

Bird, Myrtle J. Chemical mutagenesis.

Compounds shown in the table have been tested for mutagenic action in D. melanogaster. All were dissolved in 0.4% saline and injected into the abdomen of 1-2-day-old males. The determining factor for the selection of the concentration administered is the solubility of the compound. In all cases fully saturated solutions were used. In some experiments different concentrations were also tested for purposes of comparison. After treatment the males were tested for sex-linked recessive lethals by the Muller-5 technique.

Compound	Concentration used	No. chromosomes tested	No. lethals	% lethals
1:3-dimethanesulphonoxy-propane	0.2	976	30	3.1
	1.1	956	99	10.4
	2.2	624	60	9.6
1:4-dimethanesulphonoxy-butane	0.04	407	2	0.5
1:4-dimethanesulphonoxy-but-2-yne	0.1	547	30	5.5
	<0.1*	1082	47	4.3
<u>cis</u> -1:4-dimethanesulphonoxy-but-2-ene	0.06	1365	3	0.2
	0.2	507	4	0.8
	0.25	475	5	1.1
<u>trans</u> -1:4-dimethanesulphonoxy-but-2-ene	0.06	1374	17	1.2
n-butylmethane-sulphonate	0.2	707	6	0.8
Controls (combined data)	-	2449	3	0.1

\* A little of compound out of solution at time of injection.

Detailed cytogenetic analysis of lethals induced by the various chemical mutagens investigated is being undertaken by Dr. Onsy G. Fahmy and will be published elsewhere.

Brunetto, Anna, and Frumento, Luigia. Salivary chromosomes of D. ambigua.

The salivary chromosomes of D. ambigua (obscura group) show in wild populations several heterozygous inversions. As a preliminary for physiological and population genetics researches, we have studied the salivary chromosomes of laboratory stocks, giving a map of the homozygous and heterozygous condition. The map will be published shortly in Scientia Genetica. The chromosome complement of ambigua (A. Buzzati, 1942) is formed of two big and two small mediocentric and one point chromosomes. According to that, 8 major elements can be found in the salivary cells. The chromocenter is large and well differentiated. When broken by pressure, the limbs of the individual chromosomes tend to keep together, joined by the centromere. The sex chromosome, which in the mitotic nuclei is one of the larger V-shaped ones, does not show in the salivaries very long arms, but they are connected by most of the chromocenter.

In our map, we have adopted a nomenclature system based on letters. Dr. Prevosti (1950, *Genetica Hiberica*) uses numbers in his study of the salivary chromosomes of the European species of the obscura group. The correspondence of the chromosomes in the two systems is as follows:

<u>Chrom.</u>	<u>Br.Fr. map elements</u>		<u>Prevosti map elements</u>	
A	a	a'	4'	4
B	b	b'	1	1'
C	c	c'	2	2'
D	d	d'	3	3'

In our material (wild strain from Terminillo, kept in captivity for two years) we found several heterozygous inversions:

<u>Elements</u>	<u>Inversions</u>	<u>Incidence (80 larvae obser.)</u>
b	2 median (tandem)	40
b'	1 median; 1 subterm.	48;40
c	1 submedian (the two chromatids can be asynaptic until the proximal end)	40
c'	none observed	
sex chr. (d)	none observed	
(d')	none observed	
a	none observed	
a'	none observed	

The inverted homozygous order has been observed only for element c.

We have had the opportunity of studying a series of permanent preparations of salivary chromosomes of larvae of the first generation which that stock had in captivity (July-August, 1949); we find all and only the inversions which are still present in the stock. However, a few small heterozygous deficiencies have been lost. The deficiencies which have been seen in the material of the first captive generation have the following distribution: element c, one subterminal deficiency; element b', one subterminal deficiency; element a, one subproximal deficiency.

Burdette, Walter J. Incidence of tumors in different strains of *Drosophila*.

It is customary to classify inbred strains of mice used in cancer research according to their degree of susceptibility to spontaneous and induced tumors. Tumors appear with characteristic incidence in *Drosophila* strains as well. Although the number of tumors appearing is known to be influenced by culture conditions (temperature, nutrition, etc.), the incidence remains within certain limits for each stock under ordinary culture conditions. The percentage of tumorous individuals has been determined in a number of stocks for 7 to 15 generations, and some of this information is presented in the table below, with the thought that it may be useful for other investigators to have the comparative incidence of a number of tumors under the usual conditions in one laboratory. The lowered incidence of tumors in three strains after they had been made isogenic will be noted. It is apparent that a wide spectrum of tumor penetrance is available for study in *Drosophila*.