

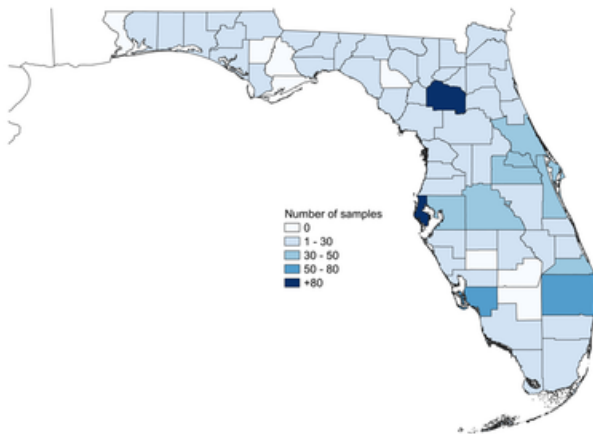
Insect ID Lab 2025 in Review

About the Lab

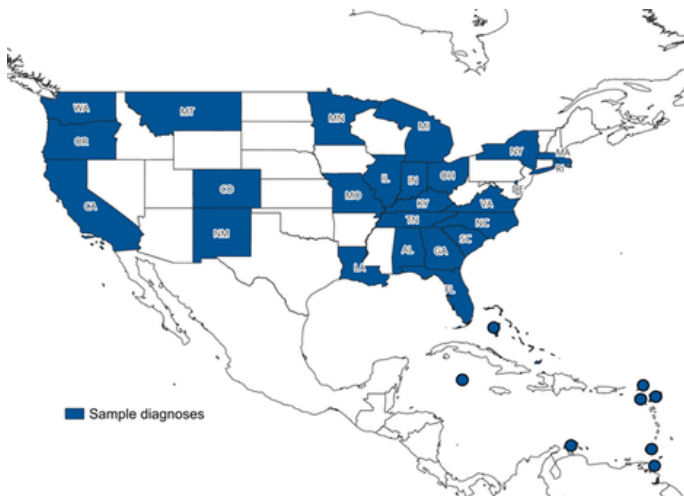
Under the direction of Lyle Buss, the UF IFAS Insect ID Lab identifies insects of concern and provides management recommendations when appropriate. Accurate identification is critical for appropriately responding to insect detection and detecting important invasive species, both of which can lead to big economic, environmental, and human health savings. Although physical samples are best, identifications are based on either actual specimens or digital photos sent in by clients.

Sample Submissions

The Insect ID Lab processed a total of 437 physical samples and 750 digital samples in 2025. Most samples (82%) were from Florida, but some samples came from other states (4%) and other countries (14%).

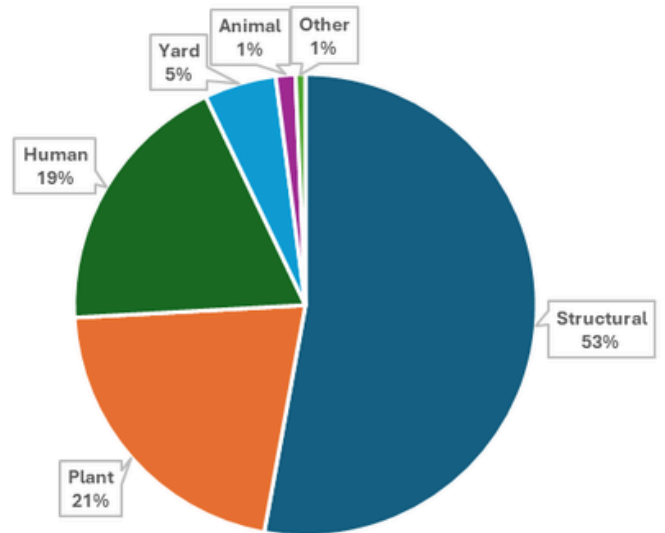


County map of Florida, illustrating the geographic distribution of sample submissions. Darker shades of blue indicate more sample submissions received.



Map illustrating the geographic scope of sample submissions received from the US and Caribbean in 2025.

