

development of the adult foreleg. Higher concentrations proved lethal. Out of 90 treated larvae, only 2 flies were able to hatch. 31 larvae differentiated into adult flies but were unable to emerge from the pupal case and had to be dissected free. The remaining 57 larvae died during pupation. 62% of the examined flies showed typical alterations of patterns; these included the following types: 1. The number of sex comb teeth was considerably increased. Instead of the 8-13 teeth normally formed in our "Sevelen" control stock (Fig. 1), up to 35 teeth were found in the HN-2 treated animals (Fig. 2a). 2. Concomitant with the increase in the number of sex comb teeth, a striking change in the pattern was observed; the teeth are no longer arranged in an orderly row, but rather are spread over a large area of the distal part of the first tarsal segment. 3. Additional sex comb teeth may be found on the second tarsal segment (Fig. 2b). 4. The pattern of the transversal rows may also be disturbed (Fig. 2c). This is often accompanied by a reduction in the number of bristle organs.

The formation of bristles without sockets and bracts has never been observed during the present studies. The sensitive phase for the formation of socket-less bristles after injection of Mitomycin C falls between early third larval instar and 16 hours after puparium formation (Tobler and Burckhardt, 1971). It appears likely that the sensitive phase for the HN-2 and Mitomycin C effects are the same. It is not known whether or not HN-2 is metabolized to an inactive form. Alternatively it is possible that the drug does not reach the socket-forming cells ever or during the sensitive phase.

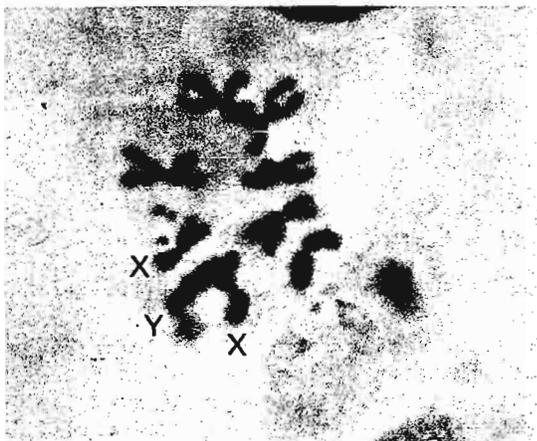
Bodenstein and Abdel-Malek (1949) treated *Drosophila virilis* larvae with nitrogen mustard and found that up to 50% of the exposed animals formed tarsal segments instead of aristaetae, thus phenocopying the mutant *aristapeda*. The formation of a large number of extra sex comb teeth on the distal part of the first tarsal segment may well be regarded as a phenocopy of the mutant *eyeless-Dominant* (*ey^D*, 4 - 2.0, Lindsley and Grell, 1968), which shows, as a pleiotropic effect, an enormous increase in the number of formed sex comb teeth. Extra sex comb teeth on the second tarsal segment of the foreleg, as is shown in Fig. 2b, are also found occasionally in the mutant *combgap* (*cg*, 2 - 71.1), which has recently been described by Datta and Mukherjee (1971).

References: Bodenstein, D. and A. Abdel-Malek 1949, *J. Exp. Zool.* 111:95-115; Datta, R.K. and A.S. Mukherjee 1971, *Genetics* 68:269-286; Lindsley, D.L. and E.H. Grell 1968, *Carn. Inst. Wash. Publ.* 627; Tobler, H. and H. Burckhardt 1971, *Experientia* 27:189-191; Tobler, H. and V. Maier 1970, *Wilhelm Roux' Archiv* 164:303-312.

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Baimai, V. Mahidol University, Bangkok, Thailand. A spontaneous triploid in *D. birchii*.



Natural populations of *D. birchii* exhibit remarkable karyotype variation (Baimai, 1969). The "Standard" metaphase karyotype of *D. birchii* consists of two pairs of V-shaped, one pair of dot-shaped, and one pair of J-shaped chromosomes (the latter the sex-chromosomes). During the course of cytogenetic investigations on this species from New Guinea, a triploid was detected in a third instar larva from a cultured stock. Figure 1 shows two X-chromo-

Fig. 1. A triploid in *D. birchii*.

somes, one Y-chromosome, six V-shaped chromosomes, and the three dots. Although not unusual in plants, polyploidy is rare in animals; this is an example of a spontaneous triploidy in *Drosophila*.

Reference: Baimai, V. 1969, *Chromosoma* 27: 381-394.