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Induced Ovulation in Amphibians by Injection of Antuitrin-S.

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Japanese newts, *Triturus (Molge) pyrrhogaster,* were given injections of Antuitrin-S, a sex-stimulating extract from the urine of pregnant women, twice daily for 5 days, with the result that eggs were laid on the sixth day. The total number of eggs laid was about 50 of which 27 were fertile and from which number 21 developed into swimming larvae. Both the males and the females were injected at the same time, 0.2 cc. twice a day, subcutaneously in the abdominal region.

The same extract was used in experiments on the Mexican axolotl, generally considered a neotenous form of *Amblystoma tigrinum,* with the following results.

Experiment I. 2 males and 2 females were injected during the same period, with 0.3 cc. of Antuitrin-S 3 times a day for 4 days. Several hundred eggs were laid on the fifth, sixth, and seventh days. These eggs were not fertile.

Experiment II. 2 males only were injected with 0.3 cc. three times a day, after which they deposited 15-20 spermatophores on the fourth day. 2 females were then injected (on the fourth day of the experiment) 3 times with 0.3 cc. and eggs were laid that night and on the succeeding 4 days. These eggs were mostly infertile, only a few of them going through the second cleavage stage.

Experiment III. 2 males were injected with the same amounts as in previous experiments. Twenty to 25 spermatophores were deposited on the fourth and fifth days. Two days later (on the sixth day) the females laid several hundred eggs, all of which were fertile.

From the last 3 experiments it will be seen that treatment of the male will arouse sexual activity resulting in the deposition of sper-

matorphores. These spermatophores are picked up by the females which lay their eggs without treatment.

The extract used in these experiments was obtained through the courtesy of Parke Davis and Company. The strength of the extract was 175 rat units per cc.

The effect of Antuitrin-S is similar to that of whole sheep's pituitary, which was found by Buyse and Burns[1] to be effective in ovulating the Mexican axolotl. They did not treat the males.

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Hypertrophy of the Adrenals in Scurvy.

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The author[1] observed that a marked hypertrophy of the adrenals occurred in guinea pigs that died of scurvy. The same observation had been previously made by Bessesen[2] and others. Svirbely and Szent-Gyorgyi[3] and Waugh and King[4] have demonstrated that the hexuronic acid isolated from the adrenal cortex is vitamin C. It seemed desirable to investigate further the effect of a vitamin C free diet on the adrenal. The results are recorded in Table I.

TABLE I.

Guinea pig No.	Initial wt. gm.	Final wt. gm.	Survival period days	Wt. of Adrenals Right mg.	Left mg.
1	325	235	35	230	250
2	335	240	24	170	200
3	315	240	21	170	240
4	325	250	30	130	140
5	295	190	29	135	160
6 Control)	280	400	33	95	100
7 "	305	365	26	90	115

The control animals received in addition to the Sherman, La Mer, and Campbell diet, 5 cc. of orange juice daily.

The adrenal hypertrophy is probably an attempted compensatory though futile response on the part of the organism to vitamin C

[1] Buyse, A., and Burns, R. K., PROC. SOC. EXP. BIOL. AND MED., 1931, **29**, 80.

[1] Quick, A. J., *J. Biol. Chem.*, 1933, **100**, in press.

[2] Bessesen, D. H., *Am. J. Physiol.*, 1922, **43**, 245.

[3] Svirbely, J. L., and Szent-Gyorgyi, A., *Nature*, 1932, **129**, 576.

[4] Waugh, W. A., and King, C. G., *Science*, 1932, **76**, 630.