

researches which have led to a definite and final conclusion as to the constitution of Saturn's rings, brings the whole work to a fitting termination.

The diagrams and illustrations, though not very numerous, are generally good and clear, with the possible exception of Fig. 23, which seems to need more explanation than is given. The bibliographical notes, which are appended to every chapter, give most valuable and copious reference to the original authorities. Prof. Darwin's book ought to be read by "all those whose minds are in any degree permeated by the scientific spirit" (preface): it is certain to excite the interest and appreciation of all such, and not least of the mathematician, in spite of the fact that there is not a mathematical symbol from one end to the other.

W. E. P.

FLORA OF ROUMANIA.

*Conspectul Florei României.* By Dr. D. Grecescu. Pp. xvi + 835. (Bucharest: Tipografia Dreptatea, 1898.)

THIS is a valuable addition to our knowledge of the floras of the Balkan States. Prof. Grecescu's book supersedes Branza's "Prodromul Florei României," which so far has been the only comprehensive work on the flora of Roumania. Branza enumerated 2100 species, of which Grecescu admits 1875 as "good." These figures refer to Roumania, exclusive of Dobrudsha. Grecescu includes, of course, the latter, and records 2450 species besides 550 varieties. This very considerable increase is partly due to the addition of the Dobrudsha flora, partly to the admission of not a few of Schur's very questionable species and of other "species minutæ," but mainly, no doubt, to the more complete collections which were at the author's disposal. The author evidently worked under considerable difficulties. He had not only to accumulate the bulk of the material on which his work rests, but was also obliged at the same time to build up, as it seems, a general herbarium of European plants for comparison. It is only fair to mention this in order that we should not criticise too severely shortcomings which are inevitable under such conditions.

The book consists of two parts, of which the first contains the *Conspectus* proper, or the enumeration of the species found within the borders of the kingdom of Roumania, preceded by a synoptical table of the classes and orders; whilst the second part deals with the general physiography of the country and the principal vegetations and floras of Roumania. The author follows in the arrangement of the orders on the whole the system adopted in Nyman's "*Conspectus Floræ Europææ*." Why he deviates from it in certain cases is difficult to understand, if it is not partly to suit his key of orders; but when he subdivides, for instance, the "Embriogene Dicotyledone Apetale Unisexuate" (*i.e.* the unisexual Apetalæ) into "Angiosperme" and "Gymnosperme," including Gnetaceæ in the former, then he shows such a disregard of modern nomenclature and the results of modern taxonomy, that at least an attempt of explanation ought to have been made. In fact, it is always precarious to introduce taxonomic reforms of a

higher order into local floras, and the author would have done far better if he had stuck right through to Nyman's "*Conspectus*."

The introductory chapters of the first part ("*Clasificatiea generală*" and "*Dispositiea familiilor naturale*") are altogether the weakest part of the work, and might have been just as well omitted as being outside the scope of the book. The same applies to the short diagnoses of the tribes, subgenera and more subordinate groups which are dispersed through the enumeration of the species. As neither the genera nor the species are diagnosed, the result is an imperfect key which is useless to the beginner who does not know the genera, whilst the more advanced student who knows them is equally puzzled, as it does not carry him far enough.

The terminology is sometimes rather loose; for instance, when the perianth of Plumbagineæ and Primulaceæ is described as "herbaceous," or the terms used are obsolete, *e.g.* when "perisperm" is applied, as it was originally by Jussieu to albumen generally. Other errors, as the description of the capsules of Primulaceæ as pyxidia generally, are evidently mere slips. On the other hand, innovations like the subdivision of Gramineæ in two tribes, Eugramineæ and Maydeæ, are quite unjustifiable.

The author distinguishes three principal zones of vegetation in Roumania, *i.e.* an Alpine zone, a forest zone and a steppe zone, and he considers Roumania as forming part of a greater and natural phytogeographical region, the region of the Flora Dacica, with the Southern Carpathians as the principal focus, and extending to the Theiss in the west, the Dniester in the east, and the Danube and the Black Sea in the south and south-east. This section of the book is of considerable interest, and it is to be regretted that the author has not accompanied it by a *résumé* in French, English or German. We are sure there are many botanists who are interested in the constitution and differentiation of the Roumanian flora, but to whom a book written in Roumanian does simply not exist. They would certainly be thankful if the author would publish a translation or a comprehensive abstract of the second part of his book in one of the languages mentioned. Either, we venture to suggest, would gain very much by a careful revision which will convince him that, for instance, the number of endemic species admitted in the Alpine zone of the Flora Dacica (fully 31 per cent.!) is far too high, or that many of the so-called Mediterranean elements can hardly claim this designation.

O. STAPP.

OUR BOOK SHELF.

*De Danske Barkbiller (Scolytidae et Platypodidae Danicæ).* By E. A. Lövendal. Pp. xii + 212; plates 5. (Copenhagen, 1898.)

IN this work Mr. Lövendal, of the Copenhagen Museum, has written a most complete account of the Danish species of bark-beetles, a subject previously dealt with by him, principally with regard to its systematic side, in Meinert's "*Entomologiske Meddelelser*." No European family of beetles, relatively to its size, has given rise to a more copious literature, chiefly because of its important economic relations; and in Eichhoff's "*Die Europäischen Borkenkäfer*," we possess already an excellent treatise on the European species known at the date of that work.