

the text in the descriptions of the plates, which are of material assistance. In short, the third edition exhibits throughout the same careful attention to detail as its predecessors, and the work fully maintains its position as the most valuable handbook to the practical use of the microscope as an optical instrument.

*Oil-Finding: An Introduction to the Geological Study of Petroleum.* By E. H. Cunningham Craig. Second edition. Pp. xi+324+xiii plates. (London: Edward Arnold, 1920.) Price 16s. net.

THE second edition of this work has been enlarged to nearly double the bulk of the first, the scheme remaining the same, and there is little to add to the review which appeared in *NATURE* of August 8, 1912, except to say that the revision of the work has distinctly improved its quality. The author is still insistent on the importance of the theory of the origin of petroleum, and for him that of vegetable origin and subsequent concentration, controlled by geological structure, is supreme. The treatment of this subject, regarded as of vital importance, is inadequate, in so far that less than six pages are devoted to theories of inorganic origin, and thirty-four to a polemical examination of the hypotheses of animal or vegetable origin; yet there are many facts in the known distribution of petroleum more easily explicable on the supposition of inorganic than on that of organic origin. At present there are grave difficulties in the way of regarding either as even approximately complete, and there is this to be said for the theory and principles of application advocated by the author, that they will lead to correct conclusions in about nine cases out of ten, and in the tenth success will depend mainly on luck, instinct, or intuition. The chapters on field-work are very distinctly improved, the approximate and imperfect methods indicated being relegated to their proper place, as expedients which may have to be resorted to by force of circumstances, and not, as inexperienced readers of the first edition might easily be led to believe, preferable to more exact and thorough methods.

*Keys to the Orders of Insects.* By Frank Balfour-Browne. Pp. vii+58. (Cambridge: At the University Press, 1920.) Price 7s. 6d. net.

MR. BALFOUR-BROWNE has placed students under an obligation by publishing this useful series of tables, founded on notes drawn up for those who have the advantage of attending his courses of entomology at Cambridge. The twenty orders of insects recognised are first distinguished by means of a "key," and then the families of those six orders that may be regarded as of greatest economic importance—the Orthoptera, Rhynchota, Lepidoptera, Coleoptera, Diptera, and Hymenoptera—are further discriminated. The characters given are those of adults only; but in later editions the author proposes to deal with some of the larval forms. It is to be

hoped that these tables will serve to familiarise the rising generation of entomologists with the Comstock system of nomenclature for wing nervuration, and to hasten its use—perhaps with the modifications rendered necessary by Dr. Tillyard's recent researches—among special students of all orders of insects. Some points of detail in the tables need correction. It is implied that all Thysanura have the jaws retracted within the head; this is not the case with the two most conspicuous families, Machilidæ and Lepismidæ. Palps are not present in the Anoplura and Rhynchota; probably "absent" was meant, but "present" has been printed. In a new edition it would be well, if possible, to break up the unnatural group "Polymorpha" among the beetles, and it is to be hoped that the sale of the book may enable the publishers to reduce the price, which must be considered high, although blank interleaved pages have been considerably provided for students' notes.

G. H. C.

*Catalogue of the Lepidoptera Phalaenæ in the British Museum. Supplement. Vol. ii.: Catalogue of the Lithosiadæ (Arctianæ) and Phalaenoididæ in the Collection of the British Museum.* By Sir George F. Hampson. Plates xlii-lxxi. (London: British Museum (Natural History), 1920.) Price 32s. 6d.

THE present volume is supplementary to vol. iii. of the great Catalogue of Lepidoptera Phalaenæ. Owing to the European War it has remained in manuscript since 1915, but has been brought up to date so far as possible. It includes no references to German publications which have appeared since August, 1914, for the reason just mentioned. Two families of Lepidoptera are dealt with—the Lithosiadæ (Arctianæ) and the Phalaenoididæ. Of the former, vol. iii. included 147 genera and 845 species, and to these are added in the present work twenty-five genera and no fewer than 1215 species. Of the second family (Agaristidæ of many authors), the original numbers are increased by seven genera and eighty species. In his selection of family and generic names Sir George Hampson has adopted views on nomenclature which have been largely rejected by most systematists, but he has wisely adhered to the system utilised in the already issued volumes. We need only add that the book is well printed and up to the standard of the previous parts of the catalogue.

*Historical Geography of Britain and the British Empire.* (In two books.) Book I. *The Making of England; The Making of Empire; The Establishment of Empire: B.C. 55 to A.D. 1815.* By T. Franklin. Pp. viii+216. (Edinburgh: W. and A. K. Johnston, Ltd.; London: Macmillan and Co., Ltd., n.d.) Price 2s. net.

BOOK I. is divided into three sections; the first deals with the growth of England from the time of the Roman invasion to the beginning of the sixteenth century, the second with the building-up of the British Empire during the two succeeding