

A NEW DISTRIBUTION AND HOST RECORD FOR GONATOCERUS TRIGUTTATUS IN FLORIDA, WITH NOTES ON ACMOPOLYNEMA SEMA (HYMENOPTERA: MYMARIDAE)

Authors: Triapitsyn, Serguei V., Hoddle, Mark S., and Morgan, David J. W.

Source: Florida Entomologist, 85(4) : 654-655

Published By: Florida Entomological Society

URL: [https://doi.org/10.1653/0015-4040\(2002\)085\[0654:ANDAHR\]2.0.CO;2](https://doi.org/10.1653/0015-4040(2002)085[0654:ANDAHR]2.0.CO;2)

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

A NEW DISTRIBUTION AND HOST RECORD FOR *GONATOCERUS TRIGUTTATUS* IN FLORIDA, WITH NOTES ON *ACMOPOLYNEMA SEMA* (HYMENOPTERA: MYMARIDAE)

SERGUEI V. TRIAPITSYN¹, MARK S. HODDLE¹ AND DAVID J. W. MORGAN²

¹Department of Entomology, University of California, Riverside, CA 92521

²Pierce's Disease Control Program, California Department of Food and Agriculture, Mount Rubidoux Field Station, 4500 Glenwood Drive, Riverside, CA 92501

Triapitsyn et al. (1998) reported results of the 1997 survey of egg parasitoids of the glassy-winged sharpshooter, *Homalodisca coagulata* (Say) (Homoptera: Cicadellidae), in northern Florida. As part of an on-going classical biological control program against *H. coagulata* in California, two of the authors conducted a survey of egg parasitoids of proconiine sharpshooters (Cicadellidae: Cicadellinae: Proconiini) throughout Florida in August 2001 (Triapitsyn & Hoddle 2001). Among several species in the families Mymaridae and Trichogrammatidae (both Hymenoptera) that were collected (Triapitsyn & Hoddle 2001), there were two mymarid species on which the previously unknown information is given below.

All specimens resulting from this study were determined by S. V. Triapitsyn; the vouchers of parasitoid species were deposited in the Entomology Research Museum, University of California at Riverside, California [UCRC] and those of proconiine sharpshooter species were deposited in the California State Collection of Arthropods, California Department of Food and Agriculture, Sacramento, California; also examined was the collection of Mymaridae at the Florida State Collection of Arthropods in Gainesville, Florida [FSCA].

Gonatocerus triguttatus Girault, originally described from specimens reared from an egg mass of an unidentified leafhopper on orange, *Citrus sinensis* (L.) Osbeck, in Trinidad (Girault 1916), was reared recently in northeastern Mexico from egg masses of *H. coagulata*, *Oncometopia clarior* (Walker), and an unidentified *Oncometopia* species (Triapitsyn & Phillips 2000, Triapitsyn et al. 2002). *Gonatocerus triguttatus* is also known from eggs of *H. coagulata* in Texas (Jones 2001, Triapitsyn & Hoddle 2001).

In Apopka, Florida, we reared two females of *G. triguttatus* from an egg mass of the black-winged sharpshooter, *Oncometopia nigricans* (Walker), laid in a leaf of crape myrtle, *Lagerstroemia indica* L., in the parking lot of the University of Florida Mid-Florida Research and Education Center. From the same plant and several adjacent crape myrtle trees, we also collected an adult specimen and several nymphs of *O. nigricans*, which is the prevalent proconiine sharpshooter species on woody plants in central and southern Florida, whereas relative abundance of

H. coagulata decreases from north-central Florida southward (Timmer et al. 1982), although it is known in southern Florida as far as Homestead (Turner & Pollard 1959).

Gonatocerus triguttatus has not been known previously from Florida and *O. nigricans* is a new host record for this parasitoid. Before our discovery, the only known record of an egg parasitoid of *O. nigricans* was by Turner & Pollard (1959) who reported a *Gonatocerus* sp. (as *Lymaenon* sp.) in Plant City, Florida, from eggs of *Oncometopia undata* (Fabricius), that is an obvious misidentification of *O. nigricans* following Young (1968).

Material Examined. USA, Florida, Orange Co., Apopka, 21-VIII-2001, M. S. Hoddle and S. V. Triapitsyn, 2 females (emerged in UCR quarantine 30-VIII-2001 from an egg mass of *O. nigricans* on crape myrtle) [UCRC].

Notes on *Acmopolynema sema* Schauff. This species was described from a large series of type specimens reared from eggs of the johnsongrass sharpshooter, *Homalodisca insolita* (Walker), in Fort Valley, Georgia (Schauff 1981). We reared *A. sema* from egg masses of the same host, laid in Johnson grass, *Sorghum halepense* (L.) Persoon, collected at the grounds of the University of Florida Everglades Research and Education Center in Belle Glade, Florida, on 19-VIII-2001 and brought under permit into UCR quarantine. Numerous specimens of *H. insolita* were collected from the same plants on which the egg masses were found. Following emergence, which began within the sealed containers while we still were in Florida and continued *en masse* in UCR quarantine, female and male parasitoids were given time to mate and then were exposed to *H. coagulata* eggs laid in leaves of *Euonymus japonica* Thunberg on 24-VIII-2001. The first generation ($n > 100$), which consisted of both females and males (the sex ratio was 4.3:1, respectively), was successfully obtained on 10-IX-2001 and exposed to the host on 12-IX-2001. The second generation, which emerged on 29-IX-2001, however, consisted of males only ($n > 400$), thus our colony of *A. sema* was discontinued thereafter. We suspect that this was in response to the fact that *H. coagulata* is not the natural host for this parasitoid, which prefers to attack egg masses of *H. insolita*, a species that feeds and lays eggs on grasses (Turner &

Pollard 1959). To the contrary, *H. coagulata* females strongly prefer woody plants for feeding and oviposition (Turner & Pollard 1959).

