

Additional information on the avifauna of Querétaro, Mexico

Octavio R. Rojas-Soto, Francisco Javier Sahagún-Sánchez and Adolfo G. Navarro S.

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En este estudio se presenta una lista de 57 nuevos registros para el estado de Querétaro, producto del trabajo de campo que se llevó a cabo en la mayoría de los tipos de vegetación dominantes presentes, durante los años 1996–1998. En este listado se incluyen además seis registros que aunque no son nuevos para el Estado, amplían su distribución geográfica y/o ecológica dentro de la entidad.

Introduction

Studies of the Mexican avifauna are far from complete. In recent years, bird faunas of several states or regions have received much attention, resulting in the publication of a major monograph⁴ and significant quantities of new distributional information^{8,10,19}. Such studies provide increasingly detailed distributional information and further specimen data, both of which are required as a basis for future studies of systematics, biogeography and conservation¹⁸.

Despite its closeness to Mexico City, Querétaro has been very poorly surveyed ornithologically. Most old records were published by Friedmann *et al.*⁹ and Miller *et al.*¹⁵, and were principally based on the collections of Chester Lamb in 1940s and 1950s close to San Juan del Río, and deposited in the Moore Laboratory of Zoology, California. Further collecting in Querétaro was undertaken in the 1970s (LSUMZ, AOU¹), but no publications on the state's avifauna were available until those of Navarro *et al.*¹⁶ and Navarro *et al.*¹⁷. More recently, Arellano³

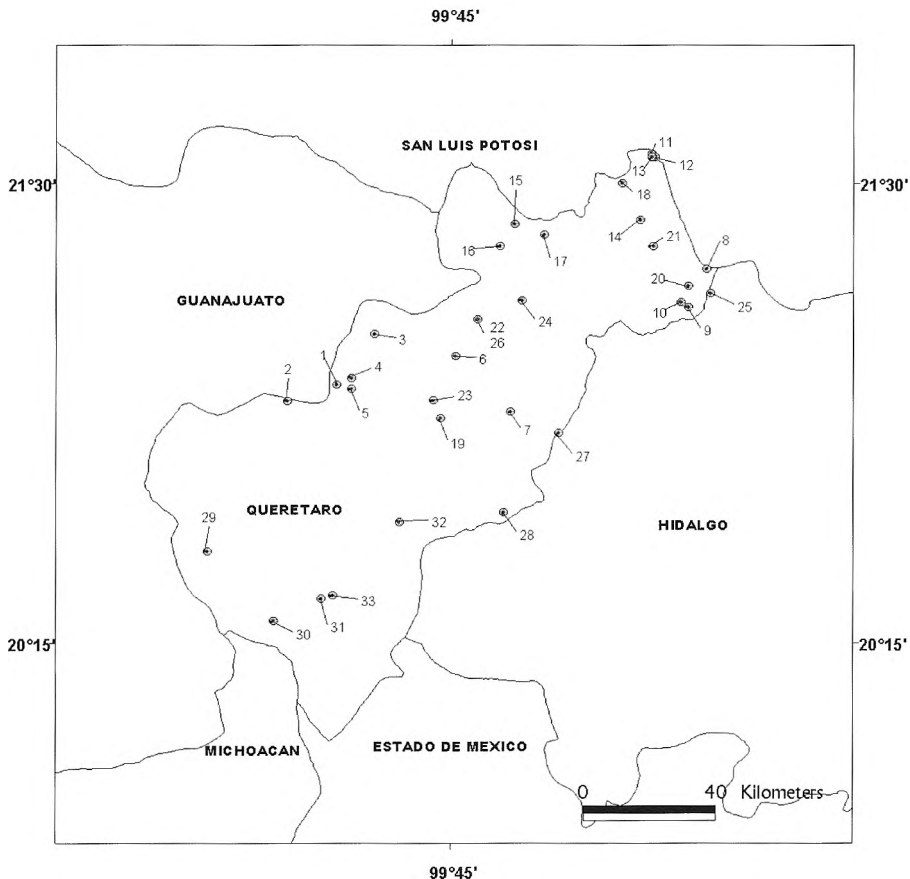


Figure 1. Map of Querétaro showing the localities mentioned in Appendix 2.

conducted a faunal survey along an altitudinal transect in the Santa Inés–Tangojé region, which also produced new state records.

During a project concerning the geographical and ecological distribution of birds and mammals in Querétaro, we obtained several new ornithological records for the state, and supplementary knowledge of the avifauna of a recently created Biosphere Reserve, 'La Sierra Gorda'. Here we present interesting and new state records, as well as new information of biological or biogeographic interest.

