

A CACTUS BEETLE NEW TO THE EASTERN UNITED STATES
(COLEOPTERA: CERAMBYCIDAE)^{1/}

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INTRODUCTION: AN ADULT SPECIMEN OF MONEILEMA ARMATA LEC. WAS COLLECTED AT WAYSIDE NURSERY, FANNIN SPRINGS, GILCHRIST COUNTY, FLORIDA ON JUNE 22, 1966, BY A. E. GRAHAM ON A CACTUS, HOMALOCEPHALA TEXENSIS (HOPFFER) BRITT. & ROSE. THIS CONSTITUTES THE FIRST RECORD OF THE GENUS EAST OF THE MISSISSIPPI RIVER. SUBSEQUENT INSPECTION REVEALED SEVERAL PLANTS OF THE SAME SPECIES WITH DAMAGE, ALL OF WHICH HAD BEEN IMPORTED FROM TEXAS IN JANUARY, 1966.

DESCRIPTION: THE GENUS MONEILEMA HAS A CHARACTERISTIC GENERAL FACIES DIFFERING FROM ALL OTHERS OF THE FAMILY CERAMBYCIDAE. (FIG. 3). THE SPECIMEN COLLECTED WAS ABOUT 1 INCH LONG, SHINING BLACK, CONVEX, PRONOTUM WITH A CENTRAL SPINE ON THE SIDE, ELYTRA WITH SCATTERED COARSE PUNCTURES. MOST OF THE SPECIES ARE SIMILAR IN GENERAL APPEARANCE, BUT THEY VARY CONSIDERABLY IN SIZE AND SCULPTURE, WHICH HAS RESULTED IN TAXONOMIC CONFUSION. THE LARVA IS ABOUT 12 MM LONG WHEN FULL GROWN, WHITE BODY, WITH A DARK BROWN CHITINIZED HEAD. EYES OBSCURED; ANTENNAE SINGLE JOINTED, VERY SMALL, PLACED IMMEDIATELY BEHIND MANDIBLES. MANDIBLES LARGE; BODY SPARSELY COVERED WITH BROWN SETAE.

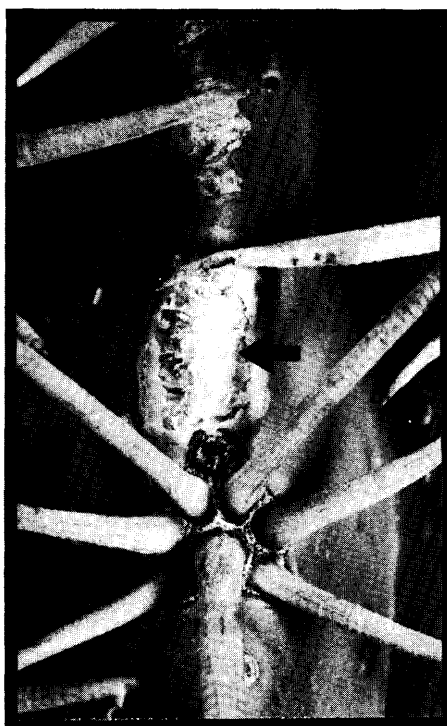


FIG. 1. ENLARGEMENT SHOWING ADULT FEEDING (ARROW).

