Summary. Mature larvae, one day and three days old pupae, one day and ten days old adult *Drosophila melanogaster* males were assayed *in vitro* for the enzyme, xanthinedehydrogenase. Very high enzyme activity was found in wildtype and both *w* and *bw* throughout the period investigated. Also 6 days old *white* flies proved to be able to form isoxanthopterin from 2-amino-4-oxypteridine in an *in vivo* assay. The results are discussed with regard to the absence of isoxanthopterin and uric acid in *white* and *brown* imagines.

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Spontaneous Potentials from Explants of Embryo Chick Pons (Myelencephalon) in Culture[1]

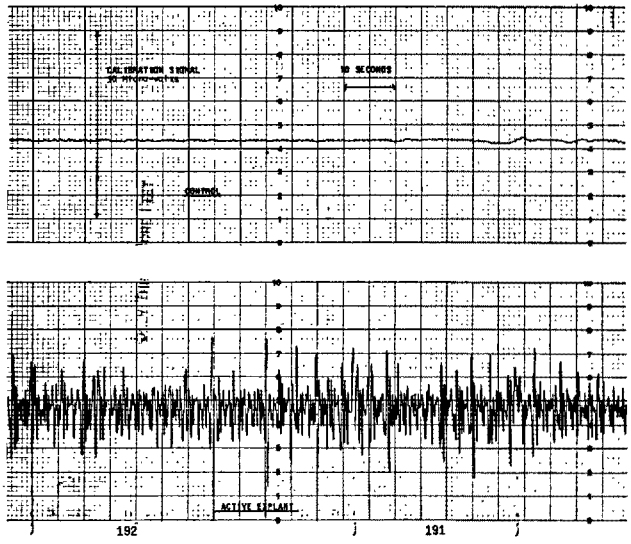

Fig. 1. *Lower Trace:* Record of spontaneous potentials from Pons after 5 h in culture. X axis – Vertical lines 1 sec apart. Y axis – Horizontal lines $1^1/_2$ μV apart. *Upper Trace:* Control of dead cerebellar tissue under identical conditions and with identical time and amplitude scales.

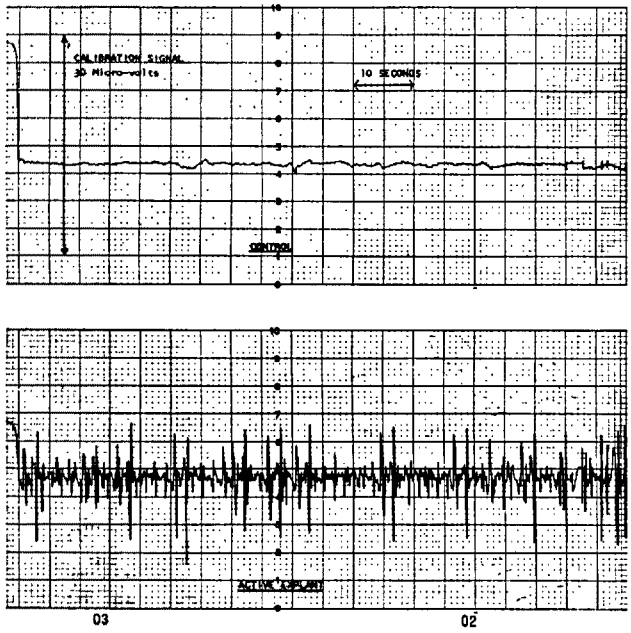

Fig. 2. *Lower Trace:* Record of spontaneous potentials from Pons after 36 h in culture. X axis – Vertical lines 1 sec apart. Y axis – Horizontal lines $1^1/_2$ μV apart. *Upper Trace:* Control of dead cerebellar tissue under identical conditions and with identical time and amplitude scales.

Spontaneous potentials have been demonstrated in explants from the pontine flexure of the myelencephalon at the level of the middle cerebellar peduncles and the 5th, 6th, and 7th cranial nerve nuclei of 11 day chick embryos using techniques and supernatant similar to those used to demonstrate spontaneous potentials from explants of chick embryo cerebellum in tissue culture in Kahn tubes[2]. The explants used in this work were 1 mm thick coronal slices of myelencephalic tissue. The control used was dead cerebellar tissue explanted into a Kahn tube in the same manner as the myelencephalic tissue and kept side by side with the tubes containing the living culture material in the same incubator with identical amplification and recording apparatus. The living myelencephalic tissue gave potentials with the same form and magnitude and the control gave no potentials at all in each recording channel where they were tried.

Figure 1 shows the form of the potentials 5 h after the explantation. They consisted of a complex combination of relatively simple signals against a background of a repetitive signal of about 5 μV coming at intervals of about $1^1/_2$ sec. Larger potentials of a relatively simple form and a magnitude of about 15 μV were superimposed on the repetitive lesser signals with a tendency to occur in pairs of which the individual members were about 2 sec apart. These pairs occurred at about 10 sec intervals.

Figure 2 shows the form of the potentials 36 h after explantation. The small repetitive signal had now disappeared and the larger signals had become less in amplitude – 4–5 μV and the tendency to occur in pairs is still present though the members of the pairs are further apart (5–10 sec). The pairs themselves are at intervals of about 20 sec. This activity continued for more than 120 h after explantation.

Zusammenfassung. Vorkommen und Form spontaner Potentialen aus Myencephalon-Explantaten (Nuclei-Region der Kranialnerven 5–7) 11 Tage alter Hühnchenembryonen in Gewebekultur werden beschrieben. Die Registrierung erfolgte während mehr als 120 h.

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[1] This work was done under a U.S. Navy Contract, NONR 1598(04).

[2] A. W. B. CUNNINGHAM, M. DOUGHERTY, and B. J. RYLANDER, Nature *186*, 477 (1960).