Burdick, A.B. 1999. Xasta in class experiments. Dros. Inf. Serv. 82: 128-129.

## Xasta in class experiments.

**Burdick, A.B**. [reprinted from DIS 29: 181, 1955].

Good, clear, uncomplicated translocation segregation data is difficult to obtain in *Drosophila*. Most translocations are not well marked and multichromosomal recessive testers frequently conflict in expression with translocation markers. One combination that has worked well for us is T(2;3)*Xa* with *m*;*cn*;*e*. We cross *m*;*cn*;*e* females × T(2;3)*Xa*/*Ubx*$^{130}$ males and backcross: *m*/+; *cn*-*e*/T(2;3)*Xa* females × *m*;*cn*;*e* males.

Table 1.

| | Males | Females |
|---|---|---|
| *Xa* | 34 | 53 |
| *(Xa)m* | 44 | 44 |
| *m, cn, e* | 29 | 41 |
| *cn, e* | 35 | 44 |

Typical backcross data are those of Mr. V.M. Sahni, last year (Table 1). We never obtain any recombination between *cn* and *e* which is unfortunately due to the fact that *Xa* also carries In(2R)*Cy*, which covers *cn*, and In(3R)P with a break near *e*. This prevents location of the break-points of *Xa* from the data and leads everyone to conclude that the breaks must be very close to both *cn* and *e*. I think the recessive tester stock could be improved by making it *B*;*cl*;*ss*$^{a}$ which should give some recombination between *cl*, *ss*$^{a}$, and *Xa* to allow genetic estimation of the break-points.

Goldschmidt, Elisabeth. 1999. Phenocopy and species hybrid in class work. Dros. Inf. Serv. 82: 129.

## Phenocopy and species hybrid in class work.

**Goldschmidt, Elisabeth.** [reprinted from DIS 29: 182, 1955].

The following simple experiments are familiar to geneticists from the literature, but it is not generally realized how easily their success in class work can be ensured.

a) "Yellow" phenocopy on silver nitrate medium. Medium containing 0.1%, 0.05%, and 0.025% $AgNO_3$, respectively, is prepared by stirring appropriate volumes of a 5% $AgNO_3$ solution into standard food mixture cooled to 60°C directly after boiling. Since stocks vary in their sensitivity to the salt, the concentration which produces a high percentage of phenocopies (50-80%) without being too toxic to the flies is determined each year by a test series before starting the course. At least 10 pairs of parents should be introduced into each half-pint bottle. Students test different isogenic strains (or different *Drosophila* species) on the same medium or one stock on a series of concentrations. Light-colored flies are transferred to normal medium to demonstrate nonheritability of the effect in their offspring.

b) Hybrid *D. melanogaster* × *D. simulans*. Virgin males and females, aged for different periods, are shaken without etherizing into "creamers", according to the method described by Uphoff (Genetics 34: 314-327). Thirty to fifty percent of students' crosses prepared in this way are fertile. Hybrid larvae are utilized for salivary preparations to demonstrate the inversion constituting the main cytological difference between the parent species. Adult female hybrids are tested for sterility. Change of dominance relations in the hybrid can be demonstrated by utilizing *melanogaster* females carrying dominant genes. Thus, when employing *Cy L*/*Pm* females, *Cy* is found to be dominant, while *L* and *Pm* are recessive in the hybrids.