

some—those on Cairo and Thebes, for instance—have been almost entirely re-written. A new section, necessitated by the opening up to tourists of the Upper Nile, deals with the Anglo-Egyptian Sudan, and thus we have, within the compass of a handy volume of 600 odd pages and a plentiful supply of maps and plans, a guide-book which will carry the traveller from Alexandria or Port Said to the frontier of Abyssinia and to the Uganda Railway and Mombasa. In a pocket of the cover Mr. Hall has added a small booklet of 35 pages of "Notes on the Arabic Language, with a Vocabulary of Words and Phrases," which ought to prove of much use to the amateur traveller.

In reading through the handbook we find that Mr. Hall has done the work on the archæological side most admirably, and there is little that he has added to the book which we should feel inclined to dispute. In his transliteration of the Egyptian hieroglyphs, however, we are sorry to note that he has adopted the unscholarly *tch* or *tj* for the serpent hieroglyph which, by English and German Egyptologists, is always rendered by *z* or *d*. In any future edition of the handbook that may be issued, we hope the publishers will see that the section on geology is brought up to date, for in the edition before us no mention is made of Dr. Andrews' or Dr. Beadnell's recent discoveries in the Fayum, nor can we find any mention of the new Geological Museum, with its fine collection of fossils and minerals, now housed in a building in the garden of the Ministry of Public Works.

*Index Kewensis Plantarum Phanerogamarum.* Supplementum tertium nomina et synonyma omnium generum et specierum ab initio anni MDCCCCI usque ad finem anni MDCCCXCV complectens. Ductu et consilio D. Prain confecerunt herbarii horti regii botanici Kewensis curatores. Pp. iii+193. (Oxford: Clarendon Press, 1908.) Price 28s. net.

WORKERS everywhere in systematic botany will welcome the appearance of this, the third, supplement of the Kew Index. We now have a register of the generic and specific names of seed-plants up to and including the year 1905—a boon to workers which only those can adequately appreciate who remember the period when there was no Kew Index. The supplement follows closely the plan of the original work—would that those concerned could be persuaded to make one small but valuable improvement! namely, the inclusion of the date of publication in all the references to the original descriptions, as is now done only in the case of periodicals.

The Index and its previously issued supplements are so well known and so generally used that a notice resolves itself into a few remarks and more or less petty criticisms. Thus we note that a fair number of genera are recognised which in the Index or its earlier supplements were regarded as synonyms; in these cases the genus-name formerly accepted is added in brackets followed by the letters I.K. Similar quotations, followed by the letters D.T. & H., look more mysterious, though, presumably, the valuable reference-list of genera by Dalla Torre and Harms will occur to most on reflection. In the absence of explanatory notes, it is not always easy to understand the reasons adopted for the recognition of some genera and not of others; why, for instance, is *Limonium* still relegated to synonymy as equivalent to *Statice*, Linn.? Linnaeus included under *Statice* the sea-lavenders, for which the name has until recent years been generally retained, as well as our sea-pink (*Armeria*). But Miller in 1759 followed Tournefort in keeping the name *Limonium* for the sea-lavenders and regarding

the sea-pink as a distinct genus, *Statice*, and it is generally agreed that the two genera are distinct. It is, of course, unfortunate that *Statice* should have been used so long for *Limonium*; Messrs. Groves, however, in the recent edition of Babington's manual, have accepted the original position, which is therefore no longer strange to British botanists. *Limonium*, by the way, is cited as of Tournefort, who established the genus before 1753, which is now taken as the starting point of botanical nomenclature; the genus should be credited to Miller (1759). Again, four species of *Crassocephalum*, described by S. Moore, are referred to *Gynura*; this reference may be justifiable, but it would be useful to know what standard has been adopted, especially in cases where there is no recent monograph of the family to which the genus belongs.

The supplement forms an interesting review of progress in systematic botany in the first five years of the present century, and is a tribute to the energy and devotion of botanists engaged in this branch of the science.

A. B. R.

*Die Metamorphose der Insekten.* By Dr. P. Deegener. Pp. 56. (Leipzig and Berlin: B. G. Teubner, 1909.) Price 2 marks.

THIS is an exceedingly elaborate discussion of the nature of the various processes involved in the transformations of insects. We should have preferred to see it in larger book-form, with headings and text-illustrations; but reference to the subjects discussed is facilitated by a table of contents prefixed to the work. The chief problems are, of course, presented by insects with complete metamorphoses, in which most of the larval structures are entirely dissipated during the pupa-state, and new ones formed for the use of the imago, whereas in the case of insects with incomplete metamorphoses the organs of the larva are gradually modified into those of the imago. It may be useful to condense Dr. Deegener's classification of larval organs:—

(1) Primitive organs. Those less complicated in the larva than in the imago; those about equally developed in larva and imago; and those wholly absent in imago.

(2) Organs rudimentary in both larva and imago.

(3) Organs inherited by the imago from the larva.

(4) Organs acquired by the larva independently of the imago, or which occupy a subordinate position in the imago. (Provisional organs of the first class.)

(5) Organs common to the larva and imago, but which follow a different course of development in each stage. (Provisional organs of the second class.)

(6) Primary organs, the development of which is retarded during the larval state.

Dr. Deegener points out that the larva is scarcely destitute of any organ present in the imago, whereas many organs present in the larva are wanting in the imago. Hence he concludes that the larva, as such, presupposes the pre-existence of the imago, and that the imago is phylogenetically older than the larva.

The origin of insects from lower forms is then discussed, and Dr. Deegener suggests that they have originated in a primitive Campodea-form, which has developed in one direction towards the imago and in another towards the larva. Other questions discussed are the various processes of metamorphosis, and the sexual relations of larvae.

We have rarely seen so small and unpretentious a book which contained so much matter of scientific importance, and it has been impossible for us to do more than direct attention to a few salient points in this brief notice.

W. F. K.