Study area and methods

Querétaro is in east-central Mexico (Fig. 1), with extreme coordinates at 20°01'–21°35'N, and 99°00'–100°35'W. It is one of the smallest Mexican states, being 11,270 km². Overall physiography is steep, with several mountain ranges and three physiographic provinces¹²: the Central Mexican Plateau; Transvolcanic Belt; and Sierra Madre Oriental. Major massifs are the Sierra de Amealco in the south, Sierra del Zamorano in the west, Sierra de San Joaquín in the centre, and Pinal de Amoles and El Lobo in the north and north-east^{13,17}. Sierras in the north-east are known as the 'Sierra Gorda de Querétaro'.

Climate is also varied, and with soils and topography, produce a wide array of vegetation types. Most common is arid scrub, represented by several types, such as chaparral, desert scrub, submontane scrub and subtropical scrub. Deciduous tropical forest principally occurs in canyons. Tropical subdeciduous forest is present in small patches in the north-east of the state. Oak forests and scrub are frequent in montane areas. Other montane habitats are pine, pine–oak, juniper and cloud forests. Evergreen forest occurs only in a small part of the Sierra del Zamorano, while grassland and aquatic habitats are widespread but patchy^{13,21}.

Field work, conducted in 1996–1998, covered most major biomes and ecological units. Our sampling localities are mapped in Fig. 1, and were designed to cover the three major physiographic regions.

For as many species as possible, voucher specimens were obtained and deposited at Museo de Zoología, Facultad de Ciencias, UNAM (MZFC). Sight and aural records were also made. Data on specimens from the Bird Collection, Facultad de Estudios Superiores Zaragoza, UNAM (FESZ), are also included.

Species accounts

An asterisk after the scientific name indicates a new state record. Specimen catalogue numbers at Museo de Zoología are presented in parentheses (MZFC). Systematics and nomenclature follow AOU².

Thicket Tinamou *Crypturellus cinnamomeus**

One observed at río Tancuilin (21 April 1997), with several others heard singing at the same locality; we consider it to be a relatively common resident of cloud forest and semi-deciduous tropical forest in this area. It is known from nearby localities in San Luis Potosí²⁰.

Brown Pelican *Pelecanus occidentalis**

A vagrant soaring above Presa Zimapán, 4 km north-west of Tziquia (28 August 1996). This is one of the few inland records for the species in Mexico; other vagrant records are from Distrito Federal, Coahuila and Nuevo León¹².

Bat Falcon *Falco rufigularis**

An adult female (MZFC 13183) was collected 12 km east of Santa María de Cocos (24 February 1997), in well-preserved oak forest. The nearest records are from San Luis Potosí^{14,17}.

Bearded Wood-partridge *Dendrotyx barbatus*

A captive bird, on 22 April 1997, had apparently been obtained in cloud forest above río Tancuilin. This highly endangered species' status is still largely unknown. Distributional data are also scarce, although it has recently been recorded at four localities in Querétaro⁷. Collar *et al.*^{5,6} and Gómez de Silva & Aguilar¹¹ mention the species from nearby localities in San Luis Potosí (although Ahuacatlán is probably in Querétaro and near the río Tancuilin), Hidalgo and Puebla. It appears to be a very uncommon permanent resident in Querétaro.

Singing Quail *Dactylortyx thoracicus*

A group of at least seven was observed on a steep slope, cloaked in tropical semi-deciduous forest, 6 km west of Tanquizul (14 November 1996). Only recently recorded in Querétaro⁷.

Solitary Sandpiper *Tringa solitaria**

One specimen, an immature male in winter plumage, with reduced testes, was collected (MZFC 13189) at a small pond at Laguna de la Cruz (25 February 1997).

Aztec Parakeet *Aratinga astec**

A group of seven at Tangojé (25 August 1996) is the first state record.

Red-crowned Parrot *Amazona viridigenalis**

A group of at least 18, 6 km west of Tanquizul, on 14–15 November 1996, feeding near our camp. The local population may remain healthy in this area, although further studies are required. Vegetation in the area was mixed oak and tropical semi-deciduous forest, with the *Amazona* apparently preferring the oak. It has been recorded in nearby San Luis Potosí²⁰.

Wedge-tailed Sabrewing *Campylopterus curvipennis**

Two specimens: a female from Tangojé (MZFC 13090, 26 October 1996) and a male at río Tancuilin (MZFC 13331, 22 April 1997). Several sight records were made at the latter locality (22 April 1997), leading us to conclude that it is a common resident there.

