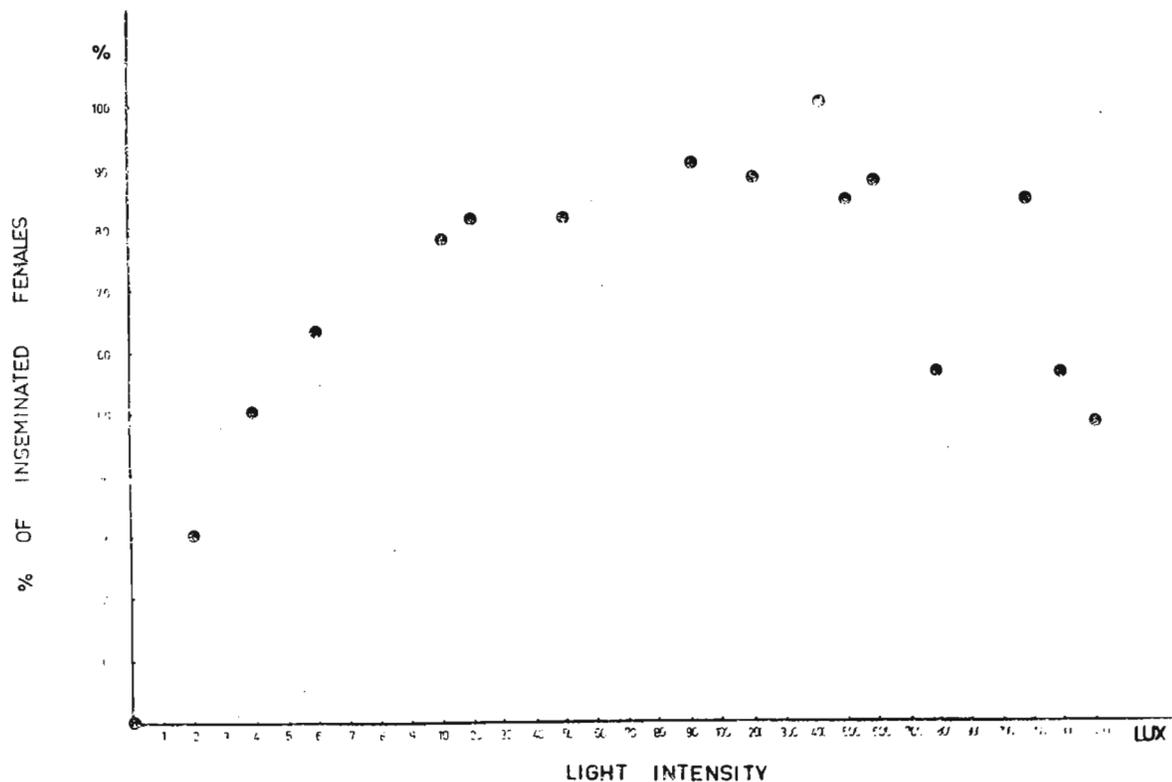


Marinković, D. and M. Andjelković Institute for Biological Research, Belgrade, Yugoslavia. Reproductive ability of *D. subobscura* at different light intensities.

The males and females from F<sub>1</sub> progeny of wild flies collected at Fruska Gora (about 60 km. north of Belgrade) were separated using aspirators and kept for six days in the dark, in bottles with culture medium. On the seventh day groups of 5 males and 20 females were placed in

new 150cc glass bottles with culture medium, and these bottles were exposed during 48 hours to one of different light intensities in the range of 0 - 4000 lux, at 20°C. After etherization of the flies, the females were dissected (a total of about 2000), and the proportion of those inseminated was determined. In this way, the reproductive ability of *D. subobscura* was measured simultaneously six times, at fifteen different light intensities.

Mating ability in *D. subobscura* at different light intensities



The distribution of the frequencies obtained corresponds to a normal distribution, with a maximum proportion of inseminated females (ca. 90%) when the flies were exposed to a light intensity of 100 - 600 lux. At weaker light intensities, mating success was sharply lowered. At greater than 1000 lux the proportion of inseminated females decreased quite gradually, reaching a value of only 30% at 4000 lux.

When initiating this experiment, the help of Dr. O. Kitagawa was very valuable.

Literature: Elens, A.A. and J.M. Wattiaux 1970 DIS 45:110; Rendel, J.M. 1945 Jour. Genet. 46:287; Springer, R. 1964 DIS 39:118; Wallace, B. and Th. Dobzhansky 1946 P.N.A.S. 32:4.

Denell, R.E.\* and R. Jackson. University of California, La Jolla, California. A genetic analysis of transformer-Dominant.

Gowen isolated a third-chromosomal dominant gene which causes genetic females to develop into intersexes, and denoted it Hermaphrodite (Hr). He was, of course, unable to map this mutant by recombination. However, Gowen and Fung (Heredity 11:397) found that genetic females who were heterozygous for Hr and the recessive third-