There is some doubt, therefore, that this double-X carries that gene. Examination of ganglia show that the chromosome is very long at anaphase (and therefore is of the double type); at metaphase, the chromosome appears V-shaped, but a tip of the V rather than the apex is directed toward the center of the plate.

(2) The tandem double-X. Pairs by forming a spiral and, by crossing over, manufactures single rod chromosomes. This compound was derived by inducing a crossover between the short arm of the Y at the tip of the X-Y chromosome and the base of sc^4. Structurally, the chromosome may be written as sc^4^ + EN-Y-Lec^8^; the raised dot indicates the position of the centromere. The sc^4^ chromosome used carried y car m w^2^; the X-Y chromosome may be represented as car^+ y^+ y^+ y^+ . Crossover studies indicate that a striking excess of Single chromosomes is recovered; it is presumed that crossing over is occurring with normal frequency, but that nonrandom disjunction favors the inclusion of the single X in the egg nucleus. The long arm of the Y, present at the base, has been replaced by the duplication B^8^ . Such a chromosome should, with some low frequency, yield instances where crossing over has occurred between this duplicating fragment at the base, and the homologous region at the end of the sc^4^ chromosome. This chromosome would be a double ring, of interest because the recovery of single rings from it by crossing over would have to depend on certain three-dimensional properties of this type of chromosome.

Novitski, E. Useful derivatives of the X-Y chromosome. Among a large number of rearrangements involving the X-Y chromosome found while looking for a special type of inversion, two may be of particular interest in experiments where the inverted sequence of the X-Y chromosome is troublesome because it gives either too much or too little, crossing over when heterozygous with a normal sequence. One of these, labeled X-Y In X-Y 26, has one break in the heterochromatin, the other in section 10A. No crossovers have been found when this chromosome is with sc^8^ or a normal chromosome. Another, X-Y In X-Y 24, appeared to be an almost complete reinversion since it crosses over freely with a normal sequence. The crossover class with the left end of a normal chromosome and the base of In X-Y 24 is inviable in the male, however, indicating that some normally proximal genes, located distally in the X-Y chromosome, had not been shifted back into their normal position by the second inversion. To make a chromosome that would be free of this complication, In X-Y 24 was crossed to an attached-X detachment (A2) which carried the long arm of the Y chromosome. A single crossover replaced the deficient base by a normal base. The chromosome thus constituted has been tested by mating to y^2^ su^hw^ y^w^ bb/0 females. F_1_ males are fully fertile and viable, although there must still be a small duplication at the distal end. It is carried in stock as: Ins 24L + A2R y/ y^2^ su^hw^ y^w^ Bb and Ins 24L + A2R y y^2^ su^hw^ y^w^ bb.

Oftedal, Per Genetics and histogenesis of a new tumor A tumor stock developed spontaneously from a stock of ma^9d shows black aggregations in about 50%-60% of the flies in stock. The tumor may be located in any part of the fly, but usually in the abdomen. In outcrosses 2% incidence is obtained in F_2_. In backcrosses the incidence is up to 10% and may rise to 34% when crossed to the stock from which it arose. The main gene is completely recessive and is located in the second chromosome, probably between c and px. It is not an allele of mt^A_ of Hartung (Hartung, J. Hered. 41: 269). Modifiers have been located in the middle of chromosome 3, rather closely linked to ma, and in chromosome 1. The third-chromosome modifier is present in the Sb and H chromosomes of the Cy/Pm; H/Sb stock in this laboratory.