

A STUDY OF THE ARROWROOT LEAF ROLLER (CALPODES ETHLIUS),
(CRAMER) WITH SPECIAL REFERENCE TO ITS PARASITES.

INTRODUCTION

Systematic Position and Geographical Distribution.

Calpodes ethlius, (Cram.) the "arrowroot leaf roller" is a skipper butterfly of the family Hesperidae. It has a wide distribution which extends from the South East states of North America to Mexico, Central and South America to the Argentine and throughout the West Indies.

Host Plants and Pest Status.

Calpodes is known to attack Maranta arundinacea, the cultivated arrowroot and Maranta indica, the wild arrowroot, of the family Marantaceae, and Canna indica, the cultivated garden Canna, and Canna edulis, the wild Canna, of the family Cannaceae. Both these families belong to the order Scitamineae.

Calpodes is a pest of economic importance only in St. Vincent, for it is the only place where arrowroot is grown as a major crop, and it is a constant source of trouble there its larvae defoliating the arrowroot plants.

Myers has discussed the problem with arrowroot planters and found some who believed that "leaf roller" attacks inflicted no losses at all on the crop but it has now been proved experimentally that this belief is erraneous.

The main economic loss produced by attacks would seem to be the reduction of starch in the rhizomes by the production of new shoots to replace the foliage destroyed. These new shoots are attacked more than old leaves thus a new

cycle of attack is initiated and a vicious circle is set up. An indirect loss is also brought about by the cost of weeding since the cover is opened up by defoliation and more weeds gain entry.

except the bare recording by Irish, has been written on the species of *Juniperus* studied. There is