context in which they use their rattle. I already knew from previous researchers that the morphology of *C. catalinensis* was reduced such that few, if any, individuals retained rattle segments. The same was suspected to be true for *C. lorenzoensis* and *C. estebanensis*, but how much they were reduced and whether or not they were reduced in a similar fashion, was unknown. Also unknown was the physiological capacity of island species to sustain rattling. Anyone who has ever encountered very many western diamondback rattlesnakes, *C. atrox*, knows that they are quite cantankerous and can rattle for hours, literally. Researchers have learned that this is because rattlesnakes have specialized muscles, called tailshaker muscles, that can contract and relax at up to 100 times per second. This rapid vibration of the style drives the rattle to produce sound. Whether or not the tailshaker muscles of island species showed reduction or alteration in their special physiology, as evidenced by a slower rattle, was undetermined. By choosing the right variables to measure, I could answer these questions by comparing my data collected in the field on the island species to the same data I collected on the nearest mainland relatives to each island species. Easy, right?

Not quite. Traveling to and working on the islands in the Sea of Cortés may sound at first like a pleasurable way to complete a dissertation, but actually doing so has proved challenging in several ways (just getting this project idea past my dissertation committee was challenge enough). Permits to work on the islands and with island endemic species are difficult to secure and arranging for boat travel to some of the islands can take days. Heat exhaustion, biting/stinging insects, gastrointestinal upsets and the potential for rattlesnake bite combined with the isolation of these uninhabited islands pose very real and very serious health risks; there’s no fresh water, no air-conditioning, no doctor, and no dialing 911. Costs associated with travel, equipment, insurance, and other safety measures can also be prohibitive. But thanks to partial funding from the Chicago Herpetological Society and the enthusiasm (or naïveté?) of youth, I have been successful in overcoming most of these challenges and will be publishing the results of this work soon. Thanks, CHS!

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**Checklist of Amphibians and Reptiles of the Comarca Lagunera in Durango-Coahuila, Mexico**

Héctor Gadsden¹, José Luis Estrada-Rodríguez² and Sandra V. Leyva-Pacheco²

**Abstract**

A tentative checklist of 67 species and subspecies of amphibians and reptiles is reported from the Comarca Lagunera area in Durango-Coahuila, Mexico. Included are 8 frogs and toads, 4 turtles (2 endemic species), 27 lizards (7 endemic species), and 28 snakes (2 endemic subspecies). This list also reflects current nomenclature and taxonomic status from this herpetologically poorly known area.

**Introduction**

The amphibians and reptiles of northeastern Durango and southwestern Coahuila generally are not well-known. Various regional studies in this area (Smith, 1934, 1936; Schmidt and Bogert, 1947; Conant, 1953, 1963, 1968, 1969, 1977; Webb and Hensley, 1959; Legler, 1959; Williams et al., 1960; Webb, 1965, 1970, 1990; Axtell and Axtell, 1971; Commins and Savitsky, 1973; Morafka, 1977, 1982; Adest, 1977; Pough et al., 1978; Iverson, 1979; Bezy, 1989; Morafka et al., 1992; Good, 1994; Smith et al., 1995; Axtell and Webb, 1995; Lemos-Espinal et al., 1998, 1999, 2002; Wiens et al. 1999; Guzmán and Muñiz-Martínez, 1999; Gadsden et al., 2001a, 2001b; Seidel, 2002; Smith et al., 2002; Estrada-Rodríguez et al., 2003, 2004; Castañeda et al., 2004, 2005; Leyva-Pacheco et al., 2004; García de la Peña et al., 2004, 2005) have provided much important information over the years, but a regional checklist has been in demand.

We provide here a tentative checklist of the amphibians and reptiles of this poorly known region.

**Methodology**

Herpetofauna surveys were carried out from 2000 to 2004 with seasonal samplings at several localities in the Comarca Lagunera within the Mapimian subprovince of the Chihuahuan Desert. The area (approximately 4,900 km²) lies between latitudes 25°15'N and 25°40'N and longitudes 102°55'W and 103°50'W. Torreón, Coahuila, lies approximately in the center of this area. The elevation oscillates between 1100 and 1350 m above sea level. The average monthly temperature ranges from 13°C in January to 28°C during the summer. Average annual rainfall is 230 mm but varies greatly among years (Schmidt, 1979). The vegetation is dominated by a desert thornscrub of *Larrea tridentata*, *Acacia sp.*, *Opuntia* sp., *Prosopis* sp., *Agave* sp., and *Yucca* sp. (Breimer, 1985).

