from that of the map reported in Flybase. Moreover, our new map positions roughly agree with the positions of the homologous *D. melanogaster* loci, taking into account the large inversion difference on *3*R.

Test of *3*R balancer: Because it is not linked to *Ubx*, the distal marker *jv* was not scored in this cross. As Table 2 shows, *Ubx* is not a useful balancer. There is no significant suppression of recombination between *st* and *e*, nor between *e* and *osp*. There is weak suppression of recombination between *osp* and *pe* ($\chi 2 = 6.741$, $P = 0.0094$).

References: Coyne, J.A., and P.M. Sniegowski 1994, Dros. Inf. Serv. 75:36; Sturtevant, A.H., 1929, Contributions to the genetics of *Drosophila simulans* and *Drosophila melanogaster*. Carnegie Institute; Sturtevant, A.H., and E. Novitski 1941, Genetics 26:517.

Hegde, S.N., V. Vasudev, V. Shakunthala, and M.S. Krishna. Drosophila Stock Centre, Department of Studies in Zoology, University of Mysore, Manasagangotri, Mysore-570006, India. *Drosophila* Fauna Of Palni Hills: Tamilnadu, India.

Paini hills form the southern part of western ghats and are situated at 10:13° N latitude 77:32°E longitude. The tallest mountain peak has an altitude of 2,333 meters above the sea level, and the foot of the hills has an altitude of just about 300 m. The annual rainfall is about 165 cm and temperature in the area ranges from 8.3 °C to 20 °C. The vegetation consists of shrubby jungles at the foot and, as altitude increases, the forest composition changes to moist deciduous to evergreen type. The moutain peaks have huge eucalyptus trees, *Acanthospermum hispidium*, *Grewia hirsuta, Hibiscus* species, *Euphorbia* species, and so forth.

Table 1. Distribution of different species of *Drosophila* in Palni hills.

Species	Altitude (in meters)											
	350	475	800	950	1050	1150	1450	1650	1750	1800	2300	Total
Subgenus: *Sophophora*												
D. bipectinata	157	24	3	04	9	46	—	—	—	—	—	243
D. malerkotliana	54	150	182	474	461	568	91	—	—	—	—	1980
D. takahashii	—	—	—	—	—	4	4	12	10	—	—	30
D. mysorensis	—	17	4	—	—	16	45	12	12	3	—	109
D. anomelani	—	—	—	—	4	2	—	3	3	—	—	12
D. rajasekari	—	—	12	3	2	2	2	—	—	—	—	21
D. sahyadrii	—	—	—	—	—	—	—	—	2	8	—	10
*D. palniensis**	—	—	—	—	—	—	—	—	—	—	4	04
Subgenus: *Drosophila*												
D.n. nasuta	31	—	19	10	43	35	40	—	—	—	—	178
D.s. neonasuta	14	25	23	06	59	72	57	31	—	—	—	287
D. formosona	—	—	—	—	—	2	34	—	17	8	—	61
D. brindavani	—	1	8	11	9	6	—	—	—	—	—	35
Subgenus: *Scaptodrosophila*												
D. nigra	8	—	—	—	1	—	—	—	—	—	—	09
Genus: *Phorticella*												
Phorticella striata	4	13	20	19	4	4	—	—	—	—	—	64
No. of species	6	6	8	7	9	11	7	4	5	3	1	
Total No. Captured	268	230	271	527	592	757	273	58	44	19	04	3043

* New species

Collections of *Drosophila* were made in hill ranges using net sweeping as well as bottle trapping methods from 11 different altitudes (350, 475, 800, 950, 1050, 1150, 1450, 1650, 1750, 1800 and 2300 m above sea level). These collections yielded a total of 3043 individuals. The catch included twelve species of *Drosophila* and one species of *Phorticella*. Table 1 shows that *D. malerkotliana* with 1980 individuals was the most common and abundant species (65.14%), next was *D. s. neonasuta* with 287 individuals, while *D. bipectinata* was the third largest with 243 individuals (7.89%). The remaining 529 (14.43%) individuals were shared by other species.

Number of flies obtained at 350 m altitude was higher than at 475 m. Then the number of flies increased with increasing altitude up to 1150 m and again declined gradually. From Table 1, it is also clear that some species, namely *D. bipectinata, D. malerkotliana, D. n. nasuta, D. s. neonasuta, D. brindavani* and *Phorticella striata,* were seen only up to 1450 m. *D. takahashii, D. anomelani, D. sahyadrii* were not seen in lower altitude but they were seen sparsely in high

altitude. At the highest altitude of 2300 m a new species was collected. This species belongs to *montium* subgroup of the *melanogaster* species group. The new species has been given the name *D. palniensis* and will be described elsewhere.

