Tsacas, L. Centre National de la Recherche Scientifique, Gif-sur-Yvette, France. Drosophilids of the Ivory Coast.

During research work on the fauna of the Palmtree Borasus ethiopum done by M. R. Vuatoux at the Laboratory of Lampto (between Tiasalé and Toumodi) a large number of Drosophilids was captured. The bait used was: a) fruits, b) terminal buds and c) sap of B. ethiopum. The collecting was made March 5 to November 22, 1962. The following species were identified on material kept in alcohol. 1. Chymomyza avikam (a); 2. Zaprionus tuberculatus (a,c); 3. Z. vittiger (a,b,c); 4. Z. sp. cf. armatus (a,c); 5. Drosophila latifasciaeformis (b); 6. D. saba (b); 7. D. melanogaster (a); 8. D. seguyi, species A (a); 9. D. ananassae (a); 10. D. yukuba (a); 11. D. sp. melanogaster gr. (a).

Mittler, Sidney and J. R. Gerdy. Northern Illinois University, DeKalb, Illinois. The effect of various maternal chromosomes on the spontaneous occurrence of XO males.

J. Arnesen, working in our laboratory in the spring of 1965, found that more spontaneous XO males occurred in the offspring of a cross of $X^{c2}$ $y^B$ males to y $sc^{S1}$ $In^{49}$ $sc^8$, bw;$stp^P$, than in the offspring resulting from the mating to a y w f female (Mittler, Arnesen and U in press in Int. J. Rad. Biol.). To determine what effect the maternal parent had upon the spontaneous occurrence of XO males, gynandromorphs and XXY females, the $X^{c2}$ $y^B/sc^{8y+}$ males age 2 - 6 hours old were mated at the ratio of one male to three females every other day or 12 days to females of y $sc^{S1}$ $In^{49}$ $sc^8$, bw, $stp^P$; y w f; y $sc^4$; y $fa^n$ dl-49; and $y^{31d}$ $sc^8$ $w^a$. The data are presented in Table 1.

Table 1. $X^{c2}$ $y^B/y^+$ $sc^8$ X various females with respect to spontaneous XO males in the offspring.

| Female parent | No. of gametes | % XO | % Gynandromorph | %XXY |
|---|---|---|---|---|
| y w f | 40,875 | .503 | .038 | .084 |
| y $fa^n$ dl-49 | 19,248 | .620 | .047 | .314 |
| y $sc^4$ | 37,905 | .659 | .034 | .110 |
| $y^{31d}$ $sc^8$ $w^a$ | 54,236 | .694 | .124 | .110 |
| y $sc^{S1}$ In49 $sc^8$, bw, $stp^P$ | 44,425 | .776 | .074 | .121 |

There was no significant difference in offspring of the various crosses described in Table 1 with respect to the number of gynandromorphs, production of XXY females, productivity per male, and sex ratio. However, there was a significant difference between the offspring of the y w f mating (in which the lowest percentage of XO's resulted) and those of females of other stocks. These data are presented in Table 2.

Table 2. Comparison by means of a 2 x 2 contigency table of XO males produced by various females mated to $X^{c2}$ $y^B/y^+$ $sc^8$

| | Chi-square |
|---|---|
| y w f vs y $fa^n$ dl-49 | 5.577 |
| y w f vs y $sc^4$ | 9.643 |
| y w f vs $y^{31}$ $sc^8$ $w^a$ | 14.673 |
| y w f vs y $sc^{S1}$ In49 $sc^8$, bw, $stp^P$ | 29.290 |
| y $fa^n$ dl-49 vs y $sc^{S1}$ In49 $sc^8$, bw, $stp^P$ | 6.424 |
| y $sc^4$ vs y $sc^{S1}$ In49 $sc^8$, bw, $stp^P$ | 6.42 |

The appearance of XO male indicates a loss of the ring X or Y chromosome or the $y^+$ portion usually before fertilization and if this loss occurred with the same frequency in the spermatogenesis of all the $X^{c2}$ $y^B$ males, then the differences in the number of XO's obtained may be explained by the variation in the viability of the different XO's produced. The y w f XO male is thus less viable than the XO male, y $sc^{S1}$ In49 $sc^8$. More gynandromorphs resulted in crosses involving $y^{31d}$ $sc^8$ $w^a$ and y $sc^{S1}$ In49 $sc^8$, bw, $stp^P$ than with y w f.