

A SYSTEMATIC REVISION OF *GEOTHLYPIS SPECIOSA*, THE BLACK-POLLED YELLOWTHROAT

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The Black-pollled Yellowthroat (*Geothlypis speciosa*) is a little-known species whose range is restricted to a small portion of the Trans-Mexican Volcanic Belt from the Valley of México westward to Lago Pátzcuaro, Michoacán and Lago Yuriria, Guanajuato (fig. 1). It was originally described from "México" by Sclater (1858:447) from three specimens (adult and "young" male and female) from a collection made by Henri L. F. de Saussure. Sumichrast (1869:546), writing on the geographic distribution of "Native birds of the Department of Veracruz," apparently first made the erroneous assignment of the species to the Orizaba region of Veracruz when he wrote: "*Geothlypis speciosa*. Alpine region. To this species I refer a *Geothlypis* occurring in the alpine region among the mountains of Orizaba and which belongs to the collection of my friend M. Mateo Botteri." Salvin and Godman (1879:152) cited only Sclater's types and a female without locality in their collection, and referred to the above statement of Sumichrast. Ridgway (1902:683) first used the misleading common name "Orizaba Yellowthroat." He was followed by Hellmayr (1935:442) and Moore (*in* Miller et al. 1957:262). The appropriate common name Black-pollled Yellowthroat was, I believe, coined by George M. Sutton (1951).

Hellmayr (*loc. cit.*) cited a specimen taken by W. W. Brown at "Mexico (San Mateo)" and added, this locality was "presumably in the mountains of Veracruz," apparently basing this assumption on Sumichrast's statement. Brown's San Mateo was shown to be in the Lerma Valley by Lea and Edwards (1950; see also Dickerman 1965). However, six years later, Moore (*in* Miller et al., *loc. cit.*) cited Brown's San Mateo as in the Valley of México and thus prematurely provided the first literature reference to the species from the Valley. Moore also followed Hellmayr in citing Orizaba as the probable type locality. Actually, the species does not occur east of the Valley of México, some 200 miles west of Orizaba, and all published records from the Valley of México or eastward to date should be disregarded. I believe the only specimens from the Valley of México are those discussed below.

In connection with studies on the Song Sparrows (*Melospiza melodia*) of the Mexican Plateau (Dickerman 1963), and in subsequent studies on other fresh water marsh species, I have made the first collections of *Geothlypis speciosa* from the Valley of México. I also collected the first series of the species in fresh plumage from the western portion of its range, as well as additional series from the headwaters area of the Río Lerma where most of the known specimens of the species were collected. Within these series there are two distinctive groups, one whose distribution centers are on the headwaters of the Río Lerma, and the other inhabiting the lake region of the Lerma drainage, i.e., Lagos Pátzcuaro, Cuitzeo, and Yuriria.

To determine to which of these populations the name *Geothlypis speciosa* Sclater should refer, Allan R. Phillips kindly compared representatives of the two forms with the adult male and female co-types in the British Museum (Natural History) (see plate 10, Cat. Birds Brit. Mus. 10:1885). I have compared series of the two forms with the third co-type, a male in the first basic plumage in the collection of the U. S. National Museum (Deignan 1961). Even with the slight amount of foxing that occurs in this species (as noted in comparing the large series collected by W. W. Brown in the Lerma Valley in November 1910 with recently taken series from the same area), it was evident that the three co-types represent the eastern form. Therefore, I recommend the restriction of the type locality of *G. speciosa* Sclater to the headwaters of the Río Lerma in the State of México. The western form, as yet known only from males, may now be described as:

Geothlypis speciosa limnatis, new subspecies.

Type: Adult (♂) male, American Museum of Natural History No. 788,641, Lago Yuriria, State of Guanajuato, México, 9 December 1963. Skull fully ossified, rather little fat, testes about 1 mm. Field no., RWD 11756. Measurements in flesh: length, 140 mm; extent, 181 mm; weight, 10.9 g; culmen from nostril, 8.8 mm.

