

***Campoletis chlorideae* Uchida and its Hyperparasite *Brachymeria secundaria* (Ruschka) on *Helicoverpa armigera* Hubner from Solan, Himachal Pradesh**

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Field surveys undertaken in Himachal Pradesh since 1991 revealed that tomato crop suffered upto 56.7 percent fruit damage by *Helicoverpa armigera* Hubner (Anonymous, 1991.) Mathur (1970) reported four parasites of *H.armigera* from the State. In the present studies which were carried out at Solan (Himachal Pradesh), *Campoletis chlorideae* Uchida an ichneumonid and its hyperparasite *Brachymeria secundaria* (Ruschka) a chalcid have been recorded.

During April, 1992, the fruit damage due to *H.armigera* was 0-2.0% and in May it was 0-3.0%. By mid May, the fruit damage increased progressively and reached upto 11 per cent and by end of July fruit damage was as high as 39 per cent. While assessing infestation by *H.armigera*, larvae were collected and observed for parasitism. *C.chlorideae* was recorded for the first time from Himachal Pradesh.

C.chlorideae was found solitary in nature and adults emerged from larvae within 7-8 days. Adult longevity was 4-7 days on forty per cent honey diet. The parasitism ranged between 55.56 to 68.75 per cent from April to July 1992 (Table 1). Also field - collected parasitised material was observed to be hyperparasitized by a wasp. *B.secundaria* a chalcid. The adults

Table 1. Per cent parasitism of *H.armigera* by *C.chlorideae* and its hyperparasitism by *B.secundaria* during 1992

Month	Helicoverpa larvae		Para sitism %	Hyperpara sitism %
	Reared	Para sitised		
April	18	10	55.56	Nil
May	22	14	63.63	9.99
June	32	22	68.75	15.78
July	40	24	60.00	12.50

of the hyperparasite survived for 4-5 days on forty per cent honey. Per cent hyperparasitism ranged between 9.09 to 15.78 from May to July which seems to be a limiting factor in suppression of *H.armigera*.

Review of literature revealed that this hyperparasite has not been recorded from Himachal Pradesh on any of the insect hosts but it has been reported from other countries on other insect host (Thompson, 1955). However, Mishra *et al.* (1987) listed two hyperparasites of *C.chlorideae* but there is no mention of this hyperparasite. As such *B. secundaria* is a new hyperparasite of *C.chlorideae*.

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KEY WORDS: *Helicoverpa armigera*
Campoletis chlorideae,
Brachymeria secundaria

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