Burdette, W. J. and J. E. Carver. The University of Texas, Houston, Texas. Frequency of tumors in several laboratory stocks of D. melanogaster.

The characteristic frequency with which melanotic tumors occur spontaneously in several different strains of Drosophila is listed below for the years 1951 and 1968. Comparison of these frequencies reveals that, although the observed percentage of tumors in some of the stocks has decreased over the intervening period of 17 years, the frequency of the others has remained relatively constant or has increased. Nutritional conditions, the method of maintenance, and temperature have been kept reasonably constant over the period between observations. A wide spectrum of tumor penetrance among these stocks remains.

Stock	Characteristic tumor location*	1951 with tumors	1951 total observed	1951 percent tumors	1968 with tumors	1968 total observed	1968 percent tumors
tu^{36a} st sr e^{s} ro ca	ab	182	3394	5.4	48	600	8.0
f^{257-19}/In(1)AM	ab	415	2449	17.0	49	700	7.0
tu^{wps}	h	1423	8077	17.6	0	550	0.0
w^{bf} f^{257-5}	ab	715	2827	25.3	196	670	29.2
tu^{50d}	ab	1901	7144	26.6	62	480	12.9
tu^{bw}	ab	2434	8614	28.3	100	100	100.0
tu^{h}	h	6616	12236	54.1	128	350	36.6
vg mt^{A} bw	ab	5944	10069	59.0	637	740	86.1
y B^{263-43}	ab	2274	3120	72.9	47	580	8.1
tu^{g}	ab	9113	11967	76.2	306	600	51.0
tu vg bw	ab	10540	10555	99.7	315	350	90.0

* Tumor location: ab = abdomen; h = head.
Ref: 1951. Burdette, Walter J., DIS 25: 101-102.

Surridge, J. F. University of Nebraska, Lincoln, Nebraska. Some effects of amphetamine salt feeding upon D. melanogaster.

Eggs were collected from D. melanogaster of the Canton-S strain. They were reared in 25 x 95mm shell vials packed half full with "Cellucotton" (Kimberly-Clark) absorbent wadding impregnated with 10ml of yeast suspension. Amphetamine sulfate and methamphetamine hydrochloride were added to autoclaved yeast suspension (14gr of dry yeast/100ml H_2O) at 1.0gr/100ml and 1.5gr/100ml dosages. Eggs were reared in yeast suspension as a control.

Males hatching from control and amphetamine treated eggs were mated with Muller-5 virgins to test for the frequency of recessive lethality. The tests were run in three series. F_1 pair matings were scored for fertility and their offspring for evidence of recessive lethality. The results are summarized in the following tables.

Table 1. Percentage of successful cultures in F_1 pair matings.

	I. TOTAL	I. % SUCCESS	II. TOTAL	II. % SUCCESS	III. TOTAL	III. % SUCCESS
Control	113	89.38%	219	81.25%	73	90.42%
Am. sulf. 1.0	337	79.83%	-	-	-	-
Am. sulf. 1.5	-	-	189	72.59%	117	82.05%
Meth. HCl 1.0	-	-	123	86.18%	-	-
Meth. HCl 1.5	-	-	24	79.13%	165	90.30%

Table 2. Frequencies of recessive lethality in X chromosomes.

	CHROMOSOMES TESTED	LETHALS	PERCENTAGE
Control	426	2	0.47
Am. sulf. 1.0	268	0	-
Am. sulf. 1.5	229	3	1.31
Meth. HCl 1.0	105	0	-
Meth. HCl 1.5	168	0	-

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Ellison, J.R. and N.A. Granholm,
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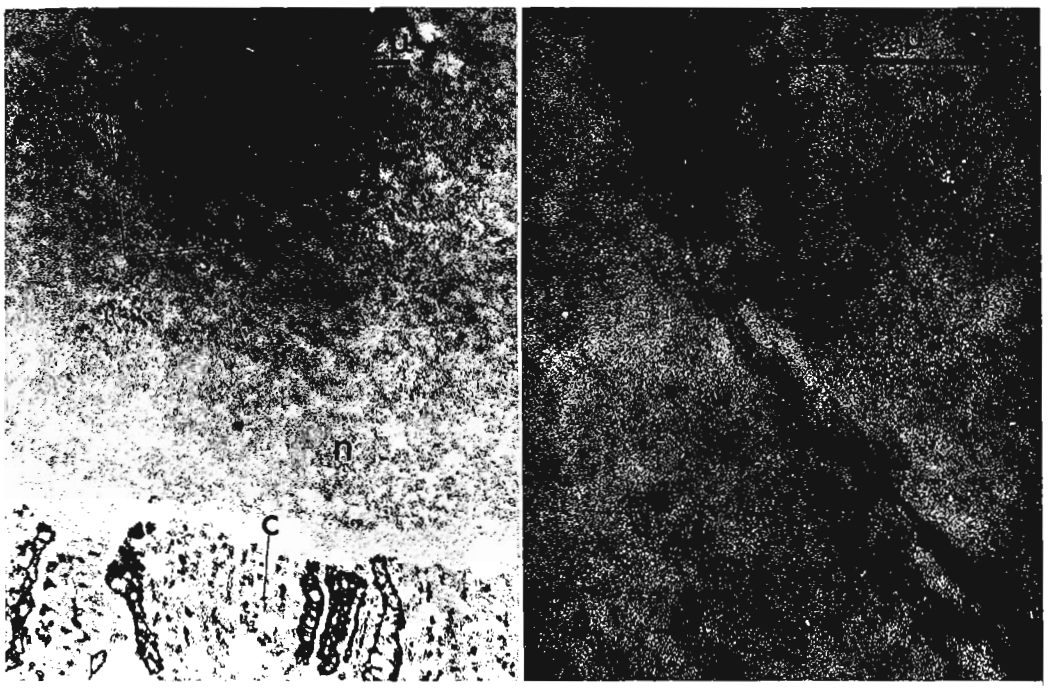
Multi-stranded nucleolar DNA in polytene salivary gland cells of Samoaia leonensis Wheeler (Drosophilidae).

The Feulgen positive bodies in the nucleoli of salivary gland cells from late third instar larvae were first described by Nash and Plaut (1965). Barr and Plaut (1966) showed that these bodies vary greatly in morphology among the various species of Drosophila. In S. leonensis these bodies take the form of strands of varying degrees of development and appear in both sexes. In extreme instances periodic banding can be seen at the light microscope level which is reminiscent of salivary chromosome banding. The salivary glands were prepared as described elsewhere (Ellison, D.I.S. 45). The electron micrographs showed that the strands were multiple in nature. Some banding could be seen. In general the strands resembled very severely stretched polytene salivary chromosomes. The strands did not appear to be connected to the chromosomes.

Barr, H.H. and Plaut, W., 1966, J. Cell Biol., 31, C17. Nash, D. and Plaut, W., 1965, J. Cell Biol., 27, 682.



Electron micrographs of S. leonensis female nucleolar DNA.

s. Nucleolar chromatin strand
c. Polytene chromosome
n. Edge of the nucleolus
b. Periodic banding

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Amphetamine sulfate treatment at 1.0 and 1.5gr/100ml apparently causes a reduction in the percentage of successful F_1 crosses of heterozygous Bar females and "Basc" males. Methamphetamine hydrochloride does not seem to alter the success of F_1 pair matings significantly. There appears to be an elevation of the frequency of recessive lethality in 1.5 amphetamine sulfate treated flies. Further investigation is necessary to substantiate this elevation. Injection experiments are planned for subsequent experimentation.