

New Distributional Records for Amphibians and Reptiles from the State of Tamaulipas, México II

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Flores-Villela and Pérez-Mendoza (2006) presented a compilation of literature citations addressing the herpetofauna of each of the 32 states in México, therein indicating that Tamaulipas was one of the most, if not the most, data deficient states in México. Ongoing field surveys in Tamaulipas continue to produce noteworthy records and included herein is significant distributional information on 23 species, including four new state records. The information presented is expressed in the same manner as established in Farr et al. (2007), with the addition of the museum abbreviation: University of Texas, Arlington, Digital Collection (UTADC). In addition to literature sources and our own field observations, approximately 12,000 museum records (of which about 39% have been examined by us) from the state were considered when creating the following species accounts and are specified in parentheses in the text as having been examined, or not examined, by the authors. The vegetation associations used here (and generally in Farr et al. 2007) are derived from Martin (1958), which in turn are equivalent to eight of the 12 vegetation zones in México recognized by Leopold (1950). We use the term “Chihuahuan Desert scrub” to describe the primary vegetation type found in the municipality of Tula and areas at lower elevations in the municipalities of Bustamante and Miquihuana. Locality coordinates and elevations of our original field data were determined using a GPS device, but those of museum and literature records are expressed in the manner established by Farr et al. (2007) using topographic maps; both used map datum WGS84. The standard English and scientific names follow Liner and Casas-Andreu (2008). The state of Tamaulipas is divided into 43 municipalities (equivalent to U.S. counties) and the capital of each is a city or town bearing the same name. In the following text, when referring to municipalities, they are specified as such (i.e., Municipio Tula or municipality of Tula) and the capital community is referred to only by its name (e.g., Tula).

Caudata

Pseudoeurycea cephalica (Chunky False Brook Salamander). Municipio Tula/Ocampo (near border): near Lagunas Las Hondas, 24 km SE of Tula (22.8125°N, 99.558333°W), 1206.3 m elev. 24 Au-

gust 2006. William Farr. Verified by Fernando Mendoza-Quijano. UANL 6461. Southernmost record for the species in Tamaulipas, extending its range 44 km SW from the closest reported locality (Martin 1958) at Agua Linda [23.066667°N, 99.233333°W], 1800 m elev. in the Sierra de Guatemala (= El Cielo International Biosphere Reserve). Two additional individuals were observed at this locality and all were found in or under dead logs in humid oak forest. Additionally, we have observed *P. cephalica* (and *P. scandens*) at an intermediate locality near Mexican Hwy 66 in humid oak forest, 15 km E of Tula (22.930833°N, 99.586111°W, 1376.4 m elev.) in the municipality of Tula. Martin (1958) reported a hiatus in the distribution of *P. cephalica* (and *P. belli*) between populations in the cloud forest of the Sierra de Guatemala, Tamaulipas, and northern Hidalgo, a distance of ca. 220 km (and *P. belli* populations near Xilitla, San Luis Potosí). The locality recorded here closes this gap by 20%. Wake and Lynch (1976) inferred the distribution of the genus (*P. cephalica* and/or *P. belli* by implication) to be continuous without supporting localities. Approximately 35 km to the south across the state line in San Luis Potosí, there is an unpublished record of *P. cephalica* (MVZ 138037, not examined by us), from Municipio Ciudad del Maíz: Mexican Hwy 80, 3.3 mi [5.3 km] E (by road) of Ciudad del Maíz (22.437063°N, 99.580134°W), 1371.6 m elev., and Johnson et al. (1978) also recorded *P. scandens* (= *P. scandens*) in San Luis Potosí: 27.7 km NE Ciudad del Maíz [22.466667°N, 99.516667°W, 1200–1400 m elev.] in the same area, collectively closing this gap by 36%. Further collecting is needed in the Sierra Madre Oriental of southeastern San Luis Potosí to determine the precise distribution of *P. cephalica* (and *P. belli* and *P. scandens*) in that state, and to determine if the Tamaulipas/San Luis Potosí populations are in fact isolated from the Hidalgo and southern populations.

Anura

Anaxyrus cognatus (Great Plains Toad). Municipio Tula: Near Ejido San Pablo 15 km SW of Tula (22.903056°N, 99.823056°W), 1064 m elev. 12 October 2007. William L. Farr. Verified by Fernando Mendoza-Quijano. UANL 6462–63. First state records, easternmost locality reported in México, and a range extension of ca. 60–70 km SE of the nearest site in Nuevo León (Krupa 1990). Additional specimens were observed AOR at and near this locality on this same night. The vegetation in the area is Chihuahuan Desert scrub.

Anaxyrus debilis (Green Toad). Municipio Xicoténcatl: 16 km E of Xicoténcatl on the road to Fortín Agrario (23.041667°N, 98.793056°W), 138.9 m elev. 18 September 2006. Toby Hibbitts, William Farr, and James R. Dixon. Verified by Fernando Mendoza-Quijano. UANL 6464–65. These records extend the range ca. 160 km S on the coastal plain of Tamaulipas (Savage 1954). The map in Savage (1954) included only one locality from Tamaulipas (a literature record from the central coast) and only shaded areas north of that locality; most subsequent sources (e.g., Conant and Collins 1998; IUCN 2006; Morafka 1977) follow this distribution pattern. Savage (1954) also speculated that the toad may range into extreme northern Veracruz, as did Sanders and Smith (1951) without supporting localities for the area south of 6 mi. [9.6 km, road?] SW of Jiménez [24.15333°N, 98.552778°W, 111 m elev.] in central Tamaulipas. We are unaware of any confirmed records from extreme northern Veracruz, or adjacent areas of San Luis

Potosí east of the Sierra Madre Oriental, but its occurrence there seems plausible based on habitat associations. We are aware of 48 additional museum records from 16 localities within Tamaulipas deposited subsequent to Savage (1954) (26 specimens from nine localities were examined by us), and those and personal observations from throughout the coastal plain confirm previous contentions of an extended southward distribution.

The two toads were collected from a small chorus observed in a roadside ditch after an early evening rain. The area is predominantly sugarcane fields with some elements of tropical thorn scrub and thorn forest. Martin (1958) speculated that this region of the state, which was predominantly sugarcane fields even then, may originally have included extensive grassland.

Gastrophryne elegans (Elegant Narrow-mouthed Toad). Municipio Ocampo: 4.5 km. N of Ocampo on the road to El Tigre (22.885833°N, 99.335°W), 348 m elev. 13 October 2007. William Farr. Verified by Fernando Mendoza-Quijano. UANL 6466. This is the second record from the state, first municipality record, and a 154 km range extension W from Rancho Los Colorados, 26 km NE Aldama [22.908333°N, 97.841667°W, 5 m elev.] in the municipality of Aldama (Sampablo-Brito and Dixon 1998). The species occurs in isolated and disjunct populations on the Atlantic versant of México southward to Honduras, and collectively, the records from Tamaulipas are isolated from the nearest confirmed locality ca. 280 km to the south in central Veracruz (Nelson 1972). We have observed *G. elegans*, sometimes in large choruses, in the municipalities of Aldama, Antiguo Morelos and Ocampo, all positioned on the Gulf Coastal Plain in the southern end of the state. Its occurrence should be anticipated in some of the adjacent municipalities (Altamira, El Mante, Gonzalez, Nuevo Morelos, and Tampico) in-between and south of the confirmed localities in the state. The toad reported here was found under a dead log in tropical deciduous forest.

Hypopachus variolosus (Sheep Frog). Municipio Reynosa: 30 km SW of junction of Hwy 40 and Hwy 2 in Reynosa (25.868333°N, 98.459167°W), 109 m elev. 8 October 2007. William Farr. Verified by Michael R. J. Forstner. UTADC 1943. This verified record fills a distributional gap of ca. 200 km between the south Texas population and the closest Mexican population in central Tamaulipas (AmphibiaWeb 2009; Conant and Collins 1998; Judd and Irwin 2005; Santos-Barrera et al. 2008). Nelson (1974) did not discuss or identify a distributional gap in this species' range in Tamaulipas, and in fact included a locality from this region, 28 km NNW of San Fernando (TCWC), although no museum number was given. It was probably TCWC 27722 from [Municipio San Fernando] 17.6 mi [28.3 km] NNE, 6.5 mi [10.45 km] (road miles) NNW of San Fernando [25.125°N, 98.155556°W] collected by C. A. Ketchersid and J. R. Dixon on 31 August 1968 (examined by authors). Additionally, we observed a chorus of *H. variolosus* in the municipality of Méndez, 5 km N of La Noria (25.461667°N, 98.226667°W, 60 m elev.). The lack of records from northern Tamaulipas probably reflects a collecting bias or prior extirpation of populations in this largely agricultural area, rather than a natural hiatus in the species' distribution. The frog was caught AOR after a rain in thorn scrub habitat.

