

THE PRESENT STATUS OF PLECTRIS ALIENA CHAPIN^{1/} IN THE UNITED STATES
(COLEOPTERA: SCARABAEIDAE)^{1/}

ROBERT E. WOODRUFF

INTRODUCTION: THE SCARAB BEETLE, PLECTRIS ALIENA CHAPIN, WAS DESCRIBED FROM SOUTH CAROLINA IN 1934, BUT WAS PROBABLY INTRODUCED FROM SOUTH AMERICA. IT IS A POTENTIAL TURF PEST AND HAS SINCE BEEN FOUND IN FLORIDA, GEORGIA, AND ALABAMA. IT IS ILLUSTRATED HERE FOR THE FIRST TIME.

DESCRIPTION: ADULTS ARE SIMILAR TO MAY BEETLES (PHYLLOPHAGA SPP.) IN GENERAL APPEARANCE (FIG. 1). MEDIUM-SIZED SCARAB (LENGTH 10-14MM), LIGHT BROWN TO BROWN, DORSALLY PUBESCENT WITH SHORT SCALE-LIKE SETAE ARISING FROM SHALLOW PUNCTURES. ANTERIOR TIBIAE TRIDENTATE, THE BASAL TOOTH MORE PROMINENT IN THE FEMALE. ANTENNAE 10-SEGMENTED, THE CLUB 3-SEGMENTED, THE LEAVES OF WHICH ARE TWICE THE LENGTH OF THE FIRST SEGMENT (MALE) OR SLIGHTLY LONGER THAN THE FIRST SEGMENT (FEMALE). CLYPEUS ROUNDED AND OFTEN SLIGHTLY EMARGINATE AT THE MIDDLE, DEEPLY CONCAVE, THE MARGIN REFLEXED. THE LARVA IS A TYPICAL C-SHAPED WHITE GRUB (FOR A TECHNICAL DESCRIPTION AND ILLUSTRATIONS OF DIAGNOSTIC FEATURES SEE BOVING, 1936 AND RITCHER, 1966).

BIOLOGY: VERY LITTLE INFORMATION IS AVAILABLE ON THIS SPECIES EXCEPT FOR THE OBSERVATIONS NOTED IN THE ORIGINAL DESCRIPTION (CHAPIN, 1934): "THE LIFE CYCLE IS APPARENTLY ONE YEAR. DURING THE EARLY PART OF JUNE ONLY A FEW FIRST-INSTAR LARVAE AND NO LARVAE OF A LATER STAGE COULD BE FOUND. TWO FEMALES, ONE OF WHICH WAS ENGAGED IN DEPOSITING EGGS, WERE TAKEN FROM BENEATH LAWN GRASS AT A DEPTH OF 11 INCHES. WHEN FOUND THIS LATTER FEMALE HAD DEPOSITED AT LEAST 14 EGGS... NO FEMALES WERE CAPTURED ABOVE GROUND. AT DUSK THE MALES COME OUT OF THE TURF AND FLY IN GREAT NUMBERS AND AT A HIGH RATE OF SPEED BACK AND FORTH OVER THE TURF, RARELY HIGHER THAN 18 INCHES ABOVE GROUND. THESE MALES DISAPPEAR AFTER 15 TO 20 MINUTES AND MALES ARE NOT SEEN AGAIN IN FLIGHT UNTIL THE NEXT EVENING." ADULTS HAVE BEEN COLLECTED IN MAY AND JUNE.

ECONOMIC IMPORTANCE: THE LARVAE PRESUMABLY FEED ON ROOTS OF PLANTS AND ARE A POTENTIAL TURF PEST. HOWEVER, HIGH POPULATIONS HAVE BEEN NOTED ONLY AT CHARLESTON, S. C., WHERE LITTLE DAMAGE WAS REPORTED.

