The preface describes the place occupied by plant sociology in the biological system. Section one, part 1, deals with the principles underlying the grouping of plants into societies, the commensal life of plants, their struggle for existence and similar matters. The second section gives in detail the methods adopted by the ecologist in the investigation of vegetation. Part 2 of this section treats of the climatic factors, such as heat, light, water, wind, soil (chemical and physical characters), relief, the influence of man and animals and life forms.

The third part considers in detail the development of vegetation complexes, the methods of their study, their classification; while the fourth part in twenty pages describes the geographical distribution of vegetation as to zonation, pioneer and relict groups, regions, provinces, districts, etc. Part 5 is devoted to the distribution and arrangement of the plant associations (association systems). The photographs, graphs and line drawings used to illustrate the book are new and well chosen.

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REPORTS

VITAMIN B TERMINOLOGY

IN SCIENCE of August 31, 1928 (Vol. 68, No. 1757, pages 206–209) was published a summary of the various proposed systems of vitamin B terminology then under consideration by the committee on vitamin B nomenclature of the American Society of Biological Chemists.

The various proposed systems of terminology eventually narrowed down to three, which seemed in the minds of the committee to be most likely to satisfy the majority of workers in the field of vitamin research.

Summarized briefly, the three systems of terminology were as follows:

(1) *The British suggestions.* The British investigators recommended, as a temporary expedient, that the letter "B" be used to designate the complex, "B_1" to identify the heat-labile factor, and "B_2" to refer to the heat-stable factor or factors.

(2) *The Sherman suggestions.* Dr. Sherman suggested that the term "B" be used to refer to the complex with the hope that it would eventually receive "honorable retirement" and that the letters "F" and "G" be used in a permanent system of nomenclature, in place of "B_1" and "B_2," respectively, which had been adopted as temporary terms by British workers.

(3) *The McCollum suggestions.* Dr. McCollum, for reasons enumerated in the former committee report, suggested that the term "B" be retained but restricted to refer to the heat-labile factor, and that Sherman's "G" be used to designate the more heat-stable factor.

After considerable correspondence the committee have voted to make the following recommendations:

(1) That the term "Bios," as suggested by the British workers, be retained to denote the factor or factors encouraging the rapid growth of yeast cells.

(2) That the term "B" be restricted to designate the more heat-labile (antineuritic) factor.

(3) That the term "G" be used to denote the more heat-stable, water-soluble, dietary factor, called the P–P (pellagra-preventive) factor by Goldberger and associates, and which also has to do with maintenance and growth.

(4) That the naming of newly discovered dietary factors, by other than descriptive terms, should be discouraged until their identity is established beyond question.

(5) That a committee on vitamin nomenclature be appointed by the American Society of Biological Chemists and that this committee, in cooperation with the British committee and similar committees on the continent, endeavor to act as a clearing-house for questions in vitamin terminology, and that this committee be empowered to name new factors when their identity is established.

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

AN IMPROVED METHOD FOR SEALING MICROSCOPIC MOUNTS

THE preparation of biological material as permanent microscopic mounts in certain fluid media is of very general interest. None is more desirous of such permanence than the taxonomist, to whom microscopic characters are of prime importance. The slow and laborious processes commonly used are so unsatisfactory that the writer feels justified in presenting a new method thought to possess certain advantages. This method is described after a short review of some current practices. The subject is considered from the viewpoint of the herbarium mycologist but has also a more general application.

