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India. Differential rate of develop-
ment in *Drosophila nasuta*.

of development and the effect of crowding on the rate of development in *Drosophila nasuta*. The strain of *D. nasuta* from Biligirirangana Hills has been used for these studies. The eggs of the same age were observed to exhibit differential rate of development in the same environ-

The rate of development in any organism is an outcome of several causes, both genetic and environmental. Environmental factors such as crowding, food and several others are known to influence the rate of development. The present communication deals with the differential rate of development in *Drosophila nasuta*. In order to assess the effect of crowding on the rate of development the eggs of the same age were collected (± 4 hours) following the procedure of Delcour (1969). The eggs were then placed in 3" x 1" vials with yeast sprayed wheat cream agar media and permitted to develop at a constant temp-

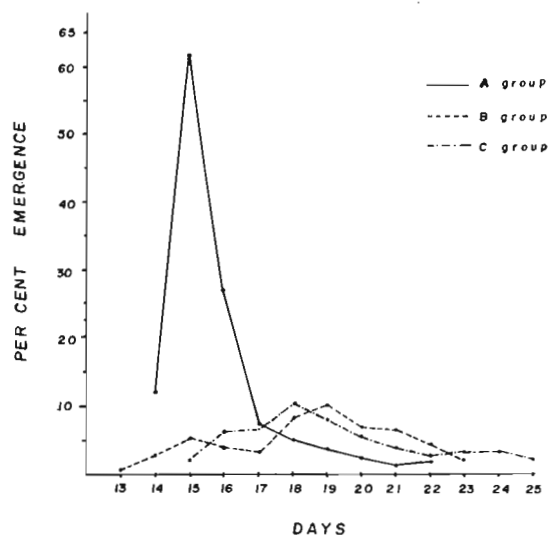


Fig. 1. Graph showing the percentages of flies emerged in the groups A, B and C of *Drosophila nasuta*.

after 27th day. The effect of crowding has been measured by the number of flies emerged in each group. Thus the number of flies obtained in group A is 98%, while in B and C the number of flies emerged are just 50%. This is due to severe competition that existed in B and C groups. The percentage of flies emerged each day is graphically depicted in the figure 1. Survey of this graph reveals that in the group A the maximum eclosion of flies occurred on the third day followed by a sudden decline while in B and C there is approximately even distribution of emergence followed by a gradual decline.

It is probable that this difference in the pattern of emergence is under the influence of overcrowding.

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References: Delcour, J. 1969 DIS 44:133.

Ranganath, H.A. and N.B. Krishnamurthy.
University of Mysore, Manasagangotri,
India. Preliminary survey of *Drosophila*
in Biligirirangana Hills (Mysore, India).

Biligirirangana Hills lie to the east of Mysore at a distance of 60 miles. The altitude from the base of the hills to the top ranges from 2525 feet to 4500 feet and has provided the cool and pleasant climate for the growth and existence of luxuriant and vast array of flora and

fauna. This prompted the authors to undertake a preliminary survey of *Drosophila* in this terrain. The results of this survey are listed in the Table 1. Of the eleven spots selected for collection, the spot at 4165 feet yielded the richest haul of *Drosophila* both in number of species and density. Irrespective of the height the whole range is marooned with *Drosophila nasuta* and *Drosophila melarkotliana*. However *Drosophila rajasekari* is restricted to the lower altitudes while *D. immigrans*, *D. mysorensis* and *D. varietas* are maintained only at higher altitudes. It is an interesting fact that the density of *Drosophila immigrans* gradually ascends with the increase in height. *D. nigra* and *D. jambulina* are recorded at only one spot. Peculiarly enough *D. melarkotliana* alone was found in the traps tied at 3270 feet.

Table 1. A record of *Drosophila* species collected in Biligirirangana Hills

Species	Altitude in feet											Total
	2526	2985	3016	3270	3498	3838	3894	3968	4000	4165	4493	
nasuta	54	39	51	-	18	39	180	201	75	135	101	893
brindavani	87	12	-	-	-	-	6	-	8	9	6	128
immigrans	-	-	-	-	-	3	6	-	24	99	189	321
melarkotliana	138	128	28	84	63	66	18	8	51	21	33	638
rajasekari	45	72	30	-	-	-	-	-	-	-	-	147
nigra	-	-	-	-	3	-	-	-	-	-	-	3
mysorensis	-	-	-	-	-	27	33	6	12	87	10	175
jambulina	-	-	-	-	9	-	-	-	-	-	-	9
varietas	-	-	-	-	-	-	-	-	-	10	26	36
* neotruncata	-	-	-	-	14	-	-	-	-	16	-	30
takahashii	-	42	-	-	3	-	-	-	-	-	-	45
Total	324	293	109	84	110	135	243	215	170	377	365	2415

* A new species (G. Sreerama Reddy and N.B. Krishnamurthy, unpublished)

Acknowledgements: Please see previous note.

Alexandrov, I.D. Research Institute of Medical Radiology, Academy of Medical Sciences of U.S.S.R., Obninsk, U.S.S.R. Functional w^+ isoalleles and genetic background.

Quantitative differences in the content of red eye pigments in heterozygous females for some w mutations had been used to distinguish w^+ isoalleles in *D. melanogaster* (DIS 46:72). However, the observed differences may be somewhat conditioned by the genotypic variability of heterozygous females. To test this possibility

more carefully, w^{+C} and w^{+O} isoalleles (from Canton-S and Oregon-R lines, respectively) were placed in genetic backgrounds of w^{10gA} and w^{69gA} lines by a chromosome substitution procedure. For this purpose w^+/w^{10gA} females were backcrossed to w^{10gA} males for twelve generations (backcross A). The same procedure was applied also for the introduction of both isoalleles into the genetic background of w^{69gA} line (backcross B). The quantities of red eye pigments in FB females of each generation were estimated by a spectrophotometric method (see DIS loc. cit.). The results show that the significant difference in phenotypic action of w^{+C} and w^{+O} isoalleles remained during the substitution procedure in two different backgrounds. The data from FB₁₀ heterozygous females are, as an example, listed in Table 1.

	Backcross A		Backcross B	
	w^{+C}/w^{10gA}	w^{+O}/w^{10gA}	w^{+C}/w^{69gA}	w^{+O}/w^{69gA}
E*	0.710	0.628	0.503	0.427
Conf. limits at $P_{0.05}$	0.730-0.690	0.650-0.606	0.531-0.475	0.436-0.418

*Means of three independent experiments

FB₁₂ w^{+C}/w^{10gA} females were further crossed to w^{69gA} males from FB₁₂ of backcross B. The reciprocal cross (FB₁₂ w^{+C}/w^{69gA} ♀♀ × FB₁₂ $w^{10gA}/Y^{\delta\delta}$) was made. The same crosses for w^{+O} were carried out. Four types of heterozygous females (w^{+C}/w^{10gA} , w^{+C}/w^{69gA} , w^{+O}/w^{10gA} , and w^{+O}/w^{69gA}) with similar genetic backgrounds were obtained. The quantitative determinations of red eye pigments of these females were made. The results of analyses are listed in Table 2.

	w^{+C}/w^{10gA}	w^{+O}/w^{10gA}	w^{+C}/w^{69gA}	w^{+O}/w^{69gA}
	0.585	0.523	0.540	0.462
Conf. limits at $P_{0.05}$	0.603-0.567	0.531-0.515	0.557-0.523	0.482-0.440

*Means of three independent experiments