The pulses are an important source of protein and essential adjuncts to a predominantly cereal based diet. The protection of pulse crops from the lepidopterous pests like, *Heliothis armigera* (Hubner), *Exelastis atomosa* Walsingham, etc. remains a chronic problem. The introduction of high yielding varieties have also increased the pest problem. The pesticides cause many serious problems. Hence, control of the above pests by natural enemies will form positively an encouraging factor for hoping the maximum yield which will meet the necessary requirements for nourishment of the increasing human population throughout the world.

In recent years, biological control has received considerable attention from persons concerned with the pest management and environment as is alternative to chemical control and preventive to pesticide pollution. The success of biological control is dependent on ethology; especially on reproductive behaviours of biocontrol agents. The four parasitoids, viz., *Cotesia dulini* Rao & Nikam, a larval parasitoid of *Exelastis atomosa* Walsingham, *Campoletis chlorideae* Uchida and the *Eriborus argenteopllosus* (Cameron), larval parasitoids of *Heliothis armigera* (Hubner) and *Apanteles prodeniae* Viereck, a larval parasitoid of *Spodoptera litura* (Fabricius) were selected for the present study.

The thesis has been divided into ten chapters. The first chapter, general introduction narrates, i) national & international status of the present work ii) systemic position, distribution etc. of the parasitoids
and their hosts and iii) a review of literature. The second chapter is devoted to general material & methods and to rearing of the parasitoids & their hosts. The third chapter deals with the survey and surveillance of the parasitoids and their hosts. The fourth chapter provides a detailed account on mating behaviour viz., premating, mating & postmating. The fifth chapter describes the oviposition behaviour viz., preoviposition, oviposition and postoviposition. The sixth chapter presents a detailed information on superparasitism in the parasitoids. The seventh chapter narrates the host specificity of parasitoids. Chapter eight comprises the information about host age selection by the parasitoids. The ninth chapter emboldes one of the recent findings on host and host food plant factors, that elicits searching and parasitization behaviours in the female parasitoids. The last chapter provides general summary of the present work. The bibliography has been given at the end of the thesis followed by four published research papers.

The findings would be useful in augmentation and field release of parasitoids in biological control programmes. Further, the study explores several avenues for future research in the field of biological control with special reference to the reproductive behaviour of parasitoids.

I assume responsibilities for the opinions expressed in the present and also omissions and errors; if any in the body of the thesis. I feel and hope that many of the researchers both from India and abroad will find the present thesis interesting and stimulatory.

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