

THE ROYAL PALM BUG, XYLASTODORIS LUTEOLUS BARBER<sup>1</sup>  
(HEMIPTERA: THAUMASTOCORIDAE)

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SUB-TROPICAL EXPERIMENT STATION  
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**INTRODUCTION:** THE ROYAL PALM BUG, XYLASTODORIS LUTEOLUS, WAS DESCRIBED BY BARBER IN 1920 FROM SPECIMEN COLLECTED AT SANTIAGO DE LAS VEGAS, CUBA. MOZNETTE (1921) FIRST REPORTED IT AS OCCURRING IN THE UNITED STATES, AT WHICH TIME IT WAS SUFFICIENTLY ABUNDANT TO BE DESTRUCTIVE TO ROYAL PALMS AT COCONUT GROVE, FLORIDA. IT IS THE ONLY MEMBER OF ITS FAMILY FOUND IN NORTH AMERICA. DRAKE AND SLATER (1957) REVIEWED THE LITERATURE ON THIS SPECIES IN THEIR REVISION OF THE FAMILY THAUMASTOCORIDAE. THE LIFE HISTORY OF THE ROYAL PALM BUG WAS INVESTIGATED BY BARANOWSKI (1958).

**DISTRIBUTION:** THE ROYAL PALM BUG IS KNOWN ONLY FROM CUBA AND FLORIDA. IT HAS BEEN COLLECTED AS FAR NORTH IN FLORIDA AS VERO BEACH AND BRADENTON, AND ITS RANGE IN THE STATE IS PROBABLY COEXTENSIVE WITH THE RANGE OF ITS HOST.

**DESCRIPTION:** THE ADULT (FIG. 1) IS 2-2½ MM IN LENGTH, RATHER NARROW OVAL IN SHAPE AND MUCH FLATTENED. IT IS PALE YELLOW IN COLOR EXCEPT FOR THE RED EYES AND THE BROWN TERMINAL HALF OF THE 4TH ANTENNAL SEGMENTS. THE HEAD IS A LITTLE WIDER THAN LONG AND SHARPLY CONTRACTED BACK OF THE EYES. THE ANTERIOR PAIR OF WINGS IS NEARLY TRANSPARENT AND IRREGULARLY PUNCTATE. THE COLORATION OF THE NYMPHS IS SIMILAR TO THAT OF THE ADULTS. THE NYMPHS RANGE IN SIZE FROM 0.71 MM FOR THE 1ST INSTARS TO 2.00 MM FOR THE 5TH INSTARS.



FIG. 1. THE ROYAL PALM BUG,  
XYLASTODORIS LUTEOLUS BARBER  
(HEMIPTERA: THAUMASTOCORIDAE)

**BIOLOGY:** THE EGG IS PALE TAN IN COLOR, ELONGATE, 0.5 MM IN LENGTH AND OVAL IN CROSS SECTION. IT IS CAPPED AT ONE END BY A WHITE "HONEYCOMB" OPERCULUM. EGGS ARE DEPOSITED AMONG THE MEMBRANOUS SCALES THAT COVER THE UNDER SURFACE OF THE LEAFLET MIDRIB. WHEN THE LEAFLET IS FOLDED THIS COVERING IS ON THE INSIDE PROVIDING A WELL-PROTECTED SITE FOR THE EGGS. FEMALES USUALLY DEPOSIT ONLY ONE EGG PER DAY AND NEVER MORE THAN TWO. THE EGGS HATCH IN EIGHT TO NINE DAYS. THE FIRST AND FIFTH NYMPHAL STAGES LAST FIVE TO EIGHT DAYS AND THE SECOND, THIRD AND FOURTH VARY FROM FOUR TO SEVEN DAYS. THE TOTAL TIME FOR NYMPHAL DEVELOPMENT RANGES FROM 23 TO 37 DAYS WITH 28 DAYS AS THE MEAN. THE TOTAL PERIOD OF DEVELOPMENT CLOSELY COINCIDES WITH THE EMERGENCE OF NEW LEAVES ON THE HOST PLANT.

**HABITAT AND HOST INJURY:** THUS FAR ROYSTONEA REGIA IS THE ONLY KNOWN HOST, THOUGH OTHER SPECIES OF ROYAL PALMS MAY BE AFFECTED. THE PALM BUGS ARE FOUND PRIMARILY ON THE NEWLY OPENED LEAVES, DOING THEIR GREATEST DAMAGE BY FEEDING ON THE LEAFLETS THAT HAVE MOST RECENTLY BROKEN AWAY FROM THE TIGHTLY FOLDED EMERGING LEAF. THE DAMAGE TO THE LEAFLETS FIRST APPEARS AS SMALL YELLOW SPOTS CAUSED BY THE DESTRUCTION OF THE CELLS THROUGH WITHDRAWAL OF THE SAP. AS THE LEAFLETS BECOME OLDER, THEY GRADUALLY TURN BROWN AND IN CASES OF EXTENSIVE FEEDING, ENTIRE LEAVES WILL SHOW THESE SYMPTOMS.

**ECONOMIC IMPORTANCE:** THE ROYAL PALM BUG WOULD USUALLY BE CLASSED AS A MINOR PEST OF ROYAL PALMS, THOUGH ON THE TWO KNOWN OCCASIONS WHEN HIGH POPULATIONS DEVELOPED (1921 AND 1957), A GREAT DEAL OF DAMAGE WAS INFLICTED ON ROYAL PALMS THROUGHOUT THE SOUTHERN HALF OF THE STATE.

**LITERATURE CITED:**

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<sup>1</sup>CONTRIBUTION No. 72, ENTOMOLOGY SECTION