



**A NEW HOST RECORD FOR THE EGG PARASITOID
PARACENTROBIA AMERICANA (GIRAULT)
(HYMENOPTERA: TRICHOGRAMMATIDAE) OF THE
PROCONIINE SHARPSHOOTER HOMALODISCA
INSOLITA (WALKER) (HEMIPTERA: CLYPEORRYNCHA:
CICADELLIDAE)**

Authors: Tipping, Christopher, Triapitsyn, Serguei V., and Mizell, Russell F.

Source: Florida Entomologist, 88(2) : 217-218

Published By: Florida Entomological Society

URL: [https://doi.org/10.1653/0015-4040\(2005\)088\[0217:ANHRFT\]2.0.CO;2](https://doi.org/10.1653/0015-4040(2005)088[0217:ANHRFT]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 HOST RECORD FOR THE EGG PARASITOID *PARACENTROBIA AMERICANA* (GIRAULT) (HYMENOPTERA: TRICHOGRAMMATIDAE) OF THE PROCONIINE SHARPSHOOTER *HOMALODISCA INSOLITA* (WALKER) (HEMIPTERA: CLYPEORRYNCHA: CICADELLIDAE)

CHRISTOPHER TIPPING¹, SERGUEI V. TRIAPITSYN² AND RUSSELL F. MIZELL III¹

¹University of Florida, NFREC Quincy, 155 Research Road, Quincy, FL 32351

²University of California, Department of Entomology, Riverside, CA 92521

Interest in the natural enemies of proconiine sharpshooters has increased since the introduction and establishment of the glassy-winged sharpshooter, *Homalodisca coagulata* (Say), in California. Previous surveys of egg parasitoids of proconiine sharpshooters from Florida indicated several species in the families Mymaridae and Trichogrammatidae (Hymenoptera) as the most common (Triapitsyn et al. 1998; Triapitsyn & Hoddle 2001). Presently, classical biocontrol efforts to manage introduced populations of *H. coagulata* in California rely exclusively on inundative releases of egg parasitoids of the genus *Gonatocerus*. Triapitsyn (2003) created a key to the genera of trichogrammatid parasitoids of proconiine sharpshooter eggs in the southeastern US that included an unidentified species of the genus *Paracentrobia* Howard. Poor condition of type specimens of *P. acuminata* (Ashmead), deposited in the National Museum of Natural History, Washington, D.C., did not allow then for a positive identification of the *Paracentrobia* sp. from Florida and Georgia as *P. acuminata* (Triapitsyn 2003). More recently, specimens of *Paracentrobia* obtained from egg masses of *Cuerna costalis* (F.) and *Homalodisca insolita* (Walker) collected from Byron and Centerville, Georgia were identified as *P. acuminata* (Hoddle & Triapitsyn 2004). Additionally, specimens listed as *P. acuminata*, collected previously from Monticello, Florida, and Fort Valley, Georgia were verified by J. George (pers. comm.). We have reared another species of *Paracentrobia*, *P. americana* (Girault), that has not previously been reported from the southeastern United States. This parasitoid attacked the eggs of *H. insolita* that were cultured in cages of Johnson grass, *Sorghum halepense* (L.) Persoon.

Notes on *Paracentrobia americana*. This species was described from Salt Lake City, UT where it was reported to parasitize the eggs of an undetermined leafhopper found on *Elymus* sp. (Girault 1917). Prior to this study, the species description included the only published host association and distribution records for *P. americana*.

Material Examined. *Paracentrobia americana*: USA, Florida, Gadsden Co., Quincy, 30-IX-2004, C. Tipping, numerous females and males (emerged from egg masses of a culture of *H. insolita* reared on *S. halepense*). All specimens exam-

ined for this record were tentatively determined by S. V. Triapitsyn and then confirmed by J. George (Department of Entomology, University of California, Riverside); voucher material was deposited at UCRC (Entomology Research Museum, University of California, Riverside).

Notes on the Host, *Homalodisca insolita*. Prior to 1944, this species had a reported distribution that included Mexico, Arizona, New Mexico, and Texas. It was subsequently discovered in Georgia (Kaloostian & Yeomans 1944). By the late 1950s, its distribution was reported to include Louisiana, Arkansas, Tennessee, Mississippi, Alabama, Florida, Georgia, South Carolina, and North Carolina (Pollard et al. 1959). It has been reported to feed on many plants but prefers grasses (Turner & Pollard 1959), including Texas millet (*Panicum texanum* Buckley), crab grasses (*Digitaria* spp.), and Johnson grass (*S. halepense* (L.) Persoon). In north Florida, reproductive plant hosts of *H. insolita* include Johnson grass and southern sand spur, *Cenchrus echinatus* L. (Tipping et al. 2004). The most common parasitoid of *H. insolita* eggs in Florida is *Acmopolynema sema* Schauff (Hymenoptera: Mymaridae) (Triapitsyn et al. 2002).

