

The Great Lakes Entomologist

Volume 28

Numbers 3/4 -- Fall/Winter 1995 Numbers 3/4 --
Fall/Winter 1995

Article 2

January 1995

Parasitism of *Plathypena Scabra* (Lepidoptera: Noctuidae) by *Sinophorus Teratis* (Hymenoptera: Ichneumonidae)

Daniel M. Pavuk

Bowling Green State University

Charles E. Williams

Clarion University of Pennsylvania

Douglas H. Taylor

Miami University

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

 Part of the [Entomology Commons](#)

Recommended Citation

Pavuk, Daniel M.; Williams, Charles E.; and Taylor, Douglas H. (1995) "Parasitism of *Plathypena Scabra* (Lepidoptera: Noctuidae) by *Sinophorus Teratis* (Hymenoptera: Ichneumonidae)," *The Great Lakes Entomologist*: Vol. 28 : No. 3 , Article 2.

Available at: <http://scholar.valpo.edu/tgle/vol28/iss3/2>

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.

PARASITISM OF *PLATHYPENA SCABRA* (LEPIDOPTERA: NOCTUIDAE) BY
SINOPHORUS TERATIS (HYMENOPTERA: ICHNEUMONIDAE)Daniel M. Pavuk¹, Charles E. Williams², and Douglas H. Taylor³

A study was conducted at the Ecology Research Center, Miami University, Butler County, Ohio, during the summer of 1990 to examine the effects of strip intercropping sorghum and soybean on the occurrence of parasitoids and incidence of disease in larvae of the green cloverworm, *Plathypena scabra* (F.) (Lepidoptera: Noctuidae), a sporadic pest of soybeans. The details of the experimental design and results are reported elsewhere (Williams et al. 1995).

Ten species of larval parasitoids were reared from a total of 1,522 *P. scabra* larvae (Williams et al. 1995). One species, *Sinophorus teratis* (Weed), has apparently not been reared from *P. scabra* larvae previously (e.g., White-side et al. 1967, Barry 1970, Lentz and Pedigo 1975, Roberts et al. 1977, Mueller and Kunnalaca 1979, McCutcheon and Turnipseed 1981, Hammond 1983, Pedigo et al. 1983, Pavuk and Barrett 1993). However, Hammond (1983) reported a single specimen of *Sinophorus* sp. from green cloverworm, Lentz and Pedigo (1975) reared one individual of *Sinophorus validus* (Cresson) from *P. scabra*, and Pedigo et al. (1983) observed a small proportion of green cloverworm larvae parasitized by *S. validus*. *Sinophorus teratis* was formerly a synonym for *S. validus*; Sanborne (1984) removed *S. teratis* from synonymy with *S. validus* when he revised the world species of *Sinophorus*, and the two names now refer to two separate species. It is possible that records of *S. validus* from *P. scabra* may actually have been occurrences of *S. teratis*.

In addition, rates of parasitism of *P. scabra* by *Sinophorus* spp. in other investigations were extremely low compared to our findings. Percentage of green cloverworm larvae parasitized by *S. teratis* pooled across the sampling period (i.e., 27 July to 14 September; 8 weekly samples) in the five different soybean agroecosystems ranged from 2.3 to 5.3% (Williams et al. 1995). Surveys of green cloverworm parasitoids in the same study area but in different soybean agroecosystems in subsequent years failed to detect *S. teratis* (unpublished data). The occurrence of this parasitoid in this particular locality appears to be sporadic, and may be affected by varied plant community structure, among other factors (e.g., presence of alternate hosts). A survey on a larger scale and in widely separated, diverse soybean cropping systems would be valuable in determining the factors that may possibly influence parasitism of *P. scabra* by *S. teratis*.

ACKNOWLEDGMENTS

We thank the staff of the Ecology Research Center, especially M. Benninger-Truax, E. Bollinger, J. Ralley and R. Stander for field and laboratory

¹Department of Biological Sciences, Bowling Green State University, Bowling Green, OH 43403.

²Department of Biology, Clarion University of Pennsylvania, Clarion, PA 16214-1232.

³Department of Zoology, Miami University, Oxford, OH 45056.

assistance. We also thank R.W. Carlson, USDA-ARS, Taxonomic Services Unit, Beltsville, MD for identifying *Sinophorus teratis*. This study was supported in part by an Ohio Academic Challenge Grant in applied ecology to the Department of Zoology, Miami University.

LITERATURE CITED

- Barry, R.M. 1970. Insect parasites of the green cloverworm in Missouri. *J. Econ. Entomol.* 63:1963-1965.
- Hammond, R.B. 1983. Parasites of the green cloverworm (Lepidoptera: Noctuidae) on soybeans in Ohio. *Environ. Entomol.* 12:171-173.
- Lentz, G.L., and L.P. Pedigo. 1975. Population ecology of parasites of the green cloverworm in Iowa. *J. Econ. Entomol.* 68:301-304.
- McCutcheon, G.S., and S.G. Turnipseed. 1981. Parasites of lepidopterous larvae in insect resistant and susceptible soybeans in South Carolina. *Environ. Entomol.* 10: 69-74.
- Mueller, A.J., and S. Kunnalaca. 1979. Parasites of green cloverworm on soybeans in Arkansas. *Environ. Entomol.* 8:376-379.
- Pavuk, D.M. and G.W. Barrett. 1993. Influence of successional and grassy corridors on parasitism of *Plathypena scabra* (F.) (Lepidoptera: Noctuidae) larvae in soybean agroecosystems. *Environ. Entomol.* 22:541-546.
- Pedigo, L.P., E.J. Bechinski, and R.A. Higgins. 1983. Partial life tables of the green cloverworm (Lepidoptera: Noctuidae) in soybean and a hypothesis of population dynamics in Iowa. *Environ. Entomol.* 12:186-195.
- Roberts, S.J., W.K. Mellors, and E.J. Armbrust. 1977. Parasites of lepidopterous larvae in alfalfa and soybeans in central Illinois. *Great Lakes Entomol.* 10:87-93.
- Sanborne, M. 1984. A revision of the world species of *Sinophorus* (Ichneumonidae). *Mem. Am. Ent. Inst.* 38:1-403.
- Whiteside, R.C., P.P. Burbutis, and L.P. Kelsey. 1967. Insect parasites of the green cloverworm in Delaware. *J. Econ. Entomol.* 60:326-328.
- Williams, C.E., D.M. Pavuk, D.H. Taylor, and T.H. Martin. 1995. Parasitism and disease incidence in the green cloverworm (Lepidoptera: Noctuidae) in strip-intercropped soybean agroecosystems. *Environ. Entomol.* 24:253-260.