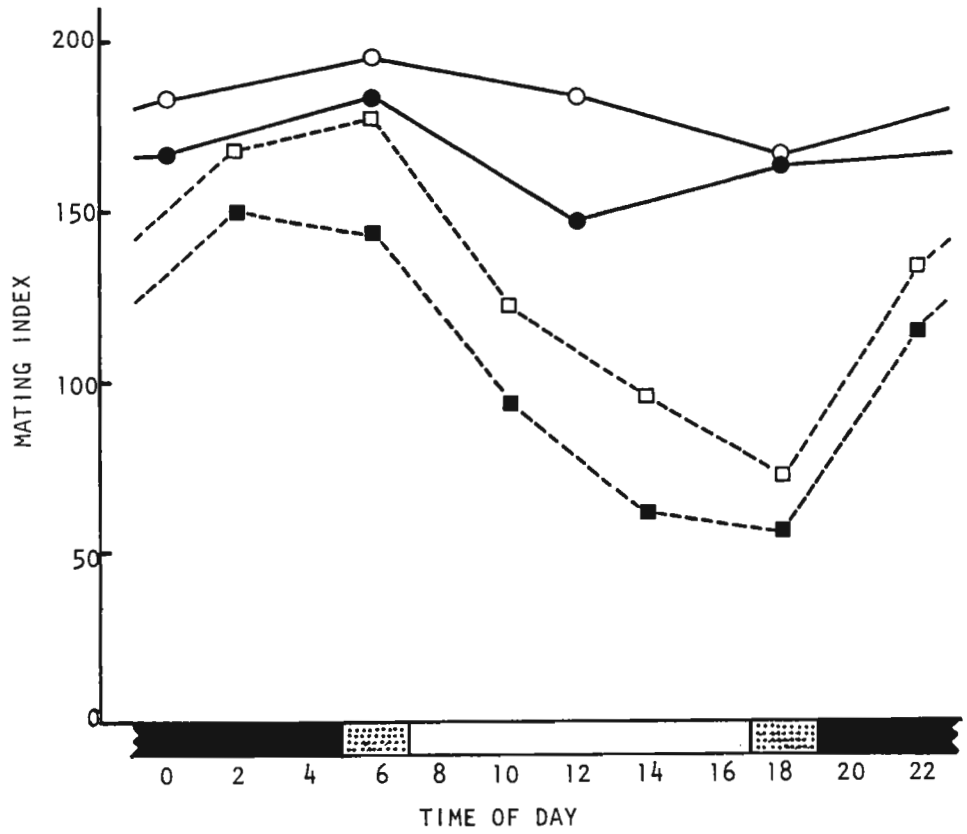
Figure: Changes in the mating index depending on the time of day at which observations were carried out. —○— , J^5, in the light; —●— , J^5, in the red light; —□—, bw, in the light; —■—, bw, in the red light.



The figure shows the change of the mating index depending on the time of day. The diurnal rhythmicity in mating was found for the bw strain, but not for the J^5 strain. This tendency was not affected by the light condition under which observations were performed. However, mating indices obtained in the light are significantly larger than those measured in the red light, except that no difference in the value was found at 14:00 for the bw strain and at 0:00 and 12:00 for the J^5 strain.

More careful experiments should be carried out to test whether or not the differences in the diurnal rhythmicity in mating between strains depend on the eye color of flies.

References: Spiess, E.B., B. Langer and L.D. Spiess 1966, Genetics 54:1139-1149.

Siegel, J.G. Scripps Clinic & Research Foundation, La Jolla, California. Cytological identification of autosomal breakpoints in several T(Y;2) stocks.

In a series of experiments to analyze the base of 2L, I have made use of segmental aneuploids to generate specific deficiencies, as described in Lindsley and Sandler et al. (1972). One group of T(Y;2)-bearing stocks was selected reported bearing autosomal breakpoints in or near the proximal heterochromatin of 2L, but distal to M(2)H. A second group was also chosen, with reported breakpoints proximal to M(2)H. Polytene chromosomes from each of these stocks

Stock	Reported Autosomal Breakpoint	Observed Autosomal Breakpoint
A87	40	38A-B
L138	39C	39A
B190	40	39C
A107	40	39D-E
B209	40	39D-E
B251	40	39D-E
H54	40	39D-E
B199	40	40
H118*	40	40
H131	40	40
R116	40	40

*May have free $B^{s}y^{+}$ element segregating in stock.

were examined to verify the reported breakpoints. Several discrepancies between the reported and observed breakpoints were found.