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Marinković, D., V. Stojiljković and S. Stanić.
Faculty of Biology, Belgrade, Yugoslavia. The changes in fitness components in groups of *D. melanogaster* with different rates of embryonic development.

A long-run analysis of the dynamics of preadult and embryonic development, and its correlation with other fitness, physiological, and biochemical characteristics of observed individuals (N > 2000), has resulted in an understanding of complex relationships, based on developmental homeostasis of this species.

Individuals in which development starts with an extremely fast embryogenesis (*i.e.*, less than 15 hours at 22 °C, on the surface of a yeast medium), have, on an average, also faster larval and pupal development, greater wing length, total life-span, and male fertility (Figure 1). On the contrary, the females from that group have somewhat smaller egg-laying capacity, and both larvae and adults have lesser mobility. It comes out that larvae which hatch after more than 30 hours of embryonic development are remarkably more mobile (Jovanovska, 1990) and may search for a new niche, since the surface could be already occupied by larvae having the faster embryogenesis.

As for physiological traits, activity of a majority of studied enzymes is greater in individuals with the shortest preadult development (Marinković *et al.*, 1986; Milošević and Marinković, 1989). This has been correlated with the rDNA spacer lengths (Cluster *et al.*, 1987), *i.e.*, with an eventually greater capacity for production of ribosomal RNA and specific proteins.

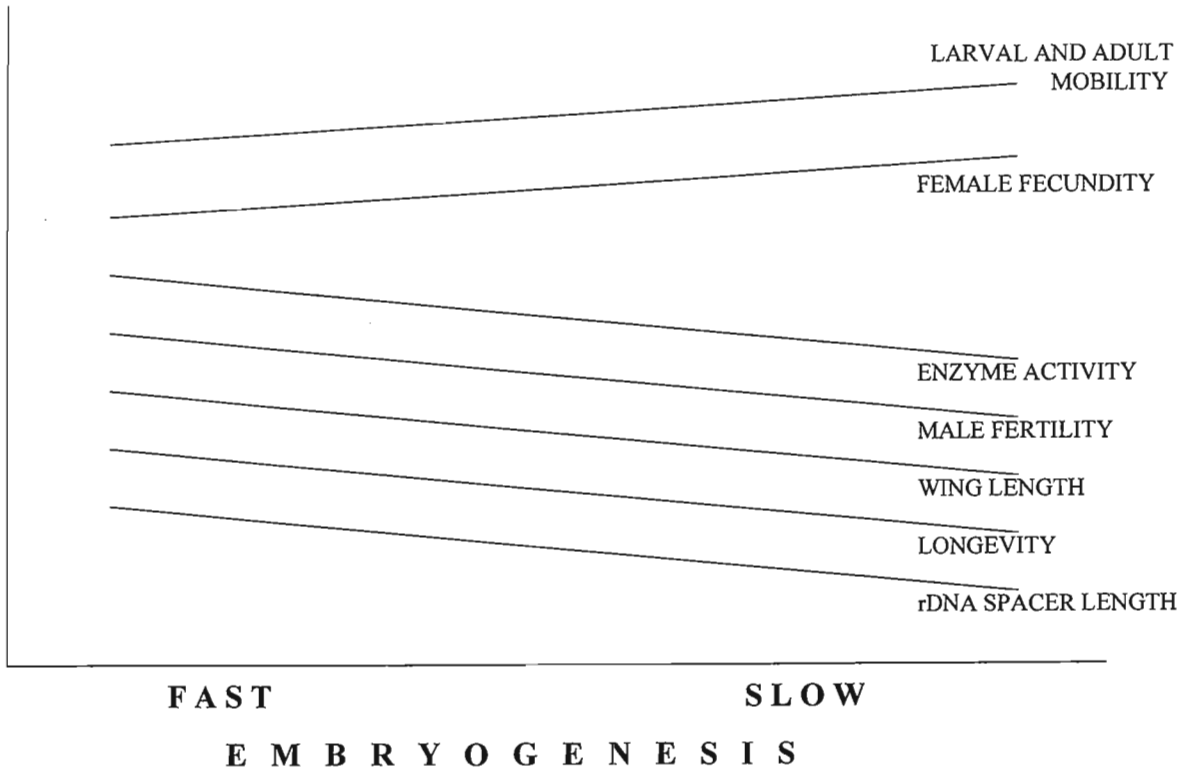

Figure 1. Changes in fitness components in groups of *Drosophila melanogaster* individuals with different rates of embryonic development.