and constraints on the recombinational process imposed by the rearrangement itself make recombination in the segment 6-7 much less frequent than in the segment 1-2 (see diagram).

The frequency of recombination in this region also supports the idea that b el Sco carries a sizeable duplication. The frequency of recombination between el and Sco in this chromosome is 1.3% in the experiments in Table 1 and 0.9% in those in Table 2. The recombination frequency between these two markers when the original Sco chromosome is involved is 0.06% from Table 3, a value which is in agreement with published results. It should be mentioned that in all the crosses described here females also carried a pair of attached X's (C(1) RM, y). The results presented here, although they do not close the issue, fit well with the idea that Sco is a multiple point rearrangement. Possibly an insertion of a chromosomal segment, which includes Adh, to a position slightly to the right of its normal location. It might be noted that if this is correct the left breakpoint of this segment (2-3 in the diagrams) should be to the right of el since the recombinant b el Sco carries Adh^F in the duplicated piece (the insertion) but not el^+. Finally, the chromosome b el Sco is a useful tool to generate duplications involving any allele of Adh in combination with Adh^F.

References: Lindsley and Grell 1968, Carnegie Inst. Wash. Publ. 627; O'Donnell, J. et al. 1977, Genetics 86:553-566.

Maróy, P., K. Koczka, É. Fekete and J. Vargha. Biological Research Center, Szeged, Hungary. Molting hormone titer of D. melanogaster larvae.

The molting hormone (MH) titer of D. melanogaster has been studied during metamorphosis by Borst and O'Connor (1972), de Reggi et al. (1975), and Hodgetts et al. (1977). In this paper we study the changes of MH titer during larval life of D. melanogaster using MH specific radioimmunoassay (Maróy et al. 1977). Eggs were collected for a period of one hour and cultures were synchronized for hatching. Specimens were weighed and homogenized in an all-glass Potter-type homogenizer in 60% methanol, and treated in the standard way according to Maróy and Tarnóy (1978).

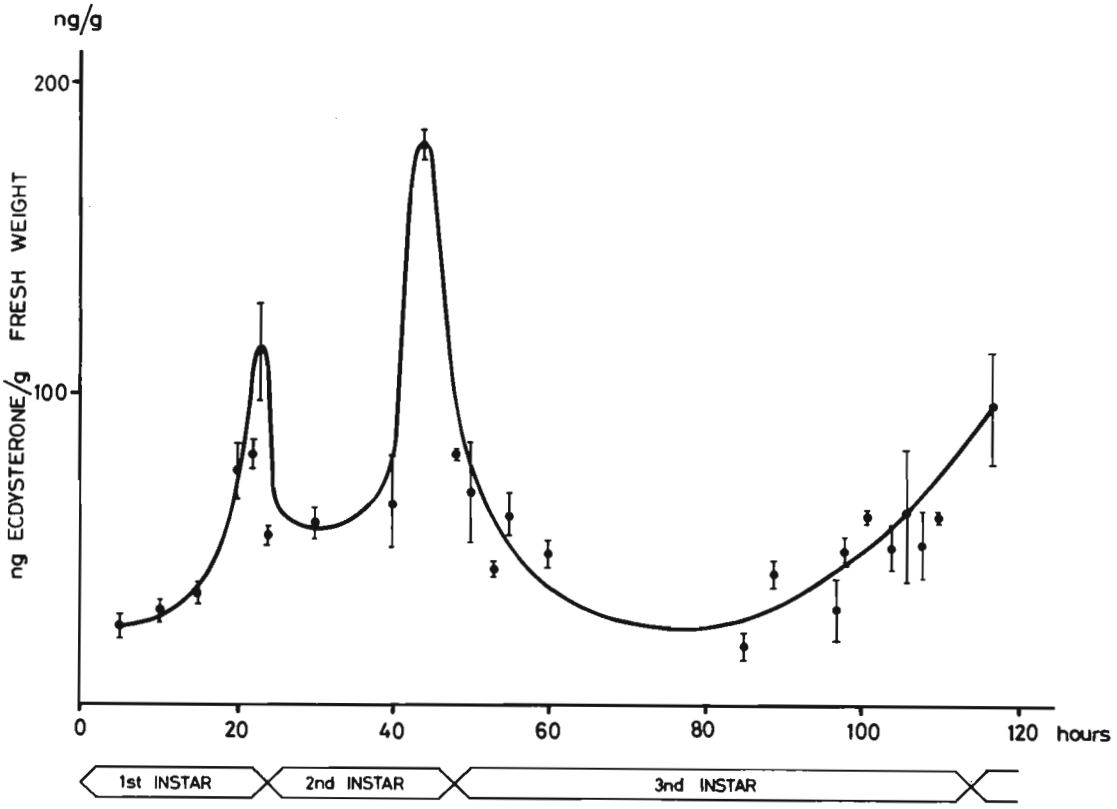

Fig. 1. MH titer of D. melanogaster during larval life.

