

A ROOT MEALYBUG (GEOCOCCUS COFFEA GREEN)¹
(HOMOPTERA: PSEUDOCOCCIDAE)

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INTRODUCTION: THIS ROOT MEALYBUG WAS DESCRIBED FROM SPECIMENS COLLECTED ON THE ROOTS OF "COFFEE TREE (C. LIBERICA)" FROM DUTCH GUIANA (GREEN, 1933). IT WAS FOUND FIRST IN FLORIDA BY PLANT SPECIALIST H. M. VAN PELT IN 1958 ON THE ROOTS OF DIEFFENBACHIA SP. AND PHILODENDRON SELLOUM, FOLIAGE PLANTS BEING GROWN COMMERCIALY IN A GREENHOUSE AT APOPKA, FLORIDA. THE LATE HAROLD MORRISON, COCCIDOLOGIST, UNITED STATES NATIONAL MUSEUM, WASHINGTON, D. C., IDENTIFIED THE APOPKA FIND AS GEOCOCCUS COFFEA GREEN, A NEW UNITED STATES RECORD FOR THIS INSECT. A SPECIAL SURVEY OF GREENHOUSES IN FLORIDA, INITIATED IN 1958 BY THE DIVISION OF PLANT INDUSTRY, RESULTED IN POSITIVE FINDS AT APOPKA, ALTAMONTE SPRINGS, LOCKHART, OVIEDO, AND ZELLWOOD. ATTEMPTS HAVE BEEN MADE TO CLEAN UP EACH NEW INFESTATION WITH INSECTICIDES APPLIED AS DRENCHES AND DIPS. IN SEPTEMBER 1965, A NEW INFESTATION WAS FOUND BY PLANT SUPERVISING INSPECTOR C. O. YOUTSEY ON THE ROOTS OF CONTAINER-GROWN CITRUS IN A WINTER HAVEN GREENHOUSE AND ON THE ROOTS OF CHINESE BOXORANGE (SEVERINIA BUXIFOLIA TEN.) ADJACENT TO THE GREENHOUSE. THE INFESTATION ON CHINESE BOXORANGE IS EVIDENCE THAT THIS MEALYBUG IS CAPABLE OF INFESTING PLANTS OUTSIDE GREENHOUSES IN FLORIDA. ERADICATION OF THIS MEALYBUG AT WINTER HAVEN IS UNDERWAY FOLLOWING CONTROL TESTS ESTABLISHED BY DR. L. C. KUITERT, ENTOMOLOGIST, FLORIDA AGRICULTURAL EXPERIMENT STATION, GAINESVILLE, IN COOPERATION WITH DIVISION ENTOMOLOGISTS. ALL CONTROL RECOMMENDATIONS GIVEN IN THIS CIRCULAR ARE THOSE APPROVED BY THE FLORIDA AGRICULTURAL EXPERIMENT STATION.

ECONOMIC IMPORTANCE: THIS INSECT IS A GROUND-INHABITING SPECIES THAT FEEDS ON THE ROOTS OF PLANTS (FIG. 2). IT IS KNOWN TO BE AN ECONOMIC PEST IN SOME CACAO AND COFFEE PRODUCING REGIONS OF THE WORLD. THE ECONOMIC POTENTIAL OF THIS MEALYBUG TO FLORIDA AGRICULTURE IS UNKNOWN. SINCE CITRUS IS A HOST OF THIS PEST, EVERY PRECAUTION IS BEING TAKEN TO ERADICATE IT IN FLORIDA.

DESCRIPTION: THE ADULT FEMALE IS SNOW WHITE, ELONGATE-OVAL, AND 2-2.5 MM IN LENGTH. THE ANAL LOBES ARE RED-BROWN WITH A PROMINENT, UPTURNED, CHITONIZED, BLUNT ANAL HOOK AT THE TIP OF EACH LOBE (FIG. 1). A MUCH SMALLER PAIR OF DOWNWARD CURVED, CHITONIZED, MEDIAN DORSAL HOOKS APPEAR TO OCCUR ON THE LAST SEGMENT OF THE ABDOMEN (FIG. 1). THE PROMINENT HOOKS ARE KEY CHARACTERS FOR SEPARATING THIS ROOT MEALYBUG FROM OTHER SUBTERRANEAN SPECIES IN FLORIDA (FIG. 1).

