

THE RACES OF MACGILLIVRAY'S WARBLER

BY ALLAN R. PHILLIPS

CURRENT literature treats the MacGillivray's Warbler (*Oporornis tolmiei*) as a distinct and unvarying species. This, however, is not a true representation of the facts. There is much geographic variation within MacGillivray's Warbler, and it is doubtful that it is really a species distinct from the Mourning Warbler (*O. philadelphia*). The question of specific distinction requires field studies beyond the scope of the present paper, but it is clear that the two are very closely related. The only distinction which holds for immature birds is the relative tail-length, and even here some overlap is found; furthermore, those populations of *tolmiei* that breed nearest to *O. philadelphia* are closer to that species in relative tail-length than are those populations breeding farther south. The only constant color difference, the white spots on the eyelids, is of use only for adult birds (after the first prenuptial molt).

MacGillivray's Warbler is one of a number of birds whose taxonomy cannot be understood without first knowing its times of migration. In the Lower Sonoran Zone valleys of southern and central Arizona, where it surely does not breed, it was still "quite numerous" on May 27, 1884 (Mearns, MS.), and is recorded to June 8 (see Brewster, Bull, Nuttall Orn. Club, 7: 139, 1882); on its return I have found it as early as August 6. Therefore, only birds taken between June 10 and July 30 may be reasonably assumed to be breeding birds; and at that season many birds are in very poor plumage.

Cases such as this (which is by no means an extreme one) emphasize the importance of noting on the labels of all specimens collected accurate data concerning the sexual condition, sex, and age, actions (if outstanding), and type of country (plant cover). All too often the collector throws away valuable data to save five seconds' writing.

In order to understand fully the geographic variations that were very evident in a mere handful of specimens, therefore, it was necessary to study large series of birds. For the privilege of making these studies, I am indebted to the authorities of the Museum of Comparative Zoölogy, and especially to Dr. L. C. Sanford and the authorities of the American Museum of Natural History, the United States National Museum, and the Fish and Wildlife Service.

Considering its extended migrations and the zonal, ecological, and geographic restriction of its breeding range, MacGillivray's Warbler shows a surprising amount of geographic variation. This results from two clines, one from dull color to bright, proceeding westward; the

other from short tail to long, proceeding southward. There is also a slight tendency to small size in the Pacific Northwest. Four races may be distinguished:

(1) ***Oporornis tolmiei tolmiei*** (Townsend)

Sylvia Tolmiei Townsend, Narr. Journ. Rocky Mts.: 343, April, 1839 (Columbia River [= Ft. Vancouver, Wash.]).

Sylvia Macgillivrayi Audubon, Orn. Biog., 5: 75, June, 1839 (banks of the Columbia [= Ft. Vancouver, Wash.]).

(?) [*Trichas*] *vegeta* "Licht." Bonaparte, Conspectus Gen. Av., 1: 310, 1850 ("Mexico").

Subspecific characters: Upper parts more yellowish green, and under parts averaging deeper and more orange yellow, than in other races.

Range: Breeds along the Pacific coast from southwestern British Columbia to Marin Co., California. On migration east to the Sierra Nevada, central and southeastern Arizona, and exceptionally the Guadalupe Mts., Texas. Winters from southern Baja California and Sonora (Alamos) to Guatemala, rarely to Nicaragua (San Rafael del Norte) and Costa Rica (San José, May, unusually brown above).

This race may breed inland to the Cascade Mts., whence I have seen no definitely breeding birds.

The name *vegeta* is unidentifiable. Its description ("*annulo oculari albido*") fits *O. agilis* best, but would apply to almost any immature *Oporornis*. Cabanis (Journ. für Orn., 9: 84, 1861) placed it in the synonymy of *tolmiei*, but he may not have realized that *philadelphia* also occurs in México and is indistinguishable in plumage. Probably *vegeta* was a composite name based on various races or species of *Oporornis*; and even if an unquestionable type specimen should come to light, it is doubtful that it would be in suitable condition for accurate racial determination. With all these matters in doubt, it is best to follow Cabanis and list *vegeta* as a probable synonym of *tolmiei*.

