NOTES AND COMMENTS

SCUTELLAR BRISTLES IN *DROSOPHILA*: A COMMENT

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Ram Parshad and Ravi Dutt Narda in a note to *Heredity*, *19*, 334-335, report on the result of selecting for increased scutellar bristle number in a stock of *D. melanogaster*. They claim that the eight-bristle class is canalised and that there is a threshold at this class comparable to the threshold at four bristles.

If the eight-bristle class is canalised it should be possible to show that flies accumulate in this class as selection procedes. Males recorded by the authors in their table 1 as having eight bristles are only five in number and none had nine bristles so I have confined myself to females in my table 1.

TABLE 1

Generation	Bristle number of females					
	4	5	6	7	8	9
1	21	10	2	1	...	...
2	56	77 0·93	64 1·02	17 0·79	3 0·51	(1)
3	23	26 0·80	31 1·37	5	...	...
4	67	128 0·93	159 1·25	39 1·02	4 0·57	(1)
5	39	48 0·81	44 0·82	17 0·58	9 0·96	(1)
6	66	75 0·78	64 0·71	36 0·73	14 1·09	(1)
7	16	55 0·92	123 1·17	62 0·88	22 1·30	(1)
8	16	54 0·81	135 0·99	141 1·18	39 1·53	(1)
9	33	78 0·95	97 0·99	53 1·30	4 0·59	1

The first row of each generation shows the number of females in each bristle class taken from Parshad and Narda, table 1. The second row is the span of the class in σ. The first generation was not transformed for lack of numbers. Numbers in brackets are assumed for purposes of calculating minimum values of the eight bristle class.

This shows the frequency with which females fall into different bristle classes. If flies are accumulating to an unexpected extent in any bristle class the frequency of flies in the class should show it. The size of a bristle class can be estimated by making use of the probit transformation. Thus in generation four, the six-bristle class has 48·99 per cent. of flies below it and 11·06 per cent. above it. By reference to a table of probit values we find that the mean of a normal distribution lies 0.03σ above the boundary separating the lower 48·99 per cent. from the rest and 1.22σ below the boundary separating the upper 11·06 per cent. from the rest. The six-bristle class thus occupies a region of the distribution of bristle numbers which would be subtended by 1.25σ if the curve were a normal one.

My table 1 is drawn up to show the distribution of females in each generation together with the width in σ of each bristle class. In order to estimate the width of the eight-bristle class it is necessary to assume in each generation but the last that the next fly counted would have had nine bristles. The estimate is an estimate of the minimum size of the class in all but the last generation. It is true that in the seventh and eighth generation the width of the eight class increases to 1.30σ and 1.53σ. This may be compared to the six-bristle class in generation three and four in which the width is 1.25σ and 1.37σ. In generation nine the width of the eight class falls to 0.59σ and there is every reason to believe that if sufficient flies could have been counted the width of the eight class would have been about 0.8σ as it was in four different counts I made (Rendel, 1963).

There is no evidence of any threshold or canalisation comparable to that at four, which class spans about 6.0σ (Sheldon, Rendel and Finlay, 1964). The reason why only one fly with nine bristles has appeared by generation nine whereas flies with eight appeared in generation two seems to be that selection has increased bristle number over the whole population by little more than 0.5σ which is not more than half the width of a bristle class. There is no reason for assuming that the eight class is any more canalised than any other class.

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UNSTABLE MUTATION IN *NEUROSPORA*

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1. INTRODUCTION

In experiments involving ultraviolet irradiation of a histidine (*his*$^-$) strain of Neurospora, many of the prototrophic colonies which arose were no longer *his*$^+$ when later tested. This note describes their properties.

2. PROCEDURE

Uninucleate microconidia (and in one experiment macroconidia) from a *his-3* strain G_g59 were either irradiated with ultraviolet to a survival of 10 per cent. and plated on selective media (minimal and " conidiating