Material Examined. USA. Florida. Jefferson Co., Monticello: 24-VII-1979, J. C. Ball, 3 females and 1 male (ex. *H. insolita* eggs on *S. halepense*); 24-VIII-1979, J. C. Ball, 6 females and 4 males (ex. *H. insolita* eggs on Johnson grass); 11-VI-1982, R. F. Mizell, III, 2 females and 1 male (ex. *H. insolita* eggs); VII-1982, R. F. Mizell, III, 2 females (ex. *H. insolita* eggs); 16-VIII-2000, R. López, numerous female and female specimens in ethanol (ex. *H. insolita* eggs on grass) [FSCA]. Palm Beach Co., Belle Glade: 19-VIII-2001, S. V. Triapitsyn and M. S. Hoddle, 72 females and 19 males (emerged in UCR quarantine 24-29-VIII-2001 from egg masses of *H. insolita* on Johnson grass); 19-VIII-2001, S. V. Triapitsyn, 9 females and 1 male (by sweeping on grass) [UCRC].

We thank Lionel A. Stange (FSCA) for access to the collection and Vladimir V. Berezovskiy (UCRC) for help with specimen preparation. This project was funded by a grant from the California Department of Food and Agriculture.

SUMMARY

A survey of egg parasitoids of proconiine sharpshooters was conducted in Florida, USA, in August 2001. The mymarid wasp *Gonatocerus triguttatus* was reared from an egg mass of *Oncometopia nigricans* laid in a crape myrtle leaf in Apopka, Florida. This discovery is the first known record of *G. triguttatus* from Florida and also a new host record for this parasitoid species. Another mymarid wasp, *Acmopolynema sema*, was reared from egg masses of *Homalodisca insolita* on Johnson grass in Belle Glade, Florida; females of *A. sema* were then exposed to egg masses of a factitious host for this parasitoid, *Homalodisca coagulata*, on *Euonymus japonica* leaves at the UCR quarantine laboratory. A colony of *A. sema* was lost in the second, all male, generation, after the first generation, which included both sexes, had been obtained successfully on *H. coagulata* eggs.

REFERENCES CITED

- GIRAULT, A. A. 1916. New miscellaneous chalcidoid Hymenoptera with notes on described species. *Ann. Entomol. Soc. America* 9: 291-308.
- JONES, W. A. 2001. Classical biological control of the glassy-winged sharpshooter, pp. 50-51. *In* Proceedings of the Pierce's Disease Research Symposium, December 5-7, 2001, Coronado Island Marriott Resort, San Diego, California. California Department of Food and Agriculture, Copeland Printing, Sacramento, California, 141 pp.
- SCHAUFF, M. E. 1981. A review of Nearctic species of *Acmopolynema* Ogloblin (Hymenoptera: Mymaridae). *Proc. Entomol. Soc. Washington* 83: 444-460.
- TIMMER, L. W., R. F. LEE, J. C. ALLEN, AND D. P. H. TUCKER 1982. Distribution of sharpshooters in Florida citrus groves. *Environ. Entomol.* 11: 456-460.
- TRIAPITSYN, S. V., L. G. BEZARK, AND D. J. W. MORGAN. 2002. Redescription of *Gonatocerus atriclavus* Girault (Hymenoptera: Mymaridae), with notes on other egg parasitoids of sharpshooters (Homoptera: Cicadellidae: Proconiini) in northeastern Mexico. *Pan-Pacific Entomol.* 78: 34-42.
- TRIAPITSYN, S. V., AND M. S. HODDLE. 2001. Search for and collect egg parasitoids of glassy-winged sharpshooter in southeastern USA and northeastern Mexico, pp. 133-134. *In* Proceedings of the Pierce's Disease Research Symposium, December 5-7, 2001, Coronado Island Marriott Resort, San Diego, California. California Department of Food and Agriculture, Copeland Printing, Sacramento, California, 141 pp.
- TRIAPITSYN, S. V., R. F. MIZELL, III, J. L. BOSSART, AND C. E. CARLTON. 1998. Egg parasitoids of *Homalodisca coagulata* (Homoptera: Cicadellidae). *Florida Entomol.* 81: 241-243.
- TRIAPITSYN, S. V., AND P. A. PHILLIPS. 2000. First host record of *Gonatocerus triguttatus* (Hymenoptera: Mymaridae) from eggs of *Homalodisca coagulata* (Homoptera: Cicadellidae), with notes on the distribution of the host. *Florida Entomol.* 83: 200-203.
- TURNER, W. F., AND H. N. POLLARD. 1959. Life histories and behavior of five insect vectors of phony peach disease. *Tech. Bull. United States Dep. Agric.* 1188, 28 pp.
- YOUNG, D. A. 1968. Taxonomic study of the Cicadellinae (Homoptera, Cicadellidae). Part 1. Proconiini. *United States Nat. Mus. Tech. Bull.* 261, 287 pp.