

NOTES ON THE SYSTEMATICS OF WEST AMERICAN BIRDS. I

By JOSEPH GRINNELL

Fulmarus glacialis rogersii Cassin

Pacific Fulmar

MR. JOHN T. NICHOLS (*Auk*, XLIV, 1927, p. 326) is the latest observer to testify to the great variability of plumage color in the fulmars of the North Pacific Ocean and Bering Sea. He found the "pale phase" and the "dark phase" in varying proportions in different places at sea; he saw at least one "intermediate"; and "the pale birds were variously all gray to almost entirely white above, scarcely any one like another".

I have re-read: the testimony and arguments given by Stejneger (*U. S. Nat. Mus. Bull.* 29, 1885, p. 91); some significant comments by Preble and McAtee (*N. Amer. Fauna* No. 46, 1923, p. 39); the account by Anthony (*Auk*, XII, 1895, p. 105) who simply takes Stejneger's "lead" and names a suggested "small" race, *columba*, based upon female birds taken at sea, not on any breeding ground; the opinions expressed by Bent (*U. S. Nat. Mus. Bull.* 121, 1922, p. 38); and the full and, I have personal reason to know, accurate description of a large series of specimens by Loomis (*Proc. Calif. Acad. Sci.*, ser. 4, II, 1918, p. 87). Also I have re-examined the specimens available in the Museum of Vertebrate Zoology.

As a result of this review I am convinced that, so far, no adequate ground has been established for recognizing in nomenclature more than one form of fulmar in Pacific waters. In other words, as has been urged by several students, "*rogersii*" is not separable from "*glupischa*". No one has proven that birds of separate breeding colonies possess characters other than those apparently concerned in the "phase" phenomenon of coloration. But, if fulmars of the Pacific Ocean differ from those of the Atlantic, as the evidence indicates they do, on an average, then (because of all the names available, *rogersii* is the oldest) the name of the Pacific Fulmar must be *Fulmarus glacialis rogersii* Cassin.

Spinus pinus macropterus (Bonaparte)

Mexican Pine Siskin

Two races of Pine Siskin are currently recognized in North America, *Spinus pinus pinus* breeding in various parts of the United States and to the northward, and *S. p. macropterus* breeding in the mountains of Mexico. The Mexican race as compared with the northern one is stated to possess longer wing and tail, and paler, less sharply streaked style of coloration.

Todd (*Auk*, XL, 1923, p. 330) has identified as of the subspecies *macropterus*, some skins of the Pine Siskin from the Sierra San Pedro Mártir, Lower California; at least this student finds that Mexican mainland and Lower Californian specimens "agree well, both in color and size." I have before me, on loan from the United States National Museum, a small series of authentic *macropterus*, and also the considerable series of siskins from the Sierra San Pedro Mártir now contained in the Museum of Vertebrate Zoology. Briefly, after study of this material I find myself in agreement with Todd, that the name *macropterus* is applicable to the Lower Californian birds. But a further problem presents itself, as to the proper subspecific identity of the siskins of the southwestern United States.

Within the range of the northern race, as until now understood, Ridgway (Bds. N.

and Mid. Amer., I, 1901, p. 98) has pointed out that there is much variation, especially as to intensity of coloration. This I find to be true, in astonishingly great degree. Some of this variation is individual, sexual, and in accordance with age; but geographical variation also comes in. The birds from the northeastern United States and eastern Canada are, in massed series, dark colored, that is, with sharpest and blackest streaking; also they include individuals showing the least length of wing. The birds from Arizona, and most of those from California, are of relatively pale coloration, and some of them have longer wing than in any northeastern birds I have examined. Furthermore, there are many individuals, chiefly from southern California, which I cannot distinguish in any respect from Mexican and Lower Californian specimens. How shall these southwestern United States birds be designated?

