(hyperdiploid females), however, only rarely show one or two bristles faintly forked in comparison with the weak but definite forking in nearly every bristle of practically every individual of the composition $\frac{\overline{\quad}}{\frac{+}{f}}$ 3A. More data are now being accumulated in an effort to localize the region in the left hand portion of the X-chromosome which appears to be responsible for the weakening of dominance of the normal allel of forked in $\frac{\overline{\quad}}{\frac{+}{f}}$ 3A aneuploids.

Pogossianz, H. E. The gene scute in D. virilis. Among 60,986 F^1 females, 46 scute flies were obtained from the cross of sc y sc v c females to normal males, given 4000 r of X-ray treatment. Simultaneously in melanogaster only 3 scute mutations occurred among 12, 858 F^1 females. Since the method and dosage in both experiments are the same and the allels of scute in females used are phenotypically similar, the following conclusion can be drawn: the gene scute in virilis mutates more frequently than in melanogaster. This is confirmed by the data obtained on melanogaster by other authors (Goldat 1936, Glembozky 1936). Among 46 scute mutations 16 were not tested; they were sterile or perished. The remaining 30 flies carried the newly arisen mutations. 18 of which proved to be viable and fertile, 4 sterile in males, and 8 lethals. All these mutations are studied at present both genetically and cytologically. The description of the new scute mutations is given in this issue of DIS.

Sirotina, M. I. Cytology of D. Busckii. An investigation of metaphase plates in larvae ganglions and in ovaries of a stock of D. busckii of Kiev origin showed the presence of only three pairs of chromosomes (instead of four pairs reported by Metz for the American D. busckii). The X-chromosome is rod-like with a sattelite on its proximal end. The autosomes are V-shaped, with equal arms; both pairs are alike in length. The Y-chromosome is likewise V-shaped, but one arm is longer than the other. An analysis of salivary gland nuclei revealed the absence of the granular amorphous central mass characteristic for D. melanogaster, and the presence of a heavily staining nucleolus. All the elements are connected with this nucleolus by thin threads. The number of elements is 6 in the female and 7 in the male; the extra element in the male is the Y-chromosome (or its part), containing about 14 discs. The sattelite of the X-chromosome is likewise represented in salivary nuclei as a free element. The X-chromosome and the sattelite are more strongly connected with the nucleolus than all the other elements. A rather detailed map of the salivary chromosomes of this species has been prepared and will appear in the paper which is now being prepared for press.

Serebrovskaja, R. I. X-ray induced mutations in D. hydei. By means of X-rays (3000 and 4000) the following mutations were obtained in D. hydei: (1) scute - sex-linked, recessive (2) white - sex-linked, recessive (3) vermilion - sex-linked, recessive (4) forked - sex-linked, recessive (5) Notch - sex-linked, dominant (lost) (6) orange eyes - sex-linked, recessive (7) red eyes - sex-linked, recessive (8) miniature - sex-linked, recessive (lost) (9) Dichaete-type - autosomal dominant (lost) (10) Spread-type - autosomal dominant (lost). In total, 32751 flies were examined. Both sexes were studied and X-rayed simultaneously. The greatest

attention in our work was paid to the scute mutations. Our allelomorph ($scute^2$) affects a great number of bristles, such as : all the 4 scutellars, the praesuturals, postalars anterior and posterior, supraalars ant. and post., sternopleurals - ant. and post., orbitals 1-3, verticals 2, intraocellars, mesosternals, vibrissae, genals, mentals, coxals 1,2,3, costals dorsal proximal, costals 1 and partly sternitals. When compared to the scute allelomorphs of melanogaster the scute of D. hydei is more proximate to the group of scuti longi which reduces the bristles of the B, C and D blocks (see the communications of A. S. Serebrovsky in this issue). It is of interest to note the influence of $scute^2$ upon the bristles of the genitalia, a fact never observed in melanogaster, due probably to a different structure of genitalia.

Serebrovsky, A. S. Further study on scute allelomorphs. A thorough study of a considerably greater number of bristles, controlled by the gene scute, has allowed us to divide all the bristles into four groups (blocks); the A-block, controlled by the achaete allelomorphs, and the B, C and D-blocks, controlled by the scute allelomorphs. Block A: involves the bristles: dorsocentrals, "thoracals", "trapezals", "coslals basal", "antennals external", femorals 3 ventral", interocellars, "antennals basal", subcoxals", microchaete sternopleurals, "ciliars", microgenals", frontocentrals, " femorals I, 2 and 4", "annulars", verticals I. Block B: involves the bristles: notopleurals I, praesuturals, "femorals I 1 and 3", mentals", sternopleurals an. and post., coxals, orbitals, postverticals, ocellars, postalars ant. (?), vibrissae (?), verticals (?). Block C: involves the bristles: scutellars, sternitals, "tergitals", "genitals" (?). Block D: involves the bristles: humerals, postalars post., verticals, supraalars ant. and post., notopleurals - 2. The allelomorphs of scute fall into three groups: scuti brevi, scuti medii and scuti longi. Scuti brevi (sc^5, sc^{4sh}, sc^2) affect in usual laboratory conditions the block C; scuti medii (sc^1, sc^7, sc^9, sc^{B1}, sc^{29}, sc^{2sh}, sc^{17}) the blocks B and C. sc^6, affecting the block B can also be included in the latter group. Scuti longi (sc^{L8}, sc^{s1}, sc^4) affect the block B, C and D. The longest, $scute^3$, affects all the blocks (A, B, C and D) simultaneously, thus including both scute and achaete. Finally sc^{A1} links scute and achaete, affecting the block A and B, as well as $sc^{13}(sc^1 / ac^3)$. To judge from the data of Pogossianz, Varshaver and Serebrovskaja analogous types of allelomorphs exist in D. virilis, simulans and hydei.

Shapiro, N. I. The rate of spontaneous sterile mutation. The frequency of sterile mutants, functioning in females, was studied. Recessive steriles, arising in the 2nd chromosome, were registered. The method used in the experiment prevented from mixing the newly arisen steriles with those which had been previously in the population. Among 3,841 chromosomes studied, one sterile was detected. In the same experiment 18 newly arisen lethals were detected among 3,132 chromosomes. The data obtained indicate a considerably lower frequency of spontaneous autosomal sterile mutation as compared to the lethal mutation rate.

Steinberg, Arthur G. Growth curve of Bar and wild type eye discs. Using the technique described by Medvedev the growth curves for Bar and wild type eye discs were measured. Measurements were then taken at twelve hour intervals from thirty-six hours after hatching until puparium formation. The experiments were run at $27 \pm 1^{\circ}$ C.