Entomology Circular No. 291
January 1987

Fla. Dept. of Agric. & Consumer Serv.
Division of Plant Industry

Guava fruit fly, *Dacus (Strumeta) correctus* (Bezzi) (DIPTERA: TEPHRITIDAE)[1]

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Chaetodacus correctus Bezzi, 1915, Bull. Ent. Res. 7:107. ***Nom. nov.*** for ***Bactrocera zonata*** Bezzi (***nec*** Saunders, 1841), 1913, Mem. Ind. Mus. 3:94, pl. 8, f.4. Type-locality: Pusa, Bihar, India.

INTRODUCTION: ***Dacus correctus*** (Bezzi),often referred to as the guava fruit fly (although the larvae of many other species of fruit flies feed on guava), was detected for the first time in the Western Hemisphere when 1 ♂ was found on 6 August 1986 in a methyl eugenol-baited Jackson trap in Garden Grove, Orange County, California. Two additional adult males were detected in Orange County on 9 August 1986, one trapped in a Jackson/methyl eugenol trap deployed in a peach tree in Westminster, the other in a Jackson/methyl eugenol trap hung in a grapefruit tree in Midway City, both within 2 miles of the original find. Trap density in the area of the original finds was 5 traps per square mile. California Department of Food and Agriculture Pest Detection/Emergency Projects personnel responded promptly by deploying Jackson/methyl eugenol and McPhail traps at 50 traps in the epicenter miles. Trapping in the surrounding 80 square miles was increased to 5 Jackson/methyl eugenol traps per square mile. No additional flies and no larvae have been found through mid-December. This fruit fly is strongly attracted to methyl eugenol and therefore should be detected in Oriental fruit fly detection traps baited with methyl eugenol. If it were to be allowed to go unchecked and to become established in areas such as California or Florida, ***D. correctus*** has the potential to become a major pest of citrus, peach, and several kinds of tropical and subtropical fruit hosts.

DISTRIBUTION: ***D. correctus*** occurs in India, Pakistan, Nepal, Sri Lanka, and Thailand, in addition to the recent invasion of California.

HOSTS: Recorded hosts include ***Citrus*** spp., ***Coffea canephora*** Pierre ex Froehn. (as ***Coffea robusta***), ***Eugenia uniflora*** L. (as ***Eugenia mitchelli***), ***Mangifera indica*** L. (mango), ***Prunus persica*** (L.) Batsch (peach), ***Psidium guajava*** L. (guava), ***Ricinus communis*** L. (castor bean, castor-oil-plant, palma christi, wonder tree), ***Santalum album*** L. (sandalwood, white sandalwood), ***Syzygium jambos*** (L.) Alston (as ***Eugenia jambos***) (roseapple), and ***Ziziphus*** spp., including ***Ziziphus jujuba*** Mill. (ber, jujube, Chinese date). Bezzi (1915) noted that ***D. correctus*** lives in company with ***Dacus zonatus*** (W. W. Saunders, 1841) and ***Dacus tuberculatus*** (Bezzi, 1915), feeding on the same fruits. ***D. zonatus***, in India called "the Ranchi peach-pest", is very injurious to peach, mango, and several other fruits, including ripe ***Aegle marmelos*** (L.) Correa (Bael fruit), ***Careya arborea*** Roxb., ***Ficus carica*** L. (cultivated fig, common fig, lemon fig), ***Lagenaria vulgaris***) (white gourd), and ***Manilkara zapota*** (L.) Van Royen (as ***Achras sapota***) (sapodilla), all of which must be considered potential hosts of ***D. correctus***.

