

descriptive sections comprise only just such conspicuous families and genera as are needed by a student who seeks a broad view of the subject; and at the end of the chapter on each class there is a brief summary of the leading features in the geological distribution and evolution of the class as a whole, with a table of diagnoses of its larger subdivisions. A useful list of the principal papers and books published during the last few years is also appended. The text throughout is well illustrated with drawings of more than usual artistic merit, and although the majority of them are taken, with acknowledgment, from various original works, Dr. Stromer himself has frequently amended them to bring them up-to-date. Some, indeed, are in advance of their formal publication, such as the drawing of the skeleton of the strange clawed ungulate mammal *Moropus*, contributed by Dr. W. J. Holland. So many are new to a text-book that their appearance is quite refreshing.

In a work designed for elementary teaching it is generally advisable to incline towards conservatism, and Dr. Stromer evidently holds this opinion. Among fishes, for instance, he still recognises the "orders" Ganoidei and Teleostei, though his so-called diagnoses do not define them; and his treatment of the early palæozoic Arthrodira and Ostracodermi is not altogether satisfactory from the modern point of view. His references to the literature, however, will enable the student to examine other views if he wishes to do so.

The last sixty pages of the book are devoted to the general principles of palæontology, and we can recommend this able summary to any zoologist who desires to understand the present position of those who study fossils. A. S. W.

*A Treatise on Wooden Trestle Bridges and their Concrete Substitutes.* By Wolcott C. Foster. Fourth revised and enlarged edition. Pp. xix + 440. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1913.) Price 21s. net.

IN the present edition of this work, which was first published in 1891, will be found a very full account of the construction, erection, maintenance, and preservation of timber trestle bridges. The book is profusely illustrated, and contains working drawings showing the details of the standard trestles used on the principal American railroads. Wooden trestles may be disappearing gradually from main lines of heavy traffic, but the increased growth of branch lines, or feeders, and of trestles at manufacturing plants and for electric railways, have probably more than kept pace with its abandonment on main lines. There is, on the average, about 100 ft. of bridges and trestles to each mile of railroad in the United States. The wearing out of wooden trestles and the increasing cost and scarcity of timber suitable for their replacement has taxed the ingenuity of railroad officials to find suitable structures to take their place. In some cases iron or steel structures have been employed, but there are numerous districts where local con-

ditions make these methods so expensive as to be prohibitive.

In the past few years a number of roads have used concrete trestles in replacing those constructed of timber, and the author gives full particulars of reinforced concrete trestles and slabs which form a structure closely in line with the main features of the timber trestle. The book provides a great deal of valuable information regarding the strength, durability, and preservation of timber under all kinds of practical conditions, and therefore will be of service to British engineers, despite the fact that timber bridges do not occur often on British railways.

*Durch König Tschulalongkorns Reich. Eine deutsche Siam-Expedition.* By Dr. Carl C. Hosseus. Pp. xii + 219 + plates. (Stuttgart: Stecker and Schroder, n.d.) Price 15 marks.

DR. C. C. HOSSEUS, who visited Siam in 1904-06, gives us in the present volume an account of his journey and scientific observations. The route lay up the Mäping, and at various halting-places excursions were made to the neighbouring country. Chiangmai appears to have been his chief base, and from there Doi Intanon, Chieng Dao, Pahombuk, and Chiengrai, to mention only a few of the more important, were visited.

Zoologists, geologists, ethnologists, geographers, and other naturalists will all find much to interest them in the book; for quite a casual glance through its pages will suffice to show that the author was ever on the alert to note points of interest in any branch of science. But it is undoubtedly to the botanist that the author has in the first place appealed.

Previous to this work the author had published lists of his botanical collections, so that here we have no complete catalogue, but references are given to the new species found and to many others interesting for some morphological detail or for their associations. Here it may be noted that the index, copious though it may appear, is not a complete index to all the plants mentioned.

A word of praise is due for the numerous excellent illustrations included at the end of the book. All who are interested in Asiatic botany must feel indebted to Dr. Hosseus, to whom must be attributed the credit of being the first scientific traveller and collector on a large scale north of Bangkok, for supplementing his previous lists with such an interesting book.

*Biology: General and Medical.* By Prof. Joseph McFarland. Pp. 457, with 160 illustrations. Second edition. (Philadelphia and London: W. B. Saunders Co., 1913.) Price 7s. 6d. net.

THE first edition of Prof. McFarland's book appeared in 1910, and was reviewed at length in the issue of NATURE for March 23, 1911 (vol. lxxxvi., p. 106). In the present edition the author has endeavoured to eliminate defects discovered in the book, and without much increasing its size to introduce the new matter necessary to bring it up to date.