

The Great Lakes Entomologist

Volume 22
Number 1 - Spring 1989 *Number 1 - Spring 1989*

Article 5

April 1989

Late Lilac, *Syringa Villosa*: New Host of the Lace Bug *Leptoypha Mutica* (Heteroptera: Tingidae)

A. G. Wheeler Jr.
Pennsylvania Department of Agriculture

Follow this and additional works at: <https://scholar.valpo.edu/tgle>



Part of the [Entomology Commons](#)

Recommended Citation

Wheeler, A. G. Jr. 1989. "Late Lilac, *Syringa Villosa*: New Host of the Lace Bug *Leptoypha Mutica* (Heteroptera: Tingidae)," *The Great Lakes Entomologist*, vol 22 (1)
Available at: <https://scholar.valpo.edu/tgle/vol22/iss1/5>

This Peer-Review Article is brought to you for free and open access by the Department of Biology at ValpoScholar. It has been accepted for inclusion in *The Great Lakes Entomologist* by an authorized administrator of ValpoScholar. For more information, please contact a ValpoScholar staff member at scholar@valpo.edu.

**LATE LILAC, SYRINGA VILLOSA: NEW HOST OF THE LACE BUG
LEPTOYPHA MUTICA (HETEROPTERA: TINGIDAE)**A. G. Wheeler, Jr.¹

ABSTRACT

The lace bug *Leptoypha mutica*, a specialist on trees and shrubs of the Oleaceae, feeds mainly on ash, *Fraxinus* spp., and fringetree, *Chionanthus virginicus*. In July 1987 and 1988, nymphs and adults were observed on late lilac, *Syringa villosa*, in a landscape planting in northwestern Pennsylvania. Infested leaves showed chlorotic blotches, the damage concentrated around midribs and lateral veins. This is the first report of lilac serving as a host for a North American tingid.

Leptoypha mutica (Say) is an apparently bivoltine tingid that overwinters in the adult stage (Dickerson and Weiss 1916). Known from Quebec and Ontario south to Florida and west from North and South Dakota to Texas, this wide-ranging species also has been recorded from Socorro Island, Mexico (Drake and Ruhoff 1965). It often is only locally abundant on shrubs and trees of the Oleaceae. Sometimes referred to as the fringetree lace bug (Blatchley 1926, Mead 1975, Beshear et al. 1976), *L. mutica* is an occasional pest of ornamental fringetree, *Chionanthus virginicus*. In describing the immature stages of *L. mutica*, Dickerson and Weiss (1916) reported damage to nursery-grown fringetree in New Jersey. Foliage of infested plants showed the mottling or chlorosis typical of lace bug feeding and, in severe infestations, leaves turned yellowish brown and withered.

Ash trees also serve as hosts (e.g., McAtee 1917, 1923, Bailey 1951, USDA 1963, Horn et al. 1979), with *L. mutica* specifically recorded from white ash, *Fraxinus americana* (Hussey 1922, Froeschner 1944). Several authors have noted an apparent preference for seedling or sapling ash (Hussey 1922, Bailey 1951, 1959, Horn et al. 1979). In Texas, Drake (1918) reported *L. mutica* from the oleaceous shrub swamp privet, *Forestiera acuminata*.

Herein, I report an ornamental lilac as a new host of *L. mutica*. This is the first record of a North American lace bug developing on a species of *Syringa*.

Leptoypha mutica on Lilac

On 30 July 1987, my attention was drawn to chlorotic areas on leaves of late lilac, *Syringa villosa*, growing on the campus of Alliance College, Cambridge Springs, in Crawford Co., Pennsylvania. Lilacs may be infested by privet thrips, *Dendrothrips ornatus* (Jablonowski), which impart a grayish or silvery cast to the foliage (e.g., Schread 1969), but pale, discolored areas characteristic of injury inflicted by mesophyll-feeding mites, leafhoppers, or plant bugs are unusual on leaves of *Syringa* spp. The insect causing foliar chlorosis on late lilac, a Chinese shrub (Everett 1982), proved to be *L. mutica*. Four adults were collected on one large plant (about 3 m high), and several late-instar nymphs