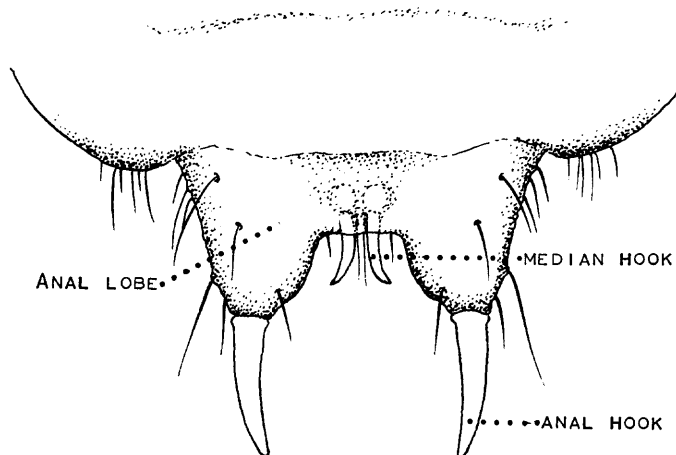


FIG. 1. ANAL LOBES OF ADULT FEMALE (X 285). ILLUSTRATED BY R. E. WOODRUFF.

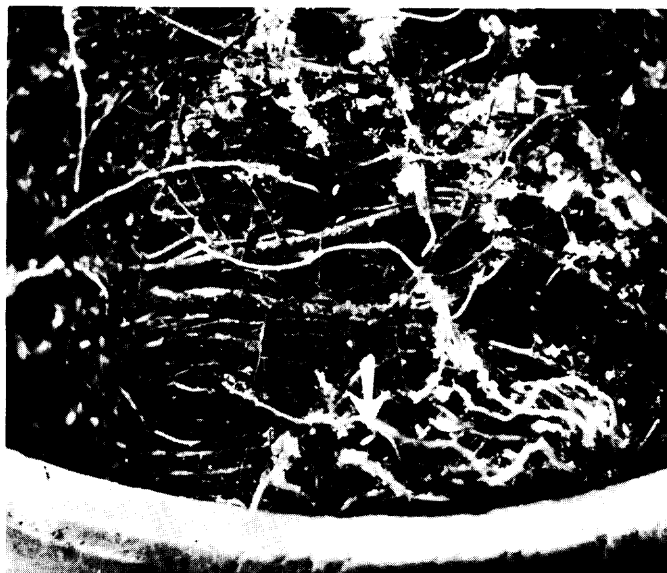


FIG. 2. INFESTED ROOTS OF POTTED PLANT (NATURAL SIZE), ARROW POINTS TO ADULT FEMALE MEALYBUG. PHOTO BY G. G. NORMAN.

¹CONTRIBUTION No. 67, ENTOMOLOGY SECTION.

HOSTS: AGLAONEMA, CALADIUM, CANNA, CHAMAEDOREA, CITRUS, CODIAEUM, COFFEA, CYPERUS, DESPLATZIA, DICHORISANDRA, DIEFFENBACHIA, EUGENIA, EUPATORIUM, GNAPHALIUM, HEDERA, INDIGOFERA, IPOMOEA, MUSA, NERIUM, OSMANTHUS, PASPALUM, PEPEROMIA, PHILODENDRON, PILEA, SCHEFFLERA, SCINDAPSUS, SERISSA, SEVERINIA, SOLANUM, SYNGONIUM, THEOBROMA, AND XANTHOSOMA.

CONTROL: INSECTICIDE--THE LIQUID CONCENTRATES, META-SYSTOX R 25.4% OR DI-SYSTON* 67.5%, ARE EFFECTIVE AS DRENCHES WHEN USED AT DOSAGES OF ONE QUART TO 100 GALLONS OF WATER. THE DRENCH IS APPLIED AT TWO-WEEK INTERVALS OVER A PERIOD OF EIGHT WEEKS. ON CITRUS THE INSECTICIDE CAN BE USED ONLY ON NON-BEARING CONTAINER-GROWN AND LINER SEEDLINGS. KEEP PLANTS WATERED WELL BETWEEN TREATMENTS. THE INSECTICIDES HAVE NOT BEEN TESTED ON THE OTHER HOST PLANTS LISTED IN THIS CIRCULAR, AND USE ON THESE PLANTS MAY RESULT IN PLANT INJURY. FOLLOW SAFETY PRECAUTIONS GIVEN ON MANUFACTURERS' LABELS.