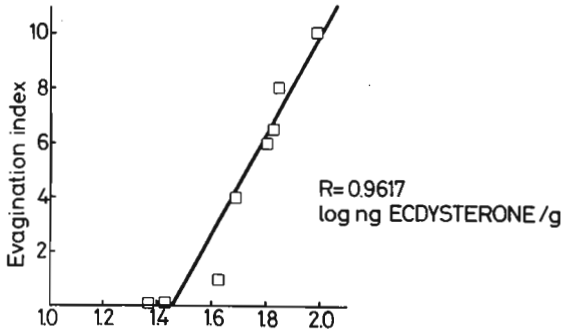

Fig. 2. Effect of in situ titer value on evagination index reached after 16 hours incubation of leg discs in Robb's medium without MH at 25°C.

Fig. 1 shows the profile of titer as RIA equivalent. The high titer peaks coincide well with larval moltings. Fig. 1 also demonstrates that there is no intermolt peak, not even befor pupariation, an observation which fits well with Hodgetts et al. (1977). The peak at the end of the second larval instar is higher than the previous one. Since the synchronization of cultures becomes poor at the end of the 3rd larval instar, we used only the larvae from colonies in which pupariation had already started. Since the oldest larvae are closest to pupariation, asynchronization of individual cultures are offset, and the kinetics of the titer change are slowed down. By this method we made sure that we had not missed any sharp peak immediately prior to cuticle hardening.

Ten larvae samples were taken from cultures older than 80 hours, and imaginal leg discs were dissected. The discs were rinsed and incubated in Robb's medium (Robb 1969) at 25°C without MH. The evagination score was determined after 16 hours. The rest of the larvae were used to measure MH titer. Fig. 2 shows the scores reached plotted against RIA activity measured in the rest of the colonies from which discs had been taken. 54.4 ng/g MH titer in situ at the time of dissection is enough to reach a score of 5. Considering the short exposure time, this number fits well with the 34.7 ng/ml necessary for in vitro evagination determined by Fristrom and Yound (1975). For full evagination under in situ conditions 92.7 ng/g titer is necessary.

References: Borst, D. and J.D. O'Connor 1972, Science 178:418; de Reggi, M.L., M.H. Hirn and M.A. Delaage 1975, Biochem. Biophys. Res. Commun. 66:1307-1315; Hodgetts, R.B., B. Sage and J.D. O'Connor 1977, Develop. Biol. 60:310-317; Maróy, P., J. Vargha and K. Horváth 1977, FEBS Lett. 81:319-322; Maróy, P. and K. Tarnóy 1978, J. Insect Physiol. 24:325-327; S.A. Robb 1969, J. Cell Biol. 41:876-884; Fristrom, J.W. and M.A. Yund 1976, in: Invertebrate Tissue Culture Research Applications (ed. K. Maramorosch), Acad. Press, NY.

Mather, W.B. and G. Balwin, University of Queensland, Brisbane, Australia. Inversions in two species of Drosophila from the River Kwai, Thailand.

From a collection of Drosophila from the River Kwai region of Thailand (June 1978) 76 isolines of D. sulfurigaster albostrigata and 14 isolines of D. albomicans were established.

Table 1. D.s. albostrigata

Inversion	Type	Chromosome	Breakpoints	Het. Freq. % June '78	Het. Freq. % Nov '77
C	Sim.	III		1.3	2.8
E	Sim.	II L		14.5	28.6
W_2	Sim.	III		3.9	
X_2	Com.	III		2.6	
A_5	Sim.	II L		55.3	31.4
B_5	Sim.	III C		7.9	2.8
C_5	Sim.	II R		55.3	25.7
D_5	Com.	II L		34.2	5.7
Q_5	Sim.	II L	5.0 - 9.3	2.6	

Note: Sim. = simple; Com. = complex

(a) D.s. albostrigata

Seven simple and two complex inversions were detected. Six of these had previously been detected at the River Kwai (Mather, Knibb and Balwin 1979) and two had been detected elsewhere in South East Asia (Mather, Thongmeearkom, Clyde and Lambert 1974; Thongmeearkom 1977). The remaining inversion Q_5 is new, and a photograph is presented and breakpoints assigned (in relation to the standard photographic map - Thongmeearkom 1977) (see Table 1).