hence interpretable as possibly related to the athabasca Sequence I by way of these inversions. The following table presents these findings. The athabasca inversions are identified by their symbols and by the associations at their break points (section numbers from

D. athabasca inversions		D. affinis Subgroup Species				
		affinis	algonquin	azteca	narragansett	tolteca
M I	3'15	+?	present	present	+?	present
	4'16	+?	+?	+?	?	+?
M VII	27d'34	+?	present	+?	+?	+?
	27p'35	present	present	present	present	present
M VIII	27d'30	+?	-	present	present	?
	34'29	+?	-	present	+?	present

the Sequence I XL map of Miller and Voelker '69). Cases in which the indicated inversion break point region association was found are designated by "present", those in which the same inversion break may have occurred as an intermediate step by a "+?", those in which the inversion association was definitely absent by a "-", and cases in which no decision could be reached by a "?". These findings provide additional evidence of an intermediate phylogenetic position of "eastern" athabasca between "western" athabasca and other D. affinis subgroup species (though not necessarily in a linear phylogeny). Such a position of "eastern" athabasca was also implied by patterns of the C Chromosome (Miller and Sanger, 1968).

1) Miller, D.D. and Sanger, W.A. 1968. Journal of Heredity 59: 322-327. 2) Miller, D.D. and Voelker, R.A. 1969. Journal of Heredity 60 (in press at the time of this report).

Baldwin, D.G. University of Arizona, Tucson, Arizona. The frequency of inversion sequences in D. pseudoobscura in southern Arizona.

D. pseudoobscura females were collected during the months of October through January through two winters (1968-69 and 1969-70) from four locations in southern Arizona. Sycamore Canyon and the Patagonia Dam Road in the Patagonia Mountains are at 4500 ft. in oak woodland. Madera Canyon Road, at the base of the Santa Rita Mountains, is at 3500 ft. in desert scrub. Soldiers Trail, at the base of the Santa Catalina Mountains, is in desert scrub at 2900 ft. The collections were taken from the Patagonia Mountain sites in 1968-69 only and from Soldiers Trail in 1969-70 only, but collections were made during both winters at Madera Canyon Road. The traps consisted of large cans baited with fermenting bananas.

The gene arrangements of both homologues of the third and X-chromosomes were scored for one female larva from each wild female collected. The total number of chromosomes examined

Locality	n	AR	ST	CH	PP	SR
Sycamore Canyon	8	87.5	0	12.5	0	0
Patagonia Dam Rd.	40	77.5	20	2.5	0	10
Madera Canyon Rd.	102	67.6	25.5	5.9	1.0	9.8
Soldiers Trail	28	64.3	28.6	7.1	0	17.8

(n) was 178. The frequency of the sex-ratio (SR) sequence of the X-chromosome is significantly greater at Soldiers Trail than at the other sites. No larvae were found to be homozygous for sex-ratio. Only one female produced unisexual offspring, indicating that only one of the females collected had been inseminated by a male with the sex-ratio inversion.

The decrease in frequency of Arrowhead (AR) and the increase in frequency of Standard (ST) from Sycamore Canyon to Soldiers Trail probably reflects the decrease in elevation (Patton and Heed, DIS 40: 69). The other third chromosome inversion types found in the study were Pikes Peak (PP) and Chiricahua (CH).