BIOLOGICAL AND ECOLOGICAL STUDIES ON CERTAIN PARASITOIDS OF CORN BORERS

By

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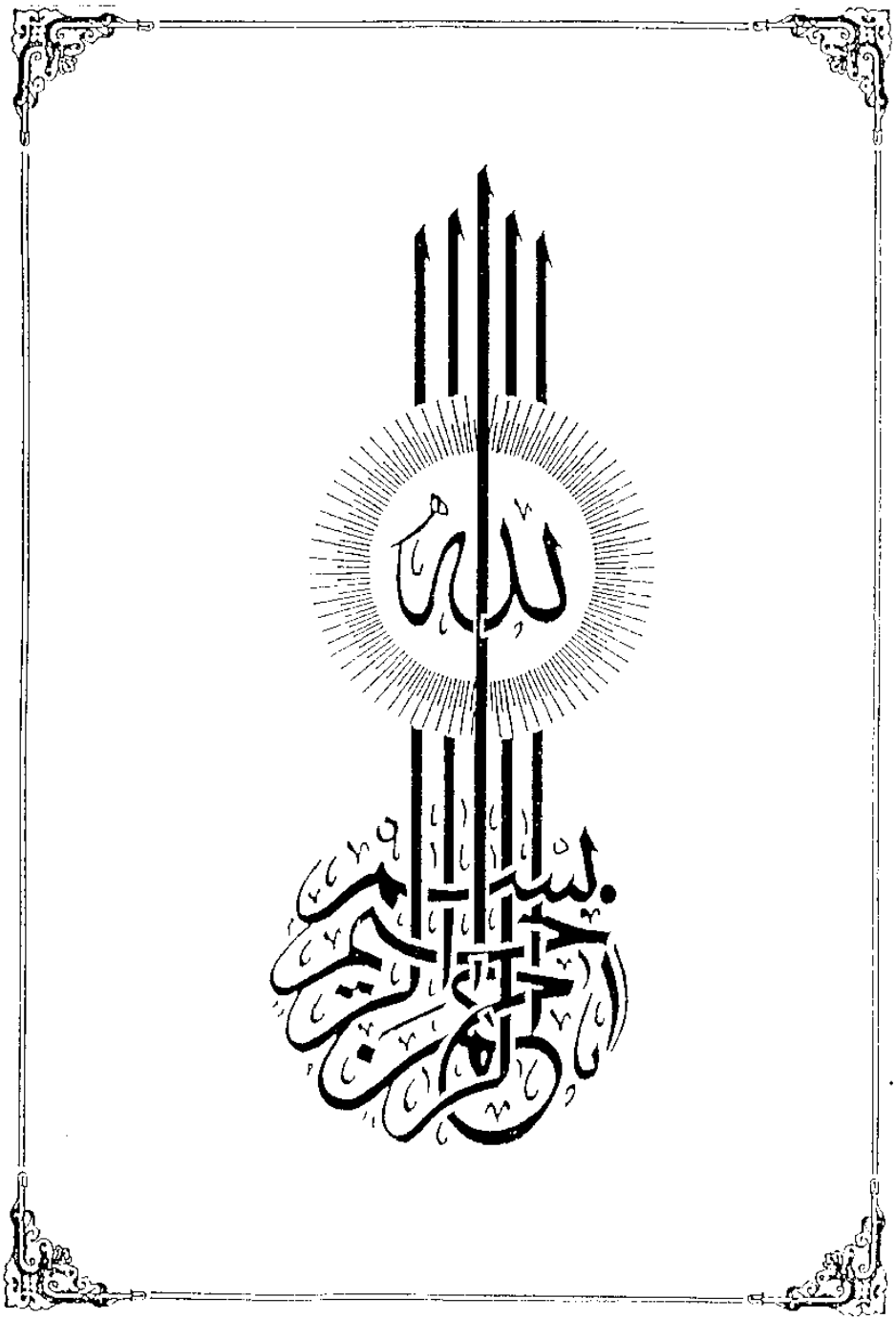

In the name of Allah, the Greatful, the Merciful.

Peace and blessings be upon Mohamed, the prophit of Allah. May Allah accept this work for his sake and benifit anyone who reads it.

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Abstract

Biological and ecological studies serving the mass rearing and field utilization of the ectolarval parasitoid Bracon brevicornis and the egg parasitoid Trichogrammaa nubilale in suppressing the corn bores were carried out in Egypt and U.S.A.

Studies on B. brevicornis included biological aspects of the parasitoid on the host larvae of Ostrinia nubilalis, the attraction of the parasitoid to the kairomones of O. nubilalis and Sesamia cretica larvae as well as the sex pheromone of O. nubilalis. A simple and economic technique for mass rearing the parasitoid on the host larvae of O. nubilalis has been achieved. A method for

preserving the parasitoid adults for up to 18 weeks has been given. The interaction between B. brevicornis and the pathogenic microsporidium Nosema pyrausta was also studied. Several field release studies were conducted aiming to evaluate and enhance the role of B. brevicornis in the biological control of corn borer larvae either during the hibernation or the active season. The parasitoid showed considerable efficiency in suppressing the larvae of O. nubilalis as well as S. cretica in the field. The application of the kairomone of S. cretica larvae or the molasses (10%) enhanced the efficiency of the released parasitoids in the field.

Studies on T. nubilale revealed that the infection with the microsporidium N. pyrausta had some adverse effects on the parasitoid development. It reduced the number and the body size of the parasitoids as well as their efficiency in suppressing the European corn borer in the field. The combined effect of the egg parasitoid and the microsporidium in suppressing the European corn borer was studied. The parasitoid was more effective than the microsporidium in the field.

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