Zamburlini, P. and G.A. Danieli. University of Padua, Italy. A crylamide-gel electrophoresis of D. hydei proteins at different stages of larval development.

From cultures of synchronously developing larvae, samples were collected at different times of development. Larvae were collected in 2 M sucrose, washed twice in Tris-EDTA-Borate buffer and carefully dried on kleenex tissues.

The total soluble proteins of the larvae and the hemolymph specific proteins have been considered separately.

For the analysis of the soluble proteins, whole larvae were homogenized in 100 µl of the same buffer, containing 5% sucrose and P.T.C.

The omogenate was centrifuged at 20,000 x g for 15' and the clear supernatant was used as sample for the electrophoretic analysis as well as for the parallel protein content determination (Lowry et al. method).

For the analysis of the hemolymph proteins, larvae were dissected in a cold centrifuge tube containing 250 µl of the homogenization medium. The wall of the tube was washed with the same medium, up to a final volume of 0.5 ml. The tube was then centrifuged at 10,000 x g for 20' and the supernatant was considered as a dilution of the original hemolymph.

Acrylamide-gel electrophoresis was carried out in continuous buffer (Tris-EDTA-Borate, pH 9.4) at constant current (4 m A for tube); the run was stopped when the bromophenol front was at 1 cm from the lower end of the tube. Acrylamide-gels were stained overnight in acetic amido-black and then destained in 7% acetic acid.

Plate 1 reports the electrophoretic pattern of the total soluble protein content during the development from 52 to 196 hrs. calculated from the moment of oviposition at 24 hr intervals. Plate 2 reports the electrophoretic pattern of the hemolymph proteins in the same stages.

Acrylamide-gel patterns of total soluble proteins at different stages

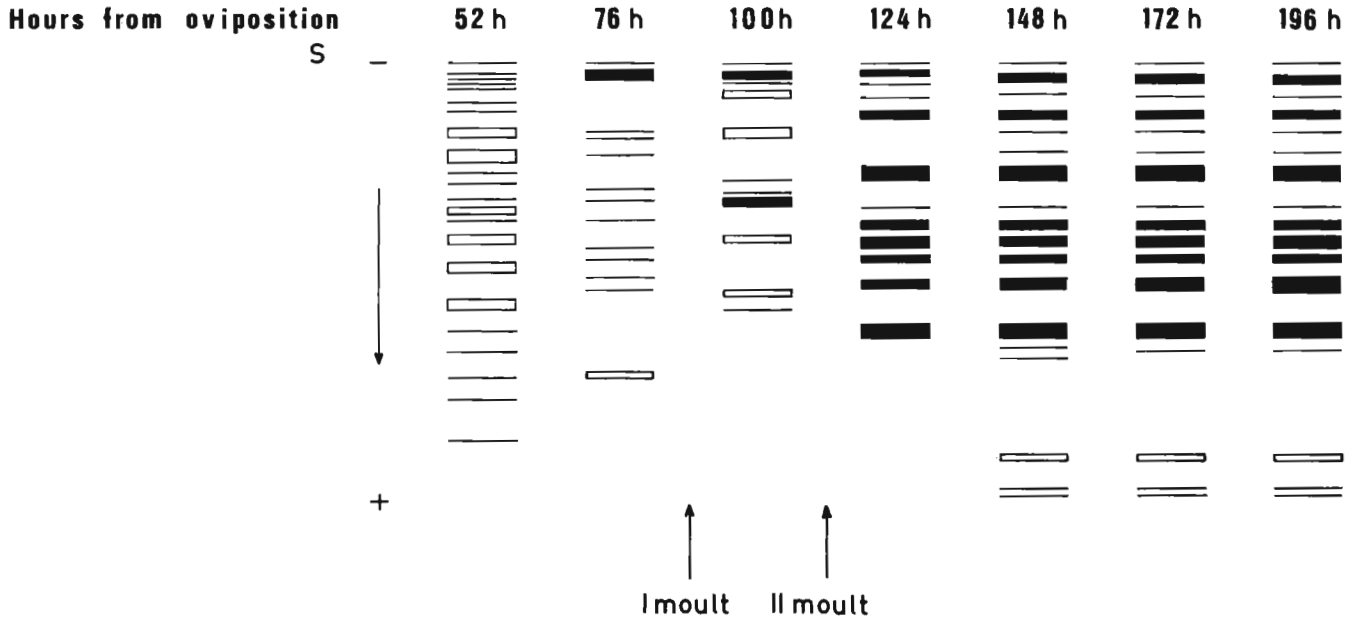

Plate 1

It is clear that the electrophoretic patterns under modifications during the development. In particular, it may be significant to note that some bands remain constant throughout the development (for instance the slow moving band, remaining near the cathode) while some other bands become visible in specific developmental stages; so the larval age can be recognized from the electrophoretic pettern of the larval proteins.

