REPTILES & AMPHIBIANS

Updated Geographic Distributions for Texas Reptiles

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Abstract.—As is the case for many taxa in the Anthropocene, the conservation of reptiles is challenged by an assortment of human-mediated factors. Distributional data for reptilian species can be highly useful for informing conservation action. For example, species occurrence data can be used to model suitable habitat as well as quantify contractions, expansions, or shifts in the distribution of a species. Texas has a rich reptilian fauna including one crocodilian, 32 turtle, 56 lizard, and 82 snake species. However, literature pertaining to the distribution of these species has not been synthesized for over a decade. The goals of our study were to visually summarize all published distributional data for reptilian species in the state with updated distribution maps; to tabulate all novel and historic distribution data that are absent from the last statewide synthesis; and to characterize any taxonomic, geographic, or temporal trends of distribution record reporting that have occurred in the state over the last decade. We discovered a total of 660 records that supplement the maps provided in the last statewide synthesis, 40% of which were found in published materials that predate that synthesis. Regarding distributional records published over the last decade, no apparent temporal trend was evident, with record reporting across years appearing to be stochastic. The number of records published for reptilian families generally followed patterns of species richness, although several families had fewer or more records than would be expected. These results might be due to several factors including species biology, variable rates of potential range spread or contraction, and variable research attention (historically and contemporarily). Spatially, we found hot spots of record reporting in the southern, western, and northern portions of the state. We suspect these represent either a contemporary geographic bias of research attention, historically poor range characterization for reptilian species occupying these regions, or a combination of both. We also found cold spots of record reporting in the northwestern portion of the Panhandle. These are likely due to natural patterns of reptilian diversity as well as geographically biased research attention. Future work to be conducted on reptilian distributions in Texas should include a thorough synthesis and revisiting of the voucher specimen data associated with these records.

As is characteristic for many animal groups in the Anthropocene, the conservation of reptiles is challenged by a variety of human-mediated factors (Gibbons et al. 2000; Maxwell et al. 2016). Commonly implicated variables include habitat loss and modification (Mayani-Parás et al. 2019; Doherty et al. 2020), pollution (Croteau et al. 2008), invasive species (Case and Bolger 1991; Shine 2010), commercial exploitation (Todd et al. 2010; Marshall et al. 2020), and climate change (Bickford et al. 2010; Pontes-da-Silva et al. 2018). Additionally, reptiles frequently succumb to roadway mortality when navigating terrestrial habitats (Quintero-Ángel et al. 2012; Crump et al. 2016) and marine turtles are vulnerable to fisheries bycatch (Wallace et al. 2010). Currently, 2,409 species of reptiles are considered near threatened, vulnerable, endangered, critically endangered, or extinct in the wild by the IUCN (2022). This constitutes approximately 20.6% of all extant reptilian species (n = 11,688; Bánki et al. 2023). An additional 1,487 species are classified as "data deficient" because not enough information exists to assess their conservation status (IUCN 2022). The number of imperiled reptilian species and the many anthropogenic threats facing the world's reptilian fauna have created an immediate and continuing demand for data with practical applications for reptilian conservation.

Distributional data are frequently used to answer conservation-oriented research questions for reptile taxa, and for extant vertebrates more broadly. For example, presence-only data are often utilized for developing habitat suitability models (Block et al. 2016). Results from such models can help government agencies and non-profit organizations identify critical habitat that can be protected through land acquisition, conservation easements, or various legal tools (Environmental Law Institute 2003; Armsworth and Sanchirico 2008). Such parcels, if currently unoccupied by an imperiled taxon, offer

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an opportunity for further conservation action such as translocation and reintroduction of the imperiled species (Hunter-Ayad et al. 2020; Gallerani et al. 2023). If provided with forecasted climatic data, habitat suitability models can also predict whether currently suitable land will be of use to a species in the future (González-Fernández et al. 2018), thus lending additional guidance to conservation leaders. Historic and contemporary occurrence data for a species can be used in tandem to quantify range contraction (Laliberte and Ripple 2004; Haney et al. 2022), a measure that is particularly useful when determining the conservation status of a species (IUCN 2012). Furthermore, such data can indicate whether the range of a species is shifting in latitude or elevation through time in response to changing climatic conditions (Parmesan and Yohe 2003; Chen et al. 2011).

Texas, the second largest state in the USA, contains a rich variety of habitats ranging from the xeric Chihuahuan Desert in the west to the mesic Piney Woods in the east. Abiotic factors such as elevation, mean annual temperature, and mean annual precipitation likewise differ dramatically across the state, ranging from 0–2,667 m, 12.7–23.5 °C, and 113–1,597 mm, respectively (Owen et al. 1987; Ghebreyesus and Sharif 2021). This gradient of environs, coupled with the state's area (67,805,143 ha), likely explains the diverse assemblage of 171 reptilian species: one crocodilian, 32 turtles, 56 lizards, and 82 snakes. Of these species, twelve are introduced, seven are endemic to the state, and 18 are listed as threatened or endangered on the state or federal level (TSS 2020; USFWS 2023).

Strecker (1915) and Brown (1950) were the first to summarize amphibian and reptilian distributions in the state in annotated checklists. Raun and Gehlbach (1972) later provided the first set of range maps for the herpetofauna of Texas with their publication *Amphibians and Reptiles in Texas*. Their review provided county-delineated distribution maps for every species known to occur in the state at the time, along with taxonomic synopses and an extensive bibliography. However, given the large number of counties within the state (n = 254), records still did not exist for many species in occupied counties. The rapid and ongoing publication of county records since Raun and Gehlbach (1972) prompted publication of revised distribution maps. The late Dr. James Dixon assumed this responsibility with his synthesis *Amphibians and Reptiles of Texas*, which updated the county-delineated distribution maps, taxonomic synopses, and bibliography from Raun and Gehlbach (1972) and provided dichotomous keys to aid in the identification of all taxa (Dixon 1987). This book was twice revised by Dixon over the course of 26 years (Dixon 2000, 2013) and has been regarded as the primary source of literature on the distributions of Texas herpetofauna. Raun and Gelbach's (1972) and Dixon's (1987, 2000, 2013) works utilized a single dot in the center of each county to indicate the presence of a species; more detailed works were created specifically for snakes (Werler and Dixon 2000), lizards (Axtell 1986–2005b), and map turtles (*Graptemys* spp.; Lindeman 2013), which recorded any and all available specimens in their county-delineated maps and plotted the exact location, if known, of those specimens. Recently published field guides for Texas turtles and crocodilians (Hibbitts and Hibbitts 2016), lizards (Hibbitts and Hibbitts 2015), and snakes (Dixon et al. 2020, published posthumously) also provided county-delineated distribution maps. Although these recent books are excellent syntheses of information, the maps depict an assumed distribution for each taxon, with some counties indicated as occupied despite a lack of published evidence. Since Dixon's (2013) latest distributional synthesis was released, a large number of reptilian county records have been published. Many such records are published individually (e.g., Owen 2014; Brinker 2021) but several papers have reported a large number of records at once (e.g., Price and Dimler 2015; Guadiana et al. 2020; Bowers 2021).

Since Dixon's passing in 2015 (McAllister and Forstner 2015), updated distribution maps have only been created for a few reptilian species (e.g., Bassett 2022; Rosenbaum et al. 2023). Herein we assimilate all distribution records for Texas reptiles that have been published since Dixon (2013) went into press and summarize those records with updated maps. We have also noted many discrepancies between the different compilatory works on Texas reptilian distributions (i.e., Axtell 1986–2005b; Dixon 1987, 2000, 2013; Werler and Dixon 2000), which could mislead researchers who reference Dixon (2013) exclusively. Therefore, another important aim of this study was to synthesize all of these works into a cohesive whole, thus providing conservation-minded professionals with a more comprehensive understanding of species distributions within the state. In addition to summarizing the body of literature concerning reptilian distributions within Texas, we also examined patterns of county record reporting, aiming to describe any temporal, taxonomic, or geographic trends that may have occurred during the past ten years. Statistically examining such patterns can identify potential sampling biases, thereby guiding future reptilian distribution studies. Finally, this paper is intended to complement a recently published update to the distributions of Texas amphibians (Bassett 2023) so that updated maps for all reptiles and amphibians occurring in the state are available to Texan herpetologists.

Methods

Data Collection.—We exhaustively searched all issues of the peer-reviewed journal *Herpetological Review* from March 2010 (Volume 41, Issue 1) to June 2023 (Volume 54, Issue 2) for published distribution records of reptiles in Texas. *Herpetological Review* is currently the primary venue for pub-

lishing distributional records of herpetofauna. Published records from *Herpetological Review* in Dixon (2013) stopped with the fourth issue of Volume 41, which is why 2010 was chosen as the starting point for our review. For example, Dixon's (2013) maps include some records published from 2010 to 2012 (e.g., Wood 2010; Sinclair et al. 2011; Pauly 2012) but omit others (e.g., Swanson and Simpson 2010; Anderson et al. 2011; Weaver and Giggleman 2012). Additionally, although Dixon's (2013) maps include some of the records published from 2010 to 2012, several citations associated with those records are absent from his bibliography (e.g., Cox et al. 2012; Rabe et al. 2012).

Although most county records for reptiles in Texas have been reported in *Herpetological Review*, other journals have been historically and recently used for such reports (e.g., Manning et al. 1995; Jadin and Coleman 2007; Fierro-Cabo and Rentfro 2014). To locate distributional records published outside of *Herpetological Review*, we performed a literature search on 2 July 2023 using the online databases *Web of Science* and *Google Scholar*, using the following search terms: (reptile OR turtle OR slider OR cooter OR tortoise OR snake OR lizard OR gecko OR anole OR skink OR whiptail OR alligator OR Lacertilia OR Serpentes OR Squamata OR Crocodilia OR Chelonia OR Testudines) AND (distribution) AND (Texas). Results were refined to papers published from 2010 to 2023 and then individually examined. We serendipitously discovered some records published outside of *Herpetological Review*, independent of our literature search on *Web of Science* and *Google Scholar*. In instances when a published map showed occurrence records for a species not delineated by county (e.g., Hernández-Jiménez et al. 2021), we georeferenced said map with a county-delineated shape file of Texas using the "Freehand Raster Georeferencer" plugin in QGIS version 3.28.6-Firenze.

We checked for discrepancies between the prior editions of *Amphibians and Reptiles of Texas* (Dixon 1987, 2000) and Dixon (2013) by visually comparing maps for each species. We then visually compared maps from the more detailed *Texas Snakes* (Werler and Dixon 2000), each section of *Interpretive Atlas of Texas Lizards* (Axtell 1986–2005b), and *The Map Turtle and Sawback Atlas* (Lindeman 2013) with Dixon (2013). In this way, we compiled any records omitted or never recorded in Dixon (2013) but published in these other sources. Not all species of Texas reptiles have distributional data from multiple sources. *Texas Snakes* (Werler and Dixon 2000) includes all serpents currently known from the state with the exception of the recently introduced *Indotyphlops braminus*, and the *Interpretive Atlas of Texas Lizards* covers 31 of 55 lizard species that we recognize as occurring in the state. *The Map Turtle and Sawback Atlas* (Lindeman 2013) covers all species of *Graptemys* known to occur in the state. This leaves most turtles (n = 27) and about half of the lizards (n = 24) known to occur in the state with Dixon's work (Dixon 1987, 2000, 2013) as the primary source of compiled distributional data.

We also reviewed in detail the sections of Axtell's publications (Axtell 1986–2005b) that describe records he considered erroneous, unnatural, or questionable, and compiled these notes with any similar notes made in *Amphibians and Reptiles of Texas* (Dixon 1987, 2000, 2013). Most of these records were based on preserved museum specimens, and whether or not they are questionable as a natural occurring population or translocated specimens is somewhat subjective and up to the author's interpretation based on their expertise. We therefore included such records in the same way as others in our maps but listed all notes on questionable status by Dixon or Axtell in the figure captions.

Several records (e.g., *Holbrookia maculata* from Llano County) were considered truly erroneous by Dixon (2013) and Axtell (1986–2005b) because of confirmed misidentifications. In such cases, we adopted their evaluation of these records and excluded them from our maps. If records were considered unnatural by Axtell (1986–2005b) and omitted by Dixon (i.e., *Cophosaurus texanus* from Nueces County and *Phrynosoma modestum* from Baylor County), we omitted them from our synthesis as well. In cases where Axtell (1986–2005b) considered a record erroneous or unnatural but not because of a confirmed misidentification, and Dixon (2013) included the record or listed it simply as "questionable," we included it but noted the situation in the caption of the distribution map.

For our maps, we delineated the recorded presence of a species in a county by a dot in the center, and recognized four categories of records, each of which is colored separately. For records published in the latest distributional synthesis (Dixon 2013) we utilized black dots. For records omitted without comment from Dixon (2013), but presented in the other earlier synthesizing works (i.e., Raun and Gelbach 1972; Axtell 1986–2005b; Dixon 1987, 2000; Werler and Dixon 2000) or non-compilatory published records (e.g., those in *Herpetological Review*) prior to 2010 (when Dixon ceased consistently assimilating records from the literature), we utilized blue dots. Our rationale for differentiating these is that without notes explicitly explaining an omission from Dixon (2013), we cannot know if this omission was purposeful or simply an error, and we want to make the reader visually aware of the discrepancy. For non-compilatory records published from 2010 onward and for new records presented in *The Map Turtle and Sawback Atlas* (Lindeman 2013) we utilized red dots. These indicate records that are being assimilated into a synthesizing literature for the first time. For records that were published both before 2010 and from 2010 onward, we utilized green dots. We differentiated this category in order to provide a visual representation of the level

of duplication that has occurred because of both discrepancies between synthesizing works (no one work presents all records) and failures on behalf of authors to recognize this and reference more than one synthesizing work. Other scenarios, such as duplicated distributional notes already published after 2010 (e.g., doubly published in *Herpetological Review*), duplicated records already published in Dixon (2013), and purposefully duplicated records published for specific reasons were not delineated with specific colors because relatively few such cases exist. However, such situations were recorded and noted in the results and the tabular synthesis for supplemental records to Dixon (2013).

Data aggregators for specimen and observational data such as *iNaturalist*, *VertNet*, *Global Biodiversity Information Facility*, and *The Texas Natural Diversity Database* represent supplemental sources that could potentially be used to update species distribution maps. In some cases, specimens collected or photographic observations were never published as a novel record and are therefore absent from the literature. However, a systematic review of this wealth of data was beyond the scope of this study. Such an investigation warrants special attention given the nuances associated with such data (particularly the need to verify the identity and locality ascribed to questionable records). We therefore focused solely on compiling and synthesizing the currently published data on reptilian distributions in Texas.

Taxonomy.—When organizing the results from our literature review, we generally followed current genus and species level taxonomy as outlined in Crother (2017), which in several instances disagreed with the labeling for earlier maps in Dixon (2013). In other cases, we chose not to adopt the taxonomy presented by Crother (2017) because recent systematics studies cited by Crother (2017) have split species without defining geographic boundaries of novel species at the county level. Elucidating the geographic boundaries of these species at such a resolution was beyond the scope of this paper, and clarification of these cases would be impossible without examining a wealth of preserved specimens for morphological characters to confirm identifications. In some cases, morphological characters do not even exist that could be used to delineate these species in Texas (e.g., *Sonora semiannulata* vs. *episcopa*; Cox et al. 2018), requiring DNA sequencing to distinguish species. We therefore considered such taxa in a *sensu lato* manner for this study, which led to concordance with the taxonomy used by Dixon (2013). In some instances, the taxonomy we recognize disagrees with both Dixon (2013) and Crother (2017) due to the recent publication of compelling systematics studies. All taxonomic revisions that have occurred and explanations for the taxonomy we recognize are detailed in Table 1. In several cases, the specific epithet we used for a taxon differs between this paper and Dixon (2013). This is because Dixon (2013), while recognizing relevant changes to generic names (e.g., *Leptotyphlops* to *Rena*), preferred to use previously recognized generic names and thus required the use of previous specific epithets (e.g., "*Leptotyphlops* [*Rena*] *dissectus*" [Dixon 2013] versus "*Rena dissecta*" [current paper]).

Regarding family-level taxonomy, we recognized generally accepted reptilian families, with the exceptions of the lizard family Sphenomorphidae and the snake families Natricidae, Dipsadidae, and Colubridae *sensu stricto*, which we included under Scincidae *sensu lato* and Colubridae *sensu lato*, respectively. A purpose of this work is to serve as a field reference for distributions of Texas reptiles for both recreational and professional herpetologists, who will likely be using the dichotomous keys provided in Dixon (2013) and Werler and Dixon (2000) to identify specimens, both of which include *Scincella lateralis* in Scincidae and use Colubridae *sensu lato* in their keys. We keep this work consistent with that taxonomy so as not to unnecessarily confound the use of our maps and tables.

Data Analysis.—Hot-spot analysis of all novel records published from 2013 onward was conducted in ArcGIS Pro version 2.8.3 using the "Hot Spot Analysis" geoprocessing tool and the Getis-Ord Gi* statistic to identify statistically significant hot spots and cold spots of county record reporting. For the hot-spot analysis, we chose to conceptualize spatial relationships using the fixed-distance band model so that the scale of analysis would be consistent despite heterogeneity of polygon (i.e., county) size (ESRI 2023b). We used the Euclidean distance method and calculated an optimal distance band using the "Incremental Spatial Autocorrelation" tool. Of ten distance bands examined, the one with the highest z score (z score = 2.88; distance =142669.09 m) was chosen for the hot spot analysis (ESRI 2023a). We performed a multinomial exact test in R studio version 1.4.1106 (R Core Team 2020) using the R package "XNomial" (Engels 2015) to determine if the observed number of novel records published from 2013 onward for reptilian families differed significantly from an expected frequency based on species richness within each family in the state. The expected frequency was calculated using the equation $F_e = N_t \times (R_f/R_t)$ where R_f is the species richness of the family in Texas, R_t is the total richness of reptilian species in the state (i.e., 171), and N_t is the total number of novel records published from 2013 to the time of writing (i.e., 378). Due to the large number of possible configurations in our data, we chose to perform the test using a Monte Carlo approach with 100 million iterations. We then performed post-hoc tests (one-tailed binomial exact tests; n = 23) with a Bonferroni correction (α = 0.00217) to control the family-wise error rate of these tests (Dunn 1961). We recognize that calculating expected frequencies of novel records based solely on species richness within families assumes that research attention, endemism, unreported populations, and rate of spread is constant across species in Texas. This assumption was intentional as our goal was to construct a null hypothesis against

Table 1. Recent taxonomic changes for reptile species of Texas, USA. Included in the "explanation" column is a description of the change and a comparison of our recognized taxonomy to that of Dixon (2013) and Crother (2017).

Taxon	Explanation
Order Testudines	
Family Emydidae	
Graptemys ouachitensis sabinensis	This taxon was elevated to a full species (i.e., *Graptemys sabinensis*) by Lindeman (2013), a decision accepted in Crother (2017). Although Dixon (2013) referred to this taxon as *G. o. sabinensis*, we herein refer to it as *G. sabinensis*.
Order Squamata (Lizards)	
Family Phrynosomatidae	
Holbrookia lacerata subcaudalis	This taxon was elevated to a full species (i.e., *Holbrookia subcaudalis*) by Hibbitts et al. (2019). Although Dixon (2013) and Crother (2017) referred to this taxon as *H. l. subcaudalis*, we herein refer to it as *H. subcaudalis*.
Family Teiidae	
Aspidoscelis dixoni	Crother (2017) treated *A. dixoni* as a synonym of *Aspidoscelis tesselata* based on the findings of Cordes and Walker (2006). Although Dixon (2013) referred to this taxon as *A. dixoni*, we herein adopt Crother's (2017) perspective and treat it as a synonym of *A. tesselata*.
Order Squamata (Snakes)	
Family Colubridae *sensu lato*	
Cemophora coccinea lineri	*Cemophora c. lineri* was elevated to full species (i.e., *Cemophora lineri*) by Weinell and Austin (2017), a decision accepted in Crother (2017). Although Dixon (2013) referred to this taxon as *C. c. lineri*, we herein refer to it as *C. lineri*.
Lampropeltis getula	Pyron and Burbrink (2009) split *L. getula* into five species: *L. getula*, *L. nigra*, *L. holbrooki*, *L. splendida*, and *L. californiae.* This decision was accepted in Crother (2017). Of these, *L. holbrooki* and *L. splendida* occur in Texas. We chose not to adopt their proposed taxonomy (see justification in methods) and instead refer to these taxa collectively as *L. getula* (*sensu lato*). *Lampropeltis getula* is the same binomen used by Dixon (2013) to refer to these taxa.
Lampropeltis triangulum	Ruane et al. (2014) split *L. triangulum* into seven species: *L. triangulum*, *L. gentilis*, *L. elapsoides*, *L. annulata*, *L. polyzona*, *L. abnorma*, and *L. micropholis*. This decision was accepted in Crother (2017). Of these, *L. annulata* and *L. gentilis* occur in Texas. We chose not to adopt their proposed taxonomy (see justification in methods) and instead refer to these taxa collectively as *L. triangulum* (*sensu lato*). *Lampropeltis triangulum* is the same binomen used by Dixon (2013) to refer to these taxa.
Masticophis spp.	Crother (2017) synonymized *Masticophis* with *Coluber* (the oldest available name) based on the findings of Nagy et al. (2004) and Utiger et al. (2005). We, however, support the continued use of the generic name *Masticophis* based on the findings of Myers et al. (2017), which is concordant with the taxonomy used in Dixon (2013).
Nerodia harteri paucimaculata	Crother (2017) elevated *N. h. paucimaculata* to full species (i.e., *Nerodia paucimaculata*) based on the findings of Rose and Selcer (1989) as well as Densmore et al. (1992). Although Dixon (2013) referred to this taxon as *N. h. paucimaculata*, we herein refer to it as *N. paucimaculata*.
Pantherophis spp.	The *Pantherophis guttatus* complex was recently examined by Marshall et al. (2021). Of the taxa existing in this complex, Dixon (2013) recognized *Pantherophis emoryi* as occurring from central Texas westward and *P. guttatus* occurring in east Texas. Crother (2017), based on the findings of Burbrink (2002), recognized two species from the complex in Texas: *Pantherophis slowinskii* in the eastern portion of the state and *P. emoryi* from central Texas westward. Marshall et al. (2021) demonstrated that within this complex, only a single species (*P. emoryi*) occurs in Texas. We adopt the perspective of Marshall et al. (2021).

Regina rigida	McVay and Carstens (2013) resurrected the genus *Liodytes* for *R. rigida*, a decision accepted in Crother (2017). Although Dixon (2013) referred to this taxon as *R. rigida*, we herein refer to it as *Liodytes rigida*.
Salvadora grahamiae lineata	Hernández-Jiménez et al. (2021) elevated *S. g. lineata* to full species (i.e., *Salvadora lineata*). Whereas Crother (2017) and Dixon (2013) referred to this taxon as *S. g. lineata*, we herein refer to it as *S. lineata*.
Salvadora hexalepis deserticola	Crother (2017) stated that Bogert's (1985) justification for recognizing *Salvadora deserticola* was insufficient and therefore classified that taxon as a subspecies of *S. hexalepis* (i.e., *S. h. deserticola*). Given recently published work examining phylogenetic relationships within the genus (Hernández-Jiménez et al. 2019, 2021), we have chosen to recognize *S. h. deserticola* as a full species (i.e., as *S. deserticola*), the same binomen used by Dixon (2013).
Sonora semiannulata	Cox et al. (2018) split *S. semiannulata* into four species: *S. semiannulata*, *S. episcopa*, *S. taylori*, and *S. mosaueri*. Of these, *S. episcopa*, *S. taylori*, and *S. semiannulata* occur in Texas. Although we agree with the revisions in Cox et al. (2018), we chose not to adopt their proposed taxonomy (see justification in methods) and instead refer to these taxa collectively as *S. semiannulata* (*sensu lato*). *Sonora semiannulata* is the same binomen used by Dixon (2013) and Crother (2017) to refer to these taxa. Cox et al. (2018) wrote "the precise boundaries of *S. episcopa*, *S. taylori* and *S. semiannulata* are not well known."
Virginia striatula	McVay and Carstens (2013) resurrected the genus *Haldea* for *V. striatula*, a decision accepted in Crother (2017). Although Dixon (2013) referred to this taxon as *V. striatula*, we herein refer to it as *Haldea striatula*.
Family Leptotyphlopidae	
Rena dissecta	Both Dixon (2013) and Crother (2017) recognized *Rena dissecta* as a unique species. However, we herein consider *R. dissecta* a junior synonym of *R. dulcis* based on the findings of Flores-Villela et al. (2022).
Rena segrega	Crother (2017) classified *R. segrega* as a subspecies of *Rena humilis* (i.e., *R. h. segrega*) stating that the relevant data (Pinto 2010) for full-species recognition was not yet published. Based on the discussion of characters provided by Dixon (2013) and Flores-Villela et al. (2022), we chose to recognize this taxon as *R. segrega*.
Family Typhlopidae	
Rhamphotyphlops braminus	Hedges et al. (2014) reclassified *R. braminus* as *Indotyphlops braminus*, a decision accepted in Crother (2017). Although Dixon (2013) referred to this taxon as *R. braminus*, we herein refer to it as *I. braminus*.
Family Viperidae	
Agkistrodon contortrix	Burbrink and Guiher (2015) split *A. contortrix* into two species: *A. contortrix* and *A. laticinctus*. This decision was accepted in Crother (2017). We chose not to adopt their proposed taxonomy (see justification in methods) and instead refer to these taxa collectively as *A. contortrix* (*sensu lato*). *Agkistrodon contortrix* is the same binomen used by Dixon (2013) to refer to these taxa.
Crotalus molossus	Anderson and Greenbaum (2012) resurrected the name *Crotalus ornatus* for Black-tailed Rattlesnake populations in the Chihuahuan Desert and Central Texas, a decision accepted in Crother (2017). Although Dixon (2013) referred to this taxon as *C. molossus*, we herein refer to it as *C. ornatus*.
Sistrurus catenatus	Kubatko et al. (2011) suggested elevating *Sistrurus catenatus catenatus* to full species; however, doing so would likewise require elevation of *Sistrurus catenatus tergeminus*. Holycross et al. (2008) determined that *tergeminus* was not currently a valid name. Crother et al. (2011) petitioned the International Commission on Zoological Nomenclature (ICZN) to conserve the names *catenatus* and *tergeminus*. The ICZN (2013) published an opinion that retained the names by designating neotypes for each species. Crother (2017), citing the research of Kubatko et al. (2011), elevated *tergeminus* to include the previously recognized *S. c. tergeminus* and *S. c. edwardsii*. Although Dixon (2013) referred to these taxa as *S. c. tergeminus* and *S. c. edwardsii*, we herein refer to them collectively as *S. tergeminus*.

which we could identify those families that may be receiving above- or below-average research attention, were perhaps historically neglected with regard to range characterization, or are exhibiting statistically remarkable spread within the state. Although we also wanted to test for a temporal trend in county record reporting, trend analysis would have been inappropriate given that the assumption of independence is likely violated (i.e., because the number of possible county records is finite, the number of records reported in a given year likely is influenced by the number of records reported in preceding years).

