

Research Note

ANTICARSIA GEMMATALIS (LEPIDOPTERA: NOCTUIDAE) IN PUERTO RICO: A NEW HOST-PLANT AND TWO NEW BIRD PREDATORS^{1,2}

The velvet bean caterpillar (VBC), *Anticarsia gemmatalis* Hübner, is a migratory pest of numerous legumes in the Western Hemisphere. This moth emigrates from unknown southern sources into the eastern half of the United States during late spring and early summer. The emigrational sources are not known explicitly, but appear to be south Florida, south Texas, and north-eastern Mexico. Major difficulties in source determinations are due to limited reports of wild host-plant utilization and scant data on the temporal and spatial occurrences of these hosts.^{3,4} Our objectives are to report the first wild host-plant record for VBC larvae in the West Indies, and to report three avian predators of VBC larvae.

Observations were made by the senior author on 9, 12, and 18 November 1987. The study site, about 300 m by 30 m, is located in southwest Puerto Rico 5 km southeast of the intersection of Highways 301 and 303 in

the Cabo Rojo National Wildlife Refuge. The host-plant was identified by G. Proctor (Department of Natural Resources, Puerto Rico) as *Tephrosia cinerea* (L.) Pers. (Leguminosae: Papilinoideae). Larvae were numerous on plant petioles. Nineteen larvae were hand-collected from the host, fixed in 10% formalin solution, stored in 70% ethanol, and identified afterwards as to species and larvae-instar; all were velvet bean caterpillar.⁵ The following instars and total individuals were collected, respectively: 3rd, 3; 4th 6; and 5th, 10.

Tephrosia cinerea is a weedy legume and the first native host-plant of VBC discovered in the West Indies. Its common name is "añil cenizo" or blue grey, which refers to the plant's color. This host-plant occurs throughout the West Indies and continental tropical America.⁶ All other known host-plants in the West Indies are introduced exotics.^{3,4} A *Tephrosia* sp. has

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³Ford, B. J., J. R. Strayer, J. Reid and G. L. Godfrey, 1975. The literature of arthropods associated with soybeans. IV. A bibliography of the velvet bean caterpillar, *Anticarsia gemmatalis* Hübner (Lepidoptera: Noctuidae). Illinois Natural History Survey, Biological Notes 92.

⁴Herzog, D. C. and J. W. Todd, 1980. Sampling velvet bean caterpillar on soybean, p. 107-40. In: Kogan, M. and Herzog, D. C., Eds. Sampling Methods in Soybean Entomology, Springer-Verlag, New York.

⁵Watson, J. R., 1916. Life-history of the velvet bean caterpillar (*Anticarsia gemmatalis* Hübner). *J. Econ. Entomol.* 9: 521-28.

⁶Martorell, L. F., 1975. Annotated food plant catalog of the insects of Puerto Rico. Univ. P. R., Agric. Exp. Stn., Río Piedras, P. R.

been reported as a host-plant in Florida,⁷ but *T. cinerea* does not occur in Florida.⁸

Avian predation of VBC larvae was observed from about 15 m with 10 × 40 mm binoculars.⁹ On 9 November, a mixed flock of icterids (Aves: Icteridae) foraged for 31 min on VBC larvae and moved about 25 m among the "añil cenizo." The flock was composed of 25 Shiny Cowbirds [*Molothrus bonariensis* (Gmelin)], 20 Greater Antillean Grackles [*Quiscalus niger* (Boddaert)], and 5 Yellow-shouldered Blackbirds [*Agelaius xanthomus* Sclater]. Individuals of these species foraged on VBC larvae for 174 min 12 November and 114 min 18 November, moving 250 m and 50 m, respectively. Avian predation on VBC larvae in the West Indies

has been reported only from Cuba¹⁰ for *Holoquiscalus niger caribaeus* Todd, which is a synonym of *Q. niger*.¹¹ Our data are the first record of VBC larval consumption by these icterids in Puerto Rico, and the first record of VBC larval consumption by *A. xanthomus* and *M. bonariensis* in the West Indies.

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⁷USDA, 1954. Cereal and forage insects. USDA Coop. Econ. Insect Rpt. 4: 565-73.

⁸Ward, D. B., 1972. Checklist of the legumes of Florida. Fla. Agric. exp. Stn. (Herbarium), Gainesville.

⁹Raffaele, H. A., 1983. A guide to the birds of Puerto Rico and the Virgin Islands. Fondo Educativo Interamericano, San Juan, P. R.

¹⁰Bruner, S C., L. C. Scaramuzza and A. R. Otero, 1945. Catálogo de los insectos que atacan a las plantas económicas de Cuba. Estación Experimental Agronómica, Santiago de las Vegas, Bol. 63.

¹¹AOU (American Ornithologists' Union), 1983. Check-list of North American Birds. Sixth, American Ornithologists' Union, Washington, D. C.