I. INTRODUCTION

The larvae of the Syrphidae show predaceous, phytophagous and saprophagous habits. The saprophagous forms include the aquatic and semi-aquatic rat-tailed larvae. Some of the phytophagous larvae are minor pests in North America and Europe. The predaceous Syrphidae are of world-wide occurrence, and as the larvae feed mainly on Homoptera, they are of some benefit to agriculture.

The object of this survey was to secure biological information regarding the predaceous Syrphidae of this area, including their range of host-insects and the plants on which the latter occur. As is essential in work of this nature, most of the available time has been in the field, with laboratory work kept to the minimum. Seven species were found in the area, viz., Baccha gastrostacta (Wied.), B. dimidiata (F.), B. clavata (F.), B. zeteki Curran, B. stenogaster Will., Mesogramma arcifera Loew., and the seventh species, as yet unidentified, which has been designated "Species K". In order to facilitate recognition, their main characters, and brief descriptions of the immature stages have been given where possible. Amongst the collection in the Department of Entomology, I.C.T.A., there is a single specimen of Xanthogramma sp., which was collected in the St. Augustine district as a larva feeding on aphids on cabbage. I have not found this species during the course of the investigation.

Two main difficulties were encountered. The first was connected with the variability in the size and colour patterns of groups of adults which came from identical larvae and puparia. Recourse to microscopic examination of the genitalia of the adults indicated that this variation was occurring within the species. This has been confirmed by the reply from Mr. W. W. Wirth of the U.S.D.A., giving the identifications of a series of specimens which I sent to him. The second difficulty arose out of the fact that adults are very active, exhibiting in addition to their normal flight, a series of swift darting movements which usually begin from, and end with, a period of almost motionless hovering. This is typical not only of feeding but also of pre-mating activity, and the inability to provide sufficient room in captivity to allow this to take place probably accounts for the lack of success in breeding work.

During the investigations into the Froghopper-Blight of

Sugar Cane in Trinidad, the details of the biology of Salpingogaster nigra Schiner, were worked out by Guppy (1913), Williams (1921) and Pickles (1933). For this reason it was deemed unnecessary to deal with this species in the survey. In any case it was not found on the sugar-cane at the New College Farm.

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