

SCIENTIFIC PROCEEDINGS

ABSTRACTS OF COMMUNICATIONS.

Seventy-sixth meeting.

Yale University, New Haven, May 24, 1916. Vice-President Gies in the chair.

80 (1144)

The therapeutic effect of wheat germ and of yeast in infantile scurvy.

By **ALFRED F. HESS.**

*[From the Bureau of Laboratories, Department of Health,
New York.]*

As is well known, yeast is a specific therapeutic agent in the cure of beri beri or its prototype, polyneuritis gallinarum. Studies upon infants showed, however, that when autolyzed yeast was given in daily quantity of 15 to 30 cc. a day, it was unable to cure moderate cases of infantile scurvy, even when taken for a period of two to three weeks. Yeast was however able to bring about growth in infants.

Wheat germ was found to possess antiscorbutic power, which however cannot be compared to that of orange juice. In some instances it was able to prevent the occurrence of the subacute scurvy which follows the use of pasteurized milk; in one instance this disorder developed notwithstanding the fact that the infant had received wheat germ and the watery extract of the germ for many weeks.

Scurvy can develop while an infant is making steady gain in weight for weeks or months, and, on the other hand, the symptoms can disappear under antiscorbutic treatment, although no gain is manifested. It is therefore evident that growth is not an es-

sential factor connected with the scorbutic condition. This should be borne in mind, and the results of experiments on growth should not be considered as directly transferable to infantile scurvy or similar dietary diseases.

81 (1145)

Oxygen utilization by fishes and other aquatic animals.¹

By GEO. G. SCOTT.

[From the United States Fisheries Biological Station, Woods Hole, Mass.]

A. Lowering of the temperature causes a reduction in the rate of oxygen consumption. In one case, while one lot of fishes consumed 78 per cent. of the available oxygen supplied at 12° C; a similar lot of fishes in water 4° colder consumed but 60 per cent. In a second case, a fish in water at 20° C. consumed 94 per cent. of the oxygen present while a similar fish at 3° C. consumed but 57 per cent. Breathing had ceased in this case but was resumed on return to warmer water.

B. It was noted that oxygen was consumed more rapidly in tall, narrow vessels of water than in broad shallow ones. Fishes moving about in shallow vessels of water tend to re-aerate the same. In one experiment to test this, one lot of fishes in tall narrow vessels of water consumed 80 per cent. of the oxygen supply, while in the broad shallow water at the end of the same period, the analysis indicated a reduction of but 20 per cent. of the original oxygen supply.

C. Fishes kept in dark vessels apparently consume oxygen at a less rapid rate than those exposed to light. Thus in the light one fish consumed oxygen at the rate of 0.12 c.c. per gm. per hr. while in the dark the rate was D. 11 c.c. per gm. per hr. But there was no evidence as to rate of oxygen consumption being less at night than in the daytime the rate being approximately the same.

D. Some forms show more resistance to low oxygen supply

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