able contribution by America's foremost student of Cenozoic invertebrate paleontology.

G. D. Harris

Paleontological Laboratory,
Cornell University

Text-book of Physiological Chemistry. By Olof Hammarsten. Translation by John A. Mandel. Seventh edition. Wiley and Sons, New York.

Another edition of Hammarsten's "Text-book of Physiological Chemistry" is now available in English (translation by Mandel).

Outside of the material contained in the first two chapters of the last edition which now have been combined into one, the arrangement of the older editions has been retained. Chapter for chapter, almost every subject treated occupies very nearly the same number of pages as before. Nevertheless, this edition is far from being a mere reprint. The newer observations and references are usually to be found—sometimes in place of older observations (and references), but more frequently as additions. In the field of metabolism, a field always somewhat scattered and submerged in "Hammarsten," the new edition will prove disappointing to American students just as the older editions have been. Most of the facts are there, but it takes a brave and diligent student to find them.

The index is very full, but its usefulness to students is not so great as it might be because it still lacks expert systematization. The first subject that the reviewer happened to look up in the index was mucin; sixteen references are given, the first is entirely misleading and the most essential references are tucked away in the middle of the long list.

Index and all, however, American biochemists are always pleased to see one more edition of the book which more than any other is kept within reach for daily consultation.

Otto Folin

NOTES ON ENTOMOLOGY

Two recent parts of Das Tierreich treating of the hymenopterous superfamily Proctotrypoidea[1] are almost monographic in character. Both are by the Abbey J. J. Kieffer and treat of almost 1,800 species in over 130 genera. An illustration is given of nearly every genus, and there is an introductory portion treating of the external morphology. Many of the species are from our country.

India is sufficiently distant from both Europe and America and its fauna has been sufficiently unknown to have been selected as the probable place of origin of many types of animals. Its insect fauna, however, is now becoming better known through numerous books; three have come to hand recently. One by T. B. Fletcher[2] deals with the insects of southern India. There is an introductory account of insects, and life histories of many species representing most of the families. A second large work is by E. P. Stebbing[3] and is devoted to accounts of the life history of and the damage wrought by the forest beetles of India. Unfortunately it contains the descriptions of various new species. The third work is purely economic and treats of the pests of various crops.[4] It consists of 84 leaflets with plates, mostly colored, of insect and fungous enemies of field crops.

Several microlepidopterists had shown that certain Tineid larvæ are of different shape and habit at different stages of development. Trågärdh[5] has investigated these forms and arranges them in two sections, the tissue eaters that bite and eat the parenchyma of the leaf, and the sap-feeders, that take only liquid. The former method is the more primitive, the

[1] Lief. 41, Bethylidæ, 595 pp., 205 figs.; Lief. 42, Serphidæ and Calliceratidæ, 254 pp., 103 figs., 1914.

[2] "Some South Indian Insects," Madras, 1914, 565 pp., 440 figs., 50 pls.

[3] "Indian Forest Insects of Economic Importance—Coleoptera," London, 1914; 648 pp., many pls. and text figures.

[4] "Crop Pest Handbook for Behar and Orissa," Calcutta, 1913. Issued by Dept. of Agric. of these provinces.

[5] "Contributions Towards the Comparative Morphology of the Trophi of the Lepiodopterous Leaf-miners," *Arkiv Zoologi*, VIII., No. 9, 48 pp., 62 figs., 1915.