

A PHYTOPHAGOUS CHALCID WASP¹
(EURYTOMIDAE: HYMENOPTERA)

G. W. DEKLE

INTRODUCTION: A CHALCID WASP (EURYTOMA SP.) (FIG. 1) THAT INFESTS THE LEAF OF RHYNCHOSTYLIS GIGANTEA (LINDLEY) RIDLEY (FIG. 2), A FOX-TAIL ORCHID NATIVE TO THAILAND, WAS COLLECTED BY PLANT SPECIALIST DENNIS C. CLINTON IN A BROWARD COUNTY NURSERY OCTOBER 20, 1966. MR. CLINTON SUBMITTED LEAF SAMPLES INFESTED WITH LIVE LARVAE AND PUPAE, AND DEAD ADULTS. ADULT FEMALE WASPS WHICH EMERGED FROM THE INFESTED LEAF SAMPLES WERE SENT TO DR. B. D. BURKS, SYSTEMATIC ENTOMOLOGIST, INSECT IDENTIFICATION AND PARASITE INTRODUCTION RESEARCH BRANCH, USDA, WASHINGTON, D. C., WHO CONFIRMED THE IDENTIFICATION. A FEW DAYS LATER, A MIAMI NURSERYMAN SENT SPECIMENS OF THIS WASP TO THE DIVISION OF PLANT INDUSTRY FOR IDENTIFICATION AND CONTROL RECOMMENDATIONS. THE NURSERYMAN HAD REARED THE ADULTS FROM INFESTED LEAVES OF R. GIGANTEA (LDL.) RIDL. IMPORTED FROM THAILAND. A SURVEY IS BEING CONDUCTED FOR THIS WASP IN ALL ORCHID NURSERIES.

DESCRIPTION: THE WASP IS ABOUT 2.5 MM IN LENGTH, BLACK, WITH A WING EXPANSE OF ABOUT 3 MM (FIG. 1). THE THORAX IS COARSELY PUNCTATE, AND THE WINGS APPEAR TO BE QUITE DELICATE AND TRANSLUCENT. THE LARVAE AND PUPAE ARE WHITE.

FIELD OBSERVATIONS: THE FEMALE WASP DEPOSITS THE EGG DIRECTLY INTO THE LEAF TISSUE. AFTER THE EGG HATCHES, THE LARVAE COMPLETES ITS DEVELOPMENT WITHIN THE LEAF. THE ADULT LATER EMERGES FROM INSIDE THE LEAF BY CUTTING AN EXIT HOLE IN THE LEAF EPIDERMIS. EACH OVIPOSITION SITE ON THE LEAF IS REFERRED TO AS A STRIKE (FIG. 3). EACH STRIKE MADE BY THE ADULT FEMALE RESULTS IN A CHARACTERISTICALLY DARKER GREEN RING-SPOT ABOUT 3 MM IN DIAMETER, CLEARLY VISIBLE WITH THE NAKED EYE. MANY STRIKES MAY OCCUR ON A SINGLE LEAF. IF THE RING-SPOT IS EXAMINED WITH A HAND LENS, A PIN-POINT BLACK CENTRALLY LOCATED DOT IS FOUND (FIG. 3). THIS IS THE LEAF SCAR PRODUCED BY THE FEMALE AT THE TIME OF EGG DEPOSITION. SEVERELY INFESTED LEAVES ARE DISTORTED AND CHLOROTIC.

ECONOMIC IMPORTANCE: PERMANENT LEAF INJURY RESULTS FROM LARVAE FEEDING WITHIN THE LEAF (FIG. 4). OLD STRIKES DISTRACT FROM THE NATURAL CHARACTERISTICS OF THE HOST AND RESULT IN AN UNSIGHTLY PLANT. R. GIGANTEA (LDL.) RIDL. IS THE ONLY SPECIES OF THE GENUS THAT HAS BEEN FOUND INFESTED IN FLORIDA.