(2) ***Oporornis tolmiei monticola***, subsp. nov.

Type: No. 223, collection of Allan R. Phillips; male in breeding condition; Hart Prairie, San Francisco Mt., Arizona (gooseberry association, lower Canadian Zone); June 13, 1938; collected by A. R. Phillips (orig. no. 351).

Subspecific characters: Tail relatively longest; color dull, differing from *O. t. tolmiei* in darker and grayer (less yellowish) green upper parts and paler and greener (less orange) yellow under parts. The difference in color of the under parts is less constant in fall females

of unknown age, perhaps due to variation with age and to erroneous sexing of some young birds.

Range: Breeds in dense deciduous brush of the Canadian Zone from southeastern Oregon (Steens and Mahogany Mts.) and southwestern Wyoming (Ft. Bridger and Steamboat Mt.) south to central Arizona (White and San Francisco Mts.) and central New Mexico (Alto). In spring migration in Texas (Van Horn, Pecos City, and Menard), and in fall from southeastern Arizona (near Oracle, Fort Huachuca) to Madero Creek, "Presidio Co.," Texas. Winters from the plains of Colima, Michoacán (Patamban, Zamora), and Morelos (Yautepec) to Guatemala (Panajachel).

The birds of southeastern Idaho (Malad, Inkom) and the central-eastern edge of Oregon seem intermediate toward the next race. Having defined the ends in the chain of races, we may proceed to discuss the intermediate links.

(3) ***Oporornis tolmiei austinsmithi***, subsp. nov.

Type: No. 268434, United States National Museum, Fish and Wildlife Service collection; male; Emigrant Gulch, 6500 feet alt., 3 miles southeast of Chico, Montana, July 13, 1917; collected by M. A. Hanna (orig. no. 172).

Subspecific characters: Closely resembling *O. t. monticola*, but tail relatively shorter. Normally, tail in males, 56.5 mm. or less, and 4.5 mm. or more shorter than the chord of the wing. The reverse is true of *O. t. monticola* (tail normally, 56.5 or more, and only up to 4.5 mm. shorter than the wing). In females there appears to be great overlap in absolute tail length, and proportions are more apt to be diagnostic; the series is inadequate.

Range: Breeds from southeastern British Columbia (Yellowhead Lake) and the Cypress Hills, Saskatchewan, to central Wyoming. In migration from Texas westward, rarely, to southeastern California (Coso Coso Mts.). Winters from Sinaloa (Escuinapa) and Guatemala to Chiriquí, but apparently rare in winter in México; the principal winter range seems to be from Guatemala to Nicaragua.

This race is named in recognition of the services of Austin Paul Smith to western ornithology. His writings and carefully annotated specimens have helped to clear up the status and variations of this and other migratory birds.

This race impresses me as being smaller than *monticola*, but with a relatively longer wing. Possibly there may be some difference in weight.

(4) ***Oporornis tolmiei intermedia***, subsp. nov.

Type: No. 384003, American Museum of Natural History; male; Okanagan, British Columbia, June 23, 1906; collected by Allan Brooks.

Subspecific characters: Somewhat duller than *O. t. tolmiei*, but brighter than *austinsmithi*, which it resembles in proportions over most of its range. Thus it is exactly intermediate between the coastal and eastern races.

Range: Breeds from northern British Columbia (Telegraph Creek; Second South Fork, 50 miles east of Telegraph Creek) south over most of British Columbia, Washington, and Oregon east of the Cascade Mts., and through the Siskiyou Mts. region to the Sierra Nevada and probably other parts of California. Migrates east to Montana (Gallatin Co.), Colorado (Antonito, Colorado Springs, etc.), Texas (Ingram, Fort Clark), and Tamaulipas (Mier), and west to Marin Co., California (rarely). Winters from southern Baja California (rarely) and Sonora (Alamos, Feb. 29) to Nicaragua (Ocotal) and even Chiriquí (Boquete), but principally from Michoacán (Mt. Tancitaro) to Guatemala.