Results

In total, across all years, we discovered 660 unique county distribution records (Table 2) for Texas reptiles that supplement the range maps provided by Dixon (2013). Our literature search of the journal *Herpetological Review* resulted in 396 reptile distribution records for the state. The *Web of Science* and *Google Scholar* literature searches produced 487 and 39 results, respectively, which resulted in locating an additional 18 records. These records involved a total of 120 species from 19 families and three orders. Records by order included two for Crocodilia, 131 for Testudines, and 527 for Squamata (172 records for lizards and 355 for snakes). The families for which we discovered the most records were Emydidae (n = 56), Gekkonidae (n = 74), and Colubridae (n = 310) (Fig. 1). The species with the most records were *Macrochelys temminckii* (n = 20), *Lampropeltis triangulum* (*sensu lato*) (n = 27), and *Hemidactylus turcicus* (n = 71). Geographically, the

Table 2. Reptile distribution records (n = 660) published across all years for Texas, USA, that are not included in Dixon (2013). Records are organized hierarchically, first by order (Testudines, then Crocodilia, Squamata [Lizards], and Squamata [Snakes]), then alphabetically by family, species, and county. Species that are listed as threatened or endangered on the state or federal level (TSS 2020; USFWS 2023) are identified with a superscripted asterisk (*). Species that are not native to Texas are identified with a superscripted dagger (†).

Species	County	Source
Testudines (Turtles)		
Chelydridae		
Snapping Turtle (*Chelydra serpentina*)	Caldwell	Parandhaman et al. 2015
	Comal	Munscher and Ross 2013
	Foard	Bowers 2021
	Guadalupe	Villamizar-Gomez et al. 2015
	Knox	Pandelis et al. 2021
Alligator Snapping Turtle* (*Macrochelys temminckii*)	Bowie	Huse 2020a
	Brazoria	Rosenbaum et al. 2023
	Camp	Baxter-Bray et al. 2021
	Cass	Rosenbaum et al. 2023
	Chambers	Rosenbaum et al. 2023
	Dallas	Franklin et al. 2021
	Delta	Rosenbaum et al. 2023
	Galveston	Norrid et al. 2021
	Hunt	Rosenbaum et al. 2023
	Kaufman	Rosenbaum et al. 2023
	Lamar	Hughes et al. 2023
	Madison	Echelle et al. 2010
	Montgomery	Munscher et al. 2019
	Navarro	Rosenbaum et al. 2023
	San Augustine	Rosenbaum et al. 2023
	Tarrant	Brinker 2021
	Trinity	Rosenbaum et al. 2023
	Upshur	Rosenbaum et al. 2023
	Van Zandt	Rosenbaum et al. 2023
	Waller	Rosenbaum et al. 2023
Emydidae		
Chicken Turtle (*Deirochelys reticularia*)	Marion	Dixon 1987
	Upshur	Hughes et al. 2023
Cagle's Map Turtle* (*Graptemys caglei*)	Caldwell	Lindeman 2013; Bohannon and Forstner 2018
Ouachita Map Turtle (*Graptemys ouachitensis*)	Wilbarger	Karges 2018

False Map Turtle (*Graptemys pseudogeographica*)	Bosque	Brinker 2020a
	Brazoria	Alleman et al. 2015a
	Dallas	Lindeman 2013
	Fort Bend	Alleman et al. 2015b
	Hardeman	Lindeman 2013
	Hunt	Brinker 2020b
	Jones	Lindeman 2021a
	Sabine	Lindeman 2013
	Stephens	Lindeman 2019a
	Titus	Brinker 2018
Sabine Map Turtle (*Graptemys sabinensis*)	Jefferson	Hughes and Gordon 2023; Hughes et al. 2023
Texas Map Turtle (*Graptemys versa*)	Fayette	Lindeman 2013
	Matagorda	Lindeman 2014
	Sutton	Lindeman 2021b
	Sterling	Price and Dimler 2015
	Wharton	Lindeman 2014
Diamond-backed Terrapin (*Malaclemys terrapin*)	Cameron	Guadiana et al. 2020
River Cooter (*Pseudemys concinna*)	Angelina	Raun and Gehlbach 1972; Dixon 1987, 2000; Lindeman 2017b
	Chambers	Hughes et al. 2023
	Comal	Munscher et al. 2014
	Hunt	Bowers 2021; Hughes et al. 2023
	Kaufman	Bowers and Adams 2021a
	Shelby	Moore et al. 2023
Rio Grande Cooter (*Pseudemys gorzugi*)	Crockett	Bogolin et al. 2019
	Starr	Brush et al. 2017
Florida Red-bellied Cooter† (*Pseudemys nelsoni*)	Harris	Farr 2016
Texas Cooter (*Pseudemys texana*)	Caldwell	Bohannon et al. 2018a
	Goliad	Guadiana et al. 2020
	Jones	Lindeman 2021c
	Lampasas	Bassett et al. 2020a
	Matagorda	Raun and Gehlbach 1972
	Palo Pinto	Dixon 1987, 2000; Lindeman 2019b
	Stephens	Lindeman 2019b
	Sterling	Price and Dimler 2015
Eastern Box Turtle (*Terrapene carolina*)	Karnes	Dixon 2000
Ornate Box Turtle (*Terrapene ornata*)	Camp	Dixon 1987
	Guadalupe	Drukker et al. 2020
	Kleberg	Davis 2021a
	Madison	Dixon 1987, 2000
	Rockwall	Dixon 2000
	Upton	Price and Dimler 2015
Pond Slider (*Trachemys scripta*)	Andrews	MacLaren et al. 2017b
	Collingsworth	Fielder et al. 2020
	Crane	Bassett and Forstner 2020a
	Ector	Hibbitts and Adams 2015b
	Foard	Pandelis et al. 2021
	Goliad	Weaver and Giggleman 2012
	Hale	Pandelis et al. 2022
	Montague	Pandelis et al. 2022
	Sterling	Price and Dimler 2015
	Sutton	Pandelis et al. 2022
	Ward	Bassett et al. 2020c

Kinosternidae		
Yellow Mud Turtle (*Kinosternon flavescens*)	Blanco	Raun and Gehlbach 1972; Dixon 1987, 2000; Bowers 2021
	Crockett	Price and Dimler 2015
	Ector	Dixon 1987, 2000
	Foard	Bowers 2021
	Guadalupe	Raun and Gehlbach 1972; Dixon 1987, 2000; Bohannon et al. 2020a
	Wilson	Raun and Gehlbach 1972; Dixon 1987, 2000
Eastern Mud Turtle (*Kinosternon subrubrum*)	Hamilton	Dixon 1987
	Johnson	Raun and Gehlbach 1972; Dixon 1987
	Lampasas	Dixon 1987
	Rockwall	Hibbitts and Adams 2015a
Razor-backed Musk Turtle (*Sternotherus carinatus*)	Bell	Dixon 1987
	Bosque	Dixon 1987
	Lampasas	Bassett et al. 2020b
	McLennan	Dixon 1987
	Orange	Hughes et al. 2023
	Red River	Brown et al. 2018
Eastern Musk Turtle (*Sternotherus odoratus*)	Harris	Munscher et al. 2018
	Jackson	Swanson and Lee 2015
	Johnson	Pandelis et al. 2022
	Liberty	Swanson and Swanson 2017
	Live Oak	Crump et al. 2020
	Montgomery	Farr 2014a; Munscher et al. 2018
	Sterling	Price and Dimler 2015
	Trinity	Crump and Peterson 2020
	Walker	Raun and Gehlbach 1972
Testudinidae		
Berlandier's Tortoise* (*Gopherus berlandieri*)	Zapata	Raun and Gehlbach 1972; Dixon 1987, 2000; Guadiana et al. 2020
Trionychidae		
Smooth Softshell (*Apalone mutica*)	Angelina	Lindeman 2017a
	Cherokee	Lindeman 2017a
	Comanche	Raun and Gehlbach 1972; Dixon 1987, 2000
	Fort Bend	Hughes et al. 2023
	Harris	Bowers and Hollanders 2021
	Hood	Brinker and Walker 2020
	Houston	Lindeman 2017a
	Maverick	Dixon 1987
	Travis	Davis and Dilliard 2016
	Washington	Bowers 2021
Spiny Softshell (*Apalone spinifera*)	Anderson	Riedle et al. 2015; Hughes et al. 2023
	Brazoria	Hughes et al. 2023
	Brooks	Guadiana et al. 2020
	Camp	Baxter-Bray et al. 2021
	Ellis	Pandelis et al. 2022
	Foard	Bowers 2021
	Guadalupe	Sirsi et al. 2015
	Jack	Crump and McLaughlin 2020
	Live Oak	Munscher and Cook 2013
	Morris	Lindeman 2020
	Scurry	Price and Dimler 2015
	Sterling	Price and Dimler 2015
	Ward	MacLaren et al. 2017a
	Zavala	Montgomery and Crisp 2016a
Crocodilia (Crocodilians)		
Alligatoridae		
American Alligator (*Alligator mississippiensis*)	Kleberg	Huerta et al. 2021
	Willacy	Huerta et al. 2021
Squamata (Lizards)		

Anguidae		
Texas Alligator Lizard (*Gerrhonotus infernalis*)	Pecos	Bohannon et al. 2021a
	Terrell	Sager 2014
Slender Glass Lizard (*Ophisaurus attenuatus*)	Brooks	Oyervides et al. 2020
	Duval	Guadiana et al. 2020
	Jim Hogg	Oyervides and Petty 2015
	Navarro	Raun and Gehlbach 1972
	Willacy	Adams et al. 2016
Crotaphytidae		
Eastern Collared Lizard (*Crotaphytus collaris*)	Collingsworth	Fielder et al. 2020
	Jeff Davis	Raun and Gehlbach 1972; Dixon 1987; Axtell 1989a; Dixon 2000
	Nolan	Dixon 1987; Axtell 1989a; Dixon 2000
Reticulate Collared Lizard (*Crotaphytus reticulatus*)	Zavala	Axtell 1989b
Dactyloidae		
Green Anole (*Anolis carolinensis*)	Bell	Hudnall et al. 2016
	Brooks	Davis 2021b
	Gillespie	Pandelis et al. 2022
	Jim Wells	Guadiana et al. 2020
	Kenedy	Guadiana et al. 2020
	Rockwall	Pandelis et al. 2022
	Val Verde	Sirsi et al. 2017
	Webb	Eversole et al. 2021
Brown Anole† (*Anolis sagrei*)	Angelina	Adams et al. 2014
	Aransas	Reed and LaDuc 2012
	Lavaca	Hernandez et al. 2016
	Matagorda	Swanson et al. 2014
	Montgomery	McMartin 2016
	Nacogdoches	Saenz et al. 2013
	Travis	Bassett 2022
	Victoria	Guadiana et al. 2020
	Webb	Cortez and Eversole 2021
	Willacy	Guadiana et al. 2020
Gekkonidae		
Wood Slave† (*Hemidactylus mabouia*)	Cameron	Fierro-Cabo and Rentfro 2014
Aff. Sri Lankan House Gecko† (*Hemidactylus* aff. *parvimaculatus*)	Chambers	Davis and LaDuc 2019
	Orange	Davis and LaDuc 2019
Mediterranean Gecko† (*Hemidactylus turcicus*)	Andrews	Bassett et al. 2021a
	Austin	Swanson et al. 2010; Farr 2014b
	Bastrop	Davis and Davis 2016
	Bosque	Franklin 1997
	Brown	Bassett et al. 2020d
	Chambers	Farr 2013
	Clay	Pandelis et al. 2022
	Coke	Bassett et al. 2021a
	Comanche	Bassett et al. 2020d
	Coryell	Bassett et al. 2022
	Crane	Bassett et al. 2021a
	Culberson	Bassett et al. 2021a
	Delta	Jadin and Coleman 2007
	Duval	Cox et al. 2012; Guadiana et al. 2020
	Eastland	Weaver et al. 2016
	Ector	Bassett et al. 2021a
	Edwards	Bassett and Forstner 2020c
	Erath	Owen 2014
	Falls	Farr 2014b

	Gaines	Bassett et al. 2021a
	Glasscock	Pandelis et al. 2022
	Hamilton	Bassett and Forstner 2020c
	Hill	Whitworth et al. 2016
	Hockley	Pandelis et al. 2022
	Hood	Pandelis et al. 2022
	Howard	Pandelis et al. 2022
	Hudspeth	Bassett and Forstner 2023
	Jack	Pandelis et al. 2022
	Jeff Davis	McClure and Falick 2018
	Jim Hogg	Dixon 2000; Adams et al. 2016
	Johnson	Allen and Adams 2012
	Kerr	Farr 2015
	Kimble	Helb et al. 2015
	Lampasas	Bassett et al. 2020e
	Leon	Farr 2014b
	Liberty	Farr 2014b
	Limestone	Farr 2014b
	Madison	Farr 2014b
	McCulloch	Bassett and Forstner 2020c
	Menard	Farr 2015
	Midland	Price and Dimler 2015
	Mills	Bassett et al. 2020d
	Mitchell	Bassett et al. 2021a
	Montague	Pandelis et al. 2022
	Newton	Farr 2014b
	Nolan	DiVito et al. 2020
	Palo Pinto	Jenkerson and Jenkerson 2019
	Parker	Pandelis et al. 2022
	Polk	Farr 2014b
	Presidio	McClure and Falick 2018
	Randall	Pandelis et al. 2022
	Reagan	Bassett et al. 2021a
	Real	Farr 2015
	Reeves	Bassett et al. 2021a
	Robertson	Farr 2014b
	Runnels	Bassett et al. 2021a
	Sabine	Farr 2014b
	San Augustine	Farr 2014b
	San Jacinto	Farr 2014b
	Schleicher	Pandelis et al. 2022
	Somervell	Pandelis et al. 2022
	Sterling	Price and Dimler 2015
	Sutton	Price and Dimler 2015
	Upton	Kiehne et al. 2018
	Walker	Farr 2014b
	Waller	Farr 2014b
	Ward	Anderson et al. 2011; Bassett et al. 2021a
	Washington	Farr 2014b
	Winkler	Anderson et al. 2011; Bassett et al. 2021a
	Wise	Pandelis et al. 2022
	Zavala	Johns et al. 2016
Phrynosomatidae		
Northern Spot-tailed Earless Lizard (*Holbrookia lacerata*)	Bexar	Hibbitts et al. 2019
	Mason	Duran et al. 2012

Common Lesser Earless Lizard (*Holbrookia maculata*)	Briscoe	Manning et al. 2015a
	Coleman	Axtell 1997b
	Ector	Dixon 1987
	Jones	White 2018
	King	Dixon 2000
	Milam	Dixon 1987
	Reeves	Dixon 1987
	Scurry	Price and Dimler 2015
Keeled Earless Lizard (*Holbrookia propinqua*)	Bastrop	Axtell 1998a
	Burleson	Axtell 1998a
Southern Spot-tailed Earless Lizard (*Holbrookia subcaudalis*)	Val Verde	Hibbitts et al. 2019
Texas Horned Lizard* (*Phrynosoma cornutum*)	Deaf Smith	Axtell 1996
	Montague	Raun and Gehlbach 1972; Dixon 1987; Axtell 1996; Dixon 2000; Pandelis et al. 2022
	Parmer	Pandelis et al. 2022
	San Jacinto	Axtell 1996
	Waller	Axtell 1996
	Yoakum	Axtell 1996; Kemmer and Kasner 2015
Round-tailed Horned Lizard (*Phrynosoma modestum*)	Kent	Kasper 2014a
	Taylor	Raun and Gehlbach 1972; Axtell 1988c
Twin-spotted Spiny Lizard (*Sceloporus bimaculosus*)	Jeff Davis	McClure 2018a
Prairie Lizard (*Sceloporus consobrinus*)	Aransas	Raun and Gehlbach 1972; Dixon 1987, 2000
	Caldwell	Dixon 1987, 2000
	Camp	Raun and Gehlbach 1972; Dixon 1987, 2000
	Foard	Pandelis et al. 2021
	Robertson	Raun and Gehlbach 1972; Dixon 1987, 2000; Adcock et al. 2015
	Willacy	Guadiana et al. 2020
Blue Spiny Lizard (*Sceloporus cyanogenys*)	Brooks	Guadiana et al. 2017
Graphic Spiny Lizard (*Sceloporus grammicus*)	Jim Hogg	Adams et al. 2016
Texas Spiny Lizard (*Sceloporus olivaceus*)	Freestone	Axtell 1992a
	Gaines	Axtell 1992a
	Harrison	Axtell 1992a
	Hemphill	Axtell 1992a
	Jasper	Axtell 1992a
	Jeff Davis	Axtell 1992a
	King	Axtell 1992a
	San Jacinto	Axtell 1992a
Common Side-blotched Lizard (*Uta stansburiana*)	Moore	Axtell 2005b
Phyllodactylidae		
Moorish Gecko† (*Tarentola mauritanica*)	Bexar	Davis et al. 2024
Scincidae		
Coal Skink (*Plestiodon anthracinus*)	Grayson	Caldwell and Patton 2017
Common Five-lined Skink (*Plestiodon fasciatus*)	Galveston	Raun and Gehlbach 1972; Dixon 1987, 2000
Southeastern Five-lined Skink† (*Plestiodon inexpectatus*)	Galveston	Harrison et al. 2022
Great Plains Skink (*Plestiodon obsoletus*)	Foard	Bowers 2021
	Kimble	Raun and Gehlbach 1972; Axtell 2000b; Jenkerson et al. 2018
	Llano	Axtell 2000b
	Midland	Price and Dimler 2015
	Red River	Axtell 2000b
	Swisher	Dixon 1987; Axtell 2000b
Prairie Skink (*Plestiodon septentrionalis*)	Rusk	Axtell 1999b

Four-lined Skink (*Plestiodon tetragrammus*)	Archer	Fox et al. 2014
	Brooks	Guadiana et al. 2020
	Falls	Axtell 2001a
	Fisher	Axtell 2001a
	Hamilton	Axtell 2001a
	Jim Hogg	Axtell 2001a; Adams et al. 2016
	Refugio	Raun and Gehlbach 1972
	Stephens	Axtell 2001a
	Zapata	Guadiana et al. 2020
Little Brown Skink (*Scincella lateralis*)	Sabine	Dixon 1987, 2000; Axtell 2003a
Teiidae		
Plateau Spotted Whiptail (*Aspidoscelis scalaris*)	Hudspeth	Dixon 1987, 2000
	Jeff Davis	Dixon 1987, 2000
Six-lined Racerunner (*Aspidoscelis sexlineata*)	Franklin	Axtell 1994a
	Freestone	Dixon 1987; Axtell 1994a
	Gregg	Raun and Gehlbach 1972; Axtell 1994a; Pandelis et al. 2022
	Kendall	Axtell 1994a
	Scurry	Price and Dimler 2015
Common Checkered Whiptail (*Aspidoscelis tesselata*)	Ector	Raun and Gehlbach 1972
	Midland	Price and Dimler 2015
Squamata (Snakes)		
Colubridae		
Glossy Snake (*Arizona elegans*)	Colorado	Farr and Forstner 2014
	Gray	Werler and Dixon 2000
	Guadalupe	Bowers 2021
	Haskell	Werler and Dixon 2000
	Loving	Werler and Dixon 2000
	McMullen	Dixon 1987; Werler and Dixon 2000
	Palo Pinto	Owen et al. 2017
	Parker	Wostl et al. 2015
	Scurry	Price and Dimler 2015
	Terry	Werler and Dixon 2000
	Wheeler	Werler and Dixon 2000; Fielder et al. 2020
	Williamson	Marshall 2014
Western Wormsnake (*Carphophis vermis*)	Panola	Werler and Dixon 2000
Scarletsnake* (*Cemophora coccinea*)	Angelina	Marcou 2018a
	Bowie	Huse 2020b
	Hunt	Dittmer et al. 2019
	Lamar	Dittmer et al. 2019
	Sabine	Dixon 1987, 2000
Texas Scarletsnake* (*Cemophora lineri*)	Willacy	Adams et al. 2016
North American Racer (*Coluber constrictor*)	Bell	Raun and Gehlbach 1972; Werler and Dixon 2000
	Borden	Price and Dimler 2015
	Carson	Ray and Kazmaier 2020
	Crosby	Werler and Dixon 2000
	Delta	Dixon 1987, 2000; Werler and Dixon 2000
	Floyd	Hibbitts and Adams 2015c
	Gregg	Raun and Gehlbach 1972; Dixon 1987, 2000; Werler and Dixon 2000
	Kent	Werler and Dixon 2000
	Martin	Werler and Dixon 2000
	Moore	Werler and Dixon 2000
	Pecos	Werler and Dixon 2000
	Rockwall	Dixon 1987; Werler and Dixon 2000
	Willacy	Guadiana et al. 2020

Ring-necked Snake (*Diadophis punctatus*)	Borden	Price and Dimler 2015
	Collingsworth	Fielder et al. 2020
	Dickens	Werler and Dixon 2000
	Fannin	Werler and Dixon 2000
	Glasscock	Fielder et al. 2020
	Hall	Bowers 2021
	Hockley	Werler and Dixon 2000
	Jasper	Marcou 2018b
	Johnson	Dixon 1987; Werler and Dixon 2000
	Llano	Dixon 1987; Werler and Dixon 2000
	Maverick	Werler and Dixon 2000
	Rusk	Werler and Dixon 2000
	Scurry	Price and Dimler 2015
	Sutton	Werler and Dixon 2000
Central American Indigo Snake (*Drymarchon melanurus*)	Sutton	Price and Dimler 2015
Red-bellied Mudsnake (*Farancia abacura*)	Denton	Werler and Dixon 2000
	Rusk	Dixon 1987
	Titus	Werler and Dixon 2000
Tamaulipan Hook-nosed Snake (*Ficimia streckeri*)	Atascosa	Adams and Salmon 2021
	Frio	Dixon 1987; Adams and Salmon 2021
	Jim Hogg	Werler and Dixon 2000; Adams et al. 2016
Chihuahuan Hook-nosed Snake (*Gyalopion canum*)	Hays	Werler and Dixon 2000
	Midland	Price and Dimler 2015
	Upton	Price and Dimler 2015
Rough Earthsnake (*Haldea striatula*)	Garza	Werler and Dixon 2000
	Hamilton	Bassett and Forstner 2020b
	Karnes	Genter and Davis 2022
	Titus	Werler and Dixon 2000
Plains Hog-nosed Snake (*Heterodon nasicus*)	Collingsworth	Fielder et al. 2020
	Crockett	Pandelis et al. 2021
	Dickens	Werler and Dixon 2000
	Fort Bend	Werler and Dixon 2000
	Jones	Werler and Dixon 2000
	Kent	Bassett et al. 2021b
	Limestone	Dixon 1987; Werler and Dixon 2000
	Rusk	Dixon 1987; Werler and Dixon 2000
	Sutton	Pandelis et al. 2021
Eastern Hog-nosed Snake (*Heterodon platirhinos*)	Borden	Price and Dimler 2015
	Caldwell	Swanson and Simpson 2010
	Calhoun	Werler and Dixon 2000
	Carson	Ray and Schoenhals 2020b
	Clay	Werler and Dixon 2000
	Foard	Bowers 2021
	Garza	Raun and Gehlbach 1972
	Hemphill	Raun and Gehlbach 1972; Dixon 1987, 2000; Werler and Dixon 2000
	Oldham	Werler and Dixon 2000
	Schleicher	Price and Dimler 2015
	Titus	Werler and Dixon 2000
Chihuahuan Nightsnake (*Hypsiglena jani*)	Foard	Bowers 2021
	Gaines	Taylor and Graham 2015b
	Gillespie	Werler and Dixon 2000
	Jackson	Werler and Dixon 2000
	Kinney	Dixon 1987
	Midland	Price and Dimler 2015
	Scurry	Price and Dimler 2015
	Upton	Werler and Dixon 2000; Price and Dimler 2015; Bohannon et al. 2018b

