NOTES ON THE SYSTEMATICS OF WEST AMERICAN BIRDS. III

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TWO RACES OF THE OLIVE-SIDED FLYCATCHER

IN 1921, Bangs and Penard (Proc. Biol. Soc. Wash., vol. 34, pp. 90-91) characterized a western subspecies of Olive-sided Flycatcher under the name *Nuttallornis borealis majorinus,* with type from the San Gabriel Mountains, Los Angeles County, California. No one, to my knowledge, besides myself has followed these authors in recognizing such a race, save that Oberholser (Auk, vol. 39, 1922, p. 248) includes the name and reference cursorily in his seventh list of proposed changes in the A. O. U. Check-list.

In the fall of 1926, I had opportunity in Chicago, Pittsburgh and Cambridge to examine for the first time good series of eastern birds of this species, and was struck by the amount of difference shown in comparison with western birds with which I had previously gained an intimate collector's knowledge. In Pittsburgh, especially, in the Carnegie Museum, I saw a beautiful series of eastern skins, showing in comparison with western ones also available, not only lesser length of wing and tail as the original describers of *majorinus* demonstrated, but decidedly smaller bill. There is no question now, in my own mind, as to *majorinus* being an excellently characterized race, distinguished by greater length of wing, sex always considered, and by decidedly thicker and wider as well as slightly longer bill. .The race breeds in Western America from the Rocky Mountains west to the Pacific sea-coast, and south along the Pacific Coast at least from Oregon to the Sierra San Pedro Mártir, in Lower California. It may be remarked here that the dimensional differences were shown quite plainly in the tables of measurements given by Ridgway in 1907 (Birds N. and Mid. Amer., IV, p. 506), though for some reason he appeared to deem them insufficient for recognition in nomenclature.

With regard to the specific name for the Olive-sided Flycatcher a change has recently been proposed. Hellmayr (Field Mus. Nat. Hist., Zool. Ser., vol. 13, 1927, p. 189) shows that Lichtenstein's (1830) name *Muscicapa mesoleuca* was based on a specimen of the present species, still extant in the Berlin Museum, from Oaxaca, Mexico. Furthermore, Hellmayr has found this type to be of the "smaller eastern form."

The natural consequence of all this is that we must adopt the following names for the two races of Olive-sided Flycatcher.

Nuttallornis mesoleucus majorinus Bangs and Penard. Greater Olive-sided Flycatcher.

Nuttallornis mesoleucus mesoleucus (Lichtenstein). Lesser Olive-sided Flycatcher.

RELATIONSHIP OF EASTERN AND WESTERN WOOD PEWEES

I happened recently to scrutinize pretty closely specimens of Wood Pewees *(Myiochanes)* from Lower California, for the purpose of learning something as to the status of the form *peninsulae* and as to the extent of its occurrence up the peninsula. Incidentally, I began to take note of the great range of variation in the form *richardsonii* from throughout western North America; and then I came to realize how little different from the mean of the latter "species," that of the eastern *virens* is. Indeed, I had to examine pretty closely series in mass to be able

to appreciate the several differences said in "the books" to separate the Eastern and Western Wood Pewees. If this is necessary, why are the two accorded full specific rank apart from one another?

Briefly, after scanning the literature, as far as I can make out, the idea of specific distinctness arose definitely only of rather recent years. Up to about 1887 most writers on western birds treated *richardsonii* as a "variety" or subspecies of *virens*. Coues appeared to summarize opinion up to his time in the following statement under *C[ontopus]. v[irens]. richardsoni* (Key, 4th edition, 1894, p. 440): "I fail to appreciate any reliable differences [from *virens*] in size or shape; or, in fact, *any* specific character. It is impracticable to pronounce upon a pewee, in the closet, without knowing the locality; but those familiar with both Eastern and Western birds in field [*sic*], agree that they are not exactly the same." This *feeling,* expressed in the last clause, that the birds are markedly different *in life,* thereafter grew. Differences in tones of voice and in construction and situation of nests are now emphasized more than "skin" characters. Coues in the last pronouncement of which he left record on this subject (Key, 5th edition, 1903, p 526), even though repeating the above statements as to difficulty in separation of specimens, then says: ". . . but those familiar with both eastern and western Pewees in the field will agree with me that they are not the same bird." And he uses a full specific form of appellation for the western bird, *Contopus richardsoni.*

Ridgway, in his Birds of North and Middle America (IV, 1907, p. 522) says: "Although convinced, from intimate personal acquaintance of both in life, that this form [*richardsonii*] and *M. virens* are specifically distinct I am at present unable to give a better diagnosis. The differences are more easily seen than described; but nevertheless it is often difficult to identify specimens as one or the other without doubt."