¹Bureau of Plant Industry, Pennsylvania Department of Agriculture, Harrisburg, PA 17110

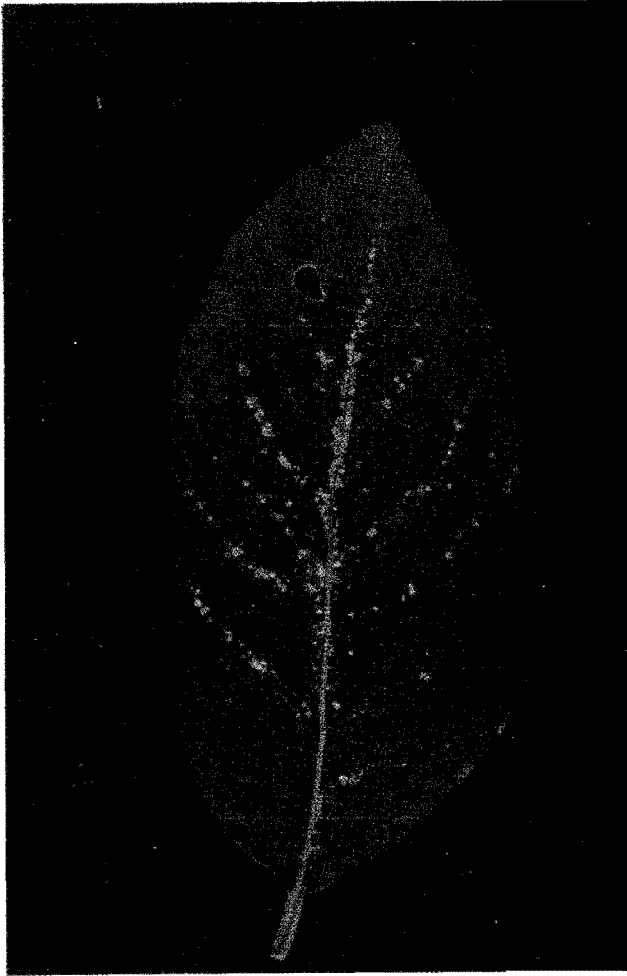


Fig. 1. Chlorosis on leaf of late lilac, *Syringa villosa*, caused by the feeding of *Leptoypha mutica*.

were found on lower leaf surfaces. Cast skins and black spots of excrement also were present on abaxial surfaces. The infestation was restricted to only a few leaves, as Horn et al. (1979) noted for *L. mutica* on ash in North Carolina. Chlorosis on infested leaves was mainly adjacent to the midrib and lateral veins (Fig. 1).

In 1988, *L. mutica* was found to have colonized the same late lilac by 20 July. Observations at Alliance College showed that four of five additional *S. villosa* plants in separate areas of the campus had chlorotic foliage. Seven adults and about that many fourth and fifth instars were collected; additional adults and nymphs were seen. As many as eight exuviae were present on an infested leaf. Nymphs and adults also were observed on seedling lilacs growing beneath a large *S. villosa*.

No lace bugs were found on large green ash, *F. pennsylvanica*, trees growing on campus or on volunteer ash adjacent to infested lilacs; in some cases, branches of volunteer ash intertwined with lilac branches. Only one leaf of a seedling ash growing under a lilac showed possible lace bug injury, but no tingids or nymphal exuviae were found on the lower surface.

DISCUSSION

Lilacs are not known to serve as host plants of North American Tingidae. Drake and Ruhoff's (1965) catalog of world lace bugs does not list any species from *Syringa*, but *L. capitata* (Jakolev) has now been recorded from *S. reticulata* Hara in Japan (Tomokuni 1987).

Whether *L. mutica* infests late lilac at other localities and whether other *Syringa* spp. will be included in its range of oleaceous hosts await further observations. Bailey (1951) remarked that specimens from fringetree showed "constant differences" and cited a personal communication from R. I. Sailer; these differences, however, were not described. The question of possible host-induced variation—color ranges from light brown to black, and hemelytral markings are variable—therefore deserves study. It has been suggested that *L. mutica* might be a composite of sibling taxa (Slater and Baranowski 1978). Although this is possible, it appears that the observed differences in coloration and markings represent intraspecific variation within a lace bug that feeds on several genera of the Oleaceae.

