

QUEENSLAND FRUIT FLY (DACUS TRYONI (FROGGATT))<sup>1</sup>  
(DIPTERA: TEPHRITIDAE)  
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**INTRODUCTION:** THE QUEENSLAND FRUIT FLY OCCURS IN CLIMATES RANGING FROM TEMPERATE TO TROPICAL. WITHIN ITS RANGE, IT IS ONE OF THE MOST IMPORTANT PESTS WITH WHICH POME AND STONE FRUIT GROWERS HAVE TO CONTEND, AND AT TIMES IT HAS BEEN A VERY DESTRUCTIVE PEST OF CITRUS. DACUS TRYONI APPEARS TO BE ALMOST AS DESTRUCTIVE TO FRUIT PRODUCTION IN ITS AUSTRALIAN RANGE AS THE ORIENTAL FRUIT FLY, DACUS DORSALIS HENDEL, IS IN COUNTRIES WHERE IT APPEARS. A HEAVY OUTBREAK OF D. TRYONI IN NEW SOUTH WALES DURING 1940-41 RESULTED IN THE REJECTION OF 5-25% OF CITRUS AT HARVEST. IT IS NOT ESTABLISHED IN THE UNITED STATES, BUT THE EXTENSIVE DAMAGE CAUSED BY THE LARVAE OF THIS FLY IN AREAS SIMILAR TO FLORIDA WHERE IT HAS BECOME ESTABLISHED INDICATES THAT THIS SPECIES COULD BECOME A SERIOUS PEST OF POME AND STONE FRUIT CROPS, AND POSSIBLY OF CITRUS, IF IT WERE TO BECOME ESTABLISHED IN FLORIDA.

**DISTRIBUTION:** THE QUEENSLAND FRUIT FLY IS DISTRIBUTED OVER ABOUT HALF OF AUSTRALIA, INCLUDING PARTS OF QUEENSLAND, NEW SOUTH WALES, SOUTH AUSTRALIA, AND VICTORIA.

**HOSTS:** MORE THAN 100 SPECIES OF FRUITS AND VEGETABLES HAVE BEEN RECORDED AS HOSTS OF D. TRYONI, INCLUDING GRAPEFRUIT, SWEET ORANGE, MANDARIN ORANGE, SOUR ORANGE, LEMON, PAPAYA, GUAVA, MANGO, PEACH, MULBERRY, CASHEW, LOQUAT, FIG, PLUM, PEAR, NECTARINE, APRICOT, PERSIMMON, APPLE, QUINCE, SOUR CHERRY, TOMATO, CUCUMBER, AND BLACKBERRY. BANANAS ARE SAID TO BE ATTACKED ONLY WHEN OVERRIPE, AND OTHER FRUITS, SUCH AS GRAPES, ARE ATTACKED ONLY IN PEAK YEARS. WILD HOSTS INCLUDE PASSION-FLOWER, PASSIFLORA SPP., AND THE STOPPERS, EUGENIA SPP.

**LIFE HISTORY:** UNLIKE SEVERAL OF THE OTHER MOST IMPORTANT FRUIT FLY PESTS, D. TRYONI DOES NOT BREED CONTINUOUSLY BUT PASSES THE WINTER IN THE ADULT STAGE. THE TOTAL LIFE CYCLE REQUIRES TWO TO THREE WEEKS IN SUMMER AND UP TO TWO MONTHS IN THE FALL. ADULT FEMALES LIVE MANY MONTHS, AND FOUR OR FIVE OVERLAPPING GENERATIONS MAY DEVELOP ANNUALLY. ADULT FEMALES, AFTER PASSING THROUGH A TWO-WEEK PRE-OVIPOSITION STAGE FOLLOWING EMERGENCE FROM THE PUPAE, DEPOSIT EGGS IN GROUPS, UP TO SEVEN EGGS PER GROUP, IN FRUIT PUNCTURES. FEMALES OFTEN OVIPOSIT IN PUNCTURES MADE BY OTHER FRUIT FLIES SUCH AS THOSE OF THE MEDITERRANEAN FRUIT FLY, CERATITIS CAPITATA (WIEDEMANN), WITH THE RESULT THAT MANY EGGS OFTEN OCCUR IN A SINGLE CAVITY. AS MANY AS 40 LARVAE HAVE BEEN FOUND IN ONE PEACH, AND AS MANY AS 67 ADULTS HAVE BEEN REARED FROM ONE APPLE. EGGS HATCH IN TWO TO THREE DAYS UNDER FAVORABLE WEATHER CONDITIONS. THE ENSUING LARVAL DEVELOPMENT MAY BE COMPLETED IN AS LITTLE AS FIVE DAYS. PUPATION NORMALLY OCCURS IN THE SOIL. PUPAL DEVELOPMENT REQUIRES FROM A WEEK IN SUMMER TO A MONTH OR MORE IN COOLER WEATHER. ADULTS MAY LIVE A YEAR OR MORE. ADULTS FEED PRIMARILY UPON JUICES OF HOST PLANTS, NECTAR, AND HONEYDEW SECRETED BY VARIOUS KINDS OF INSECTS.