To put the facts plainly, as observed by both Coues and Ridgway and right now confirmed by my own examination of large series of specimens, there is practically complete intergradation by way of individual variation between *richardsonii* and *virens,* in structural characters. Why should differences in voice or in nesting habits weigh against the use of the trinomial in this case any more validly than they do in other quite similar cases where the trinomial is in current undisputed employment? Variations geographically in voice and habits are commonly observed to be coincident with geographical variations in structure; they are the expected thing, not exceptional and not to be given undue recognition in nomenclature. There is here, of course, no question but that such differences do exist as are exhibited by far western and far eastern Wood Pewees. After having learned by heart the various notes given by California birds, it was with astonishment that I listened to the widely differing voice of the birds around Washington, D. C. I wonder what happens at the north in the mid-west where the populations of the two forms adjoin, meet, mingle or blend.

It would appear from the above discussion that the Wood Pewees coming within the scope of the A. O. U. Check-list should properly bear names as follows:

Myiochanes virens richardsonii (Swainson). Western Wood Pewee.
Myiochanes virens peninsulae (Brewster). Large-billed Wood Pewee.
Myiochanes virens virens (Linnaeus). Eastern Wood Pewee.

PACIFIC COAST RACES OF WHITE-CROWNED SPARROW

Bird-banders have of late been obtaining numerous records of "Nuttall" White-crowned Sparrows during the winter well outside the known breeding range

of *Zonotrichia leucophrys nuttalli.* Collectors also, and for a much longer period, have been accumulating specimens of similar nature. For some time it has been known to several of us that breeding *nuttalli* from west-central California differ in certain minor characters from breeding *"nuttalli"* from Oregon, Washington and Vancouver Island. Examination of appropriate material now brought together shows that it is chiefly that style of *"nuttalli"* breeding farthest north, that appears in winter in interior and southern California. In the latter regard I wish at the outset to acknowledge the service of Mr. John McB. Robertson, of Buena Park, Orange County, in gathering actual specimens of white-crowns of the *"nuttalli"* persuasion from southern California and giving me the permission to use the important data they bear in the present study. Under the circumstances, it would seem useful to designate by name an additional race, and this I now do, as follows.

Zonotrichia leucophrys pugetensis, new subspecies. Puget Sound White-crowned Sparrow.

Type.—Male adult, in full nuptial plumage; no. 16020, Mus. Vert. Zool.; Parksville, Vancouver Island, British Columbia, Canada; May 5, 1910; collected by Annie M. Alexander; orig. no. 594.

Diagnosis.—A subspecies of *Zonotrichia leucophrys* with a cadmium yellow (not reddish) bill, and with plumage showing yellow bend of wing, an extension of the black areas and an extension and deepening of brown tones, though not to the degree exhibited by the subspecies *Z. l. nuttalli.* Differs from topotypes of *nuttalli* (from Santa Cruz, California), of the same season, on an average, as follows: bill slightly smaller; hind claw smaller; wing and tail slightly longer; wing more pointed, that is, interval on closed wing between tip of longest primary and tips of superimposed outermost secondaries greater; streaks on dorsum narrower and less intensely black; ground-color of upper surface less decidedly brown-toned; lower surface, especially chest, ashy rather than brown-tinged; flanks less deeply brown-toned.

Plumage characters must be weighed in the light of the molt programs, which differ somewhat in the two races here concerned. In the northern *pugetensis* the prenuptial molt is extensive, involving all of the feathers of the head and part, at least, of those of the dorsum and anterior lower surface. In the southern and non-migratory *nuttalli* the prenuptial molt is meager, apparently involving only the head, and in many examples only a portion of the feathers on the head. Thus, many if not all yearlings after the time of the prenuptial molt (March and early April), still show, right through the breeding season, many of the brown, first-winter stripe-feathers on the top of the head. As a result of this only partial molt, perhaps also of the windiness of their habitat, June and July *nuttalli* are usually abraded to such a degree that colors are nearly or quite effaced. In such examples the originally blackish shaft-streaks on the dorsum have nearly or quite disappeared, because of the loss of most of the contour portion of each feather web by wear; also fading of the pigment takes place in the remaining portions of the barbs.

