

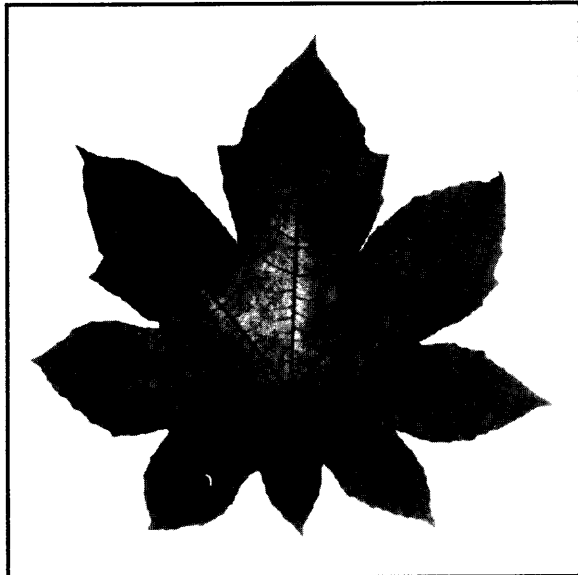
COTTON LACE BUG, *CORYTHUCHA GOSSYPII*, IN FLORIDA (HEMIPTERA:TINGIDAE)¹

F. W. Mead²

INTRODUCTION: The cotton lace bug, *Corythucha gossypii* (Fabricius), is a Neotropical pest that barely ranges into the southern United States. It is a common bug in southern Florida where it feeds on a wide variety of ornamentals and cultivated crops and can cause economic damage if not controlled. Based on records in the Florida State Collection of Arthropods (FSCA), the favorite host plants in Florida are castor bean, *Ricinus communis*, (Fig. 1); orchid trees, *Bauhinia* spp.; hibiscus, *Hibiscus* spp.; and Jamaica dogwood, *Piscidia piscipula*.

DESCRIPTION: Length 2.6-3.0mm, width 1.4-1.7mm. Hood about as high as and shorter than median carina, its globose portion wider than long; size of cells approximately same size as those of paranota. Median carina arched and with 2 rows of cells; lateral carinae much lower, shorter, and without cells. Elytra with costal margins nearly straight, length of marginal spines medium to long, longer than in *Corythucha floridana* Heidemann. Cells of elytra variable in size, mostly fairly large, the biggest in subapical row. COLOR: Body brown, last segment yellowish brown. Head, proboscis, antennae, and legs pale yellow, except tip of beak and tarsal claws brownish. All membranous portions hyaline, nervures white except those embrowned. Hood with vague brown color on

anterior ridge and globose portions. Paranota with small submarginal spot near middle. Middle carina with crescent-shaped, brown, parallel-sided band, (Fig. 2). Elytra, (Fig. 3) with several vague brownish spots, the most conspicuous being on the tumid elevations. Two faint brown streaks from the costal margin of elytra on the anterior half. Two faint interrupted brown bands across apical half of elytra, appearing sometimes as mere spots.

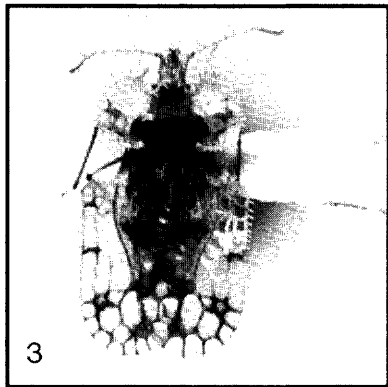
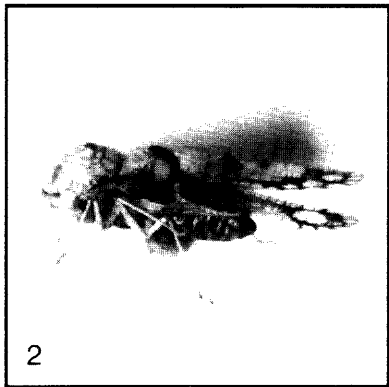


IDENTIFICATION: To distinguish *Corythucha* from other lace bug genera, the following publications are useful: Blatchley (1926), Hurd (1946), and Slater and Baranowski (1978). To key the species within *Corythucha*, Blatchley (1926), Gibson (1918), and Slater & Baranowski are helpful. Beshear et al. (1976) has useful illustrations. The Henry & Froeschner catalog (1988) listed 53 species and subspecies of *Corythucha* for the U.S.A. and Canada. Of these, 9 are listed for Florida. In general appearance, species of *Corythucha* are tiny

