to the 3rd chromosome should be reassigned to the 2nd. Also the chromosome which bears M, px, and others must be the 3rd, not the 4th. At present no mutant gene is identified in the 4th chromosome. Here we correct our report in DIS 42:81 as follows:

The 16th line: "2-chromosome" for "3-chromosome"
The last line: "3-chromosome" for "2- and 4-chromosomes"
Several places: "cd(cardinal)" for "st(scarlet)".

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Control of chromosome pairing and the directed segregation of sex chromosomes in XYY males.

The existence of special sites (= collochores) in Xh for regular conjunction of the X and Y chromosomes in males has been demonstrated in spermatogenesis by Cooper (1964). The intercalation of Xe between collochores in In(1)Xh chromosomes with right break distal to NO apparently allows both collochores to pair simultaneously, which Cooper interprets to mean the loss of normally occurring intrachromosomal control over chromosome pairing. Does such behavior influence genetic segregation of the sex chromosomes in XYY males? From crosses of In(1)$w^{m4}/sc^8Y/sc^8Y$ males (single male/vial) to w^{m4} females we obtained 41 $w^{m4}w^{m4}$ (white eyes) daughters, 427 $w^{m4}w^{m4}Y$ (red eyes) daughters, 351 $w^{m4}Y$ (white eyes) sons and 24 $w^{m4}YY$ (red eyes) sons. Thus for XYY males carrying In(1)w^{m4} segregation is nonrandom in that the Y's separate more often than the 67% expected for nonpreferential segregation (Grell, 1958, X International Congress of Genetics, Proceedings, Vol. II). Comparable crosses of In(1)$m^{m4}/B^SY/y^+Y$ males and their $y/B^SY/y^+Y$ brothers to y cv v f females yield results, given in Table 1, that each indicate directed segregation but the two sets of results are not significantly different from each other. Any role of the non-functional pole in spermatogenesis to account for the apparent non-randomness of segregation is difficult to evaluate and cannot entirely be ruled out. However, it may be noted for the three crosses that each of the three elements is recovered in 50% of the gametes and that complementary segregation classes are approximately equal, which suggests that the observed classes adequately reflect disjunction patterns in MI.

Table 1

Results of crosses of $y/B^SY/sc^8Y$ ♂♂ and their In(1)$w^{m4}/B^SY/sc^8Y$ brothers to y cv v f ♀♀

	Progeny Classes						
Fathers	y^+♀♀	y^+ B^S♀♀	y ♀♀	y B^S♀♀	y^+ cv v f♂♂	y cv v f B^S♂♂	y^+ cv v f B^S♂♂
y	238	--	142	217	239	286	77
w^{m4}	294	158	--	--	215	232	41

Since In(1)w^{m4} males present a different configuration in the first meiotic metaphase from males with a normal X but yield almost identical segregation classes, it may be asked whether the inferred intrachromosomal control over conjunction of collochores in spermatogenesis has any function in determining disjunctional patterns of conjoined chromosomes. Nonrandom assortment is consistent with the three sex chromosomes being associated at MI, as suggested by the trivalent formation observed cytologically. In this sense the role of collochores in chromosome conjunction is not questioned, although the simplest view of the cytological pictures predicts predominantly X - YY segregation, which is not observed. In(1)Xh chromosomes are also of interest because of their behavior when homozygous in oogenesis: X-chromosome exchange is reduced in XXY females relative to their XX sisters. Possibly a relation exists between such behavior in females and the loss of control hypothesized from cytological observations in spermatogenesis.