A primary consideration is the one that siskins in series, from any locality, show much variation; there is not present in the siskins that uniformity of characters which makes it easy to separate into subspecies the Song Sparrows, or even the Savannah Sparrows. For example, among the Pacific Coast birds at hand, even from southern California, I find individuals that are as dark colored, and with as short wing, as some northeastern birds; and I am unable to account for their presence as possible migrants from far to the north, for some are definitely breeding birds. In other words, the range of variation in southwestern siskins is so great, and a possible average is so elusive, that, despite the *macropterus*-like individuals among them, I have come to the conclusion that the only practical course is to continue to call all north of the arbitrarily-selected line of the United States boundary the Northern Pine Siskin, *Spinus pinus* (Wilson).

At the same time, it is significant to record the fact of there being a strong tendency toward the race *macropterus* in the siskins of southern California and Arizona; and likewise, although I am labeling all Lower California birds *macropterus*, there are some individuals among them which cannot be distinguished, even, from the subspecies *pinus* as represented in British Columbia and the Rocky Mountains. Moreover, we have here a general tendency from north to south, as is shown in a number of other Boreal birds in western North America, toward increase in length of wing (the reverse of a certain oft-stated "law"). The Arizona populations show signs of approach toward the condition of the siskins in the southern end of the Mexican plateau. The "colony" of "Mexican" Pine Siskins in northern Lower California does not, I think, as Todd suggested, present a conspicuous case of "discontinuous distribution".

Progne subis subis (Linnaeus)

Northern Purple Martin

Brewster (Auk, VI, 1889, p. 92) newly named his *Progne subis hesperia* as a subspecies inhabiting California and Lower California. His description, however, was based wholly upon specimens from the Cape district of Lower California; the types were from the Sierra de la Laguna. The diagnostic characters given by him in comparison with *Progne subis subis* were solely of whiter, less extensively grayish-brown, coloration in the female; males were considered "indistinguishable"; no differences in size were mentioned.

Ridgway (Bds. N. and Mid. Amer., III, 1904, pp. 29-36) adds as characters of *hesperia*, average smaller size, and deeper forking of the tail, at least in males. Furthermore he points out the fact that "specimens from California and northward to Vancouver Island are decidedly larger than those from the Cape St. Lucas district of Lower California." But since these northern birds did not seem to him to "differ

at all in color" from the Cape birds he gave the range of *hesperia* as the whole "Pacific coast district, from Cape St. Lucas . . . to British Columbia." This is the accepted understanding of the situation to date; I was "brought up" to believe that the "Western Martin" was a fixed member of the avifauna of California.

I am fortunate in having before me at this writing, by courtesy of Messrs. Outram Bangs and James Lee Peters, of the Museum of Comparative Zoology, the majority of the Brewster series of Purple Martins from the Cape district of Lower California. I also have at hand new material from that territory, in its middle and northern portions; also a goodly series from upper California, a small one from Arizona, and fairly adequate material from the middle and eastern United States. Upon all this, totalling 99 skins, the following discussion is based.

In mass, the specimens of both sexes from upper California are quite easily separable from the Cape district series by reason of their larger size. This difference in size affects all parts, with the possible exception of bill and feet; it is seen to pertain to wing and tail, to widths of remiges and rectrices, and to distance in the folded wing between the carpal angle and the tip of the longest secondary. This latter is particularly conspicuous, being, in ten males of each group measured, 13 percent the greater in the northern series. However, I am not certain but that a share of this dimensional difference is an artifact due to possible "stripping" of the wings when the specimens were prepared. Probably the length of wing as usually taken reflects best the bulk difference between the two groups. I find that ten males from the Cape district average in this dimension 140.6 millimeters; ten males from upper California, 146.1, or a little more than 3 percent the longer — not so much as I had expected from appearances.

While the size differences demonstrated by Ridgway in his tables, and here further stressed, serve fairly well by themselves to distinguish upper from Lower California martins of both sexes, I find there are, in the females, mean differences of color also between the two series. The Lower California birds (true *hesperia*) present an extreme of whiteness in the several respects pointed out by Brewster and by Ridgway. The series of females from upper California show less development of this whiteness, as compared with eastern females. Indeed, only two out of sixteen upper California birds are as white as the average Lower California bird. And also at least eight upper California birds are so dark as to be indistinguishable from selected Eastern females. Yet there is a slight mass difference from Eastern birds on the side of clearer whiteness of collar, forehead, belly and crissum in the upper California series.