Gray-banded Kingsnake (*Lampropeltis alterna*)	Upton	Dixon 1987, 2000; Price and Dimler 2015
Prairie Kingsnake (*Lampropeltis calligaster*)	Caldwell	Werler and Dixon 2000; Davis 2013
	Foard	Bowers 2021
	Guadalupe	Swanson et al. 2015
	Hamilton	Pandelis et al. 2022
	Hemphill	Fielder et al. 2020
	Lee	Montgomery and Crisp 2016b
	Milam	Raun and Gehlbach 1972; Werler and Dixon 2000
	Panola	Bowers 2021
	Polk	Crump and Gregory 2020
	Rockwall	Franklin 1998; Pandelis et al. 2022
	Willacy	Dixon 1987
Speckled Kingsnake (*Lampropeltis getula* [*sensu lato*])	Collingsworth	Fielder et al. 2020
	Hall	Manning et al. 2015b
	Kent	Kasper 2014b
	Sabine	Dixon 1987, 2000; Werler and Dixon 2000
	San Saba	Moore and Bowers 2023
	Taylor	Werler and Dixon 2000
	Upton	Werler and Dixon 2000; Price and Dimler 2015
Milksnake (*Lampropeltis triangulum* [*sensu lato*])	Briscoe	Werler and Dixon 2000
	Calahan	Cox and Roelke 2014
	Clay	Werler and Dixon 2000
	Crosby	Werler and Dixon 2000
	Dickens	Werler and Dixon 2000
	Donley	Werler and Dixon 2000
	Ector	Price and Dimler 2015
	Freestone	Dixon 1987; Werler and Dixon 2000
	Gaines	Price and Dimler 2015
	Garza	Werler and Dixon 2000; Price and Dimler 2015
	Hartley	Werler and Dixon 2000
	Hemphill	Werler and Dixon 2000
	Hockley	Werler and Dixon 2000; Price and Dimler 2015
	Kent	Werler and Dixon 2000
	King	Werler and Dixon 2000
	Kinney	Salmon 2023
	Marion	Werler and Dixon 2000
	Mitchell	Werler and Dixon 2000
	Oldham	Werler and Dixon 2000
	Roberts	Werler and Dixon 2000
	Scurry	Werler and Dixon 2000
	Sherman	Werler and Dixon 2000
	Stonewall	Werler and Dixon 2000
	Taylor	Price and Dimler 2015
	Terry	Werler and Dixon 2000
	Throckmorton	Werler and Dixon 2000
	Winkler	Werler and Dixon 2000
Northern Cat-eyed Snake* (*Leptodeira septentrionalis*)	Brooks	Patterson and Martinez 2017
Glossy Swampsnake (*Liodytes rigida*)	Montgomery	Werler and Dixon 2000
	Sabine	Dixon 1987; Werler and Dixon 2000
	Trinity	Werler and Dixon 2000; Koenig et al. 2019
Coachwhip (*Masticophis flagellum*)	Foard	Pandelis et al. 2021
	Hall	Werler and Dixon 2000; Bowers 2021
	Lavaca	Werler and Dixon 2000; Munscher and Braden 2013
	Rains	Bowers 2021
	San Jacinto	Werler and Dixon 2000

Schott's Whipsnake (*Masticophis schotti*)	Guadalupe	Bohannon et al. 2019
	Zapata	Dixon 1987, 2000
Striped Whipsnake (*Masticophis taeniatus*)	Upton	Dixon 1987; Werler and Dixon 2000; Price and Dimler 2015
Saltmarsh Snake (*Nerodia clarkii*)	Harris	Werler and Dixon 2000
	Nueces	Werler and Dixon 2000
Mississippi Green Watersnake (*Nerodia cyclopion*)	Marion	Dixon 1987
	Nueces	Werler and Dixon 2000
	Refugio	Werler and Dixon 2000
Plain-bellied Watersnake (*Nerodia erythrogaster*)	Atascosa	Raun and Gelbach 1972; Dixon 1987, 2000; Werler and Dixon 2000
	Cameron	Dixon 2000; Werler and Dixon 2000
	Foard	Bowers 2021
	Hidalgo	Martínez et al. 2011
	Howard	Werler and Dixon 2000
	Roberts	Fielder et al. 2020
	Schleicher	Werler and Dixon 2000
Southern Watersnake (*Nerodia fasciata*)	Bexar	Werler and Dixon 2000
	Fayette	Bohannon et al. 2021b
	Hays	Davis et al. 2012
	Hopkins	Hughes et al. 2022
Diamond-backed Watersnake (*Nerodia rhombifer*)	Camp	Baxter-Bray et al. 2021
	Cottle	Bowers 2021
	Donley	Bowers 2021
	King	Werler and Dixon 2000
	Mills	Werler and Dixon 2000
	Potter	Werler and Dixon 2000
	Sterling	Price and Dimler 2015
Common Watersnake (*Nerodia sipedon*)	Hood	McClure 2018b
Rough Greensnake (*Opheodrys aestivus*)	Brewster	Salmon and Graham 2019
	Camp	Baxter-Bray et al. 2021
	Jack	Pandelis et al. 2022
	Rockwall	Pandelis et al. 2022
	Stephens	Werler and Dixon 2000
	Upshur	Pandelis et al. 2022
	Williamson	Pandelis et al. 2022
Baird's Ratsnake (*Pantherophis bairdi*)	Presidio	Werler and Dixon 2000
Great Plains Ratsnake (*Pantherophis emoryi*)	Baylor	Werler and Dixon 2000
	Childress	Werler and Dixon 2000
	Hill	Werler and Dixon 2000
	Kimble	Roussos 2014
	Lipscomb	Fielder et al. 2020
	Scurry	Werler and Dixon 2000; Price and Dimler 2015
	Upton	Bohannon et al. 2018c; Bohannon et al. 2018d
Western Ratsnake (*Pantherophis obsoletus*)	Aransas	Raun and Gehlbach 1972; Dixon 1987, 2000; Werler and Dixon 2000
	Camp	Dixon 1987, 2000; Werler and Dixon 2000
	Dimmit	Montgomery and Crisp 2016c
	Fisher	Fielder et al. 2020
	Hardeman	Bowers 2021
	Jack	Werler and Dixon 2000; Pandelis et al. 2022
	Kinney	Werler and Dixon 2000
	LaSalle	Werler and Dixon 2000
	Sutton	Pandelis et al. 2022
	Uvalde	Werler and Dixon 2000
	Wilbarger	Bowers 2021

Gophersnake (*Pituophis catenifer*)	Grayson	Werler and Dixon 2000
	Lavaca	Swanson 2017
	Loving	Werler and Dixon 2000
	Upton	Price and Dimler 2015
Louisiana Pinesnake* (*Pituophis ruthveni*)	San Augustine	Adams et al. 2017
Graham's Crawfish Snake (*Regina grahamii*)	Angelina	Werler and Dixon 2000
	Ellis	Werler and Dixon 2000
	Grimes	Werler and Dixon 2000
	Jasper	Raun and Gehlbach 1972; Dixon 1987
	Rockwall	Hibbitts and Adams 2015e
	Scurry	Price and Dimler 2015
	Waller	Bowers and Adams 2021b
	Zavala	Werler and Dixon 2000
Long-nosed Snake (*Rhinocheilus lecontei*)	Kerr	Swanson and Swanson 2018
	Willacy	Guadiana et al. 2020
Mountain Patch-nosed Snake (*Salvadora grahamiae*)	Val Verde	Hernández-Jiménez et al. 2021
	Ward	Hernández-Jiménez et al. 2021
Texas Patch-nosed Snake (*Salvadora lineata*)	Austin	Hernández-Jiménez et al. 2021
	Bee	Cox et al. 2012
	Brazos	Hernández-Jiménez et al. 2021
	DeWitt	Hernández-Jiménez et al. 2021
	Goliad	Guadiana et al. 2020
	Guadalupe	Werler and Dixon 2000
	Hill	Werler and Dixon 2000
	Jim Wells	Guadiana and Davis 2021
	Lampasas	Werler and Dixon 2000
	Leon	Hernández-Jiménez et al. 2021
	McMullen	Werler and Dixon 2000
	Wise	Dixon 1987; Werler and Dixon 2000
Western Groundsnake (*Sonora semiannulata* [*sensu lato*])	Andrews	Hibbitts and Adams 2015f
	Bailey	Jacobi and Kahl 2020
	Carson	Werler and Dixon 2000
	Collingsworth	Fielder et al. 2020
	Foard	Bowers 2021
	Gonzales	Werler and Dixon 2000
	McMullen	Werler and Dixon 2000
	Mitchell	Werler and Dixon 2000
	Sterling	Price and Dimler 2015
	Willacy	Guadiana et al. 2020
Dekay's Brownsnake (*Storeria dekayi*)	Baylor	Werler and Dixon 2000
	Blanco	Robinson et al. 2014
	Caldwell	Werler and Dixon 2000; Bohannon et al. 2018e
	Goliad	Cox et al. 2012; Pandelis et al. 2022
	Guadalupe	Bohannon et al. 2020b
	Real	Crump et al. 2021
	Rockwall	Pandelis et al. 2022
	Sabine	Raun and Gelbach 1972; Dixon 1987, 2000
Red-bellied Snake (*Storeria occipitomaculata*)	Cherokee	Werler and Dixon 2000
	Galveston	Dixon 1987, 2000
	Nacogdoches	Dixon 1987; Werler and Dixon 2000; Marcou 2018c
	Upshur	Werler and Dixon 2000
Trans-Pecos Black-headed Snake* (*Tantilla cucullata*)	Crockett	Price and Dimler 2015; Bohannon et al. 2018f

Flat-headed Snake (*Tantilla gracilis*)	Bee	Werler and Dixon 2000
	Collin	Werler and Dixon 2000; McDaniels 2020
	Cottle	Werler and Dixon 2000
	Foard	Pandelis et al. 2021
	Hamilton	Dixon 1987, 2000; Werler and Dixon 2000
	Karnes	Williams and Sinclair 2013
	LaSalle	Dixon 1987; Werler and Dixon 2000
	Morris	Werler and Dixon 2000
	Sterling	Price and Dimler 2015
	Trinity	Werler and Dixon 2000
Smith's Black-headed Snake (*Tantilla hobartsmithi*)	Sterling	Price and Dimler 2015
	Ward	Anderson et al. 2013
Plains Black-headed Snake (*Tantilla nigriceps*)	Donley	Bowers 2021
	Gaines	Taylor and Graham 2015d
	Gray	Werler and Dixon 2000
	Hall	Bowers 2021
	Jones	Werler and Dixon 2000
	Lamb	Werler and Dixon 2000
	Lipscomb	Fielder et al. 2020
	Sterling	Price and Dimler 2015
	Willacy	Adams et al. 2016
	Wilson	Werler and Dixon 2000
Black-necked Gartersnake (*Thamnophis cyrtopsis*)	Coryell	Werler and Dixon 2000
	Gillespie	Werler and Dixon 2000
Checkered Gartersnake (*Thamnophis marcianus*)	Collingsworth	Fielder et al. 2020
	Ellis	Werler and Dixon 2000
	Gaines	Werler and Dixon 2000
	Glasscock	Fielder et al. 2020
	Gray	Werler and Dixon 2000
	Hardeman	Bowers 2021
	Haskell	Dixon 1987
	Stephens	Werler and Dixon 2000
Western Ribbonsnake (*Thamnophis proximus*)	Camp	Baxter-Bray et al. 2021
	Cottle	Werler and Dixon 2000
	Foard	Pandelis et al. 2021
	Knox	Werler and Dixon 2000
	Sabine	Raun and Gehlbach 1972; Dixon 1987, 2000; Werler and Dixon 2000
	Scurry	Price and Dimler 2015
	Sutton	Bullard et al. 2022
Plains Gartersnake (*Thamnophis radix*)	Ochiltree	Werler and Dixon 2000
Common Gartersnake (*Thamnophis sirtalis*)	Collingsworth	Fielder et al. 2020
	Freestone	Raun and Gehlbach 1972; Dixon 1987
	Kaufman	Werler and Dixon 2000
	Lampasas	Werler and Dixon 2000
	Lipscomb	Werler and Dixon 2000
	Live Oak	Werler and Dixon 2000
	Navarro	Dixon 1987
	San Jacinto	Werler and Dixon 2000
	Wilson	Werler and Dixon 2000
Lined Snake (*Tropidoclonion lineatum*)	Armstrong	Manning et al. 2015c
	Collin	Dixon 1987; Werler and Dixon 2000
	Hamilton	Werler and Dixon 2000
	Johnson	Dixon 1987
	Kendall	Salmon and Davis 2021
	Kleberg	Werler and Dixon 2000
	LaSalle	Dixon 1987; Werler and Dixon 2000
	McCulloch	Werler and Dixon 2000
	Van Zandt	Raun and Gehlbach 1972; Werler and Dixon 2000

Smooth Earthsnake (*Virginia valeriae*)	Dallas	Raun and Gehlbach 1972
	Harrison	Werler and Dixon 2000
	Hays	Werler and Dixon 2000
	Hunt	Werler and Dixon 2000
Elapidae		
Texas Coralsnake (*Micrurus tener*)	Jim Hogg	Raun and Gehlbach 1972; Dixon 1987, 2000; Werler and Dixon 2000; Adams et al. 2016
	San Saba	Pandelis et al. 2022
	Webb	Eversole and Vaughan 2021
Leptotyphlopidae		
Texas Threadsnake (*Rena dulcis*)	Foard	Pandelis et al. 2021
	Gaines	Taylor and Graham 2015c
	Hall	Bowers 2021
	Oldham	Werler and Dixon 2000
	Willacy	Adams et al. 2016
Typhlopidae		
Brahminy Blindsnake† (*Indotyphlops braminus*)	Hays	Bassett et al. 2020f
	Montgomery	Austin and Sinclair 2013
	Webb	Eversole and Daniel 2020
Viperidae		
Copperhead (*Agkistrodon contortrix* [*sensu lato*])	Erath	Werler and Dixon 2000; Owen et al. 2014
	LaSalle	Dixon 1987
	Rockwall	Broxson 2011
	Runnels	Price and Dimler 2015
Northern Cottonmouth (*Agkistrodon piscivorus*)	DeWitt	Werler and Dixon 2000; Davis 2021a
Western Diamond-backed Rattlesnake (*Crotalus atrox*)	Carson	Ray and Schoenhals 2020a
	Cochran	Werler and Dixon 2000
	Ellis	Werler and Dixon 2000; Ricardez 2019
	Gaines	Hibbitts and Adams 2015d
Timber Rattlesnake (*Crotalus horridus*)	Fayette	Raun and Gehlbach 1972
	Matagorda	Werler and Dixon 2000
Rock Rattlesnake (*Crotalus lepidus*)	Schleicher	Price and Dimler 2015
Eastern Black-tailed Rattlesnake (*Crotalus ornatus*)	Reeves	Werler and Dixon 2000
Prairie Rattlesnake (*Crotalus viridis*)	Clay	Werler and Dixon 2000
	Coke	Raun and Gehlbach 1972; Werler and Dixon 2000
	Collingsworth	Fielder et al. 2020
	Floyd	Pandelis et al. 2022
	Gaines	Taylor and Graham 2015a
	Hall	Werler and Dixon 2000
	King	Werler and Dixon 2000
	Nolan	Werler and Dixon 2000
	Parmer	Werler and Dixon 2000
	Scurry	Price and Dimler 2015
Western Massasauga (*Sistrurus tergeminus*)	Borden	Price and Dimler 2015
	Cochran	Martin and Crump 2020
	Crane	Price and Dimler 2015
	Floyd	Kabat et al. 2020
	Foard	Pandelis et al. 2021
	Glasscock	Price and Dimler 2015
	Hidalgo	Guadiana et al. 2020
	Presidio	Graham and Kelehear 2015
	Scurry	Price and Dimler 2015
	Starr	Guadiana et al. 2020
	Taylor	Lee 2012

greatest number of records we discovered were from Sterling and Willacy (n = 11 each), Scurry (n = 12), and Foard (n = 16) counties (Fig. 2).

Regarding records published in syntheses prior to Dixon (2013), we found a total of 263 records (22 for turtles, 51 for lizards, and 190 for snakes) omitted from Dixon (2013). These records are present in our maps as blue dots. A majority of these records (n = 142) were derived exclusively from *Snakes of Texas* (Werler and Dixon 2000). Others (n = 34) were derived exclusively from one or both of Dixon's earlier works (1987, 2000). Twenty-seven records were reported exclusively in Axtell's work (1986–2005b) and eight records exclusively in Raun and Gelbach's (1972) original synthesis. Many (n = 52), however, were reported in multiple syntheses aside from just Dixon's work (1987, 2000). All of these records were omitted without comment from Dixon (2013). We also checked comments for potential omission details in the first (Dixon 1987) and second (Dixon 2000) editions of Dixon's work, and records are only included here if no indication was noted in any of the syntheses (including Axtell 1986–2005b) that a record was omitted because it is truly erroneous (a misidentification or incorrect locality). A detailed list of these records and the sources for each are available in Table 2. Several of the records appearing originally in these other syntheses (n = 34, green dots), were duplicated in publications after 2010, indicating that the authors likely did not reference some or all of these other compilatory sources.

We discovered several relatively old geographic distribution notes (pre-2010) that were not included in Dixon (2013). These included: *Hemidactylus turcicus* from Bosque County (Franklin 1997) and Delta County (Jadin and Coleman 2007). We added said records to our distribution maps as blue dots. We excluded one such record for *Pseudemys gorzugi* (Franklin and Reams 2001) from Menard County as we confirmed that the specimen was misidentified and is actually *Pseudemys texana*. Another such record left out by Dixon (2013), *Lampropeltis calligaster* from Rockwall County (Franklin 1998), was also duplicated by Pandelis et al. (2022), and is thus delineated with a green dot in our map for that species (Fig. 115).

We discovered several instances where records already documented in Dixon (2013) were published subsequently, indicating that authors might have not thoroughly reviewed Dixon (2013). These consisted of *Terrapene carolina* from Hardin County (Munscher and Barcas 2014) and *Trachemys scripta* from Aransas County (Himes 2016). We omitted these from our compilatory table (Table 1) as they do not represent novel records. In some cases, review of the original note indicated that the duplication was purposeful, usually because the authors could not find a voucher specimen associated with that county and so wished to present the first definitive evidence of the occurrence of the species in that county: *Graptemys pseudogeographica* from Palo Pinto County (Lindeman 2019a) and *Micrurus tener* from Starr County (Oyervides and Zaidan 2015). Another duplicate account of a record already present in Lindeman's (2013) synthesizing work was purposefully published for the same reason: *Graptemys caglei* from Caldwell County (Bohannon and Forstner 2018).

We also discovered several records published from 2013 onward that were duplicates of other notes published during the same time period, indicating authors may have not conducted a thorough search of the literature published after Dixon (2013). These duplicate records are noted in Table 2 and included: *Apalone spinifera* from Anderson County (Hughes et al. 2023 but subsequently corrected in an erratum by Hughes and Gordon 2023), *Pseudemys concinna* from Hunt County (Hughes et al. 2023), *Sternotherus odoratus* from Montgomery County (Munscher et al. 2018), *Hypsiglena jani* from Upton County (Bohannon et al. 2018b), *Pantherophis emoryi* from Upton County (Bohannon et al. 2018d), and *Tantilla cucullata* from Crockett County (Bohannon et al. 2018f). In addition, a few notes were published under alternative taxonomies, and when synonymizing certain species as we have done here, they are no longer novel records: *Rena dulcis* from Midland County (Stevens et al. 2016), *R. dulcis* from Terrell County (Tleimat et al. 2016), and *Pantherophis emoryi* from Fayette County (Davis and DeSantis 2012).

A total of 16 records were published between 2010 and 2012 and not included in Dixon (2013); this is the time period when Dixon (2013) inconsistently incorporated new records. These records are labelled with red dots in our maps along with the novel records published from 2013 onward. Several 2013-onward notes duplicated records published during this time period: *Hemidactylus turcicus* from Austin County (Farr 2014b), Duval County (Guadiana et al. 2020), Ward County (Bassett et al. 2021a), Winkler County (Bassett et al. 2021a), and *Storeria dekayi* from Goliad County (Pandelis et al. 2022).

Taking the above discrepancies into account, we discovered 378 novel county distribution records (Table 2) for Texas reptiles published from 2013 onward that supplement the range maps provided by Dixon (2013) and that we delineate in our maps with red dots. These records involved a total of 95 species from 18 families and three orders. Records by order included two for Crocodilia, 107 for Testudines, and 269 for Squamata (112 for lizards and 157 for snakes). The families for which we discovered the most records were Emydidae (n = 47), Gekkonidae (n = 66), and Colubridae (n = 130) (Fig. 3). The species with the greatest number of new distribution records for turtles was *Macrochelys temminckii* (n = 19), followed closely by *Apalone spinifera* (n = 14). The lizard with the greatest number of new records was *Hemidactylus turcicus* (n = 63) and the second most distribution records for lizards were published for *Anolis sagrei* (n = 9). The snake

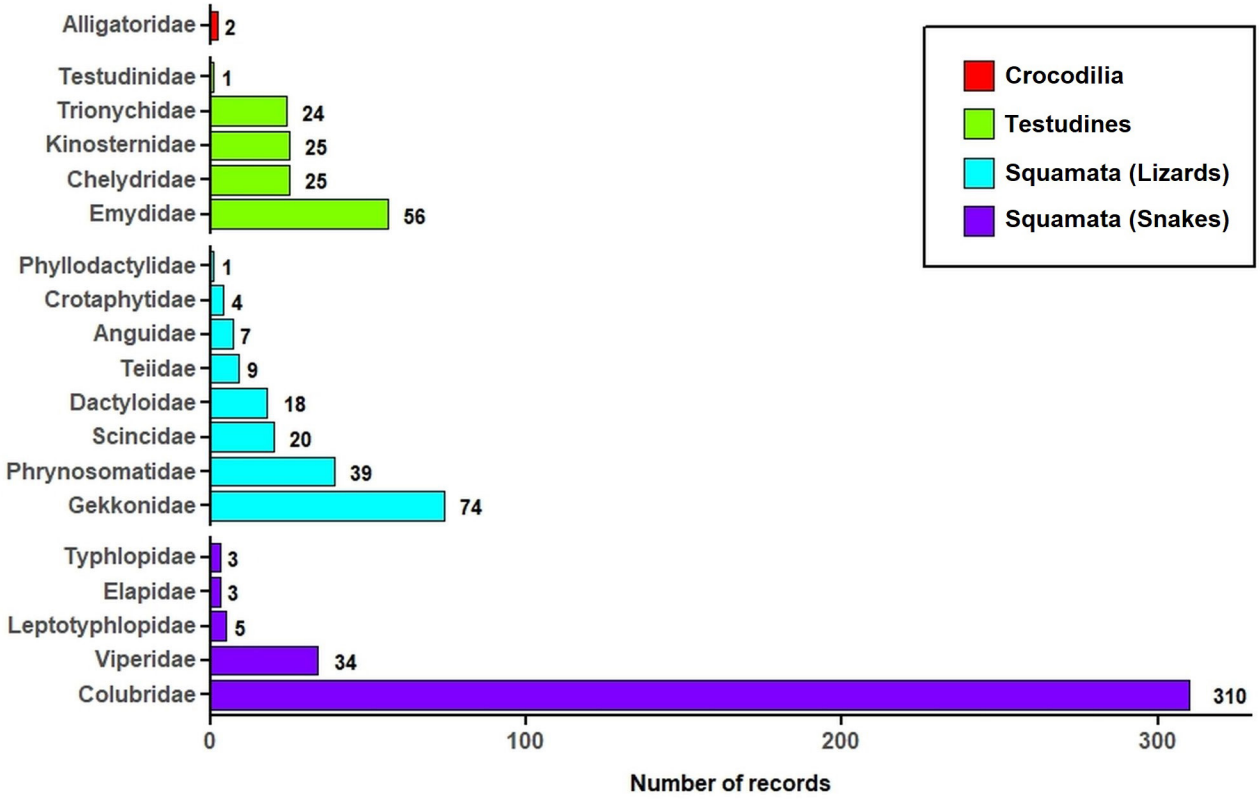

Figure 1. Frequency distribution of county records (n = 660) published for reptilian families in Texas across all years that supplement the maps provided in Dixon (2013). Note that this graph includes records published both prior to and after publication of Dixon's (2013) synthesis and omits duplicate records. Gekkonidae was the lizard family with the greatest number of records (n = 74), Colubridae was the snake family with the greatest number of records (n = 310), and Emydidae was the turtle family with the greatest number of records (n = 56).

