Histological Effects of Itrumil, Thiouracil and Thiourea on the Endostyle of *Lampetra lamottenii*

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Ammocoete larvae of *Lampetra lamottenii* (25-147 mm. long) were immersed in individual concentrations of 0.033% thiourea, 0.1% thiouracil, and 0.1% itrumil for 12 days at 70°C. The animals then were fixed in Zenker's fluid, stained with Heidenhain's iron haematoxylin and sections 10 microns thick were prepared.

Observation revealed that the dorsal gland cylinders were primarily affected. These structures were decreased in size and the syncytial type I cells, which comprise them, were histolyzed and most of the contained nuclei were fragmented. Similar but less severe effects were noted in the ventral gland cylinders. Histolysis was more pronounced in itrumil- and thiourea-treated specimens. The type III cells exhibited early signs of histolysis and the total size of the endostylar chambers showed a decrease in the treated animals. Similar effects were observed in all the experimental ammocoetes regardless of size. Controls were carefully maintained and observed. Jones (1947, Nature, London. 160:636-639) who did similar work on ammocoetes failed to report histolysis of cells after treatment with thiourea but did observe that nuclei of the endostylar gland became basally placed.

Since the antithyroid compounds have elicited a response in the endostyle of ammocoetes; experiments are being conducted to ascertain whether or not the endostyle has a secretory cycle similar to that of the thyroid gland in higher vertebrates. This is being tested by surgical ablation of the pituitary gland and thyroxin addition when the goitrogenic compounds are simultaneously administered.