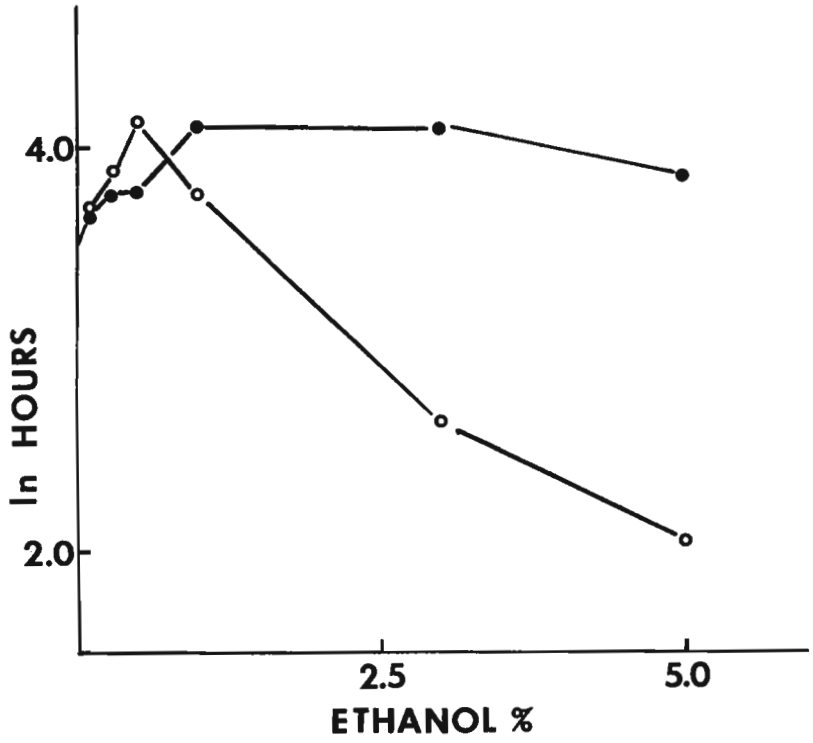


Fig. 2. Mean longevities given in ln(hr) for Slow strain exposed to increasing concentrations of ethanol. Closed circles are control flies and open circles are pretreated flies in 1% 2-propanol for 1 day.

