Martínez-Sebastián, M.J. and J.L. Ménsua. University of Valencia, Spain. Abdominal bristle number and sex-dimorphism in **D.subobscura.**

Mather (1941) observed enormous variation in abdominal bristle number, particularly in the ratio of number in the two sexes, among several species of Drosophila. On the other hand, differential response of the two sexes to artificial selection is a common feature of the selection experiments on abdominal bristles with **D.melanogaster** (Harrison 1953; Clayton & Robertson 1957; Sheldon 1963).

In a laboratory population of **D.subobscura**, the sex-dimorphism ratio oscillated between 1 and 1.02. These values indicate that there is no sex-dimorphism in **D.subobscura** in respect of abdominal bristle number, in contrast to other species of Drosophila (Yoo, Moth & Barker 1981).

Two replicate selection lines for abdominal bristle number in both high (H1 and H2) and low (L1 and L2) directions were established from the laboratory population. The response pattern was very similar between the sexes within a line. ANCOVA analysis shows significant differences between sexes only in L2 line ($F = 4.35^*$, $p=0.05$).

Table 1. Mean values ($\bar{X}$) of the crosses between high (H1 and H2) and low (L1 and L2) selected lines.

		Generation		
		P	F1	F2
♂H1 x ♀L1	$\bar{X}$♀	11.78±0.23	34.13±0.30	30.07±0.67
	$\bar{X}$♂	74.55±0.62	28.70±0.29	34.63±0.87
	$\bar{X}$	43.17±2.90	31.42±0.27	32.35±0.57
♂L1 x ♀H1	$\bar{X}$♀	74.48±0.66	33.87±0.29	39.14±0.81
	$\bar{X}$♂	13.47±0.33	41.41±0.28	35.93±0.71
	$\bar{X}$	43.98±2.82	37.64±0.32	37.54±0.55
♂H2 x ♀L2	$\bar{X}$♀	12.25±0.71	30.62±0.67	30.86±0.62
	$\bar{X}$♂	73.17±0.75	30.73±0.50	35.71±0.71
	$\bar{X}$	42.71±2.84	30.68±0.42	33.28±0.50
♂L2 x ♀H2	$\bar{X}$♀	72.40±0.64	38.69±0.25	40.28±0.65
	$\bar{X}$♂	15.77±0.53	45.13±0.35	38.02±0.73
	$\bar{X}$	44.08±2.63	41.91±0.30	39.15±0.49

Reciprocal crosses between lines were made when selection finished (Table 1). Differences between males and females from F1 indicate the existence of factors in chromosome X. Moreover, mean value of males and females from F2 of each cross increased or decreased in respect of F1 values, as was expected in agreement with chromosome X segregation.

Thus, the lack of sex-dimorphism in the laboratory population of **D.subobscura** and the agreement in the response of the two sexes, must be due to the presence of whole dosage compensation for abdominal bristle number.

References: Clayton, G.A. & A. Robertson 1957, J. Genet. 55:131-151; Harrison, B.J. 1953, Heredity 7:153-161; Mather,K. 1941, J.Genet. 41:159-193; Yoo, B.H., J.J. Moth & J.S.F. Barker 1981, DIS 56:163-164.

Mather, W.B. and R. Casu. University of Queensland, St. Lucia, Australia. Inversions from Phuket, Thailand. 5th Report.

In July 1983 sixty-two isolines of **D.s.albostrigata** and eight isolines of **D.albomicans** were established from Phuket, Thailand. Inversions in these species were last reported on from Phuket in January 1983 (Mather & Pope, DIS 60:142).

(a) **D.s.albostrigata.** Eight simple inversions were detected (Table 1). All inversions had previously been detected from Southeast Asia, but B_5, C_1, P_5, W_2, and Z_2 were new to Phuket. The heterozygosity frequency of all inversions detected is given in the Table.

Table 1.

Inversion	Chromosome	Het.Freq.%
A_5	II L	30.6
C_5	II R	77.4
B_5	III	3.2
C_1	III	30.6
F_3	III	17.7
P_5	III	11.3
W_2	III	11.3
Z_2	III	8.1

Table 2.

Inversion	Chromosome	Simple	Complex
E^1	II L	X	
B^1	III	X	
B_6	III	X	
C_1	III	X	
E_6	III		X
L_3	III	X	

(b) **D.albomicans.** Five simple and one complex inversion were detected (Table 2). All inversions had previously been detected from Southeast Asia, but B and C were new to Phuket.

The material was collected and the isolines established by W.B.M. The laboratory work was carried out by R.C.