times an element was performed) and duration (total time spent performing an element) of the courtship elements were calculated over a period of 30 sec. and a period of 60 sec., both starting with the first vibration. The duration of li and ac could not accurately be recorded as these activities lasted very short. The bout lengths (duration divided by frequency) of the elements were calculated over the complete courtship periods. Table 3 gives the outcomes. FF males show significantly higher frequencies of ap and vi. The duration of vi is also significantly longer for FF, while its bout length is exactly the same for FF and SS. FF and SS show no significant differences in duration and bout length of or and ap. So FF males show a more active courtship behavior in which especially the element of vibration, which is performed more often, though not in longer bouts, might be responsible for the higher mating success. Vibration has been shown to be very stimulating to the female (Bastock 1956).

Table 3. Frequencies, duration, and bout lengths of the courtship elements (average values of N observations).

		N[1]	or	ap	vi	li	ac
frequencies:	FF (30)	13	3.9	6.2	6.2	0.8	0.6
	SS (30)	14	4.1	4.2*	4.3*	0.6	0.3
	FF (60)	12	7.3	11.8	11.8	1.8	0.7
	SS (60)	12	7.3	7.4**	6.6**	1.2	0.3
duration:	FF (30)	13	4.3	9.8	12.6		
	SS (30)	14	6.7	7.5	8.2**		
	FF (60)	12	9.0	19.5	22.6		
	SS (60)	12	12.1	17.5	12.8**		
bout lengths:	FF	15	1.2	1.8	2.0		
	SS	16	1.7	2.3	2.0		

Significance of the difference between FF and SS: *P 0.05, **P 0.02 (Mann-Whitney U test). (30) and (60) indicate values over the first 30 and 60 seconds after the start of the first vibration, respectively.
[1]In a number of observations the courtship period was shorter than 60 sec., or even 30 sec., therefore N is always smaller than 20.

It is theoretically possible that the difference in behavior between the FF and SS males is not an intrinsic quality of the males themselves, but is mediated by the females. Females might be able to distinguish between the genotypes and to exert a differential influence on their courtship, for instance by making more repelling movements (see Bastock and Manning 1955) towards SS males, thus causing more breaks in their courtship.

References: Bastock, M. 1956, Evolution 10:421-439; Bastock, M. and A. Manning 1955, Behavior 8:85-111; Pot, W., W. van Delden and J.P. Kruijt 1980, Behav. Genet. 10:in press.

Rahman, R. and D.L. Lindsley. University of California, San Diego. Ysu(f)$^-$, a spontaneous derivative of Ymal$^+$.

Ymal$^+$ is an x-ray induced derivative of $Y^SX^{\cdot}Y^L$, In(1)EN that arose through the deletion of the majority of the X euchromatin [1(1)J1$^+$ through car$^+$] (E.H. Grell). Among a number of stocks in which Ymal$^+$ was being used to cover proximal lethals induced on the X chromosome by Lifschytz and Falk (1968), one was found that differed from the rest in that the Y, although still covering the proximal lethal in the stock, no longer covered deficiencies for su(f). Tests of this Y in combination with an array of proximal X-linked lethals indicate that it is a derivative of Ymal$^+$ from which the X-derived segment from 1(1)R10-10 through su(f) has been deleted. This segment includes the loci of lethals designated R10-10, Q463, X4, and X1 by Lifschytz and Falk, as well as that of su(f); the Y carries at least one dose of bb$^+$ as determined from its phenotype in combination with bb^1. The constitution of this duplicated Y, which we designate Ysu(f)$^-$, may be designated as follows:

$$KL^{\cdot}bb^+?\ \ sw^+\text{--}1(1)Q\text{-}56^+\ bb^+?\ KS$$