Lantana Lace Bug
Biology and Management

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EXTENSION

The lantana lace bug, *Teleonemia scrupulosa* Stål (Tingidae: Hemiptera), is a serious pest of lantana (*Lantana camara* L.). Although lantana is regarded as an invasive weed both in the United States and worldwide, many popular cultivars continue to be planted in residential and public ornamental landscapes and gardens. Previously, the lantana lace bug was deliberately introduced to several countries as a biological control agent for lantana. The lantana lace bug is also referred to as *T. lantanae* or *T. vanduzeei* in many publications.

Identification and Biology

Lantana lace bug adults are flat and about 3 mm long and 1 mm wide. Adults and nymphs are brown-colored and hide in dry leaf folds where they are easily camouflaged (Figure 1). Adults have a distinct shape and an "X" mark on their backs, which is created by the wing folds (Figure 1). Wings are distinctly narrowed across the abdomen, and the wing margins are rounded. The antennae are brown and cylindrical with an elongated third segment.

Figure 1. Adult lantana lace bug.

Females insert single off-white torpedo-shaped eggs into the leaf tissue on the underside of leaves, including along both sides of the mid-rib lateral veins and thick vein margins (Figure 2). Once the eggs are implanted, females typically cover them with tar-like excrement. Newly emerged females begin to mate and lay eggs after 5 to 6 days. After the eggs hatch, nymphs molt through five stages before molting into adults. The young nymphal stages are found aggregated on the underside of leaves (Figure 3), but they actively disperse as they molt into later stages. Occaisionally, adults and nymphs can be found on the upper side of the leaves. The late stages of nymphs have distinct spines. At 80 °F, it takes just 3 to 4 weeks for an egg to mature to an adult, and several overlapping generations can occur in Georgia. Based on preliminary observations, adults overwinter in the leaf litter around the plant. The nymphs are found feeding on leaves at the beginning of April as lantana plants put out new shoots from the crown. The eggs do not survive the winter because the green leaves dry up when the temperature goes below freezing. In the summer, a severe infestation of lace bugs quickly depletes the resources of a plant and adults disperse to seek a new lantana plant.

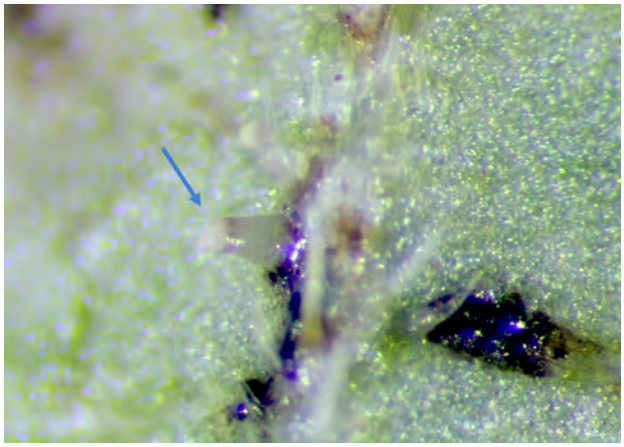

Figure 2. Egg of lantana lace bug (blue arrow).

Damage Symptoms

Both adult and nymph lantana lace bugs feed on the underside of leaves. They have needle-like mouthparts for piercing and sucking the cells of the leaves. They feed on chlorophyll in the upper leaf surface by inserting their mouthparts through the stomatal opening in the underside of the leaves. The affected cells lose chlorophyll and initially appear bleached because reduced chlorophyll content in the cells affects photosynthesis and water exchange. The affected

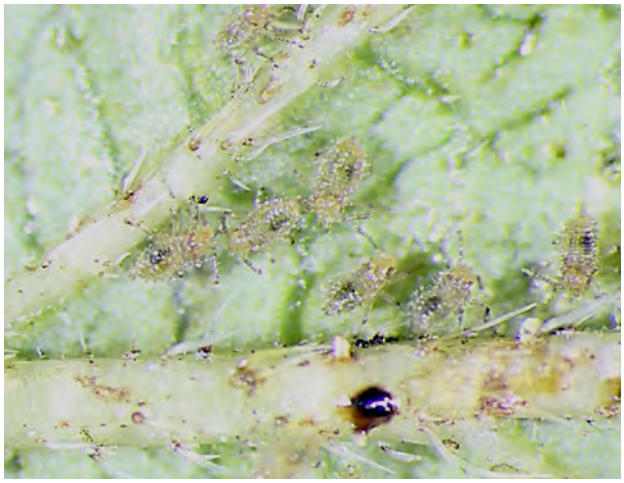

Figure 3. Young nymphs of the lantana lace bug on the underside of a lantana leaf.

leaves lose vigor, then wilt and die starting at the tips of the leaves (Figures 4 and 5). Severe infestations can affect most leaves on a plant and eventually kill the entire plant. Latana lace bugs also feed on developing flower buds, which can shut down blooming entirely, as damaged tissues die and turn brown.

