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Effect of Crystalline Synthetic Androsterone on the Female Bitterling.*

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We have reported that the lengthening of the ovipositor of the female bitterling† may be produced by that fraction of male urine containing male hormone and have suggested[1] this biological reaction as a test for male hormones. We have recently been engaged in experiments with the crystalline synthetic male hormones. These materials are scarcely soluble in water and hence emulsions were first employed. Later the use of propylene glycol as a solvent was suggested by Dr. Warren M. Cox, Jr., of Mead Johnson & Co. This solvent in small amounts is in itself harmless to the fish and does not cause this reaction. The sterols dissolve in it with the aid of heat and when such solutions are added to the large volumes of water in which the fish are placed, the material remains as a fine suspension.

Under these conditions synthetic androsterone‡ was found to produce positive reactions when added in very small amounts. Like many other biological phenomena the reaction is not obtained in every instance. This may account for the recent negative report[2] of a single experiment on 2 fish. The reaction seems to occur more slowly with crystalline androsterone than with urine—possibly because the hormone is present in a more soluble form in urine. Therefore we have taken not only the 48-hour reading, which is ordinarily sufficient in this test, but also the 72-hour reading. The experiments were conducted in the same manner as previously reported.[1]

Our first experiments were performed in June when, as is well known, the fish are in a less reactive state. Doses of 1 and 2 mg. were ineffective while 4 and 6 mg. gave positive results.

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1 Kleiner, I. S., Weisman, A. I., and Mishkind, D. I., *J. A. M. A.*, 1936, **106**, 1643.

‡ We wish to thank Schering & Co. and Dr. Erwin Schwenk for the synthetic androsterone used.

2 Barnes, B. O., Kanter, A. E., and Klawans, A. H., *Science*, 1936, **84**, 310.

After September 15, the fish were found to be in a normally reactive state and tests were resumed. Negative results were experienced with doses of 0.7 mg. or less. Between 0.8 and 1.2 mg. the results were always positive in 48 or 72 hours (4 experiments). With larger amounts (1.4-4 mg.) variable results were obtained, mostly negative in 48 hours, with 3 positive and 5 negative in 72 hours. The larger doses seem to have a depressing effect on the fish. They become rather sluggish and this may account for their failure to react to large doses. It is therefore evident that for crystalline synthetic androsterone a positive reaction depends on its dosage and state of suspension.

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Attempts to Infect the Common Marmoset Monkey with the Virus of Poliomyelitis.*

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One of the serious drawbacks in experimental poliomyelitis has been the failure consistently to transmit the disease to any animal except the Rhesus monkey. This has limited the scope of investigations of this disease. However, recent success with other viruses in lower animals, has stimulated us to continue these efforts.[1]

Other attempts have been made to infect new world monkeys, without success. Flexner and Lewis,[2] Kraus and Kantor,[3] and Jungeblut and Engle[4] failed to transmit the disease to the Cebus monkey. Mackay and Schroeder[5] failed to infect the Spider monkey.

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2 Flexner, S., and Lewis, P. A., *J. Am. Med. Assn.*, 1910, **54**, 45.

3 Kraus, R., and Kantor, L., *Rev. d. Inst. Bact.*, 1917, **1**, 43.

4 Jungeblut, C. W., and Engle, E. T., PROC. SOC. EXP. BIOL. AND MED., 1932, **29**, 879.

5 Mackay, Eaton M., and Schroeder, Charles R., PROC. SOC. EXP. BIOL. AND MED., 1935, **33**, 373.