

THE RACES OF *EMPIDONAX AFFINIS*

BY ALLAN R. PHILLIPS

SEVERAL years ago the writer had occasion to study the extent of post-mortem color change in the Wright's Flycatcher (*Empidonax oberholseri*).¹ For this purpose he borrowed from the Biological Survey a small series, among which was an unusually large Jalisco specimen concerning which his notes remark "possibly *E. pulverius*?". As he had never seen a specimen of any race of *affinis*, the matter was not then investigated. In 1941, however, in the course of reviewing the Biological Survey collections in Washington, the same specimen again attracted attention. Comparison soon showed that it was indeed a member of the *affinis* group, but rather different in color. It was also at once evident that Vera Cruz specimens of supposed '*affinis*,' examined in the meantime, had been far from that race in dorsal coloration. Since even *trepidus* has been recently regarded as a mere intergrade between *affinis* and *pulverius*, it was decided to make a thorough review of the species. For the use and loan of specimens in this study, I am indebted to the authorities of the United States National Museum, Fish and Wildlife Service, Carnegie Museum, and American Museum of Natural History.

In the material examined, there appear to be six races, which may be recognized as follows:

KEY TO THE RACES OF *Empidonax affinis*:

1. Rich (but not dark) brownish on crown, back, and chest; belly deeper clear yellow; eye-ring yellowish white; bill usually very slender. (South end of Mexican Plateau; probably resident.) *affinis*
1. Duller and more grayish or more olivaceous on back, chest, and crown; belly paler or greener yellow; bill somewhat broader.
 2. Wing longer (75-80 mm. in ♂, 73 in one ♀), usually exceeding tail by 9-12 mm.; throat pale grayish, not very yellow; crown, back, and chest fairly brown (between *affinis* and the *trepidus* group in this respect); eye-ring grayish white. (Sierra Madre Occidental; probably winters mainly in southern part of the breeding range.) *pulverius*
 2. Coloration much grayer, or else wing shorter (usually 71-74 in ♂, 66-71 in ♀) and usually exceeding tail by 7-10 mm.; throat paler yellowish or whitish, more strongly contrasted with chest-band (or else latter paler and less brownish); eye-ring greenish white (or almost white).
 3. Chest-band broad, dark, and olivaceous, strongly contrasted with throat; belly deep yellow with slight greenish cast; upperparts, sides of head and neck, wing-bars, and edgings of remiges olivaceous; back and crown some-

¹ *Empidonax wrighti* of the A. O. U. Check-list, fourth ed.

- what browner; crown darker. (Probably resident in Sierra Madre del Sur and mountains along Pacific coast from Guerrero to extreme western Guatemala.)
..... *bairdi*
3. Chest-band grayer or paler; upperparts and sides of head grayer; crown without brown cast; back paler; belly pale yellowish. (The *trepidus* group.)
 4. Pale olivaceous above and on sides of head, wing-bars, and chest-band; head scarcely darker than back, not contrasting with it; chest-band narrow and inconspicuous. (Las Vigas, Vera Cruz; resident?) ... *vigensis*
 4. Grayish above and on sides of head, chest, etc.
 5. Darker on upperparts, sides of head, throat, chest, etc.; back browner; wing-bars buffier; eye-ring greener; slightly smaller (♀ usually wing 69-72, tail 60-61). Mountains of Coahuila and southwestern Tamaulipas; winters from central northern Chiapas to northwestern Guatemala.) *trepidus*
 5. palest and grayest of all, approaching in coloration the more northern species of the group (*wrightii* and *oberholseri*); eye-ring almost pure white; slightly larger (2 ♀, wing 71-74, tail 63-64). (The Bufo, extreme west-northwestern Jalisco; resident?) *subsp?*

Empidonax affinis affinis (Swainson)

Tyrannula affinis Swainson, Philos. Mag., n. s., 1: 367, 1827 ("maritime parts of Mexico"; van Rossem believes probably Temascaltepec, state of Mexico).

Empidonax fulvipectus Lawrence, Ann. Lyc. Nat. Hist. N. Y., 10: 11, 1871 (Mexico City).

This is the richest brown on crown and back of all the races of the species, with decidedly brownish breast-band; the belly is often deeper yellow than in other races; throat yellowest of all the races; nuchal band pale olive-green, less gray than in most other races.

