Sang 1968, Nature 220:393-394;   (3) Ashburner, M. 1970, Nature 227:187-189;   (4) Madhavan, K. 1973, J. Insect Phys. 19:441-453;   (5) Vogt, M. 1946, Nature 157:512;   (6) Bhaskaran, G. 1972, J. Exp. Zool. 182:127-134.

Ganetzky, B. and J. Figenshow. University of Washington, Seattle, Washington. An influence of the compound-generating exchange on ring recoverability in tandem-metacentric compound-X chromosomes.

Lindsley and Sandler (1965) noted that a difference in the pericentric heterochromatic content of two different tandem metacentric chromosomes resulted in striking differences in the transmission of tandem rings derived from these. Since the exchange that leads to the generation of a tandem metacentric can occur in different places in the heterochromatin, it is apparent that the location of this exchange can affect the subsequent behavior of the compounds generated.

We have constructed a number of different tandem metacentrics whose variability in behavior is consistent with this idea. The compounds were recovered from females of the constitution: $X \cdot Y^L$, $In(1)sc^4$, EN^R y sc^4 sn g/$Df(1)v^{74}$, $X \cdot Y^L$, $In(1)sc^4$, EN^R y sc^4 g/$Df(1)g^1$ y f B, or $X \cdot Y^L$, $In(1)sc^4$, EN^R y sc^4 sn g/y cv v f, after irradiation with 2000 R. The compounds recovered showed striking differences, both within and among different constructions, in respect to the ring progeny generated. The results of the constructions are summarized in the following table:

Genetic constitution	No. C(1)TM recovered	No. stable (no ring progeny)	No. unstable (20-25% ring progeny)
$X \cdot Y^L$, $In(1)sc^4$, EN^R y sc^4 sn g / $Df(1)v^{74}$	13	12	1
$X \cdot Y^L$, $In(1)sc^4$, EN^R y sc^4 sn g / $Df(1)g^1$ y f B	15	8	7
$X \cdot Y^L$, $In(1)sc^4$, EN^R y sc^4 sn g / y cv v f	9	4	5

An example of the behavior in crosses of $C(1)TM/y^+Y$ x $Y^S X \cdot Y^L$, y B/0 of stable and unstable compounds is:

	Pat♂♂	TM♀♀	Homo.♀♀ (v)	Ring♀♀	Ring♂♂	Exc.♂♂	Exc.♂♂ / Reg.♂♂	TM♀♀ / Reg.♂♂
Unstable	3753	1055	60	1118	1674	200	.05	.28-.30
Stable	1554	613	-	0	0	29	.02	.39

It should be pointed out that in the cases where the tandem metacentric chromosomes are stable they cannot be distinguished genetically or cytologically from reversed metacentrics. However in every case examined where the chromosome was unstable the breakdown product was a ring confirming the compound's identity as a tandem metacentric. Whether stable or unstable, the compounds were heterozygous for the expected markers, consistent with their being tandem metacentrics. Analysis of the data from the stable compounds suggests that rings are formed but they behave as dominant lethals.

Several points of interest emerge from the data presented above. First, since the behavior exhibited by tandem metacentrics can vary quite drastically even when the chromosomes used in their construction are identical, it seems that the initial exchange leading to the

compound does influence the subsequent behavior of ring chromosomes. Second, since the constructions with a vermillion deficiency appear to generate a different collection of compounds, especially with respect to the number of stable compounds, it would appear that the presence of this deficiency influences the behavior of the compound. However, the deficiency could be eliminated by a double exchange and only in one case did loss of the deficiency result in recovery of rings. Thus it seems that it is not the presence of the deficiency in the tandem metacentric itself that affects its behavior, but rather, the deficiency must somehow influence the nature of the compound-generating exchange.

Finally, it should be pointed out that in addition to those tandem metacentrics reported here, Lindsley and Sandler in the course of generating their tandem metacentrics mention the recovery of stable compounds behaving as if they were attached X's and Pasztor (1967, DIS 42: 107) reported the construction of a tandem metacentric which generated rings that had a high frequency of mitotic loss.

Reference: Lindsley, D.L. and L. Sandler 1965, Genetics 51:223-245.

Ripoll, P. and A. Garcia-Bellido. Centro de Investigaciones Biológicas C.S.I.C., Madrid, Spain. A new sc^{VI} translocation to the long arm of the Y.

This translocation arose spontaneously in the stock $Dp(1)sc^{VI}/C(1)M3$, $y^2/T(Y:3)P6$ and was detected as a y^+ female. Genetic tests showed that the sc^{VI} element was now translocated to a KL deficient Y chromosome with all the KS factors present. We previously found that the Y, $Dp(Y:3)P6$ (Lewis, 1972, DIS 48:188) element was a Y chromosome carrying all the fertility factors, besides mwh^+ ve^+. Since the primitive mwh^+ element remained it is reasonable to conclude that the new Y chromosome is $sc^{VI} \cdot KS$ mwh^+ ve^+.

The y^+ of the sc^{VI} element of this Y chromosome variegates very strongly in y males, whereas mwh^+ does not.

Gassparian, S. University of Isfahan, Isfahan, Iran. New mutants in D. melanogaster.

Populations of D. melanogaster from two regions in Isfahan province were studied. A total of 57 mutations were detected from the combined populations of Hossein-Abad and Isfahan region, which was kept for more than 44 generations under artificial selection. The number of mutations detected from the city of Isfahan are 30; the rarest mutation is an allele of miniature called minature of Isfahan, which shows an excellent viability after culturing in Mostastfi medium. One allele, dark red eye color, is a new mutation. This is a single gene mutation on the third chromosome in a distance of 108 ± 1 genetic units. The pure lines of both stocks are available. (Supported by grant #51001 University of Isfahan Research Center.)

QUOTABILITY OF NOTES