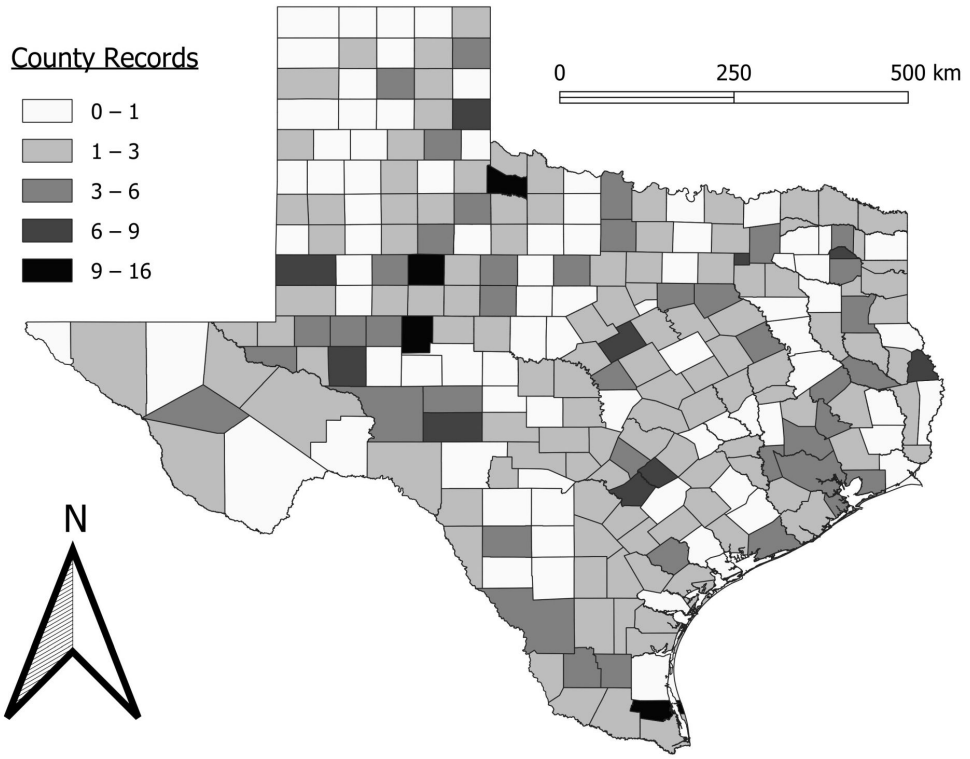

Figure 2. Map of Texas showing the number of county records discovered across all years that supplement the maps provided by Dixon (2013) (n = 660). Note that this map includes records published both prior to and after publication of Dixon's (2013) synthesis and omits duplicate records. The counties with the greatest number of records were Sterling and Willacy (n = 11 each), Scurry (n = 12), and Foard (n = 16).

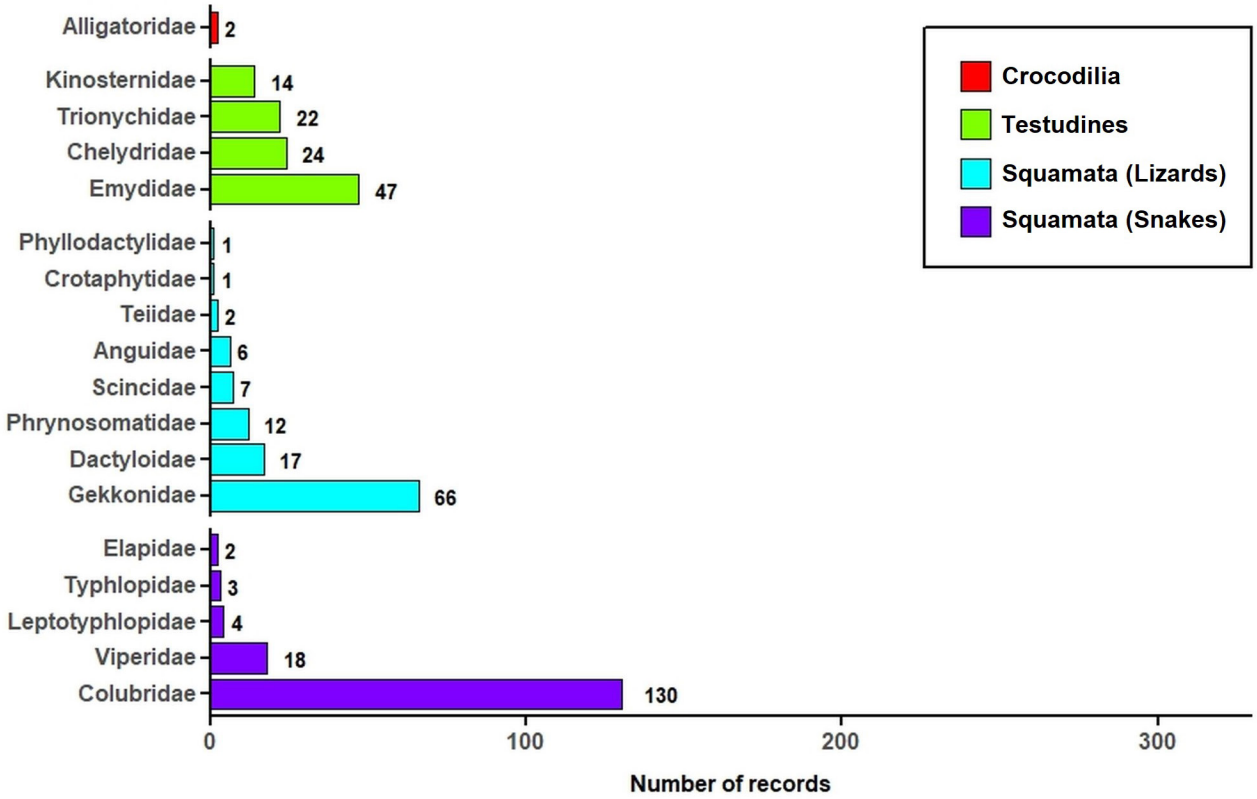

Figure 3. Frequency distribution of county records (n = 378) published for reptilian families in Texas from 2013 onward that supplement the maps provided in Dixon (2013). This graph omits duplicate records. Gekkonidae was the lizard family with the greatest number of records (n = 66), Colubridae was the snake family with the greatest number of records (n = 130), and Emydidae was the turtle family with the greatest number of records (n = 47).

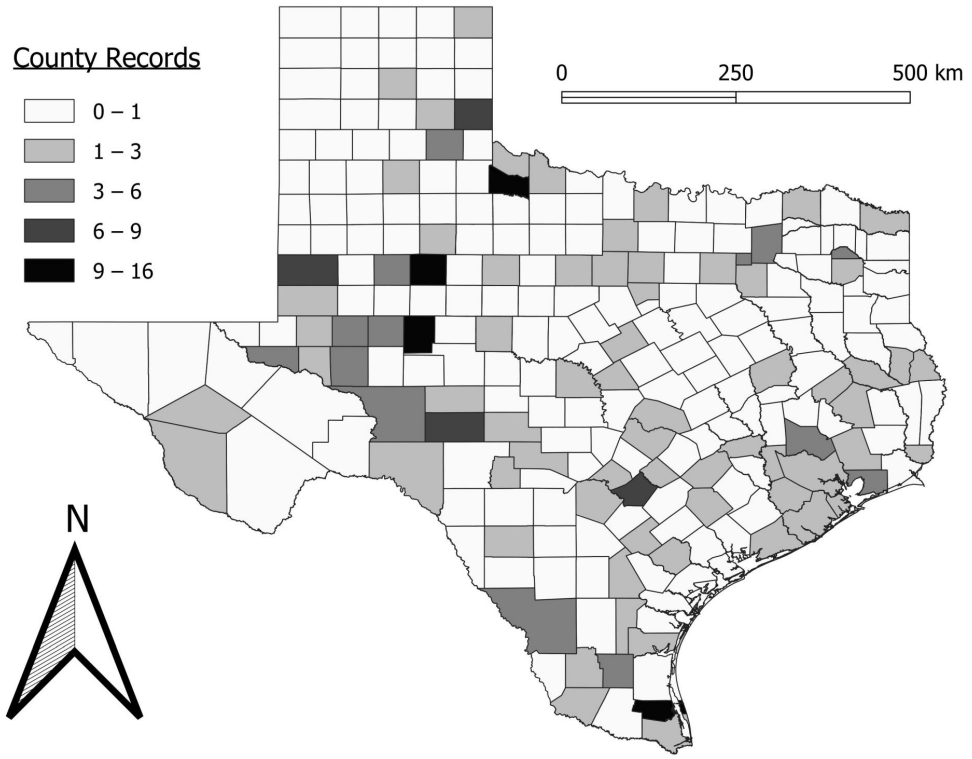

Figure 4. Map of Texas showing the number of novel county records published from 2013 onward that supplement the maps provided by Dixon (2013) (n = 378). The counties with the greatest number of records were Scurry and Willacy (n = 10 each), Sterling (n = 11), and Foard (n = 16).

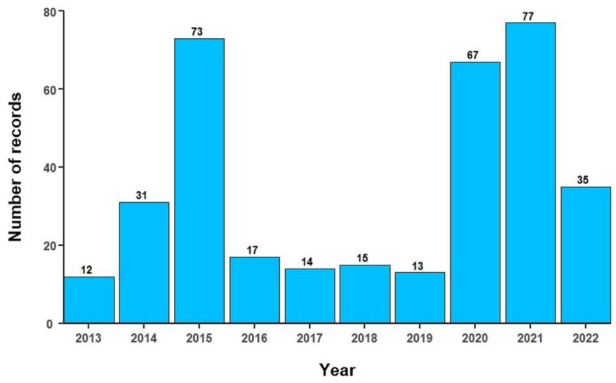

Figure 5. Frequency distribution of novel reptilian county records published for Texas by year from 2013 to 2022. Note that this graph only includes novel records (i.e., records that were never previously published). The annual number of novel records is highly variable and likely reflects a fluctuation of sampling effort on behalf of Texas herpetologists. The greatest number of records were published in 2021 (n = 77) and the least number of records in 2013 (n = 12).

species with the greatest number of new distribution records is *Sistrurus tergeminus* (n = 10) and the second most were for *Lampropeltis calligaster* (n = 7). Geographically, the greatest number of records we discovered were from Scurry and Willacy (n = 10 each), Sterling (n = 11), and Foard (n = 16) counties (Fig. 4). Temporally, the greatest number of records were published in 2021 (n = 77) and the least number of records were published in 2013 (n = 12) (Fig. 5), with a mean (SD) of 35.4 (26.7) records/year across all years from 2013 to 2022. During this time, four new reptilian species have been introduced to the state of Texas. These include the Wood Slave (*Hemidactylus mabouia*) from Cameron County in the southernmost portion of the state (Fierro-Cabo and Rentfro 2014), the Moorish Gecko (*Tarentola mauritanica*) from Bexar County in the central portion of the state (Davis et al. 2024), *Hemidactylus* aff. *parvimaculatus* from Chambers and Orange counties in the southeastern corner of the state (Davis and LaDuc 2019), and the Southeastern Five-lined Skink (*Plestiodon inexpectatus*) from Galveston County, also in the southeastern corner of the state (Harrison et al. 2022).

The hot-spot analysis of records published from 2013 onward (Fig. 6) revealed significant hotspots of county record reporting in the southern, western, and northern portions of the state, whereas significant cold spots were identified in the northwestern portion of the state. The observed number of novel records published from 2013 onward for reptilian families differed significantly ($p < 0.05$) from an expected frequency based on the species richness of each family in the state. Post-hoc tests showed that observed and expected frequencies of novel records differed significantly ($p < 0.00217$) for eight families: Cheloniidae (less than expected), Chelydridae (more than expected), Dactyloidae (more than expected), Gekkonidae (more than expected), Phrynosomatidae (less than expected), Scincidae (less than expected), Teiidae (less than expected), and Trionychidae (more than expected).

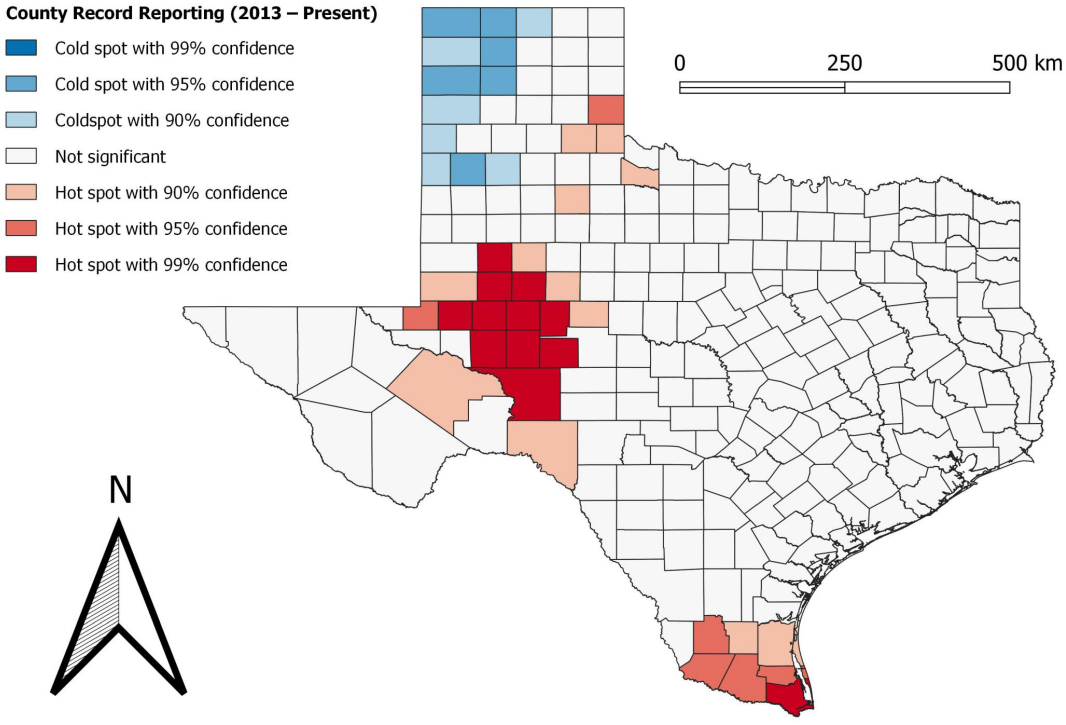

Figure 6. County delineated map of Texas showing statistically significant hot spots and cold spots of reptilian county record reporting from 2013 to present (i.e., October 2023). Analyses were conducted using the "Hot Spot Analysis" geoprocessing tool in ArcGIS Pro version 2.8.3.

Discussion

Based on the results of our hot-spot analysis, county records (from 2013–time of writing [October 2023]) were significantly clustered in the southern, western, and northern portions of the state (Fig. 6). These hotspots generally reflect areas from which researchers have published large numbers of records in single papers. For example, two such papers address the southern tip of Texas (Adams et al. 2016; Guadiana et al. 2020), two western Texas (Price and Dimler 2015; Bassett 2021a), and three northern Texas (Fielder 2020; Bowers 2021; Pandelis et al. 2021). These listed papers constitute the majority (n = 7; 64%) of the many-record (≥10 records) papers published during this timeframe. We suspect that the hot spots we identified likely represent either a contemporary geographic bias of research attention, historically poor range characterization for reptilian species occupying these regions, or a combination of both. The western hotspot might also be partially attributed to the spread of *H. turcicus* to this region, as many records of *H. turcicus* were published from this area over the last decade (Table 2). The statistically significant cold spots in the northwestern portion of the Panhandle might be the result of geographically biased research attention or an artifact of naturally lower reptilian diversity in that area. Brown et al. (2012) found that species richness for amphibians and reptiles was lower in the Panhandle than for the rest of Texas and attributed the difference to suspected low survey effort. We agree that many distributional records in the Panhandle likely await discovery, as suggested by the conspicuous gaps in some of the distribution maps presented here (e.g., Figs. 30 and 116). However, if one examines all of the distribution maps in this paper, a majority the state's reptilian species (approx. 68%) likely do not occur in the Panhandle region at all and therefore reptilian species richness may simply be naturally lower there than elsewhere in the state. Owen (1989), similar to Brown et al. (2012), reported low reptilian species richness in the Panhandle region of Texas, but instead argued that such differences were the product of environmental variables rather than spatially biased survey efforts. Studies examining North America as a whole have likewise identified low reptilian species richness in the Panhandle and attributed geographic diversity patterns to abiotic factors (Ennen et al. 2016; Whiting and Fox 2021). Therefore, we speculate that the cold spots we detected are the product of natural patterns of reptile diversity as well as geographically biased research attention. We recommend that herpetologists interested in pursuing county records should spend time surveying the northwestern portion of the Panhandle to address this bias and better characterize the distribution of reptilian species that occur there.

From 2013 to 2022, no apparent temporal pattern to county record reporting was evident and the collective effort to discover and report records apparently has been highly stochastic from year to year (Fig. 5). Such effort most likely waxes and wanes as motivated herpetologists move to and from the state or pursue projects unrelated to species distributions. Disregarding the spread of introduced species and the shift of species distributions in response to climate change, the number of unpublished county records (i.e., unreported reptilian populations) would be expected to decrease over time, thus resulting in a decline in the number of published records per year. Perhaps a temporal analysis that includes data for several decades would exhibit a decreasing trend. However, this trend could be confounded if the number of herpetologists pursuing county records in the state has been growing over the years (a likely possibility).

The number of records published for reptilian families from 2013 to the time of writing (Fig. 3) generally followed patterns of species richness, with some exceptions. Our multinomial exact test and post-hoc binomial exact tests demonstrated that several families had fewer or more records than would be expected based on species richness. Families with fewer records than expected included Cheloniidae, Phrynosomatidae, Scincidae, and Teiidae. Families with more records than expected included Chelydridae, Dactyloidae, Gekkonidae, and Trionychidae. These results might be due to several factors including species biology, variable rates of spread, and variable research attention (historical and contemporary). Although four species from the turtle family Cheloniidae are known from coastal counties in Texas, this is a marine taxon incapable of inland range expansion. Therefore, fewer records than would be expected based on species richness is sensible. Phrynosomatid and teiid lizards known to occur in Texas, with the exception of *Phrynosoma* spp., are generally quite fast (Bonine and Garland 1999) and not easily captured by hand. Wilson (2016) indicated that lassoing can be an optimal capture method for these species. The additional effort needed to capture these taxa efficiently, as compared to simple hand capture of dactyloids or gekkonids, might have some influence on the number of distributional records published over the past decade. However, capture of individuals (although ideal), is not necessary to publish distribution records. Most university reptile collections now accept digital photographic vouchers, and the journal *Herpetological Review* regularly publishes distribution notes based on photographic vouchers. So, phrynosomatids and teiids simply might not have received the same amount of research attention relative to other reptilian families, especially considering the conspicuous distributional gaps that remain for some phrynosomatid and teiid species. We likewise suspect that range characterization of Texas skinks has received less research attention than other families. Notable and conspicuous gaps exist in Dixon's (2013) distribution maps and many such gaps persist today. Although cryptozoic and secretive (Pianka and Vitt 2003), North American scincids are relatively slow

(Smith 1997; Watson 2008) and can be easily captured by hand. The freshwater turtle family Chelydridae, represented by only two species in Texas, has received substantial research attention over the past decade due to the imperiled status of *Macrochelys temminckii* (Gordon et al. 2023; Munscher et al. 2023; Rosenbaum et al. 2023). During this period, a remarkable 19 records have been published for the species, increasing its known range within the state by 54% (Table 2; Dixon 2013). Although only two species of trionychids are known from Texas, a total of 22 records have been published for the family during the past decade. We argue that this is the result of historically poor range characterization. The maps in Dixon (2013) show an exceptional number of prominent distributional gaps for both *Apalone mutica* and *Apalone spinifera*, suggesting that the ranges of these species were poorly known at the time. Dixon (2013) even wrote that the distribution of *A. mutica* "needs intensive study." Although the preponderance of recent trionychid records from Texas has helped improve our understanding of the distributions of *Apalone* spp., the revised distribution maps presented here clearly indicate that further work is necessary (Figs. 37 and 38). Finally, the greater than expected number of records for the lizard families Dactyloidae and Gekkonidae is likely a result of the expanding ranges of *Anolis sagrei* and *H. turcicus* (respectively) — both non-native species.

The remarkable number of records published for *H. turcicus* supplementing Dixon's (2013) maps (n = 71; Table 2), although probably unsurprising for most herpetologists, is nonetheless concerning. This species has spread rapidly throughout Texas since it was first reported from the state in 1933 (Flower 1933). Dixon (1987) documented this species in 45 Texas counties, Dixon (2000) recorded it in 64 counties, and by 2013 the species was known from a total of 126 Texas counties (Franklin 1997; Dixon 2000; Jadin and Coleman 2007; Dixon 2013). It is now recorded from a total of 194 counties (76% of the state) and appears to be continuing to spread. As Farr (2014b) noted, this species does not appear to be restricted to major roadways any longer, and our experience corroborates that it can often be found in more remote areas as well (although anthropogenic infrastructure such as roads and buildings are likely the initial points of dispersion to new locales). For example, we have seen *H. turcicus* in the foothills of the Franklin Mountains in El Paso, Texas, over 300 m from the nearest building. We also have witnessed *H. turcicus* in syntopy with the native gecko *Coleonyx brevis* at a remote rock cut in western Texas (Bassett and Forstner 2023). Despite being the most widely distributed non-native reptile in Texas, very little is known about the effects this taxon could have on local ecosystems. We encourage future researchers to characterize these impacts.

Although many records have been published for *A. sagrei* that supplement Dixon's (2013) maps (n = 10; Table 2), the degree at which the species is truly expanding its range in the state is unclear. Many of the records that have been published are of specimens collected or photographed at plant nurseries (reviewed in Bassett 2022). Additionally, several records are published based on the collection of single individuals, without any information regarding the presence of additional conspecifics (Rabe et al. 2012), making it difficult to know if an established population exists at a given locality. We therefore encourage researchers investigating the distribution of non-native taxa to collect multiple specimens, provide data on the number of individuals encountered, and indicate if both juveniles and adults are encountered. Established populations have been confirmed in some areas such as Cameron, Harris, and Montgomery counties (Bassett 2022). In the southeastern United States, *A. sagrei* is known to pose a threat to native Green Anole (*Anolis carolinensis*) populations. For example, Campbell (2000) found that population densities of *A. carolinensis* were negatively correlated with *A. sagrei* density, that *A. carolinensis* shifts perch heights in response to *A. sagrei* colonization, and that both species consume similar proportions and taxa of arthropods. Determining whether such trends hold true in Texas, testing possible methods of eradication, and statistically delineating the extent of suitable habitat for *A. sagrei* in Texas would be worthwhile avenues for future research.

Non-native lizard species added to the Texas reptile fauna over the last decade include *T. mauritanica*, *P. inexpectatus*, *H. mabouia*, and *H.* aff. *parvimaculatus* (Table 2). The introduction and establishment of the latter three species along the Texas coast corroborates that the coastal portion of the state serves as a gateway for the introduction of novel reptilian species. For example, the first report of *H. turcicus* in the state that provided locality data was from Cameron County (Conant 1955). The first report of *A. sagrei* in the state included records from Cameron County (King et al. 1987). Additionally, the first report of *Cyrtopodion scabrum* was from Galveston County (Selcer and Bloom 1984). We argue that maritime shipping and interstate commerce likely facilitated the introduction of novel herpetofauna along the coast and that population establishment was enabled by the region's relatively mild climate. The introduction of these non-native species provides an excellent opportunity to investigate fascinating questions about their biology in novel locations, including trophic and behavioral relationships with native species. A variety of species' attributes can be characterized in real-time such as rates of spread, routes of dispersal, and effects on the abundance of taxa occupying similar guilds or niches.

As expected with a work as comprehensive and with as many species as *Amphibians and Reptiles of Texas* (Dixon 2013), we serendipitously discovered a few (n = 3) distribution records published in *Herpetological Review* prior to 2010 that were likely missed by Dixon and not incorporated into

his synthesis. More concerning, however, were the number of records (n = 79) we discovered that were omitted without comment from previous editions of Dixon's work (1987, 2000) as well as the large number of records omitted from *Snakes of Texas* (n = 142; Werler and Dixon 2000) and the other works on Texas herpetofaunal distributions (n = 42; Raun and Gelbach 1972; Axtell 1986–2005b). For some taxa, adding these records resulted in large increases in the numbers of counties in which they are now known to occur (e.g., *Lampropeltis triangulum* [*sensu lato*], with an increase of 22 inhabited counties). Although no comments in Dixon (2013) indicated that any of these supplemental records were purposefully omitted, we acknowledge that some of them probably were removed deliberately but without comment. However, as we cannot confirm Dixon's intentions regarding those records, we include all of them in our table of supplemental records (Table 2) and in our maps, coded as a separate color (blue) to make them visually apparent. We suspect that since many of these records are supported by multiple publications aside from Dixon's work (n = 52; Table 2), and in some cases listed and referenceable voucher specimens (n = 33; Axtell 1986–2005b), most of these cases likely represent valid records that were erroneously omitted from Dixon (2013). Werler and Dixon (2000), from which a majority of the new records were drawn, also stated that all records are based on voucher specimens, despite the fact that they did not list the associated voucher numbers.

