Solima-Simmons, Angela and Howard Levene. Columbia University. Effect of age and temperature on matings of Drosophila paulistorum.

Previous experiments (Malogolowkin, Solima-Simmons and Levene, in press) led us to check on the effect of temperature and age on sexual isolation. The experiment was performed using Ellens (1957) Chambers with two strains (Simla H and Elena L) of the Amazonian and one (Apoteri Y) of the Orinocan race, all tested against Bahia 6 (Andean-Brasilian) kept for several years in the laboratories.

The flies were aged 5, 10 or 20 days and tested at 20°C and 25°C. The percentages of heterogamic matings are:

days	Simla H			Elena L			Apoteri Y		
	5	10	20	5	10	20	5	10	20
temp.									
20°C	2	0	13	0	5	8	30	33	36
25°C	0	0	0	5	0	3	21	16	17

There seems to be little effect of age but lower isolation at lower temperature.

Previous values obtained in the experiment cited above (ca. 10 days, 25°C) were 0, 3, 10 percent respectively.

For the actual percentage of total matings (heterogamic and homogamic) there is comparatively little effect of age and temperature.

A comparison of the total matings of both the new and the old data give the following percentages:

	Simla H vs Bahia 6		Elena L vs Bahia 6		Apoteri Y vs Bahia 6	
Previous	20	70	18	65	37	97
Present	58	61	63	81	69	79

The results could be explained by a better adaptedness of the Orinocan and especially the Amazonian flies to laboratory conditions. Their mating activity is now closer to the older Bahia 6 strain.

Research supported by NSF Grant NSF-GB-1906.

Miller, Dwight D., Ralph L. Sulerud and Neal Westphal. University of Nebraska. Determinations of D. athabasca Y chromosome types from new localities.

As pointed out by Miller and Roy (1964), D. athabasca has three widespread Y chromosome types: large J-shaped Type 1, medium near-V Type 2, and large V-shaped Type 3 (with X^1 and X^2). Compared with the X-chromosome of this species, which in primary spermatocytes has segments in ratio of about 5:1:4 (Miller and Stone, 1962), Type 1 may be described as having a segment ratio of 5:1:2, 5:3, or 5:2; Type 2 as 3:1:2 or 3:3; and Type 3 as essentially 5:1:4 (like the X). Recent collections of our own, supplemented by those of others who have kindly provided us with specimens and cultures, have made it possible to extend observations of Y chromosome types in this species (for new material we are grateful to Miss Judith Barkley and Dr. Edward Novitski, University of Oregon; Professor Th. Dobzhansky and Mrs. Olga Pavlovsky, Rockefeller Institute; and Dr. Philip T. Ives, Amherst College). The widespread, generally western Type 1 has now been determined from additional western localities: British Columbia (Okaneghan, Victoria), Idaho (Boise), Minnesota (Hallock, Halstad), New Mexico (Raton Pass), Oregon (Eugene, Siuslaw National Forest), and Washington (Mt. Baker National Forest, San Juan Islands). Type 2 has been encountered at Amherst, Massachusetts, and Northfield, Minnesota. A new type, designated Type 5, has been found in material from Seguim Bay, Washington (Olympic Peninsula). This is a nearly V-shaped chromosome intermediate between Types 2 and 3 (segment ratio 4:1:3 or 4:4).