| Ring type | I (y to cv) Rods | Rings | II (cv to v/m) Rods | Rings | III (v/m to f) Rods | Rings | IV (f to centr.) Rods | Rings |
|---|---|---|---|---|---|---|---|---|
| (A) - - - - - | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| + - - - - | 2.02 | 1.40 | 2.05 | 1.95 | 2.25 | 1.14 | 3.84 | 3.09 |
| (B) - - - - - | 1.79 | 0.96 | 1.96 | 0.92 | 1.7 | 1.19 | 3.8 | 1.72 |
| (B) - - - - - | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| + - + + - | 1.13 | 1.18 | 1.40 | 1.56 | 1.40 | 1.10 | 1.00 | 1.00 |
| + + + + + | 1.02 | 1.47 | 0.93 | 1.00 | 1.10 | 1.84 | 1.15 | 1.27 |

The difference in the results obtained with type (A) and type (B) rings may be explained in the following manner. By chance, or because of the use of different inverted chromosomes in the original TM synthesis, the (B) rings may have a segment of unspecified X or Y heterochromatin large enough to render them less sensitive to additional heterochromatin. This working hypothesis may be tested by a systematic search among type (A) TM's for rings which lack all of the Y fertility factors, yet yield high crossing-over values (of the order of 10%); and conversely, among type (B) TM's for rings yielding low crossing-over values (of the order of 4 or 5%). Cytological estimates of relative size may be useful to determine the presence of unspecified X or Y heterochromatin.

$(XY^L)^C$ chromosomes will be sent to the Drosophila Stocks Center of the Institute for Cancer Research, Philadelphia, from where they would be available to anyone who might want to use them as balancers for special stocks.

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Preliminary chromatographic analysis of the "brown spots" character in Drosophila melanogaster.

Owing to the peculiar manifestation of the bsp character, it seemed useful to investigate if differences in free-ninhydrinpositive substances could be correlated with the changes of metabolic pattern in the female following copulation. According to the method described by Fox et al. (1959), two-dimensional chromatograms of virgin and mated females (5 days old) were obtained. The quantitative analysis of the free-ninhydrin reacting components showed that the tyrosine amount does not change after mating in bsp females, while an increase occurs in the Sevelen females (control). This finding points to a correlation between tyrosine and brown spots formation, because it can be suspected that part of this substance is utilized for the formation of brown pigment.

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Experimental puffs in D. hydei polytene chromosomes, induced by temperature shocks.

During the entire third larval instar abnormal puffs can be induced in the salivary gland chromosomes by transferring the larvae from 25 to 35°C. for 1 hour. These abnormal puffs (located at 32A, 36A, 48C, 58B, 81B and 85B respectively, according to the cytological map of Berendes, 1963), are also induced in cells of the stomach, midintestine and Malpighian tubules. Also, in salivary glands transplanted from early third instar larvae into the abdomen of adult females, abnormalities in the puffing pattern are induced by temperature shocks. After 3 days of implantation, the flies were shocked for 1 hour, and after 3 weeks of implantation for 1/2 hour. Both experiments revealed the same abnormal puffs as found after treatment of normal larvae.