before treatment, the data obtained (Table II) are entirely different. There is no sign of linearity as regards the relation between the treatment's duration and the yield of mutations induced; furthermore, the frequency of mutations itself is significantly lower in all three cases where data so far available, allow comparisons. (For 12 hr, 24 hr, and 36 hr. treatments, the χ^2 values and the probabilities are respectively: $\chi^2_1=4.25$ $P<0.05$, $\chi^2_2=6.6$ $P=0.01$, $\chi^2_3=12.9$ $P<0.001$).

Table I. The mutagenic response to adult feeding of diethyl sulphate, when newly emerged males have been starved for 24 hours before treatment.

	Duration of Treatment	No. of chromosomes tested	No. of lethals	lethals per cent
	12 hours	1,079	68	6.30
Concentration of	24 hours	743	84	11.30
D.E.S. 0.5%	36 hours	567	117	20.63
	48 hours	1,040	282	27.10

Table II. The mutagenic response to adult feeding of diethyl sulphate, when newly emerged males have been fed in an ordinary medium for 24 hours before treatment.

	Duration of Treatment	No. of chromosomes tested	No. of lethals	lethals per cent
	12 hours	786	17	2.16
Concentration of	24 hours	1,141	33	2.89
D.E.S. 0.5%	36 hours	987	85	8.61

Note: D.E.S. stands for diethyl sulphate (ethyl sulphate).

The most likely explanation appears to be that when previously fed, the flies do not eat enough from the treatment medium which obviously they dislike. It is also reasonable to assume that flies resist better to hunger when the treatment's duration is shorter; our results are clearly in favor of such an explanation. Thus, a previous to the treatment starvation appears to be an important factor which has to be considered when using diethyl sulphate as a mutagen by the adult feeding method.

References: Pelecanos, M. Induced öogonial lethals. DIS 36:107, 1962.
Pelecanos, M. and T. Alderson. The mutagenic response to adult feeding of diethyl sulphate in Drosophila. DIS 37:116, 1963.

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The role of various male stimuli during mating and insemination in D. malerkotliana Parshad and Pika, 1964.

The direct observations on the courtship behavior of males in Drosophila malerkotliana reveal that the male approaches the female, taps the tarsi of her middle-leg with that of his fore-leg, vibrates his wings, circles in the case of non-receptive female and postures at her rear end. To study the extent of the role played by each act in preparing the female for coition, as well as to find out the effect of light, experiments were designed eliminating the various factors one by one. Ten four-day old virgin females and 10 males of the same age but either without fore-leg tarsi or wings were kept for 48 hours in a half-pint milk bottle with standard Drosophila food at 25± 1°C in a room with fluorescent tube lighting. The light was eliminated by running the experiment in closed cardboard boxes which were early checked for the purpose. Ten trials for each set of experiment along with a control were run simultaneously. After the required period the females were checked for insemination through the presence of sperms in their spermathecae and ventral receptacles. Whereas the normal males inseminated 42% females in light, only 7.293% were fecundated in total darkness. Further, since the percentage insemination again increased to 39.796 when 1/4 pint milk bottles were used the possibility of vision as a major stimulant is ruled out. It rather helps in bringing the mates together. The removal of fore-leg tarsi in males decreased the insemination to

29.348% as against 44.706% in the control. The wingless males fecundated only 7.071% females as compared to 39.175% in the control. Again, when tarsiless and wingless males were kept with the normal females, not even a single was fecundated. These studies indicate that tapping and wing vibration of the male, of which the latter seems to be more important, are the essential factors to stimulate the female for copulation. The other acts like sight, circling and posturing seem to be of accessory nature.

Parshad, R. and K. K. Duggal. Panjab University, India. Drosophilidae of Kashmir, India.

Collections of Drosophilidae made from three places, viz., Srinagar, Pahalgam and Gulmarg, in the Kashmir Valley from June 18, 1963 to July 22, 1963, revealed twenty species, two belonging to the genus Scaptomyza and eighteen to Drosophila. Of the latter, one each belonged to the subgenera Dorsilopha and Pholadoris, eleven to the subgenus Sophophora and the remaining five to the subgenus Drosophila. Three out of these, D. (Pholadoris)ebonata, D. (Sophophora) epiobscura and D. (Drosophila) pentaspina are novo while Scaptomyza pallida, S. graminum, D. busckii, D. helvetica, D. pulchrella, D. brachynephros, D. testacea and D. curviceps are being reported for the first time from India. The frequency distribution of the various species at the three places is given in Table 1.

Table 1. Frequency distribution of the various species of Drosophilidae in the Kashmir Valley

S. No.	Name of the species	Frequency distribution at						Total no. of flies	
		Srinagar 5300 ft. above sea level		Pahalgam 7000 to 8000 ft. above sea level		Gulmarg 8900 to 9400 ft. above sea level			
		♀	♂	♀	♂	♀	♂	♀	♂
1.	Scaptomyza pallida	-	-	-	-	9	5	9	5
2.	Scaptomyza graminum	-	-	-	-	3	2	3	2
3.	D. busckii	-	-	2	1	-	-	2	1
4.	D. ebonata sp. novo	5	16	-	8	-	-	5	24
5.	D. helvetica	-	-	3	27	3	3	6	30
6.	Drosophila epiobscusa sp. novo	-	-	6	21	12	46	18	67
7.	D. bifasciata	-	-	167	744	110	221	277	965
8.	D. melanogaster	111	165	2	4	2	-	115	169
9.	D. nepalensis	7	8	58	203	-	-	65	211
10.	D. suzukii	20	82	282	1488	5	6	307	1576
11.	D. pulchrella	-	-	-	1	-	-	-	1
12.	D. ananassae	-	1	-	-	-	-	-	1
13.	D. kikkawai	28	21	-	-	-	-	28	21
14.	D. rufa	-	2	-	5	-	1	-	8
15.	D. jambulina	-	2	-	-	-	-	-	2
16.	D. brachynephros	-	-	-	1	-	-	-	1
17.	D. curviceps	-	-	1	-	1	6	2	6
18.	D. immigrans	37	42	9	6	-	-	46	48
19.	D. testacea	-	-	-	1	-	-	-	1
20.	D. pentaspina sp. novo	1	10	-	12	-	1	1	23
	Grand total	209	349	530	2522	145	291	884	3162