

raphy will afford ample returns to science, and that the key-note of the inquiry should be the more precise observation of lineamental orientation.

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#### BOTANICAL NOTES.

##### A NEW EDITION OF DETMER'S PRAKTIKUM.

FOR many years botanists have been acquainted with the very useful little book on plant physiology prepared by Doctor Detmer, of the University of Jena, and intended to be a laboratory handbook under the title of 'Das Kleine Pflanzenphysiologische Praktikum.' This little book has passed through a number of editions, and has been used widely in plant physiological laboratories. The present edition, which bears date of February, 1903, is an enlargement and improvement of the previous editions. It is essentially the same as the earlier editions and is illustrated in the same admirable manner. American botanists can not but envy the German botanists when it is remembered that this book of nearly three hundred pages is sold for a little more than six Marks. It should be even more largely used than its predecessors.

##### THE ALGÆ OF NORTHWESTERN AMERICA.

An interesting paper entitled 'The Algæ of Northwestern America' came to hand recently, as one of the University of California publications. It is by Professor W. A. Setchell and N. L. Gardner. It is an attempt at a rather exhaustive account of the algæ of the northwestern coast of North America. It is illustrated with eleven good plates, and altogether is a very excellent paper. The bibliography appears to be quite complete.

The two numbers of Engler's 'Pflanzenreich,' which have recently made their appearance, are devoted to the Orchidaceæ (in part) and the Eriocaulaceæ. The first takes up merely one section of the great family, but this is of interest to us since it includes the lady slippers (of the genus *Cypripedium* and related genera). The treatment is very

full, and can not help throwing a great amount of light upon this portion of the orchid family. In passing it may be remarked that Pfitzer, the author, insists upon the spelling *Cypripedium*, instead of that which is ordinarily followed. The illustrations are excellent. The other number is by Ruhland, and here the treatment is very much like that given by Pfitzer. These successive numbers of Engler's publication indicate that this is to be one of the great publications in botanical literature.

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#### STUDIES OF THE FOOD VALUE OF FRUIT AT THE UNIVERSITY OF CALIFORNIA.

ACCORDING to a bulletin of the U. S. Department of Agriculture Professor M. E. Jaffa has carried on at the University of California, in cooperation with the U. S. Department of Agriculture, a number of investigations which have to do with the food value of fruits and nuts, the special object of this and the earlier work which it continues being to study the value of such foods when they constitute an integral part of the diet.

Nine dietary studies and 31 digestion experiments were made, part of them with persons who had lived for a number of years on a strictly fruit and nut diet, and others with university students who had been accustomed to the ordinary fare. In the majority of the dietary studies and all but one of the digestion experiments fruit and nuts constituted all or almost all of the diet. Thus, in one series of tests the daily ration consisted of apples and bananas, alone or in combination, eaten with walnuts, almonds, Brazil nuts, or pecans. In other experiments different combinations of grapes, pears, figs, walnuts, and other fruits and nuts were eaten with small quantities of milk, cereal breakfast foods, etc., the latter articles being taken simply to give a relish to the experimental dietary combinations, some of which were rather unusual.

In connection with this work the nutritive value of individual fruits and nuts was studied and many data were collected and summarized regarding the composition and