

A PSYLLID, TRIOZA MAGNOLIAE (ASHMEAD)
(HOMOPTERA:PSYLLIDAE)

F. W. MEAD

ECONOMIC IMPORTANCE: THIS JUMPING PLANT LOUSE INITIATES LARGE, UNSIGHTLY GALLS ON THE LEAVES OF BAY TREES. APPARENTLY, THESE TREES CAN TOLERATE A HEAVY INFESTATION WITHOUT BEING MATERIALLY WEAKENED. PRINCIPALLY CONCERNED ARE HOMEOWNERS, NURSERYMEN, AND PARK OFFICIALS WHO WANT TO KEEP THEIR TREES ATTRACTIVE.

HOSTS: BAY TREES ARE THE HOSTS, BUT TREES IN SEVERAL DIFFERENT GENERA HAVE BEEN CALLED "BAY" TREES, AND THIS HAS LED TO CONFUSION. FURTHERMORE, THE LEAVES OF THE TWO MAIN HOST "BAYS" ARE EASILY CONFUSED. THE PRINCIPAL HOST IS REDBAY (PERSEA BORBONIA (L.) SPRENG.). THE PURPORTED OTHER MAIN HOST IS SWEETBAY (MAGNOLIA VIRGINIANA L.). VETERAN BOTANIST MR. ERDMAN WEST, UNIVERSITY OF FLORIDA, HAS NEVER SEEN PSYLLID GALLS ON MAGNOLIA VIRGINIANA (PERSONAL COMMUNICATION). POSSIBLY ASHMEAD (1881) CONFUSED P. BORBONIA AND M. VIRGINIANA IN HIS FIELD OBSERVATIONS. THE DIVISION OF PLANT INDUSTRY (DPI) FILES, HOWEVER, DO CONTAIN SEVERAL RECORDS OF TRIOZA MAGNOLIAE REPORTED ON M. VIRGINIANA, BUT THESE CANNOT BE CONFIRMED. BECAUSE OF THE UNUSUAL CONFUSION CONCERNING THESE HOSTS, A TABLE HAS BEEN PREPARED ON PAGE TWO WHICH WILL AID IN IDENTIFYING THESE TREES.



FIG. 1

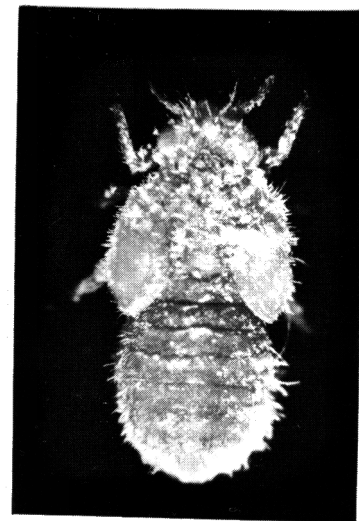


FIG. 2

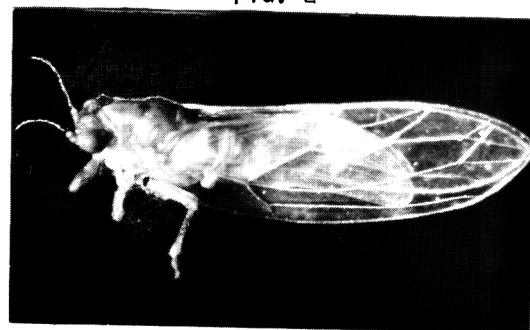


FIG. 3

FIG. 1. GALLS ON REDBAY (PERSEA BORBONIA) CONTAINING TRIOZA MAGNOLIAE (ASHMEAD).

FIG. 2. NYMPH OF TRIOZA MAGNOLIAE (APPROX. 15 TIMES ACTUAL SIZE).

FIG. 3. ADULT ♂ TRIOZA MAGNOLIAE (APPROX. 25 TIMES ACTUAL SIZE).

HOST	FLOWERS	FRUIT	BARK	TWIGS	LEAVES
MAGNOLIA VIRGINIANA = GLAUCA	LARGE (2-3"), WHITE, SOLITARY, FRAGRANT.	CONE-LIKE (2-3") WITH SEVERAL EX- POSED SCARLET SEEDS.	GRAYISH, SMOOTH, NO CONSPICUOUS RIDGES.	STIPULAR SCAR FORMS RING AROUND NODE; COARSE, THICK, RIDGED.	SILVERY-GRAY UNDERNEATH; VEINS LESS PROMINENT NEARLY STRAIGHT BUD 1/2" SILVERY-WHITE.
PERSEA BORBONIA = TAMALA BORBONIA	SMALL (1/4-1/2"), GREENISH, IN SMALL CLUSTERS, NOT FRAGRANT.	BERRY-LIKE, UP TO 1/2" LONG, ROUNDISH SMOOTH, BLUE-BLACK SINGLE SEED.	PURPLISH- BROWN, ROUGHEN- ED, INTERLACING RIDGES.	STIPULAR SCAR NOT FORMING RING AROUND NODE; SLENDER FLEXIBLE.	BROWNISH, USUALLY; VEINS MORE PROMINENT AND CURVED; BUD 1/4" OR LESS, BROWNISH.