A consequence of such likely errors is a large number of duplicated records. Most authors publishing distribution notes have cited and relied exclusively on Dixon (2013), resulting in 34 county records (green dots in our maps) published in the last decade that duplicated records already published in syntheses other than Dixon (2013). As most of these other syntheses (i.e., Raun and Gelbach 1972; Axtell 1986–2005b; Dixon 1987, 2000; Werler and Dixon 2000) are out of print, most researchers do not have ready access to them, rendering them difficult to reference. One of our primary goals therefore for this paper was to provide the first explicit and publicly available synthesis of all this material. We also have posted PDF copies of Axtell's Interpretive Atlas of Texas Lizards, previously unavailable from any online resource, on the ARDRC website (www.ardrcenter.uta.edu), as we wanted these useful publications widely available to researchers working on Texas lizards. These are the only syntheses conducted for Texas reptile distributions that included lists of voucher specimens corresponding to all records referenced in their maps, as well as detailed comments on questionable distribution records, habitat requirements, and suggestions for future research regarding distributions.

Although what we consider major oversights by authors of distribution notes were relatively few (n = 8; in the form of duplicate records published when a species was already recorded in a county by Dixon [2013] or in another subsequently published note), we would remind potential authors of distribution records to not only do due diligence in thoroughly checking range maps in the synthesized guides, but also to remember to conduct thorough searches of major outlets (e.g., *Herpetological Review*) published since then to ensure that a potential record has not already been published by another author. It is a laborious task, but it helps prevent unnecessary redundancies in the scientific literature.

More understandable are cases (n = 5) when authors published duplicate distribution records already published as notes in *Herpetological Review* between 2010 and 2012. Understandably, most authors (ourselves included) probably assumed that all individually published records prior to 2013 had been assimilated by Dixon (2013); however, as explained previously, we have found this not to be the case. Dixon (2013) stopped consistently including published records from *Herpetological Review* beginning with the fourth issue of Volume 41, which is why 2010 was chosen as the starting point for our review. These omissions might have been published while Dixon's 2013 synthesis was undergoing review at the Texas A&M University Press, a process that currently takes 3–6 months and sometimes longer (Texas A&M University Press 2023).

If records exist on public databases (e.g., *VertNet*, *GBIF*, *iNaturalist*) for the species and county of interest, but are not in the published literature, we still recommend that a distribution note be written and published. Our reasoning is that the taxonomic identity of specimens in collections can occasionally be erroneous (e.g., *Holbrookia maculata* from Llano County; Axtell 1997b). Secondly, the locality assigned to specimens in collections can also be erroneous (e.g., *Kinosternon subrubrum* from Parmer County; Dixon 2013). Finally, our personal experience is that the coordinates assigned to *iNaturalist* observations are sometimes erroneous (and considerable *GBIF* data are sourced from *iNaturalist*). While we recognize that such errors are generally rare in occurrence, we argue that published documentation of distributional data provides a permanent literary record to corroborate information housed in these databases. Of course, such publications are not invincible to errors (e.g., Franklin and Reams 2001), and therefore accumulating species-occurrence information in both the literature and databases is the ideal approach. When writing distribution notes, authors should list any occurrence data they may find on sites such as *GBIF* and *VertNet* but clearly indicate that no published records exist for that species or county.

Conversely, because of the discrepancies and ambiguities that we discovered (often the lack of inclusion of sources of records [e.g., Werler and Dixon 2000; Dixon 2013; although see Axtell 1986–2005b]), we also encourage authors of distribution records to publish "verifying records" in cases when

a record might appear in a synthesizing work, but no specimen or other voucher evidence for the county is referenced or locatable on sources such as *GBIF* and *VertNet*. If authors are confident that they hold the first voucher evidence for a distributional record, we would encourage them to publish a verifying note for the county in the style of Oyervides and Zaidan (2015), Bohannon and Forstner (2018), and Lindeman (2019a). We would also encourage authors to publish verifying records for counties noted by Dixon and others as questionable, if new voucher evidence verifying that species' presence has surfaced.

Preserved specimens remain the gold standard for permanent records of species occurrence and are utilized for myriad types of research aside from distributions (Schilthuitzen et al. 2015; Keklikoglou et al. 2019; Watanabe 2019). The biodiversity collections that house these specimens serve as the only direct account of biodiversity on Earth and are the primary data source for our understanding of taxonomy, distributions, and natural history, essentially providing the answers for what an organism is, where it is found, and what it does (Schilthuitzen et al. 2015; Wen et al. 2015; Ellwood et al. 2020). Photographs, while convenient, do not and cannot replace voucher specimens in utility and permanence. We would therefore encourage qualified researchers and recreational herpetologists to responsibly, ethically, and legally collect a reasonable number of representative specimens and deposit them in a natural history museum, particularly when they represent novel distribution records. Several major museums in Texas accept and catalogue voucher specimens (e.g., Amphibian and Reptile Diversity Research Center, University of Texas at Arlington; Texas Natural History Collections, University of Texas at Austin; Biodiversity Research and Teaching Collections, Texas A&M University; University of Texas at El Paso Biodiversity Collections), and the collections managers and curators of these institutions are typically happy to answer questions regarding the process for collecting and depositing specimens.

Although beyond the scope of the present article, future work on reptilian distributions in Texas should include thorough syntheses and revisiting of voucher-specimen data associated with those records, particularly in light of the number of discrepancies we have discovered. While not representing vouchered specimen records, incorporating photographic records from such repositories as *iNaturalist* could also be valuable, if photographs are individually visited and definitively confirmed in identification and location. These records represent an increasing wealth of citizen-science data that could be harnessed. Our present aim is to provide Texas herpetologists with a referenceable synthesis of the published literature in a timely fashion. Reviewing the wealth of voucher and photographic data available with the necessary amount of detail, while valuable and essential, will take a significant amount of time and effort, so we leave this task to future research or other qualified researchers. Delegation of species accounts amongst Texan herpetologists could be an effective method for expediting this endeavor, if one motivated individual could rally the necessary collaboration.

The significance of distributional data for reptile conservation cannot be understated. Herein we sought to assimilate all published information regarding reptile distributions in Texas, both from historic syntheses and contemporary notes and papers. We also sought to characterize any geographic, taxonomic, or temporal patterns that might exist in the contemporary data. Some or many of the county-level populations indicated in our maps might have been extirpated since their initial discovery. The ranges of some species might have contracted, expanded, or shifted in latitude or elevation. Environments on Earth have always been dynamic, but the habitat loss and accelerated climate change of the Anthropocene (Steffen et al. 2011; Ruddiman 2013; Paterson et al. 2021) have produced a rapidly transforming landscape to which many taxa cannot adjust (Bibby 1994; McLaughlin et al. 2002; Franco et al. 2006). Knowing where a species has occurred or does occur is undeniably critical for informing conservation, and such knowledge guides our understanding of how imperiled a species is (i.e., comparing historic and contemporary distributions), where it can be protected (i.e., extant populations), and where it might be reintroduced (i.e., extirpated populations). Syntheses such as this, that catalog citable records of species occurrence, are a useful tool for developing conservation protocols. Conveniently assimilated in Table 2 is a guide to many publications containing precise spatiotemporal species occurrence data. These data can be used to develop habitat-suitability models and mathematically estimate range expansion, contraction, or shifts for particular species. Conservation-minded herpetologists can and should utilize the abundance of distributional data in the literature and online databases to thoroughly quantify changes in suitable habitat for reptilian species. We especially encourage studies focused on those species endemic to the state.

Lastly, we encourage the new generation of herpetologists and recreational herpers to take an interest in natural history and to go through the effort of publishing small notes on such topics as distributions, diets, and behavior. These notes are often overlooked in favor of publishing macro-scale studies on ecology and evolution, despite the fact that these brief publications provide valuable data for the organisms on which these larger studies are based. Large-scale questions should always be informed by the natural history of the animals they address, and these studies are always more insightful when the authors have invested the effort of gaining an intimate understanding of the biology of the organisms themselves.

ORDER TESTUDINES
Family Cheloniidae

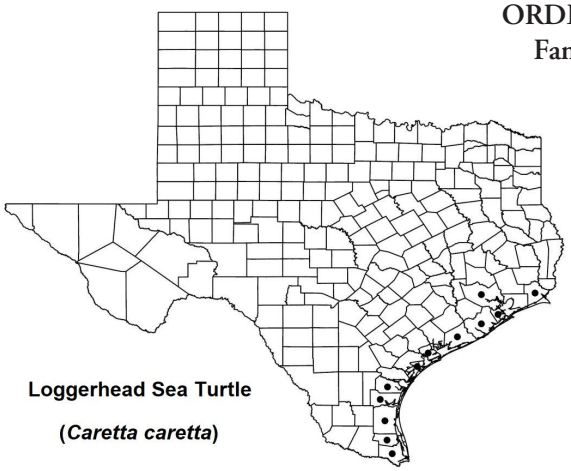

Figure 7. Black dots indicate counties where this marine taxon has been recorded according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). *Caretta caretta* is threatened on the state and federal level (TSS 2020; USFWS 2023).

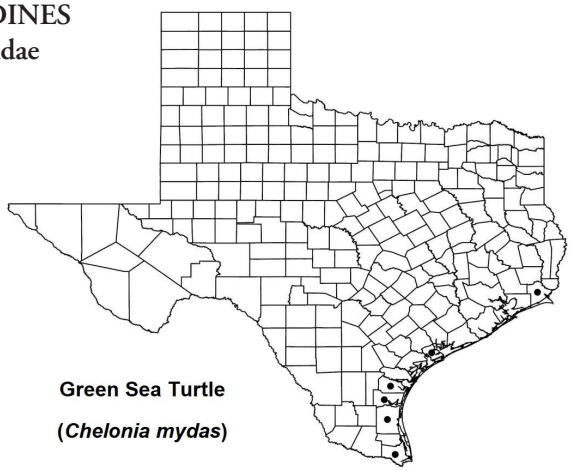

Figure 8. Black dots indicate counties where this marine taxon has been recorded according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). *Chelonia mydas* is listed as threatened on the state and federal level (TSS 2020; USFWS 2023).

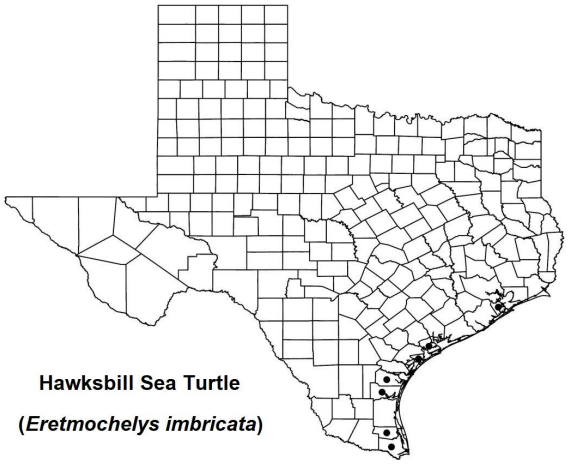

Figure 9. Black dots indicate counties where this marine taxon has been recorded according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). *Eretmochelys imbricata* is listed as endangered by the state and federal government (TSS 2020; USFWS 2023).

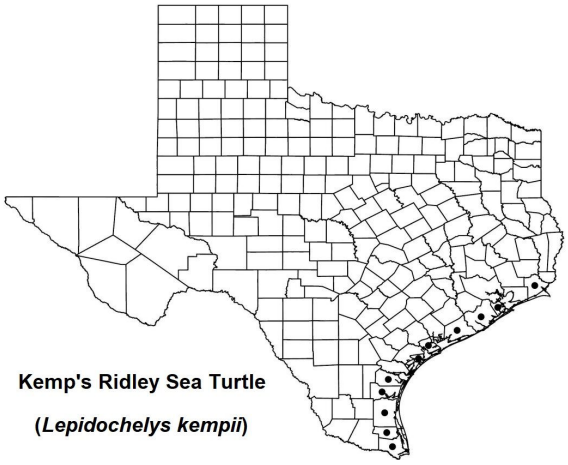

Figure 10. Black dots indicate counties where this marine taxon has been recorded according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). *Lepidochelys kempii* is listed as endangered by the state and federal government (TSS 2020; USFWS 2023).

Family Chelydridae

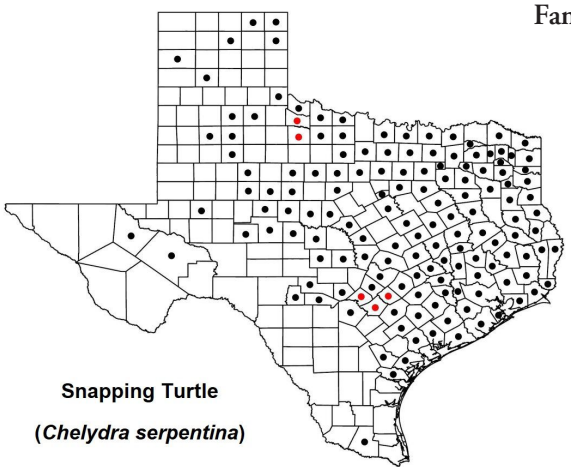

Figure 11. Black dots indicate county records according to Dixon (2013). Red dots indicate county records (n = 5) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

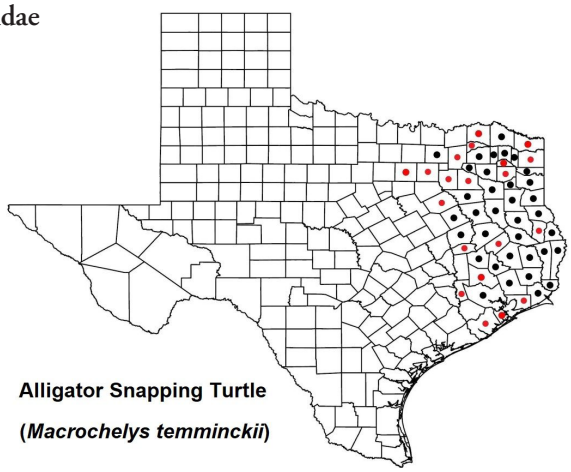

Figure 12. Black dots indicate county records according to Dixon (2013). Red dots indicate county records (n = 20) that have been published from 2010 onward that supplement the map provided by Dixon (2013). *Macrochelys temminckii* is listed as threatened by the state of Texas (TSS 2020).

Family Dermochelyidae

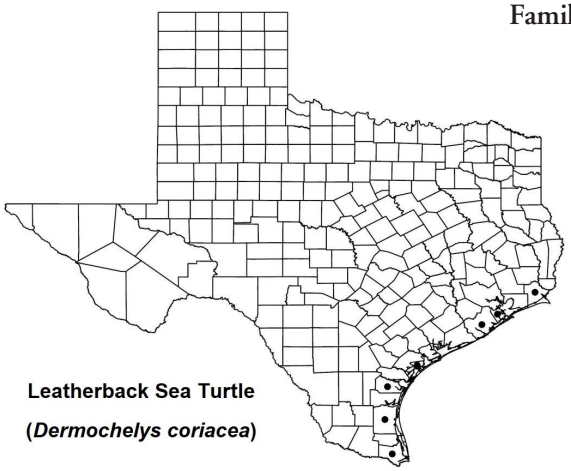

Figure 13. Black dots indicate counties where this marine taxon has been recorded according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). *Dermochelys coriacea* is listed as endangered by the state and federal government (TSS 2020; USFWS 2023).

Family Emydidae

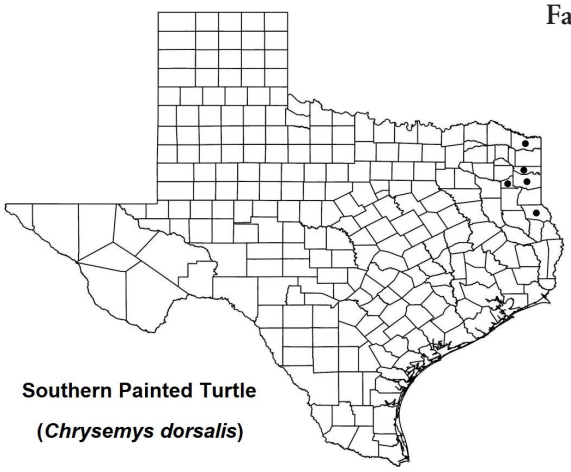

Figure 14. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013).

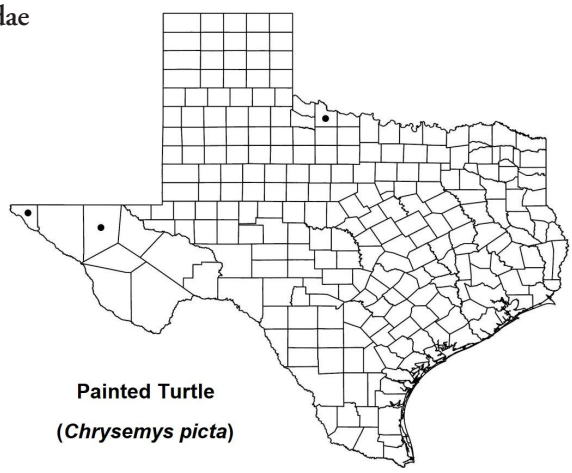

Figure 15. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). Dixon (2000) considers the Wilbarger County record as questionable.

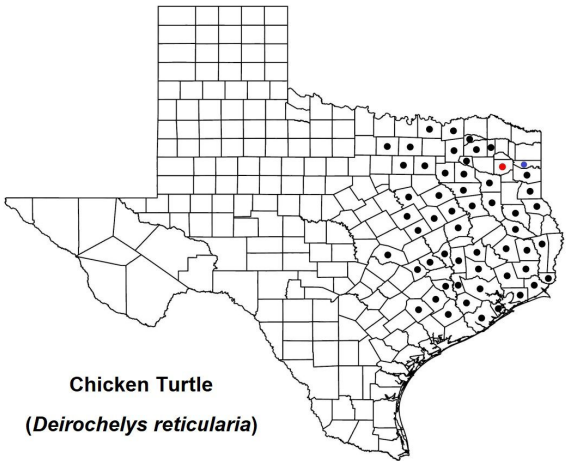

Figure 16. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record that was published prior to 2010 and was omitted from Dixon (2013). The single red dot indicates a county record that was published from 2010 onward that supplements the map provided by Dixon (2013).

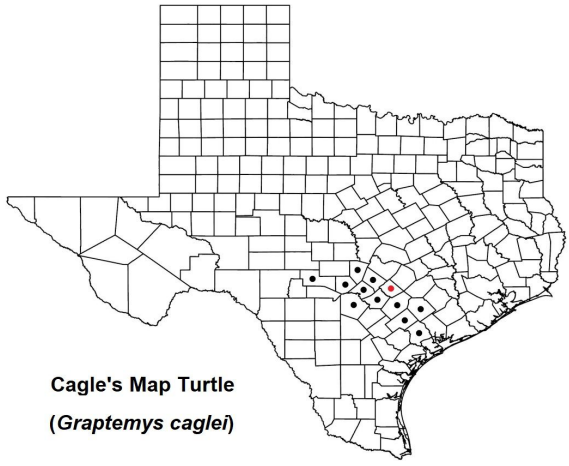

Figure 17. Black dots indicate county records according to Dixon (2013). The single red dot indicates a county record that was published from 2010 onward that supplements the map provided by Dixon (2013). *Graptemys caglei* is listed as threatened by the state of Texas (TSS 2020).

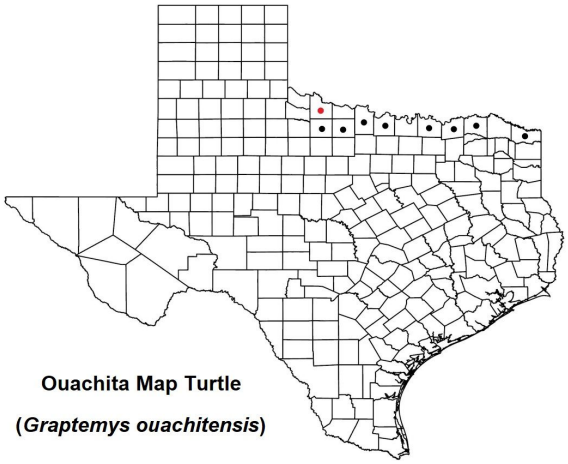

Figure 18. Black dots indicate county records according to Dixon (2013). The single red dot indicates a county record that has been published from 2010 onward that supplements the map provided by Dixon (2013). Note that the map provided in Lindeman (2013) shows records of *G. ouachitensis* from the Red River in McCurtain and Choctaw counties of Oklahoma. Given that Red River County of Texas is adjacent to these Oklahoma counties, *G. ouachitensis* likely occurs in Red River County, Texas.

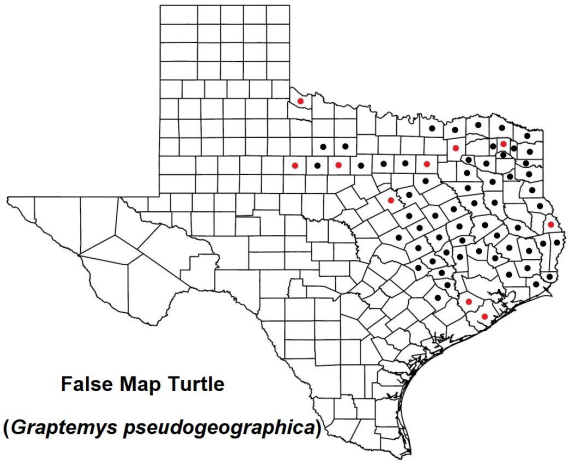

Figure 19. Black dots indicate county records according to Dixon (2013). Red dots indicate county records (n = 10) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Note: the Dallas Co. record reported in Lindeman (2013) and reflected here is based on a personal communication between Peter Lindeman and Steve Shively, 2009 (Peter Lindeman, pers. comm.).

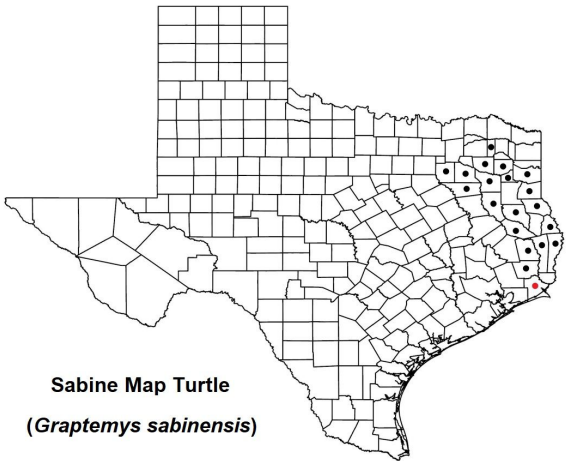

Figure 20. Black dots indicate county records according to Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013).

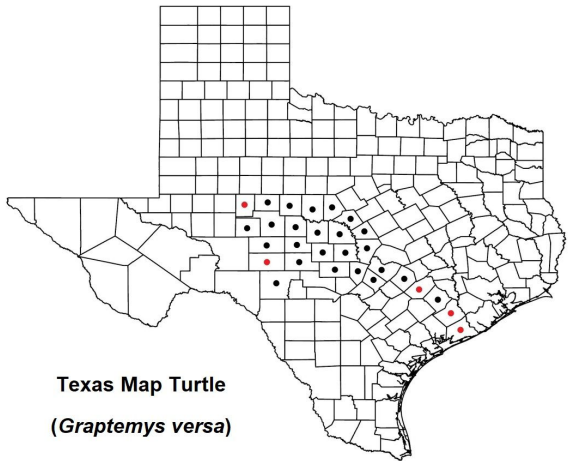

Figure 21. Black dots indicate county records according to Dixon (2013). Red dots indicate county records (n = 5) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

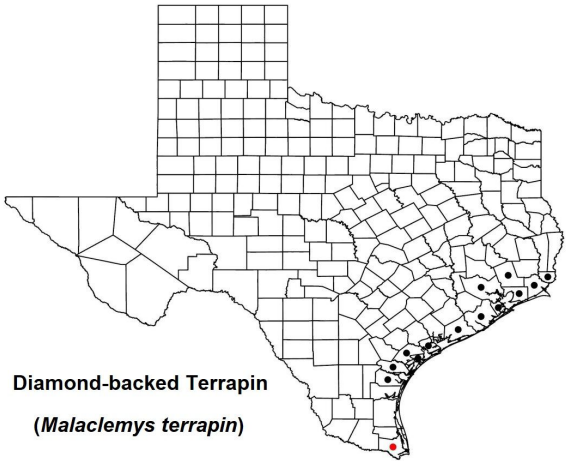

Figure 22. Black dots indicate county records according to Dixon (2013). The single red dot indicates a county record that was published from 2010 onward that supplements the map provided by Dixon (2013). The authors of the new record indicate that it is unclear whether the two specimens recovered from Cameron County represent hurricane-dispersed or a long-term occurring population (Guadiana et al. 2020).

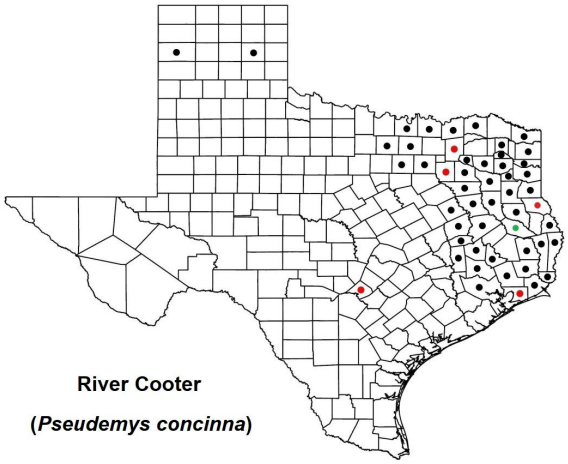

Figure 23. Black dots indicate county records according to Dixon (2013). Red dots indicate county records (n = 5) that have been published from 2010 onward that supplement the map provided by Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013). Authors of the Comal County record base their report on a single specimen and indicate it is unclear whether this locale represents an established (introduced) population or a single released individual (Munscher et al. 2014).

