

WEST INDIAN FRUIT FLY ANASTREPHA MOMBINPRAEOPTANS SEÍN

(DIPTERA: TEPHRITIDAE)<sup>1</sup>  
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SYNONYMS: ANASTREPHA FRATERCULUS VAR. MOMBINPRAEOPTANS SEÍN, 1933

ANASTREPHA ACIDUSA AUTHORS (NOT WALKER)

ANASTREPHA TRINIDADENSIS GREENE, 1934

ANASTREPHA ETHALEA GREENE (NOT WALKER)

ANASTREPHA FRATERCULUS VAR. LIGATA COSTA LIMA 1934

INTRODUCTION: THE WEST INDIAN FRUIT FLY, ANASTREPHA MOMBINPRAEOPTANS IS THE MOST ABUNDANT SPECIES OF ANASTREPHA IN THE WEST INDIES AND ONE OF THE MOST ABUNDANT SPECIES IN PANAMA. IT WAS DESCRIBED ORIGINALLY BY SEÍN IN 1933 AS A VARIETY OF ANASTREPHA FRATERCULUS (WIEDEMANN). THE TYPE SERIES WAS FROM RIO PIEDRAS, PUERTO RICO. FIRST REPORTED FROM FLORIDA IN THE EARLY 1930'S AS AN UNNAMED SPECIES, IT IS ONE OF SIX SPECIES OF ANASTREPHA RECORDED AS NATIVE TO FLORIDA. A. MOMBINPRAEOPTANS IS A MAJOR PEST OF MANGOES IN MOST TROPICAL COUNTRIES, MAKING THE PRODUCTION OF SOME VARIETIES UNPROFITABLE. SOME VARIETIES, HOWEVER, ARE LITTLE DAMAGED. IT, LIKE A. SUSPENSUS (LOEW), ALSO ATTACKS OTHER TROPICAL FRUITS OF LITTLE ECONOMIC IMPORTANCE IN FLORIDA. ITS FAILURE TO EXTEND ITS DISTRIBUTION FURTHER NORTHWARD SUGGESTS THAT IT IS NOT A THREAT TO FLORIDA AGRICULTURE. IT IS INTERCEPTED FREQUENTLY IN MANGOES AND SEVERAL OTHER FRUITS FROM VARIOUS COUNTRIES. APPARENTLY THIS SPECIES EXISTS AT A THRESHOLD LEVEL IN FLORIDA. MOST RECENT FLORIDA RECORDS ARE FOR SEVERAL ADULT FEMALES IN 1957 FROM KEY WEST AND ONE LARVA IN MANGO FROM FT. LAUDERDALE, JUNE 25, 1963, WHICH WAS IDENTIFIED BY DR. R. H. FOOTE AS "ANASTREPHA SPECIES, POSSIBLY MOMBINPRAEOPTANS."

DISTRIBUTION: SOUTHERN TIP OF FLORIDA FROM THE MIAMI AREA SOUTHWARD THROUGH THE KEYS OF MONROE COUNTY, THROUGHOUT THE GREATER AND LESSER ANTILLES, JAMAICA, TRINIDAD, THE RIO GRANDE VALLEY OF TEXAS, MEXICO TO PANAMA, VENEZUELA, ECUADOR, AND THE VICINITY OF RIO DE JANEIRO, BRAZIL. THE BRAZILIAN POPULATION MAY REPRESENT AN INTRODUCTION OF THE SPECIES AT THE PORT OF RIO DE JANEIRO.

HOSTS: ANACARDIUM OCCIDENTALE (CASHEW), ANNONA HAYESII, AVERRHOA CARAMBOLA (CARAMBOLA), CITRUS AURANTIUM (SOUR ORANGE), CITRUS GRANDIS (POMELO), DOVYALIS HEBECARPA (KITAMBILLA OR CEYLON GOOSEBERRY), ERIOBOTRYA JAPONICA (LOQUAT), EUGENIA JAMBOS (JAMBOS, ROSE-APPLE, OR POMAROSA), EUGENIA MALACCENSIS (MALAY-APPLE OR POMERACK), EUGENIA NESIOTICA, MANGIFERA INDICA (MANGO), POUTERIA MAMMOSA (SAPOTE), PRUNUS AMYGDALUS (BITTER ALMOND), PSIDIUM GUAJAVA (GUAVA), SPONDIAS DULCIS (VI-APPLE OR OTAHEITE-APPLE), SPONDIAS MOMBIN (YELLOW MOMBIN), SPONDIAS NIGRESCENS, SPONDIAS PURPUREA (PURPLE OR RED MOMBIN). THE SPECIES ALSO HAS BEEN REARED EXPERIMENTALLY FROM ACHRAS SAPOTA (SAPODILLA), ANNONA GLABRA (POND-APPLE), CHRYSOBALANUS ICACO (COCO-PLUM), PASSIFLORA QUADRANGULARIS (A PASSION-FLOWER, THE GIANT GRANADILLA), PRUNUS PERSICA VAR. NECTARINA (NECTARINE), AND VITIS VINIFERA (CALIFORNIA GRAPE). THE FAVORED FOOD PLANTS ARE THE MOMBINS, JOBOS, OR HOG PLUMS OF THE GENUS SPONDIAS, FOLLOWED BY THE MANGO, THE ROSE-APPLE, AND THE GUAVA. MOST OF THE SPECIMENS FROM FLORIDA HAVE BEEN REARED FROM HOG PLUMS AND GUAVAS. THE FLORIDA RACE SEEMS TO DIFFER FROM THE PUERTO RICAN RACE IN THAT A. MOMBINPRAEOPTANS IN FLORIDA HAS NEVER BEEN POSITIVELY ASSOCIATED WITH ATTACKS ON MANGOES.