It is the widespread range of this intermediate race which causes most of the difficulty in identifying migrants. It breeds over the bulk of all the Pacific coast states and provinces, and perhaps even into northwestern Idaho; a May male from Coeur d'Alene is *intermedia*, but may be a transient. Birds from the eastern edge of northern Oregon are variable, but here, too, *intermedia* may be a transient. Idaho seems to be an area of intergradation between three different races.

Intergradation between *intermedia* and *monticola* occurs in southeastern Oregon. To the west, birds from Roseburg and Grant's Pass, Oregon, seem nearer *intermedia* than *tolmiei*. A June bird from Monterey, Calif., seems to be *intermedia*, which may thus breed over most of the California range of the species.

Breeding birds from the Sierra Nevada differ from more northern *intermedia* in their brighter average color below, longer tails, and often retarded plumage in the males (head seldom entirely dark), but the differences are very slight, and the resemblance is close; migrants must be called *intermedia*.

The only measurements of value in identifying the subspecies are the tail and the difference between wing and tail. In some birds I measured the flattened wing, in others the chord (the difference between flattened wing and chord is about one millimeter) and the method used is given in each case. The table of measurements in-

cludes only birds of known sex taken on their presumed breeding grounds. Immatures are included, as their measurements do not seem to differ from those of adults. "Difference" is the wing minus tail of each individual bird.

TABLE OF MEASUREMENTS (in millimeters)

	Flattened wing		Chord of wing		Tail
	Number measured	Difference	Number measured	Difference	
MALES					
<i>monticola</i>	10	3.95(2.5-6)	10	2.9(1.3-5.5)	58.4(55-62.2)
<i>austinsmithi</i>	5	8.3(6.8-10)	10	6.0(3-8.4)	54.0(51.6-56.5)
<i>intermedia</i> (Brit. Col.)	5	8.2(8-8.3)	1	7.0	53.3(49.9-56.4)
<i>intermedia</i> (Sierra Nev.)	8	5.7(4.8-7.6)			54.8(53.1-56)
<i>tolmiei</i> (Marin Co., Cal.)	5	6.0(5.1-6.8)			55.2(52.8-57.2)
<i>tolmiei</i> (Brit. Col.)	7	7.0(4.9-8.4)			52.1(48.8-54.1)
FEMALES					
<i>monticola</i>	2	4.15(2.8-5.5)	6	2.7(2-3.6)	54.7(53.2-57.6)
<i>austinsmithi</i>	4	7.0(5.5-8)	4	5.8(5.3-6.8)	52.0(49.8-54.2)
<i>intermedia</i> (Brit. Col.)	2	6.3(6-6.6)	1	5.4	52.5(51.3-54.5)
<i>intermedia</i> (Sierra Nev.)	7	6.0(4.9-7)			52.6(51.7-54.9)
<i>tolmiei</i> (Marin Co., Cal.)	1	5.3			52.2
<i>tolmiei</i> (Brit. Col.)	3	6.3(5.5-7.4)			51.0(49-53.9)

Tucson
Arizona

JOSEPH MAILLIARD, 1857-1945

BY ROBERT C. MILLER

Plate 10

In the spring of 1873 a fifteen-year-old boy visited the Yosemite Valley. Riding horseback along Glacier Point trail, he flushed a bird from its nest, collected one egg, and transported it safely the rest of the day in his pocket handkerchief. The bird was a Townsend Solitaire and the boy was Joseph Mailliard.

Seventy-two years later, on December 12, 1945, Joseph Mailliard died, full of years and honors, only a few days prior to the eighty-eighth anniversary of his birth. During all the intervening period his life was intimately bound up with the history of ornithology in California.

Joseph Mailliard was born in Bordentown, New Jersey, on December 30, 1857. His father and his grandfather before him had been secretaries to Joseph Bonaparte, brother of Napoleon. His mother was a sister of Julia Ward Howe. The amalgamation of the French and the New England heritages could not fail to be felicitous. Those who knew Joseph Mailliard's eager intellect, sterling character