H. insolita is a competent vector of *Xylella fastidiosa* bacterium, the causative agent of many plant diseases including phony peach, Pierce's disease of grape, and plum leaf scald (Turner & Pollard 1955). Many of the grass and weed species fed upon by *H. insolita* are reservoirs of *Xylella* bacteria. While *H. insolita* feeds primarily on herbaceous hosts, we have documented that it also feeds on economically important hardwood species that are susceptible to *X. fastidiosa* such as peach and plum (Mizell & French 1987). Potentially, the parasitoid *P. americana* may serve as a management tool in combating the spread of *X. fastidiosa* diseases.

We thank Jeremiah George for confirmation of our initial identification of *Paracentrobia americana*, and Gisette Seferina, Brent Brodbeck, and Peter Andersen for editorial suggestions on an earlier version of this manuscript. The California Department of Food and Agriculture as well as the University of California, Davis provided funding for this research. Contribution of the Florida Agricultural Experiment Station Journal Series No. R-10891.

SUMMARY

The trichogrammatid wasp, *Paracentrobia americana* (Girault), was reared from egg masses of the leafhopper *Homalodisca insolita* (Walker) maintained in culture at the University of Florida North Florida Research and Education Center in Quincy, Florida. This discovery is a new host record for *P. americana*. Parasitized egg masses were found on Johnson grass, *Sorghum halepense* (L.) Persoon.

REFERENCES CITED

- GIRAULT, A. A. 1917. Notes and descriptions of miscellaneous chalcid-flies (Hymenoptera). Proc. U.S. Nat. Mus. 53(2213): 445-450.
- HODDLE, M. S., AND S. V. TRIAPITSYN. 2004. Search for and collect egg parasitoids of glassy-winged sharpshooter in central and eastern USA, *In* Proceedings of the Pierce's Disease Research Symposium, December 8-11, 2003, Coronado Island Marriott Resort, San Diego, California. Organized by California Department of Food and Agriculture.
- KALOOSTAIN, G. H., AND M. S. YEOMANS. 1944. A sticky board trap used in scouting for pear psylla. U. S. Bur. Entomol. Plant Quar. ET-220.
- MIZELL, R. F. III, AND W. J. FRENCH. 1987. Leafhopper vectors of phony peach disease: Feeding site preference and survival on infected and uninfected peach, and seasonal response to selected host plants. J. Entomol. Sci. 22: 11-22.
- POLLARD, H. N., W. F. TURNER, AND G. H. KALOOSTIAN. 1959. Invasion of the southeast by a western leafhopper, *Homalodisca insolita*. J. Econ. Entomol. 52: 359-350.
- TIPPING, C., R. F. MIZELL III, AND P. C. ANDERSEN. 2004. Dispersal adaptations of immature stages of three species of leafhopper (Hemiptera: Auchenorrhyncha: Cicadellidae). Florida Entomol. 87: 372-379.
- TRIAPITSYN, S. V. 2003. Taxonomic notes on the genera and species of Trichogrammatidae (Hymenoptera)—egg parasitoids of the proconiine sharpshooters (Hemiptera: Clypeorrhyncha: Cicadellidae: Proconiini) in southeastern USA. Trans. American Entomol. Soc. 129(2): 245-265.
- 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* M. A. Tariq, S. Oswalt, and T. Esser [eds.], Proceedings of the Pierce's Disease Research Symposium, December 5-7, 2001, Coronado Island Marriott Resort, San Diego, California. Organized by California Department of Food and Agriculture (compiled by), Copeland Printing, Sacramento, CA. 141 pp.
- TRIAPITSYN, S. V., M. S. HODDLE, AND D. J. W. MORGAN. 2002. A new distribution and host record for *Gonatocerus triguttatus* in Florida, with notes on *Acropolynema sema* (Hymenoptera: Mymaridae). Florida Entomol. 85(4): 654-655.
- 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(2): 241-243.
- TURNER, W. F., AND H. N. POLLARD. 1955. Additional leafhopper vectors of phony peach. J. Econ. Entomol. 48: 771-772.
- TURNER, W. F., AND H. N. POLLARD. 1959. Life Histories and Behaviors of Five Insect Vectors of Phony Peach Disease. USDA Tech. Bull. 1188. 28 pp.