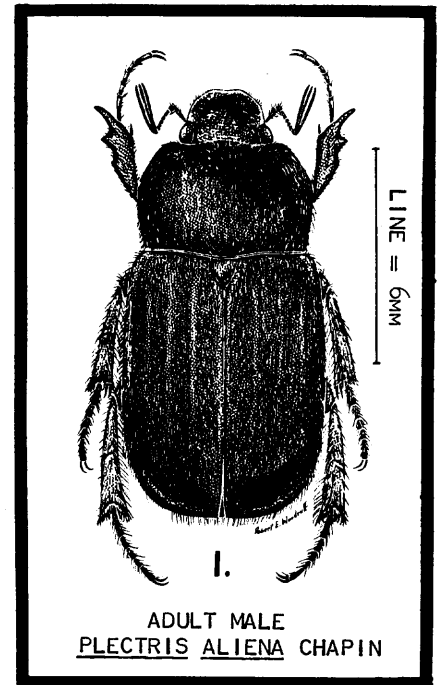
DISTRIBUTION: THE TYPE SERIES OF SPECIMENS WAS COLLECTED AT CHARLESTON, S. C., BUT IT WAS SUGGESTED THAT THE SPECIES WAS "...PROBABLY INTRODUCED FROM SOUTH AMERICA" (CHAPIN, 1934). FREY (1967) LISTED IT FROM SOUTH CAROLINA AND PARAGUAY WITHOUT FURTHER LOCALITY. IT HAS BEEN REPORTED FROM BRUNSWICK, GEORGIA (BOVING, 1936), AND PENSACOLA, FLORIDA (WOODRUFF, 1960). IT IS HERE RECORDED FOR THE FIRST TIME FROM MILTON, FLORIDA (6-V-65, G. A. TZEFAKES), AND MOBILE, ALABAMA (6 TO 24-V-60, B. K. DOZIER). IT IS THE ONLY SPECIES OF THE GENUS KNOWN FROM THE U. S.

TAXONOMY: THE GENUS WAS RECENTLY REVIEWED BY FREY (1967), AND MANY NEW SPECIES WERE DESCRIBED. HE ALSO SEPARATED THE GENUS INTO THREE MAIN DIVISIONS BASED ON THE NUMBER OF ANTENNAL SEGMENTS (DIVISION I-8 SEG.; DIVISION II-9 SEG.; DIVISION III-10 SEG.). P. ALIENA WAS PLACED IN HIS DIVISION III, GROUP 2. THE MALE GENITALIA ARE THE MOST SATISFACTORY CHARACTERS FOR SEPARATING SPECIES.

CONTROL: POPULATIONS HAVE NOT WARRANTED CONTROL TESTS, BUT CHLORDANE, ALDRIN, AND HEPTACHLOR ARE GENERALLY RECOMMENDED FOR WHITE GRUB CONTROL.

REFERENCES:

- BOVING, A. G. 1936. DESCRIPTION OF THE LARVA OF PLECTRIS ALIENA CHAPIN AND EXPLANATION OF NEW TERMS APPLIED TO THE EPIPHARYNX AND RASTER. PROC. ENT. SOC. WASHINGTON 38(8):169-185; 18 FIG.
- CHAPIN, E. A. 1934. AN APPARENTLY NEW SCARAB BEETLE (COLEOPTERA) NOW ESTABLISHED AT CHARLESTON, SOUTH CAROLINA. PROC. BIOL. SOC. WASHINGTON 47:33-35.
- FREY, G. 1967. DIE GATTUNG PLECTRIS (PHILOCHLAENIA) (COLEOPTERA-MELOLONTHINAE), BESTIMMUNGSTABELLE UND BESCHREIBUNG NEUER ARTEN. ENT. ARBEITEN MUS. FREY 18:1-136; 4 PL. (116 FIG.), 90 FIG.
- RITCHER, P. O. 1966. WHITE GRUBS AND THEIR ALLIES. OREGON STATE MONOGR., STUDIES IN ENT. 4:1-219; 501 FIG.
- SIM, R. J. 1934. CHARACTERS USEFUL IN DISTINGUISHING LARVAE OF POPILLIA JAPONICA AND OTHER INTRODUCED SCARABAEIDAE FROM NATIVE SPECIES. USDA CIRC. 334:1-20; 51 FIG.
- WOODRUFF, R. E. 1960. (PLECTRIS ALIENA IN FLORIDA). COOPER. ECON. INSECT REPT. 10(25):535.



^{1/}CONTRIBUTION No. 121, ENTOMOLOGY SECTION