OTHER HOSTS ARE SILKBAY (PERSEA HUMILIS NASH), SWAMPBAY (PERSEA PALUSTRIS (RAF.) SARG.), AND SHOREBAY (PERSEA LITTORALIS SMALL). IT IS INTERESTING THAT WE HAVE NO RECORD OF TRIOZA MAGNOLIAE ON AVOCADO (PERSEA AMERICANA MILL.). HOWEVER, A CLOSELY RELATED PSYLLID (TRIOZA ANCEPS TUTHILL) HAS BEEN REPORTED IN MEXICO AS FORMING DESTRUCTIVE GALLS ON AVOCADO LEAVES. DPI HAS ONE RECORD OF T. MAGNOLIAE ON LAURUS NOBILIS L., THE TRUE LAUREL OF FLORISTS. THIS MAY BE AN ERROR, SINCE TUTHILL (1943) LISTS THE CLOSELY RELATED TRIOZA ALACRIS FLOR AS A PSYLLID OCCURRING ON THIS HOST. ANOTHER UNCONFIRMED DPI RECORD OF T. MAGNOLIAE LISTS IT ON BAY RUM TREE (PIMENTA RACEMOSA J. W. MOORE).

DISTRIBUTION: FLORIDA (FIG. 4), ALABAMA, GEORGIA, NEW JERSEY, MEXICO. TUTHILL (1944) NOTED SLIGHT DIFFERENCES IN MEXICAN SPECIMENS, BUT STILL THOUGHT THEY WERE T. MAGNOLIAE.

DESCRIPTION: GALLS (FIG. 1) ARE LARGE, SOMETIMES AN INCH OR SO LONG. QUITE OFTEN, TWO OR THREE GALLS ARE FOUND ON THE SAME LEAF, CAUSING MUCH OF THE LEAF TO BECOME MALFORMED. GALLS FORM ON LEAF MARGINS, AND SEEM TO "ROLL" TOWARD THE MID-VEIN, WITH THEIR LONG AXES PARALLEL TO THE MID-VEIN. THE GALLS FORM A CLOSED POCKET, BUT WHEN FULLY MATURE THEY OPEN ALONG THE SIDE IN THE FORM OF A LARGE CURVED LIP. THE COLOR IS GREENISH-YELLOW WITH A BLUISH BLOOM. INSIDE THE GALLS CAN BE FOUND NYMPHS IN VARIOUS STAGES, CAST SKINS, WHITE WAXY POWDER AND "WOOL", AND HONEY-DEW COATED WITH WHITE WAXY PARTICLES GIVING THE LIQUID A MILKY APPEARANCE. THE NYMPHS (FIG. 2) ARE ELONGATE-OVATE, OVER 2 MM LONG WHEN MATURE, FLATTENED, PALE YELLOW TO GREEN, AND WITH SHORT MARGINAL HAIRS. ADULTS (FIG. 3) ARE ABOUT 4 MM LONG, GENERAL COLOR GREEN TO LIGHT BROWN, SOMETIMES WITH LONGITUDINAL BROWN STRIPES ON THORACIC DORSUM. TIPS OF ANTENNAE DARK. EYES REDDISH. WINGS HYALINE. THIS SPECIES PROBABLY IS SINGLE-BROODED, BUT IN FLORIDA WE HAVE REPORTS OF GALLS WITH NYMPHS FOR ALL MONTHS. ADULTS SEEM TO EMERGE FROM APRIL TO JUNE WITH THE PEAK COMING IN MID MAY. EMERGENCE IS EASILY NOTED BY CAST SKINS OF THE LAST STAGE NYMPHS ADHERING TO THE UNDERSIDES OF LEAVES. CLARIFICATION OF THE LIFE HISTORY IS NEEDED.

CONTROL: NO RECOMMENDATIONS ARE KNOWN TO THE AUTHOR OR UNIVERSITY OF FLORIDA ENTOMOLOGISTS. POSSIBLY THE LATE WINTER APPLICATION OF SOME MATERIAL SUCH AS LINDANE, MALATHION, DIAZINON, OR DIMETHOATE WHEN THE GALLS ARE VERY SMALL ON NEW GROWTH, OR JUST BEFORE THEIR SCHEDULED APPEARANCE, MIGHT BE OF VALUE.

REFERENCES:

- ASHMEAD, W. H. 1881. ON THE APHIDIDAE OF FLORIDA, WITH DESCRIPTIONS OF NEW SPECIES. CAN. ENT. 13(11):223-225.
- TUTHILL, L. D. 1943. THE PSYLLIDS OF AMERICA NORTH OF MEXICO. IOWA STATE COLL. J. SCI. 17(4):556.
1944. CONTRIBUTIONS TO THE KNOWLEDGE OF THE PSYLLIDAE OF MEXICO. J. KANSAS ENT. Soc. 17(4):149.

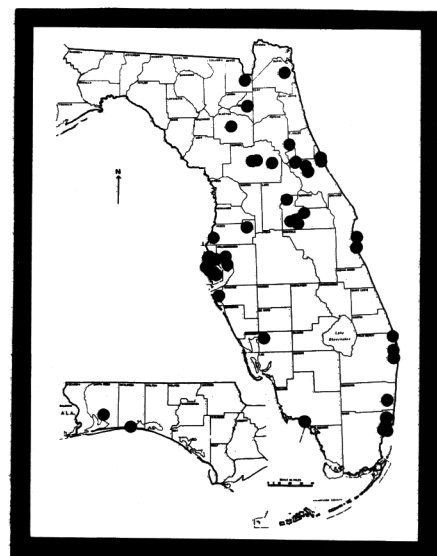


FIG. 4. KNOWN DISTRIBUTION OF TRIOZA MAGNOLIAE IN FLORIDA.