Lithobates catesbeianus (American Bullfrog). Municipio El Mante: Near Tantoyuquita, 45 km SE of Ciudad Mante (22.550278°N,

98.574722°W), 25.2 m elev. 17 October 2007. William Farr. Verified by Fernando Mendoza-Quijano. UANL 6467. Municipio González: near López Rayón, 32 km S of González (22.5325°N, 98.397778°W), 46.8 m elev. 17 October 2007. William Farr. Verified by Michael R. J. Forstner. UTADC 1946. Municipio Gómez Farías: in an irrigation canal, 8 km S of Gómez Farías (22.973611°N, 99.122778°W), 102.3 m elev. 23 May 2005. William Farr, Adam Ferguson and David Rodríguez. Verified by Michael R. J. Forstner. UTADC 1945. New municipality records for each, and range extensions of 74 km NW, 56 km NW, and 145 km NW, respectively, from the vicinity of Altamira [22.358333°N, 99.12778°W, ca. 15 m elev.] (Morafka 1977). The vegetation types south of Gómez Farías are tropical deciduous and gallery forest, and the predominant vegetation type in the municipalities of González and El Mante localities is tropical thorn scrub, with some marshlands in low areas.

The distribution of *L. catesbeianus* in northeastern México and its purported range in Tamaulipas and the neighboring states of Nuevo León and Coahuila has not been carefully examined or well documented. Numerous publications and other sources, including Bury and Whelan (1984), IUCN (2006), and partial maps in Conant and Collins (1998) and Stebbins (2003) imply the distribution is widespread and continuous in Tamaulipas east of the Sierra Madre Oriental from the Río Grande to northern Veracruz. However, Morafka (1977), depicting the only map to record actual localities, showed one isolated site for the state in the vicinity of Altamira north of Tampico. Field surveys, literature, and museum records available to us confirm that Morafka (1977) is most accurate. All locality records known to us are discussed below.

Jean Louis Berlandier, *vide* Smith et al. (2003), noted *L. catesbeianus* in the vicinity of the Río Grande and Matamoros sometime between 1829 and 1851 in unpublished manuscripts now archived in the Smithsonian Institution. Kellogg (1932) appears to have published the first confirmed record of the species in Tamaulipas and stated the range as "probably" the coastal lowlands of Tamaulipas and northern Veracruz, but only documented two localities for México (mapped in Morafka 1977): Altamira, Tamaulipas (USNM 47114, verified by Steve Gotte) collected by Nelson and Goldman in 1898 and near Cadereyta, Nuevo León (USNM 3340), which included three larva and two adults (not examined by us); the adults were later recatalogued as USNM 344032–344033, collected by Couch in 1853. It appears that many subsequent authors accepted this presumed distribution without question. Only four additional museum records of *L. catesbeianus* from the state are known to us and all are from the municipality of Altamira (not examined by authors): AMNH A-165003, 1.6 mi. [2.5 km] NW Tres Marias; KU 51349–51350, 4 mi. [6.4 km] S Altamira; and OKMNH 26471, 9.0 mi. [14.5 km] N Tampico. Although expressed differently, the KU and OKMNH localities are approximately the same [22.358333°N, 97.891667°W, ca. 15 m elev.] and roughly correspond to the one Tamaulipas locality referred to in Morafka (1977) and Kellogg (1932). The AMNH locality is located 21 km NW of there [22.488889°N, 98.031944°W]. In field surveys, we have occasionally encountered *L. catesbeianus* along the Texas border only a few kilometers south of the Río Grande in the northwest "panhandle" region of Tamaulipas. We also observed a few others and photographed one individual on 23 May 2005 in irrigation canals 8 km S of Gómez Farías. Locals informed us that

those frogs had either escaped or were released after failed attempts to farm them in the area. Martin's (1958) comprehensive surveys of the region did not record the species, so it can be assumed the introductions took place after his field surveys ended in 1953. Also, at least 12 bullfrogs were observed in roadside ditches, ponds, marshes, canals, and AOR at various localities on 17 October 2007 in the municipalities of González and El Mante.

With a distributional gap of over 375 km between records from the municipality of Altamira and observations from near the Río Grande and Matamoros from Berlandier's and our current surveys, we wonder if the Altamira population may have been introduced there as well, and whether our new records for the species in the adjacent municipalities of González and El Mante reflect dispersal northward and westward from that area. Nelson and Goldman's 1898 record (Kellogg 1932) seems early for the introduction of an alien species, however commercial frog farming dates back at least to 1914 (Randel 1914). Alternatively, the isolated and disjunct records for *L. catesbeianus* from northeastern México, including Berlandier's report from Saltillo, Coahuila (Smith et al. 2003), could represent relict populations from a formerly wider distribution; *Sistrurus catenatus* exhibits a similar distributional pattern in northeastern México.

We are unaware of any records from Nuevo León other than the Couch record (Kellogg 1932) cited above. Although we have not performed an exhaustive search of literature for that state we did query 23 institutions for records (ANSP, APSU, CAS, CM, CU, DMNH, UF, FMNH, KU, LACM, LSUS, MPM, MSUM, OKMNH, SRSU, TNHC, UANL, UAZ, UCM, UIMNH, UMMZ, USNM, UTEP), and these, as well as current queries of HerpNet, and many years of collecting and field experience by one of us (DL), yielded no additional localities for that state other than the Couch (Kellogg 1932) record cited above. Similarly, Smith et al. (2003) noted major distributional discrepancies between what is commonly indicated in current literature for Coahuila versus actual localities; the species was not included among that state's herpetofauna by Lemos Espinal and Smith (2007a).

Testudines

Trachemys venusta (Meso-American Slider). Municipio Camargo: below the overflow spillway of Presa R. Marte Gómez, 14.5 km SW of Camargo (26.225°N, 98.902778°W), 70.2 m elev. 21 May 2005. William Farr, Adam Ferguson, and David Rodríguez. Verified by Michael R. J. Forstner. UTADC 1947–50. On the road from El Azúcar to Santa Gertrudis 17 km SE of Camargo (26.1675°N, 98.764167°W), 45 m elev. 14 May 2006. William Farr. Verified by Michael R. J. Forstner. UTADC 1951–53. New municipality records, northernmost localities for the species, and range extensions in Tamaulipas of ca. 139 km and 126 km NW, respectively, from the nearest record, 4.5 mi. [7.2 km] N of Santa Teresa (Seidel et al. 1999); recorded in Auth et al. (2000) as 4 mi. [6.4 km] N of Santa Teresa [Municipio San Fernando (25.335833°N, 97.875°W), 9 m elev.]. Both localities are in thorn scrub and located in the Río Grande drainage.

The overflow spillway of Presa Marte R. Gómez, (on the Río San Juan), where the first specimen was found, flows directly into the Río Grande 14.5 km to the north, although most water is diverted into the Guillermo Rode irrigation canal before reaching the river. The second specimen was found 13.5 km S of the Río

Grande, crossing a dirt road in arid thorn scrub where the nearest permanent surface water was the Guillermo Rode canal, located 3 km to the east. Based on these observations, *T. venusta* may also occur in Starr County, Texas.

The species may have been introduced to the border area through recreational and fishing activities at Presa Marte R. Gómez. Alternatively, the turtles may be moving northward through the extensive network of irrigation canals constructed in northern Tamaulipas over the past few decades. Another possibility is that the species emigrated overland from the vicinity of China, Nuevo León, were the headwaters of the Río San Lorenzo, a tributary of the Río San Fernando (Río Conchos on some maps) are separated from Presa El Cuchillo and Río San Juan (a Río Grande tributary) by a distance of ca. 10 km. Overland movements are well documented in *Trachemys* (Cagle 1944; Gibbons 1970, 1990). Gibbons et al. (1990) recorded mark and recapture distances as far as 9 km attributed to overland travel by turtles. Therefore, it is unclear if both adult individuals reported here represent members of an established population, a question for future research.

