Yannopoulos, G. University of Patras, Greece. Seasonal differences of spontaneous autosomal recessive lethal mutation frequencies in a wild Greek Drosophila melanogaster population.

The present communication constitutes a preliminary report of a much wider investigation on the polymorphism of spontaneous autosomal recessive lethal mutations in a wild Drosophila population of S.W. Greece.

Behnia, A. and G. Koliantz in a recent communication (1972) reported that they have not been able to observe seasonal changes of lethal gene frequencies in a natural population of Tehran.

The data presented here come from a place called Koleika which lies at a distance of about 8 km from Patras. (The town of Patras is situated in the N.W. of Peloponnesus.) Flies were collected during three seasons, namely summer, spring and autumn. Captured males were individually mated with virgin Cy L^4/Pm females in order to detect in the F_3 the frequencies of second chromosomes bearing lethals. Table 1 shows the significant differences found between the frequencies detected from summer and autumn and spring and autumn collections, respectively. No statistically significant differences were found between the summer and spring collections. It is also worthwhile mentioning that rates of spontaneous autosomal recessive lethal mutations found in northern Greece by other research workers (Pelecanos, M. and A. Pentzos-Daponte 1970) in autumn collections, is much lower as compared with ours. Further investigation and analysis of the data presented here are in progress.

Table 1. Seasonal differences in spontaneous autosomal recessive lethal mutation frequencies.

Season of capture	No. of parents captured	No. of chromosomes tested in the F_3	No. of lethals	Lethals (percent)	No. of parents which yielded lethals	No. of parents which yielded more than one lethal	χ^2 1 d. f.
Summer (June)	236	1127	374	33.19	114	100	$\chi^2 = 2.55$, $P > 0.05$
Spring (April)	231	933	341	36.55	89	72	$\chi^2 = 4.7$, $P < 0.05$; $\chi^2 = 11.7$, $P < 0.01$
Autumn (November)	152	735	307	41.77	55	53	

References: Behnia, A. and G. Koliantz 1972, DIS 48:80; Pelecanos, M. and A. Pentzos-Daponte 1970, DIS 45:79.

Miller, D.D. and J. Jaenike. University of Nebraska, Lincoln, Nebraska; Princeton University, Princeton, New Jersey. Recent extensions of the known geographical ranges of "eastern" and "western-northern" D. athabasca based on salivary gland chromosome sequences.

As speculated by Miller and Voelker (Journ. Hered. 63:3-10, 1972), the zone of overlap of "eastern" and "western" (better "western-northern") D. athabasca probably extends eastward from Minnesota to New England (suggested by earlier studies on Y chromosome types, copulation durations, crossability). However, salivary gland chromosome material with which to determine the presence of the two kinds of athabasca together had come only from Minnesota. During the summer of 1972 one of us (J.J.) collected D. athabasca in Maine (mainland and islands just east of Penobscot Bay), and these col-

lections have provided material showing, by salivary gland chromosome sequences, the presence of both "eastern" and "western-northern" athabasca in that part of New England.

As pointed out by Miller and Voelker, sequences of certain chromosome arms have been found in only one of the two kinds of athabasca and not the other (disregarding one ambiguous Minnesota strain classified only by Y type). Some of these, particularly ones involving the distal portions of arms, should be useful for recognition of "eastern" or "western-northern" athabasca even in preparations of "average" or "inferior" quality - specifically "eastern" XL MI-MII vs. "western-northern" I-distal; "eastern" XS MI vs. "western-northern" I-distal (or derived sequences); "eastern" BL MII or MIII vs. I=MI (though the latter occurs in both kinds of athabasca); "eastern" C MII and derived sequences (e.g. MIV, MV, but not III) vs. "western-northern" I-distal and derived sequences. Though complete analysis of salivary gland sequences in recent stocks from Maine has not been accomplished, observations of the above sequences (plus a few others) have shown that the cultures do contain both "eastern" and "western-northern" sequences and that each strain is consistent in having sequences of one kind only. The following numbers of strains have been so identified: Sunset (Deer Isle), 3 "eastern" and 7 "western-northern"; Bar Harbor (Mount Desert Island), 4 "eastern"; Dedham (mainland, ca. 10 miles s.e. of Bangor), 5 "eastern" and 2 "western-northern"; relatively small islands just south of Deer Isle (Dave's, Farrel, George Head, Potato, St. Helena, and Wreck), all "western-northern", 4 from St. Helena and one from each of the others.

Although Miller (Amer. Midl. Nat. 60:52070, 1958) expressed doubt that D. athabasca exists at certain points where it had been reported in the Midwest, specifically St. Louis and Lincoln, recently the presence of athabasca in these localities has been confirmed. In 1970 several apparently athabasca males collected at the St. Louis suburb of Webster Groves by Dr. H.D. Stalker came to one of us (D.D.M.), by way of Dr. Robert Voelker. Some of these males were crossed successfully to "eastern" females of a Bass Lake, Minnesota, strain, yielding offspring with strictly "eastern" athabasca salivary gland chromosomes. There is no reason now to doubt that athabasca does exist in the St. Louis area, as had been reported by Carson and Stalker (e.g. 1951). In July of 1972 one of us (D.D.M.) collected Drosophilas in southeastern Nebraska (Lincoln and Sprague, Lancaster Co., and Crete, Saline Co.) and got a few females and males that seemed athabasca-like. From five of the females (one from Lincoln, two from each of the other places) strains of athabasca have been established in the laboratory; examination of salivary gland chromosomes has shown that each has "eastern" sequences.

Angus, D.S. Salisbury College of Advanced Education, Adelaide, S.A., Australia.
Drosophila fauna of Humbug Scrub and Adelaide, South Australia.

Flies were collected over fermenting banana baits and by sweeping over vegetation between December 1971 and August 1972 at Humbug Scrub, Para Wirra National Park, a dry sclerophyll scrub 25 miles N.E. of Adelaide, and at Toorak Gardens, an Adelaide suburb.

The following species were found:

Species	Humbug Scrub number	Humbug Scrub %	Toorak Gardens number	Toorak Gardens %
D. bryani	1	+	0	
D. buskii	0		3	+
D. enigma	0		12	+
D. fumida	67	12	21	1
D. immigrans	37	7	262	11
D. melanogaster	31	5	66	3
D. novopaca	9	2	3	+
D. repleta	1	+	20	1
D. simulans	415	74	298	84
Pholadoris sp. nov.	2	+	0	
Total	563		2491	

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