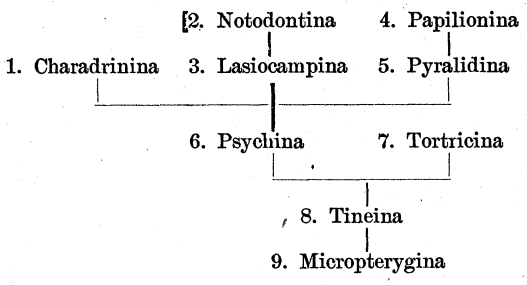
SCIENTIFIC LITERATURE.

A Handbook of British Lepidoptera. By Edward Meyrick. London, Macmillan. 1895. 6,843 pp., 8°.

Within the compass of a very handy volume, in reasonably large type, Mr. Meyrick has contrived to pack the descriptions of over 2,000 British Lepidoptera, giving at the same time indications of their habitats, distribution, and time of flight, and, where known, a line or two descriptive of the larva, pupa and food plant; analytical keys are also added. It is not only precisely what its title implies, and so must be of distinct service to the young English entomologist, but it is a really new book and not a series of copied or condensed descriptions. It gives the beginner, however, no clue to anything beyond that to which he may go for fuller information, and the descriptions of the early stages are confessedly at second hand and unsatisfactory.

All this, however, hardly interests greatly the American entomologist, and if this were all there would scarcely be need of more than a brief notice in these columns. What gives the book a far wider interest is that the author has endeavored, by means of diagrams under about half of the groups, to express succinctly his views of the phylogeny of that group, and then has arranged the members in a serial order in accordance with their relative distance from what is regarded as the primitive type, the several members of each distinct branch, however, being kept together. Thus the Lepidoptera are divided into nine groups of families, as follows:



And they are then arranged in the book in the order indicated by the numerals which we have prefixed. "The order begins," declares the author, "with the most recently developed forms and descends gradually to the earliest or most ancestral, which are the last in the book." This brings the butterflies into the middle of the book, between the Lasiocampina and Pyralidina, a startling innovation, which will not fail to draw instant attention to the impossibility of arranging any large group naturally in a linear series.

It is evident that Mr. Meyrick has made use of the latest researches on the affinities of the different members of the Lepidoptera (which have been exceptionally important of late), and that he has also brought to the task he has undertaken much critical judgment; but it may well be doubted whether the Manual to appear in another thirty-six years (the time that has elapsed since Stainton covered the same ground) will not see as much change from the present work, especially through investigations on the early stages of these insects, as this work shows when compared with Stainton.

It were much to be wished that the author had used a rational nomenclature for the neuration of the imago, and not have employed the back-handed numerical method so much in vogue among Old World lepidopterists, a method absolutely without meaning and a mask of affinities. Many clear illustrations of the neuration accompany the descriptions, and the work is admirably printed and convenient at every point.

S. H. Scudder.

Atlas d'ostéologie, comprenant les articulations des os et les insertions musculaires. Par Ch. Debierre, Professor d'Anatomie à la Faculté de médecine de Lille. Paris, Félix Alcan. 1896. Pp. viii, 92. 253 gravures.

The superb anatomical atlases of Bougery and Jacob, and of Bonamy and Beau, have deservedly made French artists famous, and have been a mine from which anatomists of all countries have drawn for the illustration of their works. They are, however, so expensive as to be far beyond the reach of the ordinary student.

The present work has a totally different aim, being an attempt to present in a cheap and con-

venient form the principal topographical facts of human osteology. Its author is already favorably known by an excellent treatise on human anatomy, from which about one-half the illustrations of the atlas are taken. These again are many of them copied from older works.

A compilation made on this plan is necessarily somewhat lacking in artistic effect, and has not the unity that would be secured by a set of original drawings made by a single hand, and embodying a well conceived plan of instruction. There is no settled scale of representation, some of the bones being drawn full size, while others are not more than one-eighth of that and quite too small to show detail effectively. No statement of scale is made in any case, so that the learner is left in doubt as to the size of the object represented. Some of the illustrations appear unnecessary, while many important gaps occur.

For instance, the only example of internal bone architecture shown is a well-known figure of the head of the femur, and this, although said to be drawn from a photograph, is incorrect. The difficult sphenoid is very inadequately treated, its development, so important from a morphological point of view, being wholly omitted. In fact, there is no attempt to show the development of any of the cranial bones but the temporal, and that is not wholly satisfactory.

It is, of course, quite conceivable that Prof. Debierre should think proper to omit morphological subjects from an elementary work, but, why, in that case, should he give a scheme of a theoretical vertebra that will be wholly unintelligible to a beginner without adequate explanation, and devote three figures to Albrecht's rather doubtful theory of the constitution of the superior maxillary bone? Surely a figure might have been spared to show the difference between the primordial, or cartilaginous cranium and the secondary, or membranous one.

The merit of the book lies in its cheapness and availability. While by no means reaching the first rank, it will doubtless be useful to those who cannot purchase the expensive treatises of Testut and Poirier, and in convenience will far exceed those admirable works.

FRANK BAKER.

Catalogue of the Marine Mollusks of Japan, with Descriptions of New Species, and Notes on Others Collected by Frederick Stearns. By HENRY A. PILSBRY. Detroit, F. Stearns. 1895. viii+196. Pp.,8°. XI Pl.

This work has grown out of the collections made by Mr. Stearns, personally or by deputy, 1889–92, in Japanese waters, and which were submitted for identification to Mr. H. A. Pilsbry. It consists of three portions: a list of marine mollusks which have been stated to inhabit Japan, from Yezo to Kiushiu, with references to description or figures of most species, and an enumeration of the special localities at which each species has been found by previous naturalists or by Mr. Stearns. This is followed by a catalogue of the Inland Mollusks taken by Mr. Stearns in Japan, and, finally, by a list of mollusks obtained by that gentleman from the Loo Choo Islands. The work is concluded by an index of genera and sub-genera, and explanations of the eleven very excellent plates. Forty species and eight varieties believed to be new are described. The total number of Japanese marine mollusks, excluding those from the Loo Choo Islands, is about 2400, of which 36 are Cephalopods, 17 Pteropods, 1700 Gastropods and 650 Pelecypods. This is a fauna, nearly twice as great as that of the entire east coast of North America, a comparison which gives a vivid idea of the richness in molluscan life exhibited by the Japanese waters. It is probable that the discrepancy is still greater than these figures would indicate, since the dredge has been much more generally used on the American coast, and there are probably many species yet to be discovered even in the shallow waters of Japan.

The literature of Japanese mollusks is a good deal scattered, in spite of the magnificent publications by Lischke, Dunker, Schrenck and von Martens. This is illustrated by the fact that this work enumerates about five hundred more marine mollusks than the latest monograph by Dunker. Students are, therefore, greatly indebted, both to Mr. Stearns for the liberality which made it possible and to the careful work of Mr. Pilsbry, who has brought together the data for the comprehensive catalogue under review. The printing of the text and the execution of the plates are all that could be desired. Beside