Distribution maps published in Ernst (1990), Legler (1990), and Seidel (2002) illustrate a gap between the ranges of *T. venusta* and *T. scripta* in northern Tamaulipas. Legler (1990) also states that little suitable habitat exists in the 110 km distance between the Río San Fernando and Río Grande near Brownsville, Texas, implying a natural barrier partitioning the two species. Indeed, Goldman (1951) reported traveling by wagon from Matamoros to San Fernando, 22–25 February 1902, without crossing a stream and Sutton (1972) noted the absence of water in this agricultural area during a trip, 6–8 January 1949. It should be noted however, that both Goldman and Sutton passed through the area during the December to May dry season (Martin 1958). Iverson (1992) and Auth et al. (2000) subsequently recorded *Trachemys* localities in this region and Seidel et al. (1999) mapped and discussed in detail several *T. scripta* and *T. venusta* sites, therein identifying a hiatus of no more than 10 km between the ranges of the two species. Seidel et al. (1999) concluded that because many bodies of water in this arid region are temporary, the two species may not contact each other. Although no concerted effort has been made on our part to identify the exact distributional limits of *T. scripta* and *T. venusta*, our field observations are generally consistent with Seidel et al. (1999), who determined that *T. scripta* occurs up to 85 km S of the Río Grande and that *T. scripta* and *T. venusta* do not hybridize. We have reservations about accepting a hiatus between the two species in northern Tamaulipas. Our field surveys include multiple observations of *Trachemys* in this region, including *T. scripta* occurring 75 km and *T. venusta* occurring 90 km S of the Río Grande and that they do not normally inhabit the same locality (but see below). Although the environment between the Río San Fernando and the Río Grande is primarily arid, numerous smaller ríos, arroyos, and resacas, some with names (north to south: Río El Tigre, Río El Diablo, Río Las Blancas, and Arroyo El Abra), and others without names, as well as marshland, manmade cattle tanks, and numerous irrigation canals provide substantial habitat for *Trachemys* within that previously perceived distributional gap. It is also possible that excess irrigation water is now channeled into those natural waterways increasing their normal volume and seasonal duration of water that would historically have been in these drainage systems. Field surveys revealed *Trachemys* and *Apalone*

spinifera living in many bodies of water, including roadside ditches, transected by Mexican Hwy 101 between Matamoros and San Fernando, and finding turtles crossing roads throughout the arid coastal plain was not unusual. Several *T. scripta* were observed in a cattle tank near a remote unpaved road in the municipality of Reynosa, 33 km SW junction of Hwy 40 and Hwy 2 in Reynosa (25.833611°N, 98.461667°W, 122.4 m elev.) near the Nuevo León border. Additionally, *T. scripta* are also known to enter brackish water and occupy barrier islands in Georgia and South Carolina (Ernst et al. 1994; Gibbons and Coker 1978). Dozens of lagunas of various sizes and degrees of salinity on the Gulf Coast could provide additional routes of dispersal in northern Tamaulipas.

Seidel et al. (1999) suggested that differences in courtship behavior limit interbreeding between *T. scripta* and *T. gaigeae* in the Río Grande. Legler (1990) also discusses sexual dimorphism (foreclaw length, snout profile) and how mating differences separated *Trachemys* in Texas from Mexican species. So perhaps factors associated with reproductive isolation separate *T. scripta* and *T. venusta* in Tamaulipas? Based on the color patterns of the carapace, we have never observed *Trachemys* that appeared to be hybrids. Seidel et al. (1999) addressed hybrids referred to by Legler (1990) from “La Laca (lat. 25-6, long. 98-7)” [= La Loca, properly named Aguila Azteca, 25.115278°N, 98.147222°W, 50 m elev., a locality in the Arroyo El Abra / Estero La Resaca drainage] and concluded that they were *T. venusta*. We have also never observed the two species occupying the same body of water, with the exception of the overflow spillway at Presa Marte R. Gomez, where *T. scripta* were observed on later occasions than the individual *T. venusta* from that locality reported above, and it may well have been introduced. Pritchard (1979) recorded *T. s. elegans* as far south as Ciudad Victoria, Tamaulipas, but Seidel et al. (1999) regarded those as likely introductions. We concur with Seidel et al. (1999) on that point and add that we have observed other probable introduced *T. scripta* in southeastern Tamaulipas at Cenote La Poza Verde (22.993056°N, 98.15556°W, 180 m elev.), a recreational area near El Nacimiento, 8 km NW of Aldama.

Lacertilia

Hemidactylus frenatus (Common House Gecko). Municipio Aldama: Hotel Rancho Viejo in Aldama (22.921667°N, 98.073333°W), 130 m elev. 1 June 2002. William Farr and Jerry Caraviotis. Verified by Michael R. J. Forstner. UTADC 1937. Municipio Antigua Morelos, Antigua Morelos (22.553889°N, 99.078056°W), 208 m elev. 29 March 1997. David Lazcano. Verified by Fernando Mendoza-Quijano. UANL 4479-80. Municipio El Mante: 25 km SE of Ciudad Mante (22.5225°N, 98.861111°W), 113 m elev. 15 October 2007. William Farr. Verified by Michael R. J. Forstner. UTADC 1941-42. Municipio Gonzalez: on the walls of the Bonito Inn in Gonzalez (22.821389°N, 98.434167°W), 79.8 m elev. 28 October 2004. William Farr. Verified by Michael R. J. Forstner. UTADC 1938. Municipio Ocampo: on the walls of Hotel Vergel in Ocampo (22.845833°N, 99.330556°W), 350 m elev. 23 September 2006. William Farr, James R. Dixon, and Toby J. Hibbitts. Verified by Michael R. J. Forstner. UTADC 1940. Municipio Ocampo: Poza Madre, 4 km S of Chamal Viejo, 11 km SE of Ocampo (22.78944°N, 99.234722°W), 228.9 m elev. 22 July 2006. Eli Garcia Padilla and William Farr. Verified by Fernando Mendoza-Quijano. UANL 6468. First state records

and northernmost localities for the Atlantic slopes of México, and range extensions of 140 km, 54 km, 62 km, 109 km, 97 km, and 89 km N, respectively, from the nearest record in Ciudad Valles, San Luis Potosí [21.991944°N, 99.010556°W, 90 m elev.] (Marcellini 1971). During the period since Smith and Taylor (1950) recorded this lizard from the vicinity of Acapulco, Guerrero, it has become widespread in México (Ballardo et al. 1996).

We were unfortunately at fault during our surveys by considering *H. frenatus* to be of secondary interest because of its nonnative status and failed to collect adequate voucher specimens or keep complete records of its occurrence in other areas of the state. However, our limited information does indicate that viable populations were established in the municipalities of Gómez Farías, Jiménez, Llera, Tampico, Soto La Marina, and Jaumave, and we are certain it occurs in additional municipalities from Jiménez south. With the exception of an observation in a hotel in Jaumave (23.410278°N, 99.386389°W, 751 m elev.), located in the Jaumave Valley within the Sierra Madre Oriental, all other records were from the coastal plain at elevations below 350 m. The hotel in Jaumave is also one of the very few places where we observed *H. frenatus* occurring in sympatry with *H. turcicus*. Eighty-eight museum records of *H. turcicus* from Tamaulipas (19 examined by us) indicate that they were widespread in the state by the 1970s. However, we have rarely observed *H. turcicus* south of San Fernando in the last 15 years, suggesting that *H. frenatus* has displaced *H. turcicus* in the southern half of the state.

