

Restricted to the river and lake marshes of central Mexico, this warbler, although common in suitable habitat, has suffered from extensive wetland drainage which has resulted in a number of populations becoming extinct.

DISTRIBUTION The Black-pollled Yellowthroat is restricted to a small number of lake and river marshes in southern Guanajuato and northern Michoacán (race *limnatis*) and México state (race *speciosa*) on the central plateau of Mexico. Currently, the main area of distribution is within the lake region of the río Lerma drainage. Coordinates are taken from OG (1956a).

Guanajuato Records come from two lakes within the río Lerma drainage in the south of the state: Lago Yuriria (on the south side), where birds were most recently recorded in July 1991 (S. N. G. Howell *in litt* 1991; also Dickerman 1970), one specimen (in MNHUK) being taken 2 km east of Yuriria in January 1955; and at the northern end of Presa Solis where a male (in LSUMZ) was collected in January 1966.

Michoacán Again, records come from two lakes along the río Lerma drainage in the north of the state. At Lago de Cuitzeo, the species has been collected: 1 km west of Uruétaro, 7.5 road km west of Alvaro Obregón (an immature male in DMNH taken in December 1958; see Remarks 1); from Huingo (19°55'N 100°50'W, at the easternmost end of the lake), where a male (in USNM) was taken in July 1904; more recently, three specimens were taken 4 km north of Zinapécuaro in June 1987 (Navarro *et al.* 1991); and four specimens were collected 4 km west of Araró, also during June 1987 (Navarro *et al.* 1991). Further south the species has been recorded from a number of localities around Lago Pátzcuaro, which include: Erongarícuaro, at the westernmost point of the lake (male in DMNH, February 1949); 8 km west of Pátzcuaro on the southern shore at the “marshy lake edge near a lava flow” (female in DMNH, June 1948); along the south-east arm of the lake, c.5 km north-east of Pátzcuaro, and along a nearby inlet-stream marsh (specimens in DMNH, March and May 1947, February, May and June 1948; see also Lea and Edwards 1950, Edwards and Martin 1955); 4 km north of Pátzcuaro, where three specimens were collected in June 1987 (Navarro *et al.* 1991); and near the limnological station (untraced) (specimens in DMNH, February 1949).

México Records from San Mateo, Lago de Zumpango and Lago de Texcoco are treated here and not from Distrito Federal, *contra* Miller *et al.* (1957) and Dickerman (1970) (see Wilson and Ceballos-Lascurain 1986). In the west of the state the Black-pollled Yellowthroat has been recorded at the headwaters of the río Lerma from three main areas: (1) just north of Lerma (= Lerma de Villada, 19°17'N 99°30'W; i.e. south-west of San Nicolás Peralta, 19°22'N 99°29'W), where eight males and a female (in USNM) were taken in July 1907, a male and female (in USNM) in February 1926, four males and a female (in MLZ) in January 1945, seven males (in LACM, MLZ, USNM) in February 1945, with birds observed in 1984, December 1986, January 1987, and 1988 (P. Escalante *in litt.* 1988, S. N. G. Howell *in litt.* 1989, R. G. Wilson *in litt.* 1991); (2) San Mateo (= San Mateo Atenco, 19°17'N 99°32'W, near San Pedro Tultepec; see Remarks 2), c.13 km east-south-east of Toluca and just a few kilometres from Lerma, where at least 60 specimens (in AMNH, ANSP, FMNH, MCZ) were collected in November 1910 (with three more in ANSP, MCZ during December 1910); and (3) Almoloya del Río–Texcalyacac–San Pedro Techuchulco (centred on 19°08'N 99°30'W), where specimens (in DMNH, LSUMZ) were taken 1.5 km north of San Pedro Techuchulco (also described as the “marsh at the north side”) in September 1961, November 1962, and June 1964, and a male was recorded in July 1988 (R. G. Wilson *in litt.* 1991), with a larger population (see below) inhabiting the marsh along the south edge of this lake between Almoloya del Río and Texcalyacac (R. G. Wilson *in litt.* 1991). North and east of Distrito Federal, this bird has been recorded from Lago de Zumpango in January 1966 and from the north end of Lago de Texcoco in October 1956 (Dickerman 1970). This latter lake in its original undrained state may have supported populations of this species within the Distrito Federal, but the northern end, which appears to be the only recorded area of distribution, lies outside the state (see Wilson and Ceballos-Lascurain 1986).

