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A MANGROVE BORER, POECILIPS RHIZOPHORAE (HOPKINS)1/ (COLEOPTERA: SCOLYTIDAE)

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INTRODUCTION: RECENT COLLECTIONS OF POECILIPS RHIZOPHORAE (HOPK.) HAVE PROVIDED SAMPLES OF ITS DAMAGE ON RED MANGROVE AND HAVE POINTED OUT THE LACK OF DISTRIBUTION RECORDS. THIS CIRCULAR IS AN ATTEMPT TO BRING TOGETHER THE KNOWN INFORMATION ON THIS SPECIES IN HOPES THAT IT WILL STIMULATE OTHERS TO PROVIDE SEASONAL AND GEOGRAPHICAL DISTRIBUTION RECORDS.

DESCRIPTION: LENGTH ♀ 2.85 MM, ♂ 1.6 MM. THIS BORER IS TYPICAL OF THE FAMILY SCOLYTIDAE (FIG. 4); BODY ELONGATE, SUBPARALLEL, NEARLY TUBULAR, THE HEAD NORMALLY NOT VISIBLE FROM ABOVE. NEWLY TRANSFORMED BEETLES ARE STRAW-YELLOW, BUT CALLOSED ADULTS ARE DARK CHESTNUT. THE EYES ARE LARGE, BROAD, AND BARELY EMARGINATE. ANTENNA (FIG. 4) WITH 5 SEGMENTED FUNICLE, THE FIFTH BROADEST; CLUB OVAL WITH ONE BISINUATE SUTURE ON THE FACE. HEAD, PRONOTUM, AND ELYTRA CLOTHED WITH FINE, LONG SETAE. PRONOTUM WITH BASAL MARGIN BUT WITHOUT LATERAL MARGIN; ANTERIOR MARGIN ENTIRE, UNARMED.

BIOLOGY: PRACTICALLY NOTHING IS KNOWN ABOUT THIS SPECIES EXCEPT THAT IT IS FOUND IN RED MANGROVE. TYPICAL DAMAGE TO SEEDLINGS IS SHOWN IN FIG. 1 TO 3. THESE EXAMPLES WERE COLLECTED AT LONGBOAT KEY (MANATEE CO.), FLORIDA, JANUARY 21 (10% OF 600 INFESTED), AND MAY 12, 1970 (65% OF 200 INFESTED), J. R. MCFARLIN. THE TYPE SPECIMENS WERE COLLECTED IN NOVEMBER AT MIAMI, FLORIDA. THE DAMAGE IS NOT EASILY DETECTED UNTIL EMERGENCE HOLES (FIG. 1-2) APPEAR. WHEN THE CIGAR SHAPED SEEDLING IS CUT OPEN, THE INTERIOR IS HEAVILY MINED AND EXCAVATED (FIG. 3). DAMAGE HAS BEEN NOTED ONLY ON SEEDLINGS.

