Campoletis Chlorideae Uchida an important endo-larvel parasitoid of Helicoverpa armigera (Hubner)

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REVIEW OF LITRETURE

The literature pertaining to occurrence of C. Chlorideae and its importance was collected and is presented here under.

1. Occurrence of C. chlorideae

C. Chlorideae was reported from Gujarat, Uttar Pradesh and West Bengal, Madhya Pradesh (Achan et al., 1968, Rao, 1968, Patel and Patel, 1972, Gargrade, 1964).

In India during 1973–83, C. chlorideae was the most common parasitoid of H. armigera. The parasitism by C. chlorideae was studied at Anand, Gujarat. Parasitism by C. chlorideae was lower in pesticide treated crops than in untreated crops.

2. Economic importance

Patel and Yadav (1982) reported seasonal occurrence of C. chlorideae at Anand during three season during 1972–73, 1973–74 and 1974–75. The parasitoid began its activity towards the second week of September on Tomato. This synchronized with the activity of H. armigera. Optimum parasitism was recorded during December, January and February.

According to Achan et al. (1968) Ecphoropsisperdistinctus now C. chlorideae appeared to be the dominant parasite attacking both H. armigera and H. assulta. They mentioned that it was recorded from H. armigera from widely separated states in India having very diverse climates. It is therefore, possible that this parasite may be capable of adapting itself to a wide range of ecological conditions. According to them, C. chlorideae has the longest period of activity i.e. occurring almost throughout the year in one state or the other where H. assulta and H. armigera are present at any level of host population density. Further, it was reported that hyper parasitism by the Chalcids, Brachymeria sp. And B. excarinata was low but they by Eurytomid, Aximopsis sp. Reached a maximum of 60 per cent in Piparia (Madhya Pradesh). Despite this hyperparasitism, every year percentage of parasitism by C. chlorideae in this locality was high, reaching a maximum of 80 per cent.

Bipatate (1981) reported that C. chlorideae was the most important mortality

parameter in all five generation on cotton. These studies were carried out in Maharashtra, India in 1980–81.

Yadavand Patel (1982) reported that C. chlorideae was potential larval parasitoid of H. armigera in potato fields at Anand. It was able to regulate H. armigera population in association with eggs parasitoid Tricogrammachilonis. However, its efficiency in tomato was wanting and they emphasized supplementation of C. chlorideae during critical period when its number is low.

Pawar et al. (1989) reported that 10 species of hyper parasitoids were recorded from cocoon of C. chlorideae with hyper parasitism being about 40 per cen t in cereals and 10 per cent in legumes. The C. chlorideae was the most common parasite in Andhra Pradesh, Karnataka and Maharashtra.

Prasad et al. (1989) reported that the rate of parasitism by C. chlorideae was high (50–53 per cent) on chick pea in Bihar, India.

Srinivas (1989) reported that C. chlorideae, very active in chickpea fields Tamil Nadu, India. It was caused as much as 43.9 per cent parasitism in the larvae of H. armigera.

Nikam et al. (1991) Reported Campoletischlorideae was determined using 0–1 to 9–10 days old larvae of Helicoverpaarmigera. Maximum parasitoid emergence (137) occurred from 4–5 days old larvae (45.66% parasitism). There was a significant correlation between the age of host larvae and percentage parasitism.

Dubey et al. (1993) reported that in Madhya Pradesh, the larval paraitoid C. chlorideae reduced the larval population of H. armigera in chickpea pea and tomato fields.

Sachan and Bhaumic (1998) reported the extent of natural parasitization by C. chlorideae in H.armigera on chickpea in Uttar Pradesh, India varied between 12.96 and 56.28 per cent, during 1995–96, and 3.37–80.64 per cent, during 1996–97, Parasitization recorded during 1995–96 was 37.17, 46.10, 42.67,16.16 and 26.1 per cent during the November, December, January, February and march, respectively.

Dhembare (1999) conducted a laboratory experiment to determine the suitability of host age of Helicoverpaarmigera by its larval parasite CampoletisChlorideae. In this study, the second instar larvae of Harmigera was found most effective which gave highest (45%) parasitization.

Devy et al. (2002) reported that C. chlorideae was recorded as the most important natural enemy of the pest H. armigera on chick pea in Manipur.