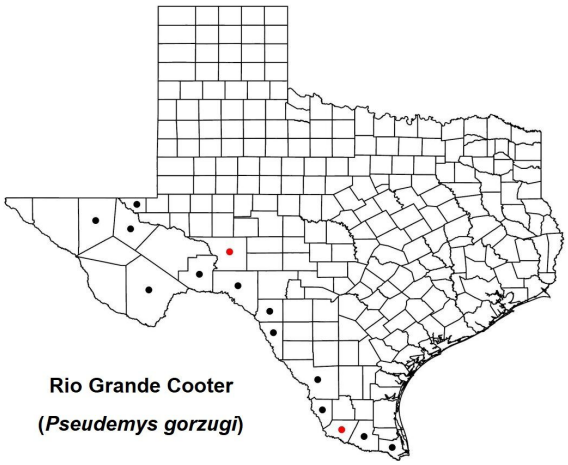

Figure 24. Black dots indicate county records according to Dixon (2013). Red dots indicate county records (n = 2) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

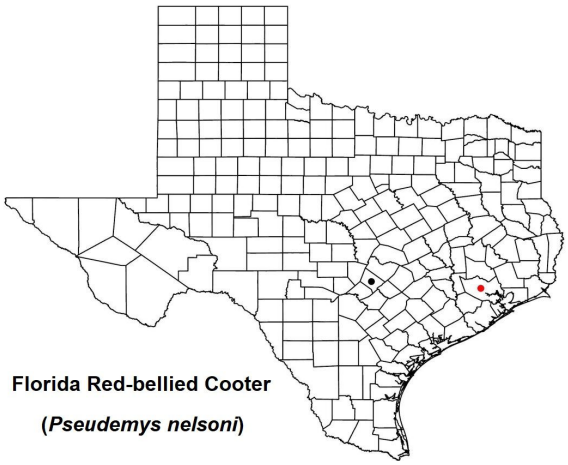

Figure 25. Black dots indicate county records according to Dixon (2013). The single red dot indicates a county record that was published from 2010 onward that supplements the map provided by Dixon (2013). *Pseudemys nelsoni* is not native to Texas.

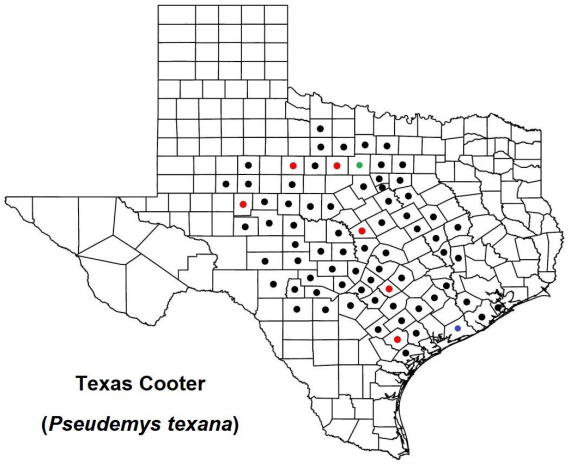

Figure 26. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). Red dots indicate county records (n = 6) that have been published from 2010 onward that supplement the map provided by Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013).

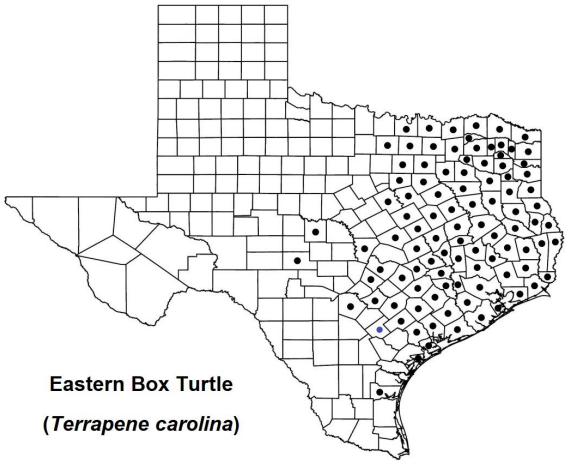

Figure 27. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013).

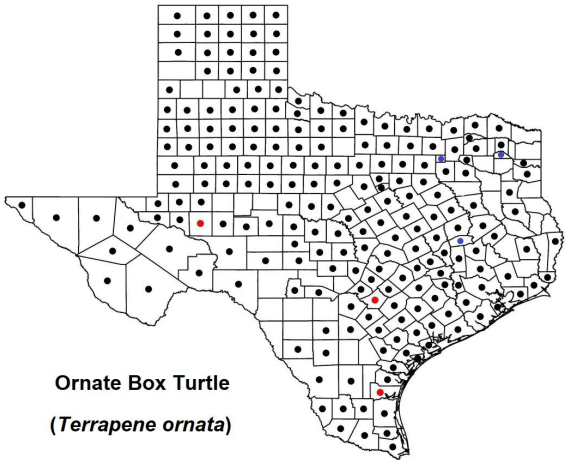

Figure 28. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 3) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 3) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

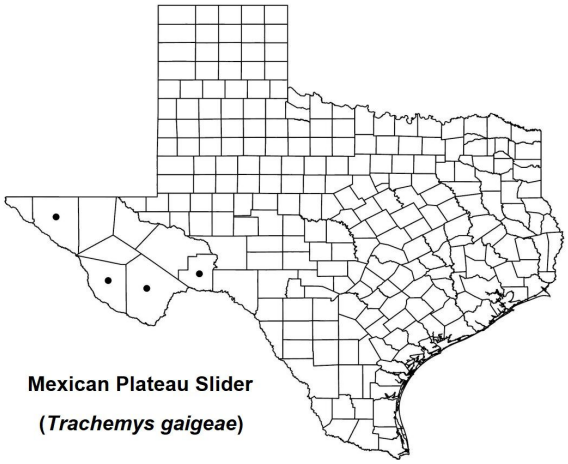

Figure 29. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013).

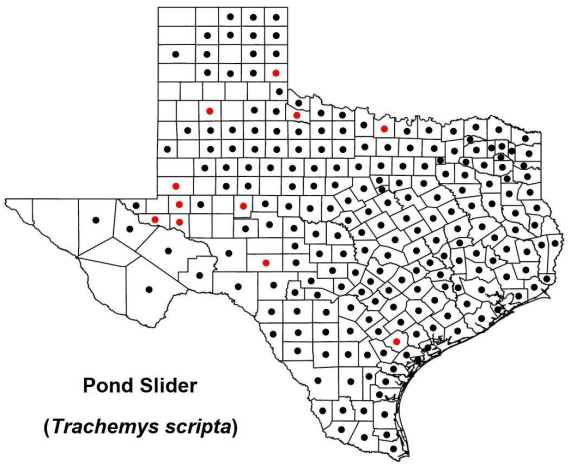

Figure 30. Black dots indicate county records according to Dixon (2013). Red dots indicate county records (n = 11) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

Family Kinosternidae

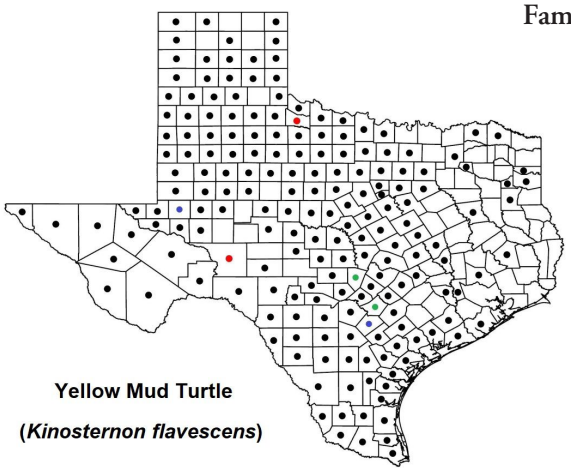

Figure 31. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 2) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 2) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Green dots indicate counties (n = 2) for which a record was published prior to 2010, as well as from 2010 onward, that supplement the map provided by Dixon (2013).

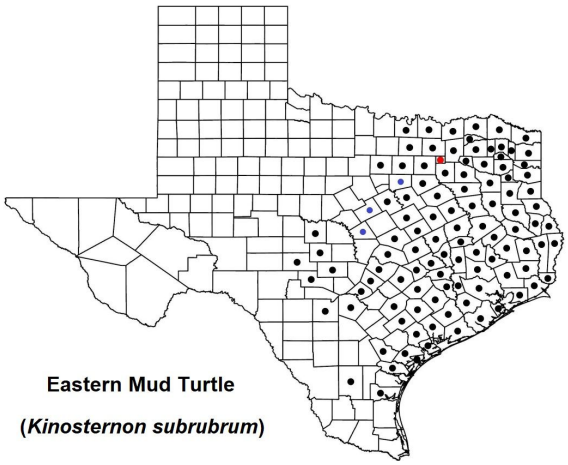

Figure 33. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 3) published prior to 2010 that were omitted from Dixon (2013). The single red dot indicates a county record that was published from 2010 onward that supplements the map provided by Dixon (2013). Dixon (2013) states that a record from Parmer County is erroneous.

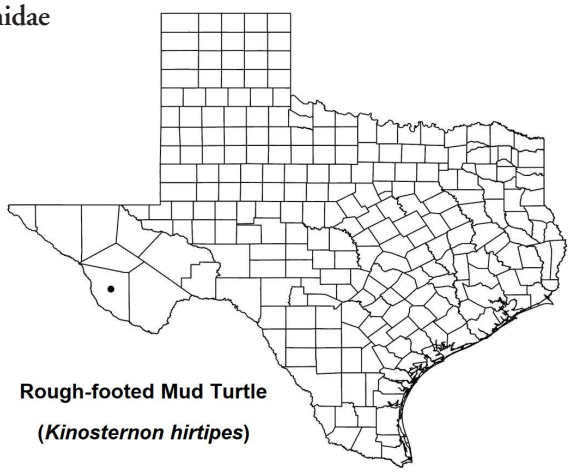

Figure 32. The single black dot indicates a county record according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). *Kinosternon hirtipes* is listed as threatened by the state of Texas (TSS 2020).

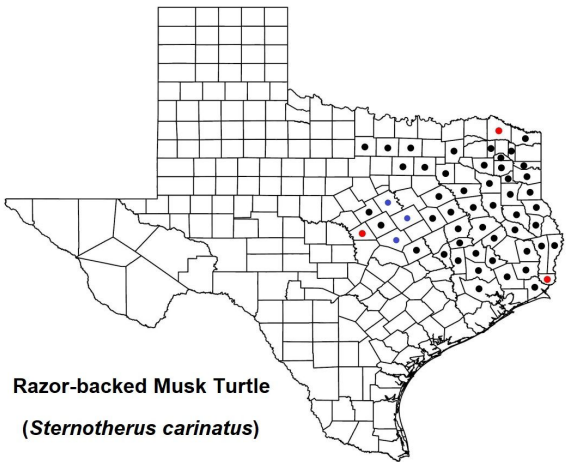

Figure 34. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 3) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 3) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

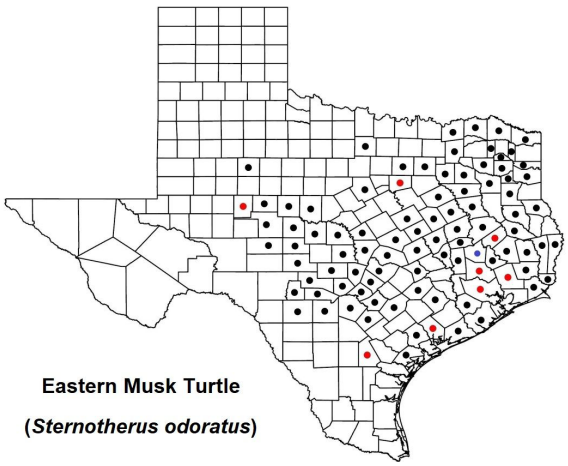

Figure 35. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). Red dots indicate county records (n = 8) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Dixon (2013) considered a record from Presidio County to be erroneous.

Family Testudinidae

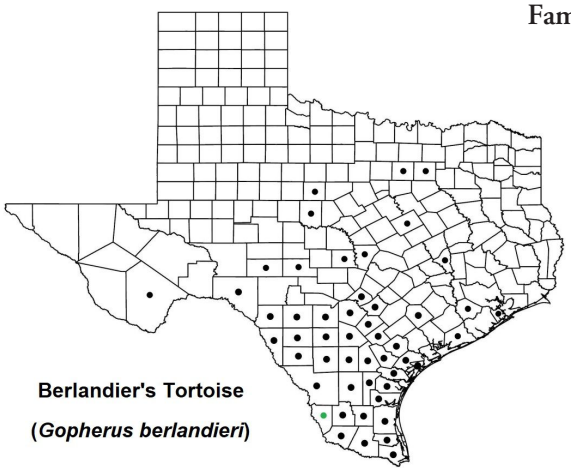

Figure 36. Black dots indicate county records according to Dixon (2013). The green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, and supplements the map provided by Dixon (2013). Dixon (2013) questioned several records (Brazos, Brewster, Burnet, Callahan, Coleman, Dallas, Fort Bend, Galveston, Kimble, Llano, Matagorda, McLennan, Sutton, and Tarrant counties – some in his map, others in his text), suggesting that such occurrences may either represent human-mediated introductions or an ancient distribution of *G. berlandieri* in the case of Galveston, Fort Bend, and Matagorda counties. *Gopherus berlandieri* is listed as threatened by the state of Texas (TSS 2020).

Family Trionychidae

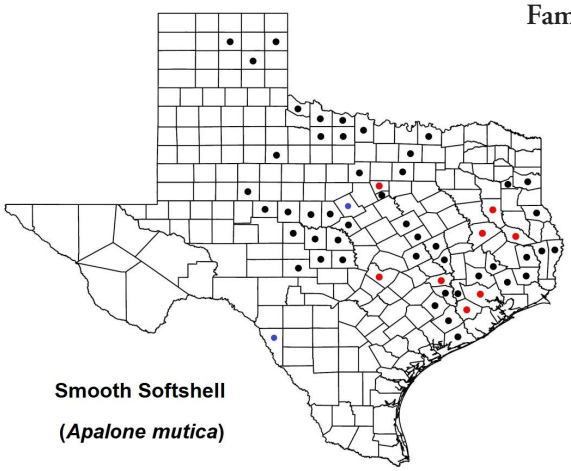

Figure 37. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 2) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 8) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

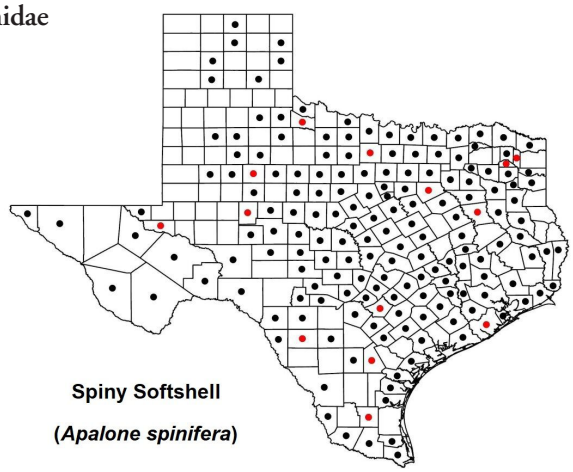

Figure 38. Black dots indicate county records according to Dixon (2013). Red dots indicate county records (n = 14) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

ORDER CROCODYLIA
Family Alligatoridae

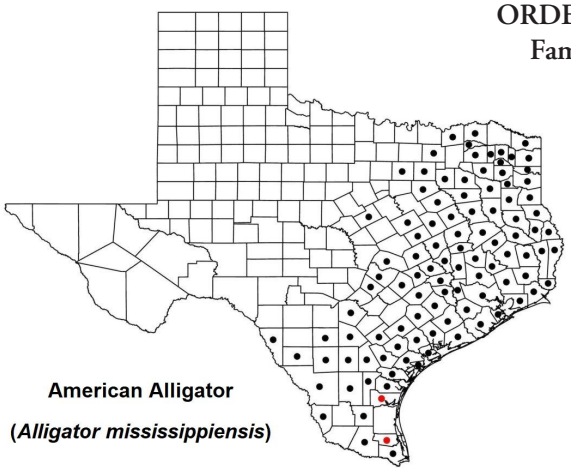

Figure 39. Black dots indicate county records according to Dixon (2013). Red dots indicate county records (n = 2) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

ORDER SQUAMATA (LIZARDS)
Family Anguidae

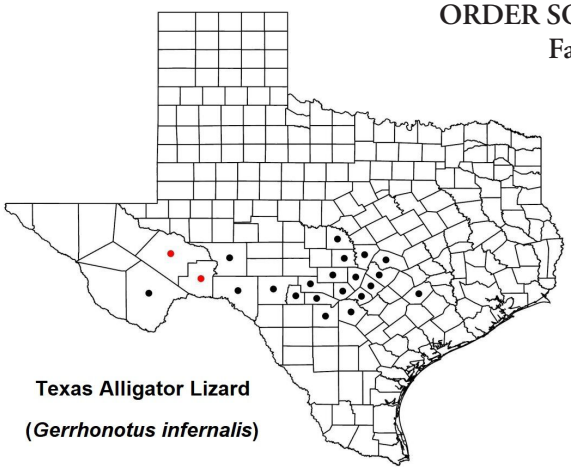

Figure 40. Black dots indicate county records according to Dixon (2013). Red dots indicate county records (n = 2) that have been published from 2010 onward that supplement the map provided by Dixon (2013). A literature record from Dallas County (Seifert 1978) likely represents an accidental introduction, as suggested by Dixon (2013).Since he does not include the Dallas County record in his map, and we have not heard of an established population at this location or been able to locate any voucher specimens, we omit this record as well.

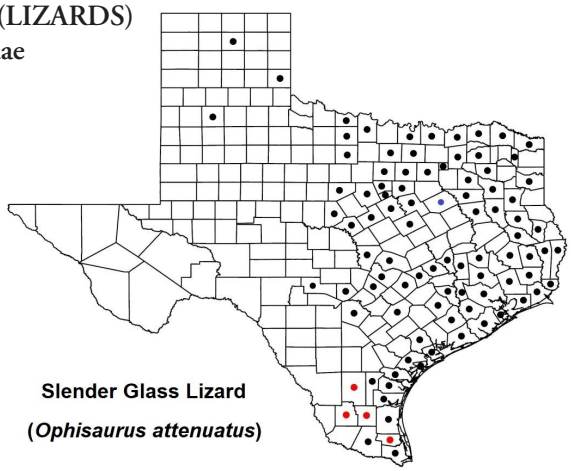

Figure 41. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). Red dots indicate county records (n = 4) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Dixon (2013) questioned the record from Kerr County.

Family Crotaphytidae

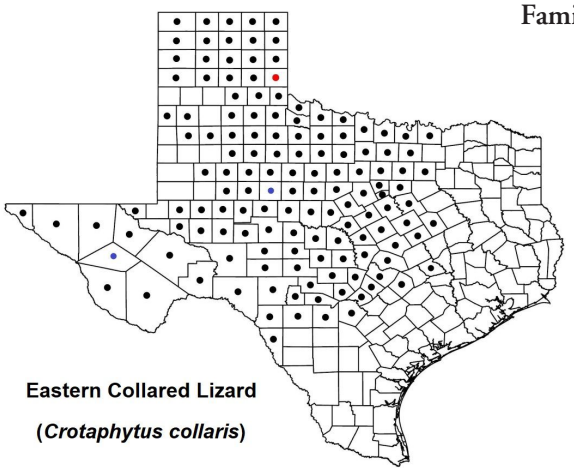

Figure 42. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 2) published prior to 2010 that were omitted from Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013). Dixon (2013) questioned records from Burleson, Falls, and Limestone counties. Axtell (1989a) questioned records from Hill and Midland counties and considered records from Burleson, Cooke, Falls, and Limestone erroneous or unnatural.

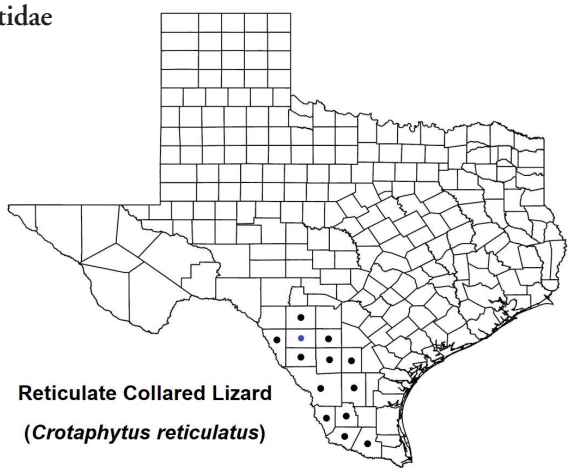

Figure 43. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). Axtell (1989b) considered a record from Frio County erroneous or unnatural and questioned a record from Uvalde County.

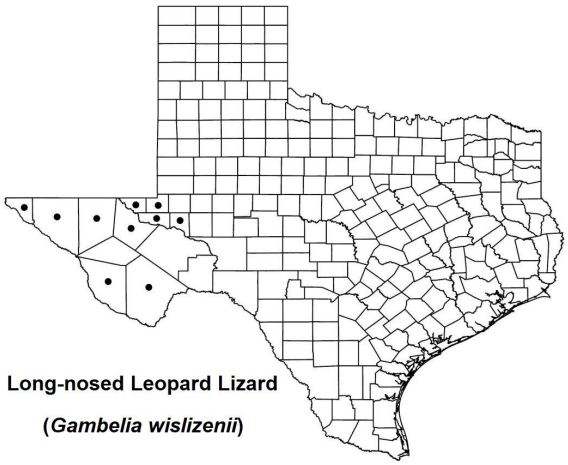

Figure 44. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013).

Family Dactyloidae

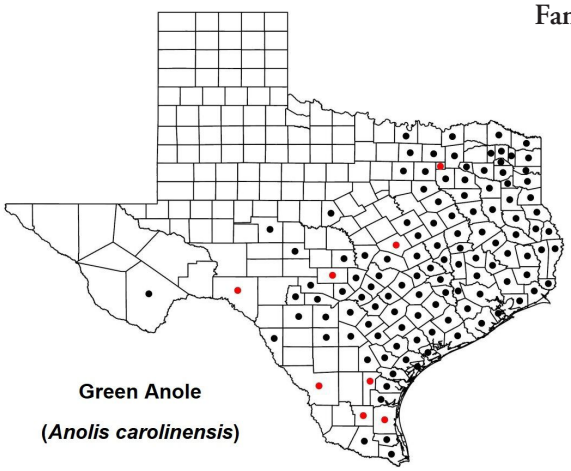

Figure 45. Black dots indicate county records according to Dixon (2013). Red dots indicate county records (n = 8) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Dixon (2013) notes that records from Atascosa, Brewster, Brown, Cameron, Frio, Hidalgo, Maverick, Menard, Uvalde, and Willacy may be accidental introductions. Axtell (2005a) notes that many populations may be introduced, without specifying which.

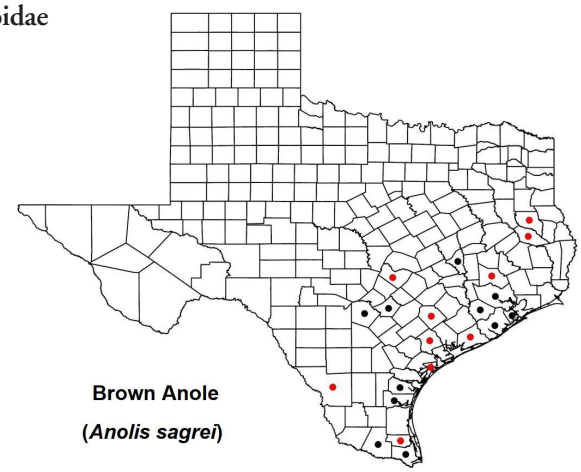

Figure 46. Black dots indicate county records according to Dixon (2013). Red dots indicate county records (n = 10) that have been published from 2010 onward that supplement the map provided by Dixon (2013). *Anolis sagrei* is not native to Texas.

Family Eublepharidae

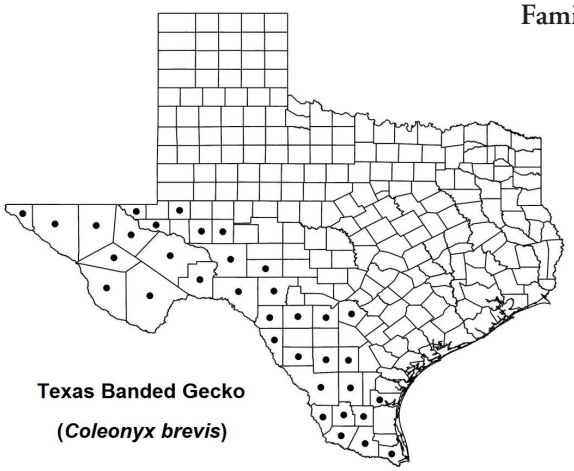

Figure 47. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). Axtell (1986) questioned the records from Brooks and Kleberg counties.

