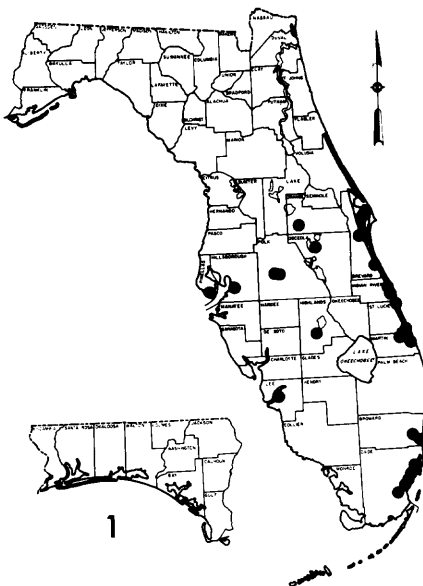


AN AVOCADO WEEVIL (HEILIPUS APIATUS OLIV.)¹
(COLEOPTERA: CURCULIONIDAE)
ROBERT E. WOODRUFF

INTRODUCTION: HEILIPUS APIATUS OLIV. PROBABLY OCCURS THROUGHOUT FLORIDA, BUT OUR RECORDS ARE CONFINED TO AVOCADO IN THE SOUTHERN HALF OF THE STATE. HOWEVER, IT PROBABLY HAS A WIDER DISTRIBUTION AND HOST RANGE.

BIOLOGY: LITTLE IS KNOWN ABOUT THE BIOLOGY OF THIS SPECIES, BUT ADULTS HAVE BEEN COLLECTED EVERY MONTH OF THE YEAR. IN SOUTH FLORIDA IT IS LIKELY THAT MORE THAN ONE GENERATION OCCURS PER YEAR. EGGS ARE DEPOSITED AT THE BASE OF TREES AND THE LARVAE BORE INTO THE CAMBIUM WHERE THEY OFTEN GIRDLE THE TREE. THE BURROWS ARE USUALLY CONFINED TO THE ROOTS AND RARELY EXTEND VERTICALLY INTO THE TRUNK. THEIR PRESENCE IS OFTEN INDICATED BY PILES OF REDDISH, POWDERY FRASS WHICH THE LARVAE PUSH OUT OF THEIR BURROWS AND WHICH ACCUMULATES AT THE BASE OF THE TREE. THE ADULTS ARE KNOWN TO FEED ON THE FRUIT, MAKING PITTED SCARS, AND THEY PROBABLY ALSO FEED ON TWIGS AND LEAVES. THREE RELATED SPECIES ARE LISTED AS PESTS OF THE AVOCADO IN CENTRAL AMERICA (H. LAURI BOH. FROM MEXICO; H. PITTIERI BARBER FROM COSTA RICA; AND H. PERSEAE BARBER FROM PANAMA). HEILIPUS APIATUS HAS PREVIOUSLY GONE UNDER THE NAME H. SQUAMOSUS LEC., AND H. FARINOSUS PANZ. IS LISTED AS A PROBABLE SYNONYM.

DISTRIBUTION: OUR RECORDS INDICATE THE FOLLOWING DISTRIBUTION IN FLORIDA (FIG. 1): ALLENHURST, AUBURNDALE, BLANTON, COCOA, COURTENAY, DANIA, DAVIE, DOCTOR PHILLIPS, FLORIDA CITY, FORT MYERS, FORT OGDEN, GOULDS, HOMESTEAD, JENSEN BEACH, KISSIMMEE PARK, LAKE ALFRED, LAKE PLACID, MALABAR, MERRITT, MIAMI, PERRINE, RIVERVIEW, ROSELAND, ST. PETERSBURG, SALERNO, SHILOH, SOUTH MIAMI, STUART, VERO BEACH, WABASSO. THE GENUS HEILIPUS IS PRIMARILY TROPICAL AND CONTAINS 328 SPECIES IN CENTRAL AND SOUTH AMERICA. APPARENTLY H. APIATUS IS THE ONLY SPECIES ESTABLISHED IN THE UNITED STATES WHERE IT HAS BEEN RECORDED FROM GEORGIA, TENNESSEE, AND FLORIDA. IT IS LISTED FROM ARGENTINA AND FRENCH GUIANA BY VARIOUS AUTHORS, BUT THESE RECORDS NEED CONFIRMATION.



HOSTS: IN FLORIDA THIS WEEVIL HAS BEEN RECORDED ONLY FROM AVOCADO BUT THERE ARE PROBABLY SEVERAL OTHER HOSTS. ELSEWHERE IT HAS BEEN COLLECTED ON SATSUMA ORANGE, COTTON, BUDDING SHOOTS OF SASSAFRAS, AND UNDER PINE BARK.

DESCRIPTION: THE ADULT WEEVIL HAS A VERY STRIKING BLACK AND WHITE COLOR PATTERN (FIG. 2) AND IS APPROXIMATELY ONE-HALF INCH IN LENGTH. THE GENERAL SHAPE IS ELONGATE, CONVEX WITH THE THORAX NARROWER THAN THE ELYTRA (WING COVERS). THE SNOUT IS SLIGHTLY LONGER THAN THE THORAX AND SHARPLY DECURVED. THE WHITE PORTION OF THE IRREGULAR COLOR PATTERN IS FORMED BY MINUTE WHITE SCALES ON A BLACK BACKGROUND. THESE SCALES CAN BE RUBBED OFF PRODUCING VARIATION IN THE COLOR PATTERN. EVEN THOUGH NO TWO SPECIMENS HAVE BEEN SEEN WITH EXACTLY THE SAME PATTERN, THEY WILL BE VERY NEAR THAT ILLUSTRATED IN FIG. 2. THIS PATTERN IS UNLIKE THAT IN ANY OTHER FLORIDA WEEVIL.

ECONOMIC IMPORTANCE: THIS WEEVIL HAS BEEN REPORTED AS SPORADICALLY CAUSING DAMAGE ON AVOCADOS SINCE 1939 IN FLORIDA. OCCASIONALLY TREES ARE KILLED BY LARVAL GIRDLING, AND LOSSES HAVE BEEN AS HIGH AS 10% IN INDIVIDUAL GROVES. ALTHOUGH ADULTS FEED ON THE FRUIT, THEY ARE SELDOM OF ECONOMIC IMPORTANCE. YOUNG TREES SHOW MORE DAMAGE THAN MATURE ONES, BUT THERE IS PROBABLY NO CORRELATION WITH WEEVIL PREFERENCES. (FOR ADDITIONAL INFORMATION SEE: WOLFFENBARGER, D. O. 1948. HEILIPUS SQUAMOSUS LEC., A NEW ENEMY OF THE AVOCADO, PROC. FLORIDA STATE HORT. SOC. 61: 260-264.)

¹CONTRIBUTION No. 19, ENTOMOLOGY SECTION