growth on such a maternal diet than the nursing young reared on stock diet 1. The nursing young represented in this study on maternal ration 1145, while growing at a more rapid rate during the first half of the lactation period, showed inferior growth during the later part of lactation than the nurslings on maternal stock diet 1. The young of the former group, nevertheless, show higher concentration of hemoglobin throughout the nursing period than the young of the latter group.

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The Specific Conductivity of Protozoan Cultures.

E. H. SLIFER, E. C. HERBER, R. BLUMENTHAL, T. P. SUN AND C. C. WANG. (Introduced by J. H. Bodine.)

From the Zoological Laboratory, University of Pennsylvania.

It is an established fact that rhythmical fluctuations of protozoan fauna occur in ponds and laboratory cultures. A number of factors, such as food and oxygen supply, hydrogen ion concentration, temperature, etc., have been measured and attempts made to explain the abundance or scarcity of protozoan forms as being controlled by some one of these factors. Darby[1] has recently presented a thorough review of the subject.

In the present study, one of the factors which seems to have been neglected has been studied. The specific conductivity of several types of laboratory cultures has been measured daily over a considerable period of time. The cultures were made up in duplicate sets with boiled pond water. Cultures I-A and I-B contained dry hay; cultures II-A and II-B had boiled hay and cultures III-A and III-B had no hay at all. All cultures were inoculated from the same stock and kept in the laboratory.

The accompanying graph shows the results obtained. During the first 10 days after the cultures were made, the specific conductivity fluctuated to a considerable degree. From this time on, the points seem to suggest a rhythmical fluctuation such as suggested by the solid lines. Cultures III-A and III-B which had no hay in them and in which the protozoa soon disappeared, showed a specific conductivity which was very low and very constant. Cultures I-A and

[1] Darby, H. H., 1929, *Arch. f. Protist.*, B. 65, S. 1.

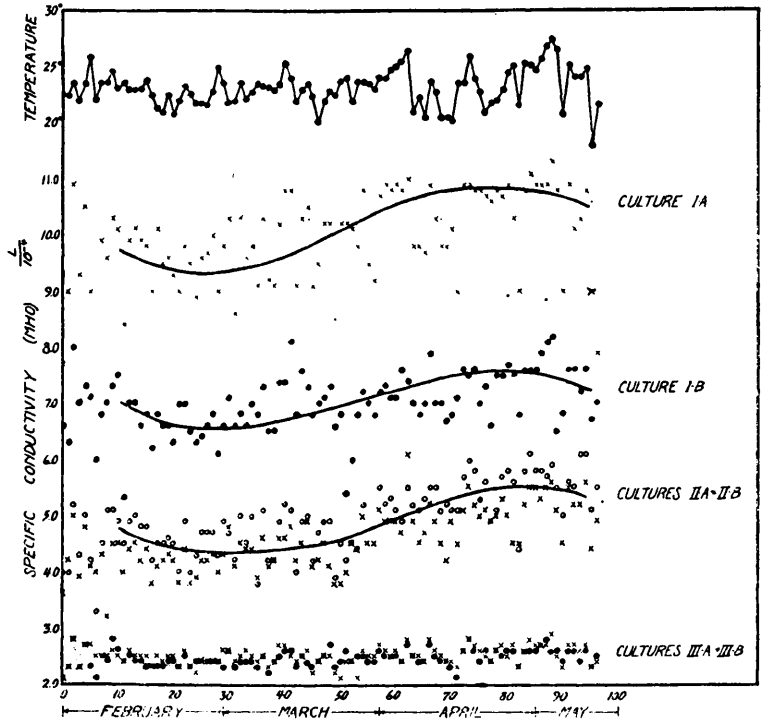

FIG. 1.

Explanation—Cultures I-A and I-B dry hay. Cultures II-A and II-B boiled hay. Cultures III-A and III-B no hay. The solid lines have been drawn as the apparent best fit through the points.

I-B, containing dry hay, had the highest conductivity and showed the greatest fluctuation.

Each set of cultures, although varying one from the other in their degree of conductivity, maintained their relative positions throughout the length of the experiment. The readings of duplicate cultures paralleled each other. In general, the fluctuations seemed to be independent of the temperature unless there was a very sudden and marked change in the temperature.