slowly through the summer as the epididymis is refilled with new spermatozoa.

With this added information, castrations were performed in May and again in August. These were controlled by animals unilaterally castrated, and by a comparison of the one epididymis removed at the time of operation with the one recovered at autopsy. They were carried for a period of three months before they were sacrificed. These all showed a marked diminution in total epididymal size compared with the normal. The epithelial cells likewise were reduced to their minimum range. Spermatozoa, however, can still be recovered after the elapse of 74 days of castration, and they are actively motile.

The results of these experiments all point to an epididymis sustained through the hormonal action of the testis. It is in no sense as closely dependent as in the case of the mammal. These results are still indecisive, however, because of the possibility that diet may affect the general condition of the reproductive tract and there is some reason to suspect that this may be the case. For this reason the operations will be continued to eliminate this possible source of error.

REFERENCE

Risley, Paul L., 1938, Seasonal changes in the testis of the Musk turtle, *Sternotherus odoratus L. Journ. Morph.*, **63**, 301.

THE EXPERIMENTAL HORMONAL STIMULATION OF THE REPRODUCTIVE ORGANS OF THE COMMON EEL

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Preliminary experiments designed to stimulate the gonads of the teleostean eel, *Anguilla rostrata*, were performed. It was anticipated that by the use of appropriate hormones or some combination of them the gonads might be matured and ripe eggs and sperm produced. This has been effectively demonstrated in amphibian material by numerous authors and is a common procedure for procuring embryological material. In the case of the eel, such experimental maturation would provide ample material which might throw considerable light upon the early development of the eel. With that as an objective, the following experiments were performed.

All eels available were females, and varied in length from fifteen to thirty one inches. The smaller eels were sacrificed without experimental manipulation and gonads and pituitaries saved. Smaller eels were considerably less mature than the larger ones as shown by the macroscopic condition of the gonads, and the microscopic size of the oocytes. Experimental

animals and their tank controls were as nearly of a size as was possible. Animals used varied from twenty one to thirty one inches. Injections were of two kinds, intraperitoneal and intramuscular. In every case gonads and pituitaries were recovered.

One series of animals received injections of Antuitrin S purchased from Parke Davis and Company. The doses indicated are total quantities that the animal received during the periods of daily injections.

75 rat units in 2 injections
115 rat units in 4 injections
125 rat units in 5 injections
225 rat units in 9 injections

None of these animals showed any gross or microscopic evidence of gonad stimulation.

A second series consisted of only two experimental eels and controls. These received injections of fresh macerated frog pituitaries. The first eel was twenty one inches in length and received a total of nine frog pituitaries in four daily injections. The second eel was twenty three inches in length and received a total of fourteen pituitaries in five injections.

Neither of the eels showed any evidence of gonad stimulation either macroscopically or microscopically.

These preliminary experiments have been entirely negative but are not conclusive. Longer periods of injections with more appropriate hormones and proper dosages are still anticipated as likely agents to produce mature eggs and sperm. There is little doubt that the chances for success are considerably greater with eels of large size that are more nearly sexually mature. Difficulty will still be encountered in obtaining both male and female eels simultaneously, but this is not unsurmountable. With these facts in mind, the problem will still be pursued with the hope that more favorable results will ensue.

CULTIVATION EXPERIMENTS WITH *BALANTIDIUM COLI* FROM THE PIG

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Intestinal content filtrates or extracts contain factors which are potent promotors of growth and multiplication for *Balantidium coli* in vitro. It seems likely that these factors are important as growth and multiplication promotors in the intestine. Investigation of these factors should throw light on the important question of host-parasite relations.

The data here presented primarily concern the growth and multiplication properties of rat intestinal content extracts. .5% Ringer dilutions were made of the contents of (1) lower