nis are consistently abundant in early summer mountain collections but they are not part of the permanent breeding populations there. In early July, 10 specimens of the two species were collected from slime fluxes of Douglas Fir where they were actively feeding. The males had active sperm but the females were reproductively very immature. The large majority of the two species in the traps were young individuals. D. longicornis was about 10% of the total of the two species in all collections.

Moravec, J. J.E. Purkyně University, Brno, Czechoslovakia. Variability of the frequency of recombination between cn and vg in different second chromosome subpopulations of D.m. originating from nature.

Twenty different chromosome subpopulations originating from natural population samples, H. B and M, which were normal in viability were tested for recombination frequency by means of crossing with the cn vg/Oregon K strain approximately in the 50th generation. In subpopulations H7, M2 and M8, the recombination frequency was found to be significantly higher, in subpopulations B10 and M3 significantly lower than the standard value (Table 1).

Table 1

Subpopulations	H1	H5	H7	H8	B1	B4	B8	B10
Recombination frequency	9.19	7.28	11.79	7.85	9.61	8.95	8.86	5.73
$\chi^2_{(1)}$	0.52	3.81	15.27	1.29	1.69	.10	.12	17.02
Subpopulations	M2	M3	M4	M8		(standard value)		
Recombination frequency	12.36	6.79	8.37	12.12		8.66		
$\chi^2_{(1)}$	19.08	6.88	.17	15.06				

Approximately in the 70th generation, the recombination tests were repeated with the "high" subpopulation M2 and with the "low" one B10. Thirty different males were studied in each subpopulation. The crosses with cn vg/Oregon K and subsequent measurements of recombination frequency were repeated three times so that the proportion of the genetic background originating from Oregon K rose from 50 per cent in the first cross to 75 and 87.5 per cent in the second and third crosses, respectively. Other $\bar{p}$ values were found than in the 50th generation (Table 2). In the M2 subpopulation, the original high recombination frequency was preserved; it did not substantially change during the three successive crosses. On the other hand, in the B10 subpopulation, higher recombination frequencies were found than in the 50th generation, and the recombination frequencies decreased during the increase of the proportion of Oregon K genome. At the same time, this subpopulation was found to be desintegrated into two groups: in the "low" group comprising 13 original males, the recombination frequency was constant, while in the "high" one (17 original males), the recombination frequency decreased with increasing proportion of the Oregon K genome.

Table 2

Subpopulation	1st cross		2nd cross		3rd cross	
	$\bar{p}$	c.v.	$\bar{p}$	c.v.	$\bar{p}$	c.v.
M2	11.35	19.8	10.68	18.8	11.39	21.1
B10	11.27	35.7	10.38	35.0	10.01	26.9
B10 "low" group	7.29	21.6	6.83	23.2	7.57	18.0
B10 "high" group	14.32	15.0	13.08	15.5	11.86	19.3

These results suggest that (1) genetic factors modifying the recombination frequency can be present in the natural material, (2) these factors can mutate spontaneously during the long-termed cultivation, and (3) additional variability of recombination frequency can be introduced by changing the genetic background.