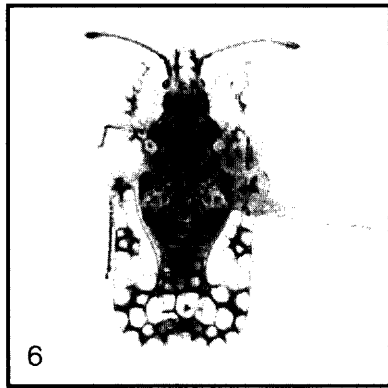
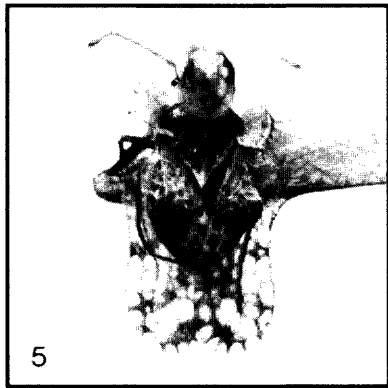
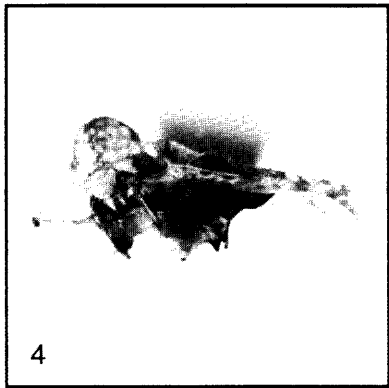
Figure 1. Early injury to leaf of castor bean, *Ricinus communis*, caused by feeding of young nymphs of cotton lace bug, *Corythucha gossypii*.

¹ Contribution No. 721, Bureau of Entomology, Fla. Dept. of Agric. & Consumer Serv., Division of Plant Industry.

² Taxonomic Entomologist, Fla. Dept. Agric. & Consumer Serv., Div. Plant Ind., Bureau of Entomology, Florida State Collection of Arthropods, Gainesville, Fl. 32602



Figures 2-6. Adult lace bugs. 2) cotton lace bug, *Corythucha gossypii*, lateral view; 3) same, dorsal view; 4) *Corythucha morrilli*, lateral view; 5) same, dorsal view; 6) chrysanthemum lace bug, *Corythucha marmorata*, dorsal view.



insects covered with a fine meshwork of "lace". The spiny margins of the paranota will separate *Corythucha* from all other U.S. genera of tingids except *Acanthocheila* (which is represented by 1 species each in Texas and Florida). The Florida species of *Acanthocheila* was described originally from Cape Florida and is rare. *Acanthocheila* has a small pronotal hood not extending over the head as in *Corythucha*. Blatchley (1926) placed *Corythucha gossypii* in his Group B having 4 species, one of which, *C. pallida*, is not listed for Florida. This group has the crest of the hood never more than 2X as high as the median carina, and elytra wholly devoid of dark basal or apical crossbars or with only faint traces of such bars. Two other Florida-occurring species of *Corythucha*, *C. marmorata* (Uhler) and *C. morrilli* Osborn and Drake, sometimes are confused with *C. gossypii* because their crossbars become vague in some specimens thereby resembling *gossypii* in this respect. If variable elytral bands cause confusion, both *C. morrilli* and *C. marmorata* can be easily separated from *gossypii* by their larger hoods, 1.5-2.0+ times higher than their respective median carinae. Furthermore, the brown crescent mark on *gossypii*'s median carina is usually browner and better defined than any brownish marks of the median carinae of the other 2 species. *C. morrilli* primarily is a southwestern U.S. species first reported in Florida at Dunedin and Royal Palm Park by Blatchley (1928). These were the first records east of the Mississippi River (also known from Hawaii, British Columbia, Mexico to Guatemala, and several islands in the Antilles). *C. marmorata* ranges over the entire continental U.S. where it occurs on Compositae, including *Helianthus*, *Rudbeckia*, *Solidago*, *Aster*, and *Chrysanthemum*, sometimes doing economic damage to "mums".

KEY TO CORYTHUCHA GOSSYPYI AND SOME SIMILAR APPEARING SPECIES IN FLORIDA:

- 1. Elytra usually with conspicuous brown basal and apical crossbars, but sometimes vague; hood larger, height 1.5-2.0+ times that of median carina..... 4
- 1' Elytra with costal area not having conspicuous brown basal and apical crossbars; hood smaller, usually same height as median carina, sometimes slightly higher 2

2. Cells of globose portions of hood larger than those of paranota; median carina without well-defined, parallel-sided brown crescent mark 3
- 2' Cells of globose portion of hood not larger than those of paranota; median carina with well-defined, parallel-sided brown crescent band cotton lace bug, *Corythucha gossypii* (Fabricius).
3. Smaller, length 2.3-2.6mm; hood slightly but distinctly higher than median carina; color dingy white, a brown spot at rear margin of tumid elevation of each elytron, but also with vague brownish basal and apical markings on elytra Florida oak lace bug, *Corythucha floridana* Heidemann.
- 3' Larger, length 3.2-3.7mm; hood approximately same height as median carina; color milky white, normally the only brown marking at rear of tumid elevation of each elytron sycamore lace bug, *Corythucha ciliata* (Say).
4. Costal margins of elytra distinctly concave; hood height at least 2X height of median carina (Fig. 4, 5) Morrill's lace bug, *Corythucha morrilli* Osborn & Drake.
- 4' Costal margins of elytra nearly straight; hood height about 1.4-1.7 times height of median carina, (Fig. 6).... chrysanthemum lace bug, *Corythucha marmorata* Uhler.

