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SCYPHOPHORUS ACUPUNCTATUS, A WEEVIL PEST OF YUCCA AND AGAVE IN FLORIDA (COLEOPTERA: CURCULIONIDAE)[1]

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INTRODUCTION: SCYPHOPHORUS ACUPUNCTATUS GYLL. WAS FIRST REPORTED FROM FLORIDA BY SLEEPER (1957:41), ON THE BASIS OF A SINGLE SPECIMEN COLLECTED ON THE FLOWERS OF SISAL (AGAVE SISALINA PERRINE) AT CAPE SABLE, 28 MAY 1953. VAURIE (1971), IN REVIEWING THE GENUS SCYPHOPHORUS, DID NOT LIST ANY ADDITIONAL FLORIDA RECORDS. RECENTLY (18 MAY 1973), THE SPECIES WAS DISCOVERED AT AN ORNAMENTAL PLANT NURSERY AT SAMSULA, FLORIDA, BY PLANT SPECIALIST J. N. POTT, IN YUCCAS IMPORTED FROM CALIFORNIA.

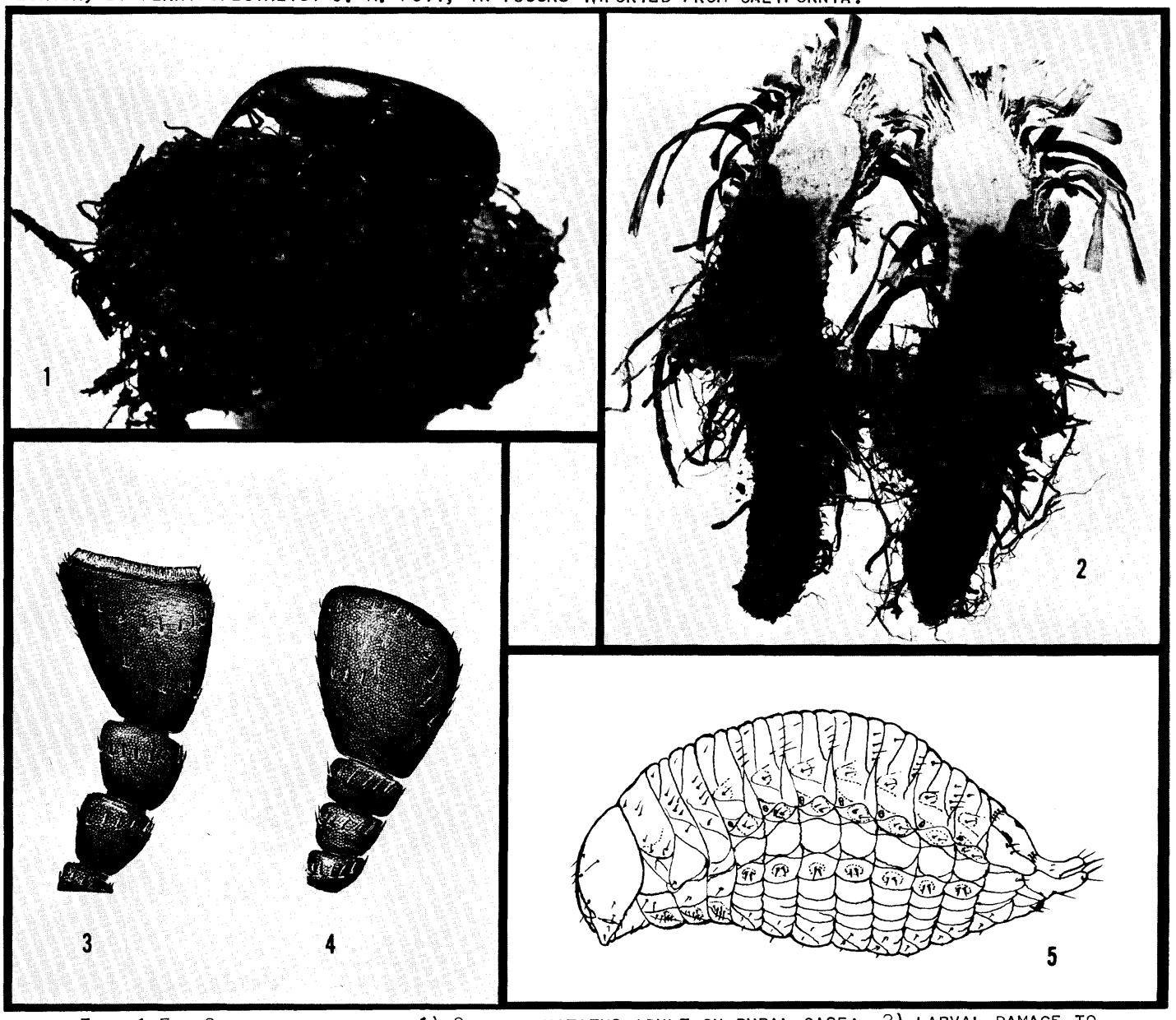

FIG. 1-5. SCYPHOPHORUS SPP. 1) S. ACUPUNCTATUS ADULT ON PUPAL CASE; 2) LARVAL DAMAGE TO ROOTS AND STALK OF YUCCA ALOIFOLIA; 3) ANTENNAL TIP OF S. YUCCAE (LEFT, LATERAL); 4) SAME OF S. ACUPUNCTATUS; 5) LARVA OF S. ACUPUNCTATUS (LATERAL VIEW, AFTER COTTON, 1924).

