compares with similar observation with regard to *D. immigrans* distribution in Nilgiris and Kodaikanal ranges of South thrives well in a humid climate (Sreerama Reddy and Krishnamurthy, 1971) in addition to the other three species.

Thus, climatic variables, such as humidity and rainfall, are determining factors in the occurrence of drosophilid species (Pavan, 1959). Therefore, the composition and structure of a drosophilid assemblage depends on the habitat in which it was established. The recognition of patterns of distribution leads to organizational levels about the ecology and evolution.

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A duplication at the tip of left arm of the second chromosome carrying alpha inversion in *Drosophila ananassae.*

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Chromosomal polymorphism is common in *Drosophila* (Da Cunha, 1960; Dobzhansky, 1970; Sperlich and Pfriem, 1986). *Drosophila ananassae* is a cosmopolitan and domestic species. It exhibits a high degree of chromosomal polymorphism (Singh, 1998a,b). *D. ananassae* in particular is known to carry 78 paracentric inversions, 21 pericentric inversions, and 48 translocations (Singh and Singh, 2007). However, only three paracentric inversions, namely, alpha (AL) in 2L, delta (DE) in 3L, and eta (ET) in 3R, are very common and have been called cosmopolitan inversions. The chromosomal polymorphism has been studied extensively in a large number of natural and laboratory populations of *D. ananassae* (Singh, 1996, 1998b; Singh and Singh, 2008).

Table 1. Observed and expected numbers of different karyotypes in laboratory population (Ranchi) of *D. ananassae.*

	Karyotypes											
	2L			χ^2	3L			χ^2	3R			χ^2
	ST/ST	ST/AL	AL/AL		ST/ST	ST/DE	DE/DE		ST/ST	ST/ET	ET/ET	
Obs	0	28	72	2.65	41	53	6	4.3254*	57	39	4	0.7166
Exp	1.96	24.08	73.96		45.56	43.87	10.56		58.52	35.95	5.52	

df =1, *P<0.05

Table 2. Frequencies (in percent) of different gene arrangements and mean number of heterozygous inversions per individual in laboratory population (Ranchi) of *D. ananassae.*

Gene arrangements						Mean number of heterozygous inversions per individual
2L		3L		3R		
ST	AL	ST	DE	ST	ET	
14.0	86.0	67.5	32.5	76.5	23.5	1.2

D. ananassae flies were collected from Ranchi, Jharkhand in October 2010, and a mass culture stock was established (number of founding females = 21). In this note, we report a duplication at the tip of the left arm of the second chromosome of *D. ananassae*. The duplication was detected during cytological analysis of this mass culture stock. Duplication at the tip is reported for the first time in *D. ananassae*. Duplication was detected in ST/AL (Figure 1b) and AL/AL (Figure 1c) larvae, but it was not observed in ST/ST (Figure 1e) larvae. From the figure it is clear that the duplication has occurred at the tip of 2L carrying AL inversion. Its persistence in the stock suggests that it does not have any deleterious effect.