Table 1 lists the various T(Y;2) stocks examined, the autosomal breakpoints as reported in Lindsley and Sandler et al. (1972), and the observed breakpoints. All stocks with breakpoints reported to be distal to M(2)H carry euchromatic breaks, whereas those reported broken proximal to M(2)H bear heterochromatic breaks. It is of interest that several of the stocks examined are broken between 39D and 39E, the chromosomal region known to include the histone gene sequence (Pardue et al. 1977). Segmental aneuploids deficient for the region between the breakpoint of L138 and the breakpoints of H54, B251, and B209 do not show a Minute phenotype. However, deficiencies carrying more proximal euchromatic breaks are Minute (Wright et al. 1976). It is possible, therefore, that M(2)H may map to the proximal region of the histone gene cluster. My recent studies on irradiation-induced lethal mutants mapping to the histone gene locus also suggest that the M(2)H locus may coincide with a part of the histone gene locus.

References: Lindsley, D.L., B. Baker, A.T.C. Carpenter, R.E. Denell, J.C. Hall, P.A. Jacobs, G.L.G. Miklos, B.K. Davis, R.C. Gethmann, R.W. Hardy, A. Hessler, S.M. Miller, H. Nozawa, D.M. Parry and M. Gould-Somero 1972, Genetics 71:157; Pardue, M.L., L.H. Kedes, E.S. Weinberg and M.L. Birnsteil 1977, Chromosoma (Berl.) 63:135; Wright, T.R.F., R.B. Hodgetts and A.F. Sherald 1976, Genetics 81:267.

Simms, R.W., N.D. Bearss and J. Tonzetich. Bucknell University, Lewisburg, Pennsylvania. Transfer RNA resolution in a Minute mutant of D. melanogaster.

Mutations producing the Minute phenotype in D. melanogaster occur in a number of genes on all four chromosomes. It has been proposed by Atwood (Ritossa et al. 1966) that alterations in DNA cistrons which code for transfer RNA are responsible for the characteristic mutations of the Minute class. Atwood argued that the slow rate of development in Minute bearing individuals was consistent with the reduced rate of protein synthesis expected from the decreased availability of a particular tRNA. Several investigators have tested this hypothesis using radioactively labeled tRNA and the method of in situ RNA-DNA hybridization to correlate sites of tRNA binding with genetically established positions of Minute loci (Steffensen and Wimber 1971; Grigliatti et al. 1974). The results, however, have been inconclusive. The present study involves a new preliminary test of the Atwood hypothesis, which utilizes a qualitative comparison of tRNA chromatographic elution profiles from both normal and Minute flies, thus

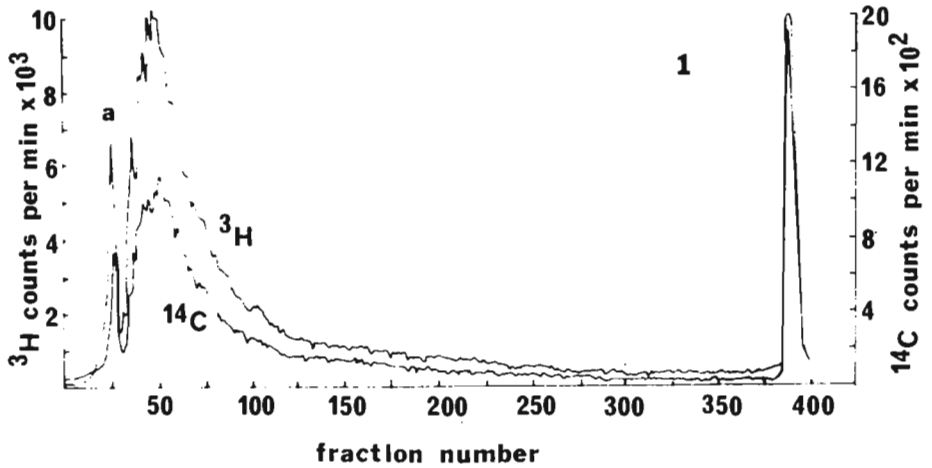


Fig. 1. Elution profiles of M(2)S7-(^{3}H)-tRNA and Oregon R-(^{14}C)-tRNA from a BD-cellulose column.