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THE THORN BUG, UMBONIA CRASSICORNIS (AMYOT AND SERVILLE)[1/]
(HOMOPTERA: MEMBRACIDAE)

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ECONOMIC IMPORTANCE: -- THE THORN BUG IS AN OCCASIONAL PEST OF ORNAMENTALS AND FRUIT TREES IN SOUTHERN FLORIDA. DURING HEAVY INFESTATIONS, NYMPHS AND ADULTS FORM DENSE CLUSTERS AROUND THE TWIGS, BRANCHES, AND EVEN SMALL TREE TRUNKS. SOME HOSTS WHICH HAVE BEEN SEVERELY DAMAGED INCLUDE HIBISCUS SP., POWDER-PUFF (CALLIANDRA SPP.), WOMAN'S TONGUE TREE (ALBIZZIA LEBBEK), AND ACACIA SPP. YOUNG TREES OF JACARANDA (JACARANDA ACUTIFOLIA) AND ROYAL POINCIANA (DELONIX REGIA) WITH A DIAMETER OF 1½ TO 2 INCHES HAVE BEEN KILLED BY THORN BUGS IN THE TAMPA AREA. THE TRUNKS WERE SO HEAVILY INFESTED THAT IT WAS DIFFICULT TO PLACE A FINGER ANYWHERE ON THE TRUNK WITHOUT TOUCHING A SPECIMEN. DAMAGE IS CAUSED BY SUCKING THE SAP AND BY OVIPOSITION CUTS. BUTCHER (1953) REPORTED THAT CERTAIN TREES, ESPECIALLY SOME CASSIAS, SUFFERED CONSIDERABLE LOSS OF FOLIAGE, AND THAT PITHECELLOBIUMS (PITHECELLOBIUM SPP.) SUFFERED GENERAL AND EXTENSIVE TERMINAL TWIG DEATH. HE ALSO MENTIONED THAT THORN BUG HONEY-DEW SECRETIONS AND ACCOMPANYING SOOTY MOLD DEVELOPMENT CAUSED A NUISANCE TO HOME OWNERS. KUITERT (1958) NOTED THAT HEAVY ACCUMULATIONS OF HONEY-DEW SOMETIMES OCCURRED ON PARKED AUTOMOBILES. THERE ARE REPORTS OF BAREFOOTED CHILDREN STEPPING ON THE SPINES OF THORN BUGS WHICH DROP OUT OF TREES. THE WOUNDS ARE SLOW HEALING AND SOMETIMES BECOME INFECTED. CONTROL: -- DUE PERHAPS TO THE SPORADIC NATURE OF THE THORN BUG, EXPERIMENTAL WORK ON THE CONTROL OF THIS PEST IS VERY LIMITED, BUT NICOTINE SULFATE, BHC, LINDANE AND MALATHION HAVE BEEN SUGGESTED BY UNIVERSITY OF FLORIDA ENTOMOLOGISTS.

HOSTS: -- IN ADDITION TO THE ABOVE SPECIES, IMMATURES AND ADULTS HAVE BEEN FOUND ON WILD TAMARIND (LYSILOMA BAHAMENSIS), TAMARIND (TAMARINDUS INDICA), CASUARINA SP., CROTALARIA SP., RAYADO BUNDLEFLOWER (DESMANTHUS VIRGATUS), BOTTLE BRUSH (CALLISTEMON SP.), JERUSALEM THORN (PARKINSONIA ACULEATA), DWARF DATE PALM (PHOENIX ROEBELENI), AND FROM STEINER TRAPS PLACED IN A VARIETY OF TREES. ADULTS HAVE BEEN REPORTED ON CITRUS SPP., BIDENS PILOSA, BAGPOD (SESBANIA VESICARIA) OR (GLOTTIDIUM VESICARIUM), AVOCADO FRUIT (PERSEA AMERICANA), HOLLY (ILEX SP.), LYCHEE (LITCHI CHINENSIS), CAESALPINIA SP., AND MIMOSA SP.

IDENTIFICATION: -- PROBABLY NO OTHER UMBONIA OCCURS IN THE UNITED STATES. THE THORN BUG IS A VARIABLE SPECIES AS TO SIZE, COLOR, AND STRUCTURE, PARTICULARLY THE PRONOTAL HORN OF MALES. TYPICALLY, THE ADULT IS ABOUT ½ INCH IN LENGTH AND IS GREEN OR YELLOW WITH REDDISH LINES AND BROWNISH MARKINGS. THE ONLY OTHER TREEHOPPERS SOMETIMES MISTAKEN FOR THE THORN BUG IN FLORIDA ARE THE VARIETIES QUADRIVITTATA (SAY) AND SAGITTATA (GERMAR) OF PLATYCOTIS VITTATA (FABRICIUS). THESE VARIETIES HAVE THE PRONOTAL HORN, BUT OTHER VARIETIES OF VITTATA DO NOT (COOK, 1955).