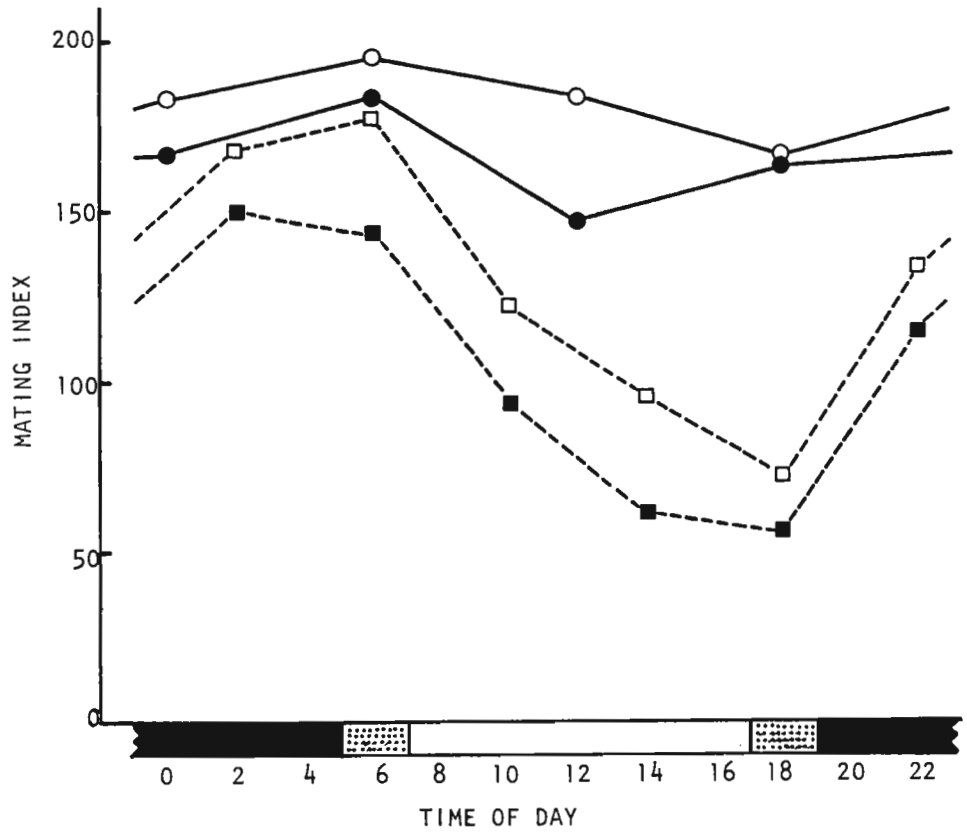
the test was initiated. Initiation of a test consists of adding to each vial a 2.00" x 2.00" filter paper tab (Watman #1) which had been saturated with 1 ml of either H_2O (control) or a test alcohol-H_2O solution of a specific concentration. Vials are immediately sealed with parafilm and placed in the incubator (25°C, constant humidity and lighting). The number of flies alive in each vial are observed and recorded (every 5 hours for high alcohol concentrations, every 10 hours for low alcohol concentrations). Mean % survivorship at each alcohol concentration is plotted vs. time. From these "primary plots", we graphkcally determined mean hrs to 50% mortality at each alcohol concentration and use this information to construct secondary plots (ln hrs to 50% mortality vs. alcohol concentration) as devised by Starmer et al. 25 hrs exposure of flies to 2-propanol pretreatment which consists of the addition to a food bottle of a Kimwipe absorbed with 1 ml of 1% 2-propanol solution. The results presented in Figs. 1 and 2 demonstrate that 2-propanol pretreated flies are in fact more sensitive to ethanol than non-pretreated flies. These results are analogous to the results recently reported by Papel et al. (1979) which demonstrate that pretreatment with acetone (the oxidized product of 2-propanol) also reduces the viability of Drosophila in alcohol stress environments.

References: Anderson, S.A. and J. McDonald 1980, Biochem. Genet. (in press); Heed, W.B. 1978, in: Ecological Genetics--the Interface, P.F. Brussard (ed.), Springer-Verlag, New York, p. 109; McDonald, J., M. Santos and S.A. Anderson 1980, Genetics (in press); McDonald, J. and F.J. Ayala 1978, Genetics 89:371-388; Papel, I., M. Henderson, J. Van Herrewege, J. David and W. Sofer 1979, Biochem. Genet. 17:553; Starmer, W.T., W.B. Heed and E.S. Rockwood-Sluss 1977, Proc. Nat. Acad. Sci. USA 74:387-391.

Shitamoto, T. and H. Ikeda. Ehime University, Matsuyama, Ehime, Japan. Differences in the diurnal rhythmicity of mating activity in D. melanogaster.

Two strains of D. melanogaster were compared with respect to the diurnal rhythms of mating activity. Strains used are J^5, a wild type laboratory strain, and Bw, a brown eye color strain. Flies were reared and aged in the LD cycle, which was set as follows: a light phase (200 lux), 7:00-17:00; a dark phase, 19:00-5:00. Dim light phases were set for two hours between the dark and the light phases both in the late afternoon and in the early morning. Observations of matings were carried out in the light (200 lux) and also in the red light. Fifteen 5- or 6-day-old males and ten 5- or 6-day-old females were introduced into an observation vial. The number of matings per 5 min. interval was scored during a 30-min. observation period. A mating index was calculated by the formula proposed by Spiess et al. (1966), on the basis of data of 3 to 6 runs.

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