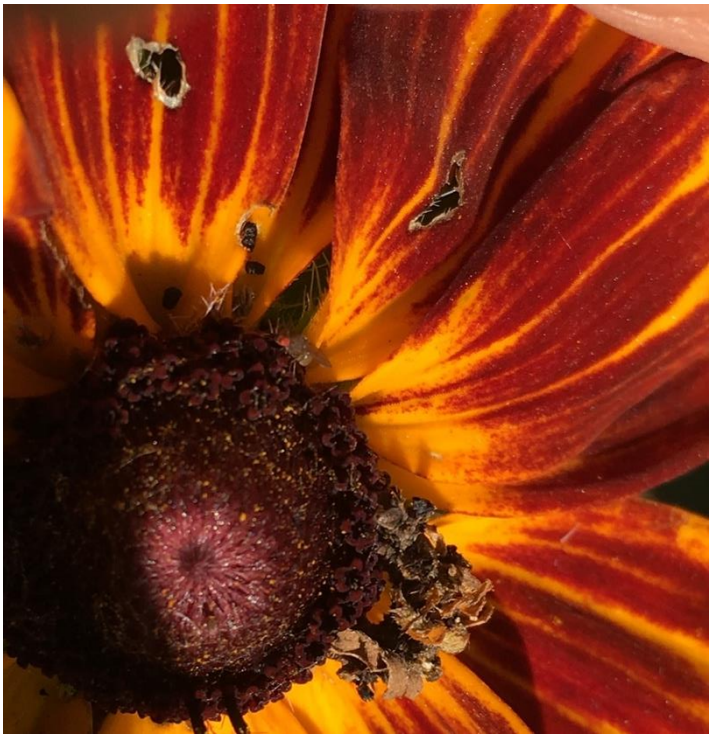
European corn borer (ECB, *Ostrinia nubilalis*) is a notorious pest of some vegetables, hops and other outdoor food and field crops. While not a greenhouse pest for us in some years it can be quite damaging in outdoor chrysanthemums, hemp, and dahlias when caterpillars bore into stems, resulting in wilting and dieback. The second generation in late summer is responsible for most damage. Our vegetable program's ECB pheromone trap (moth) counts are an indicator when moth flights start and help inform management, which must be timed before the caterpillars enter stems and escape exposure to treatment.

Bidens borer (*Epiblema otiosana*) was found attacking bidens growing in our demonstration trial, causing shoot dieback. Boring into stems, we initially suspected it was ECB but rearing out the caterpillars confirmed the culprit. Other reported hosts include wild Bidens spp., ragweed and smartweed.

Saltmarsh caterpillar (*Estigmene acrea*) is a common native and hairy 'woolly bear' caterpillar often seen in summer around gardens and farms. The hairs can vary from dark reddish-brown or black to grayish-white or yellowish. The young caterpillars are often found in colonies defoliating individual plants, dispersing as they get older. Many wild and cultivated plants are hosts including ornamental cabbage and kale, chrysanthemums, sunflowers, and hemp.

Hawaiian beet webworm (*Spoladea recurvalis*) is established around the world but doesn't overwinter in our area, migrating north to the region every few years and sometimes in very high numbers especially after mid-summer. Plants in the family Amaranthaceae (which includes the former Chenopodiaceae) are favorite hosts, including beets, Swiss chard, callalloo and spinach. We've had complaints of heavy damage to celosia in late summer and early fall from the small green caterpillars chewing holes in foliage. Holes in pigweed foliage, a favorite host, often growing around agricultural operations often provide an early warning of its presence.

Camouflaged looper (*Synchlora aerata*) has the rather odd and clever tactic of decorating itself with bits of the flowers it feeds upon, enabling them to hide in plain sight from potential enemies though entomologists are not so easily fooled. They're occasionally seen - and overlooked - in cut flower production. Favorite hosts include flowers in the daisy family. The adult, called the wavy-lined emerald, is a beautiful pale green moth. A few other related species in the southern US share the same sartorial habits as *S. aerata*.



Camouflaged looper and damage to rudbeckia

European pepper moth caterpillar

Dahlia broken stem with European corn borer caterpillar inside

Dahlia wilting and signs of European corn borer attack

European pepper moth damage, frass and webbing with cocoons (inset)

Hawaiian beet webworm caterpillar and damage to pigweed (caterpillar is right of center)

Hawaiian beet webworm damage to celosia

Wavy-lined emerald moth (camouflaged looper adult)

Bidens showing dieback from borer infestation

Saltmarsh caterpillar on chrysanthemum

Saltmarsh caterpillars (on rudbeckia here) often stay aggregated when young

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