

## CITRUS LEAFMINER (*LEPIDOPTERA:GRACILLARIIDAE*) ON FRUIT IN FLORIDA

J. B. HEPPNER

Florida State Collection of Arthropods, Division of Plant Industry,  
Florida Dept. of Agriculture & Consumer Services,  
Gainesville, FL 32614-7100

The citrus leafminer, *Phyllocnistis citrella* Stainton (Gracillariidae: subfamily Phyllocnistinae) (CLM), was found in late May 1993 in several citrus nurseries in Homestead, Florida (Dade Co.). It is a major citrus pest in the Old World, causing extensive damage to new leaf flush, particularly on nursery citrus stock. Originating in southeast Asia, CLM occurs in Australia, Japan, Taiwan, the Middle East to Sudan, South Africa, and parts of coastal West Africa. Previous reports have summarized our current knowledge of CLM (Heppner, 1993a, 1993b). The current distribution of CLM in Florida is summarized in Fig. 1.

Infestations in Florida of CLM have resulted in occasional reports of fruit damage by miners to the fruit rind. Invariably, these and older reports, even prior to CLM arrival, have been the result of damage from another miner, *Marmara* n. sp. (Gracillariidae) which is known to occur in Florida. It is possibly the same species which occurs in California (Davis, Smithsonian Institution, Washington, DC; pers. comm.). A few fruits have been found in the past year with fruit mines very much like the serpentine traces of CLM on leaves. *Marmara* miners have more open larval tracks.

Recent collections of fruit samples from Vero Beach, Indian River Co., by R. C. Bullock (IFAS, Ft. Pierce, FL), resulted in the isolation of larvae from the CLM-appearing mines of fruit (Fig. 2-3). Confirmation of the species involved a comparison of larvae of *Marmara* n. sp. (Fig. 4) and CLM which clearly showed that the serpentine mines on fruit are the result of CLM damage. Until now, no report has been made of CLM attacking citrus fruit in the Old World, although injury to new branch growth has been known and reported.

CLM literature is extensive for its home range, from India to China and Indonesia (Heppner, 1993b), but none of these papers report damage to fruit.

Florida fruit damage records can now be confirmed for CLM for the following suspected records (all are on young fruit):

