

NOTES ON NEW HOST PLANT RECORDS AND
PARASITES OF *LIRIOMYZA SOROSIS* IN FLORIDA
(DIPTERA: AGROMYZIDAE)¹

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The purpose of this paper is to record some new host plant records of *Liriomyza sorosis* (Williston). *L. sorosis* was not known to be polyphagous until recently. Spencer (1963) established the following clarification, "Frick (1959: 410) largely using color as a differentiating characteristic and understandably misled by variations in the arrangements of dorsocentrals in the limited material at his disposal, linked *sorosis* with the species feeding commonly in the United States on *Plantago* spp., as distinct from *marginalis* bred from *Paspalum*."

"I have now been able to examine the genitalia of a specimen bred from *plantago*, S. Antonio, Texas, 29. iii. 1908 in the U.S.N.M. (C. R. Jones). These agree in all respects with those of the four specimens mentioned above and I therefore synonymize *marginalis* with *sorosis*."

Additional information concerning *L. sorosis* was cited by Spencer (1964). "A further species occurring on both Monocotyledones and Dicotyledones is *Liriomyza sorosis* (Williston), which has recently been bred in Florida by Mr. Carl Stegmaier from a wide range of Dicotyledones and also from several genera of Gramineae. I mentioned earlier how Frick had been misled into assuming two species were involved here, based on the assumption that a single species could not occur on such unusual combination of hosts."

Williston (1896) described *L. sorosis* as *Agromyza sorosis*, and Malloch (1913) described the species as *Agromyza melampyga* var. *marginalis*. Frick (1952) designated *A. m.* var. *marginalis* as *Liriomyza marginalis*, and later (1959) referred to *Agromyza sorosis* Williston as *Liriomyza*. Spencer (1963) synonymized *Liriomyza marginalis* (Malloch) with *Liriomyza sorosis*.

Frick (1959) recorded the known host plants of *L. sorosis* as *Plantago major* L., *P. media* L., and possibly other species of *Plantago*. Frick recorded the host plant of *L. marginalis* as *Paspalum dilatatum* Poir. He cited the distribution from the following places: St. Vincent, British West Indies, South Dakota, Illinois, Indiana, Michigan, Pennsylvania, Maryland, Virginia, Florida, and Texas.

Spencer (1963) recorded the distribution of *L. sorosis* from British Guiana, Venezuela, Brazil, and Jamaica; Spencer cited rearing *L. sorosis* from leaf mines on Gramineae in Jamaica and Brazil. He noted *L. sorosis* as pupating in the leaf mine with the black anterior spiracles projecting through the epidermis of the leaf.

The author began his study of the host plant range of *L. sorosis* in the greater Miami area of peninsular Florida during 1962. The host plant infestations included the various uncultivated grasses and some infestations in the Dicotyledones.

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The following host plant rearing records are presented with the hope that they shall be of interest to entomologists as an indication of the wide host range of *L. sorosis* and as a contribution to a more detailed knowledge of its life history. The late Professor Erdman West (Plant Pathology Department, University of Florida) identified all of the host plants cited in the rearing records, and Mr. Kenneth A. Spencer, an agromyzid specialist in England, confirmed the identification of all *L. sorosis* citations in this paper.

