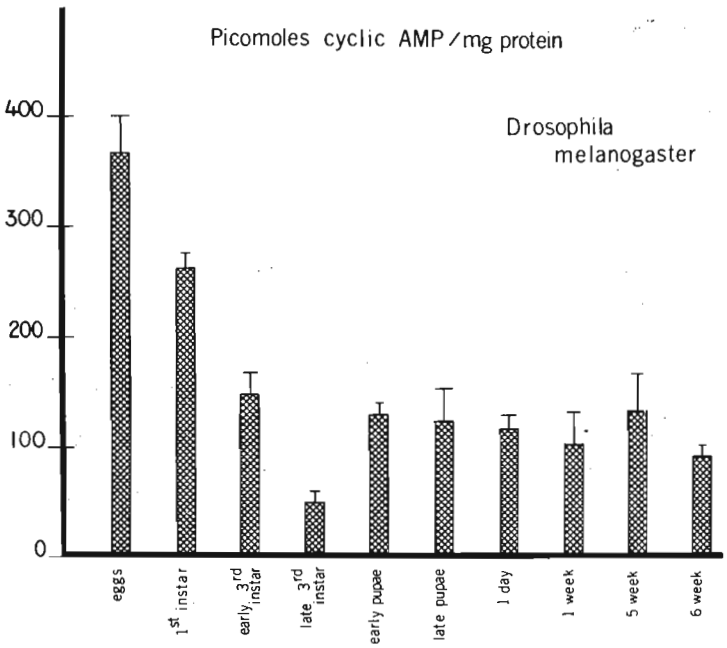
and that previous negative results are not a consequence of interactions with the flora of usual culture media.

References: 1) Sang, J.H. 1956, J. Exp. Biol. 33:45-72; 2) Cooke, J. and J.H. Sang 1972, Genetical Res. in press

Nicolosi, R.J., M.B. Baird, H.R. Massie, and H.V. Samis. Masonic Medical Research Laboratory, Utica, N.Y. Cyclic AMP levels in pre-adult and adult D. melanogaster.

Sustaining levels of Adenosine 3,'5'-cyclic monophosphate, (cyclic AMP) were measured in pre-adult and male adult Oregon-R, D. melanogaster. Pre-adult organisms at different stages of development were reared and collected as described elsewhere (1). All samples were homogenized in 0.32 M sucrose and adjusted to a final volume of 5 ml. Chitin was eliminated from the homogenates essentially as described in a previous note (2). An aliquot of the homogenate was then added to preloaded centrifuge tubes containing 1 ml of ice-cold 10% TCA. Following centrifugation at 17,000 x g for 10 minutes, at 0°C, the recovered supernatants were assayed for cyclic AMP by the method of Gilman (3).



Protein was determined on the homogenates according to the method of Lowry et al., (4).

No appreciable differences in sustaining levels of cyclic AMP were apparent in adult Drosophila which range in age from 1 day to 6 weeks, (Fig. 1). However, there appears to be considerable differences in the levels of cyclic AMP present in different pre-adult stages, (Fig. 1). It is evident that Drosophila eggs and 1st instar larvae possess levels of cyclic AMP which are 2 and 3 fold greater, respectively, than the remaining pre-adult Drosophila, as well as in those found in later stages. These preliminary results suggest that higher levels of cyclic AMP are present during those developmental stages of Drosophila in which there are high levels of mitotic activity.

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Malpica, J.M. Institute of Animal Genetics, Edinburgh, Scotland. Enzyme polymorphisms in four populations of D. melanogaster.

Four laboratory populations of D. melanogaster were characterized at seven loci on the third chromosome controlling biochemical polymorphisms. The populations - Kaduna, Pacific, Canberra and Stellenbosch - differ in origin being from Nigeria, the Pacific coast of the U.S., Australia and South Africa respectively. The four stocks have been maintained for 23, 17, 13 and 3 years respectively since their capture in large population cages in the laboratory. The foundation stocks for all of them were above 100 females except Kaduna where the number is not known. The number of individuals analyzed and the frequencies of the different alleles are given in the following Table, A standing for the fastest anodic migrating form and the others in this order within each locus. (Table on next page).

Table - Numbers of individuals analyzed and results

		Populations							
		Kaduna		Pacific		Canberra		Stellenbosch	
Locus	Allelic form	Flies scored	frequency	Flies scored	frequency	Flies scored	frequency	Flies scored	frequency
Idh	A	86	1.0	34	1.0	30	1.0	29	1.0
Est 6	A	184	0.31	100	0.74	100	0.76	104	0.35
	B		0.69		0.26		0.24		0.65
Pgm	A	84	0.0	44	0.0	44	0.08	37	0.03
	B		1.0		1.0		0.92		0.85
	C		0.0		0.0		0.0		0.12
Est C	A	184	0.0	100	0.0	100	0.0	104	0.19
	B		1.0		1.0		1.0		0.81
Odh	A	86	1.0	42	1.0	32	1.0	29	1.0
Xdh	A	84	1.0	27	1.0	27	1.0	27	1.0
Aldox	A	86	0.0	47	0.0	39	0.0	36	0.04
	B		0.0		0.0		0.0		0.18
	C		1.0		1.0		1.0		0.78
No. loci polymorphic		1		1		2		4	
Proportion of genome heterozygous per individual		0.061		0.055		0.073		0.197	

Bijlsma, E. and W. van Delden. University of Groningen, Haren, The Netherlands.
Polymorphism at the alcohol dehydrogenase locus in D. melanogaster.

Experiments were performed to investigate the nature of the widespread polymorphism at the alcohol dehydrogenase locus in natural populations of D. melanogaster. In addition, experiments were carried out on the probability of survival in extreme environments of populations differing in genetic composition concerning the Adh locus. To characterize the genotypes of individual flies, agar gel electrophoresis was carried out at 140 V and 28 mA for one hour, using a 0.02 M veronal buffer pH 8.5. After electrophoresis, the gels were put in a solution consisting of 97 ml 0.1 M veronal buffer pH 8.5, 3 ml aethanol 96% and 50 mg NAD. Sites of Adh activity on the gel can then be detected by fluorescence under UV (366 nm). Five homozygous S and five homozygous F lines were isolated from the Groningen population. This population was started in 1967 with several inseminated ♀♀ from a local fruit market and kept in the laboratory for three years. The frequency of the F-allele of Adh in this population was rather stable at 0.50-0.60. Cage populations were started from the homozygous lines with different initial gene frequencies. Frequency changes in these populations are given in Table 1. Extinction under more or less extreme conditions was measured in the following way.

Table 1. Frequency changes in cage populations.

Population	Initial frequency F-allele	Frequency F-allele after 5 months	Frequency F-allele after 19 months
Base population	0.62	0.53	0.54
1	0.20	0.37	0.66
2	0.20	0.55	0.54
3	0.40	0.55	0.59
4	0.40	0.54	0.63
5	0.60	0.55	0.45
6	0.60	0.65	0.64
7	0.80	0.60	0.60
8	0.80	0.64	0.68