

McInnis, D.O. Screwworm Research Laboratory, Mission, Texas. *Drosophila* collections from Raleigh, North Carolina.

A shaded glen on the campus of North Carolina State University at Raleigh, NC provided a suitable and convenient area for *Drosophila* collections. A fixed trap site was the source of data from October 1975 to June 1977. During evening

activity periods *Drosophila* were netted above a bucket containing fermenting banana. Collections were taken at least once a week except for the months of December (1976) and January (1977) when the weather was extremely unfavorable for *Drosophila*. The results of the samples are shown in Table 1 [preceding pages].

Several comments can be made about the seasonal variations in abundance of the 15 species trapped. Typically, the arrival of warm spring temperatures heralded the arrival of large numbers of *Drosophila*, occasionally with suddenness. Populations of the most numerous species, *D. tripunctata*, *D. immigrans*, *D. affinis* appear to increase swiftly during March or April before tapering off gradually into the winter months. Two of these species, *D. tripunctata* and *D. affinis*, seem to have continuity year-round, though their means of overwintering is not known. Interestingly, *D. duncani* was trapped almost exclusively during the winter months, albeit at low numbers. Of the two sibling species, *D. melanogaster* and *D. simulans*, the latter appeared later in the spring yet lasted longer during the fall. However, the spring catch of *D. melanogaster* could have been at least partly due to escaped laboratory flies from a campus building only 1/4 mile from the trap site (known multiply marked laboratory mutants were sometimes trapped). The female members of these siblings are not reliably distinguished on morphological grounds so only a single total is given for them. With the exception of *D. quinaria*, males were consistently trapped in greater numbers than females. *D. putrida* was the most extreme example of this.

McInnis, D.O. Screwworm Research Laboratory, Mission, Texas. The seasonal spread of *D. melanogaster* and *D. simulans* in Raleigh, North Carolina.

During the summer and fall of 1977, *Drosophila* were collected at various sites around the city of Raleigh, NC. One site was maintained on the campus of North Carolina State University, another sustained in a residential park, and two others set in suburban pine (Schenck Forest) or

hardwood (Umstead State Park) areas. A difference between the campus and residential park data was noted in the timing of the onset of relatively high frequencies of *D. melanogaster* and *D. simulans*. For the campus site, combined frequencies (ca. 75%) of *D. melanogaster* and *D. simulans* were observed by early June, but at the residential park the peak did not occur until late June or early July. The phenomenon of a gradual spread of "domesticated" species of *Drosophila* from source areas of human habitation into wilder habitats has already been observed for *D. melanogaster*, *D. hydei* and *D. busckii* by McCoy (1962) in Indiana. The relevancy of this notion to the Raleigh area of North Carolina is further strengthened by the Schenck Forest and Umstead Park data. The peak populations of the siblings appeared in August or September at Schenck Forest, sometime after their appearance at the campus and residential park sites. At the most isolated of collecting areas (the experimental field at Umstead Park) the siblings never attained ascendancy over the class of other *Drosophila* combined, while their greatest abundance came in October. As a result of the late arriving pulse of *D. melanogaster* and *D. simulans* in the study areas, the peak populations of the sibling species are correspondingly more short-lived than in the two urban sites. By the end of November, colder temperatures apparently reduced numbers of *Drosophila* to near zero at all four trap sites.

Reference: McCoy, C.E. 1962, Jour. Econ. Ent. 55:978-985.

Migliani, G.S. and F.R. Ampy. Howard University, Washington, D.C. A possible cline between the body weight and altitude in Mexican populations of *D. melanogaster*.

Mean body weight (mg) per 40 males was measured for 12 Adh I/Adh I and 40 Adh II/Adh II isochromosomal lines extracted from 16 Mexican populations of *D. melanogaster* (Pipkin et al. 1976) raised at 25°C. A significant correlation ($r = 0.627$; $p < 0.05$) was observed between the altitude and mean body weight of

the populations representing the Adh II/Adh II lines. The sites located at higher altitudes were in northern Mexico where the mean annual temperatures were low as compared to the sites located at lower altitudes in southern Mexico (Atlas Climatologico de Mexico, 1921-30). This