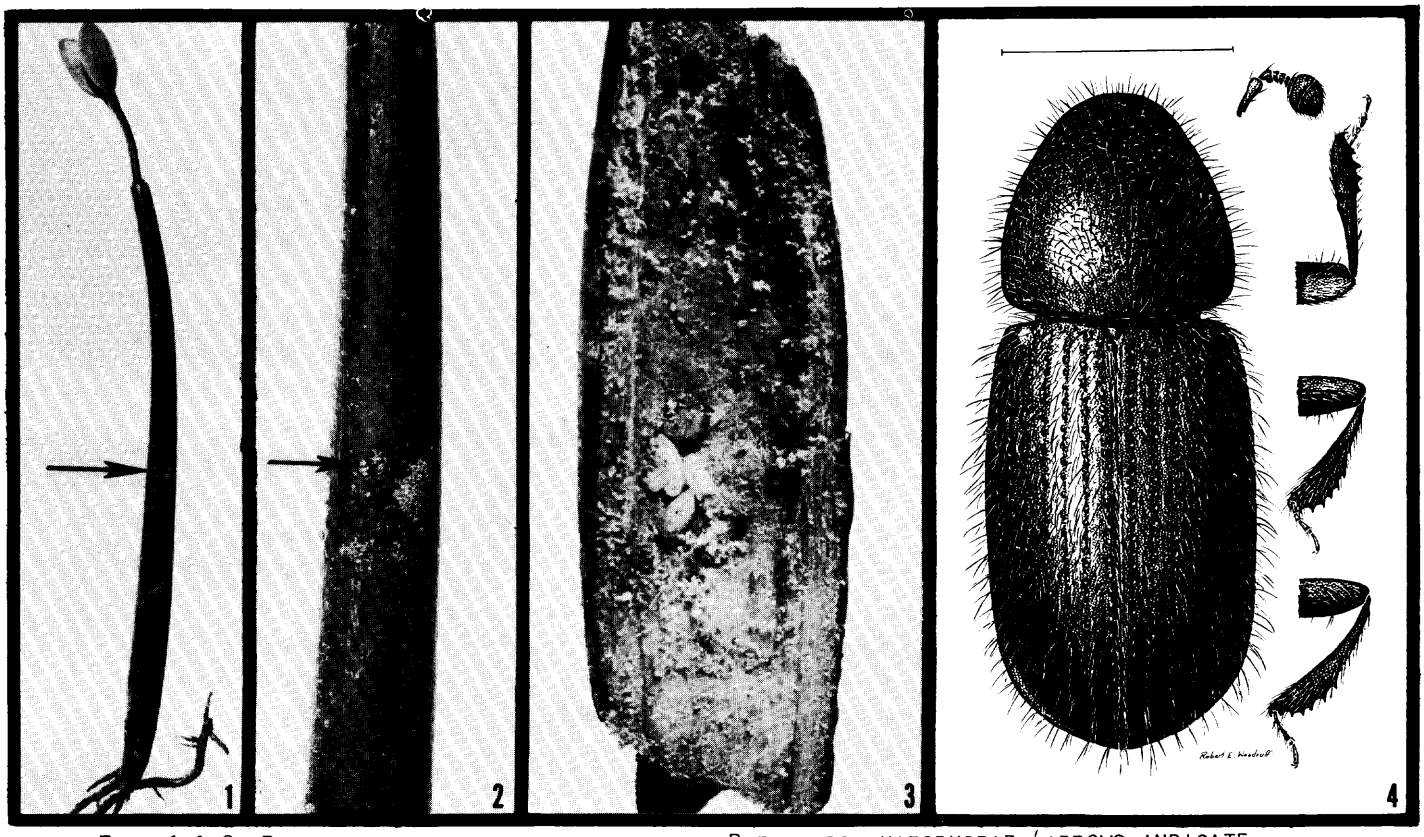

FIG. 1 & 2--RED MANGROVE SEEDLING ATTACKED BY POECILIPS RHIZOPHORAE (ARROWS INDICATE EMERGENCE HOLES). FIG. 3--LONGITUDINAL SECTION OF SAME SEEDLING SHOWING HOLLOWED CENTER WITH LARVAE AND PUPAE. FIG. 4--ADULT FEMALE POECILIPS RHIZOPHORAE (LINE = 1 MM).

HOSTS: AT THE PRESENT TIME, THE ONLY KNOWN HOST IS RED MANGROVE, RHIZOPHORA MANGLE L. HOWEVER, IT PROBABLY ATTACKS OTHER SPECIES OF RHIZOPHORA, SINCE R. MANGLE DOES NOT OCCUR IN JAVA AND SUMATRA, FROM WHICH THE SYNONYM P. RHIZOPHORAE EGGERS WAS DESCRIBED.

THE HABITS AND GENERAL MORPHOLOGY OF RED MANGROVE HAVE RECENTLY BEEN DESCRIBED IN DETAIL BY GILL AND TOMLINSON (1969). FIG. 5 SHOWS THE CHARACTERISTIC AERIAL ROOTS OF THE TREE AND SEEDLINGS IN THE MUD. THE SEEDS ARE VIVIPAROUS, GERMINATING WHILE STILL ATTACHED, THE PROPAGULE (SEEDLING) WHICH FALLS OFF SOMETIMES BEING 8 TO 10 INCHES LONG. IT IS NOT KNOWN WHETHER THE SEEDLING IS ATTACKED PRIOR TO SEVERANCE FROM THE PARENT PLANT; HOWEVER, NEWLY ROOTED PLANTS (FIG. 1) ARE HEAVILY INFESTED SOON THEREAFTER.

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FIG. 5--TYPICAL RED MANGROVE GROWTH HABITS IN BRACKISH COASTAL SITUATIONS IN SOUTH FLORIDA; SEEDLINGS IN MUD OF FOREGROUND; AERIAL ROOTS HANGING IN BACKGROUND.

TAXONOMY: IT WAS ORIGINALLY DESCRIBED AS THE TYPE OF THE MONOTYPIC GENUS SPERMATOPLEX (HOPKINS 1915: 48). SCHEDL (1952:160-161) STATED THAT IT BELONGED IN THE GENUS POECILIPS AND THAT THE P. RHIZOPHORAE EGGERS (1923:149) WAS A SYNONYM.

DISTRIBUTION: THE SPECIES WAS DESCRIBED FROM MIAMI, FLORIDA, AND, EXCEPT FOR THE SYNONYM LISTED ABOVE FROM JAVA AND SUMATRA, HAS NOT BEEN REPORTED ELSEWHERE. CHAMBERLIN (1939:319-320), AND BLATCHLEY & LENG (1916:610) REPEATED THE ORIGINAL DESCRIPTION BUT LISTED NO OTHER RECORDS. ITS POTENTIAL DISTRIBUTION IS COEXTENSIVE, AT LEAST, WITH THAT OF RED MANGROVE. IN FLORIDA THIS TREE EXTENDS FROM THE DRY TORTUGAS AND THE KEYS TO TAMPA BAY ON THE WEST COAST AND TO VOLUSIA COUNTY ON THE EAST COAST. WEST AND ARNOLD (1956:162) LISTED STRAGGLERS AS FAR NORTH AS PANAMA CITY, FLORIDA; HOWEVER, THESE PLANTS ARE USUALLY KILLED DURING SEVERE WINTERS SUCH AS THAT OF 1962. IT PROBABLY OCCURS THROUGHOUT THE NEW WORLD TROPICS IN COASTAL AREAS. SCHEDL (1952:161) SUGGESTED THAT THE BEETLE WAS INTRODUCED INTO FLORIDA FROM THE MALAYAN REGION, FOR WHICH PARALLEL EXAMPLES ARE KNOWN.

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