sunlight, the action of which is intensified by secondary effects of the wind; such as, for example, a variation of the temperature and moistness of the skin[1] and a suppression of perspiration which, were it present, would provide some protection from the actinic rays of sunlight.

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PERIPHERAL DISTRIBUTION OF FORE-LIMB NERVES IN AMBLYSTOMA

THE distribution of plexus nerves to the forelimb in Amblystoma is a controversial matter. The limb is innervated from the third, fourth and fifth segments. Carpenter[1] states that the fifth nerve contributes innervation exclusively to muscles of the wrist. Nicholas and Barron,[2] however, find that electrical stimulation of any one of the three plexus nerves yields contractions in any of the joints of the limb, with possibly a slight prevalence of innervation of distal muscles by the fifth nerve.

In order to decide the question, I have, at the suggestion of Dr. P. Weiss, undertaken degeneration experiments with 6 specimens of Axolotls (*Amblystoma mexicanum*) of approximately 10 centimeters' body length. One of the three plexus nerves was severed and time allowed for degeneration of peripheral fibers.[3] Sections were made and stained by Weigert-Pal myelin method; and counts were made of the normal as well as the degenerated fibers entering the muscles at various levels of the limb.

After the sectioning of any of the three nerves, degenerated fibers were found at all levels of the limb and in all muscles examined. Although a very slight peripheral increase in the ratio of degenerated to normal nerve fibers was indicated after severing the fifth nerve, and possibly a slight peripheral decrease in the innervation ratio of the fourth nerve, the main fact remains that all three plexus nerves contribute fibers to muscles at all levels of the limb, in confirmation of Nicholas and Barron's findings.

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[1] See Hill and Eidenow, *Proc. Roy. Soc.*, 95–B, 163, 1923–24; also Coblentz and Stair, *Jour. of Res. of National Bureau of Standards*, 15: 142, 1935.

[1] R. L. Carpenter, *Anat. Rec.*, 58 (suppl.): 7, 1934.

[2] J. S. Nicholas and D. H. Barron, *Jour. Comp. Neur.*, 61: 413, 1935.

[3] As determined by control experiments, it takes about two weeks for the degeneration to become complete in these animals. The tributaries to the limb nerves from the plexuses do not always remain as sharply localized within the peripheral nerve trunks as has been described for the frog by Kurkowsky (*Zeits. f. Anat. u. Entw'ges.*, 104: 389, 1935.)

BITTERLING OVIPOSITOR LENGTHENING PRODUCED BY ADRENAL EXTRACTS[1]

MOST investigators agree that the ovipositor of the bitterling fish can be artificially lengthened by adding certain urine specimens to the water in the aquarium. Adult male urine and urine from pregnant women usually give a positive response, while urine from adult non-pregnant women may or may not cause this reaction. A recent report suggested that the male hormone in urine caused the phenomenon. In a single experiment using two fish we failed to get any response with a large dose of crystalline androsterone, although both fish gave a positive reaction when tested with material known to be potent.

The present experiments were undertaken to see if the source of this material could be located by means of tissue extracts. Due to the availability of material, dog tissues were used in most experiments. The following tissues were extracted with ether and tested on standardized bitterlings as previously described: skeletal muscle, heart, brain, lung, kidney, spleen, liver, pancreas, stomach, thyroid and parathyroids together, testes, pituitary, thymus and adrenal. In most cases 20 grams of raw tissue were employed. The only extracts giving a positive response came from the adrenals. In one case the medulla was trimmed out as well as possible and the remaining cortex gave the same increase in ovipositor as the whole gland. Approximately 0.75 to 1.0 gram of adrenal tissue is necessary for a positive reaction, using the crude method of extraction which we have employed. The adrenals from other species tested have all given positive reactions. These include cat, rat, rabbit, beef, guinea pig and human. Tests with dog urine have been negative in the concentrations used. The work is being continued, and the possible significance of this material in human urine is being investigated.

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PRINCIPLES OF SCIENTIFIC PUBLICATION

THERE are certain principles which should but usually do not attend the publication of scientific work.

The first is that publication is a part of research.

The second is that the cost of publication should therefore be borne by the institution or individual sponsoring the work.

Regardless of the pain which acknowledgment into practice of these two unassailable principles may cause —they must be put into practice else institutions and workers convict themselves of shirking a just responsibility.

[1] From the Department of Physiology, the University of Chicago, and the Department of Obstetrics and Gynecology, Rush Medical College.