Ranganath, H.A. and N.B. Krishnamurthy. University of Mysore, Manasagangotri, India. Seasonal studies on Drosophila fauna of Biligirirangana Hills, Mysore.

Biligirirangana Hills, located between 11°5'N and 77° and 78°E in the southeast corner of Mysore State are a somewhat discontinuous, north to south running hill ranges varying from 600 to 1800 meters in altitude. The chain of hills are isolated from both western and eastern ghats. These hill ranges receive both the northeast and southwest monsoon rains. The rainfall during the year varies from 150 to 200 cms and is distributed throughout except the first 3 to 4 months of the year. The first 3 to 4 months of the year is the hottest period, when the forest fire is a usual feature. Wettest period is between July to October. The area is remarkably rich in orchids, epiphytic plants, numerous ferns and club mosses also occur profusely. These variable and interesting features prompted the authors to make a seasonal study of Drosophila fauna in this region. Flies were collected during the first week of every month. The collection record for the year 1971-72 is given in Table 1.

Year	Months		nasuta	brindavani	immigrans	albomicans	malerkotliana	mysorensis	anomelani	jambulina	takahashii	rajasekari	pseudoananassae	busckii	nigra	varietas	unidentified	TOTALS
1971	Nov.	M	9	-	27	-	17	8	5	1	-	-	-	-	-	-	-	126
		F	8	-	21	-	7	18	4	-	-	-	-	1	-	-	-	
	Dec.	M	18	-	42	-	3	25	21	6	4	-	-	-	-	-	1	273
		F	14	3	96	-	2	12	15	2	6	-	1	1	-	-	1	
1972	Jan.	M	12	2	39	-	11	2	4	6	4	1	2	-	1	-	5	205
		F	18	7	73	-	2	4	-	5	5	-	-	-	1	-	1	
	Feb.	M	1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	15
		F	1	-	7	-	-	1	-	-	-	-	-	-	-	-	1	
	Mar.	M	-	-	-	-	4	1	-	1	1	-	-	-	-	-	-	13
		F	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	
	Apr.	M	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	9
		F	-	-	-	-	5	-	-	-	-	-	2	-	-	-	-	
	May	M	-	-	-	-	133	-	-	2	2	-	9	-	-	-	2	297
		F	2	-	-	-	138	-	-	2	4	-	1	-	-	-	2	
	Jun.	M	6	-	-	-	231	6	-	-	-	1	3	-	-	-	-	729
		F	12	-	-	-	455	10	-	2	-	2	1	-	-	-	-	
	Jul.	M	5	1	-	-	51	1	3	1	4	-	-	-	-	-	-	243
		F	38	-	3	1	126	3	-	1	3	-	-	-	-	1	1	
	Aug.	M	56	1	2	-	167	8	5	-	14	-	-	-	-	-	1	838
		F	153	-	14	-	369	16	6	-	26	-	-	-	-	-	-	
	Sep.	M	49	-	4	-	79	31	4	-	-	-	-	-	-	-	2	314
		F	36	-	43	-	31	24	11	-	-	-	-	-	-	-	-	
	Oct.	M	25	-	-	-	4	18	7	-	8	-	-	-	-	-	-	150
		F	20	-	10	-	11	16	7	-	24	-	-	-	-	-	-	

Table 1. Drosophila fauna of Biligirirangana Hills (1971-72).

A total of 15 species have been recorded. D. malerkotliana is a seasonally versatile species occurring throughout the year while others are seasonally restricted, found only during some months of the year. From this the authors opine that D. malerkotliana is a eurythermal species while other species are stenothermal. D. nasuta and D. mysorensis

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Bock, I.R. University of Western Australia, Nedlands, W.A., Australia.
Hybridization between D. lutea and D. paralutea.

The melanogaster species group is now known to contain about 80 species classified into 11 subgroups, in several of which pairs or groups of morphologically extremely similar species occur (Bock and Wheeler, 1972). All of the 7 members of the takahashii subgroup in particular are very similar in coloration and in morphology of sex-combs and male genitalia; within this subgroup D. lutea Kikkawa and Peng 1938 (distribution: Japan and Korea) and D. paralutea Bock and Wheeler 1972 (distribution: Thailand) are a pair of siblings distinguished in the male sex by the greater number of transverse rows of bristles in the sex-comb of the latter species.

Attempts to hybridize D. lutea and D. paralutea by mass matings have now proved successful in both directions; in either case a relatively small number of F_1 offspring was obtained and examination of the testes of the hybrid males revealed that all were considerably reduced in size and contained no motile spermatozoa. Pairing between homologous chromosome arms in the salivary glands of hybrid larvae is consistently poor (Fig. 1); it nevertheless appears that the two species are distinguished by several chromosomal rearrangements, and it is anticipated that further work will admit of a more precise polytene chromosomal comparison between the species.

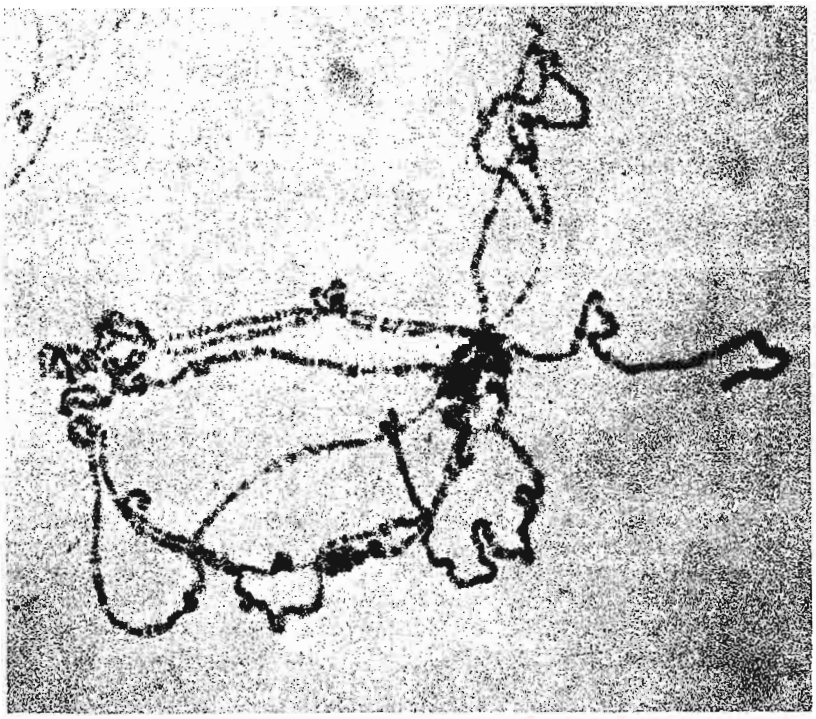

Figure 1. D. lutea x D. paralutea

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Reference: Bock, I.R. and M.R. Wheeler 1972, Univ. Tex. Publ. 7213:1-102.

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were obtained in all months except during February through May. The other species have scattered distribution over the period studied. Drosophila fauna had become virtually thinned out during the months of February, March and April, which may be due to the adverse conditions in nature. Only during the wet months of the year considerable size of Drosophila fauna were encountered.

The species D. malerkotliana and D. immigrans are characteristic in having more females than males during many months. This may be underlined by the property of greater homeostatic abilities of females. D. albomicans (?) of nasuta complex is for the first time reported from India.

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