

Incidence of Tumors in *Drosophila*

Stock	Months counted	Times counted	Total no. counted	Total tumorous	Per cent tumorous		
					Total	Males	Females
bw st tu	4	7	4426	24	.54	.26	.84
tu <sup>36a</sup> (isogenic)	8	13	7473	222	2.97	3.21	2.73
tu <sup>36a</sup>	5	9	3394	182	5.36	5.10	5.66
ed Su <sup>2</sup> -dx	4	7	4022	385	9.57	11.59	7.52
f <sup>257-19</sup> B/In AM	4	7	2449	416	16.99	15.53	17.87
tu <sup>wps</sup>	8	13	8077	1423	17.62	12.10	23.18
wbf f <sup>5</sup>	4	7	2827	715	25.29	30.20	19.85
lz <sup>3</sup> f	8	13	1016	2428	23.88	28.53	18.59
tu <sup>50d</sup>	8	15	7144	1901	26.61	29.60	23.31
bw tu	8	14	8614	2434	28.26	26.72	29.92
se e <sup>11</sup> tu <sup>49h</sup>	8	13	8799	3275	37.22	38.11	36.41
tu <sup>h</sup> (isogenic)	8	13	5464	2421	44.31	42.09	46.86
tu <sup>g</sup> (isogenic)	8	12	4626	2156	46.61	49.19	43.81
tu <sup>48j</sup>	8	14	5865	2833	48.30	53.66	43.67
tu <sup>h</sup>	8	13	12236	6616	54.07	50.98	57.69
vg mt <sup>A</sup> bw y B <sup>263-43</sup>	8	14	10069	5944	59.03	56.49	61.09
(homozyg.)	4	7	3120	2274	72.88	69.92	75.77
tu <sup>g</sup>	8	14	11967	9113	76.15	87.30	65.34
vg bw tu	8	14	10555	10540	99.86	99.77	99.94

Burla, Hans Drosophilids of the Ivory Coast (French West Africa)

During three months, from July to October 1951, I collected Drosophilids at five different places close to Abidjan, Ivory Coast. Two of the places lie in small

spots of rain forest along the coast, the third in a secondary forest of the same region, the fourth in a cultivated area with plantations of banana and coffee, and the fifth in a very big mesophile virgin forest one hundred km. away from the coast. A total of 98 species has been recorded. Only 32 of them occurred on the fruit bait generally used for collecting *Drosophila*. Thirty species were recorded near the stumps of cut palm trees (*Raphia* species), 23 species around out Mahogany trees, 32 species on fungi, 25 on wild fruits, and 5 on flowers. The following genera, subgenera, and groups are represented: *Chymomyza* (9 species), *Leucophenga* (9), *Zaprionus* (9), *Hirtodrosophila* (3), *Mycodrosophila* (11), genus *Drosophila* (44), *Pholadonis* (21), *Sophophora* (12), melanogaster group (5), subgenus *Drosophila* (11). The remaining species could not be classified yet. Of the 65 Drosophilid species of the Ethiopian region mentioned by Duda (1939-40), only 22 could be found again, including a few doubtful determinations. About 70 species seem to be new. The characters of many of the species are aberrant and thus lead to revised definitions of the systematical group to which they belong.

Buzzati-Traverso, A. A. Inter-specific crossings in the affinis subgroup.

Extensive tests have been made to check whether the American species belonging to the affinis subgenus (affinis, algonquin, athabasca, azteca, narragansett)

could be crossed with the only known European representative of this subgroup, D. helvetica. No hybrids have been obtained.

Buzzati-Traverso, A. A. Inter-specific crossings in the obscura subgroup.

D. ambigua females, when crossed with D. miranda, pseudoobscura, or persimilis males produce a small number of hybrid

Larvae. Salivary-gland chromosomes can be studied in the mature larvae. No pairing occurs between the chromosome elements of the two species involved; 13 long and 2 short chromosomes can be seen originating from a common chromocenter. Larvae pupate, but no adults have been obtained.

Buzzati-Traverso, A. A. Inter-specific crossings in the Pholadoris subgenus.

species and D. nitens gave sterile adult females. Salivaries have not been studied yet.

Crossings between D. victoria and D. lebanonensis gave both ways perfectly fertile hybrids. Reciprocal crossings between either one of the aforesaid

Buzzati-Traverso, A. A. Natural selection under increased mutation pressure in D. melanogaster populations.

2000 r units every fifteen days; only adult males were irradiated. From time to time the fertility of females, the egg hatchability, and the total productivity of adult individuals were tested. The experiments showed that an increase in the mutation rate brings about a more rapid rate of adaptation to the environment. The 2000-r populations became much more prolific than the control series over a period of thirty generations. The experiments were repeated with different isogenic strains, and confirmed.

Using the same isogenic strain, four populations in numerical equilibrium were established. While the control population did not receive any treatment, the other three were subjected to 500, 1000,

Carson, H. L. Interfertile sympatric sibling species within D. bocainensis Pavan and da Cunha 1947.

A study has been made on flies collected by Dr. A. R. Cordeiro at a single locality in Rio Grande do Sul, Brazil, all of which were apparently morphologically D. bocainensis. According to salivary-gland-chromosome examinations of their offspring, the 51 wild females studied fall into two clear non-interbreeding groups on the basis of the chromosome arrangements that they transmit. Twenty-nine individuals fall into group A, to be designated D. parabocainensis n. sp.; these gave offspring homozygous for gene arrangement, except for an infrequent short inversion in 2L. Twenty-two individuals fall into group B, for which the name D. bocainensis will be retained. The latter is highly heterozygous for gene arrangements in chromosome 2 and especially chromosome 3. The X chromosome, although homozygous for gene arrangement, could be observed to differ considerably in arrangement from that in group A. Reciprocal crosses between these two in the laboratory, using strains from either within or between localities, produce luxuriant F<sub>1</sub>'s, in which the hybrid individuals are heterozygous for from 14 to 24 inversions, depending on the strain of bocainensis used. There is consistently an 8-inversion difference between the X chromosomes of the two. Except for obvious mechanical difficulties due to rearrangements, pairing in the hybrid salivary-gland cells is complete, and so far no "small differences" in banding pattern have been detected. The F<sub>1</sub> hybrids of the sympatric or allopatric cross parabocainensis female x bocainensis male produce a vigorous F<sub>2</sub> and are fertile in all backcrosses; F<sub>1</sub> males from the cross bocainensis female x parabocainensis male, although they inseminate their sister and backcross females with motile sperm, appear to be largely sterile. F<sub>2</sub>'s in this direction, however, have been obtained in 4 out of 16 such crosses, but only in mass culture. Three of these four are from sympatric crosses. A third species of the group, to be designated D. bocainoides n. sp. has been found in collections from the state of Sao Paulo. The male of this species is strongly differentiated morphologically from those of the two sibling species, and no species hybrids have been obtained with it. Chromosomal differences also appear to be relatively greater, and the evidence thus indi-