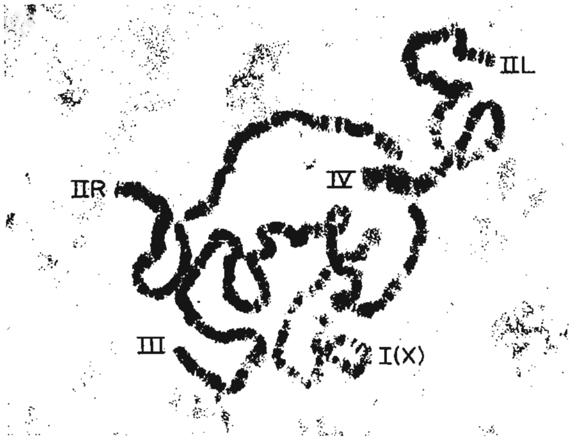

Fig. 1. Salivary gland chromosomes of D. rubra.

Fig. 2. Simple inversion on chromosome III in D. rubra. c.e. = centromere end

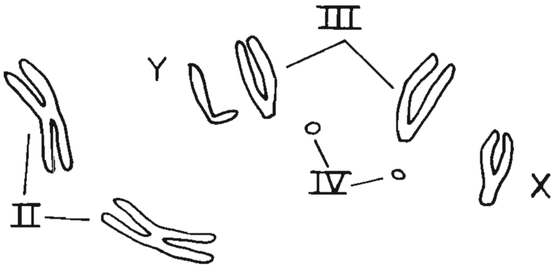

Fig. 3. Karyotype of male D. rubra.

D. rubra has a diploid chromosome number of 2n = 8. The metaphase chromosomes consist of a pair of V's (chromosome II), a pair of rods (chromosome III), a pair of dots (chromosome IV) and the sex chromosomes, of which the X chromosome is rod-shaped and the Y chromosome is J-shaped with arm-ratio of approximately 1:2.5 (Fig. 3). No karyotypic variation was detected.

The isofemale lines used in this study were collected and established by Dr. Wharton B. Mather, University of Queensland.

The work reported was part of a Ph.D. thesis accepted by the University of Queensland in 1978.

References: Sturtevant, A.H. 1927, Philipp. J. Sci. 32:361-374; Wilson, F.D., M.R. Wheeler, M. Harget and M. Kambysellis 1969, Univ. Texas Publ. 6918:209-253.

Clyde, M. University of Queensland, Brisbane, Australia. Chromosome IV variation in D. albomicans Duda.

Two types of chromosome IV were detected in metaphase chromosome preparations of isofemale lines of D. albomicans from Southeast Asia. Isolines from Chiang Mai and West Malaysia (Penang, Kuala Lumpur) were found to have a shorter rod-shaped chromosome IV when compared to an isoline from Taiwan. This is apparent in intraspecific hybrids between the Taiwan and Chiang Mai or West Malaysia isolines (Fig. 1). In three out of eight isolines from Chiang Mai, extra heterochromatin occurred in the form of supernumerary (unattached) dots. Individuals of the same isoline may possess one extra dot or two extra dots in addition to the two short rod-shaped fourth chromosomes (Fig. 2). The presence of this extra heterochromatin in the form of dots in the karyotype appears not to have any phenotypic effect on individuals that possess it. It is conceivable that the extra dots have resulted from fragmentation of the longer rod type of chromosome IV as seen in the strain from Taiwan. As heterochromatin often carries very few or no genes, the loss of such small fragments would not have any deleterious effects on the carrier. Isolines from West Malaysia did not possess these extra dots. An alternative possibility is that extra heterochromatin has been added to the fourth chromosome in the case of the Taiwan strain, thus making it longer than the basic rod-shaped fourth chromosome exhibited by the Malaysian and Thailand strains. The "floating" dots in some of the Chiang Mai strains would then represent as yet unattached heterochromatin.

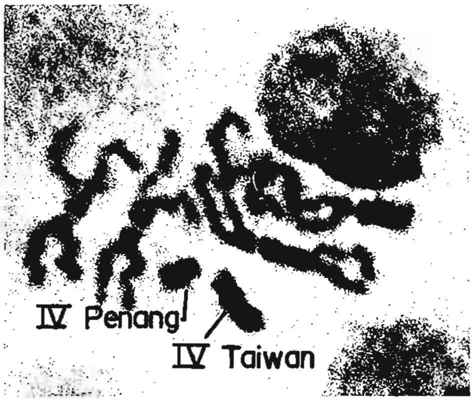

Fig. 1. Different fourth chromosomes in D. albomicans from Penang and Taiwan.

Fig. 2. Two extra "dots" of heterochromatin in D. albomicans from Chiang Mai.

The isofemale lines used in this study were collected and established by Dr. Wharton B. Mather, University of Queensland. The work reported was part of a Ph.D. thesis accepted by the University of Queensland in 1978.

Creus, A. and R. Marcos. Autonomous University of Barcelona, Bellaterra, Spain. Relationship between mating speed and duration of copulation in D. melanogaster.

From a survey of published data on the genus Drosophila, it is clear that in various species, D. gaucha, D. melanogaster, D. persimilis, D. pseudoobscura and D. robusta, the mating speed is an important component of fitness. However, the relation between mating speed and duration of copulation has been the subject of very few studies. As a part of a wider analysis we present in this note the preliminary results.

The lines used in these experiments were derived from a wild type stock of D. melanogaster designated AR, isolated by R. Marcos in 1973 from a strain collected at the mouth of the Llobregat River, Barcelona. The flies were cultured and the experiments conducted at 25±1°C under standard light conditions. Samples of 50 males and 25 virgin females aged for 3 days were placed together in glass bottles of 500 ml. As soon as a pair commenced mating, they were sucked out. Mating speed and duration of copulation were scored in minutes. In each experiment the matings were scored only during the first hour. Ten replicas were done at each line.

The regression coefficients of duration of copulation with respect to mating speed were calculated. The results are summarized in the table.

Line	N (mated)	$b_{yx} \pm e_b$	F	t	d.f.
AR1	108	-0.108 ± 0.030	12.55***	3.54***	106
AR2	182	-0.138 ± 0.061	4.98*	2.23*	180
AR3	145	-0.128 ± 0.041	11.29***	3.13***	143
AR4	132	-0.133 ± 0.052	6.98**	2.58**	130

***- significant at 0.001 level; **-sigificant at 0.01 level; *- significant at 0.05 level.

From these results we can infer that there is a negative and significant regression; that is, the flies taking a long time to mate have a shorter duration of copulation. These results are in contrast to those obtained by Spiess (1968) in D. pseudoobscura.

Reference: Spiess, E.B. 1968, Amer. Nat. 102:363-379.

Comendador, M.A. University of Oviedo, Spain. Abnormal bristles that show maternal inheritance in D. simulans.

During a routine analysis of a population of D. simulans recently captured in the Azores Islands, we observed an unusual proportion of flies that lack some dorsocentral and scutellar