This list has been compiled from personal records based on field observations by the authors and from literature citations. Organisms observed during the survey were captured with hand collection, noose and water-spray techniques (Estrada-Rodríguez et al., 2004). All the amphibians and reptiles captured

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were released at the point of initial sighting immediately after being identified and photographed. Since capturing was not selective, the number of specimens observed is a crude measure of the relative abundance of each species and subspecies during the period of survey (Davis and Dixon, 1961). In presenting our report we have given attention to data on localities and on the habitat occupied by each species or subspecies. Identification as to species was based on the guides of Conant and Collins (1998) and Stebbins (2003); and keys of Powell et al. (1998) and Lemos-Espinal et al. (2004).

The checklist includes recent nomenclatural changes, both scientific and standard English names (Liner, 1994; Bell et al., 2003; Flores-Villela and Canseco-Márquez, 2004).

**Results and Discussion**

The checklist below lists the species and subspecies of amphibians and reptiles occurring in the Comarca Lagunera region. This list also reflects current nomenclature and taxonomic status. We registered 67 taxa (species and subspecies): 8 anurans (12%), 4 turtles (6%), 27 lizards (40%), and 28 snakes (42%).

This small area shows a relatively high diversity of amphibians and reptiles (67 species and subspecies). This includes many endemic species of reptiles (Uma exsul, Crotophytus antiquus, Xantusia bolsonae, Xantusia extorris, Sceloporus lineolateralis, Sceloporus maculosus, Sceloporus cyanostictus, Kinosternon durangoense and Gopherus flavomarginatus) and two endemic subspecies of snakes (Bogertophis subocularis amplitinus and Nerodia erythrogaster bogerti). Unfortunately, the disordered development of many human activities has had great impact on the integrity and biological diversity of the Comarca Lagunera. Major threats include habitat destruction, fragmentation, degradation and contamination by aerial crop dusting with pesticides.

Several endemic lizard species of this area (namely Uma exsul, Crotophytus antiquus, Sceloporus lineolateralis, S. maculosus, S. cyanostictus, Xantusia bolsonae and X. extorris) are confined to “islands” of suitable habitat surrounded by inhospitable terrain. These reptiles do not migrate from one area to another due to unsuitable conditions between their “island” habitats. For such species habitat modifications or disturbance can be devastating. Presently, anthropogenic degradation of the habitats of these species is accelerating. These sites are not protected; we urgently recommend that a conservation plan be established to assure perpetuation of this endemic herpetofauna.

**Checklist of Amphibians and Reptiles of the Comarca Lagunera, Durango-Coahuila, Mexico**

**Class Amphibia — Amphibians**

**Order Anura — Frogs and Toads**

**Family Bufonidae — Toads**

*Bufo cognatus* Say, in James 1823 (Great Plains Toad).

Localities: all municipalities of the Comarca Lagunera (Gómez Palacio, Lerdo, Tlahualilo, Cuencame, Nazas, San Juan de Guadalupe, San Pedro del Gallo, Rodeo, and Simón Bolívar, Durango; Torreón, Matamoros, Viesca, San Pedro de las Colonias, and Francisco Madero, Coahuila).

Habitat: wet plains in agriculture areas and flooded fields.

Specimens observed: 60.

*Bufo debilis insidior* Girard 1854 (Green Toad).

Localities: Villa de Bilbao, Saucillo, Venustiano Carranza, and Ciudad Viesca, mpio. Viesca; Laguna de Mayrán, mpio. San Pedro de las Colonias, Coahuila.

Habitat: shortgrass prairies and desert flats, where it is seldom seen except after heavy rains in temporary pools.

Specimens observed: 99.

*Bufo punctatus* Baird and Girard 1852 (Red-spotted Toad).

Locality: Sierra El Sarnoso, mpio. Lerdo, Durango.

Habitat: in rocky areas, shallow temporary pools or quiet water of seasonal stream channels.

