having black fore metatarsus.

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Gethmann, R.C. University of Maryland Baltimore County, Catonsville, Maryland.

A case of sex chromosome meiotic drive that is age dependent.

An age dependent case of meiotic drive involving the sex chromosomes has been found. Attached-X males of the constitution $Y^SX{\cdot}Y^L$, In(1)24^L + $X{\cdot}Y^S$ $A2^R$, y v/Dp(1;f)60g, y^{31d} produce equal numbers of $\overline{XY}$ and Dp60 bearing sperm for the first six days after emergence, but for the next six days (days 7-12), they produce, on the average, nearly twice as many duplication bearing sperm as $\overline{XY}$ bearing sperm. (See Table 1). The attached-XY is composed of the left end of In(1)24, which carries Y^S distally and is essentially a reinversion of In(1)EN, and the right end of a detached attached-X, A2, which carries $Y^L(X{\cdot}Y^L)$. Thus, the euchromatin is in normal sequence, except for a small distal duplication (Novitski, DIS 25:122). Dp(1;f)60g is an X-chromosome duplication carrying the tip of In(1)sc^8 and at least one complete dose of the X heterochromatin. It is marked by y^{31d} from sc^8. It occurred spontaneously in a triploid female and was recovered along with its reciprocal exchange product, C(1)RA60g (Mohler, DIS 34:52).

Table 1. Number of progeny by age of parental male.

Paternal age (days)	Regular Progeny: y ♀	Regular Progeny: y^{31d} w^{sp} ♂	Exceptional Progeny: ♀ nondisj.	Exceptional Progeny: ♂ nondisj.	Total progeny	average no. prog/male	♂/♀ ratio
1-2	652	684	1	0	1337	191.0	1.05
3-4	1491	1511	4*	4	3010	430.0	1.01
5-6	835	877	0	0	1712	285.3	1.05
7-8	262	477	0	1	740	148.0	1.82
9-10	236	491	0	0	727	145.4	2.08
11-12	370	600	0	4	974	243.5	1.62

* Recovered as a cluster from one mating.

The experimental procedure was as follows: Single males less than 36 hours old were mated to 3 y w^{sp} virgin females. Every two days, the males were transferred to new virgin females without etherization. The females were subcultured every three days for a total of 12 days. There was no change in the sex ratio in the subcultures. A total of 9 males were tested. The number of fertile males for each successive brood was 7, 7, 6, 5, 5, and 4.

For the first six days, males produced $\overline{XY}$ and Dp60 bearing sperm in equal numbers. The slight excess of males over females for the first six days is not significant (X^2 = 1.46). There is an obvious excess of male progeny starting with the seventh day. Nondisjunction in the males was low throughout the experiment. The nine exceptions included 7 nullo-$\overline{XY}$, Dp sperm.

There was also a drastic drop in the total number of progeny after day 6, although part of this was due to fewer fertile males in the later broods. On a per male basis, there is still a large drop in the number of progeny after day 6. Although controls were not run on these experiments, this type of a drop in total progeny was not expected, based on an examination of similar brooding experiments taken from the literature (Hiraizumi and Watanabe, Genetics 63:121; Yanders, Genetics 51:481). Considering all progeny, 63% were recovered over the first 6 days, whereas for comparable experiments, the average is around 53%. For just Dp60 progeny, 57% were recovered over the first 6 days. All of this suggests that part of the drop in total progeny is probably due to the missing $\overline{XY}$ sperm, but that all of the drop cannot be accounted for by dysfunction of the $\overline{XY}$ bearing sperm.

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