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SPIDER MITES OF FLORIDA CITRUS[1]

H. A. DENMARK

INTRODUCTION:--THERE ARE FOUR SPECIES OF SPIDER MITES FOUND ON FLORIDA CITRUS. THE CITRUS RED MITE (PANONYCHUS CITRI (MCGREGOR)) WAS DESCRIBED IN 1916 BY MCGREGOR ON LEMON FROM ORLANDO, FLORIDA. THE SIX-SPOTTED MITE (EOTETRANYCHUS SEXMACULATUS RILEY) WAS DESCRIBED IN 1890 BY RILEY ON CITRUS FROM FLORIDA. THE TEXAS CITRUS MITE (EUTETRANYCHUS BANKSI (MCGREGOR)) WAS DESCRIBED IN 1914 BY MCGREGOR ON CASTOR BEANS AND VELVET BEANS FROM ORLANDO, FLORIDA. THE TUMID SPIDER MITE (TETRANYCHUS TUMIDUS BANKS) WAS DESCRIBED IN 1900 BY BANKS ON WATER HYACINTH FROM EUSTIS, FLORIDA.

DISTRIBUTION:--THE CITRUS RED MITE UNDOUBTEDLY OCCURS IN MOST CITRUS GROWING AREAS OF THE WORLD. THE SIX-SPOTTED MITE OCCURS IN FLORIDA, CALIFORNIA, AND FORMOSA. THE TEXAS CITRUS MITE OCCURS IN AFRICA, ARGENTINA, EGYPT, INDIA, ITALY, MEXICO, PALESTINE, PERU, AND FLORIDA AND TEXAS IN THE UNITED STATES. THE TUMID MITE IS FOUND IN THE SOUTHEASTERN UNITED STATES, CALIFORNIA, GUAM, AND PUERTO RICO.

HOST:--THE CITRUS RED MITE IS PRIMARILY FOUND ON BROADLEAVED EVERGREEN TREES, SHRUBS, AND CITRUS. THE SIX-SPOTTED MITE IS A SERIOUS PEST OF CITRUS IN FLORIDA AND CALIFORNIA AND HAS BEEN TAKEN ON CITRUS IN FORMOSA. IT IS ALSO A PEST OF AVOCADO, AZALEA, CAMPHOR, ELAEAGNUS, MAPLE, PYRACANTHA, AND ROYAL PAULONIA. THE TEXAS CITRUS MITE IS FOUND ON ALMOND, CASSIA FISTULA, CASTOR BEAN, CITRUS, CROTON, FICUS SP., FLACOURTIA INDICA, ONCOBA SPINOSA, SAPOTA, VELVET BEAN, AND ZIZYPHUS JUJUBA. THE TUMID MITE IS A PEST OF COTTON, VEGETABLE CROPS, POTTED ORNAMENTALS, LOW GROWING PLANTS AND SHRUBS. IT IS OCCASIONALLY FOUND ON CITRUS LEAVES GROWING ON THE LOWER LIMBS OF TREES IN THE PROXIMITY OF WEEDS AND COVER CROPS.

ECONOMIC IMPORTANCE:--THE CITRUS RED MITE IS ONE OF THE MAJOR CITRUS PESTS. IT FEEDS ON TWIGS, LEAVES, AND FRUIT, AND IT INJURES THE LEAVES CAUSING A GRAYING OR MESOPHYLL COLLAPSE, "FIRING," AND DEFOLIATION. THE SIX-SPOTTED MITE IS STATE-WIDE, OCCURRING IN THE LATE FALL AND EARLY SPRING WITH SEVERE INFESTATIONS FOLLOWING COLD WINTERS. IT FEEDS IN RESTRICTED AREAS, NEARLY ALWAYS ALONG THE MIDRIB ON THE UNDERSIDE OF THE LEAF. THE INFESTED AREA BECOMES CONCAVE AND YELLOW, AND THE COLONY IS COVERED WITH WEBBING. LEAF DROP OCCURS WITH HIGH POPULATIONS. THE TEXAS CITRUS MITE DAMAGE IS SIMILAR TO THE CITRUS RED MITE. ALTHOUGH IT WAS FIRST DESCRIBED IN 1914 ON CASTOR BEANS AND VELVET BEANS FROM FLORIDA, IT WAS NOT UNTIL ABOUT 1950 THAT THIS MITE BECAME A PEST OF CITRUS IN FLORIDA. THE TUMID MITE IS NOT COMMON ON CITRUS, AND AT THIS TIME NO CONTROLS ARE REQUIRED.

DESCRIPTION:--THE FEMALE CITRUS RED MITE (FIG. 3) IS OVAL IN SHAPE AND ABOUT 1/50 INCH IN LENGTH. IT IS A DEEP RED TO REDDISH PURPLE IN COLOR WITH LONG WHITE TO PINK HAIR PROJECTING FROM STRONG TUBERCLES ON THE DORSAL SURFACES OF THE BODY. THE MALE (FIG. 4) IS SMALLER THAN THE FEMALE AND HAS A TAPERING BODY.