DISTRIBUTION: THIS WASP HAS BEEN RECENTLY INTRODUCED FROM THAILAND. IT HAS BECOME ESTABLISHED IN SEVERAL LOCALITIES IN FLORIDA. POSITIVE ACTIVE FINDS HAVE BEEN RECORDED FROM BROWARD, DADE AND ORANGE COUNTIES.

CONTROL: FUMIGATE PLANTS WITH 3 POUNDS METHYL-BROMIDE PER 1000 CU. FT. FOR 1½ HOURS AT 87 F WITH 15 INCH VACUUM. HOMEOWNERS SHOULD REMOVE AND DESTROY INFESTED LEAVES BY BURNING.

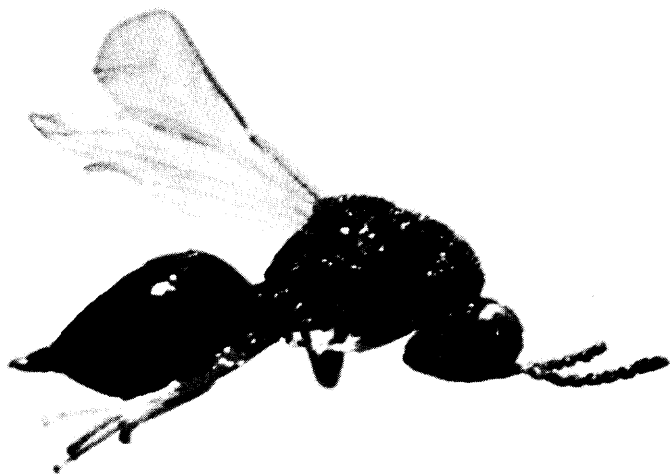


FIG. 1 ADULT WASP ENLARGED (x 28).



FIG. 2. A FOX-TAIL ORCHID RHYNCHOSTYLIS GIGANTEA (LDL.) RIDL.

¹CONTRIBUTION No. 103, ENTOMOLOGY SECTION.



FIG. 3. LEAF SECTION WITH RING-SPOT. ARROWS POINT TO OVIPOSITION LEAF SCAR (X 10).

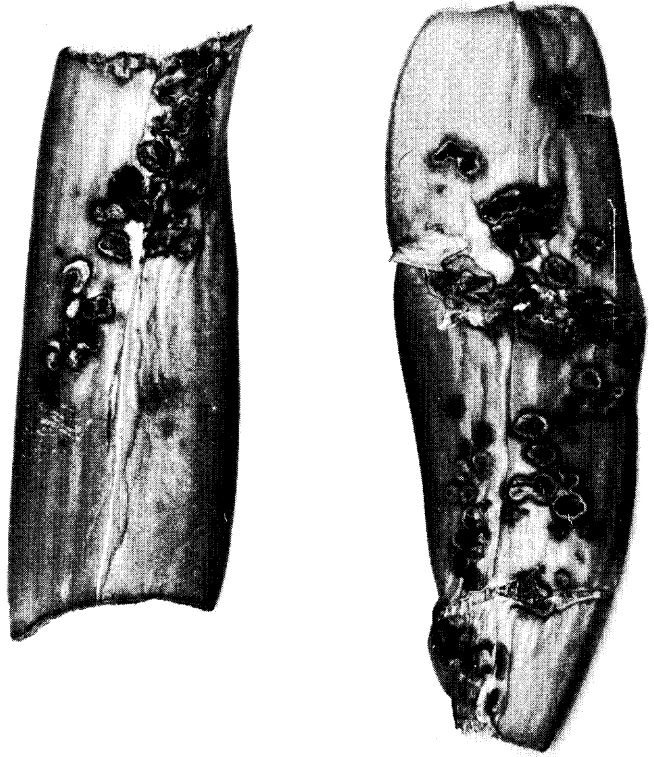


FIG. 4. LEAF INJURY CAUSED BY CHALCID WASP.