Sample Diagnoses



Arthropod samples can be lumped into six general categories: structural pests, human-associated, plant-associated, those found in yards, those found on animals, and others.

Insects in homes and businesses

As usual, about half of the physical samples received in 2025 involved insects found in homes, especially termites and ants. About 100 samples included termites, representing 11 different species. Most (85%) of the termite samples were one of the five structural pest species in the region, which were shared with IFAS termite specialists to fuel their [termite distribution database](#). 15% of termite samples were not structural pests but instead drywood and dampwood termite species that mainly live in dead trees, stumps, and logs. Species identifications for these termites helped homeowners and professionals know treatments were not necessary, translating to substantial economic savings.

Five species of wood-boring beetles were also submitted to the lab. An unusual species was the telephone pole beetle, *Micromalthus debilis*. They are rarely seen, but in 2025 the ID Lab received samples from buildings in 4 different counties! They normally live in decaying oak tree logs, but can occasionally be found in structural wood when it is damp.

Other insect groups submitted as structural pests included ants, stored product pests commonly found in pantries or kitchens, insects associated with moisture and mold, and occasional household invaders.

Insects and people

Insects are extremely relevant to human health. About 19% of samples involved pests that bit or stung people.

Many of them were parasitic arthropods that can use humans as hosts, including ticks, lice, and kissing bugs. A few were parasites that feed on animals but can spill over to humans, like tropical fowl mites and sticktight fleas.

Others bit or stung people in self-defense including a bethylid wasp, a green lacewing larva, and an assassin bug. The ID Lab also received a lot of “invisible itch” cases. These clients feel unusual sensations in their skin that they attribute to insect, mite, or parasite activity.

However, their samples contain no such organisms, and therefore we suspect that the clients’ symptoms are more likely caused by a dermatological or other medical issue. Many people in Florida suffer from this, and 14% of the physical samples were of this type.

Insects on plants

About 21% of samples involved plant problems, mostly from ornamental plants (40%), turfgrasses (23%), and trees (12%). Plant pests included recent important invasive species like the two-spot cotton leafhopper, phantasma scale, Japanese maple scale, and *Thrips parvispinus*. These insects can be difficult to identify, and accurate I.D. is incredibly important for growers, professionals, and the public for effective management.

Insect outbreaks are always interesting and capture public attention. Caterpillars of the live oak tussock moth, *Orgyia detrita*, were abundant on UF’s Gainesville campus in March and April, as witnessed by lots of students. They were a popular topic for journalism students to write about, and the ID Lab handled many interview requests!

Training the Next Generation

During the fall semester, Lyle taught a course on Insect Diagnostics (ENY6942), enrolling 12 graduate students from multiple IFAS departments. These students learned the fundamentals of how to identify insect specimens and diagnose plant problems, preparing them for future careers in entomology.

New Detections

Detections of new nonnative species is very important so that we are aware of potential new threats to crops, people, and the environment. One of the significant finds in 2025 was a new bamboo pit scale insect from a nursery in Alachua County, Florida. In collaboration with FDACS DPI, it was identified as *Bambusaspis coronata*, an Asian species known from Sri Lanka, China, and Japan. This was the first time it had been found in the US. Another new find was a type of casemaking clothes moth called *Tinea murariella*. They were collected in a home in St. Johns County in a pheromone trap. This species looks very similar to other clothes moth species in Florida and can only be distinguished via dissection or DNA. This was a new Continental USA record.

Insect Photography

The Insect ID Lab maintains an extensive collection of insect photographs that are available to University of Florida employees. In 2025, nearly 600 images were added to the online collection of over 18,000 images of insects, mites, and other arthropods. Some exciting new additions are displayed below.



Top left: a bamboo pit scale, *Bambusaspis coronata*; top right: two-spot cotton leafhopper, *Amrasca biguttula*; middle left: sticktight fleas (male & female), *Echidnophaga gallinacea*; middle right: Telephone pole beetle (*Micromalthus debilis*) adults and 1st instar larvae; bottom left: a case-making clothes moth, *Tinea murariella*; bottom right: root aphids, *Tetraneura nigriabdominalis*, on bermudagrass.