Specimens observed: 4.

**Family Scaphiopodidae — Spadefoot Toads**

*Scaphiopus couchii* Baird 1854 (Couch’s Spadefoot Toad).

Localities: all municipalities of the Comarca Lagunera (Gómez Palacio, Lerdo, Tlahualilo, Mapimi, Cuencame, Nazas, San Juan de Guadalupe, San Pedro del Gallo, Rodeo, and Simón Bolívar, Durango; Torreón, Matamoros, Viesca, San Pedro de las Colonias, and Francisco I. Madero, Coahuila).

Habitat: temporary pools and irrigation channels in agricultural areas; frequents shortgrass plains.

Specimens observed: 34.

*Spea multiplicata* (Cope 1863) (New Mexico Spadefoot Toad).


Habitat: temporary pools and shortgrass plains.

Specimens observed: 8.

**Family Microhylidae — Narrowmouth Toads**

*Gastrophryne olivacea* (Hallowell 1856) (Great Plains Narrowmouth Toad).


Habitat: pools bordering the Nazas River.

Specimens observed: 20.

**Family Ranidae — True Frogs**

*Rana berlandieri* Baird 1854 (Rio Grande Leopard Frog).


Habitat: dams of the Nazas River and permanent pools.

Specimens observed: 50.

*Rana catesbeiana* Shaw 1802 (Bullfrog).

Localities: La Posta in Saporiz and Cañón de Fernández in Graceros, mpio. Lerdo, Durango.
Habitat: dams of the Nazas River and permanent pools. Specimens observed: 8.

Class Reptilia

Order Testudines — Turtles

Family Kinosternidae — Mud and Musk Turtles


Family Emydidae — Emydid Turtles


Family Testudinidae — Tortoises


Order Squamata — Lizards and Snakes

Suborder Sauria — Lizards

Family Anguidae — Alligator Lizards

*Gerrhonotus infernalis* Baird 1859 (“1858”) (Texas Alligator Lizard). Localities: Sierra de Jimulco, mpio. Torreón, Coahuila; Cañón de Fernánández, mpio. Lerdo, Durango. Habitat: Rockies, stream channels; riparian *Prosoptis* (mesquites), and riparian grasslands. Specimens observed: 4.

Family Gekkonidae — Geckos

*Coleonyx brevis* Stejneger 1893 (Texas Banded Gecko). Localities: Francisco Zarco (water reservoir), Graseros, mpio. Lerdo, Durango; Sierra El Sarnoso, mpios. Gómez Palacio and Lerdo, Durango; Sierra el Rosario, mpios. Lerdo and Mapimi, Durango; Dunas de Viesca, mpios. Viesca and Matamoros, Coahuila; Laguna de Mayrán, mpio. San Pedro de las Colonias, Coahuila; Valle de Acatita, mpios. Talahualilo, Durango and Francisco I. Madero, Coahuila. Habitat: under several types of dominant vegetation (*Larrea tridentata*, *Suaeda nigrescens*).

Specimens observed: 11.


Family Crotaphytidae — Collared and Leopard Lizards


*Crotaphytus collaris* (Say, in James 1823) (Collared Lizard). Localities: Sierra El Sarnoso, mpios. Lerdo and Gómez Palacio, Durango; Sierra del Rosario, mpios. Lerdo and Mapimí, Durango; Cañón de Fernánández, mpio. Lerdo; Cañón del Indio, Sierra de las Noas, mpio. Lerdo, Durango and Torreón, Coahuila; Sierra de la Campana, mpio. Tlahualilo, Durango; Sierra de Jimulco, mpio. Torreón, Coahuila; Hacienda de Hornos, mpio. Viesca, Coahuila; Sierra el Clari n, mpio. San Pedro de las Colonias, Coahuila; Valle de Acatita, mpios. Tlahualilo, Durango, and Francisco I. Madero, Coahuila. Habitat: limestone ledges or rock piles are favorite habitats. Specimens observed: 17.