LIFE HISTORY: THE PREOVIPOSITION PERIOD IN PUERTO RICO VARIES FROM ABOUT A WEEK IN SUMMER UP TO 2-3 WEEKS IN WINTER. EGGS ARE LAID SINGLY, GENERALLY IN MATURE GREEN FRUITS EXCEPT FOR SOME VARIETIES OF MANGOES WHICH MAY BE ATTACKED WHEN THEY ARE VERY SMALL. THE LARVAL STAGE LASTS 10-13 DAYS IN SUMMER, SLIGHTLY LONGER IN WINTER, AND THE PUPAL STAGE OCCUPIES ABOUT THE SAME LENGTH OF TIME. POSSIBLY SIX OR SEVEN GENERATIONS DEVELOP ANNUALLY.

IDENTIFICATION: THE ADULT IS A MEDIUM SIZED YELLOW-BROWN FLY (FIG. 1). MESONOTUM 2.6-3.3MM LONG, YELLOW-ORANGE, A RATHER BROAD MEDIAN STRIPE WIDENING POSTERIORLY, HUMERUS AND STRIPE BACK TO NOTO-  
PLEURON, LATERAL STRIPE FROM JUST BEFORE TRANSVERSE SUTURE TO SCUTELLUM, AND SCUTELLUM PALE-YELLOW; PLEURA YELLOW-BROWN, A STRIPE BELOW NOTOPLEURON TO WING BASE AND METAPLEURON PALER; METANOTUM ORANGE-YELLOW, THE SIDES USUALLY SOMEWHAT DARKENED. MACROCHAETAE DARK BROWN; PILE PREDOMINANTLY DARK BROWNISH EXCEPT FOR A VERY PALE-YELLOW PILE OF MEDIAN THORACIC STRIPE. WING 5.85-7.5MM LONG, THE BANDS YELLOW-BROWN; COSTAL AND S BANDS TOUCHING ON VEIN R<sub>4+5</sub>; V BAND COMPLETE, USUALLY JOINED TO S BAND, OFTEN BROADLY SO. OVIPOSITOR SHEATH OF FEMALE 1.6-1.9MM; OVIPOSITOR 1.3-1.6MM LONG, MODERATELY STOUT, THE BASE DISTINCTLY WIDENED, THE TIP RATHER SHORT, TAPERING, WITH RATHER ACUTE SERRATIONS ON THE APICAL TWO-THIRDS OR MORE (FIG. 2). A. MOMBINPRAEOPTANS BEARS A CLOSE RESEMBLANCE TO A. FRATERCULUS (WIEDEMANN), BUT IT MAY BE DISTINGUISHED BY THE DIFFERENCES IN THE OVIPOSITOR OF THE FEMALE AND A COMBINATION OF SEVERAL OTHER CHARACTERS. THE PILE OF THE MESOScutum IS SUBLATERALLY DARK BROWNISH BLACK, OF THE MEDIAN STRIPE YELLOWISH WHITE, THE CONTRAST VERY PRONOUNCED IN MOMBINPRAEOPTANS, WHEREAS

