

Elens, A.A. and J.M. Wattiaux. Facultes Universitaires N.D. de la Paix, Namur, Belgium. Influence of light intensity on mating propensity of *D. ambigua* and *D. subobscura*.

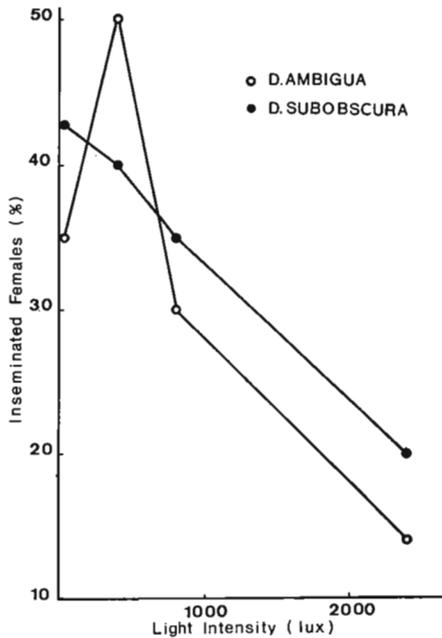


Fig. 1: Effects of light intensity on mating propensity.

Gvozdev, V.A. and V.T. Kakpakov. Kurchatov's Institute of Atomic Energy, Moscow, U.S.S.R. Establishment of female embryonic cell sublines of *D. melanogaster* in vitro.

C15 saline solution). The presence of pupae extract and of bovine fetal serum is required for the growth of cell lines which were obtained from the primary culture. Pupae extract contains both thermolabile (100°C) and thermostable factors enhancing cell growth.

The cells are transferred at 4-7 day intervals and passed over 250 generations. The population doubling time at 28°C is 24 h.

Two sublines with female karyotype were obtained: a diploid subline-67j25D and a tetraploid subline-67j25T. Variations in the number of IVth autosome pair were not taken into account. Both sublines have been originated from the line containing, at the 19th passage, 50% diploids, 12% tetraploids and 38% aneuploids. The majority of the latter were characterized by four X-chromosomes and seven large autosomes.

Determination of the activity of the sex-linked 6-phosphogluconate dehydrogenase structural gene has shown that in the diploid and tetraploid sublines all X-chromosomes were active.

Preliminary experiments have shown a strong influence of light intensity on the mating propensity of *D. subobscura* and *D. ambigua*. This dependence, however, is not identical.

This relation came out in tests carried on with a different purpose. In each test 26 males and 26 virgin females, 6 to 7 days old, were put together in the "observation chamber" previously described, and the number of matings accomplished during six hours was recorded (from 8 A.M.). The light intensity was recorded with a "Luxmeter" LAND. The mating tests (10 for each of the 4 light intensities studied) were performed in a thermo-regulated room, at 20°C. The individuals were also developed at 20°C. All the experiments were run from January to April.

In *D. subobscura*, the mating propensity is negatively correlated with light intensity; mating propensity is lower in *D. ambigua*, but shows the same general trend, with a conspicuous difference at 400 LUX, where it is higher. In Fig. 1, the differences in percentage of inseminated females are always significant, as shown by the Tuckey test at 0.05 probability level, for the same light intensities.

We regret that an accidental loss of the stocks did not allow us to repeat similar experiments in other seasons.