

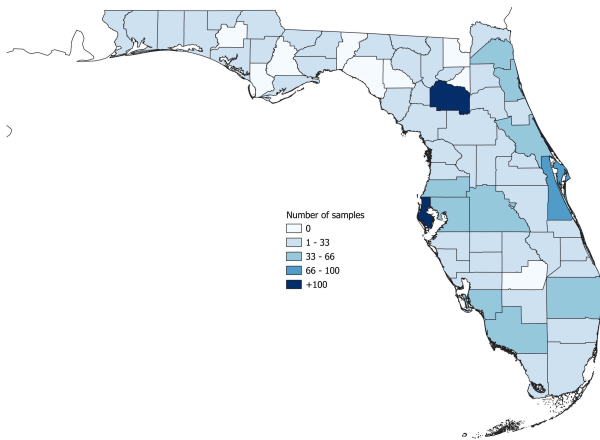
Insect ID Lab 2024 in Review

Recent Updates

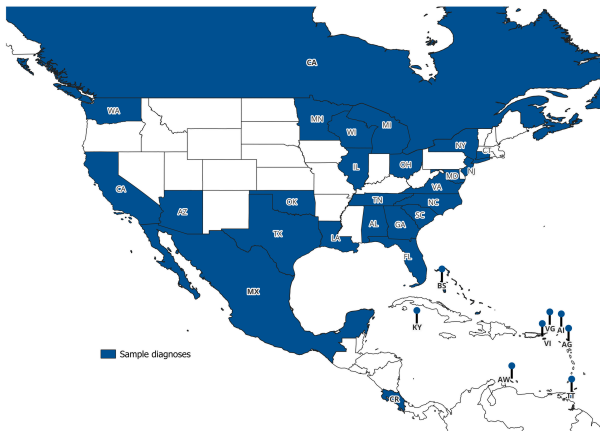
The Insect ID Lab underwent some important updates in 2024, including a new webpage (at the same URL), new sample submission form, credit card and electronic payment options, and the first sample submission fee increase in 25 years. These changes coincide with our goal to increase the visibility and accessibility of the ID Lab's services while also accounting for the increasing operational costs and value of the diagnostic services provided. Correct insect identification enables Florida Cooperative Extension agents and saves Florida residents, pest management professionals, and other business owners money by reducing losses or unnecessary expenses.

Sample Submissions

Under the direction of Lyle Buss, the Insect ID Lab processed 547 physical samples and 865 digital samples in 2024.

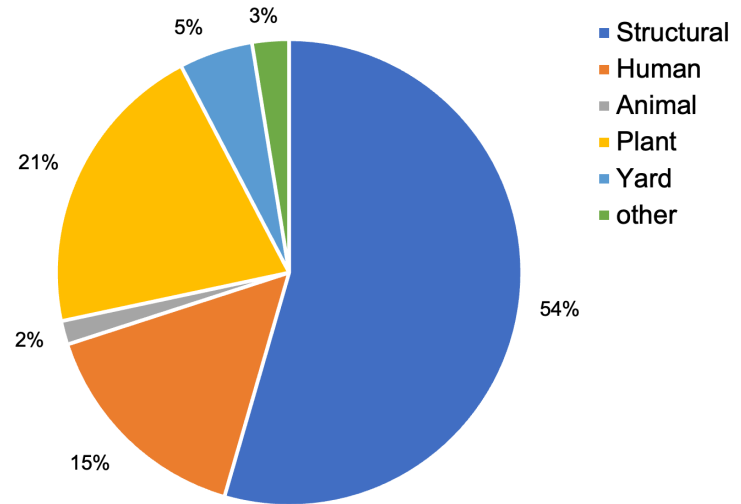


County map of Florida, illustrating the geographic distribution of sample submissions. Darker shades of blue indicate more sample submissions received.



Map illustrating the geographic scope of sample submissions processed in 2024, spanning North America, Central America, and the Caribbean.

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

About half of the physical samples received in 2024 were insects directly associated with structures (like homes and businesses), mainly wood-destroying insects (like termites) and nuisance pests (like ants). Twenty-four percent of all samples received were termites, reflecting their significance as structural pests in the state. There are 20 termite species in Florida, five of which are of major pest management concern. Correct identification is critical because it determines whether treatment is needed, and if so, the correct treatment approach. The Insect ID Lab received 14 samples of non-pest termite species in 2024, helping those homeowners avoid costly unnecessary treatments. Termite diagnoses were also shared with termite specialists at the Ft. Lauderdale Research and Education Center to track the distribution of invasive species like Formosan and Asian subterranean termites, which continue to spread in the state.

Ants (12%) and stored product pests (10%) represented the second and third-most common indoor taxa submitted to the lab, respectively. Combined, these diagnoses are a direct service to the nation's largest pest control industry and the state's 22M+ residents.

Insects and people

Fifteen percent of the physical samples revolved around biting bug problems in homes. These included several samples of tropical fowl mites, bed bugs, crab lice, and even a yellow fly. However, most of the samples were more mysterious in nature, where people were experiencing strange skin sensations with no obvious bugs. After carefully examining samples, none yielded any biting bugs, and we concluded that they were not bug problems. The true cause of the skin sensations may instead be related to dermatological issues, allergies, medications, stress, or many other possibilities. These samples accounted for 12% of all physical samples.

Insects on plants

About 25% of samples involved plant problems, most from ornamental plants (40%), turfgrasses (20%), and fruit trees (14%). Common ornamental and fruit tree pests included scale insects, mealybugs, aphids, thrips, and mites. Most turfgrass samples came from golf course professionals who were scouting for pests like the Tuttle mealybug and bermudagrass mite. Proper diagnosis of these submissions helped homeowners, pest control companies, and golf course superintendents avoid unnecessary insecticide applications and make effective management decisions that protected plant health.

New Detections

The Insect ID Lab received five samples of new county records for Florida, helping scientists and regulatory professionals track species distributions in the region. We also received four insect and mite samples of regulatory significance according to the Florida Department of Agriculture and Consumer Services, Division of Plant Industry. These were immediately shared with officials to help protect Florida's crops, ecosystems, and economy.

These samples included invasive pests like Thrips parvispinus, phantasma scale (*Fiorinia phantasma*), and pongamia gall mite (*Aceria pongamiae*).

Publications

Ridge, G. E., **L. Buss**, and K. Dugas. Brief Descriptions of Some Common Medically Significant Arthropods Related to Delusional Infestation. In G.E. Ridge (ed.), *The Physician's Guide to Delusional Infestation* (pp. 309-345). Springer, 2024.

Resources Created

Insect photography

The Insect ID Lab maintains a database of photographs of insects and other arthropods that are submitted to the lab.

The best photos are available for use by University of Florida employees, including county Extension faculty, professors, and students. In 2024, over 600 images were added to the online collection, which currently contains over 17,000 images of insects, mites, and other arthropods.



From top to bottom: Damage from pongamia gall mite (*Aceria pongamiae*); Phantasma scale (*Fiorinia phantasma*) adult male and female; African powderpost beetle (*Lyctus africanus*); predatory moth larva (*Laetilia coccidivora*) feeding on pine tortoise scale. Photos taken by Lyle Buss.