PAIK, YONG KYUN. Seasonal Changes in *Drosophila* Populations in Two Adjacent Areas in Korea. *Laboratory of Genetics, Department of Biology, National Chunnam University, Kwangju, Korea.*

Seasonal changes in population size of *Drosophila* in South Korea had been checked over a period of a year, from July 1956 to June 1957. To confirm any areal non-homogeneities in the distribution or seasonal changes of the species, two woodland areas were selected which are isolated from each other by a mountain, and which are about 700 meters apart.

A total of 12,918 flies was collected during the period in both areas. Area I provided 6,082 flies representing 27 sympatric species of which 19 belonged to the genus *Drosophila* and 8 to the other genera. In area II 6,836 flies were collected representing 25 sympatric species of which 16 belonged to the genus *Drosophila* and 8 to the other genera.

Changes in the total populations showed two sharp seasonal maxima in its size, one in the autumn (October-November) and the other in the spring (April) in both areas. Total population sank to an extremely low level, statistically zero in its size, during the cold winter months (December-February), which can be generally considered to be a severe "population bottle-neck period" in our climate. Total population also dwindled to the low level during the warm summer months (July-August). Total population changes from month to month through the year are also closely correlated with each other in both areas ($R = 0.969$).

Specific changes are also considered for 8 species which were abundant or common in the relative frequencies in the two populations. In both areas, *D. auraria*, *D. transversa* complex, *D. nigromaculata* and *D. cheda* complex showed two yearly maxima in autumn and spring: *D. bizonata* in winter and spring: *D. coracina*, *D. lutea* and *D. suzukii* peaks in spring, autumn and autumn respectively.

Specific fluctuations from month to month in both areas showed statistically a positive correlation between the same species.

D. bizonata is a representative species in these areas and has been continually collected throughout the year, even in months of severe cold (December-February) during which none of the other seven selected species was collected.

Deviations from a sex ratio of 50:50 have been examined for the 8 selected species. Comparing the results obtained in both areas, it may be noted that the deviation, in general, is statistically striking but is apparently species specific.