Distribution.—The breeding range of *pugetensis* extends southward through the northwest Pacific Coast belt of North America from the southeastern coast of Vancouver Island (Parksville and Comox) and from the mainland of British Columbia at the mouth of the Fraser River (*fide* Brooks and Swarth, Pac. Coast Avif. No. 17, 1925, p. 93) through western Washington and Oregon into extreme northwestern California, as far as the coast of Mendocino County, intergrading somewhere along there with *nuttalli.*

The breeding range of *nuttalli* is restricted to an exceedingly narrow coastal strip of California south from Mendocino County to Point Conception, Santa Barbara County, casually to Santa Barbara. See Hubbs (Auk, xxxv, 1918, p. 325) for a study of the ecology of this race.

In winter, according to the evidence now available, *nuttalli* stays close within its breeding range, only vagrants occasionally straying short distances interiorly from the coast and not at all south of the latitude of its southernmost nesting station. On the other hand, *pugetensis* is, at least in the northern portion of its

breeding range, Washington and British Columbia, chiefly if not entirely migratory; and this migratory population of *pugetensis* sweeps south to occupy California pretty generally west of the Sierra Nevada and south through southern California even as far as San Diego County. It comes to pass thus that in winter *pugetensis* is associated with *nuttalli* quite upon the breeding grounds of the latter, as in the San Francisco Bay cities and around Monterey.

Specimens of *pugetensis* are at hand from breeding localities as follows: Parksville, French Creek, Little Qualicum River and Errington (up to September 9), Vancouver Island, B. C.; Seattle, Washington; Salem, Oregon; Trinidad, Patrick's Point, Arcata, Eureka, Ferndale and Carlotta, Humboldt County, California.

Wintering specimens of unequivocal *pugetensis* (all doubtfuls eliminated) have been examined by me from California as follows, the numbers being those of the Museum of Vertebrate Zoology unless otherwise indicated: 31290, Laytonville, Mendocino Co., October 9, 1919; 51862, Red Bluff, Tehama Co., December 29, 1927; 44005, Dudley, Mariposa Co., April 11, 1922; 19619-20, Tracy, San Joaquin Co., March 11, 1911; 7960, Second Napa Slough, Sonoma Co., April 7, 1909; 7153-58, Nicasio, Marin Co., February 19-21, 1909; 44031, Daly City, San Mateo Co., October 21, 1923; 6106, Oakland, Alameda Co., December 12, 1898; 26560, Berkeley, Alameda Co., March 10, 1916; 5626, Hayward, Alameda Co., January 3, 1883; 29901, Jolon, Monterey Co., October 19, 1918; 29916, Soledad, Monterey Co., December 5, 1918; 29919, San Miguel, San Luis Obispo Co., November 13, 1918; 35216, Paso Robles, San Luis Obispo Co., April 2, 1901; 12054, Pasadena, Los Angeles Co., January 20, 1906; nos. 1233-36, coll. Wright M. Pierce, near Santa Paula, Ventura Co., November 28, 1915; no. 17, coll. J. McB. Robertson, Buena Park, Orange Co., February 15, 1925; no. 83, coll. J. McB. Robertson, Buena Park, Orange Co., January 26, 1928; no. 2093, coll. Wright M. Pierce, La Jolla, San Diego Co., January 29, 1925.

Nomenclature.—For many years up until 1899, for example as given by Ridgway in 1890 (Auk, VII, p. 96) and in the A. O. U. Check-list of 1895 (pp. 230-231), the three currently recognized races of White-crowned Sparrows were known as *Zonotrichia leucophrys* [*leucophrys*] (Forster), *Z. l. intermedia* Ridgway, and *Z. l. gambelii* (Nuttall), the latter name being applied to the dark-colored Pacific Coast birds. But in 1899 (Auk, XVI, pp. 36-37), Ridgway concluded that he had erred previously in supposing Nuttall's name was based on the Pacific coast race and therefore in naming the "Intermediate" White-crowned Sparrow *intermedia;* for topotypes of *gambelii* (from Walla Walla, Washington) proved to be of the interior form. Ridgway (I believe rightly) therefore proposed to drop his name *intermedia* as a synonym of Nuttall's *gambelii* and to call the coast form *nuttalli.*