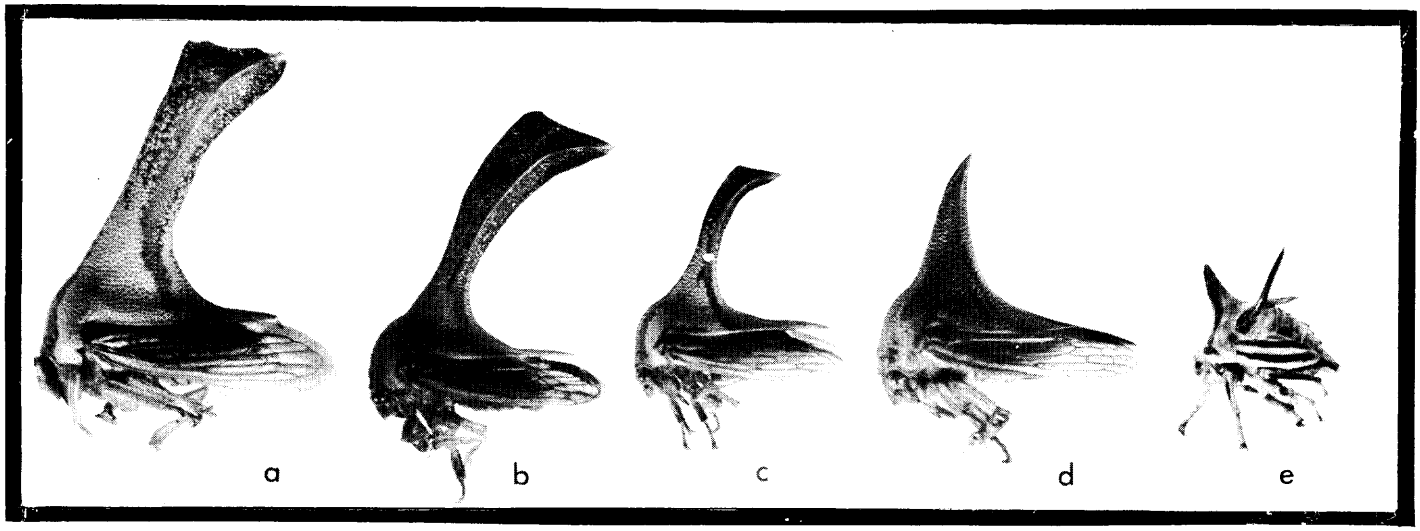

FIG. 1. THORN BUGS. MALES, A-C; FEMALE D; NYMPH E.

1/ CONTRIBUTION NO. 15, ENTOMOLOGY SECTION.

THE HORNED SPECIMENS EXHIBIT A LOW, FORWARD-PROJECTING ANTERIOR PRONOTAL PROCESS AS OPPOSED TO EITHER THE TALL, ESSENTIALLY PERPENDICULAR HORN OF THE FEMALE THORN BUG OR THE HIGH RECEDING HORN OF THE MALE. THE HUMERAL PROCESSES OF THE THORN BUG ARE LARGER THAN THOSE OF P. VITTATA. THEN, TOO, VITTATA LIVES PRIMARILY ON OAK (QUERCUS SPP.) IN FLORIDA, WHEREAS D.P.I. HAS NO REPORTS OF THE THORN BUG ON OAK.

DISTRIBUTION:-- SOUTH AND CENTRAL AMERICA, MEXICO, AND SOUTHERN FLORIDA. THE VAN DUZEE (1917) RECORDS OF CRASSICORNIS IN OHIO AND SOUTH CAROLINA ARE PUZZLING. AT BEST, THESE WOULD SEEM TO BE ACCIDENTAL INTRODUCTIONS IN WHICH NO NATURAL POPULATIONS WERE MAINTAINED. IN FLORIDA, NO THORN BUGS HAVE BEEN COLLECTED NORTH OF WINTER HAVEN OR SOUTH OF FLORIDA CITY ACCORDING TO DIVISION OF PLANT INDUSTRY AND UNIVERSITY OF FLORIDA AGRICULTURAL EXPERIMENT STATION RECORDS (SEE FIG. 2). HOWEVER, THE RANGE OF SOME OF THE HOSTS EXCEEDS THE RANGE OF THE THORN BUG. THE ORIGINAL DESCRIPTION IN 1843 SUGGESTED THAT CRASSICORNIS WAS PRESENT IN FLORIDA AT THAT TIME, BUT THIS SPECIES APPARENTLY DID NOT BECOME ABUNDANT UNTIL THE LAST 15 YEARS. BUTCHER WROTE THAT HIS FIRST SPECIMENS WERE OBTAINED IN APRIL 1951. IN A PERSONAL LETTER, NOV. 7, 1962, DR. E. G. KELSHEIMER SAID "OUR FIRST EXPERIENCE WITH THE THORN BUG WAS IN 1948 AT DELRAY BEACH WHERE IT WAS THRIVING ON PITHECELLOBIUM SP. AT THAT TIME IT WAS UNKNOWN ON THE WEST COAST, BUT THE NEXT TIME IT WAS REPORTED TO US WAS FROM FORT MYERS WHERE IT APPARENTLY CAME IN ON NURSERY STOCK. FROM FORT MYERS IT GRADUALLY WORKED ITS WAY UP TO BRADENTON." SEASONAL DISTRIBUTION:-- ADULTS AND NYMPHS CAN BE FOUND ALL YEAR. REPORTS OF HEAVY INFESTATIONS HAVE BEEN RECEIVED IN ALL SEASONS, BUT PROBABLY MORE HAVE COME IN DURING THE COOLER MONTHS. THERE IS A CONSENSUS THAT MOST THORN BUG POPULATIONS IN FLORIDA HAVE BEEN REDUCED IN THE LAST THREE YEARS OR SO, EVEN IN THE MIAMI AREA. THIS CONTRASTS SHARPLY WITH THE HEAVY INFESTATIONS OF THE MID 1950'S. THE SEVERE WINTER OF 1957/58 APPEARS INVOLVED IN THIS REDUCTION, AND CYCLIC PHENOMENA ALSO MAY PLAY A PART. BUTCHER (1953) MENTIONED THAT PARASITES AND PREDATORS OF THE THORN BUG WERE CONSPICUOUS BY THEIR ABSENCE.

