

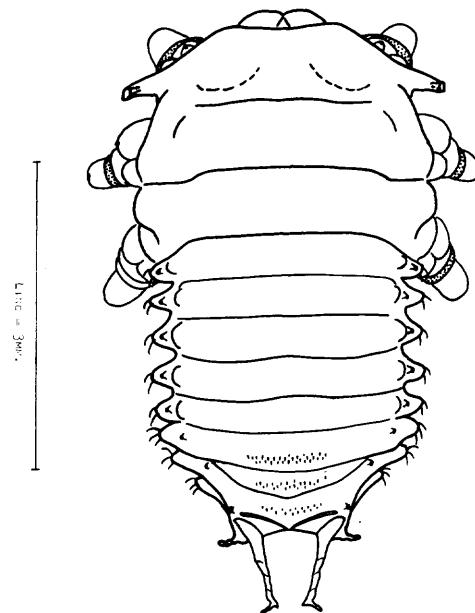
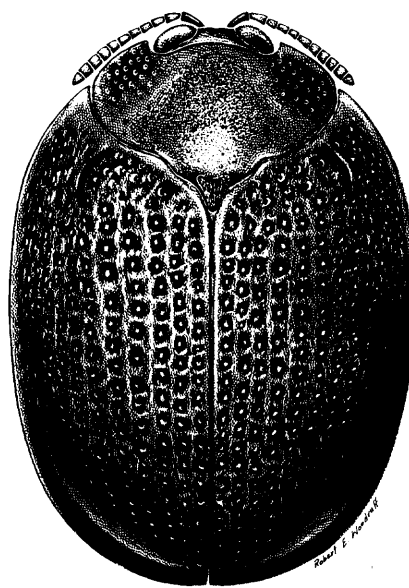
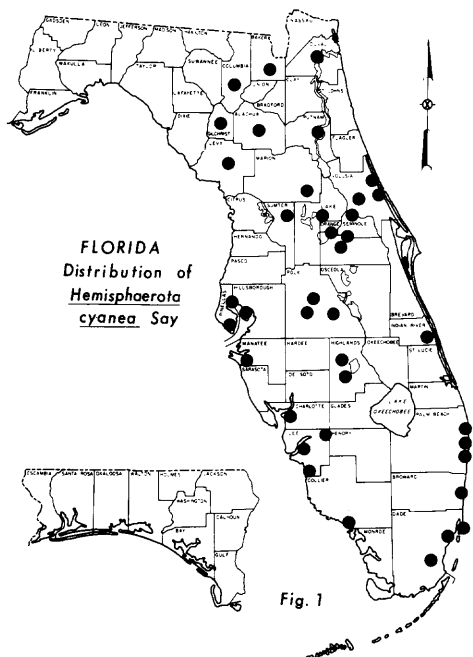
A TORTOISE BEETLE (HEMISPHAEROTA CYANEA (SAY)) ON PALMS IN
FLORIDA (COLEOPTERA : CHRYSOMELIDAE)^{1/}

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INTRODUCTION: HEMISPHAEROTA CYANEA (SAY) IS A COMMON, BLUE TORTOISE BEETLE IN FLORIDA THAT OCCASIONALLY CAUSES MINOR DAMAGE TO VARIOUS PALMS. EACH LARVA FORMS A CASE FROM STRANDS OF FECAL MATERIAL IN WHICH IT IS CAMOUFLAGED.

DESCRIPTION: THE ADULT IS $\frac{3}{16}$ OF AN INCH IN LENGTH, GUN-METAL BLUE TO PURPLE IN COLOR, AND RESEMBLES A TORTOISE IN SHAPE AND COMPACTNESS (FIGS. 2, 4B). THE ELYTRA ARE DEEPLY PITTED WITH CONVEX RIDGES BETWEEN THE PITS. THE ANTENNAE ARE YELLOW EXCEPT THE BLACK BASAL SEGMENT. THE HEAD IS OFTEN NEARLY CONCEALED BENEATH THE PRONOTUM. THE TARSAL SEGMENTS ARE PRODUCED LATERALLY AND HAVE A SUCTION ARRANGEMENT ON THE FLATTENED VENTER. THE LARVA (FIG. 3) IS A YELLOWISH TO WHITE GRUB WITH LATERAL ABDOMINAL PROJECTIONS.^{2/} THE ABDOMEN IS ALSO FITTED WITH A STRUCTURE CALLED A FECAL FORK WHICH HOLDS THE CASE IN POSITION. THE CASE (FIG. 4A) IS COMPOSED OF STRANDS OF FECAL MATERIAL ARRANGED IN A CIRCULAR FASHION AND RESEMBLING PLANT FIBERS.

BIOLOGY: THE LIFE HISTORY HAS NOT BEEN INVESTIGATED THOROUGHLY. THE ADULTS AND LARVAE FEED ON PALM FOLIAGE, AND PUPATION OCCURS WITHIN THE LARVAL CASE. ADULTS HAVE BEEN FOUND IN EVERY MONTH OF THE YEAR IN FLORIDA.



HOSTS: THIS SPECIES IS APPARENTLY RESTRICTED TO SPECIES OF PALMS, BOTH NATIVE AND EXOTIC. HOWEVER, IT HAS BEEN FOUND ON ACOELORRHAPHE WRIGHTII (GRISEB. & WENDL.) WENDL. EX BECCARI, ARECASTRUM ROMANZOFIANUM (CHAM.) BECC., CHAMAEROPS HUMILIS L., COCOS NUCIFERA L., SABAL ETONIA SWINGLE, SABAL MINOR (JACQ.) PERS., SABAL PALMETTO (WALT.) LODD., SERENOA REPENS (BARTRAM) SMALL, WASHINGTONIA ROBUSTA WENDL.

