e-GRO Alert

Ornamentals

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Bug Me:

How About a Career as an Extension Entomologist?

For readers considering a future in horticulture, here's a plug for a career as an Extension Entomologist. It's an opportunity to work with plants and insects of course; supportive colleagues; serious, dedicated growers; and never-ending professional growth and learning. Helping individual businesses, regional industry, the greater economy and the environment (including insects) is what it's all about, but travel to interesting places, fantastic opportunities, great challenges on many levels, and the satisfactions that come from providing a needed service are just some of the fringe benefits.

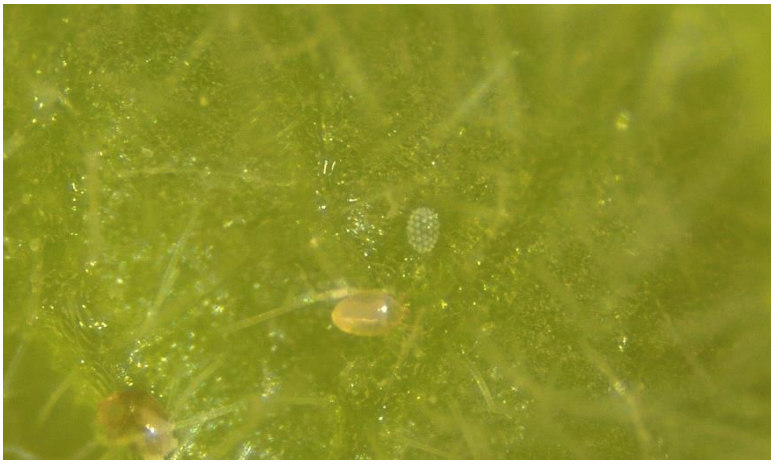
A good stereoscope is essential in the diagnostic lab.

Ornamental plant production and commercial landscape maintenance enhance the environment we all live in, relying on plants of generally high aesthetic and functional value. Management consultations, pest/plant problem solving, and regular updates on new issues and technology are in high demand where there is a low tolerance for insect damage and infestation. Given the demanding context, fortunately, as with other horticulture specializations, Extension Entomologists link to a network of experienced taxonomists, horticulturists, pathologists, and entomologists who can provide information, their broader experience, and advice when needed. Extension Entomologists typically have Masters or PhD degrees and work roughly falls into three main areas: diagnostics, education/outreach and research.

A typical day in the Diagnostic Lab might start with responding to messages or a grower visit with samples, seeking insect or plant problem identification and solutions. Many submissions come as photos by text or email and can be handled quickly; others require the insects or plant material with more details like distribution and timing of symptoms, cultural and environmental factors, chemical applications made with dates and rates, and additional photos. Sometimes pH and soluble salts tests are run if nutrition or pH issues are suspect. Some insects require processing (such as clearing scale insects or thrips) and using a key to separate similar species. Often a literature search, calls or emails to colleagues are in order for specific information and guidance, or to confirm tentative identifications, especially where species are new to the region, state or country. An accurate identification is essential for directing management efforts. For example, short-spined thrips (*Thrips parvispinus*) first appeared in the area two years ago; our determination led us to research by Dr. Alexandra Revynthi at University of Florida showing effective (and ineffective) controls, information we could pass along to the grower for quick response. Broad mite, a common pest on greenhouse annuals seen every year, is almost invisible to the naked eye but causes serious symptoms sometimes mistaken for other problems. In the Diagnostic Lab we can confirm if it is the culprit and still present, and if control actions are working as expected.

Educational programs are mostly held late fall and winter, though some continue through the growing season. Formal and semi-formal presentations review research findings and important insect news; they also provide an opportunity for feedback and discussion. Extension Entomologists are also needed for educational presentations that provide applicator license recertification credits. Our other specialists and very active seasonal field scouting programs detect many insect- and management-related questions or problems through the season, some of which require field visits. Submissions in regular newsletters, articles, social media and other forms maintain communication with growers and other Extension staff. Elected officials, our Home Horticulture staff, and trade groups are other 'multipliers' who help spread timely messages to larger audiences.

Research and demonstrations evaluate new controls or technology, help work through issues in

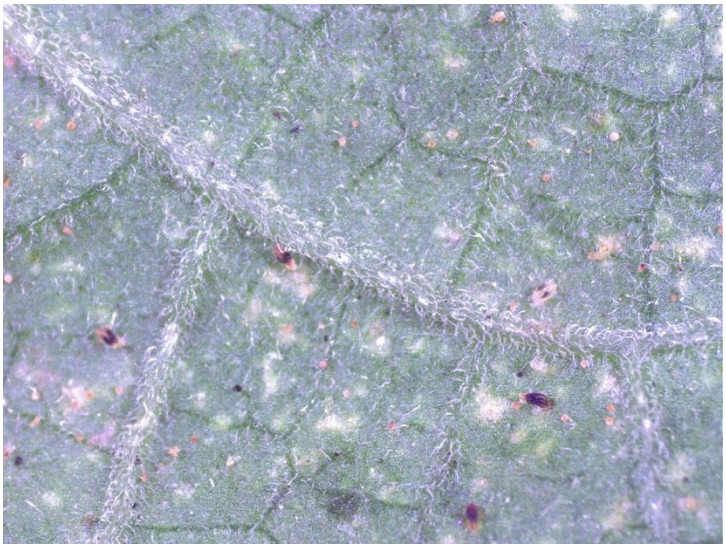


Broad mite and egg with diagnostic ornamentation.

Broad mites that caused leaf distortion on this jasmine were only found on unexpanded new terminal buds.

Daylily aphids are distinctive, unlike other aphids found on this plant, and a new pest in the region.

implementing successful biological control, confirm efficacy (or failure) of management practices early and before there are crop losses, and provide us with valuable experience to inform advice or suggestions we provide. Even small-scale studies can show convincing results that support economic or environmentally sound choices. Some work is part of collective regional or national efforts including other entomologists and grower advisory panels. Funding from research also goes towards otherwise unfunded program needs, such as travel expenses, professional development, equipment, support staff, and elective research.



Small brown bits of debris are dead spider mites and eggs, confirming the grower's oil treatment is working well.

Bronzing and distortion on this Crassula were found to be from a high population of flat (false spider) mites seen here.

The profession continues to change dramatically in areas like communication, incorporating biological control, and most recently adding molecular diagnostic techniques and artificial intelligence that reveal a deeper understanding of and relationship with insects and mites in the environment and our production systems. There is growing appreciation beyond just bees and butterflies for the ecological value many insects have, including in residential environments. The challenges for entomologists will always be many but for those who love working with plants and insects - and with people - these are exciting times.

Many are planting swamp milkweed and related plants to attract monarch butterflies and as a host for the caterpillar stage shown here.

Yellow mottling on Calibrachoa from short-spined thrips, showing thrips damage beneath.

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Michigan State University

University of Wyoming

UTIA Institute of Agriculture, The University of Tennessee

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NC State University

Iowa State University

The Ohio State University

In cooperation with our local and state greenhouse organizations

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Cincinnati Flower Growers Association

Indiana Flower Growers Association

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NYSFI New York State Flower Industries, Inc.

Metropolitan Detroit Flower Growers Association — Metro Detroit Flower Growers Association

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