Family Phrynosomatidae — Includes Zebra-tailed, Earless, Fringe-toed, Spiny, Tree, Side-blotched and Horned Lizards


*Phrynosoma cornutum* (Harlan 1825) (Texas Horned Lizard). Localities: Sierra de Tlahualilo, and Sierra de la Campana, mpio. Tlahualilo, Durango; Cañón de Fernánández, Sierra El Sarnoso, Nazareno, Sierra El Rosario, mpio. Lerdo, Durango; Laguna de Mayran and Valle de Acatita, mpios. San Pedro de las Colonias, and Francisco I. Madero, Coahuila; Río Aguana- val and Sierra de Jimulco, mpio. Torreón, Coahuila.
Habitat: flat open terrain with sparse plant cover; often found in areas of sandy, rocky, or loamy soil. Specimens observed: 15.


*Sceloporus jarrovii* Cope, in Yarrow 1875 (Yarrow’s Spiny Lizard). Location: Cañón de Fernández and Sierra El Sarnoso, mpio. Lerdo, Durango. Habitat: rocky canyons and hillsides. Specimens observed: 117.

*Sceloporus lineolateralis* Smith 1936 (Yarrow’s Durango Spiny Lizard). Location: 10 km NE Pedriceña, Durango. Habitat: slopes with limestone rocks. Specimens observed: 12.

*Sceloporus maculosus* Smith 1934 (Spotted Spiny Lizard). Location: 22.5 km NE Pedriceña, Durango. Habitat: slopes with limestone rocks in hills. Specimens observed: 8.

*Sceloporus magister bimaculosus* Phelan and Brattstrom 1955 (Twin-spotted Spiny Lizard). Location: Cañón de Fernández, Sierra de España, Sierra el Sarnoso, and Sierra el Rosario, mpio. Lerdo, Durango; Sierra Mapimi, mpio. de Mapimi, Durango; Sierra de Jimulco and Sierra de las Neas, mpio. de Torreón, Coahuila. Habitat: mesquite-ahuehuete grassland and mesquite woodland. Specimens observed: 14.

*Sceloporus poinsettii pulepis* Smith and Chrapliwy 1958 (Southern Crevicce Lizard). Location: Cañón de Fernández and Sierra El Sarnoso, mpio. Lerdo, Durango; Sierra de la Candelaria, mpios. Simon Bolívar and San Juan de Guadalupe, Durango. Habitat: rocky canyons, hillsides, and outcrops of limestone or granite. Specimens observed: 30.


*Uta stejnegeri* Schmidt 1921 (Desert Side-blotched Lizard). Location: all municpalities of the Comarca Lagunera. Habitat: an abundant lizard in many areas; often found in sandy and saline soils, and on desert flats and foothills. Specimens observed: 70.


**Family Scincidae — Skinks**

*Plestiodon obsoletus* (Baird and Girard 1852) (Great Plains Skink). Location: Tlahualilo, mpio. Tlahualilo, Durango; Cañón de Fernández, mpio. Lerdo, Durango. Habitat: stream channels; riparian grass and low shrubby growth. Rocky outcrops near thickets along permanent or intermittent streams are especially favored. Specimens observed: 5.

**Family Teiidae — Whiptails**


*Aspidoscelis marmorata marmorata* (Baird and Girard 1852) (Western Marble Whiptail). Location: Laguna de Mayran and Laguna de Viesca, mpio. San Pedro de las Colonias, Coahuila; Valle de Acátita, mpio. Francisco I. Madero, Coahuila; Tlahualilo, mpio. Talahualilo, Durango.
Habitat: usually where plants are sparse and there are open areas.
Specimens observed: 4.

Aspidoscelis septemvittata (Cope 1892) (Plateau Spotted Whiptail).
Localities: all municipalities of the Comarca Lagunera.
Habitat: prairie grassland, rocky hillsides, washes, and river bottoms grown to mesquite, acacia, cactus, and shrub.
Specimens observed: 32.

Suborder Serpentes (Ophidia)—Snakes

Family Typhlopidae—Blind Snakes

Ramphotyphlops braminus (Daudin 1803) (Brahminy Blind Snake).
Locality: Gomez Palacio, mpio. Gomez Palacio, Durango.
Habitat: a burrower in loose, moist soil.
Specimens observed: 2.

Family Leptotyphlopidae—Slender Blind Snakes

Leptotyphlops humilis segregus Klauber 1939 (Trans-Pecos Blind Snake).
Localities: Gomez Palacio, mpio. Gomez Palacio, Durango.
Habitat: a burrower under rocks near streams, springs, or other areas where moisture is present.
Specimens observed: 11.

