Butterflies and Moths (British). By W. FURNEAUX. London, Longmans. 1894. 12°.

This is by no means a complete treatise on these insects, which would be quite impossible in the 350 pages to which it is limited; but rather a selection has been made of such as the author thinks would prove most desirable. The number of British butterflies, however, is so limited (66 species) that place is found for all of them. A brief description and general account is given of each species mentioned, together with a figure of most of them; a certain amount of attention is paid to the early stages and especially to the caterpillar; but the book is very weak indeed on all points as to classification, the common characters of groups being hardly hinted at; it is therefore intended almost exclusively for the amateur, and not for the serious student. The introduction, which occupies about a third of the book, and is of as much interest to an outsider as to a Briton, is exceptionally good for a work of this class, though here again it is lean as regards all matters of structure or classification. The illustrations in the text, and they are numerous, are with few exceptions unusually good; those on the twelve colored plates not so good. The figure of the egg of *Pieris brassicæ*, on p. 14, is upside down.

S. H. S.

The Pygmies. By A. DE QUARTREFAGES. Translated by FREDERICK STARR. Illustrated. Pp. 255. D. Appleton & Co. 1895.

This volume forms number 2 of the Anthropological Series, edited by Professor Starr, of the University of Chicago. The original appeared in Paris about eight years ago, and the name of the distinguished author, as well as the interest of the subject, insured it considerable attention.

He approaches the topic historically with a chapter on the accounts of the pygmies which are found in classical writings, and an attempt to analyze them in the light of modern research. Turning to later sources, a full history is supplied of what was known ten years ago of the dwarf tribes of Melanesia, of the Mincopies of the Andaman islands, of the Negritos of Indonesia, of the Negrillos of Central Africa, and of the Hottentots and Bushmen of the southern portions of that continent. Special attention is given to the physical peculiarities of the tribes mentioned and to their sociologic condition. A chapter of some length is devoted to the religious beliefs of the Bushmen and Hottentots, successfully controverting the statement often advanced that these humble peoples had no religion at all. The illustrations, thirty-one in number, are fairly well done, though printed rather carelessly. The translator has accomplished his task well, and the text reads pleasantly.

It is to be regretted that the large material accumulated in the last ten years on this subject was not more freely called upon. Mr. Haliburton, Professor Kollman and Dr. Virchow have contributed monographs which should not be overlooked. Emin Bey's anthropometric reports on the Negrillos are the best we have; but these names are not referred to. We should have liked, also, a chapter on the causes which bring about decrease in stature, a physiological study of its etiology. Probably any people would become dwarfs under given conditions, and the trait is therefore not a racial one. D. G. BRINTON.

An Introduction to Structural Botany (Flowering Plants). By D. H. SCOTT. London and New York, Macmillan & Co. 288 pp. 113 figs. $1.00.

The author intends that this shall be a book for beginners. Three types are chosen to illustrate the structure of the flowering plants, the wall flower (*Cheiranthus Cheiri*

L.); the white lily (*Lilium candidum* L.); and the Spruce fir (*Picea excelsa* Link). He has also introduced a chapter of 32 pages on the 'physiology of nutrition.' The language of the book is exceedingly simple. Some of the original figures are very good. In general it may be stated that the subject-matter is well treated. The author intends at some future time to present in a similar way the cryptogamic types.

The fact that the author begins the study of structural botany with the highest types will be objected to by most modern botanists. Many will also question the advisability of attempting to present structural botany in an elementary way.

Albert Schneider.

NOTES AND NEWS.

ARGON.

M. Berthelot has communicated to the Academy of Sciences the fuller details which he promised concerniug his experiments upon argon. Towards the end of February he received from Professor Ramsay 37 cubic centimètres of the gas, with which small quantity he has obtained positive results of the greatest interest. Following the process by which he formerly effected the direct combination of nitrogen with various organic compounds, he finds that argon is equally absorbed by these bodies, though apparently with somewhat less facility. The action of the silent discharge upon a mixture of argon and benzene vapor is accompanied by a feeble violet luminosity visible in the dark. In one of five experiments he found that a fluorescent substance was produced, which developed a magnificent greenish light and a peculiar spectrum. M. Berthelot took 100 volumes of Professor Ramsay's gas, added a drop or two of the hydrocarbon, and exposed the mixture to the silent discharge at moderate tension for about ten hours. The excess of benzene vapor being removed in the usual way, the mixture was found to have been reduced to 89 volumes. More benzene was then added, and the experiment was repeated with higher tension, which in three hours produced a reduction of volume equal to 25 per cent. On again submitting the gaseous residue with benzene to very high tension discharge he found the final result to be 32 volumes. Analysis showed this residue to contain only 17 volumes of argon, the other 15 volumes being hydrogen, free or combined, and benzene vapor. In other words, M. Berthelot has effected the combination of 83 per cent. of the argon under experiment, and was prevented only by the dimensions of his apparatus from carrying the condensation yet further.

The quantity at his disposal was too small to permit of complete examination of its products, but he is able to say that they resemble those produced when nitrogen mixed with benzene is submitted to the silent discharge. That is to say, they consist of a yellow resinous matter condensed on the surface of the glass tubes employed. This matter on being heated decomposes, forming volatile products and a carbonaceous residue. The volatile products restore the color of reddened litmus paper, proving the production of alkali by the decomposition, though the quantity of matter at command was too small to allow of its nature being demonstrated. In any case, M. Berthelot concludes, the conditions in which argon is condensed by hydrocarbons tend to assimilate it yet more closely with nitrogen.

He adds that if it were permitted to assume 42 instead of 40 as the molecular weight of argon—an assumption which the limits of error in the experiments hitherto made do not, in his opinion, exclude—this weight would represent one and a half times that of nitrogen; in other words, argon