three methods hitherto unused for phenol: (1) male third-instar larvae and adults of both sexes were subjected to a constant flow of phenol vapors for 24 hours; (2) different concentrations of phenol (0.20%, 0.25%, and 0.50%) in Holtfreter's saline solution were injected into third-instar male larvae, and 0.50% into female larvae, using a semi-micropipette; and (3) mature sperm were treated with phenol (0.01, 0.1, 1.0 and 2.0%) in Holtfreter's solution by the vaginal-douche method of Herskowitz. Control and experimental series were tested for sex-linked recessive lethals by the Muller-5 method. Rate of lethal production in experiments was in no case significantly different from that in the controls. The reason for the failure of in vivo treatment is postulated to be phenol detoxication in the fly and inability of the phenol to reach the germ plasm during the critical physiological period.

Miller, D. D. Mating behavior in D. athabasca and D. narragansett.

Observations of mating behavior in D. athabasca and D. narragansett are in progress, employing New York and New Jersey strains of athabasca (kindly supplied by Drs. E. Mayr, C. Pittendrigh, and B. Wallace) and a New Jersey strain of narragansett (furnished by Dr. C. Pittendrigh). A number of differences between the mating behaviors of these species have been observed, both with respect to each other and with regard to the similar species D. affinis and D. algonquin (Miller, 1950). D. athabasca males were found to be different from males of the other three species in regularly extending and vibrating one wing rather than both during courtship. A distinctive courtship movement of D. narragansett males was rapid opening and closing of the wings while approaching and circling about the females. The following table presents data on copulation times in the four affinis subgroup species affinis, algonquin, athabasca, and narragansett.

Temp.	affinis	algonquin	athabasca	narragansett
27° C			1'13", 1'26", 1'12", 1'23"	
26			1'25"	
25				10'59", 14'32"
24	58", 1'10", 1'13", 55", 1'1", 1'26"	5'35", 4'50", 7'31"	1'40"	
23	1'24", 1'3", 1'29", 1'24", 1'22"	4'37", 5'42"	1'48", 1'42", 1'27", 1'15", 1'12", 1'23", 1'25"	17'42", 20'52"

A few interspecific mixtures of males and females have been observed. Attempted (but not successful) copulations have been observed in both reciprocal combinations of the species pairs algonquin x athabasca and athabasca x narragansett.

Mittler, S. Variation of the penetrance of tu^{50j} when reared on yeasts that do not require vitamins or amino acids.

A highly inbred stock of D. melanogaster containing tu^{50j} was raised on a minimal medium consisting of glucose, $(NH_4)_2 SO_4$, and several trace elements, inoculated with yeasts that were able to live in absence of vitamins or amino acids. Hence, the flies obtained practically all their nourishment from the yeast and not from the medium. In research work involv-