Hemidactylus frenatus are frequently associated with human structures and habitation and the vast majority of our observations have been on hotel and restaurant walls. Because it is an invasive species with the potential of having a detrimental effect on the native fauna, a few exceptions are worth noting. At Laguna del Carpintero, a park in the city of Tampico (22.238889°N, 97.8575°W, 1 m elev.) we observed two individuals while peeling bark from a dead tree in a densely wooded area ca. 500 m from any manmade structures. The El Mante specimen reported above, a juvenile, was found with a juvenile *Sceloporus variabilis*, under a cinder block in a dry concrete water trough and additional individuals were heard vocalizing in a water well about 2 m from the trough. The well and trough were located in thorn scrub that had been partially cleared for cattle grazing and completely devoid of any buildings. At the Poza Madre locality recorded above, situated at the end of a dead end road in what was otherwise undisturbed tropical deciduous and gallery forest, we found at least four deserted palapas supporting thatched roofs. The immediate area, perhaps 0.1 ha in size, had been cleared and intended for recreation, but appeared to be in a general state of abandonment. Numerous *H. frenatus* could be seen and heard vocalizing from the thatch roofs, and additional individuals, including the voucher specimen recorded here, were found inside dead logs in the immediate area. Deeper in the forest *H. frenatus* ceased to be observed, but various numbers of *Sceloporus variabilis*, *Lepidophyma sylvaticum*, *Ameiva undulata*, and *Ctenosaura acanthura* were detected there. Although *H. frenatus* is most commonly associated with human structures, it is able to utilize tropical deciduous forest and thorn scrub habitats, at least in disturbed areas.

Coleonyx brevis (Texas Banded Gecko). Municipio Reynosa: 37 km SW of junction of Hwy 40 and Hwy 2 in Reynosa (25.796389°N, 98.466667°W), 147 m elev. 13 August 2007. William Farr. Verified

by Fernando Mendoza-Quijano. UANL 6469. The southeastern-most locality within the species' geographic range (Dixon 1970), first municipality record, and a range extension of ca. 60 km S from the nearest locations in the vicinity of Mission/La Joya [26.2525°N, 98.494444°W, 38.5 m elev.], Hidalgo County, Texas (Axtell 1986). Although this species can be assumed to occur throughout the northwestern "panhandle" region of Tamaulipas due to the numerous records in adjacent areas of Texas and Nuevo León (Axtell 1986; Dixon 1970, 2000), this is only the second confirmed record from Tamaulipas. It was found under a tire in thorn scrub.

Crotaphytus collaris (Eastern Collared Lizard). Municipio Miquihuana: on the road to La Joya de Herrera, 8.5 km SW of Miquihuana (23.5375°N, 99.825556°W), 1651.8 m elev. 19 September 2007. William Farr and Tim Burkhardt. Verified by Michael R. J. Forstner. UTADC 1935. Municipio Bustamante: highway from El Capulin to Bustamante, km marker 14 (23.331944°N, 99.713333°W), 1350 m elev. David Lazcano. 8 September 1996. Verified by Fernando Mendoza-Quijano. UANL 4231. First municipality records that fill gaps between localities in the municipalities of Tula (Axtell and Webb 1995) and Jaumave (Farr et al. 2007), and confirms the occurrence of *C. collaris* in four of the five municipalities in Tamaulipas lying west of the Sierra Madre Oriental. Its occurrence should also be anticipated with near certainty at lower elevations in the arid canyons in the municipality of Palmillas, as these would be obvious dispersal routes east into the Jaumave Valley. The vegetation at both localities is Chihuahuan Desert scrub. Also of note, the color and pattern of *C. collaris* from Tamaulipas (22 observed in field surveys) are distinctly different from the more familiar Texas populations and agree with the description of *C. c. melanomaculatus* in Axtell and Webb (1995), although McGuire (1996) subsequently synonymized all subspecies of *C. collaris*.

Crotaphytus reticulatus (Reticulate Collared Lizard). Municipio Reynosa: 22 km SW of the junction of Hwy 40 and Hwy 2 in Reynosa. (25.933056°N, 98.428056°W), 103.5 m elev. 9 September 2007. Tim Burkhardt and William Farr. Verified by Michael R. J. Forstner. UTADC 1936. A range extension of 16 km E of the nearest record in McGuire (1996) and Montanucci (1976), expanding the distribution southeastward outside the panhandle region into northern Tamaulipas. The lizard was found perched on a large rock by a gravel road in thorn scrub.

Phrynosoma orbiculare (Mountain Horned Lizard). Municipio Bustamante: on the road to Las Antonias, 9.5 km W of Bustamante (23.405°N, 99.839772°W), 2004 m elev. 12 October 2007. William Farr. Verified by Fernando Mendoza-Quijano. UANL 6470. First municipality record and a range extension of 22 km SW of the only other confirmed record from the state (Horowitz 1955) at Miquihuana [23.575°N, 99.75°W, 1860 m elev.], 80 mi. [128.7 km] SW of Ciudad Victoria. The specimen was found DOR in high elevation Chihuahuan Desert scrub.

Aspidoscelis inornata (Little Striped Whiptail). Municipio Tula: 27 km SW of Cd. Tula (22.832222°N, 99.913056°W), 1067.1 m elev. 26 September 2006. Toby Hibbitts, James R. Dixon, and William Farr. Verified by Fernando Mendoza-Quijano. UANL 6471. First confirmed record for the state and a range extension of 30 km NE from the closest known locality in San Luis Potosí (Chaney and Liner 1995). Although maps in Wright (1994) and Axtell (1994)

depict the distribution of the species in Tamaulipas, neither provided specific localities or data verifying that conclusion. Most publications, both prior and subsequent to 1994, do not record the species in the state (e.g., Axtell 1961; Conant and Collins 1998; Degenhardt et al. 1996; Lemos Espinal and Smith 2007a, 2007b; Smith and Smith 1976; Smith and Taylor 1966; Stebbins 2003; Walker et al. 1996; Wright 1968; Wright and Lowe 1993). We have only observed *C. inornata* in the municipality of Tula, in extreme southwestern Tamaulipas, in Chihuahuan Desert scrub; however, it is locally very abundant in that area.

Gerrhonotus infernalis (Texas Alligator Lizard). Municipio Soto La Marina: 14 km SW of Soto La Marina on the "old" highway 70, in the northeastern foothills of the Sierra de Tamaulipas (23.655278°N, 98.339444°W), 228.9 m elev. 9 October 2005. William L. Farr. Verified by Fernando Mendoza Quijano. UANL 6437. A range extension of 110 km E from the closest locality in the vicinity of Gómez Farías, 1 km WNW of Pano Ayuctle, ca. 150 m elev. [23.123611°N, 99.165278°W] (Martin 1958). The eastern-most locality in Tamaulipas and the first record from the isolated Sierra de Tamaulipas (Good 1988, 1994). This specimen was found DOR in localized tropical deciduous forest that occurs at lower elevations of the Sierra de Tamaulipas between the thorn scrub of the coastal plain and pine-oak forest of higher elevations.

Serpentes

Coniophanes fissidens (Yellow-bellied Snake). Municipio Tula/Ocampo (near border): on the trail from Emperadores Aztecas to Lagunas Las Hondas, 31 km SE of Tula. (22.790833°N, 99.54°W), 1228.2 m elev. 19 July 2006. Eli García Padilla and William Farr. Verified by Jonathan Campbell. UTADC 1930–34. Northernmost record for the species in México, first state record, and a range extension of 28 km NW from the closest known locality at El Salto, San Luis Potosí [22.586111°N, 99.383333°W, 450 m elev.] (Taylor 1953). This snake was found inside a large decaying log in humid oak forest. In the course of researching this account, it became apparent that, as Myers (1969) indicated 40 years ago, *C. fissidens* is in need of an updated review, as Bailey (1939) and Fisher (1968; unpubl. thesis) were the last complete evaluations of this species (Lee 1996; Savage 2002; Wilson and Meyer 1985). The most widespread species in the genus, *C. fissidens*, reportedly ranges from Ecuador (Cadle 1989) northward into México. However, there has been confusion regarding the actual distributional range on the Atlantic versant of México, with various authors (e.g., Campbell 1998; Köhler 2008; Köhler et al. 2006; Lee 2000; Peters and Orejas-Miranda 1970) describing the northern limit as southern Veracruz, central Veracruz, or San Luis Potosí.

Lampropeltis mexicana (San Luis Potosí Kingsnake). Municipio Jaumave: On the road to Avila y Urbina, 31 km NW of Jaumave (23.601944°N, 99.6025°W), 1703 m elev. 15 October 2006. William Farr and Andrew Godambe. Verified by Fernando Mendoza-Quijano. UANL 6472. The second state and first municipality record and a range extension of 16 km E from the only published locality for species in Tamaulipas at Miquihuana [23.574722°N, 99.752222°W, 1833 m elev.], the type locality of *L. thayeri* (Garstka 1982; Gehlbach 1967; Loveridge 1924). The snake was found under a rock in dry pine-oak forest. Bryson et al. (2007)

recently presented evidence that *L. mexicana* is polyphyletic, with the implication that populations in the Sierra Madre Oriental of Tamaulipas are not conspecific with *L. mexicana*.

