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The usual laboratory conditions for *Drosophila paulistorum* cluster of species (Dobzhansky and Spassky 1959), *D. willistoni*, *D. tropicalis* and *D. equinoxialis*, have been up to now cultivated in the same banana-agar medium utilized to grow and study other species of the genus *Drosophila*. In our laboratory as elsewhere little attention

has been paid (see recent issues of *Evolution and Genetics*) to culturing conditions. Most geneticists and zoologists in general think that to speak of the adaptive optimum or more specifically of Darwinian fitness (any component can be drastically affected by different culturing conditions as one can see in what follows) do not implicate the judicious testing of those laboratory conditions that will show the most abundant egg laying and larval survival the species or the simispecies have. Thus testing how natural selection changes the paths of gene frequencies under environmentally poor conditions brings forth very biased results and conclusions, in some cases producing even contradictory data of what the gene pool can do to approximate the average phenotype to a particular ecological exigency. Very often while studying the environmental variance in *D. willistoni* (experiments on the genetic load) we were puzzled by the apparent impossibility of reducing it under our laboratory conditions. After testing various ways of doing our crosses, changing incubating practices, rotating our culture media so that each tray could have the same amount of exposure to each condition, and after following the usual statistical recommendations, the environmental variance was still relatively prominent. By simply changing our laboratory culturing medium from bananas to guayaba (*Psidium guajaba*) we were able to reduce the variance to approximately one fourth of what it was before, and as expected the statistical analysis became twice as effective as before.

The following table shows the rate of development in *D. paulistorum*, *D. willistoni*, *D. tropicalis* and *D. equinoxialis*, in both banana - agar and guayaba - agar media. The reader can see how the rate of development from egg laying to adult emergence as imagoes were reduced considerably in our new laboratory medium.

Table 1. Rate of development of different species of the willistoni group in different laboratory media. The numbers represent days of development from egg laying to adult emergence from pupae.

	Banana - agar		Guayaba - agar	
	Pupa	Adult	Pupa	Adult
<u><i>D. paulistorum</i></u>				
Andean	10	16	8	12
Caripe	12	18	8	12
Llanos 13A	10	18	8	12
Transitional	10	16	8	12
Amazonian	11	16	8	12
Central American	11	16	9	12
<u><i>D. willistoni</i></u>				
Yaguaracaca	10	17	7	12
Valparaiso	10	17	7	13
<u><i>D. Tropicalis</i></u>				
Valparaiso	10	17	8	13
<u><i>D. equinoxialis</i></u>				
Mitú 2A	10	18	8	12

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Reference: Dobzhansky, Th. and B. Spassky, 1959, *Proc. Natl. Acad. Sc.* 45: 419-428.