

P.15 - Colonization and establishment of *Encarsia flavoscutellum* in Southern India

Mallapur, C.P., Rabindra, R.J., Tippannavar, P.S., Sharanabasappa Kambrekar, D.N.

Among the sugarcane growing countries in the world, India ranks second by contributing 20.4 percent area and 18.6 percent production. The cane yield is markedly influenced by many factors. Among them, pests are known to inflict considerable losses. The sugarcane woolly aphid (SWA), *eratovacuna lanigera* (Homoptera : Aphididae) has been the latest threat to sugarcane crop. Though synthetic insecticides are effective, they do not find place in sugarcane ecosystem for reasons like operational hazards during application and improper spray coverage of crop canopy after seven months. Hence, biological control for the management of SWA is the most ideal approach. The predators *Micromus igorotus* and *Dipha aphidivora* have been employed to combat the pest menace. The large scale production and field release of these potential predators helped to suppress the pest population to certain level. Meanwhile, in a survey made in North Eastern India particularly in Assam state, the aphelinid endoparasitoid *Encarsia flavoscutellum* was found abundantly infesting SWA colonies. The parasitised SWA collected from Assam were released to aphid colonies at Agriculture Research Station, Sankeshwar during May 2005. The recovery studies made in June, July, August and September 2005 did not evidenced the establishment of the parasitoid. However, during August 2006, the activity of *E.flavoscutellum* was observed not only in Sankeshwar but also in neighboring taluks and districts indicating that the parasitoid slowly established and spread gradually to other places late in the season during 2005 itself. The activity of this potential parasitoid in Northern Karnataka was monitored through roving survey made in 2006 and 2007. The parasitoid established well at all the places of sugarcane growing areas. Upto 46.18 and 27.90 per cent parasitisation of SWA by *E. flavoscutellum* was observed in November and September respectively, during 2006 and 2007. The incidence of *E. flavoscutellum* varied from 0-140 adults/aphid infested sugarcane leaf in Assam. In general, the rate of parasitisation was lower during 2007 as the incidence of SWA was quite low which could be due to heavy parasitisation occurred in the previous year. This success story can be considered as a case study in biological control.