

Erk, Frank C. State University of New York, Stony Brook, N.Y. An expressivity scale for melanotic tumors.

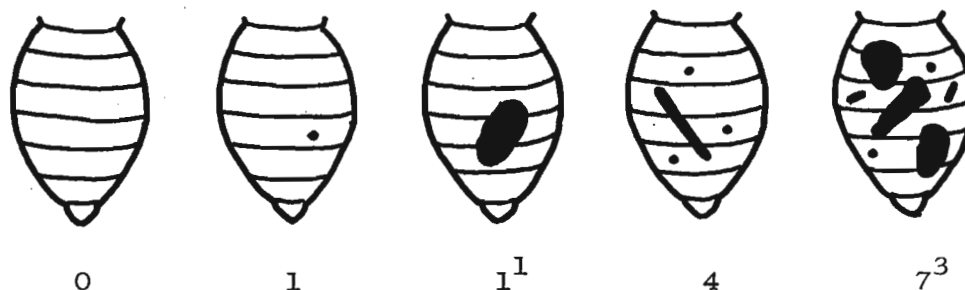
Melanotic tumors occur or can be induced in many strains of *Drosophila*, but penetrance varies widely and is affected by both genetic and environmental factors.

There may be also a wide range of expressivity in certain strains, although it has been difficult to take this factor into account in most studies. Because of the range in number and size of tumors found among flies in a given strain, presumably sensitive to both genetic and environmental factors, the melanotic tumor strains offer excellent material for the study of expressivity, surely a perplexing problem in physiological genetics. Tumors occupying fixed locations (head, spiracles, mouthparts) present another range of problems, but are not considered here.

There is no fixed site of free-floating tumors, which can be moved easily by external manipulation. Probably the tumors tend to migrate posteriorly during larval development and movement; they are usually found in the abdomen, although they occasionally appear also in the thorax, head, and legs. The variations in number and size appear to be independent of location.

The study of the effects of various factors on expressivity in tumor strains depends on a useful expressivity scale that will characterize flies according to both number and size of tumors present. In the scale I have used, a base number represents the number of distinct tumors - those that do not separate upon dissection. A superscript is applied to the base number to indicate how many (if any) of the tumors are "large," that is, greater than the width of one abdominal segment in their largest dimension. This scale provides a convenient measuring unit within the fly itself, while at the same time compensating for differences in size of flies which may be due to sex, genotype, or nutritional state. Thus, the presence of "large" tumors means, among other things, that a significant proportion of the fly's mass is made up of melanized inclusions.

Sample applications of the scale are shown below:



Expressivity scoring is a tedious process when it is done by dissection, but it can be eased considerably by using Sang's fructose method (DIS 41:200) and by using a multi-key counter, with one channel assigned to each point on the expressivity scale.

Carlson, J. H. Fairleigh Dickinson University at Madison, Wisconsin. A source of paper for *Drosophila culutres*.

For the past year the author has been using Kimwipes (Type 900-S) Disposable Wipers (Kimberly-Clark Corporation, Neenah, Wisconsin) as the paper inserts in *Drosophila* food bottles. These are

absorbent, non-linting and will absorb up to 15 times their weight in liquids. They are chemically inert and come in various sizes. The size I find most convenient is 5 x 9 inches. They come in a sealed cardboard box with a punch out hole on top. They are of the "pop-up" type which makes dispensing easy. There are 240 sheets to the box and a carton of 72 boxes costs \$20.88 (Fisher Catalogue) which works out to 29¢ per box. I have also used regular Kleenex type tissues cut into thirds, but I find that the Kimwipes are more convenient. When folded in half and used in a standard half pint bottle they make a nice paper funnel into which anesthetized flies may be dropped and allowed to revive.