Red-naped Sapsucker *Sphyrapicus nuchalis**

Four males obtained at Laguna de la Cruz (MZFC 13185, 13194, 14050 and 14059), on 24–26 February 1997 and 15–16 January 1998. Three observed at the same locality (25 February 1997) and another at El Chuveje (13 January 1998) were at the south-easternmost point of the species' wintering range¹².

Smoky-brown Woodpecker *Veniliornis fumigatus**

One seen 2 km west of Santa Inés (31 October 1996) and an adult female collected at Laguna de la Cruz (MZFC 14051, 16 January 1998). Both were in oak forest. Arellano³ also reported this species at Santa Inés (23 March 1996, 27 July 1996 and 30 October 1996).

Rufous-browed Peppershrike *Cyclarhis gujanensis**

Female collected at Laguna de la Cruz (MZFC 14053, 15 January 1998), from forest principally dominated by oak.

White-breasted Wood-wren *Henicorhina leucosticta**

One observed 5 km south-east of Tres Lagunas (13 May 1997), in dense cloud forest undergrowth, and an immature male (skull not ossified) collected at Tangojé (MZFC 13083, 26 October 1996). It appears to be sympatric, at this locality, with Grey-breasted Wood-wren *H. leucophrys*¹⁷.

Ocellated Thrasher *Toxostoma ocellatum**

This rather uncommon species was collected at Rancho Ojo de Agua, 5 km north-west of Bomintza (MZFC 13468 and 13440, one male and one unsexed, 8–11 June 1997). Further observations (April 1998) were made 5 km south-east of Chavarrias, in a small oak forest. Curve-billed Thrasher *T. curvirostre* was found within 1 km of both localities, in more arid areas, which suggests that the two are partially sympatric in the region.

Sage Thrasher *Oreoscoptes montanus**

One collected at La Florida (10 March 1997) had been feeding on the ground in arid scrub. The specimen (MZFC 13010) is a non-breeding female, moulting the rectrices and with extreme fat in back and abdominal parts, weight 48.5 g, and skull 100% ossified. The southernmost records are those from 5 km north-east of Irapuato, Guanajuato (9–11 January) and El Huizache, San Luis Potosí. This specimen represents an extension of the known

winter range of c.150 km east from the nearest record in Irapuato¹⁵.

Montezuma Oropendola *Psarocolius montezuma**

Two collected at río Tancuilin (MZFC 13322 and 13328, 21–22 April 1997), where it was common; previously recorded at Tangojé (12 April 1996, 8 June 1996)³ and we also noted its presence there (24 October 1996).

Other interesting records are listed in Appendix 1. Most also constitute new state records (marked with an asterisk) but have been reported in nearby San Luis Potosí or Hidalgo^{14,20}. Those unmarked species represent records from a new physiographic region or habitat.

