

Drosophila in the Norman, Oklahoma Area, 1954¹

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A study of the wild *Drosophila* in the Norman area has been undertaken to determine what species are in the locality, their relative abundance, and, eventually, to gain some insight into their population dynamics. A careful reading of "Evolution in the Genus *Drosophila*" by Patterson and Stone, revealed no reference to any work on the *Drosophila* of central Oklahoma. Thus as a contribution to the literature of the distribution of *Drosophila*, and as an indication of some of the possibilities for local study of wild *Drosophila*, this report is presented.

Three collecting sites, numbers 41, 42 and 43, were selected and established. Collecting station #41 is located 0.8 miles west of Berry Road on West Main Street of Norman. The bait was set about 40 feet from the road on the north side in a creek bed. Collecting Station #42 is located 30 feet northeast of grid intersection post #B-10 on the Oliver Wildlife Preserve just south of Norman. The location is at the foot of a low hill, near a mudhole that was dry throughout the collecting period. Collecting station #43 is located at the northernmost pond of the University Golf Course Park in Norman. The bait was set on or near the water's edge in a group of willow trees.

Mashed and fermenting bananas were used as bait, set out in five gallon cans fitted with covers which were held slightly off the tops of the cans to give the flies shade but free entry to the cans. Collections at stations #41 and 42 were made approximately at sunset during the period July 2 through July 22, 1954. Identifications were made from Sturtevant's 1942 key.

A total of 9,460 flies were examined from station #41, of which 8,828, or 93%, were *Drosophila melanogaster*. Next most frequent was *D. hydei* with 549, or 5.8%, the other species found, in decreasing order of abundance, were: members of the, *D. affinis* species group, *D. macrospina*, *D. melanissima*, *D. micromelanica*, *D. robusta*, *D. busckii*, *D. carbonaria*, *D. duncani*, *D. pseudomelanica*, *D. putrida*, *D. ritae*, and *D. testacea*. Of these it was judged that *D. melanogaster* and *D. hydei* were present in numbers sufficient to warrant population studies.

Collections at station #42 were all small, and a total of only 71 flies of all species was examined. *D. melanogaster* was represented by 59 individuals, *D. victoria* was next most frequent and represented by 5 individuals. *D. micromelanica* was found 3 times and *D. pseudomelanica* and *D. melanissima* were represented by 2 females each.

D. pseudomelanica, *D. micromelanica* and *D. melanissima* as well as the ubiquitous *D. melanogaster* were also found at station #41, but *D. victoria* was not taken at station #41 even though more than 100 times as many flies were collected there.

Collections were made at station #43 during the period October 7 through November 12, 1954. These provided 3,089 *Drosophila*. *D. melanogaster* was most frequent with 2,379, or 77%. *D. hamatofila* was next with 293, or 9.5%. No serious attempt was made to classify the balance of the flies which were mostly of the *Drosophila repleta* (including *D. hydei*) and the *Drosophila affinis* species groups. The species definitely recognized at station #43 include, in addition to the above, *D. busckii*, and *D. robusta*. Of these *D. hamatofila* is the only one not previously recorded at stations #41 and 42.

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A total of 12,620 *Drosophila* from three collecting stations in the Norman area have been examined. Special attention was paid to the frequency and kind of morphological variations in the 11,268 *D. melanogaster* in the sample, this material will be reported on at a later date. In total then 16 species of *Drosophila* have been recognized in the Norman area, and a number of others are undoubtedly present.

It should prove possible and profitable to investigate the population dynamics and genetic constitution of four of the species found, namely *D. melanogaster*, *D. hydei*, *D. hamatofila* and *D. victoria*.

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LITERATURE CITED

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