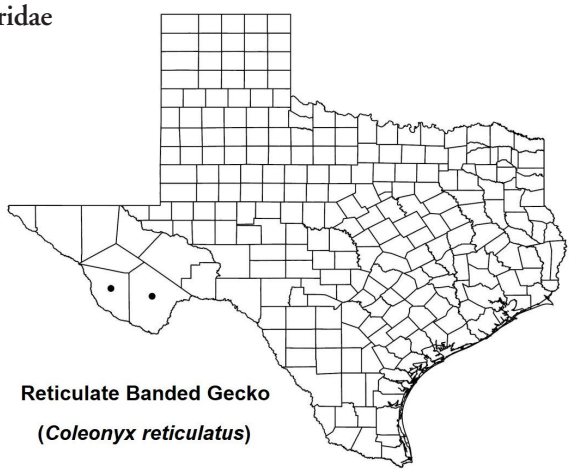

Figure 48. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013).

Family Gekkonidae

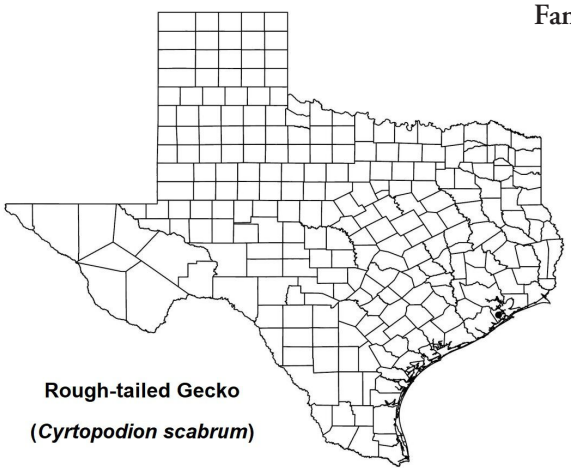

Figure 49. The single black dot indicates a county record according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). *Cyrtopodion scabrum* is not native to Texas.

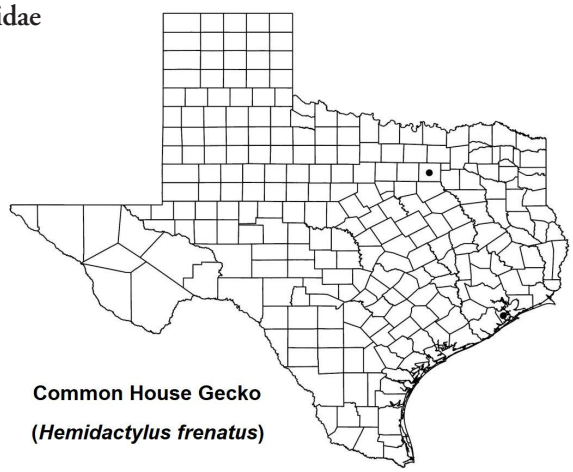

Figure 50. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). *Hemidactylus frenatus* is not native to Texas.

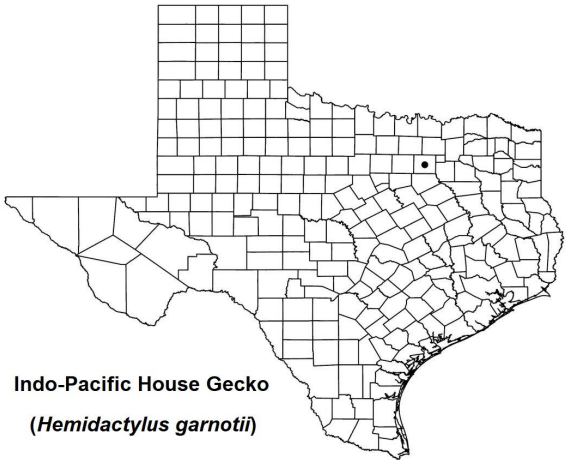

Figure 51. The single black dot indicates a county record according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). *Hemidactylus garnotii* is not native to Texas.

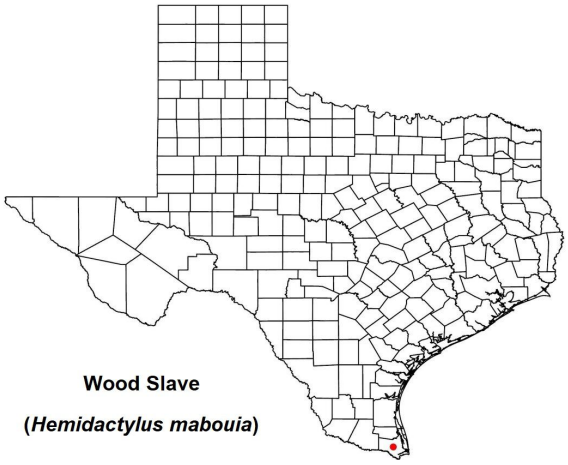

Figure 52. A population of this species was recently discovered in Cameron County, Texas (Fierro-Cabo and Rentfro 2014), which is demarcated with a red dot. *Hemidactylus mabouia* is not native to Texas.

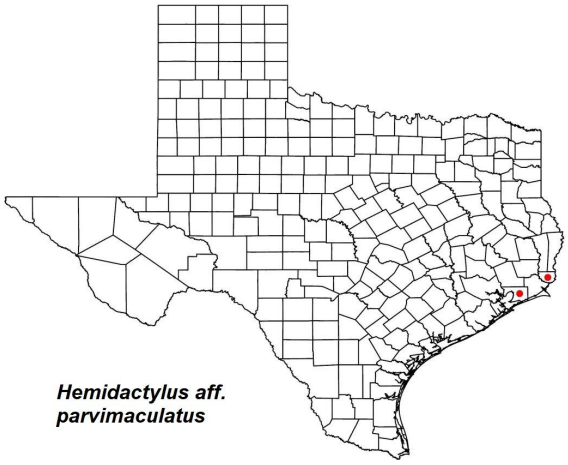

Figure 53. This taxon was recently discovered in Orange County and Chambers County (Davis and LaDuc 2019), which are demarcated with red dots. *Hemidactylus* aff. *parvimaculatus* is not native to Texas.

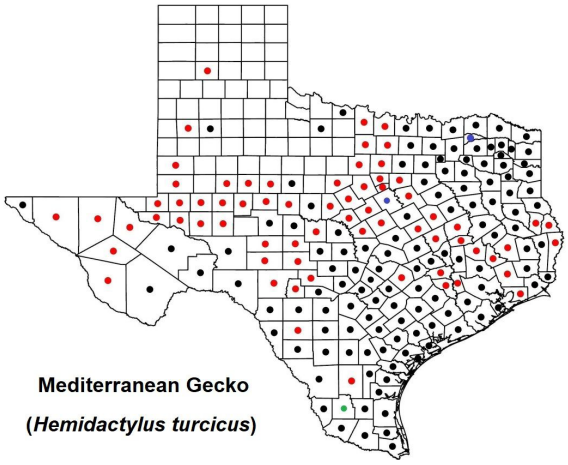

Figure 54. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 2) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 68) that have been published from 2010 onward that supplement the map provided by Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013). *Hemidactylus turcicus* is the most widely distributed non-native squamate in the state.

Family Iguanidae

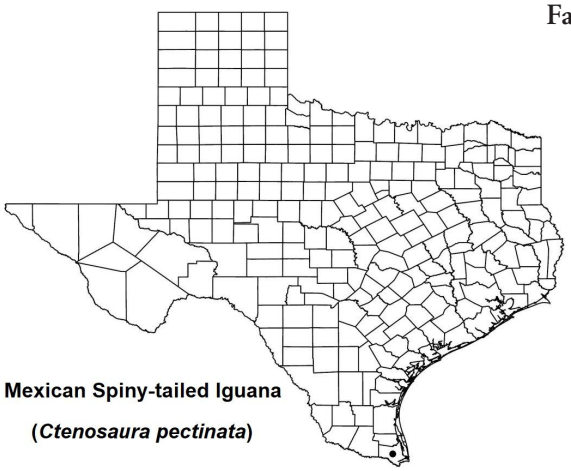

Figure 55. The single black dot indicates a county record according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). *Ctenosaura pectinata* is not native to Texas.

Family Phrynosomatidae

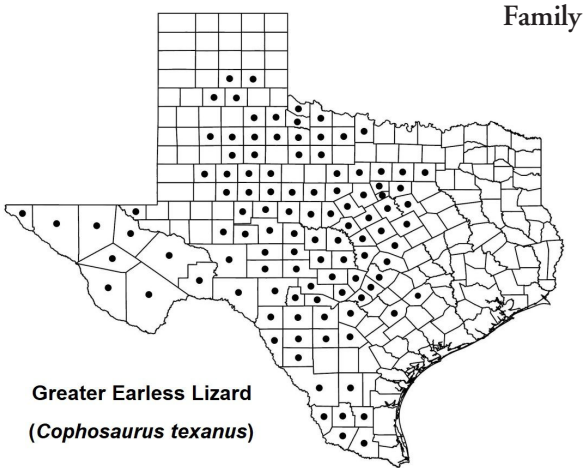

Figure 56. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). Axtell (1991) considers a record from Nueces County to be erroneous. Said record was omitted by Dixon (2013) and is excluded here. Both Dixon (2013) and Axtell (1991) consider the Fayette and Gonzales County records as questionable. Axtell (1991) considers the Brooks and Duval County records to be erroneous or unnatural and the Clay, Dallas, and Tarrant County records as questionable.

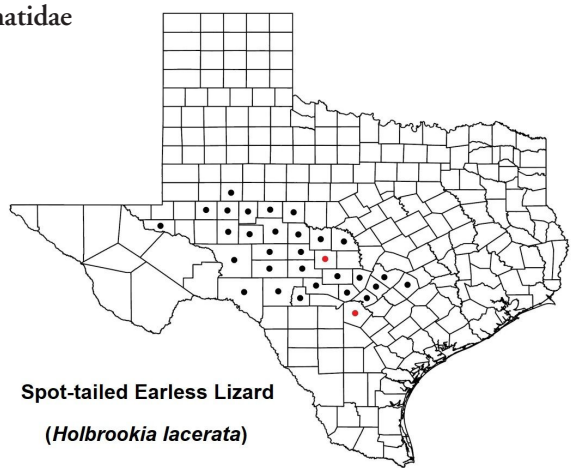

Figure 57. Black dots indicate county records according to Dixon (2013). Both Dixon (2013) and Axtell (1998b) questioned a record from Bastrop County. Red dots indicate county records (n = 2) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

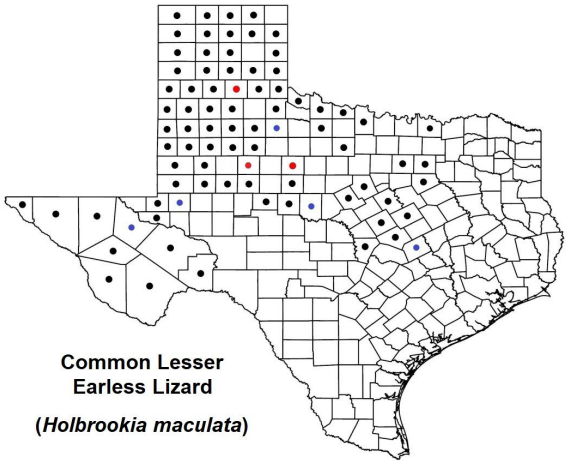

Figure 58. Black dots indicate county records according to Dixon (2013). Both Dixon (2013) and Axtell (1997b) questioned a record from Grayson County. Axtell (1997b) questions records from Glasscock, Terrell, Val Verde, and Ward Counties. We have omitted a record from Llano County as it was positively reidentified by Axtell (1997b) as *H. propingua*. Dixon (2013) considered a record from Houston County to be erroneous. Blue dots indicate county records (n = 5) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 3) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

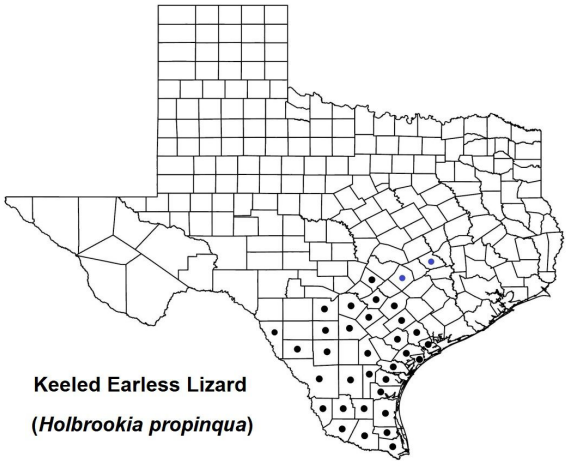

Figure 59. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 2) published prior to 2010 that were omitted from Dixon (2013). Dixon (2013) questioned the record for Maverick County and Axtell (1998a) questioned the records for Bastrop and Burleson County. Dixon (2013) considered a record from Real County to be erroneous and Axtell (1998a) considered the Hays County record to be erroneous.

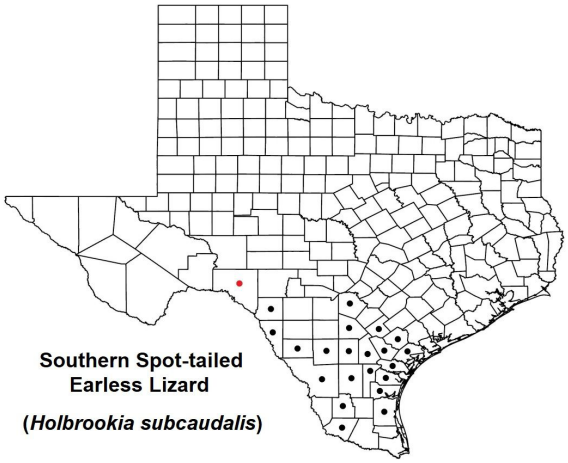

Figure 60. Black dots indicate county records according to Dixon (2013). Axtell (1998b) questioned the Kenedy County record. The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013). Note: Dixon (2013) referred to this taxon as *Holbrookia lacerata subcaudalis*.

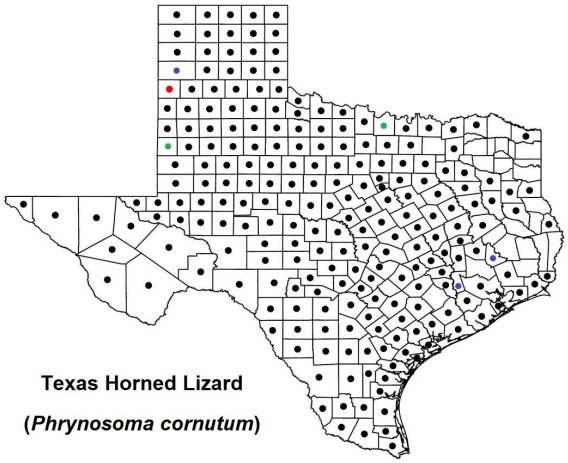

Figure 61. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 3) published prior to 2010 that were omitted from Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013). Green dots (n = 2) indicate counties for which a record was published prior to 2010, as well as from 2010 onward, that supplement the map provided by Dixon (2013). Axtell (1996) considers the following records erroneous or unnatural, probably representing isolated human introductions around urban areas rather than established populations: Anderson, Bowie, Cherokee, Fannin, Grayson, Harris, Henderson, Houston, Hunt, Lamar, Madison, Nacogdoches, Panola, Rusk, Sabine, Smith, Van Zandt, Walker Counties. He considers the following records questionable: Cooke and San Jacinto. *Phrynosoma cornutum* is listed as threatened by the state of Texas (TSS 2020).

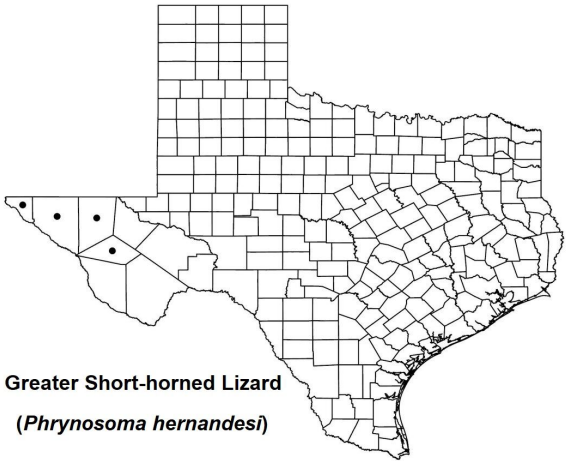

Figure 62. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). *Phrynosoma hernandesi* is listed as threatened by the state of Texas (TSS 2020).

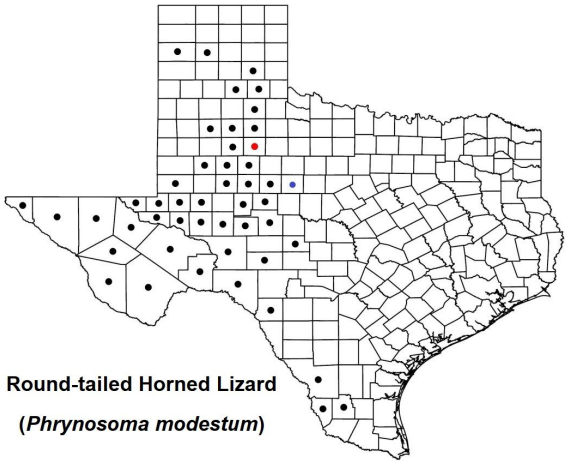

Figure 63. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 1) published prior to 2010 that were omitted from Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013). Axtell (1988c) considered a record from Baylor County erroneous or unnatural. Dixon (2013) omitted said record, as do we. We have omitted a record for Hemphill County, which is thoroughly reviewed by Axtell (1988c) and determined to be the result of erroneous locality information.

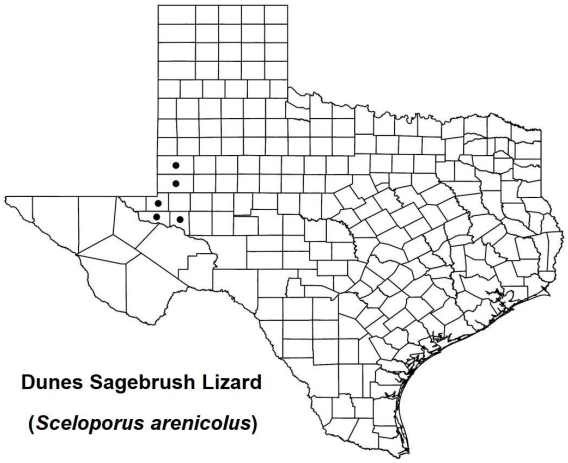

Figure 64. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013).

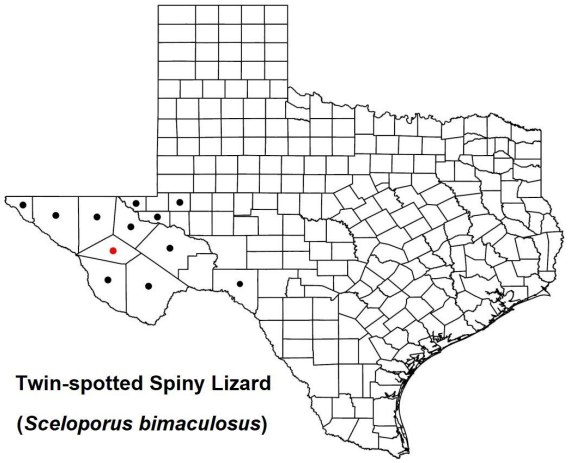

Figure 65. Black dots indicate county records according to Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013). Axtell (1992b) and Dixon (2013) consider the Ector County record to be questionable and Dixon (2013) considers the Val Verde County record as questionable.

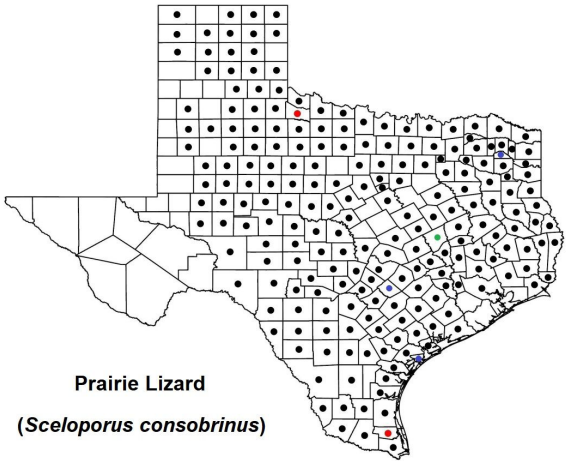

Figure 66. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 3) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 2) that have been published from 2010 onward that supplement the map provided by Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013).

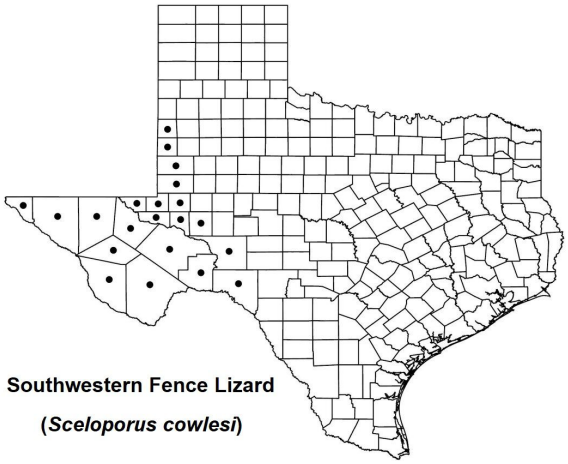

Figure 67. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). Note that Dixon's (2013) distributional inference for this taxon is criticized (Crother 2017) given that it was not supported by genetic or morphological evidence.

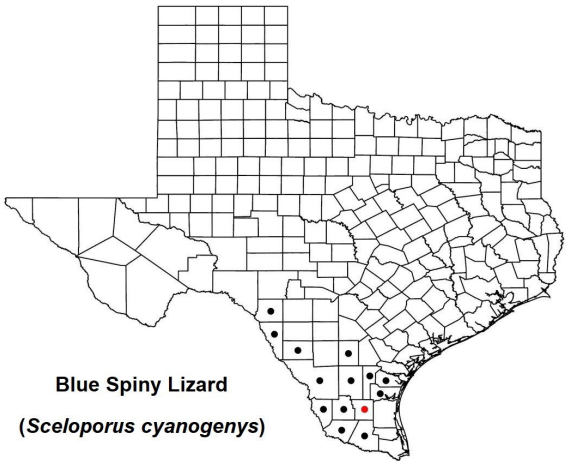

Figure 68. Black dots indicate county records according to Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013). Axtell (1987a) questioned records from Jim Wells and Kinney counties.

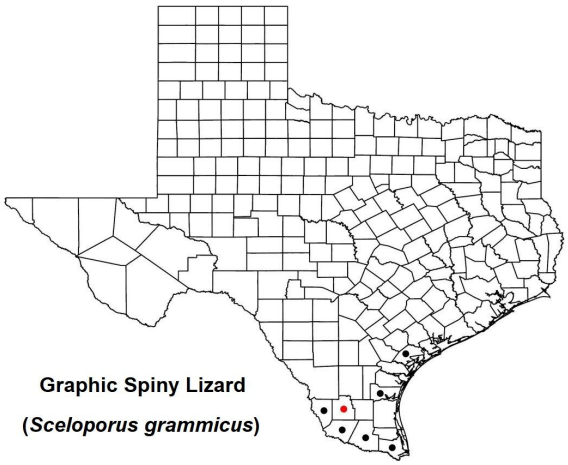

Figure 69. Black dots indicate county records according to Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013). Dixon (2013) notes that the Kleberg and Refugio County populations are introduced. Axtell (1988d) questions the Cameron County record and questions whether the Refugio County record constitutes an established population.

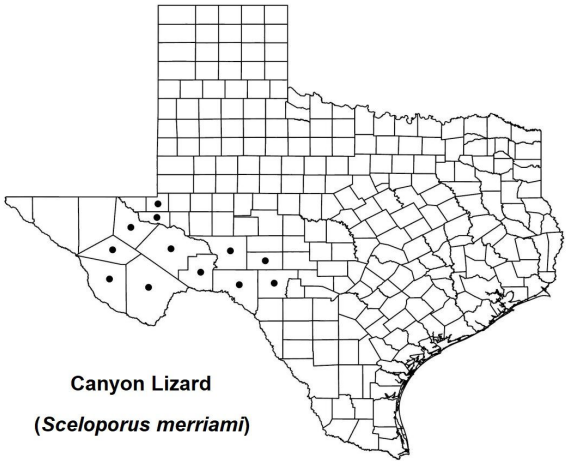

Figure 70. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). Dixon (2013) considered a record from San Saba County to be erroneous. Dixon (2013) mentions that Axtell via a personal communication questions the Loving and Ward County records.