Pantherophis bairdi (Baird's Rat Snake). Municipio Hidalgo: road to Conrado Castillo (24.018333°N, 99.484167°W) [1200 m elev., 44 km NW of Ciudad Victoria]. 18 October 2001. Pablo A. Lavín Murcio. Verified by Fernando Mendoza-Quijano. UTADC 1956. Municipio Victoria: 10 mi. [16.09 km] SW of Ciudad Victoria on Rt. 101 [ca. 23.6°N, 99.2°W, 1200 m elev.]. 22 September 1969. T. W. Walker. Verified by Juan E. de Jesus. AMNH R 104464. New municipality records for each, first confirmed records from the Sierra Madre Oriental of Tamaulipas, and range extensions of 87 km SW, and 115 km SW, respectively, from the only confirmed records from Tamaulipas in the Sierra San Carlos (Schulz 1996). Although Lemos Espinal and Smith (2007a) included the Sierra Madre Oriental of Tamaulipas to be within the species range, no locality data were provided. In addition to the records above, Alan Kardon (pers. comm.) showed us photographs of *P. bairdi* he observed in the vicinity of Las Joyas de Miquihuana [ca. 11 km N of La Peña, 23.65°N, 99.7°W, 2900 m elev.] in the municipality of Miquihuana, confirming its occurrence there. The vegetation at the Hidalgo and Miquihuana municipality localities is dry pine-oak and juniper forest, and oak forest at the site in the municipality of Victoria. The localities recorded here, combined with three records from the Sierra San Carlos (specimens examined by Lawson and Lieb 1990, and mapped in Schulz 1996) collectively represent every record of *P. bairdi* from Tamaulipas known to us. We suspect that these localities represent the southern limit of the species distribution, but the occurrence of this uncommon and secretive snake cannot be ruled out from high elevation areas supporting pine, oak, and juniper habitats farther south in the municipalities of Bustamante, Palmillas, and Tula.

Rhadinaea gaigeae (Gauge's Pine Forest Snake). Municipio Casas: 8 km N of Rancho La Saucedá in the Sierra de Tamaulipas [50 km N of Manuel] (23.197222°N, 99.340833°W), [1140 m elev.]. 21 January 2005. Gilberto Herrera. Verified by Fernando Mendoza-Quijano. UTADC 1957. First record from the isolated Sierra de Tamaulipas, easternmost record in the state (Myers 1974), and range extension of 88 km E from the nearest localities in the Sierra de Guatemala (Martin 1958). The vegetation in the area is predominately pine-oak forest.

Tantilla atriceps (Mexican Black-headed Snake). Municipio Tula: Las Cruces (= Colonia Agrícola), 25 km S of Tula (22.765556°N, 99.679722°W), 1021.8 m elev. 17 July 2006. William Farr and Eli García Padilla. Verified by Fernando Mendoza-Quijano. UANL 6473. The first confirmed record from southwestern Tamaulipas (an isolated population is recorded from the Sierra de San Carlos in the north-central region of the state) and a range extension of ca. 60 km W from the closest known locality in San Luis Potosí (Cole and Hardy 1981, 1983). The snake was found under a stone near abandoned buildings surrounded by Chihuahuan Desert scrub vegetation.

Tantilla wilcoxi (Chihuahuan Black-headed Snake). Municipio Bustamante: Near La Joya de Herrera, 7 km W of the town of Bustamante (23.420278°N, 99.820278°W), 1916.4 m elev. 19 September 2007. Tim Burkhardt and William Farr. Verified by Fernando Mendoza-Quijano. UANL 6474. First record for Tamaulipas

and a range extension of ca. 125 km SE of the nearest locality in Nuevo León (Liner 1983). The snake was found under a rock in a pasture surrounded by Chihuahuan Desert scrub that contained scattered juniper trees.

Trimorphodon tau (Mexican Lyresnake). Municipio Palmillas: on the road to Miquihuana, 10.5 km N of Cd. Palmillas (23.3925°N, 99.605833°W), 1520.7 m elev. 12 October 2007. William Farr. Verified by Fernando Mendoza-Quijano. UANL 6476. First municipality record and range extension of 40 km NW from the nearest locality at La Joya de Salas [23.172222°N, 99.3°W] in the Sierra de Guatemala (Martin 1958). It is also the first published record from the plateau and interior canyons and valleys of the Sierra Madre Oriental of Tamaulipas, although museum records (not examined by authors) collected subsequent to McDiarmid and Scott (1970) are from interior localities. Other publications following McDiarmid and Scott (1970) have reported northward range extensions for the species in Tamaulipas and Nuevo León (e.g., Blody et al. 1987; Contreras-Lozano et al. 2007; Dundee and Liner 1997; Lazcano et al. 1992; Nevárez 1999). This snake was found DOR in Chihuahuan Desert scrub containing some scattered juniper trees.

Tropidodipsas fasciata (Banded Snail Sucker). Municipio Hidalgo: 12 km W of Villa Hidalgo, on the road to El Chorrillo (24.251944°N, 99.558056°W), 450 m elev. 27 September 2006. Toby Hibbitts, William Farr, and James R. Dixon. Verified by Fernando Mendoza-Quijano. UANL 6475. Northernmost record for the species and a range extension of 72 km NW from the closest recorded locality reported by Jackson (1971) from 25.7 km NNE of Ciudad Victoria near Parque Nacional Río Corona, Hwy 101 and Río Corona (22°56'N, 98°56'W [coordinates in error, this locality is 23°56'N, 98°56'W = 23.933333°N, 98.933333°W, 140 m elev.]). The Jackson (1971) locality was later mapped in Kofron (1987). The habitat west of Villa Hidalgo, where this specimen was found DOR, is located near the base of the Sierra Madre Oriental where the mountains abruptly rise from the arid coastal plain. The canyons and surrounding landscape at the base of the eastern Sierra Madre Oriental, ranging as far north as the Iturbide/Linares Canyon in Nuevo León, support a narrow and sometimes disjunct band of relatively lush vegetation with elements of tropical deciduous and gallery forest. In addition, Parque Nacional Río Corona has been a popular destination for U.S. biologists and bird watchers, but has never been officially designated a national park by the Mexican Government.

Micrurus tener (Texas Coral Snake). Municipio Jaumave: on the road to Avila y Urbina, 13.5 km NW of Jaumave (23.435556°N, 99.510278°W), 1120.5 m elev. 17 September 2007. Tim Burkhardt and William Farr. Verified by Fernando Mendoza-Quijano. UANL 6477. Municipio Tula: 16 km SW of Tula near Ejido San Pablo (22.900556°N, 99.827778°W), 1066 m elev. 12 October 2005. William Farr and Tiffany Kosch. Verified by Michael R. J. Forstner. UTADC 1944. The first records of this species occurring in and west of the Sierra Madre Oriental in Tamaulipas, and range extensions of ca. 51.5 km SW for the Jaumave municipality record, and ca. 60 km W for the Tula municipality record (Campbell and Lamar 2004; Roze 1996). These records partially fill a gap in this species' distribution on the Mexican Plateau between populations to the north in eastern Coahuila and to the south in Guanajuato,

Querétaro, and Morelos (Campbell and Lamar 2004). Hernández-Ibarra (2005) and Hernández-Ibarra and Ramírez-Bautista (2006) also recorded *M. tener* from the municipality of Guadalcázar, San Luis Potosí adjacent to municipality of Tula, Tamaulipas, but did not provide locality details. The Jaumave municipality record was collected DOR in a canyon rising from the western slope of the Jaumave Valley where the vegetation transitions from thorn scrub to dry pine-oak and juniper forest. The Tula municipality record was found crawling at night in Chihuahuan Desert scrub.

