

Society.' These felicitous titles indicate the character of the sketches, which are based on personal experience and observations.

The present little volume forms a fitting addition to its publishers' previous trio of bird-books, namely, Torrey's 'Birds in the Bush,' and Burroughs's 'Wake Robin' and 'Birds and Poets,' either of which it easily rivals in interest and literary merit.—J. A. A.

The 'Water Birds of North America'—Explanations.—In the April number of 'The Auk,' III, p. 266, Mr. Ridgway has undertaken to "rectify" some of my corrections of the above work made in the January number (III, p. 124), and asks for certain explanations. It is unfortunate that remarks intended by me to be complimentary, and purely for the advancement of the science, should be so misconstrued as to lead to discourteous and almost personal criticism; but while disavowing the least intention to be unjust to the authors and compilers, I must insist on the right to give facts, even if contrary to their statements, and to let the public form their own opinions as to the points in dispute. Mr. Ridgway calls my article "a long list of so-called corrections." There are really less than thirty items given by me from the perusal of two quarto volumes of more than 700 pages, showing *prima facie* but little to correct. Many (14) of the items are typographical or proof-reader's errors, which need correction. Eight items are "additional observations," which I mention as such rather than corrections, although mostly called for by the omission of Dr. Brewer to quote them while compiling a work intended to comprise the whole history of the birds as then known. The corrections I make relating to the writings of others are all typographical, except those given below, and Dr. Brewer's omissions.

I now proceed to answer Mr. Ridgway's questions and "rectifications" of his own portion of the work, hoping to satisfy him and all others as to the facts.

Mareca americana. Widgeon.—The authority for the fact that the Widgeon does not breed in the United States is the history given in Vol. I, p. 522-524, where it is quoted as breeding abundantly in British America. "but only rarely in the extreme northern parts of the United States," without giving any instance of the last-named kind. Mr. Ridgway's specimens, though published eight years previously, are not referred to—a strange omission.

I must, however, confess here to a blunder of my own, which is, that I should have given *Aethya americana*, the Red Head, as mentioned by Dr. Heermann, among the Ducks breeding in Sacramento Valley, California, not the Widgeon. No one else seems to have found it breeding south of Lat. 42°.

Pelecanus californicus Ridgw.—This being a little-known form I ventured to give some facts as to specimens I collected at San Diego, without any intention to "discredit" its distinctness as a *species*, but I will now assert that its claims to that distinction seem very slight. Its larger size is in accordance with the local variations of many other birds, and the

red condition of the pouch might easily be explained by individual or accidental causes. As Brown Pelicans are found on both sides of the Panama Isthmus, and must fly across it, a comparison of Central American specimens should furnish important points on this subject. As now stated, the West Coast bird looks like a mere subspecies or local race.

Cymochorea melania and *C. horrochroa*.—Notwithstanding Mr. Ridgway's positiveness, I have to reassert the *facts* regarding Emerson's specimens, that with Ridgway's descriptions before me, and the bird in my hand, I found it to differ from both as mentioned, being decidedly intermediate.

Puffinus stricklandi Ridg.—Mr. Ridgway himself answers his question why I considered my specimen *P. stricklandi* instead of *P. griseus*, by acknowledging his own error in regard to the difference in size of the two species, my bird being larger than the largest size given for the former. Not having the specimen at hand I cannot decide as to plumage, but at the time I collected it I compared it with Coues's monograph of *Puffinus*, and found it agree with *P. "fuliginosus"* (= *stricklandi*), not with *P. (Nectris) amaurosoma* (= *griseus*). So the question rests on the accuracy of the descriptions of Coues and Ridgway.

As to the unification of several so-called 'species,' we need only to look at the synonymy of most of the Longipennes and Tubinares to see that great combinations of nominal species have been made already, and a study of the species still recognized shows that many of them differ very slightly. Their distinctness is based on the fact that intermediate forms have not yet been found. This is an artificial rather than a natural basis of distinction, as shown by the difference in degree of distinctness found in groups of species breeding on continents and those breeding on islands; both land and water-birds. In continental groups we find many species embracing several subspecies or geographical races, especially where of very wide range, these races connected by graded links. Island-breeding birds, however, while presenting many local races, are so separated by water from each other that there is no intermediate ground for the production of connecting links, and the local races, therefore, are called 'species' though often less different than the extreme races of some continental birds. Therefore, I still assert that consistency requires the combination of many so-called species of water-birds if not into fewer 'species,' at least into groups nearly corresponding to some continental species. The descriptions of the four *Puffini* mentioned show close similarity in size and form. The difference in plumage, on which two have been separated as *Nectris*, if positively proved not to depend on age (which is left unsettled in the 'Water Birds'), may be dichromatic forms, like those of some Herons. There is not enough known yet regarding these birds to decide this question. But accepting Mr. Ridgway's decision that all the species he gives are distinct, we are forced to the conclusion that a 'species' depends rather on the nature of the earth's surface, separating the breeding places of two forms, than on the degree of difference between the forms themselves.—J. G. COOPER, M. D.

[It is a matter of surprise and regret to me that any portion of my remarks, above referred to, should be construed by Dr. Cooper as being either "discourteous" or "almost personal." They were certainly not so intended, and upon again carefully reading both Dr. Cooper's 'Corrections,' and my 'Rectifications' I am unable to find anything in the latter justifying such construction.