<sup>1</sup>CONTRIBUTION No. 194, BUREAU OF ENTOMOLOGY

IN FRATERCULUS THE MESOSCUTELLAR PILE IS RATHER UNIFORMLY YELLOW-BROWN, THAT OF THE SUBLATERAL STRIPES SCARCELY DARKER THAN THE GROUND COLOR. THE BLACK ON SIDE OF METANOTUM OF MOMBINPRAEOPTANS USUALLY REDUCED AND THE INNER MARGIN OF THE BLACK AREA NOT SHARPLY DEFINED, THE POSTSCUTELLUM NOT DARKENED Laterally, THE WING BANDS USUALLY ALL CONNECTED, WHEREAS IN FRATERCULUS THE BLACK ON METANOTUM USUALLY EXTENSIVE, AND THE INNER MARGIN SHARPLY DEFINED, THE POSTSCUTELLUM DARKENED Laterally, AND THE WING BANDS OFTEN DISCONNECTED. A. SUSPENSA (LOEW) ALSO RESEMBLES MOMBINPRAEOPTANS, BUT DIFFERS FROM IT IN THE SAME WAY AS DOES FRATERCULUS. FURTHERMORE, MOMBINPRAEOPTANS LACKS THE PRONOUNCED MEDIAN SCUTOSCU-TELLAR BLACK SPOT TYPICALLY FOUND IN SUSPENSA.

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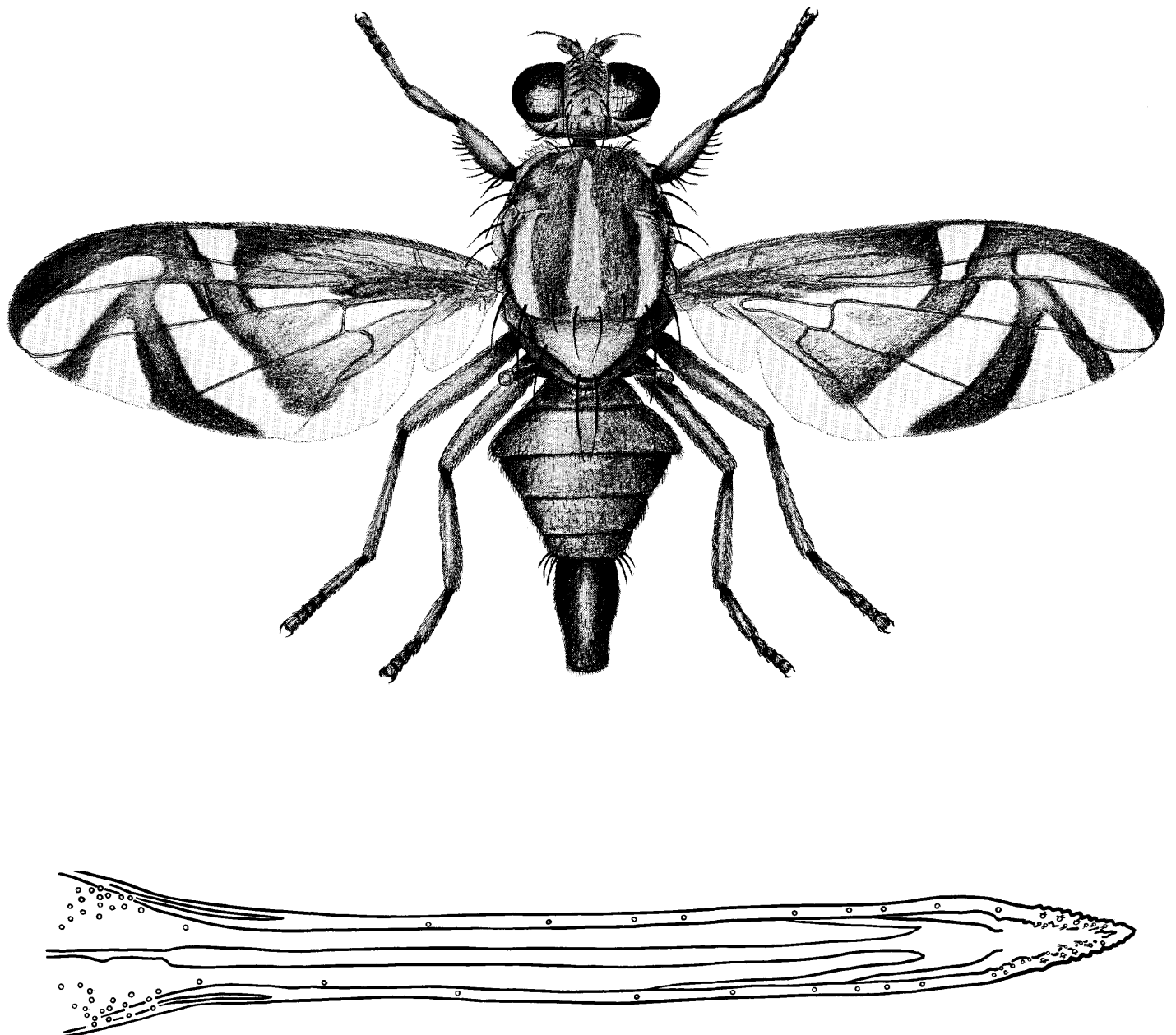


FIG. 2. OVIPOSITOR OF ANASTREPHA MOMBINPRAEOPTANS SEÍN