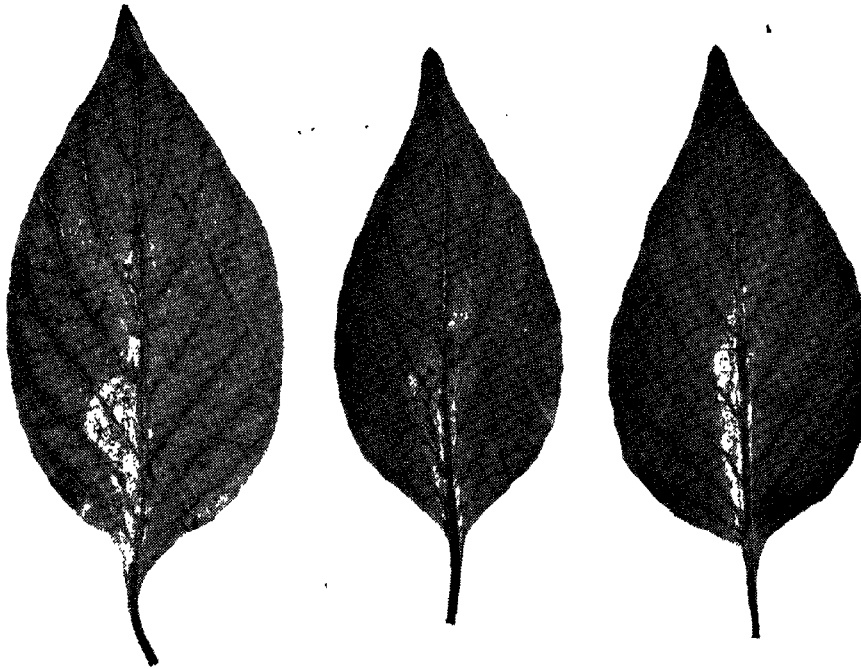


Fig. 1. Typical blotch leaf mines of *Liriomyza sorosis* on leaves of *Blechum pyramidatum* (Acanthaceae). Photograph, courtesy of the Division of Plant Industry, Florida Department of Agriculture, Mildred Eaddy, Photographer.

REARING RECORDS OF *Liriomyza sorosis*

Gramineae

Digitaria sanguinalis (L.) Scop.: Miami, 24 Sep. 1963 (C.E.S.).

Eleusine indica (L.) Gaertn.: Hialeah, 25 Aug. 1963 (C.E.S.).

Euchlaena mexicana Schrad., Teosinte: Homestead, 24 July 1963 (F.C. Craighead and C.E.S.). The infestation in this primitive corn consisted of four parasitized pupae in the leaf mines of two leaves. No adults emerged from this infestation; however, the species was tentatively identified as "apparently *L. sorosis*" by Mr. Spencer.

Panicum milaceum L.: Hialeah, 5 Nov. 1963 (C.E.S.).

Paspalum ciliatifolium Michx.: Hialeah, 5 Nov. 1963 (C.E.S.).

Paspalum fimbriatum H. B. K.: Miami, 26 Oct. 1963 (F. D. Matthews).

Paspalum longepedunculatum LeConte: Miami, 17 Oct. 1963 (C.E.S.)

Acanthaceae

Blechum pyramidatum (Lam.) Urban: Miami, 1 July 1963 (C.E.S.); Hialeah, 22, 31 July 1963 (C.E.S.). *Blechum* has been noted to be severely in-

fested with leaf mines. Almost every leaf on numerous plants contained one or more blotch mines.

Loganiaceae

Spigelia anthelmia L.: Miami, 15 Nov. 1965 (F. D. Matthews).

Plantaginaceae

Plantago sp.: Hialeah, 21 July 1963 (C.E.S.)

Verbenaceae

Lippia nodiflora (L.) Michx.: Hialeah, 2 Sep. 1963 (C.E.S.). *Lippia* infestations are rare and when found consist of a blotch mine that nearly covers the small leaf. The larvae are noted to pupate within the blotch mines.

The rearing data clearly confirm *L. sorosis* as a polyphagous species especially in peninsular Florida. The need for further study, especially on the cultivated grasses, is depicted in the Gramineae of the cited rearing records in south Florida. It is hoped that there will be further study on the host plant range of *L. sorosis* from central and north Florida by other interested entomologists.

PARASITES OF *L. sorosis*

During the course of rearing *L. sorosis* from the many host plants, the following parasites issued from the larvae and pupae and were later found in the rearing containers: Eulophidae, *Chrysocharis majoriani* (Girault), *Chrysocharis* sp., *Derostenus agromyzae* Cwfd., *Diaulinopsis callichroma* Cwfd., and a Pteromalidae, *Heterochema* sp. Dr. B. D. Burks, Insect identification and Parasite Introduction Research Branch, U. S. Department of Agriculture, identified all of the hymenopterous parasites cited in this paper.

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