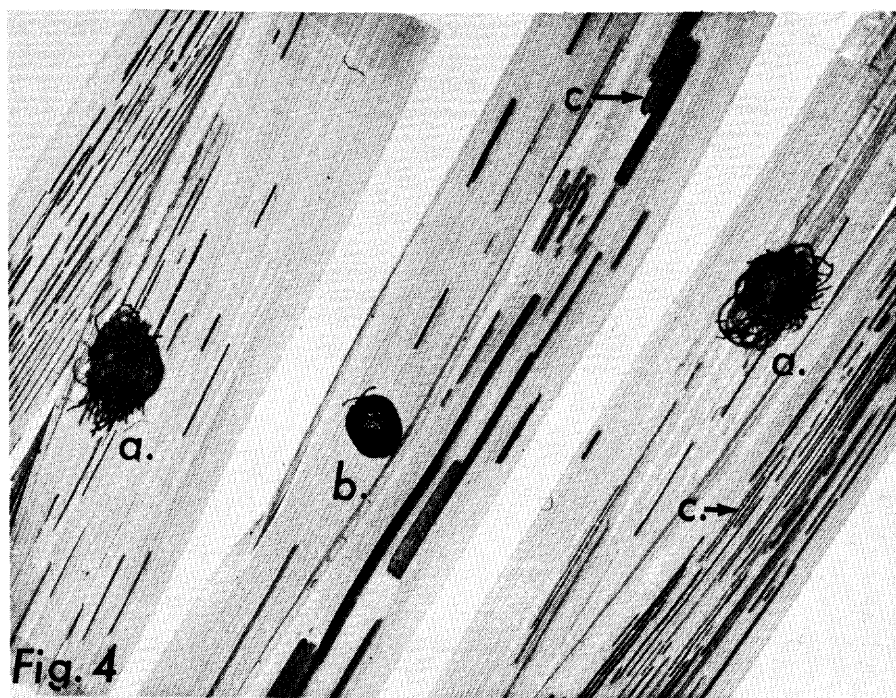
ECONOMIC IMPORTANCE: ALTHOUGH NOT REPORTED AS A SERIOUS PEST, THE ADULTS AND LARVAE PRODUCE FEEDING SCARS ON THE LEAVES (FIG. 4c). THEY HAVE BEEN FOUND IN LARGEST NUMBERS ON THE NATIVE SABAL PALMETTO AND SERENOA REPENS.

^{1/} CONTRIBUTION NO. 55, ENTOMOLOGY SECTION.

^{2/} THE AUTHOR WISHED TO THANK DR. M. W. SANDERSON, ILLINOIS NATURAL HISTORY SURVEY, FOR FURNISHING THE ILLUSTRATION OF THE LARVA.

DISTRIBUTION: THIS SPECIES IS KNOWN ONLY FROM GEORGIA AND FLORIDA, ALTHOUGH IT MIGHT OCCUR IN OTHER GULF STATES WHERE PALMS ARE FOUND. IT HAS BEEN REPORTED FROM KENTUCKY BUT PROBABLY IN ERROR SINCE NO PALMS GROW THERE. IN FLORIDA IT HAS BEEN FOUND IN THE AREAS INDICATED IN FIG. 1. IT IS SURPRISING THAT THERE ARE NO RECORDS FROM THE WESTERN PANHANDLE. THE FLORIDA RECORDS ARE AS FOLLOWS: ALVA, AVALON, BARTOW, BASSENGER, BAY LAKE, BONITA SPRINGS, BOYNTON BEACH, BUENO VISTA, COLUMBIA CO., DELAND, DAYTONA BEACH, EVERGLADES, FEDERAL POINT, FORT LAUDERDALE, FORT MYERS, FULFORD, GAINESVILLE, GEORGIANA, GILCHRIST CO., GLEN ST. MARY, GRAPEVILLE, HOMESTEAD, JACKSONVILLE, JUNIPER SPRINGS, KILLARNEY, LAKE GEM, LAKELAND, LAKE MARY, LAKE PLACID, LAKE WALES, LEVY CO., LEESBURG, MAITLAND, MIAMI SHORES, MIMS, MT. DORA, NEW SMYRNA, ONECO, ORLANDO, OVIEDO, PALATKA, PUNTA GORDA, SAFETY HARBOR, SANFORD, ST. PETERSBURG, SEBRING, TAMPA, UMATILLA, VERO BEACH, WEST PALM BEACH, WINDERMERE, WINTER HAVEN.

TAXONOMY: THIS SPECIES, ORIGINALLY DESCRIBED IN THE GENUS IMATIDIUM, WAS PLACED IN THE GENUS PORPHYRASPIS FOR MANY YEARS. THE GENUS HEMISPHAEROTA PRESENTLY CONTAINS SEVEN OTHER SPECIES KNOWN FROM CUBA, HISPANIOLA, AND BRAZIL. THE TYPE OF THE GENUS IS H. ERYTHROCERA GERM. WHICH IS A SYNONYM OF H. CYANEA (SAY). THERE ARE MORE THAN 15 OTHER TORTOISE BEETLES RECORDED FROM FLORIDA, BUT NONE OF THEM INFEST PALMS. HEMISPHAEROTA CYANEA (SAY) IS EASILY RECOGNIZED SINCE IT IS THE ONLY BLUE SPECIES IN THE UNITED STATES, AND THE ONLY SPECIES THAT FORMS A CASE AS SHOWN IN FIG. 4A.



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