Anderson, B.A.S. University of Oregon, Eugene, Oregon.* Comparison of electropherograms of hemolymph and fat body soluble proteins in larval D. malenogaster.

Electrophoresis of hemolymph and of fat body homogenates was carried out on 7% acrylamide gels using the standard method of Ornstein and Davis (1964). Larvae of an Oregon R strain isogenic for chromosomes I, II, and III provided the tissue. Hemolymph was collected by puncturing 10 - 12 larvae and drawing the fluid which bled out into fine glass tubing. No attempt was made to remove hemocytes. Fat bodies (4 - 5) were isolated by dissection in Drosophila Ringer's. Testes, but not ovaries, were removed. Fat bodies were homogenized with sample gel in a hand held microhomogenizer. After electrophoresis gels were stained with Coomassie Brilliant Blue as described by Chrambach et al. (1967).

Seven major and numerous minor bands were identified in electropherograms of both tissues. Fat body electropherograms consistently showed more background stain than did hemolymph electropherograms. One minor band (between F and G) was commonly seen in fat body samples and not in hemolymph samples. Otherwise the electropherograms from hemolymph and fat body were indistinguishable. Co-electrophoresis of the two tissues did not show any additional protein bands.

The table below summarizes the relative migratory distance of the seven major bands in both tissues. The larva, reared axenically by the method of Keith and Goldin (1968), pupate at 144 - 150 hours; hence all three ages represent third instar larvae. Band B is a double band, though its two components are not always clearly separated. Many minor bands are also seem.

Acrylamide Gel Electropherograms of Hemalymph and Fat Body Homogenates of D. melanogaster Larvae

Larval Age	Bands - Relative Migratory Distances						
	A	B	C	D	E	F	G
4 da.	.04	.17	.49	.55	.59	.79	1.00
	.06, .04	.12, .11	.51, .48	.57, .55	.60, .57	.84, .79	1.00
5 da.	.05± .01	.15± .004	.48± .01	.54± .01	.58± .01	.79± .01	1.00
	.04, .06	.13, .12	.50, .47	.54, .53	.60, .59	.80, .79	1.00
6 da.	.07± .01	.16± .003	.48± .03	.54± .02	.57± .003	.78± .02	1.00
	.06, .04	.17, .13	.51, .49	.57, .53	.61, .57	.80, .81	1.00

For all pairs of values above, the upper figures are for fat body samples and the lower for hemolymph.

References: Chrambach et al. 1967 Anal. Biochem. 20: 150-154; Keith and Goldin, 1968 DIS 43: 178; Ornstein and Davis, 1964 Annals, N.Y. Acad. Sci. 321-349 and 404-427.
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Jacobs, M.E. Goshen College, Goshen, Indiana. Survival of ebony and non-ebony D.m. pupae in low humidity.

e^{11} females were crossed with Oregon-R males. 880 day old F_2 pupae were placed at 92% R.H., and 2640 at 35%, at 25°C. As seen below, at 35% R.H., survival of ebony flies was decreased more than was that of non-ebony.

Adults Emerging

	92% R.H.				35% R.H.			
	Females		Males		Females		Males	
	+	e	+	e	+	e	+	e
O	315.0	115.0	270.0	92.0	687.0	148.0	530.0	117.0
E	322.5	107.5	271.5	90.5	626.1	208.7	485.1	161.7
D	7.5 --- 7.5		1.5 -- 1.5		60.9 -- 60.7		44.9 -- 44.7	
χ^2	0.69		0.03		23.5		16.5	