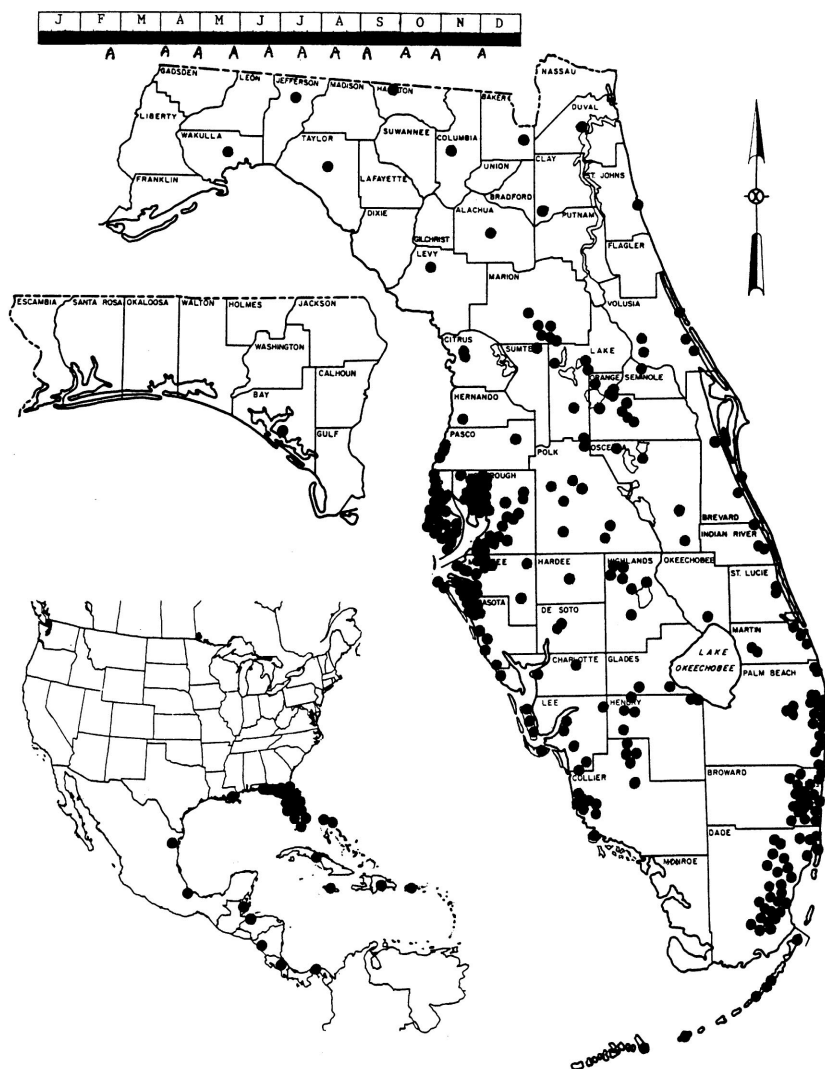


Fig. 1. Distribution map of CLM in Florida and the Caribbean as of May 20, 1994.

#### MANATEE CO.

- Parrish: 23 September 1993, on grapefruit
- Bradenton: 23 September 1993, on grapefruit
- 29 September 1993, on grapefruit
- 28 April 1994, on pummelo
- Palmetto: 28 October 1993, on red grapefruit
- Ellenton: 10 May 1994, on ruby grapefruit

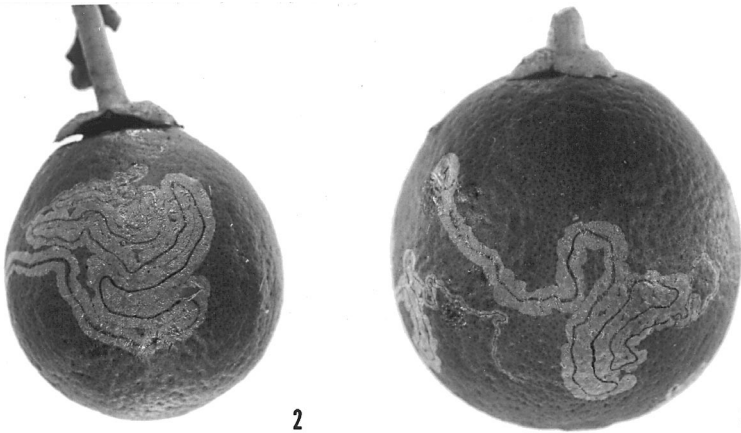


Fig. 2-3. Fruit damage from CLM: samples from Vero Beach, Indian River Co., Fla., 20 Apr 1993, R. C. Bullock. (photographs by J. Lotz, FDACS, DPI).



Fig. 4. Fruit damage from *Marmara n. sp.*: samples from Manatee Co., Fla., 1993. (photograph by J. Lotz, FDACS, DPI)

#### INDIAN RIVER CO.

Vero Beach: 20 April 1994, on grapefruit

Also, suspected samples had been found in the Bahamas (Abaco Island) on fruit during 1993 (courtesy of R. Nguyen), which undoubtedly are CLM.

It appears that in cases of massive infestations CLM attacks even young fruit. Another possibility for the lack of fruit mining by CLM in other countries can be the fewer varieties of citrus being grown there, since in Florida numerous varieties are grown and some of these may be more susceptible to CLM attack. Fruit damage in Florida from CLM also has been restricted to grapefruit (the Bahamas record is *Citrus* sp., unspecified as to variety).

The efforts of R. C. Bullock (University of Florida, IFAS Agricultural Experiment Station, Ft. Pierce, Florida), and W. N. Dixon and R. Nguyen (FDACS, DPI, Gainesville, Florida), in obtaining fruit samples with miners are appreciated. The many plant protection specialists of the Florida Dept. of Agriculture and Consumer Services, Division of Plant Industry, are thanked for their extensive search for fruit miners. Contribution No. 795, Section of Entomology, DPI, FDACS.

#### SUMMARY

The first report of citrus leafminer, *Phyllocnistis citrella*, damaging grapefruit in Florida, was confirmed for Manatee and Indian River Counties.

#### LITERATURE CITED

- HEPPNER, J. B. 1993a. Citrus leafminer, *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae: Phyllocnistinae). *Fla. Dept. Agric. Consumer Serv., Div. Plant Indus., Entomol. Circ.*, 359:1-2.
- HEPPNER, J. B. 1993b. Citrus leafminer, *Phyllocnistis citrella*, in Florida (Lepidoptera: Gracillariidae: Phyllocnistinae). *Trop. Lepid.*, 4:49-64.