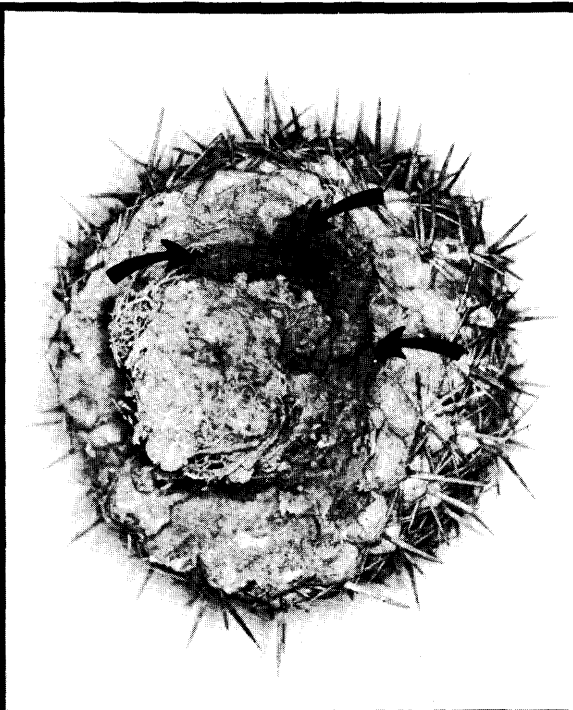


FIG. 2. VENTRAL VIEW OF HOMALOCEPHALA TEXENSIS SHOWING LARVAL TUNNELING (ARROW).



FIG. 3. MONEILEMA ARMATA ADULT.

BIOLOGY: SINCE THIS RECORD IS THE FIRST FROM FLORIDA, WE KNOW NOTHING ABOUT ITS BIOLOGY HERE. THE FOLLOWING GENERAL REMARKS ABOUT THE GENUS ARE DERIVED PRIMARILY FROM PSOTA (1930: 113-114) AND HUNTER, PRATT AND MITCHELL (1912:43). THE ADULTS ARE WINGLESS AND NOCTURNAL OR CREPUSCULAR. ADULTS AND LARVAE FEED EXCLUSIVELY ON PLANTS OF THE FAMILY CACTACEAE. THERE IS NORMALLY ONE GENERATION PER YEAR AND ADULTS ARE FOUND FROM MAY TO SEPTEMBER. PUPATION MAY OCCUR IN ANY PART OF THE PLANT BUT IS MOST FREQUENT IN THE LOWER REGION, SOMETIMES BENEATH THE SOIL LEVEL. EGGS ARE LAID INTO FRESH WOUNDS CAUSED BY ADULT FEEDING, AND LARVAE BORE INTO THE PLANT, OCCASIONALLY TRAVERSING GREAT DISTANCES.

HOSTS: ADULTS AND LARVAE ARE CONFINED TO SEVERAL GENERA OF THE FAMILY CACTACEAE, INCLUDING OPUNTIA, ECHINOCEREUS AND ECHINOCACTUS. THE SPECIMEN FROM FANNIN SPRINGS, FLORIDA APPEARS TO BE THE FIRST RECORD FROM HOMALOCEPHALA TEXENSIS. THE MOST COMMON HOSTS ARE MEMBERS OF THE OPUNTIA SUBGENUS CYLINDROPUNTIA OR "CHOLLAS" ALTHOUGH THERE ARE MANY RECORDS FOR THE SUBGENUS PLATYOPUNTIA AS WELL. PSOTA (1930-113) INDICATES THAT MOST OF THE SPECIES ARE FOUND PRIMARILY ON ECHINOCEREUS. HOWEVER HIS ILLUSTRATIONS (PLATES A-D) ARE ALL "CHOLLAS" OF THE OPUNTIA SUBGENUS CYLINDROPUNTIA.