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- Octavio R. Rojas-Soto, Francisco Javier Sahagún-Sánchez and Adolfo G. Navarro S.** *Museo de Zoología, Facultad de Ciencias, Universidad Nacional Autónoma de México. Apartado Postal 70-399, México D.F. 04510, México. E-mails: orrs@minervaux2.fciencias.unam.mx, sahaGUN@mail.udg.mx, fcug01@servidor.unam.mx.*
- Appendix 1.** Additional bird records in Querétaro. Numbers refer to our sampling localities (see Appendix 2 and Fig. 1). For each species, locality and date(s) are presented. Where voucher specimens exist, the catalogue number and museum acronym are also listed. An asterisk before the scientific name indicates a new state record based on Navarro et al.¹⁷.
- Ardea herodias* 15 (14 December 1996); 16 (16 November 1996).
- **Egretta thula* 15 (23 February 1997); 10 (15 November 1996).
- **Nycticorax nycticorax* 28 (28 August 1996).
- **Coragyps atratus* 9 (29 August 1995, 23 March 1996 and 27 July 1996); 20 (18 April 1997); 23 (5 June 1997); 28 (27 August 1996); 19 (8 March 1997); 8 (21 April 1997); 17 (15 January 1998, 25 February 1997); 15 (23 February 1997, 13 December 1996).
- Anas americana* 12 (14 November 1996); 17 (25 February 1997).
- **Anas discors* 12 (14 November 1996); 13 (14 November 1996).
- **Circus cyaneus* 19 (8 March 1997); 9 (25 October 1996³).
- Accipiter striatus* 33 (Friedmann et al.⁹, Navarro et al.¹⁷); 13 (15 November 1996); 10 (25 October 1995³).
- **Asturina nitida* 28 (27 August 1996).
- **Buteo jamaicensis* 11 (15 November 1996); 28 (28 August 1996); 22 (15 May 1997); 23 (6 June 1997); 10 (29 October 1996); 4 (8–11 June 1997); 24 (14 January 1998); 17 (25 February 1997); 28 (27 February 1997); 15 (13 December 1996); 19 (6 March 1997); 30 (18 November 1996); 9 (25 October 1995³).
- **Caracara plancus* 32 (11 May 1997).
- **Falco columbarius* 33 (MLZ 24887, 6 December 1939).
- **Leptotila plumbeiceps* 9 (MZFC 13085 and 13093, 26–27 October 1996); 13 (MZFC 13132, 14 November 1996); 17 (MZFC 14055, 16 January 1998); 9 (26 October 1996); 18 (28 February 1997).
- Aratinga holochlora* 25 (Navarro et al.¹⁷); 8 (MZFC 13327, 21–22 April 1997); 9 (MZFC 13081, 26 August 1996).
- **Pionus senilis* 8 (MZFC 13329, 22 April 1997); 13 (14 November 1996); 9 (28 October 1996); 20 (18 April 1997).
- **Geococcyx californianus* 22 (16 May 1997); 28 (28 August 1996); 4 (12 June 1997); 14 (15 November 1996); 17 (25 February 1997 and 15 January 1998), 19 (8 March 1997).
- Otus trichopsis* 26 (MZFC 13384, 16 May 1997).
- **Amazilia candida* 8 (MZFC 13321, 21 April 1997).
- **Amazilia cyanocephala* 31 (MZFC 13175 and 13168, 20 November 1996).
- **Archilochus colubris* 28 (MZFC 13058 and 13061, 27–28 August 1996); 9 (9 March 1995³).
- **Selasphorus platycercus* 22 (MZFC 13373, 16 May 1997); 10 (MZFC 13116, 30 October 1996); 28 (28 August 1996).
- **Trogon violaceus* 8 (MZFC 13326, 22 April 1997).
- **Ceryle torquata* 29 (15–16 November 1996); 17 (13 December 1996).

- Aulacorhynchus prasinus* 8 (MZFC 13312, 21 April 1997).
 **Campephilus guatemalensis* 8 (21 April 1997); 17 (MZFC 14052, 16 January 1998); 9 (4 November 1995³).
 **Xiphorhynchus flavigaster* 11 (MZFC 13129, 14 November 1996); 8 (MZFC 13314, 21 April 1997); 20 (17–18 April 1997).
 **Contopus sordidulus* 28 (28 August 1996).
 **Empidonax fulvifrons* 1 (MZFC 13044, 8 May 1996); 30 (MZFC 13151, 17 November 1996).
 **Tityra semifasciata* 8 (MZFC 13313 and 13319, 21 April 1997); 22 (15 May 1997); 9 (20 May 1995, 26 August 1995, 11–12 April 1996 and 8–9 June 1996³).
 **Vireo griseus* 9 (MZFC 13084 and 13102, 26–28 October 1996).
 **Vireo cassinii* 17 (MZFC 13187, 25 February 1997); 8 (MZFC 13320, 21 April 1997).
 **Vireo solitarius* 33 (MLZ 24999–25000, 18–19 December 1939); 10 (MZFC 13128, 31 October 1996); 24 (MZFC 14058, 13 January 1998); 15 (MZFC 13178, 14 November 1996); 18 (28 February 1997); 9 (8–12 March 1995, 24 March 1996 and 12 April 1996³).
 **Vireo gilvus* 31 (MZFC 13165 and 13167, 19 November 1996); 30 (17 November 1996).
 **Cyanocorax morio* 8 (21–22 April 1997); 9 (24–26 August 1996³).
 **Corvus corax* 3 (3–6 May 1996); 22 (15–16 May 1997); 4 (8–12 June 1997); 9 (26 August 1996); 19 (5–7 March 1997); 5 (4 June 1997); 1 (7 May 1996); 17 (24 February 1997 and 15–16 January 1998); 6 (11 May 1997); 23 (5 June 1997); 29 (15 November 1996).
 **Dumetella carolinensis* 13 (14 November 1996); 15 (MZFC 12890, December 1996); 9 (17 January 1996³).
 **Dendroica petechia* 15 (13 December 1996).
 **Oporornis tolmiei* 16 (24 February 1997).
 **Basileuterus culicivorus* 9 (MZFC 13087 and 13079, 25–26 October 1996); 20 (MZFC 13264, 13269 and 13281, 18 April 1997); 18 (MZFC 14056, 27 February 1997).
 **Euphonia affinis* 21 (13 May 1997); 15 (10 December 1995); 9 (8 March 1995³); 10 (25 August 1995 and 17 January 1996³).
 **Euphonia hirundinacea* 9 (25 August and 25–26 October 1996); 15 (FESZ 170398, 10 December 1995 and 14 December 1996); 9 (10 March 1995, 25 August 1995³); 10 (26 October 1996³).
 **Habia rubica* 30 (17 November 1996); 21 (13 May 1997).
 **Piranga leucoptera* 18 (27 February 1997); 10 (29 August 1995³).
 **Ammodramus savannarum* 19 (MZFC 13234, 6 March 1997).
 **Saltator atriceps* 9 (25 August 1996); 9 (8 March 1995³).
 **Cardinalis cardinalis* 17 (MZFC 14054, 16 January 1998); 23 (MZFC 13421, 5 June 1997); 17 (24 February 1997); 19 (9 March 1997).
 **Passerina cyanea* 19 (MZFC 13220, 10 March 1997).