A proper comparison of any specimens in a mycological herbarium requires detailed microscopic ex-

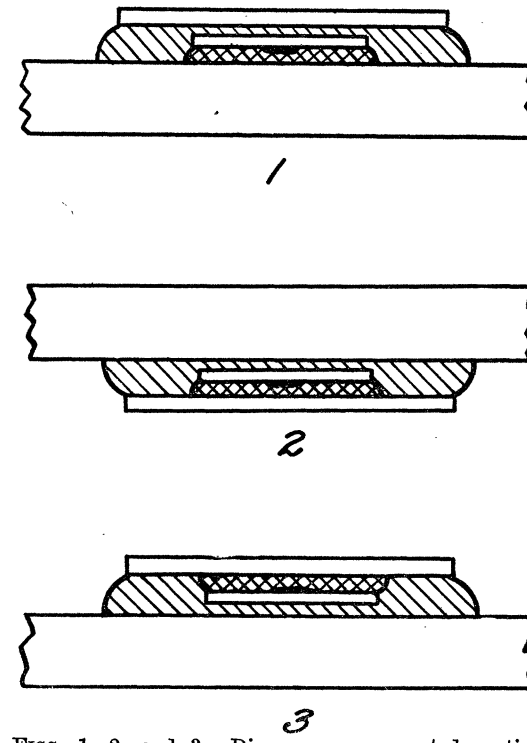
amination, involving the excision of part of the material itself. The specimen utilized is often so fragmentary that after a period of years during which successive preparations have been made it is exhausted and consequently useless. As a protection against such abuse and exhaustion it is a recognized practice to attempt to preserve any preparations made from specimens of particular significance. The technique is naturally variable according to the exigencies of the case and the traditions of the institution.

Permanent mounts in Canada balsam and other materials accomplished by such means as the paraffin embedding method are, of course, essential to certain work but are too complicated and time consuming for ordinary herbarium use. They are furthermore all too often less valuable due to the resultant uncertain optical quality than preparations in an aqueous medium.

A simple preparation is a mount in water under a cover-glass attached at different points on the margin to the slide by pieces of gummed paper or gummed cloth or by drops of balsam. After drying this can be flooded again by a drop of water and is therefore more or less permanent. This method is fairly satisfactory for the preservation of mounts of large spores, but has obvious limitations.

Simple mounts in glycerine jelly and in various media with a glycerine base are generally familiar. To prevent destruction from drying and rough handling the time-honored method is that of sealing the mount at the border of the cover-glass with a ring of Canada balsam, gold-size, various cements, lacquers or similar materials. Ringing, although seemingly a simple process, really requires delicate manipulation. Ring seals have been kept more or less intact for years, but usually only after repeated inspection and repairs, all too often the ring eventually cracking or becoming detached at some point with consequent uneven adhesion and loss of the seal.

A protective seal has been devised whereby the ordinary balsam-ring is covered when fresh by a large cover-glass; *i.e.*, after the usual cover-glass is in place it is covered by a drop of Canada balsam of suitable size and consistency, so that a second cover-glass of greater diameter superimposed will allow the balsam to form a ring about the first cover and under the second cover with but a very thin balsam film between (Fig. 1). This process as used for several years by the writer has been uniformly successful in the making of relatively permanent mounts in glycerine jelly and in various mounting fields. It has, however, a decided disadvantage in that even when using thin cover-glasses, No. 0, they, plus the thinnest intermediate balsam film, make so thick a composite cover



FIGS. 1, 2, and 3.—Diagrams exaggerated vertically to illustrate vertical sections through microscopic preparations; clear is used to represent glass, double cross hatching for the mounting medium and single cross hatching for the balsam seal.

that microscopic examination with the high-power lens combination is feasible only with objectives of relatively great working distance, precluding the use of all oil immersion and of some dry objectives. A modification or rather reverse manipulation of the method, wherein this disadvantage is eliminated permitting commonly the use of less fragile cover-glasses as well as requiring less delicate manipulation, is outlined below:

Place a drop of the mounting medium in the center of a large cover-glass preferably of 22 mm diameter, and orient the objects in the medium. Cover the mount with a smaller cover-glass, preferably of 12 mm diameter; if the medium is fluid and in excess draw off the surplus with a blotter. Over this place a large drop of fluid Canada balsam. Cover gently with a slide (Fig. 2) until the smaller cover-glass and the mount are surrounded by a ring of balsam and the balsam also covers the exposed under surface of the large cover-glass. The slide is then inverted (Fig. 3) revealing the microscopic mount under the one cover-glass and surrounded by a protected balsam seal.

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