Family Colubridae—Colubrid Snakes

Arizona elegans expolita Klauber 1946 (Mexican Glossy Snake).
Localities: Sierra el Sarnoso and Ejido San Felipe, mpio. Gómez Palacio, Durango; Cañón de Fernández, and Sapioriz, mpio. Lerdo, Durango.
Specimens observed: 4.

Bogertophis subocularis amplinotus Webb 1990 (Durango Rat Snake).
Localities: Sierra el Sarnoso, mpio. Lerdo, Durango.
Habitat: rock piles or mammal burrows.
Specimens observed: 1.

Diadophis punctatus dugesii Villada 1875 (Dugès’s Ring-necked Snake).
Locality: Cañón de Fernández, mpio. Lerdo, Durango.
Habitat: moist habitat with watercourses where it may descend.
Specimens observed: 1.

Heterodon kennerlyi Kennicott 1860 (Mexican Hog-nosed Snake).
Habitat: gravelly prairies, floodplains of streams where loose soil is suitable for burrowing, and farmlands.
Specimens observed: 4.

Hypsiglena torquata janii (Dugès 1865) (Texas Night Snake).
Locality: Gómez Palacio and Lerdo, Durango; Torreón, Coahuila; Ejido Vallecillos, mpio. Lerdo, Durango; Ejido Horizonte, mpio. Tluahualilo, Durango.
Habitat: grassland, chaparral, and thornscrub. Occurs in both rocky and sandy areas.
Specimens observed: 5.

Lampropeltis alterna (Brown 1901) (Gray-banded King Snake).
Locality: Sierra el Sarnoso, mpio. Lerdo, Durango.
Habitat: rock crevices.
Specimens observed: 1.

Lampropeltis getula splendida (Baird and Girard 1853) (Desert King Snake).
Localities: Francisco Zarco (water reservoir), mpio. Lerdo, Durango; Ejido El Compás, mpio. Gómez Palacio, Durango.
Habitat: near streams or irrigation ditches.
Specimens observed: 2.

Masticophis flagellum lineatulus Smith 1941 (Lined Coach-whip).
Localities: Cañón de Fernández, Sierra el Rosario, Sierra el Sarnoso, mpio. Lerdo, Durango; Ejido Gabino Vázquez, Ejido Saucillo, mpio. Viesca, Coahuila; Finesterre, mpio. Francisco I. Madero, Coahuila; Laguna de Mayran, mpio. San Pedro de las Colonias, Coahuila.
Habitat: prairie, scrubland, farmland, rocky areas, mesquites (Prosopis sp.).
Specimens observed: 10.

Masticophis taeniatus girardi (Stejneger and Barbour 1917) (Central Texas Whip Snake).
Locality: Sierra el Sarnoso, mpio. Lerdo, Durango.
Habitat: shrublands, brushlands, and rocky canyons.
Specimens observed: 4.

Nerodia erythrogaster bogerti (Conant 1953) (Nazas Water Snake).
Locality: Cañón de Fernández, and Ejido Sapioriz, mpio. Lerdo, Durango.
Habitat: highly aquatic, usually found in or near water, river bottoms, wooded borders of rivers, ponds, ditches, and cattle tanks.
Specimens observed: 3.

Pantherophis emoryi emoryi (Baird and Girard 1853) (Great Plains Rat Snake).
Localities: Cañón de Fernández, mpio. Lerdo, Durango.
Habitat: hides beneath stones and in rock crevices or burrows; often occurs along water courses.
Specimens observed: 4.

Pituophis catenifer affinis (Hallowell 1852) (Sonoran Gopher Snake).
Localities: all municipalities of the Comarca Lagunera.
Habitat: farmland, grassland, prairie, open brushland.
Specimens observed: 24.

Rhinocheilus lecontei tessellatus Garman 1883 (Texas Long-nose Snake).
Habitat: mesquital (Prosopis sp.).
Specimens observed: 1.
**Salvadora deserticola** Schmidt 1940 (Big Bend Patchnose Snake).
Locality: Sierra el Sarnoso, mpio. Lerdo, Durango.
Habitat: rocky foothills with shrubs.
Specimens observed: 2.

