

Berg, R.L., U.S.S.R. 190121, Leningrad F-121, pr. Maklina 1, kv.6. A further study of the rate of "abnormal abdomen" (aa) in geographically isolated *D. melanogaster* populations.

A simultaneous rise in the rate of abdominal segmentation abnormalities designated as abnormal abdomen (aa) was observed in geographically isolated populations of *D. melanogaster* in 1968 and especially in 1969 (Berg 1972a). Segregations in the progeny of hundreds of aa males and females individually crossed with non-

aa flies proved the predominant role of heredity in the etiology of this fly disease (Berg 1972b). The hypothesis was put forward that the selective values of mutant genes responsible for the abnormality is changing on a global scale. Investigation of 12 populations during 1970 and 1971 substantiated this view, since enormously high rates of aa were observed in each of the twelve populations. In 1972 the study of the phenotypical polymorphism in some of the previously studied populations was repeated and several "new" populations investigated (Table 1). The hypothesis of the global increase of aa rates is substantiated by the high frequency of the aa phenotype observed in 1972 in 13 populations. During the last five years 20 populations were studied and the aa phenotype was abundant in all of them.

References: Berg, R.L. 1972a DIS 48:67-69; Berg, R.L. 1972b DIS 48:67.

Table 1

Concentration of abnormal abdomen phenotype in geographically isolated populations of *Drosophila melanogaster* in 1972

| Population       |                                     | Collection date | Males |        |      | Females |        |      |
|------------------|-------------------------------------|-----------------|-------|--------|------|---------|--------|------|
|                  |                                     |                 | n     | number | %    | n       | number | %    |
| Moscow District  | Kashire                             | 11-13.IX        | 1297  | 70     | 5.4  | 549     | 56     | 10.2 |
| Transcarpathians | Coriani*                            | 18.IX           | 1115  | 80     | 7.9  | 402     | 139    | 34.6 |
|                  | Khust*                              | 22.IX           | 790   | 73     | 9.2  | 879     | 341    | 38.8 |
| Crimea           | Nikita Botanical Gardens (Magarach) | 28.IX           | 749   | 64     | 8.6  | 541     | 233    | 43.1 |
| Kuban            | Gelendzhik*                         | 6.X             | 665   | 96     | 14.4 | 878     | 442    | 50.3 |
| Transcaucasus    | Kutaissi                            | 14.X            | 333   | 36     | 10.8 | 683     | 268    | 39.2 |
|                  | Dilizhan                            | 18.X            | 274   | 90     | 32.5 | 288     | 130    | 45.1 |
|                  | Erevan                              | 19.X            | 504   | 73     | 14.5 | 500     | 275    | 55.0 |
|                  | Burakhan                            | 21.X            | 382   | 83     | 21.7 | 302     | 144    | 47.7 |
| Middle Asia      | Alma-Ata conserve factory           | 9.XI            | 378   | 47     | 12.4 | 543     | 280    | 51.5 |
|                  | Alma-Ata winery                     | 10.XI           | 517   | 62     | 12.0 | 458     | 266    | 58.1 |
|                  | Frunze                              | 30.X            | 628   | 83     | 13.2 | 492     | 193    | 39.2 |
|                  | Przhevalsk*                         | 4.XI            | 445   | 37     | 8.3  | 462     | 130    | 28.1 |
| TOTALS           |                                     | 11.IX-10.XI     | 8077  | 894    | 11.1 | 6977    | 2897   | 41.6 |

Populations designated \* were studied for the first time.

Garcia-Bellido, A and P. Ripoll. Centro de Investigaciones Biológicas, C.S.I.C., Madrid, Spain. A  $mwh^+$  duplication on the tip of the first chromosome.

Three independent  $Dp(1:Y:3)M1-3$  have been recovered by X-radiation (3000r) of premeiotic stages of the spermatogenesis in  $T(Y:3)P6$ ,  $mwh^+ ve^+$  (62 A-B, Lewis 1972, DIS 48:188)/ $sc^8 Y^S X$ ,  $y^+ KS y cv v f; mwh ve$  males. Genetically, the duplication  $mwh^+$  on the tip of  $Y^S X$  chromosome

locates distal to KS factors.  $Dp(1:Y:3)M$  males are viable and fertile over a  $Y^L$  chromosome. Homozygous females though, appear to be lethal. The allele  $mwh^+$  of the  $Dp$  does not variegate in nullo-Y males.