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A. A. E.

Von den Follatères zur Dent de Morcles: Vegetationsmonographie aus dem Wallis. Von Dr. Helmut Gams. (Pflanzengeographische Kommission der Schweizerischen Naturforschenden Gesellschaft: Beiträge zur geobotanischen Landesaufnahme, Heft 15.) Pp. xii + 760 + 26 Tafeln. (Bern: Verlag Hans Huber, 1927.) 39 gold marks; 48 francs.

DR. GAMS is a well-known ecologist, or perhaps one should say geobotanist, of the Zurich school, and the present volume has resulted from an intensive study of a small portion of the Rhone valley and a mountain massif overtopping it. The district dealt with in detail is only 76 square kilometres in area. The account is divided into three parts, of which the first deals fairly fully with the environmental factors. Since the country investigated has altitudes ranging from 465 m. to 2980 m., and has had a complicated geological history, these are very diverse. The second part gives a list of the woody plants with the limits of their altitudinal zonation, common names, and soil preferences, and lists of several special groups of species.

The third part, occupying nearly three-quarters of the book, deals with the vegetation. The free-living and adnate communities of Cryptogams are classified and described, the forks of a dichotomous key being interpolated among the longer descriptive paragraphs. A similar method, of keying and describing the plant communities in one sequence, is employed in the very detailed account of the rooted vegetation. The life-forms of Raunkiaer are used as a basis for the classification of the types of vegetation, though the Geophytia include therophytic and cultivated communities. The six main headings are: Hydrophytia, Helophytia, Geophytia, Hemikryptophytia, Chamäphytia, and Phanerophytia. Under each of these the floristic composition and biological conditions of many communities are described with the aid of tables, figures, and diagrams. These communities have narrow limits and correspond rather to the 'associations' of the Upsala school than to any of the vegetational groups used by those working on the successional lines initiated by Clements. The work is prefixed by a full list of the contents and is accompanied by a loose coloured vegetation map, but it has no index.
W. B. T.

A British Garden Flora: a Classification and Description of the Genera of Plants, Trees, and Shrubs represented in the Gardens of Great Britain, with Keys for their Identification. By Lieut.-Colonel J. W. C. Kirk. Pp. xi + 584. (London: Edward Arnold and Co., 1927.) 42s. net.

THE object of this book is to provide a means of the generic identification of hardy and half-hardy plants grown in gardens. Although thus restricted, the volume occupies 584 pages, since no less than 1050 genera are included. After an introductory

chapter dealing with floral morphology, the principles of classification, and other subjects, a key to the 138 families concerned is provided. Then follows the main portion of the book which treats of the separate families, the Dicotyledons being arranged according to Bentham and Hooker, except that the Monochlamydeæ are split up and inserted in groups amongst the Polypetalæ. The families are furnished with a key to the genera. Each genus is briefly described and accompanied by notes on distribution, culture, and frequently on the species of interest. The analyses and keys are original, as are also the numerous and very useful illustrations. Indications are given of the derivation and correct pronunciation of names.

The volume is the outcome of the enthusiasm of a non-professional botanist and horticulturist. It is well got up, and although a few inaccuracies may be detected, it has evidently been prepared with care. The elaboration of a key to include a selection of families from all parts of the world is somewhat of a feat, though the author's grouping of families may in certain cases appear strange; for example, the placing of the Amentiferæ at the end of the Polypetalæ. Colonel Kirk's book, however, can be as warmly recommended to botanically minded horticulturists, and should also be useful to university students and others who desire information as to genera which are extra British, but are in cultivation and thus readily accessible.
A. D. C.

L'aviation actuelle: étude aérodynamique et essais des avions; l'aviation actuelle et la sécurité. Par A. Toussaint. (Nouvelle Collection scientifique.) Pp. vi + 315. (Paris: Félix Alcan, 1928.) 15 francs.

THIS paper-bound volume constitutes a notable addition to the general scientific series in which it is included. The author is Director of the Aero-technical Institute of St. Cyr and chairman of the French National Committee charged with the examination of all new inventions relating to aviation. The book is comparatively small, while the subject is, of course, of considerable magnitude; but the author presents a very broad and logical treatment of aviation at the present time.

The first chapter, occupying more than half of the total space, deals in fair detail with the aerodynamics of the several elements of the aeroplane. The two succeeding chapters, of relatively short extent, are respectively concerned with studies of the complete aeroplane and with laboratory tests and air trials. The last two chapters are probably of most general interest, in that they comprise essays on the state of military, naval, and civil aviation, tabulate air records, and discuss the special problems of security in flight as dependent on construction, propulsion, and personnel. The diagrams leave something to be desired, but the treatment is adequate and interesting, although several of the more general sections are limited to the French point of view.