chapters, and another equally to be commended is on "Plants and Plant Communities as Indicators" [of climate, soil, overgrazing, forest and agricultural possibilities].

Throughout the entire book there is evidence of the highest scholarship and painstaking desire for accuracy. The work is likely to be a standard text-book in ecology for many years to come.

Typographically, the volume is well-nigh perfect; one would need to seek far for a more satisfactory example of the printer's art.

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Grundlinien der experimentellen Planktonforschung. By EINAR NAUMANN. Bd. VI of Thienemann's Binnengewässer, 1929, 100 pp., 18 figs. Published by E. Schweizerbart'sche Verlagsbuchhandlung, Stuttgart.

IN 1908 a limnological laboratory was established at Aneboda, Sweden, in the midst of a series of lakes whose waters contain a great deal of humus. As might be expected the chief activity of this station has been a study of the relation of these humic waters to the biota of the lakes, more especially to the plankton organisms found therein. These studies have involved a large amount of experimental work and the present book is based in a large measure upon these investigations. The author emphasizes the point, however, that actual observations on the lake must go hand in hand with the experimental work in order to secure reliable results.

The first two sections of the book contain brief descriptions of the Aneboda laboratory and its equipment, including the apparatus used for getting samples of the water and of the plankton; the remainder of the book is devoted to a discussion of methods of experimentation upon plankton organisms. Such topics as the vital staining and narcotizing of zooplankton forms, the use of various organisms as indicators for testing the different types of water, the regulation of the reaction and of the dissolved substances in the water used for experimental purposes, and the control of such factors as light, temperature and the mechanical agitation of the water are discussed in some detail. Culture media for rearing different kinds of algae are given, as well as the kinds of food best suited to the various zooplankton forms. The book is an important contribution to the experimental phase of limnological research.

The bibliography contains a list of 205 titles.

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WISCONSIN GEOLOGICAL SURVEY

SCIENTIFIC APPARATUS AND LABORATORY METHODS

A SIMPLE METHOD FOR FINDING ANY PARTICULAR OBJECT IN A MICROSCOPIC SLIDE PREPARATION[1]

THE various methods proposed from time to time for locating particular fields of a microscopic slide, although fairly satisfactory for work with the low power, are not sufficiently accurate for high-power or oil-immersion work. In all the methods yet proposed, random search, although in limited areas which are determined in various ways, as by readings of mechanical stages, is necessary. The following simple method in which random search is eliminated was thought of a number of years ago. It has proved so satisfactory in my hands in locating organisms difficult of demonstration in stained smears or sections that its description seems worth while. The diplococci represented in the accompanying sketch, for instance, were found in a section of the spinal cord of a monkey in which poliomyelitis developed following injection of virus, and it was very desirable to be able to locate the organisms at will.

The method consists simply of the use of a blank slide, on one side of which is pasted a fairly thin sheet of gummed paper trimmed accurately along the edges of the slide. On either end of this a circle is drawn with a five-cent piece (2.2 cm in diameter). When a micro-organism or another object of particular importance which is to be photographed or demonstrated later is found, a rough sketch (Fig. 1) of the high-power (*H.P.*) of oil-immersion field is drawn in the circle at the left end, and a rough sketch of the low-power (*L.P.*) field in the circle at the right end of the paper-covered slide. In each case, the object of interest is drawn and its position relative to particularly conspicuous material is indicated. Examples of such conspicuous material are masses of pigment, partitions, margins of section, ganglion cells, round cells, (*R.C.*), blood vessels (*B.V.*), and central canal (*C.C.*). The same is done if the slide preparation is a smear instead of a section.

The slide in which a field of special interest has been found is then removed from the mechanical stage and the paper-covered slide, on which the high-power and low-power sketches have been drawn, is put in its place; it is necessary to make sure that the mechanical stage is not jarred and that the slide is in the proper position. A dot is then made with pen and ink as nearly as possible in the center of the bright area transmitted from the condenser. The low-

[1] Submitted for publication April 15, 1929.