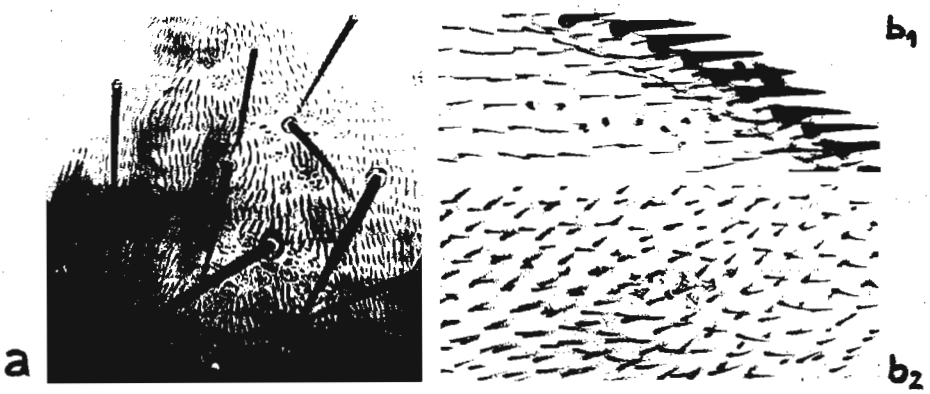
Garcia-Bellido, A. Centro de Investigaciones Biológicas, C.S.I.C., Madrid, Spain. The corrected number of adult epidermic cells of the tergites.

In a previous paper on the clonal parameters of the tergite development (Dev. Biol. 26:264, 1971), we already cast some doubts on the assumption that each trichome in the tergites corresponds to a single cell. The argumentation was that the minimal mwh mitotic recombination spots on the tergites had more processes than those found in the wing. A new cell marker mutant (flare, flr 3: 38.8) shows, in mitotic recombination clones, plates of abnormal cuticle (Figure 1a) corresponding to 4-5 wild-type cell processes in the IV tergite and of the same size on all the tergites. However, the same spots in the wing correspond to a single trichome (Figure 1b).



Direct counts on orcein stained epidermis of IV tergite preparations of 72 hrs. old pupae show (phase contrast) a density of 4.5 ± trichomes per nucleus. Consequently, the number of adult cells per hemitergite must be 3.800 instead of 17.000 - as previously assumed - and 9 the number of cell divisions needed by the 8 larval histoblasts to reach that final number. Since the last mitotic recombination spots appear 24 hrs. after puparium formation the cell division cycle of the histoblasts during this period should be of 2.7 hrs.

Broadwater, C., L.V. Owens, R. Parks, C. Winfrey and F.R. Waddle. Fayetteville State University, Fayetteville, North Carolina. Male recombination from natural populations of Drosophila melanogaster from North Carolina.

In the past two years the phenomenon of male recombination has been discovered among the descendants of wild-caught Drosophila melanogaster from Harlingen, Texas (Hiraizumi) and northwestern Ohio (Waddle). The phenomenon is due to an easily transposable, possibly in some instances extra-chromosomal, factor (Waddle).

The genetics class of Fayetteville State University (C.B., L.V.O., R.P. and C.W.) collected eighteen wild Drosophila melanogaster males from the Fayetteville, North Carolina area and mated them to cn bw;ve e females. Two sons of each male were testcrossed to cn bw;ve e females. For the testcross, each son was mated to 2 females for 7 days. Progeny were counted on the 14th day after mating. The identification of all exceptional progeny was verified by the instructor (F.W.).

Both sons of each of 16 wild-caught males produced progeny. One son of each of 2 males produced progeny. Of 2412 total progeny, 14 were recombinants including 1 (cn;ve) that was recombinant for both chromosomes. At least 1 son of each of 9 wild-caught males produced at least 1 recombinant, indicating that in excess of 50% of the wild flies in this area carry the factor. Considering the limited nature of the test, it may be that the actual incidence of the factor is considerably higher.

The known range of the male recombinant factor has thus been extended to the east coast. It is hoped that the factor will be searched for in the western states and abroad and that the results of such searches will be published in DIS.

References: Hiraizumi, Y. 1971 P.N.A.S. 68:268-270; Waddle, F.R. 1972 Ph.D. Dissertation, Bowling Green State University, Bowling Green, Ohio.