

## Research Note

### ADDITIONAL NEW RECORDS OF ARMYWORMS (SPODOPTERA FRUGIPERDA & S. EXIGUA) ATTACKING CABBAGE IN PUERTO RICO<sup>1</sup>

The larvae of the fall armyworm, *Spodoptera frugiperda* (J. E. Smith), and of the beet armyworm, *S. exigua* (Hübner), were observed attacking genotypes of cabbage in experimental plots in the Agricultural Experiment Station, University of Puerto Rico, at Fortuna, Juana Díaz, February 1990 (during February and March 1989 *S. sunia* was the armyworm detected).<sup>2</sup> The larvae were detected feeding on leaves and especially the cabbage head. *S. frugiperda* was also seen mining the main vein of older leaves. Up to two larvae per plant were collected from selected genotypes. Of the 15 genotypes evaluated, 10 (Head Start, Blue Pack, Vedette, Market King, Show Boat, Market Prize, Olympic, Kuisto, Pennant and Izalco) were attacked by both species. Although both insect species can be collected from the same genotype, there were no records of both insect species on the same plant.

*Spodoptera frugiperda* was first reported from Puerto Rico as *Laphygma frugiperda* Abbot & Smith in 1913, attacking

sugarcane and corn.<sup>3</sup> *S. frugiperda* is a well known pest in the Americas, especially in the United States, where it is known as the fall armyworm and the southern grassworm. It usually feeds on grasses or allied plants, but when occurring in large numbers and having destroyed its usual host plants, it will attack almost any green vegetation.<sup>4</sup> *S. frugiperda* has been reported affecting cabbage in the United States<sup>5</sup> and in Central America.<sup>6</sup>

*Spodoptera* (= *Laphygma*) *exigua* was first observed in Puerto Rico April 1980 at a commercial planting at Juana Díaz attacking peppers. By June 1980 it was observed feeding on eggplant and in 1981 attacking watermelons (Sugar Baby) at Santa Isabel.<sup>7</sup> In the following years, besides these three hosts no additional hosts have been reported in Puerto Rico; no reports on either pest affecting cabbage were found.<sup>8</sup> *S. exigua* has been reported around the world attacking rice, cotton, sugarbeet, lucerne, tobacco, tomato,

<sup>1</sup>Submitted to Editorial Board 30 March 1993.

<sup>2</sup>Armstrong, A. M., 199-. *Spodoptera sunia* (Gueneé) (Lepidoptera: Noctuidae). A new record of attack on cabbage in Puerto Rico. *J. Agric. Univ. P.R.* 78: 69-70.

<sup>3</sup>Wolcott, G. N., 1948. The insects of Puerto Rico. *J. Agric. Univ. P. R.* 32: 591-593.

<sup>4</sup>Jones, T. A. and G. N. Wolcott, 1922. The caterpillars which eat the leaves of sugarcane in Puerto Rico. *J. Agric. Univ. P. R.* 6: 38-50.

<sup>5</sup>Metcalf, C. L., W. P. Flint and R. L. Metcalf, 1962. Destructive and Useful Insects. 4th. Ed. McGraw Hill Book Co., Inc.

<sup>6</sup>Saunders, J. L., Andrew B. A. King and C. L. Vargas, 1983. Plagas de Cultivos en America Central - Una Lista de Referencias. CATIE, Serie Técnica, Bol. Tec. No. 9.

<sup>7</sup>Ruiz, H. and F. Gallardo Covas, 1985. The beet armyworm, a new vegetable pest in Puerto Rico. *J. Agric. Univ. P. R.* 69(3): 439-40.

<sup>8</sup>O'Farrill Nieves, H. F. Gallardo-Covas, H. Ruiz and J. A. Negrón, 1986. Identificación y Manejo de Plagas en las Hortalizas. Serv. Ext. Agric., Univ. P. R.

groundnut, corn, peas, peppers, spinach, asparagus ferns, asparagus, alfalfa, lettuce, potatoes, onions, citrus, plantains, wild grasses, and a few ornamentals.<sup>9,10,11,12</sup> *Spodoptera exigua*, the beet armyworm, is also known as the lesser cotton leafworm,<sup>13</sup> the asparagus fern caterpillar,<sup>10</sup> and the lesser armyworm.<sup>11</sup>

Often, the beet armyworm larvae are confused with the fall armyworm larvae. Keys and descriptions by Levy and Habeck<sup>14</sup> and by Oliver and Chapin<sup>12</sup> were used to differentiate larvae collected in the field from experimental plots during

1990. *S. frugiperda* larvae are easily recognized by the inverted "Y" on the head and four black spots arranged in a trapezoid on most segments dorsally. Also, setigerous tubercles are as large as or larger than the spiracles, unlike those in other *Spodoptera* spp., and generally dark gray to brown.<sup>15</sup> *S. exigua* has a brown head with conspicuous dark reticulations; the smooth shiny cuticle with small setigerous tubercles, no more than half the size of the spiracles, serves to separate the two species.<sup>15</sup>

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<sup>9</sup>Wolcott, G. N., 1933. An Economic Entomology of the West Indies. The Entomol. Soc. of P. R., San Juan, P. R.

<sup>10</sup>Westcott, C., 1973. The Gardeners Bug Book, 4th. Ed. Doubleday & Co., Inc., Garden City, New York.

<sup>11</sup>Hill, D. S., 1975. Agricultural Insect Pests of the Tropics and their Control. Cambridge University Press.

<sup>12</sup>Martorell, L. F., 1976. Annotated Food Plant Catalog of the Insects of Puerto Rico, Agric. Exp. Sta., Univ. P. R.

<sup>13</sup>Smith, M. and A. Carr, 1988. Rodale's Garden Insect Disease and Weed Identification Guide. Rodale Press, Emmaus, Pa.

<sup>14</sup>Levy, R. and D. H. Habeck, 1976. Descriptions of the larvae of *Spodoptera sunia* and *S. latifascia* with a key to the nature *Spodoptera* larvae of the eastern United States (Lepidoptera: Noctuidae) *Am. Entomol. Soc. Am.* 69: 585-88.

<sup>15</sup>Oliver, A. D. and J. B. Chapin, 1981. Biology and Illustrated Key for the Identification of Twenty Species of Economically Important Noctuid Pests. Louisiana Agric. Expt. Sta. Bull. No. 373.