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.