

PREFACE

Of the plantation crops, tea is rated very high in economic scale. So the tea-growing countries including India can not afford any loss of this crop. Tea in Darjeeling terai is grown in good quantity and is subjected to pest attack from very young stage. In view of the wide spread concern that regular quota of chemical pesticides is being taken along with cups of tea and the environmental problems arising out of routine use of pesticides in tea gardens, an alternative pest control measure has become imperative. An acceptable option would be to introduce biological control of tea pests using natural enemies or integrate biological control measures as components of a more comprehensive pest management programme. Such a planning require information on the tea-pests and their associated enemy complex from an agroclimatic region.

The present study tries to unravel and evaluate some of the hitherto unknown facts and phenomena relevant for contemplating IPM programme, specially for some of the key tea-pests of Darjeeling terai. This thesis comprises 8 chapters covering various aspects. Besides the conventional chapters on introduction, literature review and materials & methods, chapter 4.1 reveals the nature of colonization and population abundance of three key tea-pests on three different age group (nursery, young, and mature) of tea plants. The chapter also gives an idea of degree of infestation and

rates of population increase on four Tocklai clones (varieties). Chapter 4.2 tells about the successful laboratory breeding of a polyphagous predator recorded as a local natural enemy of crop pests. In chapter 4.3, evaluation of feeding behaviour of this predator on laboratory designed diet and tea pests has been included. IPM programme leaves the option for limited use of chemical pesticides along with biocontrol agents. Chapter 4.4 covers the effect of two such common tea pesticides on the biological performance of the predator. The thesis finally offers a discussion on the above chapters followed by a summary and highlights of the work. I trust, the present findings will give a first hand idea for any future possibility of biological control of tea pests as a part of integrated pest management from Darjeeling terai.