**Salvadora grahamiae lineata** Schmidt 1940 (Texas Patchnose Snake).
Locality: Sierra de Jimulco, mpio. Torreón, Coahuila.
Habitat: rocky foothills.
Specimens observed: 1.

**Sonora semiannulata semiannulata** Baird and Girard 1853 (Ground Snake).
Specimens observed: 5.

**Tantilla atriceps** (Günther 1895) Mexican Blackhead Snake.
Locality: Cañón de Fernández, mpio. Lerdo, Durango.
Habitat: gallery forest and mesquite (*Prosopis* sp.).
Specimens observed: 5.

**Tantilla nigriceps** Kennicott 1860 (Plains Blackhead Snake).
Localities: Ejido La Unión, mpio. Torreón, Coahuila; Santo Tomás community, mpio. Matamoros, Coahuila.
Habitat: abandoned farmlands.
Specimens observed: 2.

**Thamnophis cyrtopsis cyrtopsis** (Kennicott 1860) (Black-necked Garter Snake).
Localities: Sierra de Jimulco, mpio. Torreón, Coahuila; Sierra el Sarnoso, mpio. Gómez Palacio, Durango; and Cañón de Fernández, mpio. Lerdo, Durango.
Habitat: chiefly a stream snake of foothills, and chaparral-covered hillsides.
Specimens observed: 4.

**Thamnophis eques megalops** (Kennicott 1860) (Northern Mexican Garter Snake).
Localities: Cañón de Fernández, Lerdo, Durango.
Habitat: river bottoms, wooded borders of rivers, and mesquite.
Specimens observed: 1.

**Thamnophis marcianus marcianus** (Baird and Girard 1853) (Checkered Garter Snake).
Localities: Ejido San Toña, Ejido Luján, Ejido Masitas, Ejido San José de Viñedo, Ejido San Felipe, Durango; Las Luisas, mpio. Gómez Palacio, Durango.
Habitat: streambeds, springs, and irrigation ditches.
Specimens observed: 17.

### Family Viperidae — Rattlesnakes

**Crotalus atrox** Baird and Girard 1853 (Western Diamondback Rattlesnake).
Localities: Sierra el Sarnoso, Ejido La Luz, Ejido Dinamita, Ejido San Felipe, mpio. Gómez Palacio, Durango; Cañón de Fernández, Sierra el Rosario, mpio. Lerdo, Durango; Ejido Saucillo, mpio. Viesca, Coahuila.
Habitat: grassland, shrubland, river bottoms, sand dunes, and rocky upland areas.
Specimens observed: 7.

**Crotalus lepidus klauberi** Gloyd 1936 (Banded Rock Rattlesnake).
Localities: Cañón de Fernández, mpio. Lerdo, Durango; Sierra el Sarnoso, Ejido Dinamita, mpio. Gómez Palacio, Durango.
Habitat: rocky ridges, hillsides, streambeds, and wooded borders of rivers.
Specimens observed: 8.

**Crotalus lepidus lepidus** (Kennicott 1861) (Mottled Rock Rattlesnake).
Localities: Cañón de Fernández, mpio. Lerdo, Durango; Sierra el Sarnoso, Ejido Dinamita, mpio. Gómez Palacio, Durango.
Habitat: chiefly a mountain rock-dweller that frequents rocky ridges, hillsides, streambeds, and wooded borders of rivers.
Specimens observed: 12.

**Crotalus molossus molossus** Baird and Girard 1853 (Blacktail Rattlesnake).
Localities: Cañón de Fernández, Sierra el Rosario, Sierra el Sarnoso, mpio. Lerdo, Durango; Ejido la Florde Jimulco, mpio. Torreón, Coahuila.
Habitat: rocksides, outcrops, areas near cliffs, and stream courses.
Specimens observed: 13.

**Crotalus scutulatus scutulatus** (Kennicott 1861) (Mohave Rattlesnake).
Localities: Sierra el Sarnoso, mpio. Gómez Palacio, Durango; Sierra el Rosario, mpio. Lerdo, Durango.
Habitat: grassland, scrubland, creosote bush, mesquite, and mountain slopes.
Specimens observed: 5.

### Literature Cited


