SUMMARY

Potential hosts of egg parasitoids were collected from vegetables grown in home gardens, small scale commercial plots of vegetables, experimental plots in research institutes and from a forest reserve. The Western province had the most number of sampling sites with a few distributed among the North Western, Central and Sabaragamuwa provinces. Six species of parasitoids were identified and there is a likelihood of two or three more species being identified from Sinharaja and Kurunegala. *Telenomus talaus, T. stigis, T. dignus\pontus* (Scelionidae), *Ooencyrtus* sp. (Encyrtidae), *Anastatus* sp. (Eupelimidae) and *Trichogrammatiodea* sp (Trichogrammatidae) constitute the specimens identified at present. *T.talaus* was prominent in being recorded from eight locations. Hosts were all lepidopterans, mostly minor pests with the exception of one, *A. segetum* which is a serious outbreak pest of many vegetables. No hosts were multi parasitised. Point estimates of field parasitism by *T.talaus* and *T. stigis* indicate persistence in the field. Other parasitoid species were rare. All except two species were gregarious. Field sex ratios are female biased with all female broods present. Laboratory studies on natural, alternate and factitious hosts show the ease with which *T. talaus* could be reared on the first two categories of hosts. In 'no choice' presentations of hosts, *Corcyra cephalonica* , a factitious host was rejected by all parasitoids for parasitism.

T. talaus also did not attack the eggs of *Eurema hecabe* and showed low levels of attack of *P. polymnestor* eggs. The general trend appeared to be that natural hosts on which the parasitoids developed in the field were accepted readily in the laboratory but not some even though closely related to natural hosts.

Brood sizes are related to host size, larger hosts yielding larger broods with a greater range of brood sizes. Superparsitism was detected in the field and laboratory. Body sizes estimated by measuring tibia lengths, longevity and fecundity were selected as characteristics investigated in the laboratory. Males are smaller than females and lived less longer. Provision of food to

both sexes increased the longevity in *T. talaus* and *T. stigis*. The effect of increased longevity is more important in the females which are the biocontrol agents. Fecundity (number of eggs in oviducts) was poorly predicted by the tibia length of female *T. talaus*. Host handling behaviour reveals no defensive behaviour by *T. talaus* females. Components of host handling behaviour are broadly similar to those reported from other species of scelionids.

This study is considered as one which lays a foundation to study the potential of *T. talaus* further as a bio-control agent which can be used in a control programme. *T. stigis* and *T. dignus*\ *pontus* also should be investigated further. The confusion which prevails in the taxonomy of egg parasitoids, the lack of insect taxonomic expertise in this country, both of which are aggravated by the difficulty of access to taxonomic services from overseas specialists and to published literature at the time it is required remain formidable obstacles to carrying out successful surveys of egg parasitoids in Sri Lanka.