DESCRIPTION: THE ADULT (FIG. 1) IS A BLACK WEEVIL SIMILAR TO THE BANANA ROOT BORER: LENGTH 10-19 MM; EYES LARGE; BEAK NEARLY STRAIGHT; ANTENNA INSERTED AT BASE OF BEAK WITH 6-SEGMENTED FUNICLE; ANTENNAL CLUB CORNEOUS WITH APEX SPONGY; SCUTELLUM VISIBLE; FEMORA CLAVATE; TIBIAE DENTATE ON OUTER APICES.

THE LARVA IS A TYPICAL LEGLESS, YELLOWISH GRUB WITH A LARGE HEAD (FIG. 5). COTTON (1942) DESCRIBED AND ILLUSTRATED THE LARVA. ANDERSON (1948:420) DISTINGUISHED IT FROM LARVAE OF OTHER WEEVILS OF THE TRIBE CALENDRINI BY THE FOLLOWING COMBINATION OF CHARACTERS: SPIRACLES PRESENT ON ABDOMINAL SEGMENTS; SETA ON EPIPLEURUM OF METATHORAX SUBEQUAL IN LENGTH TO THAT OF MESOTHORAX; ASPERITES PRESENT AND DISTINCT LATERALLY ON EPIPHARYNX; DORSAL SURFACE OF MALA WITH ASPERITES AMONG SETAE; POSTERIOR MARGIN OF ABDOMINAL SEGMENT 9, WITH A PAIR OF PROJECTIONS (LONGER THAN BROAD) EACH BEARING 3 ELONGATE SETAE.

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TAXONOMY: THE GENUS SCYPHOPHORUS CONTAINS ONLY 2 SPECIES (VAURIE, 1971) WHICH ARE SIMILAR IN GENERAL APPEARANCE. HOWEVER, THEY CAN BE DISTINGUISHED EASILY BY THE CONDITION OF THE TERMINAL SEGMENT OF THE ANTENNAL CLUB (FIG. 3,4). KISSINGER (1964:88-89) TREATED SCYPHOPHORUS IN THE TRIBE SPHENOPHORINI OF THE SUBFAMILY RHYNCHOPHORINAE. THE GENUS YUCCABORUS IS OFTEN CONFUSED WITH SCYPHOPHORUS BECAUSE THE SPECIES ARE SIMILAR IN SIZE AND COLOR AND ARE FOUND IN YUCCAS. KISSINGER (1964) AND VAURIE (1970) TREATED YUCCABORUS IN THE TRIBE SIPALINI. VAURIE LISTED THE FOLLOWING SPECIFIC NAMES AS SYNONYMS OF S. ACUPUNCTATUS: INTERSTITIALIS GYLL., ANTHRACINUS GYLL., ASPERULUS LEC., AND ROBUSTIOR HORN.

HOSTS AND BIOLOGY: THIS WEEVIL IS MOST COMMON IN CENTURY PLANTS OF THE GENERA AGAVE AND FURCROEA, ALTHOUGH IT IS ALSO RECORDED FROM YUCCA SPP. VAURIE (1971) LISTED THE FOLLOWING HOSTS: AGAVE MEXICANA, A. CUBENSIS, A. AMERICANA, A. ATROVIRENS, A. ATTENUATA, A. FERDINANDIREGIS, A. LECHEGUILLA, A. SISALINA, A. SHAWI, FURCROEA TUBEROSA, AND YUCCA GLAUCA. ANDERSON (1948) LISTED "AGAVE, DASYLIRION, AND MESCAL (LOPHOPHORA)." AS I POINTED OUT (IN VAURIE, 1971:2) THE LATTER RECORD IS PROBABLY ERRONEOUS BECAUSE OF CONFUSION IN COMMON NAMES. "MESCAL" REFERS TO SEVERAL SPECIES OF AGAVE FROM WHICH ALCOHOLIC BEVERAGES (I.E., TEQUILA, PULCHE, AND MESCAL) ARE MADE. LOPHOPHORA IS THE "PEYOTE" CONTAINING THE DRUG MESCALINE, ALTHOUGH THE PLANT IS NOT CALLED "MESCAL." ALL OTHER KNOWN HOSTS ARE IN THE FAMILY LILIACEAE OR AGAVACEAE, WHEREAS LOPHOPHORA IS A MEMBER OF THE UNRELATED CACTACEAE.

