Table 1. Percent male fertility and mean number of progeny per male at each temperature

Stock	% fertile			mean no. progeny per male		
	22°C	28°C	29°C	22°C	28°C	29°C
Urbana S.	100	75	**	37.5	19.0	*
Samarkand	100	20	0	55.2	.8	0
Swedish C	100	20	0	52.3	1.8	0
Lausanne	95	75	0	52.2	18.2	0
Samarkand 204	100	60	35	66.1	21.4	2.6
Oregon 369	95	90	5	66.4	36.6	.3
Canton S.	100	95	40	67.9	70.0	.4
Amherst^{tr}	75	75	60	30.0	47.9	31.9

**flies died in the early pupal stages at 29°C

The restrictive temperature of 29°C is obviously close to the borderline of normal biological function of Drosophila melanogaster. Since all eight mutant X chromosomes which we recovered at 29°C still conferred male sterility at 28°C, we feel that this is a far better restrictive temperature to use.

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Miller, D.D. University of Nebraska, Lincoln, Nebraska. On the identity of the "sex ratio" X chromosome of "eastern" D. athabasca.

As reported by Miller and Voelker (1969, Journ. Hered. 60: 231-238, 307-311), the all-female progeny of two wild females of "eastern" D. athabasca collected in Minnesota in 1966 were heterozygous for XL sequence MIII MIX-MX and XS sequence MIII-MIV, suggesting that the X chromosome characterized by these sequences was the carrier of a "sex ratio" factor. Additional evidence for this relationship has been gotten recently from a few single-male matings with strains of "eastern" athabasca from Englewood, New Jersey, and South Williamstown, Massachusetts (from collections of Dr. Max Levitan, via Dr. Robert Voelker). The following table gives the results of four such matings from each of these localities. The symbols represent X chromosome inversions described by Miller and Voelker (1969), except for XL MXIII, a subbasal inversion recently found in several "eastern" strains and to be illustrated and/or described another time.

Mating	Female larvae X chromosomes		Adult Sex Ratio		
	XL	XS	♀♀	♂♂	Total
New Jersey					
-1	MIV MVI MXIII	MVI	55	55	110
-2	MIV MVI MXIII	MVI	26	31	57
-3	MIII MIX-MX (homozygous)	MIII-MIV	61	5	66
-4	MIII MIX-MX (heterozygous)	MIII-MIV	90	0	90
Massachusetts					
-1	MI-MII MVI MVII-MVIII	MI-MII	79	85	164
-2	MI-MII MVI MVII-MVIII	MI-MII	20	22	42
-3	MIII MIX-MX (heterozygous)	MIII-MIV	55	0	55
-4	MIII MIX-MX (homo- and heterozygous)	MIII-MIV	64	3	67

It can be seen that two matings from each locality gave both strongly one-sided sex ratios and female offspring carrying the XL MIII MIX-MX and XS MIII-MIV sequences, some in the homozygous state. The results are consistent with the association of these five inversions with "sex ratio", though, of course, it cannot be claimed that all inversions are necessarily tied to the "sex ratio" factor. "Eastern" D. athabasca would thus seem to differ from its relative D. azteca, in which the "sex ratio" X is characterized by three independent inversions in the long arm (Dobzhansky and Socolov, 1939).

Johnston, J.S. and W.B. Heed. University of Arizona, Tucson, Arizona. A comparison of banana and rotted cactus as a bait for desert Drosophila.

Trap cans, each containing 20 lbs. of bait, were set out on January 15, 1969 in an open desert scrub study area immediately north of Tucson in the southern foothills of the Santa Catalina Mts. at an elevation of 2900' to determine the relative attractiveness of fermenting banana, rotting prickly pear cactus (Opuntia angelmannii) and saguaro cactus (Carnegiea gigantea) to desert Drosophila. The cactus bait was prepared by injecting fresh material (pads or arms) with Erwinia carnegieana, the causal agent of saguaro bacterial necrosis, and incubating in plastic bags at 32°C for 2 to 5 days. Cactus prepared in this way has been shown to attract flies the same as natural rots. Three large trap cans each with a different bait were placed 17 yards apart on the lower one third of the north slope of the hill and this pattern was repeated 75 yards away on the top of the hill and 75 yards away from the top on the lower one third of the south slope. Collections were made on January 16 and 19 in the afternoon. The temperature averaged 65°F, but the north slope was 5°F cooler than other locations late in the afternoon.

The experimental design permitted an analysis of variance of the data (table 1) both for number of species and number of flies of each species. Banana attracted a significantly greater number of species than the cacti (9 vs. 5, $p<.05$). The hilltop attracted fewer species than the north and south slopes, but the difference was not significant. In the analysis of the 5 commonly trapped species, the type of bait, the species of fly, and the bait by species interaction were significant ($p < .05$). In all locations, banana traps attracted more flies of each species than the cactus traps ($p < .001$). Saguaro (host plant for D. migrospiracula) attracted more D. nigrospiracula and nigrospiracula-like than other species, but D. nigrospiracula-like preferred the top location while D. nigrospiracula was equally abundant on the top and south slope. Opuntia (a host plant for D. hamatofila and longicornis and sometimes pseudoobscura) attracted all 5 major species but became more effective north to south for all species ($p<.05$). D. pseudoobscura preferred banana in all locations ($p<.01$) but the majority came to banana on the north slope. Saguaro was actively avoided in all locations by D. pseudoobscura.

	pseudoobscura	nigrospiracula-like	nigrospiracula	hamatofila	longicornis	others	total
Banana							
North	449	36	31	16	9	11	552
Top	134	228	101	69	19	0	551
South	274	237	214	77	35	7	844
Opuntia							
North	2	4	2	1	1	0	10
Top	32	16	9	13	5	1	76
South	58	24	13	21	4	0	120
Saguaro							
North	0	8	4	0	0	0	12
Top	1	84	72	10	0	0	167
South	0	18	61	4	1	0	84
Total	950	655	507	211	74	19	2,416

These data demonstrate the superior attractive ability of fermenting banana both for species and numbers of individuals of Drosophila in the desert. Opuntia is a general but comparatively weak attractant. Saguaro has a very narrow species-attracting range and this is in accordance with our sweeping records from naturally rotting saguaro.