**IDENTIFICATION:** IMMATURE STAGES ARE SIMILAR IN APPEARANCE TO THOSE OF OTHER DACUS. THE ADULT FEMALE IS APPROXIMATELY 6 MM LONG, HAS A WING EXPANSE OF 10-12 MM, AND HAS MOSTLY TRANSPARENT WINGS MARKED WITH BROWN (FIG. 3). THE FLY IS BROWN MARKED WITH YELLOW. ON THE THORAX A BROAD CREAMY, OFTEN PALE, DORSAL BAND RUNS DOWN THE SCUTELLUM, AND THERE IS A WELL-DEFINED NARROW PALE YELLOW STRIPE ON EACH SIDE. THE HUMERI, OR SHOULDERS, ARE PALE YELLOW, ALSO. THE ABDOMEN IS CONSTRICTED AT THE BASE, FLARED IN THE MIDDLE, AND BROADLY ROUNDED AT THE TIP, NOT COUNTING THE OVIPOSITOR OF THE FEMALE.

<sup>1</sup> CONTRIBUTION No. 54, ENTOMOLOGY SECTION

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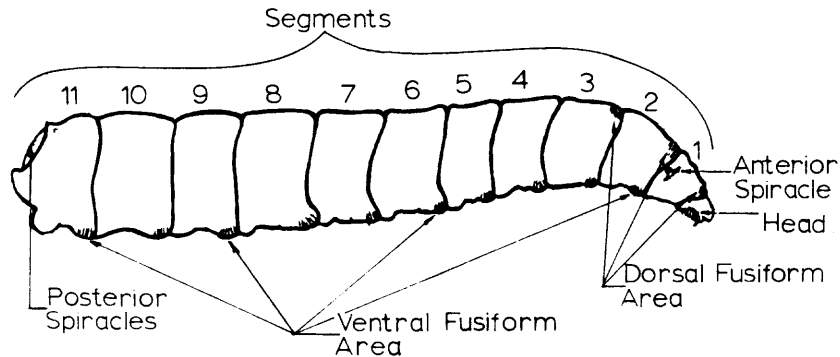


FIG. 1. TYPICAL FRUIT FLY LARVA

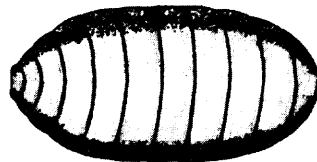


FIG. 2. TYPICAL FRUIT FLY PUPA

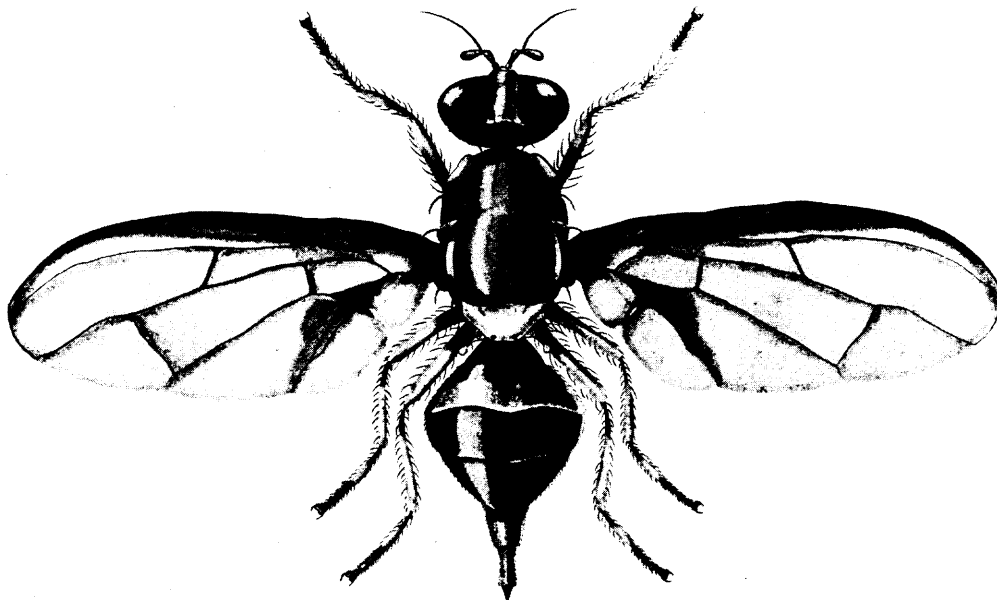


FIG. 3. DACUS TRYONI (FROGGATT), ADULT FEMALE