Resident on southern Mexican plateau. Specimens were examined from Michoacan (Patzcuaro, 1 ♂ in poor plumage, July 27, 1892), Mexico (north slope of Volcan Toluca, Sept. 10, 1893; Salazar, Oct. 27, 1892; Progreso, Oct. 22, 1933; Rio Frio, Dec. 10, 1933; Contreras, Jan. 6 & 12, 1933), Morelos (Huitzilac, Dec. 28, 1892), and Puebla [Mt. Orizaba, Apr. 23, 1893, "Orizaba" (Puebla?), taken by Sumichrast].

The specimen in the Biological Survey collection from Salazar, Mexico, has on its label "agrees with the type of *Tyrannula affinis* . . . —W. H. Osgood." The type of *fulvipectus* may be presumed on geographic grounds to represent the same race; I had expected to examine it in New York, but missed connections by a couple of days.

Empidonax affinis pulverius Brewster

Empidonax pulverius Brewster, Descrip. Supposed New Birds from W. N. Amer. and Mex. [= previously published separate from Auk, 6]: 86, 1889 (Pinos Altos, Chihuahua).

This race is near *affinis* in color in fresh fall plumage, but is duller; it is distinctly larger than any other race except the much grayer Jaliscan one to be discussed later.

Breeds on the Sierra Madre Occidental, probably wintering mainly in the southern part of its breeding range. Specimens were examined from Chihuahua (65 miles east of Batopilas, Oct. 1, 1898; near San Julian, Sept. 8, 1898; near Guadalupe y Calvo, Sept. 3, 1898), Durango (Cerro Prieto, Sept. 10, 1898; El Salto, July 12 to 18, 1898), Zacatecas (Valparaiso Mts., Dec. 3, 1897), and Jalisco (Bolaños, Sept. 12, 1897).

The Zacatecas bird has a dark crown and thus seems to approach *bairdi*, but it is too large to be referred to that race. The Bolaños bird is in poor plumage, but is also thought to be *pulverius*.

Empidonax affinis bairdi Sclater

(?) *Empidonax bairdi* Sclater, Pr. Zool. Soc. London 1858: 301 (La Parada, Oaxaca).

This is the darkest of the races, with a notably broad, dark, and olivaceous chest-band. It is also the most olivaceous below, with a slight greenish tinge to the yellow belly. To it I refer two old (and thus hardly comparable) skins from Guerrero, whose differences from recent Guatemalan birds may be due either to fading and 'foxing' or to their being atypical. The race probably ranges generally over the Sierra Madre del Sur and other mountains fronting the Pacific lowlands. If so, it should probably bear the name *bairdi*, since the birds of Oaxaca should be nearer the Guatemalan form than to true *affinis*. In calling this bird *bairdi*, then, I follow van Rossem (Bull. Mus. Comp. Zool. 77: 393, 1934) in specific but not subspecific determination of the type, which is not available.

Resident (presumably) in the mountains of extreme western Guatemala and apparently also the Sierra Madre del Sur and adjacent ranges of Mexico. Specimens seen from Guerrero (mountains near Chilpancingo, Dec. 19 and 24, 1894) and Guatemala [Tecpam, Nov. 19-21, 1936; Dept. Totonicapán (Desconsuelo and Maria Tecum), Nov. 24, 1936; also apparently of this race (but comparative material was inadequate at the time of my visit) are skins in the American Museum of Natural History from Tecpam, Aug. 5, 1926, Momostenango, Jan. 12, 1925, and Quezaltenango, Nov. 17 and 26, 1919].

Empidonax affinis vigensis, subsp. nov.

Type.—Female, no. 8226, Louis Agassiz Fuertes Memorial Collection of Cornell University; Las Vigas, 9000 feet alt., Vera Cruz, Mexico, April 4, 1939; collected by George M. Sutton (original no. 8608).

This is the uniform, pale, olivaceous extreme of the species. The underparts and upperparts are both nearly uniform, due to obsolescence of breast-band, paler crown, etc. I have seen nine specimens, all from near Las Vigas. Four were taken Apr. 2-4, 1939; a worn ♂, June 13, 1893; and four (not critically compared), Apr. 20-24, 1897. It is probably resident, but this remains to be demonstrated.

