

In his introductory chapter he discusses the zoological position of termites, and compares them with the ants. He follows Handlirsch in regarding the termites as forming a separate order, Isoptera, allied to the Blattidæ, and including three sub-families and about 350 species.

In later chapters the foundation of a colony, the structure of their nests, and their form and habits are dealt with. Like ants, they sometimes defoliate trees in order to form mushroom-beds. Next, their relations, hostile and otherwise, with bees, wasps, and especially ants, are discussed, and also the various animals (beetles, reptiles, &c.) which inhabit their nests, either as guests or intruders. In the sixth chapter their relations to man, and the good and harm which they work, are dealt with. The book concludes with a useful synopsis of families and genera, after Desneux, supplementary notes on the sexes, soldiers, recognition of friends and foes, &c., and a bibliography and index. Naturalists will be grateful to Prof. Escherich for having brought together in this handy form a useful compendium of widely scattered information relative to a very interesting and important, though somewhat neglected, group of insects.

W. F. K.

*Oil Motors: their Development, Construction, and Management.* By G. Lieckfeld. Pp. xv+272. (London: C. Griffin and Co., Ltd., 1908.) Price 15s. net.

THIS work is an authorised translation of a German handbook written for German engineers interested in engines using liquid fuel. Although, as is inevitable in a case of this kind, a large part of the work is taken up with catalogues of German machinery, there are about 130 pages of the book which give valuable and well-arranged general information on the subject. The first few chapters give a very readable history of the development of the liquid fuel trade, both of the mineral oils obtained from oil wells and the liquid fuels distilled from coal or from various shales. The chapters on petroleum spirit, on the paraffin oils, on benzol, and on alcohol also give valuable information in a condensed form.

The development of the modern internal combustion engines worked by petroleum spirit and by paraffin and the heavier oils is given partly in historical and partly in descriptive form, and the remainder of the book, with the exception of the last thirty pages, is a descriptive list of machinery almost entirely German, although a few engines of English construction are mentioned.

There are several important omissions in the book. The name of one of the leading workers on this subject, Dugald Clerk, is never mentioned, although he was undoubtedly one of the first in the field, and has taken a leading part in the development of the internal combustion motor using liquid fuels. Again, in giving the history of the adaptation of the petrol engine to the automobile movement, the author assumes that all the work previously done with steam engines may be ignored, whereas it is well known that as regards the heavier class of motor vehicles steam-driven vehicles still predominate.

There are several places where the work suffers from careless translation, notably in one of the notices on the De Dion Bouton engine, at the foot of p. 84, which is quite unintelligible as it stands.

*Bulletin of Miscellaneous Information, Royal Botanic Gardens, Kew, 1908.* Pp. iv+477+116; with appendices. (London: His Majesty's Stationery Office, 1908.) Price 4s. 6d.

THE volume of the Kew Bulletin for 1908 well merits its title as a compendium of miscellaneous informa-

tion. The systematic work emanating from the herbarium includes six decades of African plants, two of new orchids, and seven of new plants generally. The African plants appear to have come in small collections and from all parts of the continent. China supplies a considerable quota to the Decades Kewenses. A notable contribution to a knowledge of Transvaal trees and shrubs is provided by Mr. J. Burt Davy, and no less valuable is the list of southern Nigerian trees furnishing timber, prepared by Mr. H. W. Thompson. Generic revisions are provided by the director for the gentianaceous genus *Chironia*, and by Mr. A. W. Hill for two genera of the *Exacææ*. In connection with the rubber industry, information is supplied regarding the West African asclepiad *Raphionacme utilis*, that stores the latex in its tuberous root, *Bleekrodea tonkinensis* (*Moracææ*), and the sources of Manicoba rubber. Other economic articles deal with patchouli and cascara sagrada. It is interesting to note the inclusion of articles by outside contributors, such as the account of the Southern Islands expedition by Captain Dorrien Smith, and the continuation of the policy of sending members of the staff to visit establishments of interest.

*The Genitalia of the Group Noctuidæ of the Lepidoptera of the British Islands. An Account of the Morphology of the Male Clasp Organs.* By F. M. Pierce. Illustrated by F. M. Pierce and H. Butler. Pp. xii+88; 32 plates. (Liverpool: A. W. Duncan, 1909.) Price 7s. 6d. net.

In this unpretentious volume we have the results of twenty years' investigations by an ardent microscopist into a group of anatomical characters which have hitherto been less frequently, and also less successfully, employed in the Lepidoptera than in some other orders of insects, especially the Neuroptera and Trichoptera. Mr. Pierce's work is naturally too technical for detailed notice, but we may note that he gives careful directions for the preparation and examination of specimens, and a general description and nomenclature of the organs, one section only of which, the clasp organs of the males, is figured, and described in more or less detail, in a large number of species of British Noctuidæ. Mr. Pierce takes as his motto a quotation which expresses a truth which should encourage all honest workers, and should never be overlooked by critics, "He who never makes a mistake, never makes anything."

W. F. K.

*Palæolithic Vessels of Egypt, or the Earliest Handiwork of Man.* By Robert de Rustafjaell. Pp. iii+22; 13 plates. (London: Macmillan and Co., Ltd., 1907.) Price 2s. 6d. net.

In this pamphlet of some twenty-two pages and thirteen plates, Mr. de Rustafjaell advances a new theory as to the origin of pottery. He directs attention to certain flint nodules with hollow cavities which he found in the Western Desert of Egypt, and suggests that they were used by primitive man as water-holders, that these hollow flint "nodules were copied during the Palæolithic age in limestone, from which again evolved other stone, and finally the clay vessels of the predynastic period" (p. 21). This is a theory which will have few, if any, adherents, and the author seems to be unaware that the lines on the earliest examples of pottery abundantly show its evolution from basket-work (by way of a burnt clay lining), and not from any form of rigid material. The forms of early stone vessels clearly show that they were copied from pottery types.