With the above facts before one, three courses to follow present themselves: (1) To recognize formally one western race, limited in range to the area occupied by the birds of smallest size and palest color, namely, the peninsula of Lower California, under the name *Progne subis hesperia* Brewster in the strictest sense, and to apply the name *Progne subis subis* to the birds of the northern Pacific coast strip in common with Eastern birds; (2) to use the name *hesperia*, just as Ridgway did, in a wide sense, for both the small and palest and the decidedly larger and moderately pale birds of the whole Pacific coast district from Cape San Lucas to British Columbia; (3) to recognize a new race on the Pacific coast north of the Mexican line, with combination of large size and average slightly paler coloration, apart from both an Eastern and a lower Californian race—thus three races instead of two as at present.

Briefly, even though my expectation at the outset of this study was to name a new subspecies, I have finally chosen the first of the above courses, and for the following reasons: I have been unable to find any satisfactory mensural differences between upper Californian and Eastern birds, not even as to forking of tail; the trends of varia-

tion along the Pacific coast consist in decrease in size in both sexes, and increase in whiteness of the female, from north to south, the extreme in both respects being manifest in birds from the southern portion of the peninsula of Lower California; there is greater aggregate difference between birds of upper California and those of southern Lower California than there is between the former and those of the eastern United States; the "slightly paler" coloration of Californian females is a difficult diagnostic character to use, because of the great range of variation in intensity and extent of the whiteness—many Eastern and Californian birds being indistinguishable; in the material examined, all Cape district females are distinguishable from Eastern females on basis of color, while nearly all males, as well as females, are distinguishable on basis of size.

A few further comments seem in order: Purple Martins at hand from the Lower California peninsula at about latitudes 27° and 31° are a little larger than Cape birds, but the females are nearly or quite as white below. So I put all the material I have seen from Lower California under the name *Progne subis hesperia*. The smallest and whitest individuals from upper California come from the southern part of the state—Mount Wilson and the San Jacinto Mountains. But larger and darker birds come from the same localities; so I put all under the name *Progne subis subis*. Arizona birds show, just as Ridgway says, tendencies toward *hesperia*, but to only slight degree, and they should remain under *subis*. To summarize:

Progne subis subis (Linnaeus). Northern Purple Martin. Breeds at various points throughout the United States and southern British provinces, from the Atlantic to the Pacific, and northward from the Gulf coast and the Mexican boundary.

Progne subis hesperia (Brewster). Lower California Purple Martin. Breeds in the peninsula of Lower California from the Cape district north at least to latitude 31°.

Museum of Vertebrate Zoology, University of California, Berkeley, October 25, 1927.

FROM FIELD AND STUDY

Can Hawks Prevent Mouse Plagues? A Reply.—In the September, 1927, issue of the CONDOR (pp. 249, 250) appeared an interesting discussion regarding the control of rodent pests by raptorial birds. It was my great good fortune during 1923 to spend two or three days in the field with Major Brooks and I have only the highest regard for his ability as an observer and recorder of facts concerning bird life. In this case, however, I fear that he has fallen into the error, which seems to be somewhat prevalent in this age, of making infrequent or occasional observations in a given locality and assuming that such observations represent typical or average abundance, or scarcity as the case may be, of species encountered. Whereas, it may be that because of fluctuations caused by climatic or seasonal conditions the facts are quite to the contrary.

The region in which the mouse plague in question occurred is in the extreme southwestern part of the San Joaquin Valley amid almost desert-like surroundings, even to a flourishing group of mesquite; while Snelling, although as Major Brooks states, only 180 miles away, is in the extreme eastern portion of the central part of the San Joaquin Valley and very near the typical Sierra Nevada foothill associations. The large winter assemblages of hawks which he mentions as having been observed on January 2, 1923, have long been known to the writer, and probably to other observers as well, as occurring commonly in that and other portions of Merced and Stanislaus counties, but are almost unknown in the southwestern portion of Kern County.

It might seem logical to assume that because of a great abundance of hawks at Snelling it must naturally follow that raptores were equally abundant at the same time in all parts of the San Joaquin Valley; but there is little likelihood that this ab-