Acknowledgments.—Fieldwork was conducted under SEMARNAT permits 7150/97, 01624/05, 00800/06, 01085/07, 01255/08, FAUT-0045. Houston Zoo, Inc. provided funds and time for fieldwork and research. We thank James R. Dixon, Toby Hibbitts, and Heather Prestridge for allowing us access to the TCWC collection and Dixon's library, accommodating loans from various institutions on our behalf, and for their ongoing advice and encouragement. We thank the following individuals for accommodating us on visits to examine material held in their respective institutions or providing loans: Jack Sites (BYU); Robert Henderson (MPM); Cybil Smith and Karen McBee (OSUS); Steven Platt (SRSU); Alejandra Salinas-Camarena (UANL); Christopher Phillips, Dan Wylie, Eric Johnston, and Michael Dreslik (UIMNH); and Traci Hartsell, Steve Gotte, Kenneth Tighe, Robert Wilson, and Ronald Heyer (USNM). Amy Lathrop, Ross MacCulloch, and Robert Murphy (ROM) provided photographs of specimens for us to examine. John Simmons (KU), Amy Estep (OKMNH), and Chris Conroy (MVZ) kindly provided data for referenced specimens that were not examined by us. We also express gratitude to everyone recognized in the text for verifying specimens. For advice on miscellaneous matters, we thank Ralph W. Axtell, Carl H. Ernst, Michael R. J. Forstner, Joseph P. Flanagan, Alan Kardon, and Michael E. Seidel. For accompanying us in the field and sharing their knowledge, time, and assistance, we express thanks to George Brandy, Tim Burkhardt, Jerry Caraviotis, José Cortes-Lariva, James R. Dixon, Ricardo Enrique-Núñez, Oscar M. Hinojosa-Falcón, Adam Ferguson, Michael R. J. Forstner, Oscar Gallardo, Andrew Godambe, Gilberto Herrera-Patiño, Toby Hibbitts, Tiffany Kosch, Armando Martínez, Omar Martínez-Alvirde, Eli García-Padilla and David Rodríguez.

LITERATURE CITED

- AMPHIBIAWEB. 2009. Information on amphibian biology and conservation [web application]. Berkeley, California. Available at <http://amphibiaweb.org/> (accessed 27 April 2009).
- AUTH, D. L., H. M. SMITH, B. C. BROWN, AND D. LINTZ. 2000. A description of the Mexican amphibian and reptile collection of the Strecker Museum. *Bull. Chicago Herpetol. Soc.* 35:65–85.
- AXTELL, R. W. 1961. *Cnemidophorus inornatus*, the valid name for the little striped whiptail lizard, with the description of an annectant subspecies. *Copeia* 1961:148–158.
- . 1986. Interpretive Atlas of Texas Lizards. *Coleonyx brevis*. 1:1–13. Privately printed, Edwardsville, Illinois.
- . 1994. Interpretive Atlas of Texas Lizards. *Cnemidophorus inornatus*. 14:1–17. Privately printed, Edwardsville, Illinois.
- , AND R. G. WEBB. 1995. Two new *Crotaphytus* from southern Coahuila and the adjacent states of east-central Mexico. *Bull. Chicago Acad. Sci.* 16:1–15.
- BAILEY, J. R. 1939. A systematic revision of the snakes of the genus *Coniophanes*. *Pap. Michigan Acad. Sci. Arts Lett.* 24:1–48.
- BALLARDO, W. S., F. MENDOZA QUIJANO, AND M. E. MARTÍNEZ SOLÍS. 1996. Range extensions for *Hemidactylus frenatus* in México. *Herpetol. Rev.* 27:40.
- BLODY, D. A., R. BROWN, S. HAMMACK, AND D. HECKARD. 1987. Geographic distribution: *Trimorphodon tau tau*. *Herpetol. Rev.* 18:21.
- BRYSON JR., R. W., J. PASTORINI, F. T. BURBRINK, AND M. R. J. FORSTNER. 2007. A phylogeny of the *Lampropeltis mexicana* complex (Serpentes: Colubridae) based on mitochondrial DNA sequences suggest evidence for species-level polyphyly within *Lampropeltis*. *Mol. Phylogenet. Evol.* 43:674–684.
- BURY, R. B., AND J. A. WHELAN. 1984. Ecology and management of the bullfrog. *U.S. Fish Wild. Serv., Res. Publ.* 155:1–23.
- CADLE, J. E. 1989. A new species of *Coniophanes* (Serpentes: Colubridae) from northwestern Peru. *Herpetologica* 45:411–424.
- CAGLE, F. R. 1944. Home range, homing behavior and migration in turtles. *Misc. Publ. Mus. Zool. Univ. Michigan* 61:1–34.
- CAMPBELL, J. A. 1998. Amphibians and Reptiles of Northern Guatemala, the Yucatán, and Belize. Univ. Oklahoma Press, Norman, Oklahoma. 380 pp.
- , AND W. W. LAMAR. 2004. The Venomous Reptiles of the Western Hemisphere. 2 vols. Comstock Publ., Cornell Univ. Press, Ithaca, New York. 870 pp.
- CHANEY, A. H., AND E. A. LINER. 1995. Geographic distribution: *Cnemidophorus inornatus paululus*. *Herpetol. Rev.* 26:155.
- COLE, C. J., AND L. M. HARDY. 1981. Systematics of North American colubrid snakes related to *Tantilla planiceps* (Blainville). *Bull. Amer. Mus. Nat. Hist.* 171:199–284.
- . 1983. *Tantilla atriceps*. *Cat. Amer. Amphib. Rept.* 317.1–317.2.
- CONANT, R., AND J. T. COLLINS. 1998. A Field Guide to Reptiles and Amphibians, Eastern and Central North America, 3rd ed., expanded. Houghton Mifflin Co., Boston, Massachusetts. 616 pp.
- CONTRERAS-LOZANO, J. A., D. LAZCANO, AND A. J. CONTRERAS-BALDERAS. 2007. *Sceloporus cyanogenys*: Predation. *Herpetol. Rev.* 38:82–83.
- DEGENHARDT, W. G., C. W. PAINTER, AND A. H. PRICE. 1996. Amphibians and Reptiles of New Mexico. Univ. New Mexico Press, Albuquerque, New Mexico. 431 pp.
- DIXON, J. R. 1970. *Coleonyx brevis*. *Cat. Amer. Amphib. Rept.* 88.1–88.2.
- . 2000. Amphibians and Reptiles of Texas, with Keys, Taxonomic Synopses, Bibliography and Distribution Maps, 2nd ed. Texas A&M Univ. Press, College Station, Texas. 421 pp.
- DUNDEE, H. A., AND E. A. LINER. 1997. Geographic distribution: *Trimorphodon tau tau*. *Herpetol. Rev.* 28:211.
- ERNST, C. H. 1990. Systematics, taxonomy, variation and geographic distribution of the slider turtle. *In* J. W. GIBBONS (ed.), *Life History and Ecology of the Slider Turtle*, pp. 57–67. Smithsonian Inst. Press, Washington, D.C.
- , R. W. BARBOUR, AND J. E. LOVICH. 1994. Turtles of the United States and Canada. Smithsonian Inst. Press, Washington, D.C. 578 pp.
- FARR, W. L., P. A. LAVÍN MURCIO, AND D. LAZCANO. 2007. New distributional records for amphibians and reptiles from the state of Tamaulipas, Mexico. *Herpetol. Rev.* 38:226–233.
- FISHER, C. B. 1968. A systematic revision of the species *Coniophanes fissidens* (Günther) (Serpentes, Colubridae). M.S. thesis, Northwestern State College, Natchitoches, Louisiana.
- FLORES-VILLELA, O., AND H. A. PÉREZ-MENDOZA. 2006. Herpetofaunas estatales de México. *In* A. Ramírez-Bautista, L. Canseco-Márquez, and F. Mendoza-Quijano (eds.), *Inventarios Herpetofaunísticos de México: Avances en el Conocimiento de su Biodiversidad*, pp. 327–346. *Publ. Soc. Herpetol. Mexicana* No. 3, México, D.F.
- GARSTKA, W. R. 1982. Systematics of the *mexicana* species group of the colubrid genus *Lampropeltis* with an hypothesis mimicry. *Breviora, Mus. Comp. Zool.* (466):1–35.
- GEHLBACH, F. R. 1967. *Lampropeltis mexicana*. *Cat. Amer. Amphib. Rept.* 55.1–55.2.
- GIBBONS, J. W. 1970. Terrestrial activity and the population dynamics of aquatic turtles. *Amer. Midl. Nat.* 83:404–414.
- (ed.). 1990. *Life History and Ecology of the Slider Turtle*. Smithsonian Inst. Press, Washington, D.C. 368 pp.

