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Population fluctuations of *Ropalomera* Wiedemann (Diptera: Ropalomeridae) in Costa Rica*

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Resumen: Se estudiaron las fluctuaciones poblacionales de moscas adultas *(Ropalomera)* con trampas Mc Phail cebadas con *Torula* en plantaciones de mango durante 12 meses (Julio 1985 a Julio 1986).
En Cañas se capturó la mayor cantidad de adultos en febrero (N=147), en Orotina en abril (N=99), en Nicoya en febrero (N=56) y en Buenos Aires en abril (N=29). La población más abundante a lo largo del año se localiza en el Pacífico Seco (Cañas).
Se informa por primera vez la presencia de este género en Costa Rica.

The family Ropalomeridae includes about 30 species and is restricted to tropical and subtropical areas of the Western Hemisphere (Steyskal 1967). Most species are medium to large flies with the hind femur distinctly swollen. Information on the biology of these flies is very scarce. Prado (1963, 1966) has published revisions of the byonomics of the mature forms. The only literature on ropalomerids of Costa Rica is restricted to one report of the occurrence of *Willistoniella pleuropunctata* (Wiedemann) (Jirón & Barquero 1983).

Fifteen McPhail glass trap groups were baited with a solution of *Torula* yeast (10%), and placed in four mango plots in the following localities: Orotina, Alajuela, Prov., Cañas, Guanacaste prov ; Lepanto, Puntarenas prov., and Buenos Aires, Puntarenas prov. Traps were place at 2.5– 10 m height in trees.

Mango plantations were visited every other week from July 1985 through July 1986. At each visit the flies were counted and taken to the laboratory.

A total of 1258 *Ropalomera* flies were captured as follows: 375 in Orotina, 591 in Cañas, 219 in Lepanto and 73 in Buenos Aires (Fig. 1). Besides *Ropalomera* adults, we collected larger numbers of blow (Calliphoridae), otitid flies, neriids and fruit flies. Occasionally we also found adult specimens of the genus *Polistes*, stingless bees (*Trigona*), wasps wild roaches and moths.

The sampled period (12 months) is not very extensive but gives some idea of the population dynamics of these flies. Populations are higher from January throwgh May. This period coincides with the dry season when the mango trees are reproductive (flowering and fruiting).

The largest numbers of *Ropalomera* were captured in Cañas (tropical dry forest). During February the flies seem to be most abundant in that locality. These flies seem to be scarce in the tropical rain forest (Buenos Aires), where we did not capture any *Ropalomera* from July 1985 through December 1985, during the wet season.

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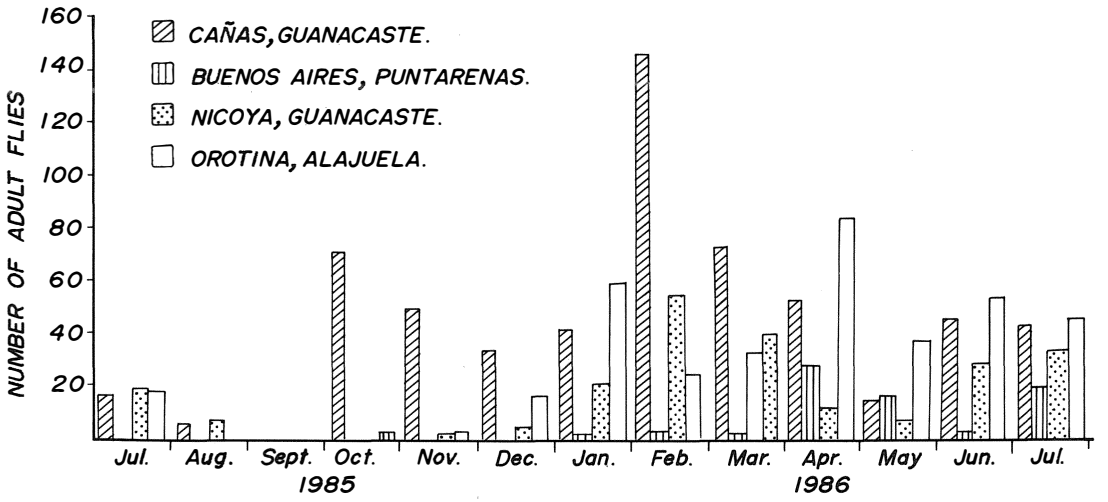

Fig. 1. Yearly fluctuations of *Ropalomera* adult flies captured with McPhail traps in four mango plots in Costa Rica.

Ropalomerids have been reared from secretions or resins of some trees like *Enterolobium, Cocos nucifera, Spondias* or *Rhytidops* and decayed wood of *Sabal palmetto* and *S. minor* (Prado 1966). It is common to find this kind of secretions in a plot of adult mango trees. This feeding preferences suggest that ropalomerid flies might be involved in the mechanical transmission of some bacterial diseases which commonly affect mango trees in Costa Rica. The ropalomerid adults may have visited our traps because the *Torula* yeast is a food source which naturally grows in plant secretions and decayed wood (Spishakoff & Hernández 1968).

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