In the article just cited, Ridgway gave no type locality for *nuttalli.* But in 1901 (Birds N. and Mid. Amer., I, p. 343) he indicated a specimen in the United States National Museum from Santa Cruz, California, as having been selected for typeship, and this was confirmed in the A. O. U. Check-list of 1910 (p. 262). This shifting of names—*gambelii* for a time applying to the dark coast birds, and later to the interior, "intermediate" category of birds—has naturally caused much confusion in the literature. Part of this confusion was satisfactorily cleared up by Ridgway in his synonymy of the forms in 1901; but many references still remain in doubt, and in absence of actual specimens may never properly be allocated.

The type (by subsequent designation, as above) of *nuttalli* is now, by courtesy of Dr. Wetmore of the Smithsonian Institution, before me. It is number 78183, coll. U. S. National Museum. The label indicates that it was a male, taken at "Santa Cruz, Cal." by W. A. Cooper; while no date is given the notation "Parent of eggs" on the back of the label indicates a breeding bird; and the relatively unworn condition of the plumage further indicates capture early in the breeding season, probably in April or early May.

The type of *nuttalli* shows measurements in millimeters as follows: wing, 73.5; longest primary tip exceeds ends of inner secondaries by 13.0; tail, 72.5; outside chord of hind claw, 8.7; culmen, 11.9; bill from nostril, 8.7; depth of bill at base, 7.3. The type of *pugetensis* measures: wing, 74.6; longest primary tip exceeds ends of inner secondaries by 12.3; tail, 72.6; outside chord of hind claw 7.8; culmen, 10.7; bill from nostril, 8.4; depth of bill at base, 6.9. In some of these dimensions, these individual birds are not representative of their respective populations as shown by

series in mass effect; indeed, as regards primary tip, they reverse what in series appears to me to be the rule!

A number of authors, not only in the 70's and 80's and still earlier, in the pre-subspecies days, but very recently, have rated the forms of White-crowned Sparrow as full species. The most recent action of the sort is by Swarth (Univ. Calif. Publ. Zool., vol. 30, 1926, pp. 123-124) who lists the three forms as follows: *Zonotrichia leucophrys* (J. R. Forster); *Zonotrichia gambeli* (Nuttall); and *Zonotrichia nuttalli* Ridgway. In my present study, I have gone over the material (over 600 skins) upon which Swarth based his conclusions, and some new and additional material besides. While I agree in the main with this author's statements, there is one assertion of his that appears to me not justified, namely: "There is not one equivocal specimen in this series, not one that can be said to illustrate in even the slightest degree intergradation between any of the forms." This is, to say the least, extreme! Certainly, as regards *"nuttalli"* and *gambelii,* the Puget Sound population of the former which I am here newly naming is in several of its characters (see diagnosis above) decidedly intermediate toward *gambelii* from true *nuttalli* (of west-central California). Furthermore, in this self-same series, I have found, on close scrutiny, winter examples left by him labeled *nuttalli* which I feel fairly sure right now are really *gambelii,* and vice versa. I admit the likelihood that I am mistaken in *some* of these identifications; but even so, the point is made that the various characters are not so "trenchant" as Swarth's statement of his "conviction" would lead the reader to believe.

In my own present view there is that approximate degree of uniformity of characters in the three major forms as to make of them excellent *sub*species; but the likenesses between them are so outstanding, as compared with other *species* of *Zonotrichia (albicollis, coronata, querula),* that an indication of the really close mutual inter-relations among them would be lost by according the forms of *leucophrys* full specific rank. The (now four) forms of White-crowned Sparrow as I would designate them would therefore be:

Zonotrichia leucophrys leucophrys (J. R. Forster). Hudsonian White-crowned Sparrow.

Zonotrichia leucophrys gambelii (Nuttall). Gambel White-crowned Sparrow.

Zonotrichia leucophrys pugetensis Grinnell. Puget Sound White-crowned Sparrow.

Zonotrichia leucophrys nuttalli Ridgway. Nuttall White-crowned Sparrow.

Museum of Vertebrate Zoology, University of California, March 24, 1928.