POPULATION There is little recent information from the various historical localities where the Black-pollled Yellowthroat has been recorded, and currently it is known from just four areas. In the past this bird was evidently abundant in suitable habitat (a fact indicated by the collection of over 60 specimens during November 1910 near Lerma: see Distribution), and it appears to have remained so in its preferred but ever decreasing habitat (see Threats).

Guanajuato An apparently healthy population of this species was found on the south side of Lago Yuriria during July 1991 (R. G. Wilson *in litt* 1991), although in 1987 and 1988, P. Escalante (*in litt.* 1991) found the population to be small (Common Yellowthroat *Geothlypis trichas* being much commoner here, occurring at a ratio of 7:1). There are no details of populations at Presa Solis.

Michoacán The Black-pollled Yellowthroat is apparently “quite abundant” at Lago de Cuitzeo, with the bird outnumbering Common Yellowthroat by 3:1 (P. Escalante *in litt.* 1987, 1991): however, this lake has dried out at least once during the mid-1980s and water levels fluctuate widely – the species's survival there must be threatened (P. Escalante *in litt.* 1991, R. G. Wilson *in litt.* 1991). A small population still survives at Lago Pátzcuaro (P. Escalante *in litt.* 1987, 1991), birds being recorded there on a number of occasions during the 1980s (Navarro *et al.* 1991, R. G. Wilson *in litt.* 1991), but the only indication of population size was given by Lea and Edwards (1950) who noted that a few were seen (apparently in pairs) on the south-east arm during March, April and May 1947, Edwards and Martin (1955) concluding that the bird (at that same site) was “breeding in abundance”. The Black-pollled Yellowthroat now occurs at Lago Pátzcuaro with the far more abundant Common Yellowthroat at a ratio of 7:1 (P. Escalante *in litt.* 1991).

México S. N. G. Howell (*in litt.* 1989) found the bird to be “still common” on the upper río Lerma in 1984, 1986, 1987 and 1988, in an area where the species was historically abundant (see Distribution). More specifically, an extensive reed-bed (c.6 km²) still exists just north of Lerma de Villada, a population of Black-pollled Yellowthroats being found there in December 1986 and January 1987 (R. G. Wilson *in litt.* 1991). The marsh south of the México–Toluca highway (near San Mateo Atenco) still exists, is visible from the road, but is relatively inaccessible; consequently, there appear to be no records of the species from this marsh since the collection of 60 specimens during 1910 (R. G. Wilson *in litt.* 1991: see Distribution). North of San Pedro Techuchulco, despite records from the 1960s and more recently a male during July 1988 (see Distribution), the marsh is very small (“probably only a couple of hectares”: R. G. Wilson *in litt.* 1991), as presumably is the species's population. A larger population exists in the more extensive marsh along the south side of the lake between Almoloya and Texcalyacac, and since being rediscovered in 1983 there has been no noticeable change in status there; however, the lake is still shrinking slowly (owing to water extraction) and the area of reeds is “at most a couple of square kilometres in extent”, thus the survival of the species there is precarious (R. G. Wilson *in litt.* 1991: see Threats). The last record from Lago de Texcoco appears to that of the specimens taken in 1956 (see Distribution), Dickerman (1970) suggesting that the breeding population had probably become extinct by about 1958 when the north end was finally drained (see Threats). There is no recent information from Lago de Zumpango, specimens taken during 1966 (see Distribution) representing the last confirmed records.