***Empidonax affinis trepidus* Nelson**

Empidonax trepidus Nelson, Auk 18: 47, 1901 (Hacienda Chancol, Guatemala).

This, the most (or only) migratory race of the species, is not a mere intergrade between *affinis* and *pulverius*, but is distinctly grayer than either. I would refer here the mooted female from Miquihuana, Tamaulipas, whose brownness above is, in my opinion, partly due to wear and fading. It is still not as richly colored as *affinis*.

Two specimens in the Biological Survey collection appear intermediate between *trepidus* and *affinis*. These (no. 154,581, ♀, Amecameca, Mexico, Feb. 2, 1893, and no. 154,588 ♀ San Cristobal, Chiapas, Sept. 27, 1895) differ only slightly from one another, and it seems illogical to call them different races on geographic grounds alone. I suspect that both are migrants from an area of intergradation.

Specimens of good *trepidus* were seen from Tamaulipas (Miquihuana, June 14, 1898), Coahuila (Sierra Guadalupe, Apr. 24 and May 2, 1902), Chiapas (San Cristobal, Sept. 21, 1895), and Guatemala (Hacienda Chancol, Jan. 3-5, 1896, including the type; also probably of this form, but not satisfactorily studied, is a ♀ in the American Museum of Natural History from 7 miles west of Momostenango, 7000 feet alt., Jan. 5, 1925).¹

***Empidonax affinis* subsp.?**

Reference specimens.—Females, nos. 156,023 and 156,024, United States National Museum. Biological Survey collection; [the Bufo, circ. 5 miles southeast of] San Sebastian, Jalisco, March 21, 1897; E. W. Nelson and E. A. Goldman.

I am indebted to Major Goldman for information on the exact locality where, in a single day, the two specimens of this race were taken. On this date Nelson and Goldman were at a small mining camp called 'El Real Alto' (7200 feet alt.). The locality, about 35 miles east of the Bahia de Banderas, is considerably west of the apparent range of *trepidus*; nevertheless one of the specimens is only slightly different from that race, to which it was previously referred

¹ First identified as '*wrightii*,' and so recorded (together with several atypical specimens of *hammondi*) in Bull. Am. Mus. Nat. Hist. 64: 262, 1932.

(Ridgway, Bull. U. S. Nat. Mus., 50, pt. 4: 576, 1907). The other, no. 156,023, however, is much larger, and so much paler and grayer that it was not even referred to the *affinis* group of races, notwithstanding its agreement in all essential characters.

It might be thought that no. 156,023 is merely a hybrid between *affinis* (subsp.?) and *wrighti* (= *griseus* of the A. O. U. Check-list, fourth ed.); but as it is extremely doubtful that the latter breeds anywhere in Mexico, such a cross is highly unlikely. The two specimens represent, in my opinion, almost the limits of variation of an isolated race which, while resembling a distant race, differs widely from the adjacent ones. I presume it to be resident where found.

My principal reason for not naming this race is that I have not seen fresh spring specimens of *pulverius*; I have had to judge their appearance from worn breeding birds and published descriptions. While I fully believe the Jaliscan birds represent a new race (and indeed named them in the first draft of this manuscript), more conclusive evidence is desirable.

COMPARATIVE MEASUREMENTS OF ADULTS

	Wing (av.)	Tail (av.)
3 ♂ <i>affinis</i>	69-75 mm. (72.3)	58-66 mm. (63.1)
5 ♀ <i>affinis</i>	66.5-72 (69.6)	61-65 (62.3)
4 ♂ <i>pulverius</i>	78-80.5 (79.3)	66.7-69 (68.1)
1 ♀ <i>pulverius</i>	72.7	62.8
2 ♂ <i>bairdi</i>	72.4-73.7	62.3-63.5
3 ♀ <i>bairdi</i>	65.6-69.5 (68.1)	59-63.5 (61.3)
2 ♂ <i>vigensis</i>	71.2-72.4	61.4-64
3 ♀ <i>vigensis</i> (including type)	68-69.5 (68.7)	61-63 (61.9)
3 ♂ <i>trepidus</i> (including type)	71.7-79.3 (74.6)	63.5-71 (66.4)
5 ♀ <i>trepidus</i>	65.4-72 (69.6)	57-64.5 (60.8)
2 ♀ subsp.?	71.2-74.2	62.7-64

Cornell University
Ithaca, New York