ECONOMIC IMPORTANCE: THE EVALUATION OF THESE BEETLES DEPENDS GREATLY ON ONE'S INTERESTS. THEY WOULD BE OF SOME VALUE IN A BIOLOGICAL CONTROL PROGRAM ON NATIVE CACTI. THEY COULD ALSO BE A SERIOUS PEST FOR AN ORNAMENTAL NURSERY RAISING SIMILAR PLANTS. THE SINGLE FLORIDA SPECIMEN SEVERELY DAMAGED THE PLANT ON WHICH IT WAS PRESUMABLY IMPORTED FROM TEXAS. IT WAS FOUND ALIVE 6 MONTHS AFTER THE IMPORTATION. ADULT DAMAGE IS SHOWN IN FIG. 1 AND LARVAL TUNNELING IN FIG. 2. THE PLANTS, ESPECIALLY BARREL TYPE, OFTEN SHOW LITTLE EXTERNAL SIGNS OF LARVAL ATTACK. HOWEVER, IN THE TUBULAR JOINTED MEMBERS OF THE GENUS OPUNTIA, THE PLANT APPEARS UNTHRIFTY AND THERE IS USUALLY A COPIOUS EXUDATE OF BLACK RESINOUS SAP WHICH BECOMES VERY HARD. THE FRASS IS OFTEN INFESTED WITH DIPTEROUS LARVAE. HUNTER, PRATT AND MITCHELL (1912:13) CONSIDER THIS GENUS TO BE AMONG THE MOST IMPORTANT PESTS OF THE ROOTS AND STEMS. IN OPUNTIA CACTI, THE ADULT FEEDING OFTEN RESULTS IN SEVERANCE OF JOINTS WHICH FALL TO THE GROUND AND FREQUENTLY TAKE ROOT. THIS PROCEDURE ASSISTS IN THE DISSEMINATION OF THE PLANT, ALTHOUGH A HEAVY INFESTATION CAN DESTROY THE HOST PLANT ENTIRELY.

CONTROL: INFESTED PLANTS CAN BE DESTROYED BY BURNING. IN RECENT YEARS, NO WORK HAS BEEN REPORTED ON CHEMICAL CONTROL OF EITHER ADULTS OR LARVAE. HUNTER, PRATT, AND MITCHELL (1912:) RECOMMEND THE USE OF LEAD ARSENATE POWDER. HOWEVER, JUDGING FROM CONTROL OF MEMBERS OF THIS FAMILY ON OTHER PLANTS, DDT PROBABLY WILL PROVIDE SATISFACTORY CONTROL. THE ADULTS ARE LARGE, FLIGHTLESS, AND SLUGGISH SO THAT HAND COLLECTING WOULD PROVIDE ADEQUATE CONTROL IN A LIMITED AREA.

TAXONOMY: SPECIES OF THE GENUS MONEILEMA ARE DIFFICULT TO IDENTIFY, AND THE STATUS OF MANY SPECIES IS UNCERTAIN. THE FLIGHTLESS CONDITION, HIGH DEGREE OF VARIATION, AND WIDE GEOGRAPHIC RANGE OF SOME FORMS HAS CONTRIBUTED TO MUCH TAXONOMIC CONFUSION. M. ARMATUM IS ONE OF THE MORE COMMON AND MOST VARIABLE SPECIES IN THE GENUS. ARNETT (1962:888) LISTS 28 SPECIES FOR THE U. S. SEVERAL OTHER SPECIES OCCUR IN MEXICO. THE MOST RECENT TAXONOMIC REVISION IS THAT BY PSOTA (1930).

DISTRIBUTION: THE GENUS IS RECORDED FROM KANSAS, MONTANA, COLORADO, UTAH, NEVADA, TEXAS, NEW MEXICO, ARIZONA, CALIFORNIA, AND MEXICO. MONEILEMA ARMATA IS LISTED BY PSOTA (1930:131) FROM TEXAS, COLORADO, AND NEW MEXICO. THERE IS LITTLE EVIDENCE TO SUGGEST THAT THE SPECIES IS ESTABLISHED IN THE WILD IN FLORIDA, ALTHOUGH IT IS LIKELY THAT SOME NURSERIES ARE INFESTED.

REFERENCES:

- ARNETT, R. H. 1962. THE BEETLES OF THE UNITED STATES. PART VI. CATHOLIC UNIV. OF AMER. PRESS, WASHINGTON D. C., P. 851-1112.
- HUNTER, W. D., F. C. PRATT, AND J. D. MITCHELL, 1912. THE PRINCIPAL CACTUS INSECTS OF THE UNITED STATES. USDA, BUR. ENT. BULL. 113: 1-71.
- PSOTA, F. J. 1930. THE MONEILEMA OF NORTH AMERICA AND MEXICO. COLEOPTEROLOGICAL CONTRIBUTIONS 1(2):111-141; 24 PL.