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The variability of abundance and sex-ratio
in natural population of D. nigromaculata.

A preliminary note on a survey of Drosophila
population in the University Botanical Gardens
investigated during ten successive years from
1953 to 1962 are presented here. Monthly col-
lections except in three years, 1953, 1955, and

1959 were routinely carried out by the same methods with the use of banana traps during seasons. Flies were collected on three successive days near the end of each month. On each day of collection, flies were collected at one-hour intervals from sunrise to sunset. During seven years, 20,820 flies representing 38 species were collected.

D. nigromaculata was one of the two abundant species, of which the other was D. auraria, showing the rate of 26.36%. Sex-ratio of this species was 129. The results are presented in Table 1.

Data in Table 1 seem to indicate that the variability of sex-ratio shows no relation to annual activities. In general, this species showed a trimodal seasonal activity with three peaks in May, July and September. Sex-ratio showed seasonally low in inactive periods between the three peaks. A bimodal diurnal activity with two peaks in the morning and in the evening was observed in this species. In inactive periods between the three active ones, the male diurnal activity decreased especially toward evening.

Table 1: Percentage frequencies of abundance and sex-ratios of D. nigromaculata in Drosophila populations sampled from the University Botanical Gardens at Sapporo during the seven years.

	No. of flies of <u>nigromaculata</u>	Frequency in a given period	Relative frequency	Sex-ratio	Sex-ratios during a day		
					Morning	Noon	Evening
1954	1209	52.4	22.0	126			
1956	846	22.5	15.4	97			
1957	503	15.4	9.2	114			
1958	682	35.4	12.4	137			
1960	586	27.3	10.7	132			
1961	1109	24.2	20.2	153			
1962	<u>554</u>	<u>19.6</u>	<u>10.1</u>	<u>147</u>			
Total	5489	26.4	-	129			
May	1215	45.8	22.1	164	176	190	145
June	288	11.6	5.3	88	110	80	63
July	1149	20.4	20.9	112	106	109	120
August	633	11.1	11.5	90	104	90	65
September	1830	47.4	33.3	142	146	120	153
October	374	31.8	6.8	140	138	123	176

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Tennessee. Localization of E-spl.

In a stock of y^2 su-w^a w^a spl; T(2;3)Xa, E-spl/+
(Welshons, 1956, DIS 30:157) a y^2 su-w^a w^a spl;
E-spl non-Xa male was found and a stock was es-
tablished. E-spl is homozygous viable and ap-

pears wild type in the absence of spl. Matings of spl/spl females by spl; +/SM1, Cy; E-spl/
Ubx¹³⁰ males indicated that the mutant is on chromosome 3. A further attempt to localize the
mutant was made by crossing spl;E-spl females to ve h th cu bx e^S ro ca males (stock from R. F.
Grell). spl/+; ve h th cu bx e^S ro ca/E-spl virgins were then backcrossed to homozygous marker
males, and non-spl crossover males were selected and crossed individually to homozygous spl
virgins. The progeny were examined for the presence or absence of E-spl. These results indi-
cate that E-spl is close to ro on the linkage map. Ten crossovers between e^S and seven cross-
overs between ro and ca included no crossovers between ro and E-spl.