- , AND J. W. COKER. 1978. Herpetofaunal colonization patterns of Atlantic Coast barrier islands. *Amer. Midl. Nat.* 99:219–233.
- , J. L. GREENE, AND J. D. CONGDON. 1990. Temporal and spatial movement patterns of slider and other turtles. In J. W. Gibbons (ed.), *Life History and Ecology of the Slider Turtle*, pp. 201–215. Smithsonian Press, Washington, D.C.
- GOLDMAN, E. A. 1951. *Biological Investigations in México*. Smithsonian Misc. Collect. 115:ix + 476 pp.
- GOOD, D. A. 1988. Phylogenetic relationships among gerrhonotine lizards, an analysis of external morphology. *Univ. California Publ. Zool.* 121:1–139.
- . 1994. Species limits in the genus *Gerrhonotus* (Squamata: Anguinae). *Herpetol. Monogr.* 8:180–202.
- HERNÁNDEZ-IBARRA, X. 2005. Biodiversidad de la herpetofauna del Municipio de Guadalcázar, San Luis Potosí, México. *Bol. Soc. Herpetol. Mex.* 14:29–30.
- , AND A. RAMÍREZ-BAUTISTA. 2006. Herpetofauna del Municipio de Guadalcázar, San Luis Potosí. In A. Ramírez-Bautista, L. Canseco-Márquez, and F. Mendoza-Quijano (eds.), *Inventarios Herpetofaunísticos de México: Avances en el Conocimiento de su Biodiversidad*, pp. 58–73. *Publ. Soc. Herpetol. Mexicana No. 3*, Mexico, D.F.
- HOROWITZ, S. B. 1955. An arrangement of the subspecies of the horned toad, *Phrynosoma orbiculare* (Iguanidae). *Amer. Midl. Nat.* 54:204–218.
- IUCN. 2006. Conservation International and NatureServe, Global Amphibian Assessment www.globalamphibians.org. Downloaded 26 April 2009.
- IVERSON, J. B. 1992. *A Revised Checklist with Distribution Maps of the Turtles of the World*. Green Nature Books, Homestead, Florida.
- JACKSON, M. K. 1971. Another *Tropidodipsas fasciata fasciata* (Colubridae) from Tamaulipas, Mexico. *Southwest. Nat.* 16:124.
- JOHNSON, R. M., E. A. LINER, AND A. H. CHANEY. 1978. Geographic distribution: *Pseudoeurycea scandans*. *Herpetol. Rev.* 9:21.
- JUDD, F. W., AND K. J. IRWIN. 2005. *Hypopachus variolosus* (Cope, 1866 [b]) Sheep Frog. In M. Lannoo (ed.), *Amphibian Declines: The Conservation Status of United States Species*, pp. 506–508. Univ. California Press, Berkeley, California.
- KELLOGG, R. 1932. Mexican Tailless Amphibians in the United States National Museum. *Smithson. Inst., U.S. Nat. Mus. Bull.* 160:1–224.
- KOFRON, C. P. 1987. Systematics of Neotropical gastropod-eating snakes: the *fasciata* group of the genus *Sibon*. *J. Herpetol.* 21:210–225.
- KÖHLER, G. 2008. *Reptiles of Central America*, 2nd ed. Herpeton, Verlag Elke Köhler, Offenbach, Germany. 400 pp.
- , M. VESELÝ, AND E. GREENBAUM. 2006. *The Amphibians and Reptiles of El Salvador*. Krieger Publ. Co., Malabar, Florida. 238 pp.
- KRUPA, J. J. 1990. *Bufo cognatus*. *Cat. Amer. Amphib. Rept.* 457.1–457.8.
- LAWSON, R., AND C. S. LIEB. 1990. Variation and hybridization in *Elaphe bairdi* (Serpentes: Colubridae). *J. Herpetol.* 24:280–292.
- LAZCANO, D., A. KARDON, AND K. H. PETERSON. 1992. Notes on Mexican herpetofauna 1: *Senticolis triaspis* and *Trimorphodon tau tau*. *Bull. Chicago Herpetol. Soc.* 27:4.
- LEE, J. C. 1996. *The Amphibians and Reptiles of the Yucatan Peninsula*. Comstock Publ. Assoc., Cornell Univ. Press, Ithaca, New York. 500 pp.
- . 2000. *A Field Guide to the Amphibians and Reptiles of the Maya World*. Comstock Publ. Assoc., Cornell Univ. Press, Ithaca, New York. 402 pp.
- LEGLER, J. M. 1990. The genus *Pseudemys* in Mesoamerica: taxonomy, distribution and origins. In J. W. Gibbons (ed.), *Life History and Ecology of the Slider Turtle*, pp. 82–105. Smithsonian Inst. Press, Washington, D.C.
- LEMONS ESPINAL, J. A., AND H. M. SMITH. 2007a. Amphibians and Reptiles of the State of Coahuila, Mexico. UNAM (CONABIO), Mexico, D.F. 550 pp.
- . 2007b. Amphibians and Reptiles of the State of Chihuahua Mexico. UNAM (CONABIO), Mexico, D.F. 613 pp.
- LEOPOLD, A. S. 1950. Vegetation zones of Mexico. *Ecology* 31:507–518.
- LINER, E. A. 1983. *Tantilla wilcoxi*. *Cat. Amer. Amphib. Rept.* 345.1–345.2.
- , AND G. CASAS-ANDREU. 2008. Standard Spanish, English and scientific names of the amphibians and reptiles of Mexico, 2nd ed. SSAR Herpetol. Circ. 38:162.
- LOVERIDGE, A. 1924. A new snake of the genus *Lampropeltis*. *Occ. Pap. Boston Soc. Nat. Hist.* 5:137–139.
- MARCELLINI, D. 1971. Range extension of the gecko, *Hemidactylus frenatus* in Mexico. *Southwest. Nat.* 15:397.
- MARTIN, P. S. 1958. A biogeography of reptiles and amphibians in the Gómez Farías region, Tamaulipas, Mexico. *Misc. Publ. Mus. Zool., Univ. Michigan.* (101):1–102.
- MCDIARMID, R. W., AND N. J. SCOTT, JR. 1970. Geographic variation and systematic status of Mexican lyre snakes of the *Trimorphodon tau* group (Colubridae). *Contrib. Sci. Los Angeles Co. Mus. Nat. Hist.* 179:1–43.
- MCGUIRE, J. A. 1996. Phylogenetic systematics of crotophytid lizards (Reptilia: Iguania: Crotophytidae). *Bull. Carnegie Mus. Nat. Hist.* 32:1–143.
- MONTANUCCI, R. R. 1976. *Crotaphytus reticulatus*. *Cat. Amer. Amphib. Rept.* 185.1–185.2.
- MORAFKA, D. J. 1977. *A Biogeographical Analysis of the Chihuahuan Desert Through its Herpetofauna*. Dr. W. Junk, Publishers, The Hague. 313 pp.
- MYERS, C. W. 1969. Snakes of the genus *Coniophanes* in Panama. *Amer. Mus. Nov.* 2372:1–28.
- . 1974. The systematics of *Rhadinaea* (Colubridae), a genus of new world snakes. *Bull. Amer. Mus. Nat. Hist.* 153:1–262.
- NELSON, C. E. 1972. *Gastrophryne elegans*. *Cat. Amer. Amphib. Rept.* 121.1–121.2.
- . 1974. Further studies on the systematics of *Hypopachus* (Anura: Microhylidae). *Herpetologica* 30:250–274.
- NEVAREZ, M. 1999. Geographic distribution: *Trimorphodon tau*. *Herpetol. Rev.* 30:114.
- PETERS, J. A., AND B. OREJAS-MIRANDA. 1970. Catalogue of the Neotropical Squamata: Part I. Snakes. *U.S. Nat. Mus. Bull.* 297: vii + 347 pp.
- PRITCHARD, P. C. H. 1979. *Encyclopedia of Turtles*. T.F.H. Publications, Inc., Neptune, New Jersey. 895 pp.
- RANDEL, W. A. 1914. *Frog Culture for Profit*. Aqua Life Co., Seymour, Connecticut.
- ROZE, J. A. 1996. *Coral Snakes of the Americas: Biology, Identification, and Venoms*. Krieger Publ. Co., Malabar, Florida. 328 pp.
- SAMPABLO-BRITO, X., AND J. R. DIXON. 1998. Geographic distribution: *Gastrophryne elegans*. *Herpetol. Rev.* 29:48.
- SANDERS, O., AND H. M. SMITH. 1951. Geographic variation in toads of the *debilis* group of *Bufo*. *Field and Lab., Southern Methodist Univ.* 19:141–160.
- SANTOS-BARRERA, G., G. HAMMERSON, G. CHAVES, L. D. WILSON, P. WALKER, AND F. BOLAÑOS. 2008. *Hypopachus variolosus*. IUCN 2008 Red List of Threatened species (www.iucnredlist.org). Downloaded 27 April 2009.
- SAVAGE, J. M. 1954. A revision of the toads of the *Bufo debilis* complex. *Texas J. Sci.* 6:83–112.
- . 2002. *The Amphibians and Reptiles of Costa Rica: A Herpetofauna Between Two Continents, Between Two Seas*. Univ. Chicago Press, Chicago, Illinois. 934 pp.
- SCHULZ, K. D. 1996. *A Monograph of the Colubrid Snakes of the Genus Elaphe*, Fitzinger. Havlickov Brod (Koeltz Scientific Books), Czech Republic. 439 pp.
- SEIDEL, M. E. 2002. Taxonomic observations on extant species and subspecies of slider turtles, genus *Trachemys*. *J. Herpetol.* 36:285–292.
- , J. N. STUART, AND W. G. DEGENHARDT. 1999. Variation and species status of slider turtles (Emydidae: *Trachemys*) in the southwestern United States and adjacent Mexico. *Herpetologica* 55:470–487.

