

Lakovaara, S. and A. Saura. University of Helsinki, Helsinki, Finland. Location of 13 enzyme loci in *D. willistoni*.

tabulation have been established for thirteen enzyme loci in *D. willistoni*. The observed locations are compared with those of corresponding loci of *D. melanogaster* in the cases where information on the latter was available. The locations fit the proposed homology between the chromosomes of *D. willistoni* and *D. melanogaster* (1). Due to inversions, loci in chromosome III of *D. willistoni* could not be reliably located and the locations in chromosomes X and III are tentative.

By the means of starch gel electrophoresis and by using the following visible marker stocks:  $w^e y sn ru$ ,  $w^e lz$  and  $se$  (X-chromosome),  $bw abb px$  (chromosome II) and  $Dl p$  and  $p$  (chromosome III), the chromosomal locations presented in the

Locus	Location in	
	<i>D. willistoni</i>	<i>D. melanogaster</i>
Adenylate kinase-2 (Adk-2)	1 - 49	-
Alcohol dehydrogenase (Adh)	2 - 66	2 - 50.1 (2)
Alkaline phosphatase-1 (Aph-1)	1 - 58	-
Esterase-5 (Est-5)	2 - 57	-
Esterase-7 (Est-7)	1 - 52	3 - 36.8 (Est-6) (2)
$\alpha$ -Glycerophosphate dehydrogenase ( $\alpha$ -Gpdh)	2 - 59	2 - 20.5 (2)
Isocitrate dehydrogenase (Idh)	1 - 60	3 - 27.1 (2)
Leucine aminopeptidase-5 (Lap-5)	3	-
Malate dehydrogenase-2 (Mdh-2)	2 - 62	2 - 41.2 (2)
Malic enzyme-1 (Me-1)	3	3 - 53.1 (4)
Octanol dehydrogenase-1 (Odh-1)	3	3 - 49.2 (2)
Phosphoglucumutase-1 (Pgm-1)	1 - 70	3 - 43.4 (2)
Tetrazolium oxidase (To)	1 - 46	3 - 32.5 (3)

Lengths of *D. willistoni* chromosomes: X, 90 units; II, 78 units; III, 50 units (1).

References: 1. Spassky, B. and Th. Dobzhansky, 1950 *Heredity* 4:201; 2. Fox, D.J., E. Abächerli and H. Ursprung, 1971 *Experientia* 27:218; 3. Jelnes, J.E., 1971 *Hereditas* 67:291; 4. Franklin, J.R. and W. Rumball 1971 *DIS* 47:37.

Gerasimova, T.I. and E.V. Ananjev. Kurchatov's Institute of Atomic Energy, Moscow, USSR. Cytogenetical localization of structural gene *Pgd* for 6-phosphogluconate dehydrogenase in *D. melanogaster*.

The structural gene *Pgd* for 6-phosphogluconate dehydrogenase (6PGD) has been located on the X chromosome at 0.65 position between the broad and prune. For its localization,  $w^{+Y}$  chromosome and *Df(1)Pgd-kz* deficiency were employed. Isozyme patterns in polyacrylamide gel electrophoresis and estimates of total 6PGD activity in

males with  $w^{+Y}$  chromosome and *Pgd*<sup>B</sup> allele in X chromosome proved the location of *Pgd*<sup>A</sup> allele in the  $w^{+Y}$  duplication (1). The  $w^{+Y}$  chromosome contains the insertion of a part of X chromosome including the 2D1-3D6 region. Since the *pn* locus has been located at the 2D5-6 region (2) to the right of *Pgd* (1) the latter may be concluded to lie on the 2D1-2D6 region. The more exact localization of *Pgd* locus has been made using the deficiency *Df(1)Pgd-kz* obtained by  $\gamma$ -irradiation of Canton S males carrying *Pgd*<sup>B</sup> allele. The electrophoretic patterns of isozymes from *Pgd*<sup>A</sup>/*Df(1)Pgd-kz* heterozygotes and the decreased level of 6PGD activity in these heterozygotes suggested that the X chromosome with *Pgd-kz* deficiency lacks *Pgd* locus. Genetic analysis has shown that this deficiency covers *pn* and *kz* loci, but not broad and white while cytologically it was identified as *Df(1)2D1.2-2D6;2F3.4-3A1* according to the revised Bridges map. Thus, the results obtained for the two rearrangements ( $w^{+Y}$  and *Df(1)Pgd-kz*) suggested the location of *Pgd* locus in the 2D3-6 region. This conclusion is in accord with the data of Seecoff et al. (3) showing the presence of *Pgd* locus in the X chromosome with 2D6-3C2 deficiency.

References: (1) Gvozdev, V.A., V.J. Birstein, L.Z. Faizullin 1970 *Molekuljarnaja Biologija* (Russ.) 4:876; (2) Lindsley, D.L. and E.H. Grell *Genetic Variations of D. melanogaster*; (3) Seecoff, R.L. et al. 1969 *Proc. Nat. Acad. Sci. USA* 62:528.