

to a constantly *increased* amount of electric light developed sexual organs similar to those of birds in the south in spring, ready to start on their northward flight, and such birds liberated in Alberta in midwinter at once disappeared, presumably going north. Crows similarly treated actually did go north as records showed, they being conspicuous were noted where the smaller juncos would probably escape notice.

Further experiments also showed that it was not the length of day (i. e. the *amount* of light) that directly affected the development of the gonads but the length of time spent in activity, for which of course the amount of day-light was responsible.

This is but a very brief résumé of Prof. Rowan's researches and one should read his book in order to realize the convincing nature of his experiments and the long strides that he has made in solving the riddle that has been a matter of speculation ever since man began to study birds.—W. S.

Peters' 'Check-List of Birds of the World.'—America is at the moment rich in check-lists, with the almost simultaneous appearance of the fourth edition of the 'A. O. U. Check-List' and the first volume of the far more pretentious work¹ of Mr. Peters, covering the birds of the entire world.

The need of such a work as Mr. Peters' is apparent to every ornithologist who has to concern himself with systematic problems or the working up of collections. So much has transpired in technical ornithology since the time of Sharpe's 'Hand-List' that one has to spend much valuable time in collecting the necessary references from the scattered literature before he can begin his study. Everyone, therefore, will welcome the appearance of Mr. Peters' first volume and wish him all speed with the remaining nine. The unfortunate part of any such work is that before the last volume can appear the first will be, to a certain extent at least, out of date. The solution would seem to be to have several individuals working simultaneously on different volumes but this would probably not be practicable, therefore, let us hope that our author has a large part of his task in various stages of completion so that we shall not have to wait too long, and meanwhile let us give him all the help and encouragement possible in his praiseworthy effort to transfer the authoritative check-list of birds from England to America!

Coöperation will be all the easier since, so far as we can see, there is very little to criticize in the general style and appearance of the work and everything to praise. In typography it closely resembles the new 'A. O. U. Check-List' but continues to use diphthongs and does not attempt to distinguish the italic æ from œ. The author adopts the same classification as that prepared for the A. O. U. List, using the more amplified scheme published by Dr. Wetmore in 1930 to cover the birds of the world. This

¹ Check-List of Birds of the World. Volume I. By James Lee Peters, Assistant Curator of Birds, Museum of Comparative Zoölogy at Harvard College. Cambridge, Harvard University Press 1931. Pp. 1-xviii + 1-345. Price, \$3.50.

agreement is most gratifying although the sequence of genera is not always the same. The abandonment of the binomial headings for series of subspecies and the placing of the so-called typical subspecies in its proper systematic or geographical position in the series is also in accord with the A. O. U. List. Fossil species are not included although the names of the families and orders which occur only as fossils are given in their proper systematic position, printed in German text. The author relieves himself of no inconsiderable burden when he abandons the use of any English names. This is in accordance with other world check-lists but it seems to us that it would have been a most valuable feature if the English names of at least the American, British and Australian birds were given and those of such tropical species as possess them. This might also have been helpful to the sale of the work! Type localities are not treated in quite so much detail as in the A. O. U. List although the reference to their restriction is often given, a feature which might well be made universal in future check-lists, so also the references are not quite so detailed as in the latter work, i. e., in giving the divisions of a work published in parts or signatures, with actual date of publication. A great improvement over the A. O. U. List is the reference under the genera to monographs or other publications dealing especially with them. This was the original intention in the other list but circumstances made it impossible for the editor to carry it out.

While synonyms are not expected in a work such as this, all that have appeared since the publication of the first volume of Sharpe's 'Hand List' are given, as well as such as did not appear in the 'British Museum Catalogue of Birds,' which is helpful. It would have been desirable too, to have included in the index such names for instance as *Urubitinga anthracina* under both its species and genus, since it is here for the first time transferred to the genus *Buteogallus* and would hardly be looked for in that connection.

In the cases of ranges the author has again been relieved of what proved perhaps the greatest burden in preparing the A. O. U. List, since he has wisely refrained from an attempt to make them even approach the detail that was necessary in the latter work and has ignored all accidental or extralimital occurrences, the range given being simply the normal one.

The statement of the author in his preface that he adheres to the doctrine that "the genus should be used for expressing relationships" and that "minor structural differences should be considered as of specific value only, or at the most merely of subgeneric worth" is most reassuring and we trust that the era when generic division ran rampant to the detriment of nomenclatural stability is drawing to a close. He also explains that he cannot personally vouch for the validity of all species or subspecies included in the List, since it is impossible in such a work to examine all forms or to be critical throughout, and a compiler must refer freely to the opinions of other ornithologists in such matters, obviously the only possible stand to take.

We have compared Mr. Peters' volume with the A. O. U. List as the most

convenient way to give our readers an idea of its character although as regards the number of forms treated and the extent of systematic research required, the two works are hardly comparable. Nevertheless a further comparison may be desirable to show the extent of correspondence in nomenclature. In Mr. Peters' work there are 241 species and subspecies which occur also in the A. O. U. List: he has rejected two forms as not worthy of recognition viz. *Dichromanassa rufescens dickeyi* and *Branta canadensis leucopareia* and recognizes three forms which the A. O. U. Committee rejected viz.: *Ardea herodias oligisia*, *Buteo borealis alascensis*, and *Melanitta fusca dizoni*, while he also lists *Pelecanus occidentalis carolinensis*, *Fregata rothschildi magnificens* and *Nyroca marila nearctica*, which were recognized in the other List under the specific names given, the North American birds not being there separated as distinct forms. Of the 236 forms common to the two lists 194 bear exactly the same name in each except that about a dozen have the specific name doubled in view of the recognition of some extralimital race. Of the 42 remaining, 26 differ only in the generic name, due to the rejection of 10 genera recognized by the A. O. U. Committee and the recognition of three not accepted by it, and the change of three others on nomenclatorial grounds. Of the remaining 16 names ten differ from the A. O. U. List only in that the species is made a subspecies of another species and one in being elevated from subspecific to specific rank, changes that are not very serious. We thus have only six names changed on nomenclatorial grounds and these involve only three actual cases. We therefore find that while there is difference of opinion in forty instances as to the rank or validity of genera and species—purely ornithological problems, upon which there will always be diversity of opinion, there are only six questions of nomenclature involved. Three of these hinge upon the undecided question as to whether a word like *Oxyura* is invalidated by *Oxyurus*, the A. O. U. Committee ruling that it is and Mr. Peters taking the opposite view. The other cases are the questions of whether the name *Sula piscator* (Linn.) and *Buteo jamaicensis* (Gmelin) are recognizable and whether Audubon's Washington Eagle is recognizable as the northern form of the Bald Eagle known as *Haliaeetus leucocephalus alascanus*. This summary is very satisfactory as demonstrating how comparatively few differences are due to the old bugaboo "nomenclature."

Only time and constant reference to Mr. Peters' volume will show whether there are typographical errors though a rather careful examination of its pages by one who has recently had a good deal to do with such matters fails to detect any, except for the accidental duplication of the specific name of *Puffinus tenuirostris* on p. 56.

We heartily congratulate Mr. Peters on an important and tedious work well done and wish him all success in the completion of his monumental undertaking.—W. S.

Casey Wood's 'Introduction to the Literature of Vertebrate Zoology.'—As is generally known there has been accumulated at McGill