Df(2L)C'. Virgin females heterozygous for Df(2L)C' and b pr cn were mated to C(2L)VH1,1t; C(2R)P,px males and brooded for 6 days. In an estimated 31,200 fertilized eggs, 2 matroclinous and 1 patroclinous progeny were recovered. The frequency of spontaneous second chromosome nondisjunction in Df(2L)C' heterozygotes is 4 x 3/31,200 or 0.038% with 95% confidence limits of 0.008% and 0.112% (Stevens 1942), well within the range observed for Drosophila females homozygous for normal second chromosomes (Gibson 1977).

Although Df(2L)C' is deficient for much of the 2L heterochromatin (Hilliker and Holm 1975; Hilliker 1976), cytological analysis of Df(2L)C' found a substantial block of heterochromatin to the left of the centromere, approximately equal in size to that normally associated with the 2L heterochromatin. This can be explained by the following hypothesis. In the construction of Df(2L)C' from the detachment of C(2L)SH3,+;C(2R)SH3,+ the acentric 2L fragment was generated by a break in the distal 2L heterochromatin (that this break was proximal to the secondary constriction at the 2L heterochromatin-euchromatic junction was clear, as Df(2L)C' was not deficient for this constriction) with the centric 2R fragment being generated by a break in the distal heterochromatin of 2R resulting in a centric 2R fragment duplicated for much of the 2R heterochromatin including the rl^+ locus. Df(2L)C' therefore would be a 2L proximal deficiency but a 2R proximal duplication with a rl^+ locus on each side of the centromere.

In order to test the hypothesis I constructed with radiation nonsister 2L compound autosomes (compound autosomes with one 2L chromatid from one second chromosome and the other 2L chromatid from its homolog) from females heterozygous for Df(2L)C' and b pr cn. If Df(2L)C' carries a rl^+ duplication in the left arm then compound left autosomes deriving one arm from the Df(2L)C' chromosome should more frequently carry rl^+ duplications of 2R than do compound lefts derived from normal second chromosomes. Of 21 nonsister compound left autosomes derived from Df(2L)C'/b pr cn heterozygotes, 17 were rl^+ whereas Yeomans (1972) found only 10 of 21 compound left second chromosomes derived from 1t stw^3/b pr cn heterozygous females were rl^+. Thus Df(2L)C' would appear to be duplicated for rl^+ and, therefore, much of the 2R heterochromatin. Additional genetic evidence is presented in Sandler (1977).

Interestingly heterozygotes for Df(2L)C' and b pr cn show normal levels of recombination in both the b pr and pr cn intervals. Thus unlike Df(2R)M-$S2^{10}$, Df(2L)C' has no marked effect on recombination in adjacent euchromatin. However, in this regard the duplicated 2R heterochromatin may substitute for the deleted 2L heterochromatin.

Further, again unlike Df(2R)M-$S2^{10}$ heterozygotes, Df(2L)C' heterozygous females showed no apparent resistance to radiation induced second chromosome nondisjunction. Df(2L)C'/b pr cn females were irradiated with 2000 rads of gamma radiation and crossed to C(2L)VH1H; C(2R)P, px. Among 56,890 estimated zygotes 27 matroclinous and 71 patroclinous progeny were recovered as well as 73 progeny bearing newly induced compound autosomes. The frequency of recovery of these progeny is similar to that obtained in females with standard second chromosomes given the same irradiation treatment and brooding (Gibson 1977).

The foregoing data have been extracted from Hilliker (1975).

References: Gibson, W.G. 1977, Ph.D. Thesis, Univ. of British Columbia; Hilliker, A.J. 1975, Ph.D. Thesis, Univ. of British Columbia; _____ 1976, Genetics 83:765-782; _____ and D.G. Holm 1975, Genetics 81:705-721; Holm, D.G. 1969, Ph.D. Thesis, Univ. of Connecticut; Lindsley, D.L. and E.H. Grell 1968, Carnegie Inst. of Wash. Publ. No. 627; Sandler, L. 1977, Genetics 86:567-582; Yunis, J.J. and W.G. Yasmineh 1971, Science 174:1200-1209.

Hunter, A.S. Univ. of the Pacific, Stockton, California. Drosophila of Pompano Beach, Florida.

A small collection of Drosophila was made in December 1978 in Pompano Beach. The flies were collected by net sweepings over the fallen fruit under various citrus trees. The number of flies of the various species found are as follows:

D. melanogaster	54
D. simulans	12
D. cardini	134
D. acutilabella	5
D. willistoni	26
D. equinoxialis	10
D. sturtevanti	87
D. latifasciaeformis	48

In order to identify the females of the willistoni group, they were each isolated and the genitalia of the male offspring were checked. These data are reported here because I believe that this is the northernmost range of D. equinoxialis. Additional collections made in 1979 and 1980 in the same location contained the same species, although in different frequencies.

Reference: Spassky, B. et al. 1971, Evolution 25: 129.