THE CALIFORNIA DEPARTMENT OF AGRICULTURE (ANONYMOUS, 1959:226) REPORTED S. ACUPUNCTATUS AS A PEST OF THE DRAGON TREE (DRACAENA DRACO), AN ORNAMENTAL MEMBER OF THE LILIACEAE INTRODUCED FROM THE CANARY ISLANDS. THE GENUS DRACAENA CONTAINS MANY SPECIES THAT ARE IMPORTANT AS NURSERY PLANTS IN FLORIDA.

THE SPECIMENS AT SAMSULA, FLORIDA, WERE FIRST FOUND IN YUCCA PENDULA GLAUCA PLANTS IMPORTED FROM SANTA ANA, CALIFORNIA. SUBSEQUENT COLLECTIONS WERE TAKEN FROM YUCCA ALOIFOLIA, Y. ELEPHANTIPES, AND A. AMERICANA.

HALFFTER (1957:48,84-87) INDICATED THAT S. ACUPUNCTATUS IS THE PRINCIPAL ENEMY OF HENEQUEN IN YUCATAN, ALTHOUGH IT IS OF MINOR IMPORTANCE IN TEQUILA PRODUCING AGAVES. IN MEXICO IT IS WELL KNOWN BY THE COMMON NAME "MAX." TWO OTHER BEETLES (CARABIDAE: MORION GEORGIA PAL. AND HISTERIDAE: HOLOLEPTA YUCATECA MARS.) WERE FOUND AS PREDATORS ON "MAX" LARVAE, BUT THEIR ROLE AS BIOLOGICAL CONTROL AGENTS HAS NOT BEEN THOROUGHLY EVALUATED.

DAMAGE IS USUALLY MOST EXTENSIVE IN THE ROOTS AND STEMS (FIG. 2), BUT DEATH OF THE HOST IS RARE EXCEPT IN UNUSUALLY HEAVY INFESTATIONS. MOST INJURY RESULTS FROM THE TUNNELING OF LARVAE, THE ADULTS CAUSING ONLY MINOR FEEDING SCARS ON THE LEAVES.

SINCE SEVERAL SPECIES OF AGAVE ARE IMPORTANT FIBER PLANTS, THEY HAVE BEEN INTRODUCED INTO MANY AREAS OF THE WORLD FOR CULTIVATION. THE WEEVIL APPEARS TO HAVE BEEN TRANSPORTED TO MOST OF THESE AREAS ALONG WITH ITS HOST. MATERU AND HOPKINSON (1969:78) CONSIDERED IT TO BE THE MAIN PEST OF SISAL IN EAST AFRICA, WHERE BOTH THE PLANT AND WEEVIL WERE INTRODUCED LONG AGO.

DISTRIBUTION: IN FLORIDA THIS WEEVIL HAS BEEN COLLECTED AT TWO LOCATIONS: CAPE SABLE (MONROE CO.) AND SAMSULA (VOLUSIA CO.). IT WAS PROBABLY ACCIDENTALLY INTRODUCED TO BOTH LOCATIONS IN PLANTS FROM THE SOUTHWESTERN UNITED STATES. VAURIE (1971:3-4) PRESENTED A DISTRIBUTION MAP AND LISTED THE FOLLOWING LOCATIONS: WESTERN HEMISPHERE: THE STATES OF ARIZONA, NEW MEXICO, COLORADO, KANSAS, TEXAS, CALIFORNIA, ARKANSAS, FLORIDA, GEORGIA, AND THE COUNTRIES OF CUBA, JAMAICA, HAITI, BRAZIL, COLOMBIA, VENEZUELA; EASTERN HEMISPHERE: HAWAII, BORNEO, JAVA, AUSTRALIA (QUEENSLAND), AND EASTERN AFRICA (KENYA AND TANZANIA).

CONTROL: THE RECENT SHIPMENT OF PLANTS (200) FROM CALIFORNIA WAS DESTROYED BY BURNING. THERE HAS BEEN NO OTHER INSTANCE REQUIRING CONTROL IN FLORIDA; THEREFORE, NO EXPERIMENTAL DATA TO PROVIDE RECOMMENDATIONS. THE FOLLOWING CHEMICALS ARE SUGGESTED ON THE BASIS OF THEIR EFFECTIVENESS IN OTHER INSECT CONTROL PROGRAMS. ALDRIN, CHLORDANE, AND DIELDRIN ARE AVAILABLE TO COMMERCIAL NURSERIES, BUT ONLY CHLORDANE IS AVAILABLE TO THE HOMEOWNER. PLANTS SHOULD BE DRENCHED THOROUGHLY, USING THE DOSAGE FOR BEETLE CONTROL RECOMMENDED BY THE MANUFACTURER.

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VAURIE, P. 1971. REVIEW OF SCYPHOPHORUS (CURCULIONIDAE: RHYNCHOPHORINAE). COLEOPTERISTS BULL. 25(1): 1-8; 11 FIG.