Histologically the tumors start as melanization of the larger lymphocytes, visible at 34 hours after hatching, and so complete as to sometimes obscure the presence or absence of a nucleus at 75-78 hours of age. At around 65 hours, some of the smaller lymphocytes change into spindle-shaped cells and often aggregate into clumps, showing extra- and intracellular deposits of melania. The pericardial blood-forming organ is always affected. Melanization progresses at least until 96 hours of age. Black aggregations in adults consist of cellular detritus and black masses, presumably melanin. The rectal epithelium of old tumor larvae sometimes shows nuclei reminiscent of early- and late-prophase ganglion nuclei, but of much larger size.

Ohnishi, E. Bilateral asymmetry and correlative expression of wing and hind leg in Bd^{491}.

The phenotype of this Bd is very variable, ranging from wild-type to vg-like appearance, and the grades of expression of the wings of one individual are sometimes independent of each other. Besides the excision of the wing, hind legs are crumpled and this occurs only associated with heavy expression of the wing excision. This is true also with respect to both sides of one asymmetrical individual. This correlation suggests that some cooperation exists between the imaginal discs of the dorsal mesothoracic and the ventral metathoracic, rather than a mosaic nature of this mutant.

Ohnishi, E. Tyrosinase activity during puparium formation in D. melanogaster.

Rapid increase and decrease in tyrosinase activity during puparium formation was observed by the following techniques. Larvae or pupae were ground in a glass mortar and made into a pulp with distilled water. This was centrifuged, and the supernatant fluid (without lipid layer) and precipitated cell debris were measured separately by Warburg's manometer, using catechol as the substrate. Special care was taken to use individuals of exactly the same stage. Values for Q_{O2}, calculated from the oxygen uptake of the first five minutes, are shown in the table.

Stage	Tyrosinase activity (Q_{O2}) Extract	Cell debris	Sum
larva moving on the wall	trace	trace	-
larvae immobile (ca. 1 hr before puparium formation)	8.2	14.9	23.1
prepupa with white puparium	12.2	15.5	27.7
prepupa 1.5 hr after puparium formation	3.7	10.1	13.8
prepupa 3.0 hr after p.f.	1.6	6.4	8.0
prepupa 6.0 hr after p.f.	2.2	4.4	6.6
prepupa 12 hr after p.f.	0.7	1.4	2.1

Q_{O2} = microliter O_2/mg body weight hour

In spite of the very high activity of the white prepupa preparation by the grinding method, an almost inactive preparation was obtained by the following procedure. White prepupae were immersed in 0.75% NaCl solution and dissected by needles under a binocular microscope , with special caution not t injure the tissues, and the puparium was torn into 3-4 pieces, setting free body fluid into the NaCl solution. Remaining tissues and puparium were ground and suspended in water. This diluted body fluid and suspension were both almost inactive. When both were mixed and left to stand for 10 minutes, then separated by centrifuging, some activity appeared. Considering these and other factors, it may be concluded that tyrosinase in vivo is probably in an inactive state, and it is activated by an activator of unknown nature present the tissues. Details will be shown elsewhere.