

OUR BOOK SHELF.

Directions for Collecting and Preserving Insects. By C. V. Riley. (Washington: Government Printing Office, 1892.)

DURING the last few years there has been in America a considerable increase of the number of persons interested in entomology. This may be due mainly to the fact that farmers have very practical reasons for studying insects, but no doubt it springs in part from a growing appreciation of the scientific aspects of the subject. However the increased interest is to be explained, one of its results is a constant demand, especially from correspondents of the U.S. Museum and the Department of Agriculture, for information as to how to collect, preserve, and mount insects. In the present work Mr. Riley undertakes to meet this demand. He also brings together a number of directions on points connected with such matters as the proper packing of insects for transmission through the mails or otherwise; labelling; methods of rearing; boxes and cabinets; and text-books. The work was prepared as a part of a Bulletin of the National Museum, but is also issued separately; and we need scarcely say that it is likely to be of great service to the class for whose benefit it was originally planned. Mr. Riley knows his subject so thoroughly that he is able to explain it simply and clearly, and the value of the text is enhanced by a large number of suitable illustrations. We may note that, in a paragraph on the scope and importance of entomology, he refers to various estimates of the number of insects in the world. Linnæus knew nearly 3000 species. In 1853 Dr. John Day thought there might be 250,000 species on the globe. Dr. Sharp's estimate thirty years later was between 500,000 and 1,000,000. In 1889 the estimate formed by Sharp and Walsingham reached nearly 2,000,000. Mr. Riley thinks even this estimate too low. Considering that species have been best worked up in the more temperate portions of the globe, that in the more tropical portions a vast number of species still remain to be characterized and named, that many portions of the globe are entomologically unexplored, and that even in the best worked-up regions by far the larger portion of the Micro-Hymenoptera and Micro-Diptera remain absolutely undescribed in our collections, and have been but very partially collected, he is of opinion that to say there are 10,000,000 species of insects in the world would be "a moderate estimate."

LETTERS TO THE EDITOR.

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Science and the State.

IN last week's NATURE I find the statement that I was allowed to leave the public service "without the slightest recognition" by the State.

However distasteful it may be to me to have anything to say on this subject, I feel bound, in justice both to Lord Salisbury's and to Mr. Gladstone's former Governments, to point out that it is incorrect. Very substantial recognition was awarded me by both; and the late Lord Iddesleigh, in offering to recommend me for a Civil List pension, expressly put it as an honour.

The distinction which the Queen has recently been pleased to confer upon me must therefore, I am afraid, be placed in the category of "unearned increments." T. H. HUXLEY.

Barmouth, Wales, August 30, 1892.

[We did not refer to such recognition as is implied in the granting of pensions. What we meant was that the State ought to have marked its appreciation of Prof. Huxley's great services by conferring on him some national distinction of the kind he has now received.—ED.]

An International Zoological Record.

ON this subject Mr. Minchin (NATURE, August 18, p. 367) writes as a Recorder, and he writes feelingly. Those who use Records can write with feeling too. The absurd waste of labour involved, even in the production of a single Record, by the present system is hardly to be excused by the consideration that the labour is voluntary. I say "voluntary" advisedly, for some three or four pounds is no pay for a month's hard work. And yet, for all this toil, the result, when, after a year or so of delay, we are presented with it, is notoriously unsatisfactory. It is indeed impossible for a single individual—often very far from acquainted with the subject he is recording—to work through all the scientific literature of the whole world for the preceding year, in search of some scattered references. Actually impossible, for the literature of one year never comes completely to hand before the end of the next, and perhaps not then; and this the Recorders seem to know, for many of them postpone their work till the autumn, though it should have already been published in the spring. The acceptance of Mr. Minchin's admirable suggestions would do away with the ridiculous decimultiplication of labour, but it would neither make the Record complete nor hasten its publication. The public are probably more anxious for the latter results than they are for the relief of the Recorders.

Almost absolute completeness, a higher standard of work, and greater expedition, would probably be attained by some such organization as the following:—In each country a Bibliographer, possessing an all-round acquaintance with the subjects to be recorded; this bibliographer simply to record, on separate slips, titles and places of publication of papers issued in *his own* country (and therefore probably in his own language), and to mark by some symbol the groups of animals or facts alluded to in those papers. An Editor-in-chief, situated in some convenient postal and printing centre, e.g., Naples, London, New York, Berlin, Paris, or Washington; this editor to govern the general plan of the Record, at present somewhat anarchic, to sort and distribute to specialists the slips which he receives from the bibliographers, and to edit the work. Lastly, for each group or division of a group, a Specialist, who, on receipt of the title-slips from the editor, should prepare the lists of new species, the abstracts of the papers, and a general review of advance in the subject. It may be pointed out that, by means of carbon-paper, title-slips can be easily written in duplicate or even triplicate; thus, by one writing of the bibliographer, slips can be prepared for the information of two or three specialists.

Such a scheme has the following advantages:—The literature is only gone through twice, instead of perhaps a dozen times. There is a possibility of completeness without much effort. Dates of publication can be ascertained with greater certitude. The quality of the work is improved by the employment of those specialists who will never consent to the colossal drudgery of the present system. Promptness of publication is possible. Thus, all slips for Europe and America could easily be sent to the editor within the first fortnight of the New Year, and by him transferred to specialists before the end of January. Literature from a greater distance would have to be sorted later on. Any specialist worthy of the name would already have seen most of the papers, and, with the help of abstracts from authors, could be ready with his manuscript before March, by which time the literature from the most distant parts would have come in and might be incorporated. The Record should go to press in separate divisions, so that the Birds need not be kept waiting because the Worms were not early; and the whole might well be issued in April or May.

The financial question must not be overlooked. As an International affair the sources of revenue of such a Record would be greatly increased. Not only Zoological and Royal, but also Geological Societies of all nations should be invited to contribute towards its expenses. The printer and the editor would have to be paid as now, the editor perhaps a trifle more. The postage would be a larger item, but postage is now so cheap that it really makes little difference. The bibliographers would of course have to be paid; but then the work of a bibliographer, even for the most prolific country, would be far less than the present work of the Recorder of, say, the Brachiopoda, who, I believe, gets about 30s. Some specialists would wish to be paid, but others would probably be satisfied by receiving the information from bibliographers and the abstracts and separate copies from authors. These latter, it is presumed, would gladly send single copies of their works for the use of a well-known specialist, but it is rather hard to have to distribute them to a dozen