Figure 4. A lantana leaf tip drying and turning brown after lantana lace bug feeding.

Figure 5a and 5b. Damage from lantana lace bug feeding.

Management

If lantana plants are already in the landscape, they should be inspected regularly for lace bug activity starting in April. If new lantana plants are planted in the landscape during the summer, regular monitoring for lace bugs still is important. In spring, lace bug nymphs appear first, as the adults typically die after egg-laying and cannot be detected on plants. The nymphs can be observed on the underside of the leaves using a handheld magnifying lens. If any leaves appear *chlorotic*—yellowed or blanched—remove those leaves by hand and destroy them.

Chemical insecticides are not required if the lantana lace bug infestation is mild. The presence of many generalist predators—such as assassin bugs, mirid bugs, bigeyed bugs, minute pirate bugs, green lacewings, and spiders—can reduce the number of eggs and nymphs of lantana lace bugs. Repeated spraying of high-pressure water or mild insecticides, such as insecticidal soaps or horticultural oils, also can reduce the densities of lantana lace bugs.

If the population size increases to unacceptable levels, applications of a chemical insecticide may be warranted. Because the flowers of lantana are extremely attractive to a wide variety of pollinators, insecticide use should be approached very carefully. Before using any insecticide, read the entire label and any precautionary statements carefully to avoid nontarget exposure to beneficial insects such as predators and pollinators.

Please refer to the Georgia Pest Management Handbooks (home and garden or commercial edition) to select insecticides labeled for use against lantana lace bugs and for information on applying to the host plant. Your local Cooperative Extension office (1-800-ASK-UGA1) can help with proper pesticide selection. Follow all directions, particularly safety precautions on the insecticide label.

References

Baker, J. R., & Bambara, S. B. (1999). New state record for a lace bug on lantana. *North Carolina Pest News*.

Braman, S. K., Hale, F., & Majumdar, A. (2014). *Beneficial insects, spiders, and mites in the Southeast* (Publication No. C 1055). University of Georgia Cooperative Extension. https://extension.uga.edu/publications/detail.html?number=C1055

Broughton, S. (2000). Review and evaluation of lantana biocontrol programs. *Biological Control, 17*, 272–286. https://doi.org/10.1006/bcon.1999.0793

Cilliers, C. J. (1987). The evaluation of three insect natural enemies for the biological control of the weed *Lantana camara*. *Journal of the Entomological Society of Southern Africa, 50*(1), 15–35.

Fyfe, R. V. (1937). The lantana bug, *Teleonemia lantanae* distant. *Journal of the Council for Scientific and Industrial Research, 10*, 181–186.

Heideman, O. (1913). Description of two new species of North American Tingitidae. *Proceedings of the Entomological Society of Washington, 15*, 1–4.

Habeck, D. H., Mead, F. W., & Fasulo, T. R. (2021). *Lantana lace bug*, Teleonemia scrupulosa *Stål* (*Insecta: Hemiptera: Tingidae*; Publication No. EENY-246). UF/IFAS Extension. https://edis.ifas.ufl.edu/publication/IN514

Harley, K. L. S., & Kassulke, R. C. (1971). Tingidae for biological control of *Lantana camara* (Verbenaceae). *Entomophaga, 16*, 389–410.

Holm, L. G., Pucknett, D. L., Pancho, J. V., & Herberger, J. P. (1977). *The world's worst weeds*. University Press of Hawaii.

Kahn, A. H. (1946). On the lantana bug (*Teleonemia scrupulosa* Stål.). *Indian Journal of Entomology, 6*, 149–161.

Radunz, L. A. J. (1971). *Some aspects of the preferential behavior of* Teleonemia scrupulosa *Stål, towards its host plant* Lantana camara [Honours thesis, University of Queensland, Australia].

Roonwall, M. L. (1952). The natural establishment of an imported insect in India. The lantana bug, *Teleonemia scrupulosa* Stål (= *lantanae* distant: Hemiptera, Tingidae) with a description of its eggs, nymphs, and adult. *Journal of the Zoological Society of India, 4,* 1–16.

Simmonds, H. W. (1929). The life history of *Teleonemia lantanae*. *Fiji Agricultural Journal, 2*, 36–39.

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