IDENTIFICATION: ***Dacus correctus*** is a brightly colored little fly approximately 5.4 mm in length (fig. 1). In his original description of ***D. correctus*** (placed in the genus ***Chaetodacus***, Bezzi (1915) stated that ***correctus*** is very near the

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true ***D. zonatus***, but it is distinguished by the color of the thorax, and chiefly by the facial black spots being united to form a black transverse band; the whitish cross-band on the second abdominal segment is less developed, and the hind tibiae of the male are distinctly tuberculate before the end , similar to that of 2 closely related species, ***D. zonatus*** and ***D. tuberculatus***. In his redescription of ***D. correctus***, Hardy (1973) noted the close relationship of this species with ***D. zonatus*** and that the wing markings and morphological details are very similar in the two. He indicated that ***D. correctus*** is readily differentiated by having the mesonotum predominantly black through the median portion of the mesonotum, covered with gray pubescence and with 3 rather indistinct subshining black, narrow vittae, rather than rufous; and usually by having a complete transverse band in the furrow across the lower part of the face, rather than the usual 2 black facial spots of related species. This marking sometimes is interrupted in the median portion, but in fully hardened specimens it appears to be complete at least as a narrown brown to black line. However, George Steyskal, in his letter dated 26 August 1986, observed that specimens in the (U.S.) National Museum of Natural History collection, all identified by Hardy, show distinct interruption of the 2 facial bars. Hardy (1973) stated that ***D. correctus*** is differentiated from other species known from Thailand and surrounding regions by having the face with the black transverse band at the lower third and by having the costal end of the wing interrupted in cell R_3, beyond the tip of vein R_{2+3}. Wings are almost entirely hyaline with the subcostal cell yellow, a very faint tinge of yellow along the costal margin in apex of cell R_1, and a narrow brown spot at lower apex of cell R_3 and upper apex of cell R_5. Cubital cell faintly yellow and no cubital streak developed. Abdomen rufous above except for black basal marks on terga 2 and 3 and a median black vitta from terga 3 over 5. Sterna of both sexes entirely yellow. Legs mostly yellow. Ovipositor of female (Fig. 2, 3, 4) red, rather short, measuring approximately 3.0 mm when fully extended. Basal segment short, approximately equal in length to terga 5-6 and about 0.8 mm long. Piercer gradually tapered to a short point (Fig. 5, 6, 7), about 1.0 mm in length.

Immature stages of ***D. correctus*** have not been described in the literature, and specimens are unavailable to the author from which to prepare descriptions.

SURVEY AND DETECTION: Larvae can be collected from infested fruit, killed in boiling water, and placed in 50% alcohol for 2 days, then to 75% isopropyl alcohol, but specific identification based solely upon larvae is difficult. Larvae of many species of fruit flies are unknown. An effort should be made to rear some larvae to adults in order to correctly associate larvae and adults and provide the basis for accurate specific identification. Adults ususally are collected by use of stickyboard and baited traps.