Diagnosis: Similar to *G. s. speciosa* but with dorsal coloration greener, in contrast to the

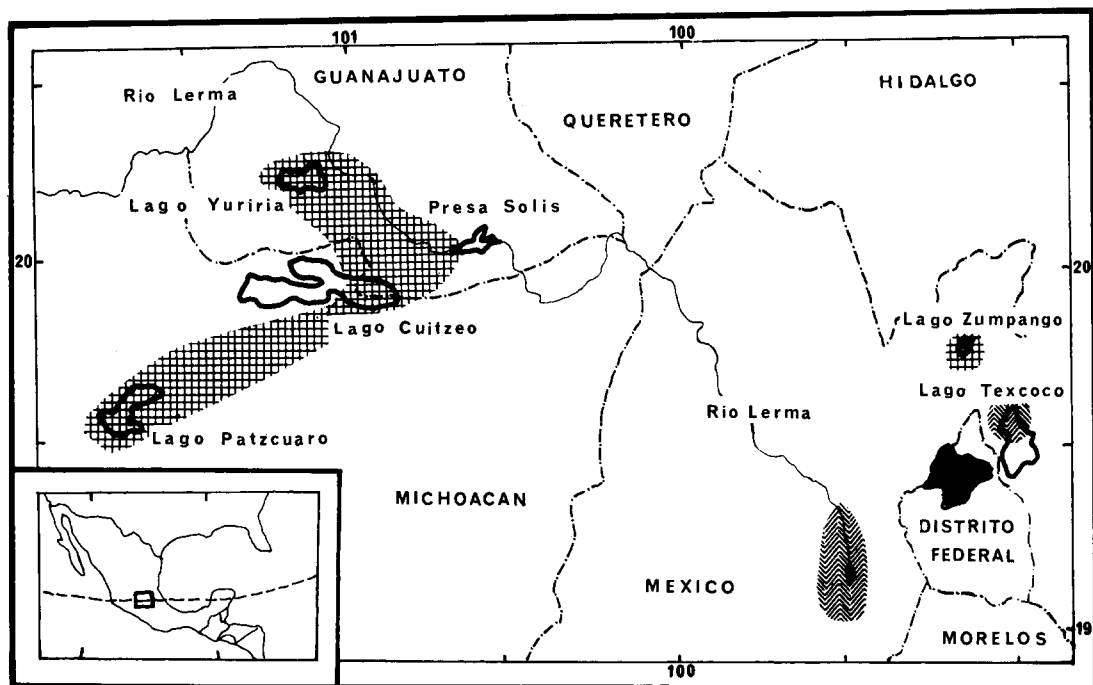


FIGURE 1. Geographic distribution of *Geothlypis speciosa*. Square grid represents *G. s. limnatis*; herringbone grid represents *G. s. speciosa*; black area delimits México City.

browner tones of *speciosa*. The flanks of *limnatis* are more olive (yellowish-olive to buffy olive) rather than browner as in *speciosa*. There is no consistent difference in yellow of ventral parts although extreme specimens of *speciosa* are richer than any *limnatis*. The culmen from nostril averages longer (mean and SD for *limnatis* = 8.68 and 0.20; for *speciosa* = 8.14 and 0.30); 88 per cent of *limnatis* have the culmen 8.5 mm or greater while 84 per cent of *speciosa* measure under 8.5 mm (fig. 2). There is no significant difference between males of the two forms in length of wing chord or tail.

Range: Resident in the cattail and hard-stemmed bullrush marshes of Lagos Pátzcuaro, Cuitzeo, and Yuriria, and connecting drainages and at the foot of Presa Solis, Michoacán.

Specimens examined: *G. s. speciosa*, total, 80. STATE OF MÉXICO: upper Río Lerma (including San Mateo and the three co-types), 75. DISTRITO FEDERAL: Lago Texcoco, 5.

G. s. limnatis, total, 31. MICHOACÁN: Lago Pátzcuaro, 1; Lago Cuitzeo, 1; 4.7 mi. W Alvaro Obregon, 2; and Presa Solis, 1. GUANAJUATO: Lago Yuriria, 20. STATE OF MÉXICO: Lago Zumpango, 6 (intermediate).

The name of the new form is from the Greek, meaning "who delights in marshes."

The specimens from the Valley of México (fig. 1) are puzzling in that those from the

north end of Lago Texcoco collected October 1956 are slightly browner than *speciosa* from the Lerma Valley and thus are more strongly differentiated from *limnatis*. However, two males in relatively little-worn plumage taken January 1966 from Lago Zumpango are separable from the Yuriria series only by their slightly browner flanks and are easily separable from the Texcoco-Lerma series dorsally. The culmens measured from nostril of four males from Zumpango (7.9–8.4) are typical of *G. s. speciosa*. The breeding population of Lago Texcoco probably became extinct about 1958, when the northern end was finally drained and planted to crops. It seems impossible that Lago Zumpango, originally a portion of Lago Texcoco (Dickerman 1963:14, map) could have had a form distinctly different from that of occupants of the southern part of the lake basin. These Zumpango specimens may indicate: 1) convergence towards *limnatis*; 2) an invasion of *limnatis* into the Valley and lack of ability of the *speciosa* population, due to its constricted range and reduced numbers, to absorb and swamp out the invading genes; or 3) simply, an intermediate population.

