still had the second-instar cuticle attached to them. In some cases the cuticle was attached at the larval mouth hooks, so that the larvae were dragging the cuticle around with them. In other cases the cuticle was wrapped around the posterior half of the organism. This seems to indicate that the second molt in 1(1)EN14 larvae occurs at a later than usual time or that the larvae have some difficulty in undergoing the molt.

Table 3. Subsequent development of 58 1(1)EN14 larvae separated from non-lethal sibs and placed in food petri dishes 48 hours after oviposition.

Age in hr. after oviposition	Vigorously alive*	Abnormal**	Dead***	Could not find
72 hr.	42	3	2	11
96 hr.	7	30	5	16
120 hr.	0	5	35	18
144 hr.	0	2	38	18
168 hr.	0	0	39	19

*Crawling around quite actively.
**Crawling around lethargically or moved only when pricked with forceps.
***Darkened in color, looked dried out and did not move when pricked roughly with forceps.

References: Novitski, E. 1963, DIS 37:51-53; Tate, M.W. and R.C. Clelland 1957, Non-parametric and Shortcut Statistics in the Social, Biological, and Medical Sciences. Interstate, Danville, Illinois.

Gould-Somero, M., R. Hardy and L. Holland
University of California, San Diego, La Jolla. The Y chromosome and sperm length in D. melanogaster.

It has been reported that the amount of Y chromosome material in male D. melanogaster is directly correlated with the length of the sperm tails. That is, males with two Y chromosomes produce sperm roughly twice as long as males with one Y chromosome (Hess and Meyer, 1963, 1968). This observation interested us because of its obvious implications for the control of protein synthesis and assembly in the developing spermatid. Therefore we tried to repeat the observation but were unable to: motile sperm from XYY males were the same length as those from XY males.

Sperm lengths were measured after teasing motile sperm out of the seminal vesicle in saline (Ephrussi and Beadle, 1936), supplemented with 9% fetal calf serum to reduce stickiness, and spreading them out under a coverslip. The preparations were examined by phase contrast microscopy; motile sperm were selected and photographed when they stopped twitching. The lengths were measured in the photographs. We consciously selected for the longest sperm.

We examined adult males (2 - 9 days after eclosion) of the following sex chromosome constitutions: X/Y (Canton-S males); XY/Y ($Y^{S}X \cdot Y^{L}$, In(1)EN, y B/y^{+}Y); XY/T(Y;3) ($Y^{S}X \cdot Y^{L}$, y/T (Y;3)Df(73AB-D)/In(3LR)TM6, ss^{-} bx^{34e} Ubx^{67b} e); and X/Y/Y (produced by the cross C(1)RM, y pn v/Y; C(4)RM, ci ey ♀♀ x y/y^{+}Y; mei-S332; spa^{pol} ♂♂; the flies for this latter cross were kindly supplied by Dr. Brian Davis).

Genotype	Sperm length (mm)	n
X/Y	1.92 ± 0.014	6
XY/Y	1.86 ± 0.010	5
XY/T(Y;3)	1.85 ± 0.037	5
X/Y/Y	1.69 ± 0.062	7

The results of the sperm measurements are summarized in the table. Clearly the presence of an extra Y chromosome per se is insufficient to double the sperm length in D. melanogaster.

References: Ephrussi, B. and G. Beadle 1936, Amer. Nat. 70:218-225; Hess, O. and G. Meyer 1963, J. Cell Biol. 16:527-539; Hess, O. and G. Meyer 1968, Adv. Genet. 14:171-223.

Supported by grant number AEC PA 150-6 from the Atomic Energy Commission, and by grant number HD 03015 from the National Institutes of Health.