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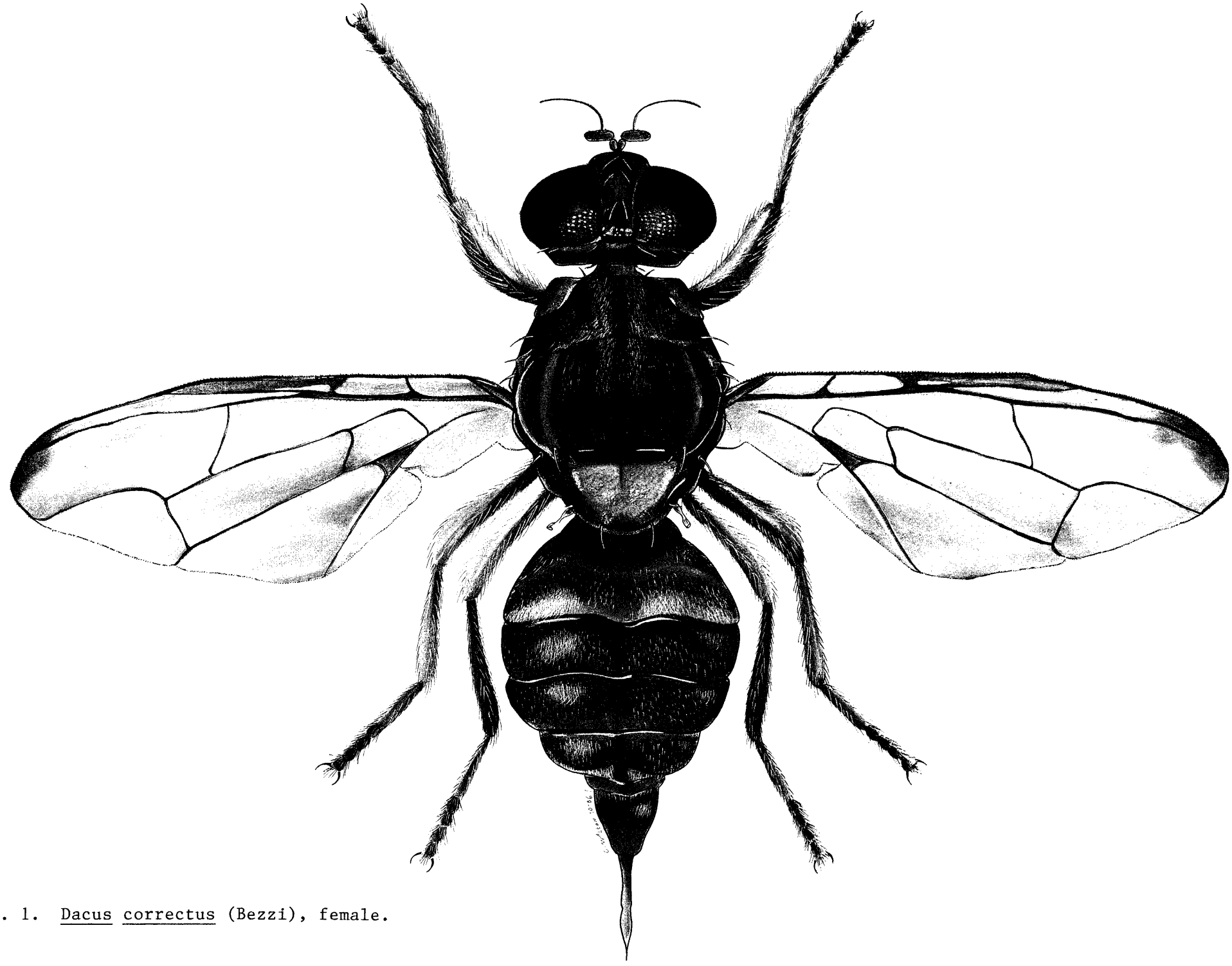

Fig. 1. Dacus correctus (Bezzi), female.

Fig. 2. D. correctus lateral view showing ovipositor sheath and fully extended ovipositor. Mag.: 11.2X

Fig. 3. D. correctus caudal view showing ovipositor sheath and fully extended ovipositor. Mag.: 17.X

