

This investigation was supported by a grant from the Environmental Control Administration CPEHS, U.S. Public Health Service EC 00075.

References: Abrahamson, S. and I.H. Herskowitz, 1957 Genetics 42: 405; Alekperov, V.K. A.F. Kalomiets and U.K. Schcherbakov, 1967 Dokl. Akad. Nauk SSSR 176: 199.

Krimbas, C., M. Loukas and E. Diamantopoulou. Agricultural College of Athens, Greece. Gene arrangement and gene frequencies in Mt. Parnes population of *D. subobscura*.

A sample of *D. subobscura* taken in April 24, 1970, from Mt. Parnes, Attica, Greece, has been examined for the frequency of the gene arrangements in its five chromosomes and for the frequencies of two polymorphic genes, an Esterase and an Alkaline phosphatase. Table 1 reports on the frequencies of the gene arrange-

ments observed (in percentages, - in parentheses are indicated the maximum and minimum frequencies observed in five previous samples taken in 1964 and 1965, - see Krimbas Mol. Gen. 99: 133-150). Only 73 chromosomes have been studied for chromosome A, while 100 for each of the other autosomes. This last sample looks in general quite similar to the previous ones.

Table 1. Frequencies in percentages of gene arrangements in Mt. Parnes population 1970. (in parentheses width of estimations in five previous samples of the same population).

| | | | | | |
|-----------------------------------|-------------------------------|---------------------------------|--------------------------------|----------------------------------|------------------------------|
| A _{St} 55(32-49) | A ₁ 15(21-32) | A ₂ 30(19-38) | | | |
| J _{St} 19(14-18) | J ₁ 81(81-86) | J ₃₊₄ 0(0-2) | | | |
| E ₁₊₂₊₉ 46(41-61) | E ₈ 20(21-44) | E _{ST} 21(8-13) | E ₁₊₂ 12(5-8) | E _{1+2+9+12*} 1(1-6) | |
| U _{1+2+6**} 51(30-53) | U ₁₊₂ 34(26-49) | U ₁₊₂₊₈ 5(1-7) | U ₁₊₂₊₇ 5(9-19) | U ₁₊₂₊₃ 1(1-4) | U _{ST} 4(1-10) |
| O ₃₊₄ 49(40-50) | O _{ST} 16(4-17) | O ₃₊₄₊₁ 23(20-28) | O ₃₊₄₊₂₂ 7(3-11) | O ₃₊₄₊₂ 4(2-7) | O ₃₊₄₊₇ 1(2-7) |

*E₁₊₂₊₉₊₁₂ and E₁₊₂₊₉₊₄ considered together.

**U₁₊₂₊₆ and U₁₊₂₊₄ considered together.

Est-6 (previously also noted as gene Est-1 in DIS 44: 71, Est in DIS 45: 105 and Est-1 in Isoz. Bull. 2: 42) is located near the centromere of chromosome O. A sample of 65 individuals (130 genes) revealed the following frequencies of the six known alleles of this gene:

| | | | | | |
|---------------------------------|------|----------------------------------|------|----------------------------------|-----|
| Est-6 ⁰ ₁ | 2.3 | Est-6 ¹² ₂ | 25.4 | Est-6 ²³ ₃ | 6.9 |
| Est-6 ¹ ₁ | 19.2 | Est-6 ² ₂ | 46.2 | Est-6 ³ ₃ | 0.0 |

Some 65% of the flies analyzed were found heterozygotes for this gene. Genotype frequencies did not depart from panmixia.

Aph-4 (previously also noted as gene N, Aph in IB 2: 46) is located in chromosome J. Two active alleles Aph-4¹ and Aph-4² were found in 53 individuals (106 genes) examined. Aph-4¹ has a frequency of 56.6 and Aph-4² of 43.4. Some 47% of the flies electrophorized were found heterozygotes. Here, too, genotype frequencies did not depart from panmixia.

These frequencies are to our knowledge the first ones reported for natural populations of *D. subobscura* concerning genes controlling known enzyme polymorphisms.