ECOLOGY The Black-pollled Yellowthroat is resident in and restricted to lake shore and river marshes comprising cattails and hard-stemmed bulrushes (Dickerman 1970). This habitat is locally known as “tule”, and comprises plants (especially those over 1.5 m tall) of the genera *Typha* (*T. angustifolia* and *T. latifolia*), *Scirpus* (*S. lacustris*), and to a lesser extent *Heleocharis* and *Cyperus* (R. G. Wilson *in litt.* 1991). Birds are apparently able to survive even in the driest months when the marshes can temporarily dry out (e.g. in the areas near Lerma during 1988: P. Escalante *in litt.* 1988), although it has been doubted whether they can survive when whole lakes dry out (e.g. Lago de Cuitzeo during the late 1980s) (R. G. Wilson *in litt.* 1991). Paired birds were recorded at Lago Pátzcuaro during March–May 1947 (Lea and Edwards 1950), and the following year were noted as “breeding in abundance” during late May and June (Edwards and Martin 1955). Juveniles have been collected in June, July and September (Dickerman 1970).

THREATS This species, reliant on marshes, is threatened almost exclusively by the drainage of its already limited habitat. The breeding population at Lago de Texcoco probably became extinct in about 1958 when the northern end was finally drained and planted with crops (Dickerman 1970). The drainage and contraction of marshes in the upper río Lerma have left the village of San Mateo “several miles” from habitat suitable for Black-pollled Yellowthroat (Dickerman 1965), and this development is probably the reason for the extinction (at the beginning of the twentieth century) of the Slender-billed Grackle *Quiscalis palustris*. Although the Black-pollled Yellowthroat is common on the upper río Lerma, there is much drainage being undertaken and the bird remains greatly threatened there (S. N. G. Howell *in litt.* 1989: see Population), much water also being extracted to supply the needs of México City and Toluca (R. G. Wilson *in litt.* 1991). Lagos Yuriria, Pátzcuaro and Cuitzeo are shallow lakes at a late stage of development, which has resulted in changes in their water capacities, this in turn affecting the area of marsh and cattail (P. Escalante *in litt.* 1987). The western end of Lago de Cuitzeo dries completely during the dry season, and although birds occupy a relatively large area the species is critically threatened here (P. Escalante *in litt.* 1987, 1988, 1991).

MEASURES TAKEN None is known, although Lagos de Texcoco and Zumpango are currently being “restored” (an ecological commission is working at Lago de Texcoco) (P. Escalante *in litt.* 1991).

MEASURES PROPOSED Government agencies have apparently shown an interest in measures to preserve the environment at Lago de Cuitzeo (P. Escalante *in litt.* 1987), although little seems to have been initiated. Clearly, with an entire catchment area involved (the río Lerma basin), an integrated approach needs to be taken in order to determine the effects of selective drainage and protection of areas on the whole basin. From this point of view, the upper río Lerma marshes must be a priority while the population of Black-pollled Yellowthroat is still healthy there and the marshes are (presumably) a source of water for areas lower down the river system: however, land ownership in this area is communal (ejidal), and the water is used to feed México City, making protection of the marshes a difficult undertaking (P. Escalante *in litt.* 1991). Obviously, new water extraction and drainage schemes need to be halted where possible so that suitable areas of habitat can be saved, especially where the larger populations of the bird exist, such as at Lago de Cuitzeo. P. Escalante (*in litt.* 1991) suggested that yellowthroats could be reintroduced to Lagos de Texcoco and Zumpango once they have been restored (see Measures Taken).

REMARKS (1) A specimen in DMNH taken in December 1958 is labelled from west of Uruétaro, and west of Alvaro Obregón. In OG (1956a), however, Uruétaro is at 20°31'N 101°11'W which places it in Guanajuato near Lago Yuriria. (2) There has been much confusion as to the true location of San Mateo where various species (including Slender-billed Grackle and Black-pollled Yellowthroat) were collected, but Dickerman (1965) managed to trace it to the San Mateo on the upper río Lerma for which coordinates are given.