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SD in a natural population of D. melano-
gaster in Japan.

From the beginning of July, 1963, wild flies of D. melanogaster from a natural population in Ohdate City were collected periodically till the end of November, 1963, when fly collection became impossible because of the cold temperature. The City of Ohdate, Akita Prefecture, is located in the northern part of the Mainland of Japan (Honshu), about 400 miles to the north of the Genetics Institute in Mishima. A person residing in Ohdate City had been engaged in fly collections since July, 1963, but the earliest time when D. melanogaster appeared in that area was the end of August. Males collected from the Ohdate population (constitution: $+_1/+_2$ for the second chromosome) were individually mated with virgin cn bw females. From the F_1 progeny of each cross, five males were collected and mated individually to cn bw females. In the F_2 generation we expect the ratio of phenotypically cn bw to wild flies to be 1 : 1 if the $+_1$ and $+_2$ chromosomes behave normally. In fact, this was so for about 600 tested males. However, there were 8 exceptional cases. In these exceptional males some of the wild second chromosomes behaved as if they carried the segregation-distorter (SD) locus, i.e., they revealed extreme excess of + flies in the F_2 generation (practically 100% instead of its expected value of 50%). The number of tested males, SD-carrying males and the time of fly collections are presented in Table 1. As can be

Table 1: The number of tested and SD-carrying males, and the time of fly collections in 1963.

| No. of tested males | No. of SD males | Time of Collection |
|---------------------|-----------------|---------------------|
| 12 | 0 | Aug. 23 - Aug. 28 |
| 120 | 2 | Sept. 3 - Sept. 7 |
| 63 | 1 | Sept. 12 - Sept. 15 |
| 230 | 2 | Sept. 23 - Sept. 27 |
| 73 | 1 | Oct. 4 - Oct. 10 |
| 57 | 1 | Oct. 17 - Oct. 20 |
| 48 | 1 | Oct. 30 - Nov. 3 |
| 0* | 0 | Middle of Nov. |
| 1 | 0 | End of Nov. |
| Total 604 | 8 | |

*fly collections were continued but no melanogaster was captured

seen, SD-carrying males were found throughout the season. Some of the SD^+ chromosomes in the Ohdate population were insensitive to the action of SD, or there were systems suppressing SD-action. Salivary gland chromosome examination revealed that all of the 8 SD-bearing chromosomes carry two overlapping inversions, one involving the sections from 52A to 56F and the other from 55E to 60E. (These are approximate; exact determinations have not yet been made.) The former inversion is identical to that found in SD-72 and SD-5. This inversion is also fairly commonly found in natural populations of D. melanogaster and is called Nova Scotia (In (NS)). One hundred and ninety-three wild, SD^+ , second chromosomes from the Ohdate population were examined as to whether they carried any inversions. Only 11 were found to carry In (NS), and the remaining 182 were free of any inversions. Many genetic tests are in progress in the author's laboratory, and it is hoped that the present investigation will give a hint on the origin and evolutionary history of SD, as well as on the mechanism of SD action.

Kikkawa, H. Osaka University, Japan. An electrophoretic analysis of amylase gene in D. simulans.

zymes are controlled by allelic and co-dominant genes located near plum gene on the second chromosome of this species.

By using an agar-gel electrophoresis which was improved by Ogita (DIS 37:142), there were found two types of amylase isozymes, viz., Amy^F and Amy^S among eight strains of D. simulans. A genetic analysis showed that these amylase iso-

zymes are controlled by allelic and co-dominant genes located near plum gene on the second chromosome of this species.