FUMIGATION--METHYL BROMIDE AT FOUR POUNDS PER 1,000 CUBIC FEET FOR TWO HOURS AT 70-75 F IS EFFECTIVE AGAINST ALL STAGES OF THE ROOT MEALYBUG. PLANT INJURY CAN BE EXPECTED WITH THE ABOVE DOSAGE OF METHYL BROMIDE.

DISTRIBUTION: BRAZIL, CANAL ZONE, CEYLON, COLOMBIA, COSTA RICA, CUBA, DOMINICAN REPUBLIC, DUTCH GUIANA, GOLD COAST, GUATEMALA, HAWAII, HONDURAS, INDIA, NIGERIA, PALAU, PANAMA, PERU, PHILIPPINES, PUERTO RICO, U.S.A. (FLORIDA), UGANDA, SALVADORE AND ZANZIBAR (FIG. 3).

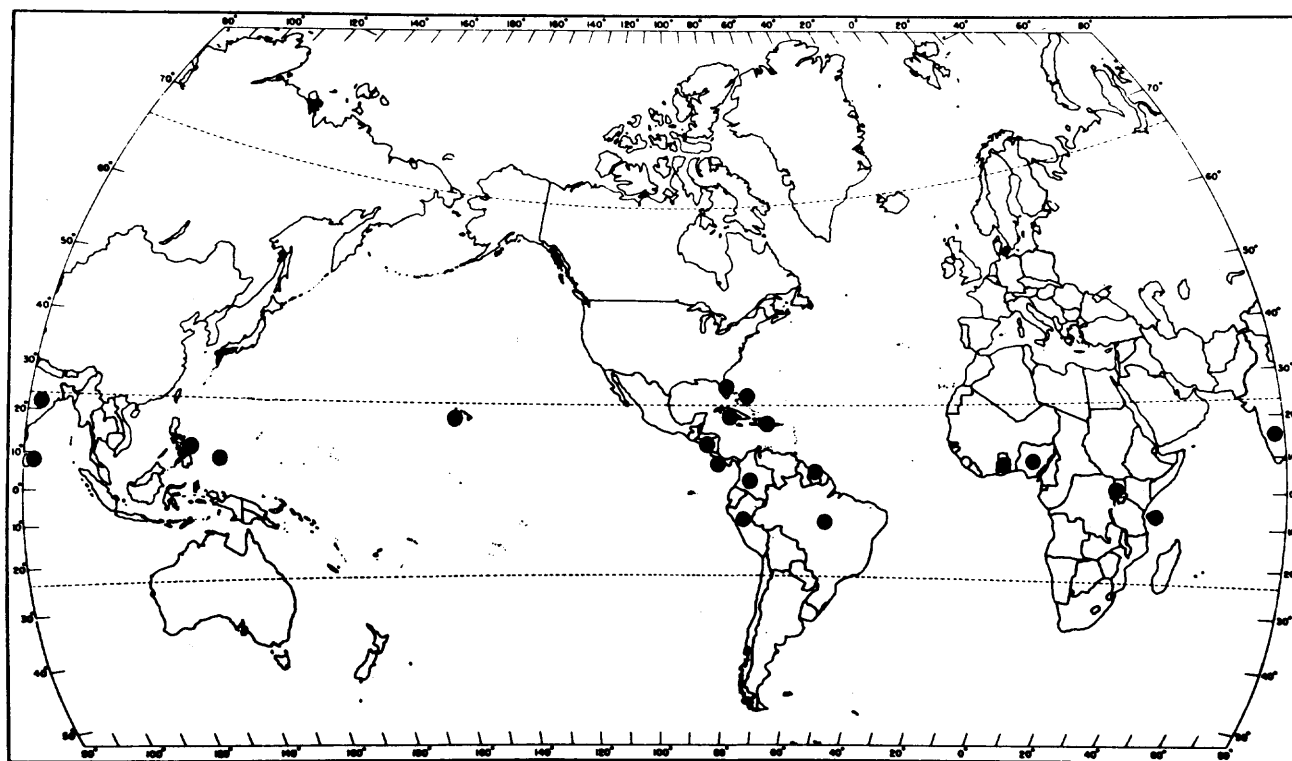


FIG. 3. GENERAL DISTRIBUTION OF GEOCOCCUS COFFEA GREEN.

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*A HIGHLY TOXIC INSECTICIDE THAT IS NOT RECOMMENDED FOR RESIDENTIAL AREAS.