ACKNOWLEDGMENTS

I thank R. C. Froeschner (Department of Entomology, Smithsonian Institution, Washington, D.C.) for confirming the identification of *L. mutica*, H. G. Wolff (BPI, PDA) for assistance in the field, J. F. Stimmel (BPI, PDA) for the photograph used in Fig. 1, W. L. Mountain (BPI, PDA) for identifying the host plant, and T. J. Henry (Systematic Entomology Laboratory, USDA, c/o U. S. National Museum of Natural History, Washington) and K. Valley (BPI, PDA) for helpful comments on the manuscript.

LITERATURE CITED

- Bailey, N. S. 1951. The Tingioidea of New England and their biology. *Entomol. Amer.* 31:1-140.
- Bailey, N. S. 1959. Additions to the bioecology of the New England Tingidae and Piesmidae (Heteroptera). *Psyche* 66:63-69.
- Beshear, R. J., H. H. Tippins, and J. P. Howell. 1976. The lace bugs (Tingidae) of Georgia. *Georgia Agric. Exp. Stn. Res. Bull.* 188. 29 pp.
- Blatchley, W. S. 1926. Heteroptera or true bugs of eastern North America, with especial reference to the faunas of Indiana and Florida. *Nature Publ. Co., Indianapolis.* 1116 pp.
- Dickerson, E. L. and H. B. Weiss. 1916. Notes on *Leptoypa mutica* Say (Hemip.). *Entomol. News* 27:308-310.
- Drake, C. J. 1918. Notes on North American Tingidae (Hem.-Het.). *Bull. Brooklyn Entomol. Soc.* 13:86-88.
- Drake, C. J. and F. A. Ruhoff. 1965. Lacebugs of the world: a catalog (Hemiptera: Tingidae). *U. S. Natl. Mus. Bull.* 243. 634 pp.
- Everett, T. H. 1982. *The New York Botanical Garden illustrated encyclopedia of horticulture.* Vol. 10 Ste-Zy. *Garland Publ., New York.* pp. 3225-3601.
- Froeschner, R. C. 1944. Contributions to a synopsis of the Hemiptera of Missouri, Pt. III. Lygacidae, Pyrrhocoridae, Piesmidae, Tingidae, Enicocephalidae, Phymatidae, Ploiariidae, Reduviidae, Nabidae. *Amer. Midl. Nat.* 31:638-683.

- Horn, K. F., C. G. Wright, and M. H. Farrier. 1979. The lace bugs (Hemiptera: Tingidae) of North Carolina and their hosts. North Carolina Agric. Exp. Stn. Tech. Bull. 257. 22 pp.
- Hussey, R. F. 1922. Hemiptera from Berrien County, Michigan. Occas. Pap. Mus. Zool. Univ. Michigan 118:1-39.
- McAtee, W. L. 1917. Key to the Nearctic species of *Leptoypha* and *Leptostyla* (Heteroptera Tingidae). Bull. Brooklyn Entomol. Soc. 12:55-64.
- McAtee, W. L. 1923. Tingitoidea of the vicinity of Washington, D. C. (Heteroptera.). Proc. Entomol. Soc. Wash. 25:143-151.
- Mead, F. W. 1975. The fringetree lace bug, *Leptoypha mutica* (Say) (Hemiptera: Tingidae). Florida Dep. Agric. Consum. Serv., Div. Plant Ind. Entomol. Circ. 161. 2 pp.
- Schread, J. C. 1969. Privet thrips. Connecticut Agric. Exp. Stn. Circ. 230. 4 pp.
- Slater, J. A. and R. M. Baranowski. 1978. How to know the true bugs (Hemiptera-Heteroptera). Wm. C. Brown, Dubuque, Iowa. 256 pp.
- Tomokuni, M. 1987. The Tingidae of Hokkaido, Japan (Insecta, Heteroptera) [in Japanese. English summary]. Mem. Natl. Sci. Mus., Tokyo 20:115-122.
- USDA. 1963. A lace bug (*Leptoypha mutica*). Coop. Econ. Insect Rep. 13(32):924.