THE FEMALE SIX-SPOTTED MITE (FIG. 5) IS OVAL IN SHAPE AND ABOUT 1/50 INCH IN LENGTH. IT IS LIGHT YELLOW WITH SEVERAL DARK SPOTS ON THE DORSAL SURFACE OF THE BODY. THE MALE (FIG. 6) IS SMALLER THAN THE FEMALE AND HAS A TAPERING BODY.

THE FEMALE TEXAS CITRUS MITE (FIG. 1) IS LIGHT BROWN TO GREENISH, OVAL IN SHAPE, AND ABOUT 1/60 INCH IN LENGTH. THE BODY HAIRS ARE SHORT. THE MALE (FIG. 2) HAS LONG LEGS AND IS SMALLER THAN THE FEMALE AND HAS A TAPERING BODY.

THE FEMALE TUMID MITE (FIG. 7) IS LIGHT GREEN (RED ON HYACINTH), OVAL IN SHAPE, AND ABOUT 1/60 INCH IN LENGTH. THE MALE (FIG. 8) IS SMALLER THAN THE FEMALE AND HAS A TAPERING BODY.

[1]CONTRIBUTION NO. 34, ENTOMOLOGY SECTION.

Field Key With Aid of Hand Lens

A. Dorsal setae short (Figs. 1 and 2) . . . . . Texas citrus mite

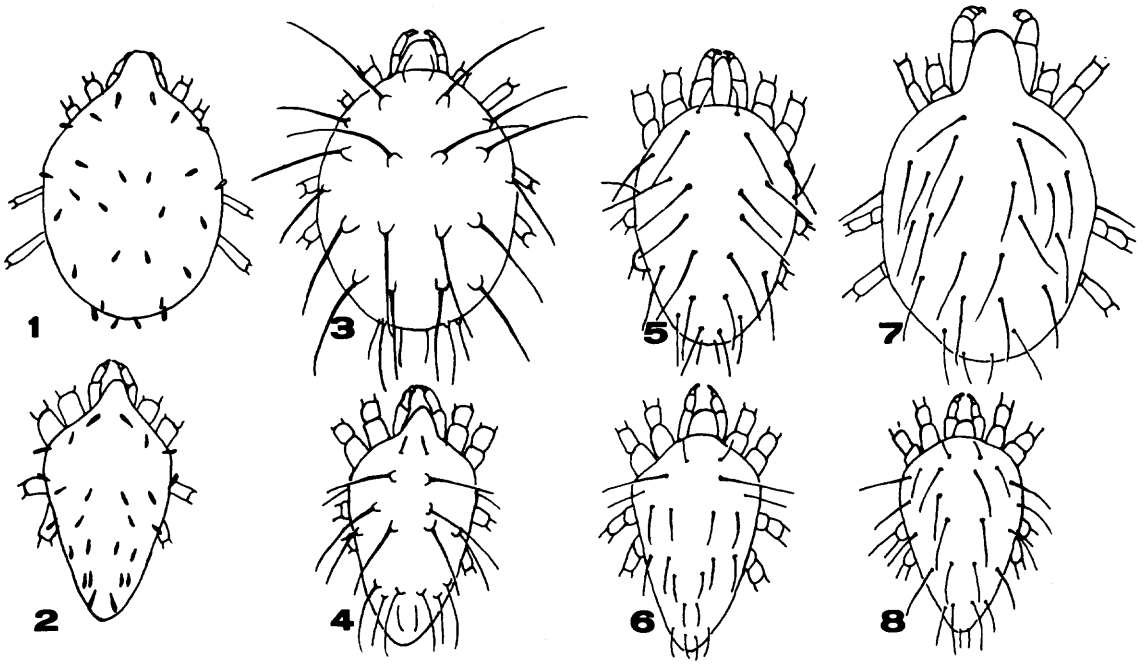
AA. Dorsal setae long . . . . . B

B. Dorsal setae extending from tubercles (Figs. 3 and 4) . . . . . citrus red mite

BB. Dorsal setae not extending from tubercles C

C. Body light yellow, found on the under sides of leaves in yellow concaved areas (Figs. 5 and 6) . . . . . .six-spotted mite

CC. Body light green, leaf vagrants (Figs. 7 and 8) . . . . . tumid mite



1, 3, 5, and 7 females; 2, 4, 6, and 8 males.

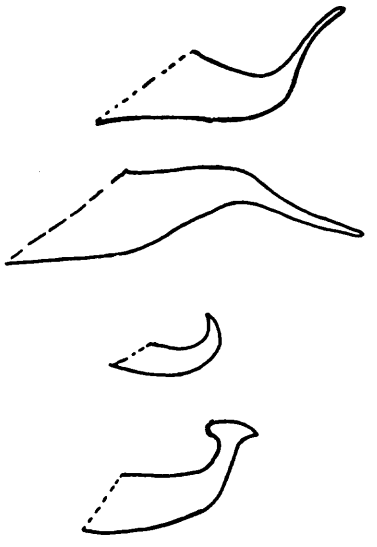
Aedaegus of Mounted Male Mites

A. Citrus red mite . . . . . .

B. Six-spotted mite . . . . . .

C. Texas citrus mite . . . . . .

D. Tumid mite . . . . . .



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