

Preliminary Studies on *Trichogramma brasiliensis* Ashmead Against the Red Hairy Caterpillar, *Amsacta moorei* Butler.

N. C. TUHAN, A. D. PAWAR and BOOTA SINGH
Central Biological Control Station, Purani Abadi
Sriganganagar 335 001.

Trichogramma brasiliensis Ashmead has played an important role in controlling some lepidopterous pests. (Cueva, 1982; Mani and Krishnamoorthy, 1983). Earlier, Kunhikhanan (1931) successfully reared *Trichogramma* sp. from *Amsacta albistriga* Walker. A South American strain of *T. brasiliensis* was introduced through the Commonwealth Institute of Biological Control, Bangalore for establishment against *Amsacta moorei* Butler in Sriganganagar district of Rajasthan. The results on parasitization in laboratory and field are presented in this paper.

To observe the percent parasitization, 400 eggs of *A. moorei* were exposed to 100 one-day old adults of *T. brasiliensis* for 24 hours. There were three replicates. The exposed

eggs were maintained in an incubator at $27.5 \pm 2.3^{\circ}\text{C}$ and $70 \pm 5\%$ RH. Subsequently the percentage and the number of parasitoids emerged were counted. To check the establishment of *T. brasiliensis* in the field, a preliminary trial was conducted at four places viz., Sahuwala, and field numbers 13F, 5B and 8Z. A total of 4,00,000 adults of *T. brasiliensis* were released over an area of 6 acres of cotton from 7th to 30th, July 1983. Three days after the release, egg clusters of *A. moorei* were collected from the fields and kept in the laboratory to see the per cent parasitization.

The parasitoids started parasitizing the host eggs immediately after release. The average per cent parasitization of the host eggs was observed to be 98.4

Table 1. Effect of release of *T. brasiliensis* against *A. moorei* in cotton during 1983 around Sriganganagar (Rajasthan).

Place	Number of host eggs observed	Percent parasitization
Sahuwala	5270	22.0
13 F	4552	34.8
5 B	2744	1.9
8 Z	2148	20.1
Total/Average	14714	21.9

and the average number of parasitoids developed per host egg was 1.9.

Results of the field release studies showed that the parasitoids could parasitize the eggs of *A. moorei* in the field with a mean parasitization of 21.9 per cent (Table 1). These results indicate that *T. brasiliensis* could be of great use in suppressing the population of *A. moorei* in the field. *T. brasiliensis* has been found to be a promising parasitoid against *Heliothis armigera* (Hb) (Bournier and Peyrelongue, 1973). It could parasitize *H. armigera* in tomato fields to the tune of 34.6 to 51.3 per cent (Mani and Krishnamoorthy, 1983). The findings have demonstrated the usefulness of *T. brasiliensis* in the management of cotton pests.

Key words: *Trichogramma brasiliensis*, *Amsacta moorei*, field parasitization.

REFERENCES

- Bournier, J. P. and Peyrelongue, J. Y. 1973. Introduction, rearing and release of *Trichogramma brasiliensis* Ashmed (Hym.: Chalcididae) with a view to controlling *Heliothis armigera* (Hb.) (Lep. Noct.) in Madagascar. *Cotton et Fibres Tropicales*, 28, 231-237.
- Cueva, C. M. A. 1982. Preliminary studies of the population of eggs of *Diatraea saccharalis* (F.) and its natural parasites on sugarcane. *Revista Peruana de Entomologia*, 22, 25-28.
- Mani M. and Krishnamoorthy, A. 1983. Recovery of two exotic parasites, *Trichogramma brasiliensis* Ashmead (Hym.: Trichogrammatidae) and *Eucelatoria bryani* (Dip.: Tachinidae) from *Heliothis armigera* (Lep.: Noct.) in Tomato fields. *Entomophaga*, 28, 401-405.
- Kuhnikannan, K. 1931. The mass rearing of egg parasites of sugarcane moth borers in Mysore. (Preliminary experiments). *J. Mysore Agric. Expt.*, 4, 57-61.

J. Biol. Control 1 (1), 73-74, 1984

Occurrence of Cytoplasmic Polyhedrosis Virus in Citrus Leaf Caterpillar, *Papilio demoleus* L. (Papilionidae : Lepidoptera)

K. NARAYANAN AND C. GOPALAKRISHNAN
Indian Institute of Horticultural Research
Hessaraghatta Lake post, Bangalore 560 089

The citrus leaf caterpillar, *Papilio demoleus* L. causes serious damage to citrus, especially in the nurseries. During the course of our field survey of citrus orchards at the Indian Institute of Horticultural Research Farm Bangalore, a cytoplasmic polyhedrosis virus (CPV) was isolated from a few dead caterpillars of *P. demoleus*.

The diseased caterpillars were reduced in size and phase contrast microscopic examination of the tissues revealed numerous polyhedral inclusion bodies. Occlusion bodies (OB) negatively stained with Giemsa revealed the more or less round shape of polyhedra. To determine the size of the OBs, one hundred polyhedra