The last-closed Pleistocene drainage channel which connected the Valley of México to the Lerma drainage was in the vicinity of Lago Zumpango (Dickerman 1963). In contrast, the

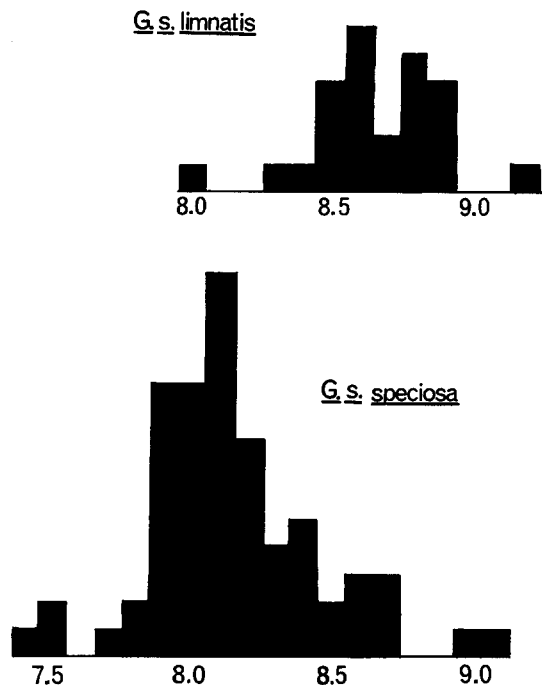


FIGURE 2. Variation in the length (mm) of the culmen, measured from anterior edge of the nostril of male *Geothlypis speciosa*. Each square represents a single specimen. *G. s. speciosa*: $n = 67$, $\bar{x} = 8.14$, $SD = 0.30$; *G. s. limnatis*: $n = 24$, $\bar{x} = 8.68$, $SD = 0.20$.

Song Sparrows of Laguna Zumpango are uniform with those of the rest of the Valley of México.

The juvenal plumage of *G. speciosa* has apparently not been described. I have examined five specimens in this plumage, one collected by E. A. Goldman on 5 July 1904 at Lerma, and four taken in June and September 1961-63. One taken 7 September shows extensive prebasic molt. The juvenal plumage of *G. speciosa*, like that of the other two species of *Geothlypis* in México, *G. trichas* and *G. nelsoni* (cf. Phillips 1961), is in general similar to that of the definitive female, but is slightly darker and browner dorsally. However, the differences in color are less well marked than those between the definitive female and the juvenal plumages in the other two species. Ventrally, *speciosa* juveniles are somewhat duller than the female, especially on the throat and upper breast. Ventrally, the degree of contrast between the female and the juvenal plumage of *speciosa* is about as in *trichas* (*modesta*), and much less well marked than the female and juvenal plumage of *nelsoni* (*karlena*) in which the female is bright yellow and the juvenal plumage is pale olive and olive yellow. Subspecies in parenthesis are forms used in making comparisons.

The feathers of the juvenile *limnatis* collected 5 July 1904 show considerable foxing (i.e., browning) in the grayish browns and olives of the back and especially of the head, as compared with the recently taken specimens. Ventrally, its color does not differ greatly from the recent juveniles.

Female *G. speciosa* in fresh basic plumage have rich buffy-ochraceous edgings to the ventral feathers which somewhat obscure the generally rich yellow ventral coloration. Females of *G. s. speciosa* average smaller wing and tail measurements than males. For 13 females, wing chord measurements ranged from 53 to 57 mm, with a mean of 54.8. For 27 males the range was 55-61 and the mean, 58.1. Range and mean tail length (mm) for 11 females was 49-56 and 53.5, while for 24 males these values were 51-61 and 58.0. Four females weighed 9.5-9.7 while 8 males weighed 9.5-12.0 g (mean = 10.7).

The presence of two forms of this cattail-tule-restricted species within a small area of the Trans-Mexican Volcanic belt is a further indication of the remarkable degree of endemism in the aquatic avifauna of this region. It is interesting to note that the ranges of the two forms of *G. speciosa* coincide with the ranges of *Melospiza melodia villai* and of the western group of reddish-brown forms including *Melospiza m. yuriria*, *M. m. adjusta*, and *M. m. zacapu* (Dickerman 1963:40).

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