At the end of the development it is possible to identify at least 20 discrete bands. The

Acrylamide-gel patterns of hemolymph proteins at different stages

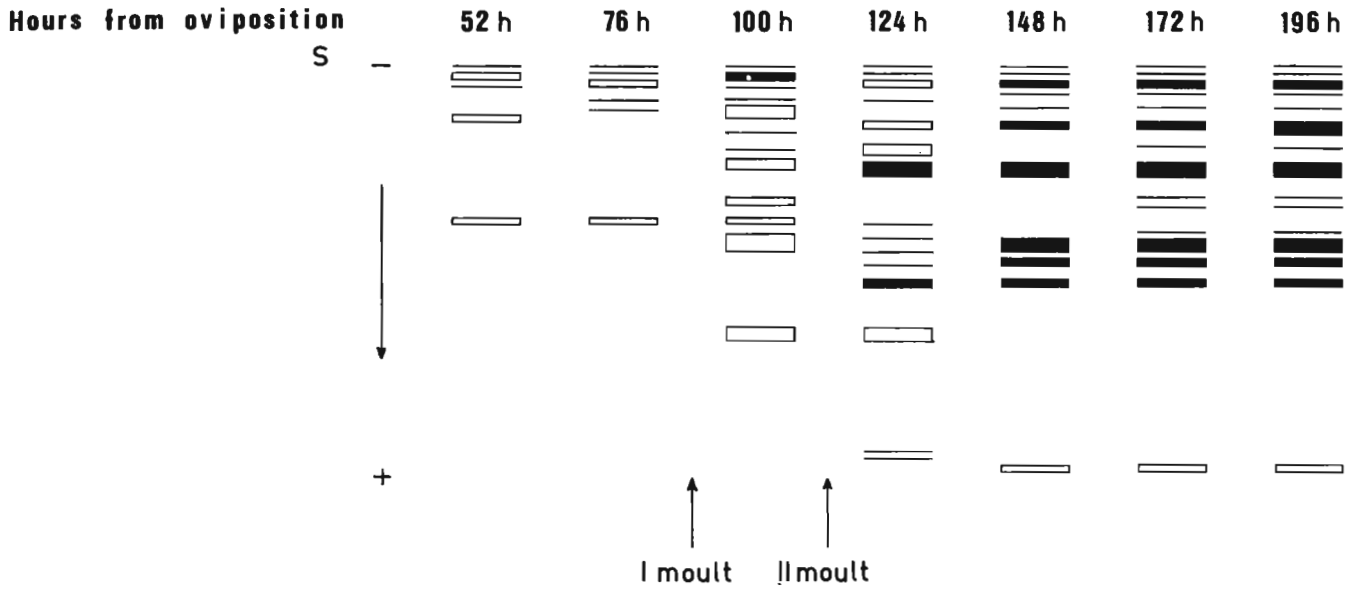

Plate 2

faster anodic bands seem to be somewhat depending upon environmental or experimental factors. They are always present but the relative concentration of their protein content may vary greatly.

References: Lowry, O.H. et al., 1951, Protein measurement with the folin phenol reagent. J. Biol. Chem. 193: 265-275. Raymond, S. and Weintrounb, L., 1959, Acrylamide gel as a supporting medium for zone electrophoresis. Science 130: 711.

Ortiz, E. Instituto de Genética y Antropología, Madrid, Spain. Drosophilids species in the Reserve of Doñana, Spain.

A first survey of Drosophilids species was performed in the Reserve of Doñana (recently established with the aid of the World Wildlife Fund) in the marismas and sand dunes near the mouth of the river Guadalquivir, in the south of Spain. Vegetation in the area is mainly constituted of shrub (Halimium, Ulex, Erica, Rubus), pine trees and cork oaks.

Flies were collected from May 13th to 16th in 1967, with 20 yeasted banana traps set up in six biotopes. Scaptomyza pallida was captured only by sweeping. The collected species were the following:

S. pallida	116	D. funebris	27
D. nitens	83	D. repleta	14
D. busckii	44	D. hydei	23
D. melanogaster	353	D. buzzatii	75
D. simulans	210	D. mercatorum	12
D. subobscura	547	D. immigrans	185
D. phalerata	59	D. cameraria	32

TOTAL 1780