- SMITH, H. M., R. CONANT, AND D. CHISZAR. 2003. Berlandier's herpetology of Tamaulipas, Mexico, 150 years ago. *News. Bull., Inter. Soc. Hist. Bibliog. Herpetol.* 4:19–30.
- , AND R. B. SMITH. 1976. Synopsis of the Herpetofauna of Mexico, Vol. III: Source Analysis and Index for Mexican Reptiles. John Johnson, North Bennington, Vermont.
- , AND E. H. TAYLOR. 1950. An annotated checklist and keys to the reptiles of Mexico exclusive of the snakes. *Smithson. Inst., U.S. Nat. Mus. Bull.* 199:1–253.
- , AND ———. 1966. Herpetology of Mexico, Annotated Checklist and Keys to the Amphibians and Reptiles. Reprint of U.S. Nat. Mus. Bulls. 187, 194, 199. Eric Lundberg, Ashton, Maryland.
- STEBBINS, R. C. 2003. A Field Guide to Western Reptiles and Amphibians, 3rd ed. Houghton Mifflin Co., Boston, Massachusetts. 533 pp.
- SUTTON, G. M. 1972. At a Bend in a Mexican River. Paul S. Eriksson, Inc. Publisher, New York, New York. 184 pp.
- TAYLOR, E. H. 1953. Fourth contribution to the herpetology of San Luis Potosí. *Univ. Kansas Sci. Bull.* 35:1587–1614.
- WAKE, D. B., AND J. F. LYNCH. 1976. The distribution, ecology and evolutionary history of plethodontid salamanders in tropical America. *Nat. Hist. Mus. Los Angeles Co. Sci. Bull.* 25:1–65.
- WALKER, J. M., J. E. CORDES, F. MENDOZA-QUIJANO, AND E. HERNANDEZ-GARCIA. 1996. Implications of extraordinary variation in the little striped whiptail lizard, *Cnemidophorus inornatus* Baird (Sauria: Teiidae) in Chihuahua, Mexico. *J. Herpetol.* 30:271–275.
- WILSON, L. D., AND J. R. MEYER. 1985. The Snakes of Honduras, 2nd ed. Milwaukee Public Museum, Milwaukee, Wisconsin. 150 pp.
- WRIGHT J. W. 1968. Variation in three sympatric sibling species of whiptail lizards, genus *Cnemidophorus*. *J. Herpetol.* 1:1–20.
- . 1994. The North American deserts and species diversity in the lizards of the genus *Cnemidophorus*. In P. R. Brown and J. W. Wright (eds.), *Herpetology of the North American Deserts: Proceedings of a Symposium*, pp. 255–271. Southwest. Herpetol. Soc. Spec. Publ. No. 5.
- , AND C. H. LOWE. 1993. Synopsis of the subspecies of the little striped whiptail lizard, *Cnemidophorus inornatus* Baird. *J. Arizona-Nevada Acad. Sci.* 27:129–157.

Herpetological Review, 2009, 40(4), 467–470.
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Noteworthy Records of Amphibians and Reptiles from Puebla, México

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Until recently, the diversity and distribution patterns of the herpetofauna within the state of Puebla, México, were not well known (Canseco-Márquez et al. 2000). However, with the discovery of

new distributional records (e.g., Canseco-Márquez et al. 2003, 2004, 2005; Canseco-Márquez and Gutiérrez-Mayén 2006; García-Vázquez et al. 2006; Solano-Zavaleta et al. 2006) and descriptions of new species (Canseco-Márquez et al. 2002; Canseco-Márquez and Smith 2004; Parra-Olea et al. 2004), the number of amphibians and reptiles known to occur within the state has increased significantly. There continue to be mostly unexplored regions in Puebla, one of which was, until recently, the Sierra Negra located in the southeastern portion of the state.

During 2006 and 2007 we conducted field trips to the Sierra Negra and verified 18 new records for Puebla (9 amphibians and 9 reptiles) and confirmed 16 other noteworthy distributional accounts (5 amphibians and 11 reptiles). Collections were made by the authors, all verified by Alberto Mendoza Hernández, and all vouchers were deposited in the collection of Museo de Zoología, Facultad de Ciencias, UNAM (MZFC). All locality coordinates were taken with a Garmin GPS unit, using map datum WGS84. Distances between localities are airline measures. Common and scientific names, unless more recently revised, follow those found in Liner and Casas-Andreu (2008). Species listed are arranged in alphabetical order by their family names. Vegetation classification follows Rzedowski (1978).

New State Records

Anura

Incilius valliceps (Southern Gulf Coast Toad). Municipality of Eloxochitlán: 2 km SW of La Pedrera (18.4856°N, 96.857°W), 123 m elev. 26 July 2006. MZFC 20499-50. Along Rancho Nuevo-Tepeyac Road (18.487°N, 96.866°W), 125 m elev. 27 July 2006. MZFC 20520. Municipality of Tlacotepec de Díaz: Tlacotepec de Díaz (18.4058°N, 96.845°W), 255 m elev. 29 June 2007. MZFC 21958–59. These records fill gaps between localities in adjacent Oaxaca and Veracruz (Mendelson 1998). All vouchers, except MZFC 20520, were found in water pools either in solitary or as amplexing pairs. All localities contained tropical semideciduous forest.

Hyalinobatrachium fleischmanni (Fleischmann's Glass Frog). Municipality of Eloxochitlán: Tepequezquiapan (18.4862°N, 96.916°W), 1041 m elev. 27 June 2007. MZFC 20529, 21948–50. These records extend the known range about 78 km NW from localities in northern Oaxaca (Lips et al. 2004). All frogs were found calling while sitting on leaves in cloud forest.

Eleutherodactylus leprus (Leprus Chirping Frog). Municipality of Zoquitlán: along El Tepeyac-Tlacotepec de Díaz Road (18.4443°N, 96.857°W), 91 m elev. 26 July 2006. MZFC 20507. A range extension of ca. 74 km SE of Coyame, Veracruz, filling a gap between localities in central Veracruz and northern Oaxaca (Lynch 1970). The frog was found calling from a tree branch in tropical evergreen forest.

Agalychnis callidryas (Red-eyed Leaf Frog). Municipality of Tlacotepec de Díaz: along El Tepeyac-Tlacotepec de Díaz Road (18.4247°N, 96.851°W), 115 m elev. 26 July 2006. MZFC 20501, 20508, 20516. This locality represents a range extension of about 131 km WNW of Los Mangos, Playa Escondida, in Central Veracruz (Duellman 2001). All frogs were males found calling from branches of bushes located near a pond surrounded by tropical semideciduous forest.