



Fig. 5. F₁ hybrid progeny of a cross of Darién class B line with the Rio Raposo class A line. The right most individual is a control female of the Rio Raposo class A line, showing an isozyme at position #3.

Sanger, W. G. and D. D. Miller. University of Nebraska. Further study of hybrids between *D. azteca* and *D. tolteca*.

our laboratory between *azteca* females (Arizona, California, Mexico) and *tolteca* males (Bolivia) yielded sterile males; however, female hybrids mated to *tolteca* males sometimes produced offspring that died as pupae. Out of 66 attempts at mating *azteca* ♀♀ by *tolteca* males (Bolivia, Colombia), each involving from 1 to 60 pairs ($\bar{x}=7.67$), 7 were successful, producing a total of 126 females and 81 males. *D. azteca* males normally possess and *tolteca* males normally lack a second tarsal segment sex comb tooth on each foreleg (e.g. Sulerud and Miller, 1966); however, we found one *tolteca* male (Bolivia) to possess a second tarsal segment tooth. Our observation of a second tarsal segment tooth in fifteen out of eighteen *azteca* ♀ (Arizona) x *tolteca* ♂ (Bolivia) male hybrids differs from Patterson's report of an absence of this tooth in males from this combination. The first and second tarsal segment length ratios (f/s) were intermediate to those of the parent species, as indicated below (eyepiece micrometer units);

Patterson (1954) reported *azteca* ♀ x *tolteca* ♂ and *tolteca* ♀ x *azteca* ♂ hybrids, those from the former cross being sterile, those from the latter fertile in both sexes. Recent crosses in

	N	f	s	f/s
<i>D. azteca</i> (Arizona)	20			
Mean		32.20	27.40	1.1755±0.0025
Range		30-34	26-29	1.1071-1.2592
<i>D. tolteca</i> (Bolivia)	20			
Mean		20.65	27.40	0.7272±0.0114
Range		19-24	25-31	0.6551-0.8571
<i>D. azteca</i> ♀ (Arizona) x <i>D. tolteca</i> ♂ (Bolivia)				
F ₁ males	20			
Mean		31.67	32.73	0.9676±0.0068
Range		30-34	31-35	0.9117-1.0000

Hybrids from the reciprocal cross, *tolteca* ♀ x *azteca* ♂, were obtained in 2 out of 69 attempts, each involving from 1 to 60 pairs ($\bar{x}=7.52$) and yielding a total of only one female (Bolivia x Mexico) and four males (Colombia x California). The female was very weak and died after two days; her ovaries were small. One of the four males possessed a second tarsal segment sex comb tooth, the others none. Male hybrids from both reciprocal crosses possessed small testes with no signs of sperm.