IMMATURES: Eggs of *C. gossypii* were described by Leonard and Mills (1931). They reported eggs as flask-shaped, with neck bent somewhat to one side, the posterior half whitish, the anterior half blackish with the line between the 2 colors sharply defined. They described each of the 5 nymphal stages in detail. Mead (1973) provided a key to nymphs of *C. gossypii*, *floridana*, and *ciliata*.

HOSTS: *C. gossypii* has the widest food plant and host range of any Florida lace bug. Drake & Ruhoff (1965) presented a long and diversified list of hosts. Leonard & Mills (1931) reported *C. gossypii* as a serious pest of lima beans, *Phaseolus limensis*, in Puerto Rico, and also as an occasional pest of papaya, *Carica papaya*. Light infestations were noted on cotton, *Gossypium* sp., soursop, *Annona muricata*, and citrus, *Citrus* spp. Severe injury was observed on 4 trees of *Annona diversifolia*. The files of the FSCA have revealed a long list of plant species from which *C. gossypii* has been collected. Some of these include cassava, *Manihot esculenta*; white sapote, *Casimiroa edulis*; black sapote, *Diospyros digyna*; mountain soursop, *Annona montana*; pond apple, *Annona glabra*; breadfruit, *Artocarpus altilis*; rose apple, *Syzygium jambos*; pigeon pea, *Cajanus cajan*; citron, *Citrus medica*; Spanish lime, *Melicoccus bijugatus*; angel's tears, *Datura sanguinea*; flame-of-the-forest, *Spathodea campanulata*; golden shower tree, *Cassia fistula*; cudrania, *Cudrania tricuspidata*; rose-of-Sharon, *Hibiscus syriacus*; angel's trumpet, *Datura inoxia*; guava, *Psidium guajava*; egg plant, *Solanum melonganum* var. *esculentum*; croton, *Codiaeum variegatum* var. *pictum*; kapok tree, *Ceiba pentandra*; royal palm, *Roystonea* sp.; sterculia, *Sterculia ceramica*.

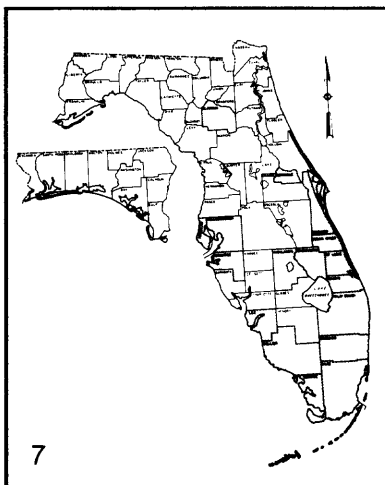


Figure 7-8. 7) County distribution of cotton lace bug, *Corythucha gossypii*, in Florida. 8) Nymphal cast skin of *Corythucha gossypii*.



DISTRIBUTION: Fig. 7 shows the county distribution of *C. gossypii* in Florida based on the literature and records in the FSCA. The Henry & Froeschner catalog (1988) listed reports of *C. gossypii* from Florida, New Mexico, Pennsylvania, Texas, Mexico to Ecuador, and the West Indies. Since *C. gossypii* is a warm weather species, the Philadelphia, Pennsylvania record needs restudy. This record may have been based on a temporary infestation from an introduction, or possibly a misidentification.

LIFE HISTORY: FSCA has numerous records of *C. gossypii* being collected throughout the year in southern Florida. Leonard & Mills (1931) reported continuous and rapid breeding in Puerto Rico. They did not determine the exact length of time to complete a generation, but stated that it apparently is not more than 3 weeks.

DETECTION NOTES: Light infestations result in slight whitish discoloration of the upper surface of leaves (Fig. 1). Heavier infestations result in more extensive whitish coloration until in severe cases the whole upper surface of the leaf is involved. On the leaf undersurface may be seen eggs that stand on end inserted into the tissue, usually near veins and midrib. Especially look for tar-like black fecal deposits, cast skins, nymphs, and lace-like adults. Nymphs and cast skins will be spiny (Fig. 8). Both nymphs and adults are easily disturbed, and the colonies tend to scatter when the leaf is turned over for examination. Submit infested leaves in plastic bags, including paper towels to absorb excess moisture. Specimens also may be submitted in vials of 75% isopropyl alcohol.

CONTROL: The University of Florida Extension Service suggests carbaryl (Sevin) or malathion. Follow directions and precautions on label of container, reading entire label carefully. For additional information contact local Agricultural County Agent.

ACKNOWLEDGMENTS: Appreciation is extended to Mr. T. J. Henry and Dr. R. C. Froeschner of the U. S. National Museum of Natural History for helpful information.

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