

ADDITIONS:

Rearrangements

T(1;3) v

T(1;3)05

T(2;3) A

T(2;3) B

T(2;3) 101

T(2;3) 108

T(2;3) 109

T(3;4) c

In(3LR) sep
(Muller)

Break Points

10 / 93B

4F / 88A-C / 92/62B-C (new order in 3 is : tip of 3L to 62 B-C / 88A-C through centromere of 3 to 62B-C / 92 to 3R tip; section 88A-C to 92 is inserted into X-- in 4F according to Griffen's analysis).

29 B-C / 83B

33 / 81F

42-43 / 83 E-F

The single euchromatic break is in 52D-F and is superimposed on In(2R)Cy.

22F-23AB / 80 / 55F-26A (a cyclical exchange of tips as reported by Bridges and Brehme, but contrary to earlier report the inversion in 3R is evidently In(3R)P.).

86B-C (just to right or left of 86Cl-2) / 101F

65E/85E

CORRECTIONS:

T92;3)Xa

The break in 3R which is superimposed on In(3R)P is not in 89D but lies near the end of 89E (to the right of bx and its pseudoalleles).

Lindsley, D. L. An X chromosome specifically deficient for the nucleolus organizing region.

In experiments in which newly derived X chromosomes, involving changes in the heterochromatic region, are recovered, it is desirable to test every product for the presence or absence of each known heterochromatic marker separately.

Therefore, a chromosome lacking the nucleolus organizing region, but retaining the bb locus and block A has been made. The proximal break in In(1)sc^{L8} is immediately to the right of the nucleolus organizing region, while the proximal break of In(1)w^{m4} is immediately to the left of it (Kaufmann, 1944). A single exchange between these two inversions results in one product which is duplicated for the region from immediately to the right of sc to immediately to the left of w and is deficient for the nucleolus organizing region. This product is viable in heterozygous but not homozygous females. It lives as a male in the presence of Y or Y' but is sterile; XO males or males carrying Y^{Lc} do not survive. Such viability data agree with observations that the nucleolus organizing region of the Y chromosome is carried on Y short. The sterility of nucleolusless/Y is puzzling, since males carrying larger deficiencies, also including the nucleolus organizing region, such as In(1)sc⁴ sc⁸ are fertile; also males carrying duplications for all of the region duplicated in the nucleolusless chromosome and more are fertile (T(1;4) w^{m5L}).

Lüning, K. G. X-ray-induced mutations in different stages of spermatogenesis.

Wild-type, M5, and y w sn males were irradiated (2900 r) at the ages of 0-1 or 6-7 days. The males were mated to virgin y.w sn females immediately or after some days. Every day or every third day the males were transferred to new females.

Eggs were collected and the number of hatched eggs was counted; total, 150,000 eggs. In the first five days the rate of dominant lethals was nearly constant. Then there was a more-or-less sharp increase in the rate of dominant lethals. This high frequency remained till the 11th day; then there was a sharp decrease, which continued to the 20th day after treatment, when there was only a slight effect of treatment compared to the controls. The increase in the rate of dominant lethals appeared at the same time, whether the males

were mated or unmated from irradiation to the 5th or the 7th day after treatment. From this it was concluded that when males were unmated the sperm was reabsorbed and/or spontaneously ejaculated.

To explain the variations in the rate of dominant lethals, it was supposed that the variation fitted with different stages of spermatogenesis that were treated. In the first 5 days, sperm that was mature at treatment was used. In the next 5 days, sperm was used which was maturing (spermatid stage) at treatment. After the 11th day, sperm that was immature at treatment was used.

Later the frequencies of point-mutations (y, w, and sn), gynandromorphs, and hyperploid males were studied in the two periods 1-6 and 7-10 days after treatment. Wild-type males were irradiated (960 r) and mated to virgin y w sn females, two of each sex per vial. At the beginning of the 7th day the males were transferred to another 5 virgin females. The following data were obtained.

| Days after treatment | Total females and gyn. | Point-mutations | Gynandromorphs | Hyperploid males |
|----------------------|------------------------|-----------------|----------------|------------------|
| 1-6 | 59856 | 8 | 35 | 12 |
| 7-10 | 47007 | 22 | 32 | 56 |

From this it is concluded that spermatids are more sensitive to irradiation than mature spermatozoa.

Mainx, F. Structural variety in wild populations of European species of the obscura group.

For some time I and my collaborators have been occupied with this problem. In a short time a paper will appear containing general statements and the salivary chromosome maps of D. subobscura, D. obscuroides, and D. amnigua. A second paper will deal with a qualitative analysis of the inversions in D. subobscura (Austrian, British, and other strains). Further current investigations deal with the selective value of inversions in artificial populations, with quantitative analysis of certain populations, with selection of inversions by inbreeding, and with X-ray-induced inversions in D. subobscura.

Makino, Sajiro, and Kanehisa, Takeharu A preliminary survey of the geographical distribution of Drosophila in Hokkaido. Central, East, and North.

The species of Drosophila so far collected from Hokkaido and their distribution are preliminarily listed below. For description, the island of Hokkaido was divided into four regions-- South,

| | South | Central | East | North |
|----------------------------|-------|---------|------|-------|
| <u>Amiota</u> sp. | | + | | |
| <u>Scaptomyza</u> sp. | + | + | | + |
| <u>Hirtodrosophila</u> sp. | | + | + | + |
| <u>H. cinerea</u> group | + | | | |
| <u>melanogaster</u> | | + | | |
| <u>auraria</u> | + | + | + | + |
| <u>suzukii</u> | + | + | + | + |
| <u>obscura</u> group | | + | + | |
| <u>transversa</u> | + | + | + | + |
| <u>nigromaculata</u> | + | + | + | + |