In taking cognizance of Dr. Cooper's article, I exercised merely the privilege of an author to defend his writings against adverse criticism, and in the present case it was my duty, as well as privilege, to do so, in order that the interested portion of the public might have the *other side* of the "points in dispute." The points under discussion are not so much matters of personal concern as they are questions of facts; and the circumstance that exactly one-half of the thirty items given by Dr. Cooper under the indiscriminating title of 'Corrections' relate merely to typographical errors, many of them so obvious that no correction is necessary, while of the remaining fifteen more than half constitute, as he himself states, items of "additional information," will, I think, justify my use of the term "so-called" in connection with them — a characterization the more necessary since Dr. Cooper expressly says, in his introductory remarks, that "the following corrections . . . relate chiefly to quotations from my [his] own writings," which, in point of fact, as shown above, they do not do.

Dr. Cooper himself, in the above, 'rectifies' his 'so-called correction' regarding the breeding of *Mareca americana* by explaining that he meant *Aythya americana*. In regard to this species, I would also refer him to 'Ornithology of the Fortieth Parallel' (p. 625), where it is stated that "in June, either this species [*A. vallisneria*] or the Red-head was very abundant in the tule sloughs in the vicinity of Sacramento, where they were undoubtedly breeding." I have since had reason to consider the species as being beyond question *A. americana*, and not *A. vallisneria*.

Respecting the overburdening of the synonymy of "most of the Longipennes and Tubinares," for which Dr. Cooper suggest a remedy, a considerable "lumping together" of allied forms, it must be stated that the unfortunate condition which others, no less than Dr. Cooper, deplore is chargeable much less to those who draw fine distinctions (or, more properly, who are scientifically accurate), than to those who ignore distinctions which really exist, who have made erroneous identifications, and who have given new names to species already named without being aware of the fact. In short, to any one who will take the trouble to look up the history of the synonyms of almost any species thus burdened, it will become very evident that they owe their existence to very many circumstances over which the so-called 'hair-splitter' has no control, and for which he is in no way responsible.

The suggestion that certain dark colored *Puffini* "may be dichromatic forms" of other white-bellied species, is not new, having been made at least a year ago. Speaking of dichromatism among the Herons, Dr. Leonhard Stejneger, in 'Standard Natural History,' Vol. IV, p. 7 (1885), says: "The example from the herons can be nearly duplicated by the status

of some forms of fulmars, from the northern Atlantic and Pacific oceans. . . . We have other examples of dichromatism in the same group, as the dark and white forms of *Ossifraga gigantea*; and Mr. Ridgway's suggestion that it will be found more [or less] extensively all through the superfamily of Tubinares or Procellaroideæ, is well worth consideration.'

As to other questions involved, their further discussion by me is unnecessary, and the valuable space which would thus be sacrificed can easily be filled much more acceptably to the readers of 'The Auk.'—ROBERT RIDGWAY.]

Dr. Shufeldt on the Osteology of the Trochilidæ, Caprimulgidæ, and Cypselidæ.*—In the present paper, Dr. Shufeldt treats of three of the most interesting families of birds, anatomically speaking. He gives very detailed descriptions of the bones of *Trochilus alexandri*, several *Chordeilæ*, and *Phalænoptilus nuttalli*, as well as *Panyptila saxatilis*, accompanied by finely executed plates, for which working anatomists who have no access to the forms mentioned, will be very thankful. It can not be our intention, in the present connection, to examine into the general correctness of the descriptions, which may be taken for granted until disproved, but we are obliged to say that Mr. Frederic A. Lucas, the osteologist of the National Museum, Washington (who is also the original source of the information contained in a note in 'Science,' 1886, p. 572), has called our attention to the fact that Dr. Shufeldt in describing and figuring the forelimbs of *Trochilus*, has transposed the humeri of the two sides, and described and figured the right humerus in place of the left one, which seems quite obvious from an inspection of pl. lxi, fig. 3½ as compared with the corresponding part of fig. 4. The great difference which Dr. Shufeldt found in the form of this bone in Micropodidæ (= Cypselidæ) and Trochilidæ is thus easily accounted for and reduced to very little indeed.

But more interesting to ornithologists in general are his 'Conclusions' which sum up the results of his comparisons of the three families. He first confirms the correctness of the view held by a great many ornithologists and anatomists (*ex. gr.*, W. K. Parker, Newton, Nitzsch, Garrod, Forbes, etc.), that the Caprimulgi are not very closely related to the Cypseli or Trochili, and should be removed from the 'order' Macrochires. It is very interesting to remark that Nitzsch, in establishing this term, only included therein *Cypselus* and *Trochilus*, while *Caprimulgus* and its allies were kept in a group by themselves. It is not probable that the separation of the Goatsuckers from the other two groups will be seriously challenged. Not so, however, Dr. Shufeldt's conclusion, that the relationship of Cypseli and Trochili is equally remote, and that "with the exception of a few minor points in their organization, the Swifts are essentially

* Contribution to the Comparative Osteology of the Trochilidæ, Caprimulgidæ, and Cypselidæ. By R. W. Shufeldt, M.D. < Pr. Zool. Soc. London, 1885, pp. 886-915 + pll. lviii-lxi.