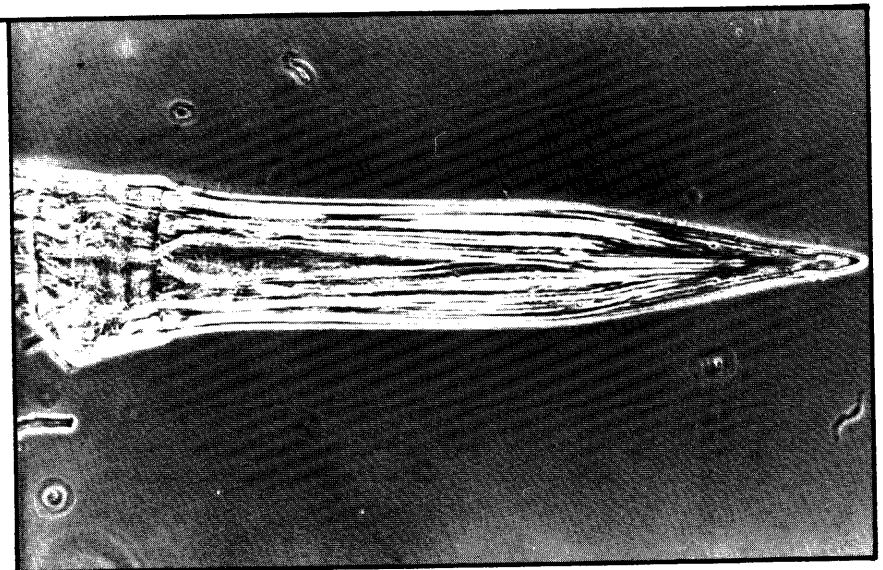

Fig. 4. D. correctus ovipositor of female. Mag.: 700X

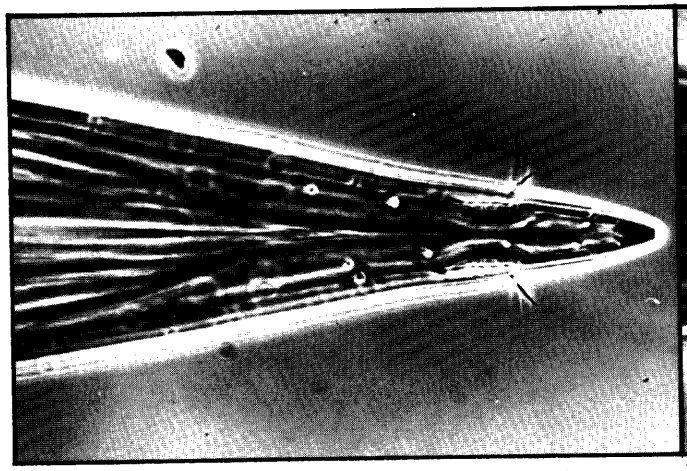

Fig. 5. D. correctus ovipositor tip. Mag.: 1078X

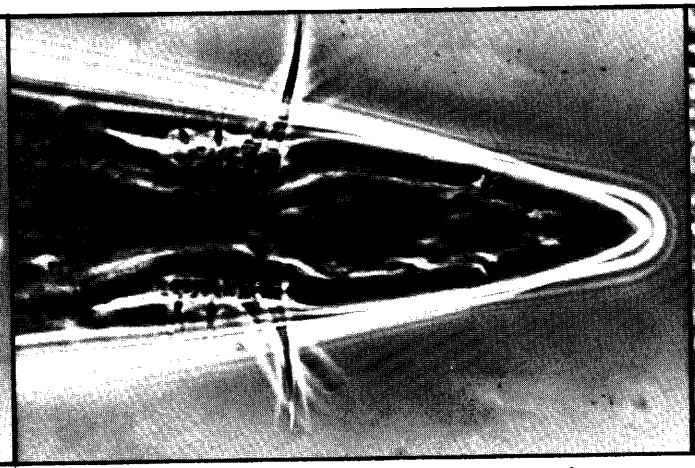

Fig. 6. D. correctus ovipositor tip. Mag.: 2695X

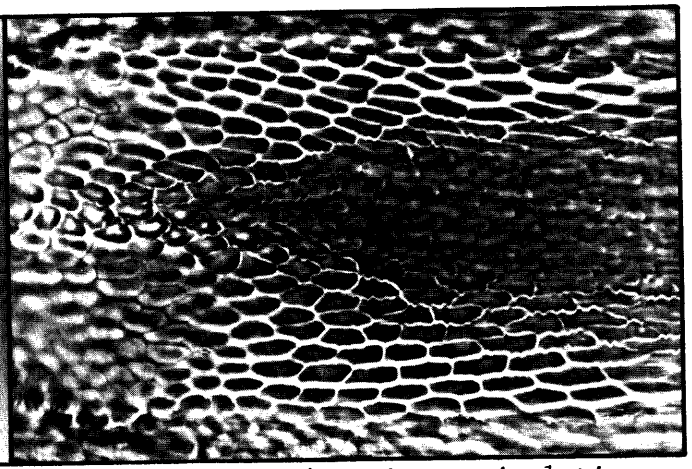

Fig. 7. D. correctus microreticulation near base of ovipositor. Mag.: 2695X