Appendix 2. Geographical coordinates of sampling localities mentioned in the text.

Central Plateau

- 1) El Derramadero (2,380 m. Oak forest. 20°91'N 100°06'W); 2) El Zamorano TV mast (3,200 m. Fir forest. 20°92'N 100°19'W); 3) San Miguel Palma (1,350–1,370 m. Submontane arid scrub. 21°09'N 99°96'W); 4) Rancho Ojo de Agua, 5 km north-west of Bomintza (2,600 m. Oak scrub. 20°97'N 100°02'W); 5) Mesa de Ramirez (260 m. Oak scrub. 20°94'N 100°02'W).

Sierra Madre Oriental

- 6) Peña Blanca (1,300 m. Arid scrub. 21°03'N 99°74'W); 7) 16 km north-east of San Javier (2,300 m. Pine–oak forest. 20°87'N 99°59'W); 8) río Tancuilin (655 m. Semi-deciduous tropical forest. 21°26'N 99°06'W); 9) Tangojío (540 m. Semi-deciduous tropical forest. 21°16'N 99°10'W); 10) 2 km west of Santa Inés (1,400 m. Oak forest. 21°17'N 99°13'W); 11) 6 km west of Tanquizul (520 m. Oak forest. 21°63'N 99°21'W); 12) San José de los Paredones (640 m. Oak forest. 21°62'N 99°20'W); 13) Tanquizul (340 m. Semi-deciduous tropical forest. 21°62'N 99°21'W); 14) El Cañón (1,560 m. Oak–juniper forest. 21°40'N 99°24'W); 15) Puente Ayutla (520 m. Semi-deciduous tropical forest. 21°39'N 99°58'W); 16) 12 km east of Santa María de Cocos (1,450 m. Oak forest. 21°33'N 99°62'W); 17) Laguna de la Cruz (1,200 m. Oak–juniper forest. 21°36'N 99°05'W); 18) Rancho 99 (1,320 m. Oak forest. 21°05'N 99°29'W); 19) La Florida (1,693 m. Arid scrub. 20°86'N 99°78'W); 20) El Pemoche (1,365–1,400 m. Cloud forest. 21°22'N 99°11'W); 21) 5 km south-east of Tres Lagunas (2,070 m. Oak–cypress forest. 21°33'N 99°20'W); 22) 8 km north-west of San Gaspar (2,360–2,860 m. Pine–fir forest. 21°13'N 99°68'W); 23) 5 km west of Higuierillas (1,560 m. Arid scrub. 20°91'N 99°80'W); 24) El Chuveje (1,310 m. Oak forest. 21°18'N 99°56'W); 25) San Onofre (1,300 m. Cloud forest. 21°02'N 99°05'W); 26) 8 km west of San Gaspar (2,860 m. Pine–fir forest. 21°13'N 99°68'W); 27) 5 km south-east of Chavarrias (2,700 m. Oak forest. 20°82'N 99°39'W).

Transvolcanic Belt

- 28) Presa Zimapán 4 km north-west of Tziquia (520–630 m. Arid scrub. 20°60'N 99°60'W); 29) 3 km south-west of San Francisco (1,815 m. Arid scrub. 20°50'N 100°41'W); 30) 1 km south of La Beata (2,350–2,445 m. Oak forest. 20°31'N 100°23'W); 31) 2 km north-east of Salto de Vaquerias (1,840 m. Arid Scrub. 20°37'N 100°10'W); 32) El Ciervo, 5 km from Ezequiel Montes (1,950 m. Arid scrub. 20°58'N 99°89'W); 33) El Caracol, 5 km north-west of San Juan del Río (1,950 m. Arid scrub. 20°38'N 100°07'W).