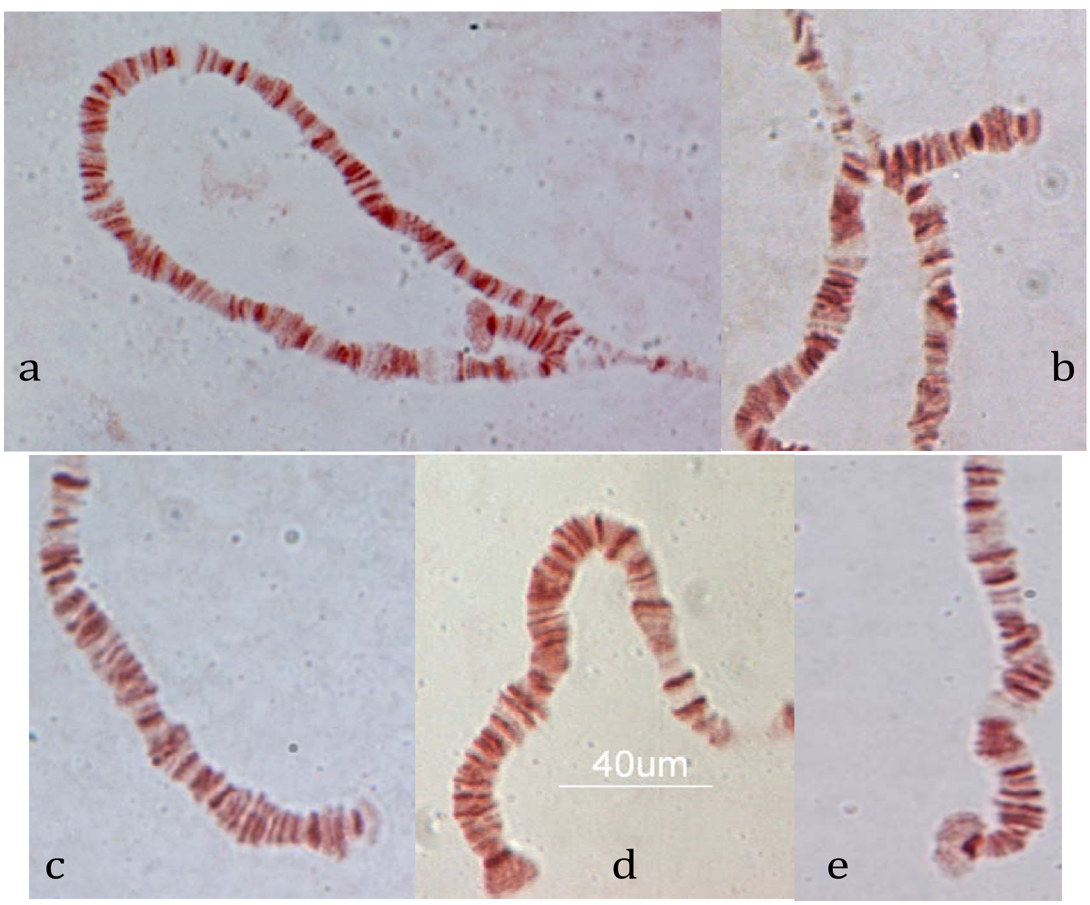

Figure 1. Microphotographs of 2L in *D. ananassae*. a, ST/AL; b, ST/AL with duplication at the tip; c, AL/AL with duplication at the tip; d, AL/AL; e, ST/ST.

Chromosomal analysis of this stock was made by squashing 100 larvae randomly taken from culture bottles by lacto-aceto-orcein method. The observed and expected (via Hardy- Weinberg proportion) numbers of 2L, 3L, and 3R karyotypes are given in Table 1. The data on the frequencies of different gene arrangements in 2L, 3L, and 3R were obtained along with the level of heterozygosity (Table 2). The frequency of AL inversion is nearly 86 percent, while the chromosomes with delta and eta inversions are less frequent than those with the standard sequence. The mean number of heterozygous inversions per individual is 1.2. Hardy-Weinberg equilibrium was tested, and Chi-square values were calculated. The difference between observed and expected numbers of different karyotypes in 3L is statistically significant and insignificant for 2L and 3R. This shows that the population is polymorphic chromosomally, and there is a significant deviation from Hardy- Weinberg equilibrium as the difference between observed and expected numbers of different karyotypes in 3L is statistically significant ($p < 0.05$). This is due to a significant excess of inversion heterozygotes.

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Colored light norms of genotypes of parental strains and hybrids in *D. melanogaster*.

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The object of the present experiment was to study the norms of genotypes in *D. melanogaster* iso-female lines and in hybrids, using the three colored lights as an environment and the average weight as a phenotypic trait.

Materials and Methods

Four iso-female strains (genotypes) were used for the present study. The F_1's and F_2's were made for each strain. The parental, F_1's, and F_2's were tested under three different colored lights: Blue: 25W; White: 25W; and Red: 25W. The males and females were counted and the average weight per male and per female was calculated for each of the parental, F_1's and F_2's.

Results and Discussion

Genetic variation: Table 1a and 1b and the graphic representation, Figure 1a and 1b, show the variation in an average weight from one genotype to another when tested under a given colored