

Hunter, A. S. and A. Navarro. University of the Andes, Bogotá, Colombia. Ecological studies of *Drosophila* of Columbia.

of *Drosophila* in a limited region of Fusagasugá have been made. This is at an altitude of 1,746 meters and has an average temperature of 21.5°C which shows little or no seasonal fluctuation throughout the year. In monthly plots of the number of adults collected of each of the dominant species there are three major peaks which are similar for all the species. These three peaks in number of adult specimens collected fall 2 - 3 months after three similar peaks in the recorded rainfall of that area. In addition the weights of the collected flies have also been recorded and in some cases it is significantly higher for the flies collected during the "rainy" months than for those collected during the "dry" months.

The presence of cyclical fluctuations in the number of *Drosophila* collected is in agreement with the data of the Bogotá region. It is concluded that the amount of rainfall affects the *Drosophila* population in number and size of adults.

Shima, T. Hokkaido University, Japan. Notes on the copulation, insemination reaction and sperm storage of *D. nigro-maculata* in homogamic matings.

The first mating of the virgin female and male of this species was observed during the period from the 5th day to the 10th day after the emergence at 20°C, and most of the females were mated on the 6th day. Copulation times were recorded for 100

pairs of flies, and the average time was 6 minutes and 11 seconds (ranged 1 min. 10 sec. - 8 min. 24 sec.). The reproductive organ was dissected out under a binocular microscope in a saline solution. A total of 962 females was dissected at various times, starting immediately after copulation and extending through about 40 days. At the 2-minute dissections the uterus was enlarged and contained many sperm in the small granular, opaque reaction mass. Some sperm had already entered the ventral receptacle. At the 15-minute period there was a small amount of reaction mass in the uterus, and a few motile sperm in the ventral receptacle and spermathecae. At the one-hour period, the reaction mass grew up into maximum size. Then the reaction mass disappeared and the uterus had returned to its normal condition by 48 hours. Motile sperm occurred in the ventral receptacle from the beginning of the dissection to 360 hours. The spermathecae had motile sperm from the 5-minute dissection to 450 hours. After the first mating a female was able to produce fertile eggs for about 20 days.

Strangio, V. A. University of Melbourne, Australia. Germ cell sensitivity in the irradiated adult and pre-adult testes.

*D. melanogaster* males were irradiated with 800r X-rays as: larvae aged 30, 50, 65, 80, 92 hours after eclosion; pupae 0, 6, 24, 48, 72 hours after puparium formation or adult males 4 hours old. The comparative

testis histology of these forms was also determined. After the males had matured sexually, the usual experimental and breeding procedures were carried out. Successive brood frequencies were obtained for certain exceptional forms as listed in a previous publication (1961). First-brood frequencies only for sex chromosome loss, Y marker deletion, induced X-Y exchange and non-disjunction as well as for egg non-hatchability are shown in the accompanying table. Note that the frequencies in the first two rows have been corrected for contributions from induced X-Y non-disjunction or exchange. Hypersensitivity to loss aberrations is apparently associated with germ cell types present in the posterior region of the testes about or following puparium formation, i.e. cells in late prophase or metaphase of meiosis I. There is some evidence to suggest that the peak and exceptionally variable egg non-hatchability in the late larval forms may be partly due to inadequate egg fertilization resulting from sperm shortage superimposed on the usual dominant lethality component, i.e. young primary spermatocytes are extremely susceptible to radio-destruction in situ (see also Riemann 1964).

Table 1: First brood frequencies after irradiation of adult (A), pupal (P) and larval (L) males aged as indicated.

Male Form	Control	A4	P72	P48	P24	P6	P0	L92	L80	L65	L50	L30
Sex chromo- some loss	0.0461	0.1002	0.2201	0.4359	0.7938	0.8900	1.3152	0.8116	0.2240	0.0658	0.0000	0.0000
B <sup>S</sup> Y-marker deletion	0.0077	0.0351	0.0629	0.4722	0.5531	0.7734	1.3746	0.9434	0.7268	0.2521	0.0447	0.1211
X-Y exchange	0.0077	0.0091	0.0000	0.0436	0.0000	0.3179	0.3436	0.7383	0.6886	0.0658	0.3167	0.0427
X-Y non- disjunction	0.0231	0.0091	0.0000	0.0000	0.0346	0.0000	0.0573	0.2461	0.1530	0.0000	0.0975	0.0285
Egg non- hatchability	5.29 ± 0.62	--	19.27 ± 1.33	45.50 ± 1.40	47.08 ± 1.28	52.24 ± 2.02	56.81 ± 1.83	51.66 ± 4.20	54.65 ± 5.70	48.82 ± 13.18	12.07 ± 1.50	8.24 ± 1.25