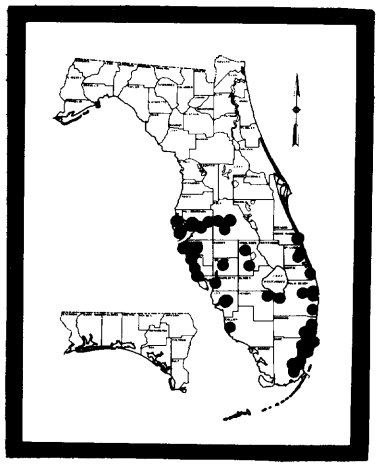

FIG. 2. DISTRIBUTION OF THE THORN BUG IN FLORIDA.

REFERENCES: (PARTIALLY ANNOTATED)

BUTCHER, F. GRAY. 1953. UNUSUAL ABUNDANCE OF THE TREE-HOPPER UMBONIA CRASSICORNIS A. & S. FLORIDA ENTOMOLOGIST 36:57-59; FIG. 1 SHOWS EMPTY EGG MASSES AND NYMPHS ON TWIG; FIG. 2 SHOWS EGG MASSES AND ATTENDANT FEMALES ON TWIGS.

COOK, P. P., JR. 1955. NOTES ON NOMENCLATURE AND VARIATION IN PLATYCOTIS. PAN-PACIFIC ENTOMOLOGIST 31:151-154.

GODING, F.W. 1929. THE MEMBRACIDAE OF SOUTH AMERICA AND THE ANTILLES. IV. SUBFAMILIES HOPLOPHORIONINAE, DARNINAE, SMILINAE, TRAGOPINAE (HOMOPTERA). TRANS. AM. ENTOMOL. SOC. 55:202-205. PROVIDES KEY TO SPECIES OF UMBONIA AND BIBLIOGRAPHIC CATALOGUE OF SPECIES.

GODING, F. W. 1930. AN INJURIOUS MEMBRACID. J.N.Y. ENTOMOL. SOC. 38:47;PL.7 UMBONIA CRASSICORNIS INFESTED VARIOUS TREES AND SHRUBS IN "COUNTLESS NUMBERS WITH VERY INJURIOUS EFFECT" AT THE PANAMA CANAL ZONE IN 1921. FIG. 1 SHOWS THE THORN BUG IN THE SEVERAL STAGES; FIG. 2 SHOWS A CLOSE VIEW OF INFESTED BRANCHES; FIG. 3 DEPICTS A BADLY INFESTED TREE.

KUITERT, L. C. 1958. INSECT PESTS OF ORNAMENTAL PLANTS. FLORIDA UNIV. AGR. EXPT. STA. GAINESVILLE BULL. 595:14-15; FIG. 11. THE FIGURE IS A CLOSE-UP PHOTOGRAPH OF THORN BUGS ON A TWIG; THE TEXT DISCUSSES SEVERAL ASPECTS OF THE THORN BUG.

MAXWELL, L. S. 1959. HANDBOOK OF FLORIDA INSECTS AND THEIR CONTROL. GREAT OUTDOORS PUBLISHING CO., ST. PETERSBURG, FLORIDA. P. 33. GIVES BRIEF COMMENTS ABOUT THORN BUG AND INCLUDES PHOTOGRAPH OF FEMALE SEVERAL TIMES LIFE SIZE.

VAN DUZEE, E. P. 1917. CATALOGUE OF THE HEMIPTERA OF AMERICA NORTH OF MEXICO, EXCEPTING THE APHIDIDAE, COCCIDAE AND ALEURODIDAE. CALIF. UNIV. AGR. EXPT. STA. TECH. BULL. ENTOMOL. 2:557-558.