Table 1. Percent penetrance of the tu-h phenotype for various ages of parents.

	Age in days														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Female Parents (1)	67	62	67	65	70	73	76	75	76	76	81	84	79	77	94
Male Parents (2)	71	76	78	79	72	68	60	77	62	74	65	65	67	66	76

(1) For all ages of male (2) For all ages of female

Ling, Lee-Nien L., M. Horikawa, and A. S. Fox. University of Wisconsin, Madison. Aggregation of dissociated Drosophila embryonic cells.

A method for the in vitro culture of Drosophila embryonic cells was recently established by Horikawa and Fox (1965). By using this culture method together with the rotary shaker method for the formation of aggregates devised by Moscona (1961) it is now possible to establish the optimal conditions for the formation of aggregates by Drosophila embryonic cells and to characterize some of their properties.

Embryonic cells were obtained from eggs of a wild stock of Drosophila melanogaster (Oregon R-EL2). Eggs were collected after 6 hours of oviposition. The optimal conditions for the formation of aggregates were as follows: dissociation of the eggs by gentle homogenization, suspension of the embryonic cells together with the yolk material in H-5 culture medium supplemented with 10% newborn calf serum, and rotation of the primary cell suspension at 60 rpm at 30°C for 24 hours.

Two main types of aggregates were observed at the bottom of the culture dishes after 24 hours of shaking; (a) large, more or less spherical aggregates containing both the large and small cell types described by Horikawa and Fox and (b) small, irregularly shaped aggregates which seemed to consist primarily of the small cell type.

Factors that are detrimental to cells such as prolonged or high speed centrifugation and irradiation with ultraviolet resulted in a corresponding decrease in the ability of the treated cells to form aggregates. Cells grown in stationary cultures prior to shaking showed a decreasing ability to form aggregates as the length of stationary culture time increased.

Histological preparations were made of aggregates after 24 hours of shaking followed by 0, 6, 7, and 19 days of stationary culture. Signs of internal organization and cellular differentiation were observed within the aggregates, becoming more evident as the age of the aggregates increased. Although a number of new cell types could be recognized, arranged in characteristic manner, they could not be identified with certainty. (Supported by USPHS Grant No. GM 11777.)

Ménsua, J. L. University of Barcelona, Spain. Antagonistic temperature effect on average number of bristles in D. melanogaster.

Until the present, as far as we know, all workers in Drosophila have considered as true the fact that a temperature elevation in culture corresponds to a falling off in the average number of bristles. Previous tests were carried out on macrochaetae and sternopleural microchaetae (ex. gr. Plunkett, 1927; Beardmore, 1956 - quoted in Thoday, 1958).

The results reported here are an advance of a work, which is being carried out at present on temperature effect on bristles number in D. melanogaster. They prove that different bristle sets behave in different ways in respect to temperature. Three bristle sets were choosen - two of them very common in population research - lying on the three parts of the body: interocellar bristles on the head, both sides of sternopleural bristles on the thorax and abdominal bristles of 4th and 5th segment on the abdomen. An Oregon-R strain and a wild strain from Prat de Llobregat (Barcelona) were used, both kept at 17°C in population

boxes. Eggs from these boxes were re-collected and 90 eggs were put in each bottle in order to avoid over-crowding. Two sets of bottles (5 each one) from each strain were cultivated at 17° ± 0.5°C and 25° ± 0.5°C respectively. A replica at a different time with Prat strain was made (Prat B). 22 males and 22 females of each bottle were counted. The results were as follows:

		17°C	25°C	d(17°-25°)	P ≤
ABDOMINAL BRISTLES					
Prat A	♀♀	45.04 ± 0.25	45.57 ± 0.34	-0.53 ± o.42	0.2
	♂♂	35.90 ± 0.21	37.39 ± 0.34	-1.49 ± o.40	0.001
Prat B	♀♀	44.46 ± 0.33	46.04 ± 0.35	-1.58 ± 0.48	0.001
	♂♂	36.05 ± 0.29	36.65 ± 0.34	-0.60 ± 0.45	0.2
Oregon-R	♀♀	46.17 ± 0.29	47.91 ± 0.35	-1.74 ± 0.45	0.001
	♂♂	37.08 ± 0.29	39.08 ± 0.26	-2.00 ± 0.39	0.001
STERNOPLEURAL BRISTLES					
Prat A	♀♀	20.53 ± 0.12	18.36 ± 0.22	+2.17 ± 0.25	0.001
	♂♂	19.48 ± 0.13	17.92 ± 0.24	+1,56 ± 0.27	0.001
Prat B	♀♀	20.08 ± 0.17	18.69 ± 0.20	+1.39 ± 0.26	0.001
	♂♂	19.41 ± 0.16	17.74 ± 0.20	+1.67 ± 0.26	0.001
Oregon-R	♀♀	21.06 ± 0.14	19.73 ± 0.17	+1.33 ± 0.22	0.001
	♂♂	20.39 ± 0.13	18.72 ± 0.15	+1.67 ± 0.20	0.001
INTEROCELLAR BRISTLES					
Prat A	♀♀	7.20 ± 0.06	7.92 ± 0.10	-0.72 ± 0.10	0.001
	♂♂	6.95 ± 0.07	7.37 ± 0.12	-0.42 ± 0.14	0.005
Prat B	♀♀	7.22 ± 0.10	7.82 ± 0.10	-0.60 ± 0.14	0.001
	♂♂	7.10 ± 0.10	7.39 ± 0.10	-0.29 ± 0.14	0.05
Oregon-R	♀♀	7.23 ± 0.09	7.69 ± 0.08	-0.46 ± 0.12	0.001
	♂♂	7.22 ± 0.09	7.41 ± 0.08	-0.19 ± 0.12	0.1

Note: In Prat A (at 17°C) 220 flies of each sex were counted, instead of 110.

As we can see, on one hand, the sternopleural bristles behave as was known, but on the other hand abdominal and interocellar bristles increase their averages when temperature increases. The differences between bristles averages in both temperatures (d) are significant, except in three cases, but in all cases the differences are negative.

At present the work is being followed up to see what happens when flies are cultivated at 12° and at 29°C, and with temperature shocks, and the possibility that those antagonistic differences in bristles averages would be correlated with these three points: 1) Speed differences in growth at both temperatures, 2) Differences in time formation of thorax and abdomen hypoderm - at 25°C the thorax hypoderm is completed 27 hours before abdomen hypoderm (Bodenstein, 1950) - and 3) The possibility that some morphogenetical substance for bristles was diffused in a different manner during bristle formation because of the temperature and speed in growth differences.

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