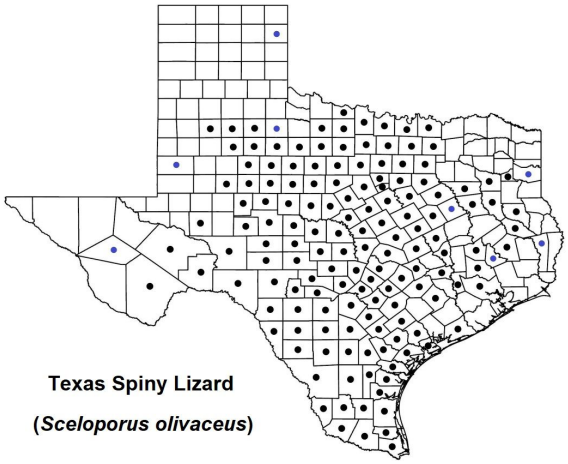

Figure 71. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 8) published prior to 2010 that were omitted from Dixon (2013). Dixon (2013) considered a record from El Paso County to be erroneous and questioned records from east of the Trinity River. Axtell (1992a) considers the following records to be erroneous or unnatural: Angelina, Cherokee, Colorado, Freestone, Gaines, Gregg, Harris, Harrison, Hemphill, Henderson, Jasper, Jeff Davis, Matagorda, Montgomery, Nacogdoches, Polk, San Jacinto, Smith, Upton, Walker, and Waller Counties. He questions records from Navarro and Washington Counties. We agree with the assessment that these records probably represent accidental human introductions of this species, which has been shown to do very well in urbanized environments where the majority of east Texas observations are from (Murray et al. 2023; Row et al. 2023).

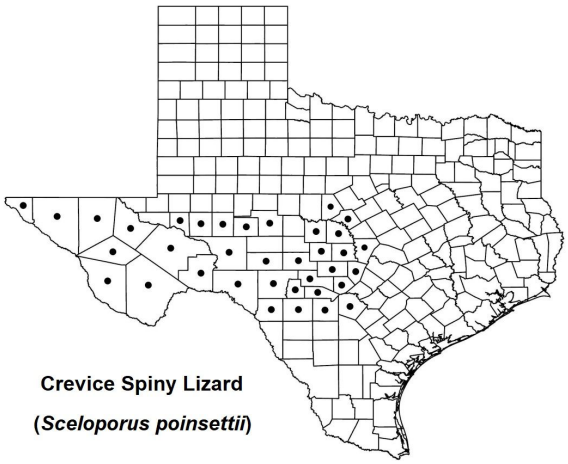

Figure 72. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). Both Axtell (1987b) and Dixon (2013) questioned records from Burnet and Brown Counties and Axtell (1987b) questions the Mills and Reeves County records.

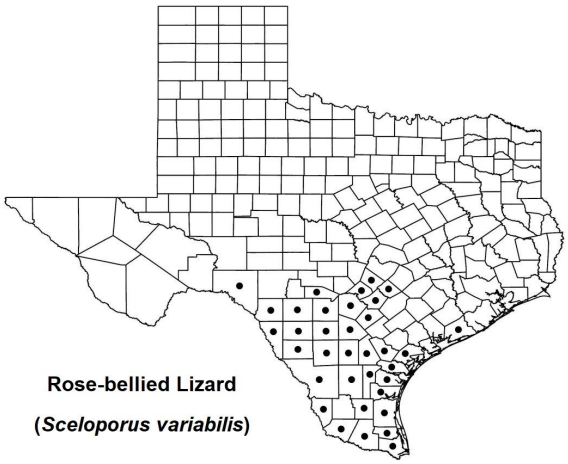

Figure 73. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). Axtell (1988a) questioned records from Bandera, Comal, and Hays counties. Dixon (2013) considered records from Dallas, El Paso, and Lee counties to be erroneous.

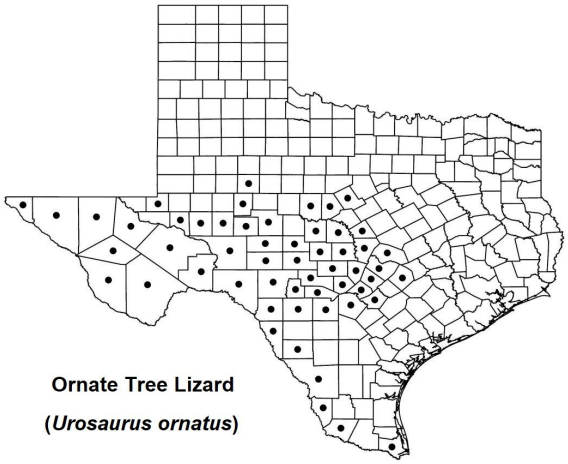

Figure 74. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). Axtell (1997a) considered records from Bastrop, Cameron, Guadalupe, and Winkler counties erroneous or unnatural and records from Comanche, Lampasas, and Mitchell counties questionable.

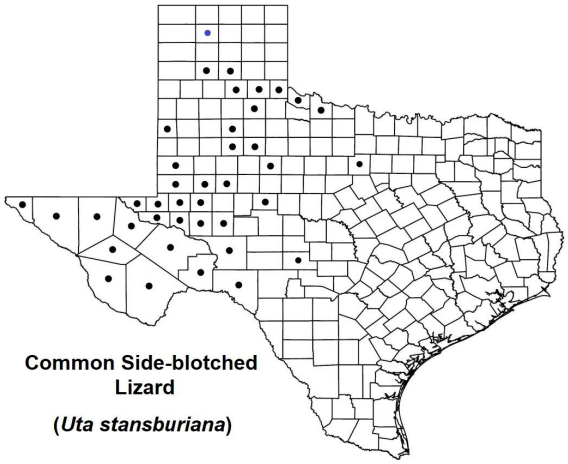

Figure 75. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). Dixon (2013) questions the record from Coke County. Dixon (2013) and Axtell (2005b) both consider records from Kimble, and Palo Pinto Counties to be questionable and Axtell (2005b) considers the records from Reagan and Moore counties to be questionable.

Family Phyllodactylidae

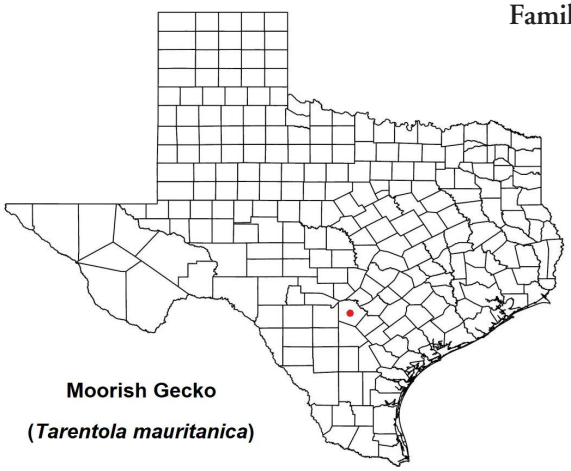

Figure 76. A population of this species was recently discovered in Bexar County, Texas (Davis et al. 2024), which is demarcated with a red dot. *Tarentola mauritanica* is not native to Texas.

Family Scincidae

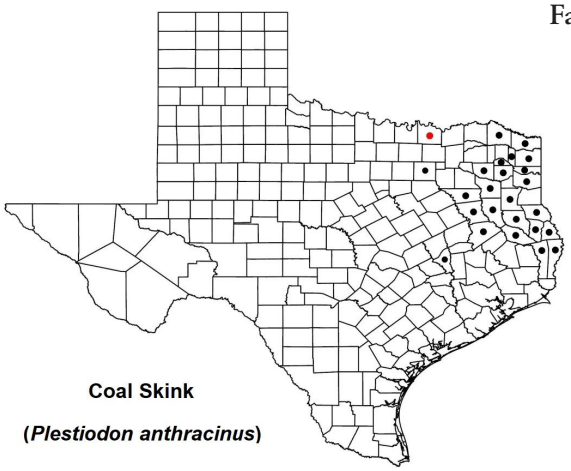

Figure 77. Black dots indicate county records according to Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013). Dixon (2013) questioned records from Brazos and Dallas counties. Axtell (1999a) considers the Marion County record as having erroneous locality data for the single specimen he references, although we do not know if Dixon (2013) had access to other specimens from the county, so we include the record here but recommend it be verified.

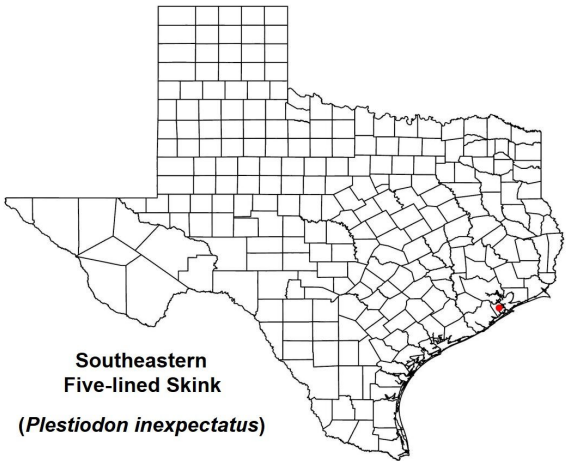

Figure 79. A population of this species was recently discovered in Galveston County, Texas (Harrison et al. 2022), which is demarcated with a red dot. *Plestiodon inexpectatus* is not native to Texas.

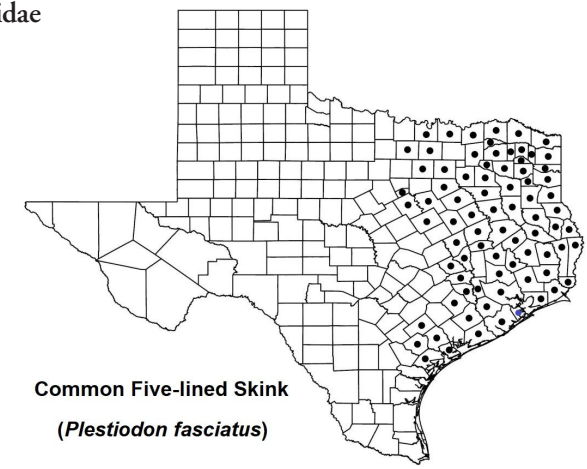

Figure 78. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). Dixon (2013) notes that there are three records, from Bexar, Brown, and Mason Counties that are "highly questionable," which we therefore omit from our map.

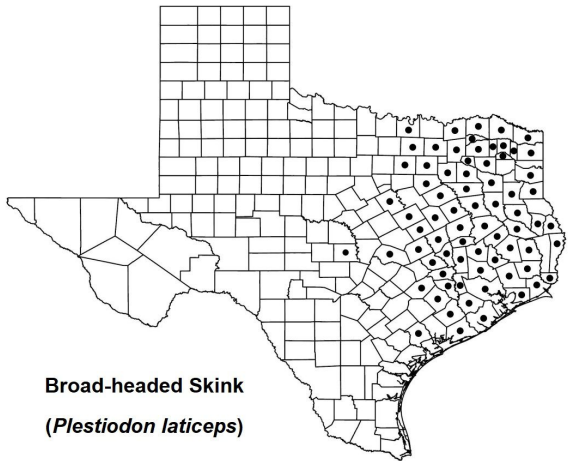

Figure 80. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). Dixon (2013) considered a record from Bexar County to be erroneous and a record from Llano County to be questionable.

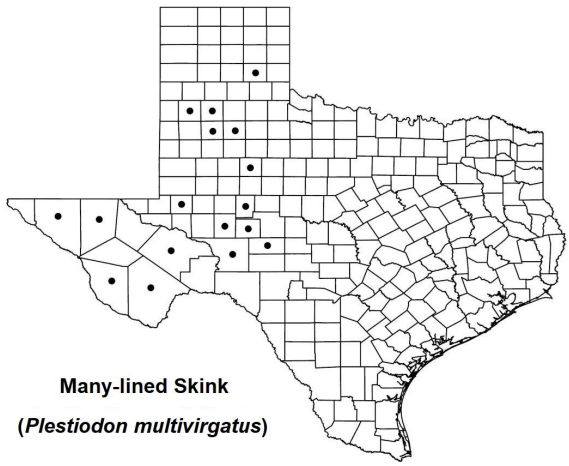

Figure 81. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). Axtell (2000a) considered the Hudspeth County record questionable.

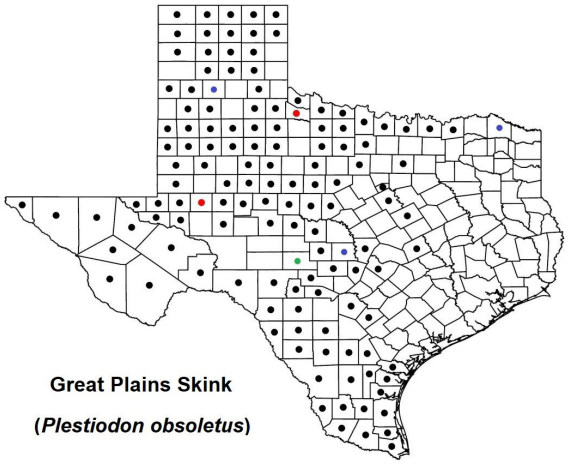

Figure 82. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 3) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 2) that have been published from 2010 onward that supplement the map provided by Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013). Axtell (2000b) questioned records from Fannin, Milam, Red River, and Tarrant counties.

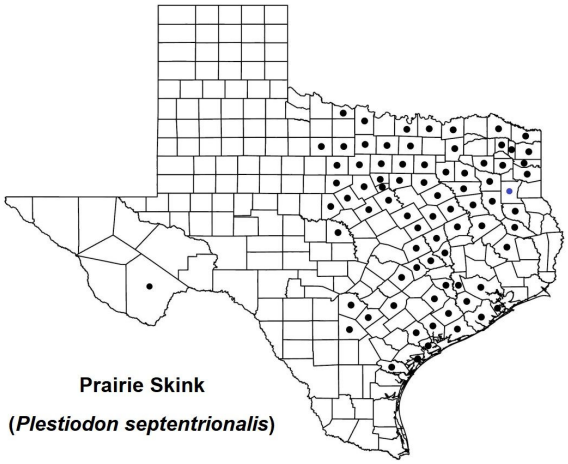

Figure 83. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). Axtell (1999b) questioned the record from San Saba County and considered records from Brewster and Morris counties erroneous or unnatural. Dixon (2013) similarly considered records from Brewster and San Saba counties to be questionable.

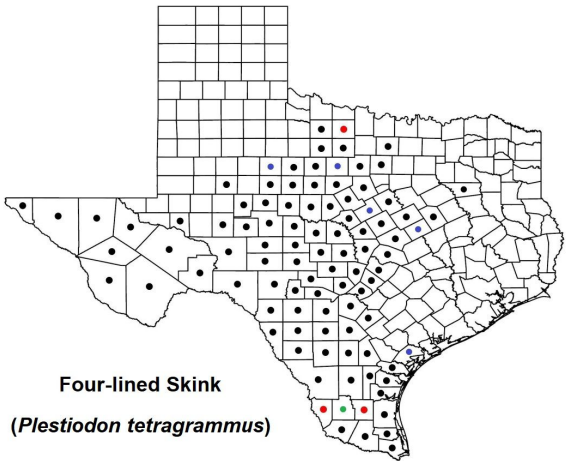

Figure 84. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 5) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 3) that have been published from 2010 onward that supplement the map provided by Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013). Dixon (2013) considers the Henderson County record as questionable and Axtell (2001a) considers it erroneous or unnatural. Both Axtell (2001a) and Dixon (2013) consider the Limestone County record as questionable and Axtell (2001a) questions the Falls, San Patricio, and Wise County records.

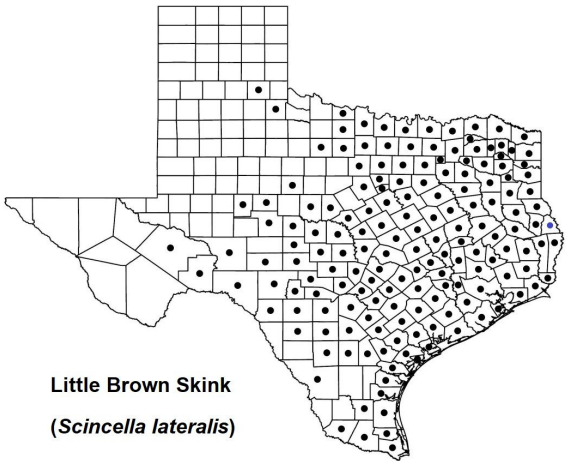

Figure 85. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). Axtell (2003a) considered the record from Crockett County erroneous or unnatural.

Family Teiidae

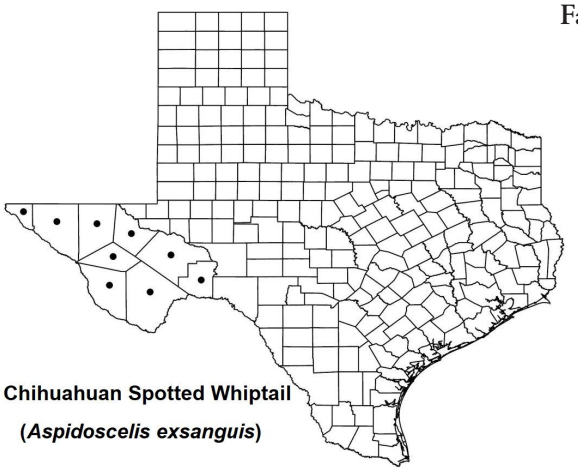

Figure 86. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). Axtell (2003b) considers the Terrell County record to be erroneous or unnatural while Dixon (2013) considers it questionable. Dixon (2013) also questions records from Pecos and Reeves Counties.

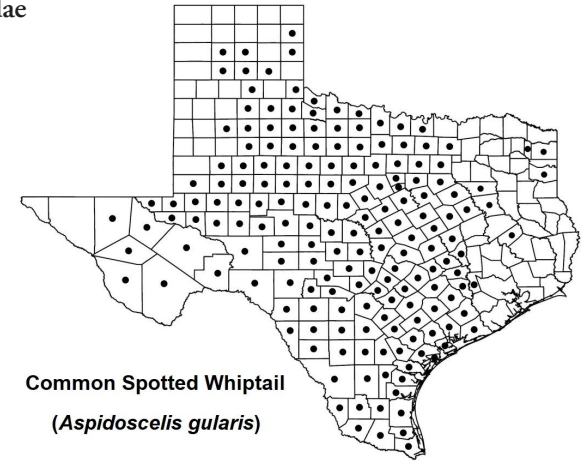

Figure 87. Black dots indicate county records according to Dixon (2013). Dixon (2013) questioned records from Anderson, Cass, Harrison, Henderson, Morris, and Trinity counties. No county records have been published that supplement the map provided by Dixon (2013).

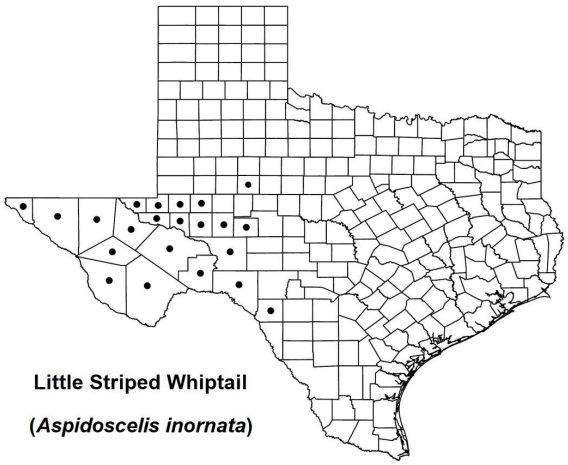

Figure 88. Black dots indicate county records according to Dixon (2013). Dixon (2013) questioned a record from Mitchell County and considered a record from Gillespie County to be erroneous. Axtell (1994b) likewise questioned the record from Mitchell County. No county records have been published that supplement the map provided by Dixon (2013).

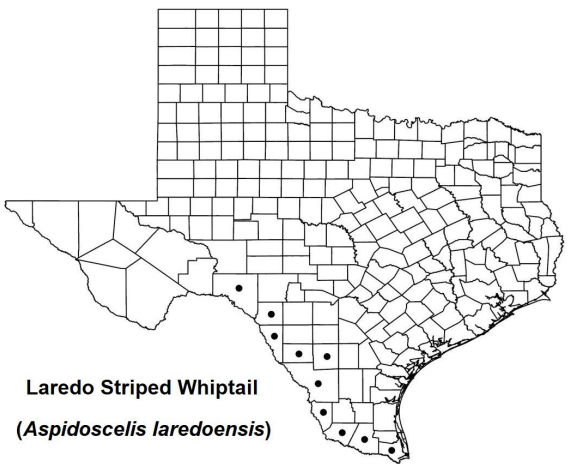

Figure 89. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013).

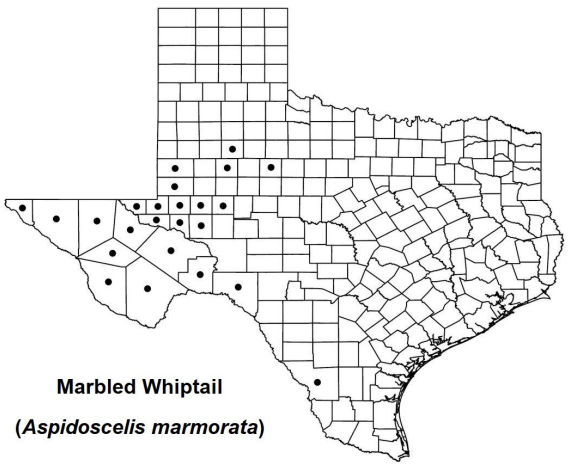

Figure 90. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013).

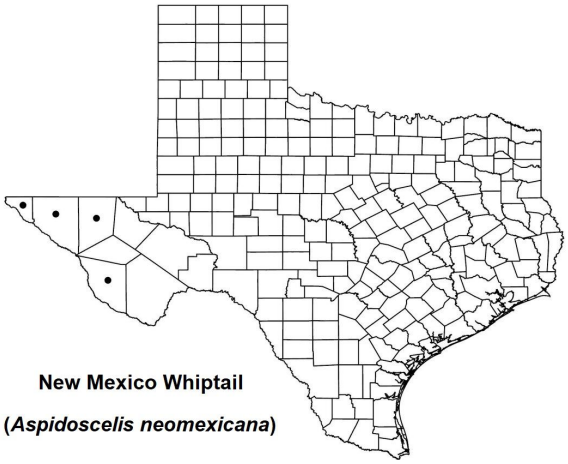

Figure 91. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). Dixon (2013) questioned records from Culberson and Presidio counties.

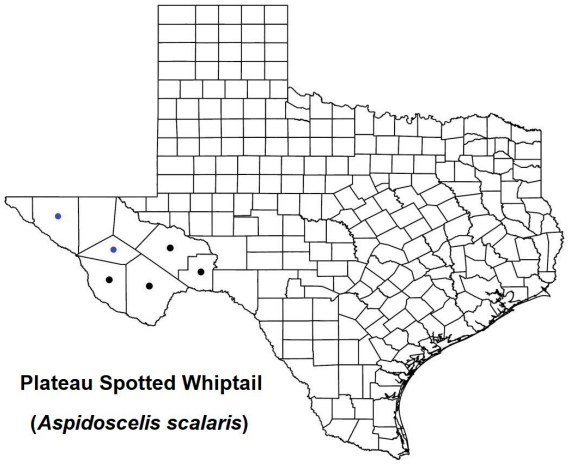

Figure 92. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 2) published prior to 2010 that were omitted from Dixon (2013).

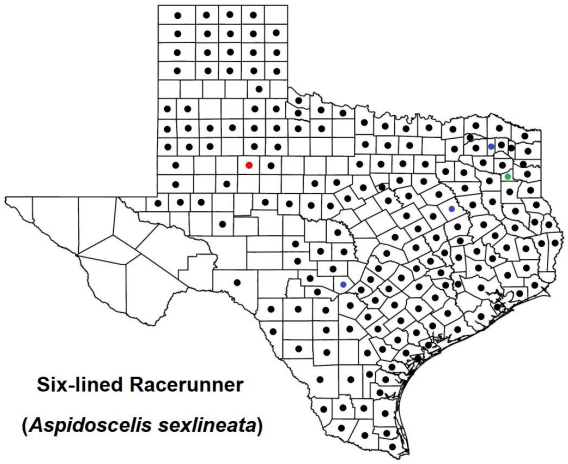

Figure 93. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 3) published prior to 2010 that were omitted from Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well from 2010 onward, that supplements the map provided by Dixon (2013). Axtell (1994a) questions records from Bandera, Comal, Hays, Hunt, Kendall, Kerr, Kinney, Maverick, Menard, Reagan, Travis, Uvalde, Val Verde, Williamson, and Zapata Counties.

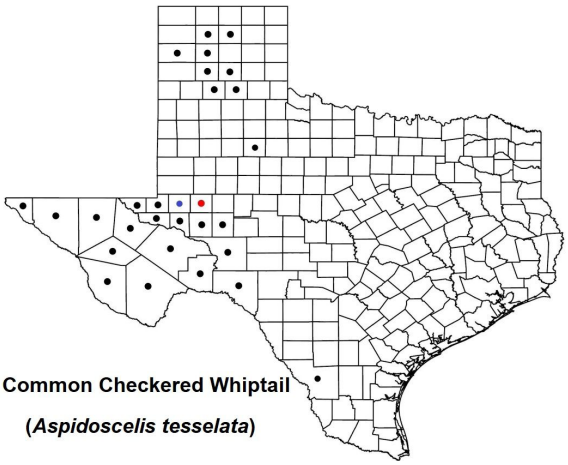

Figure 94. Black dots indicate county records according to Dixon (2013). Dixon (2013) questioned unverified museum records from Kent and Webb counties, which he suspected may represent *A. marmorata*. The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013).

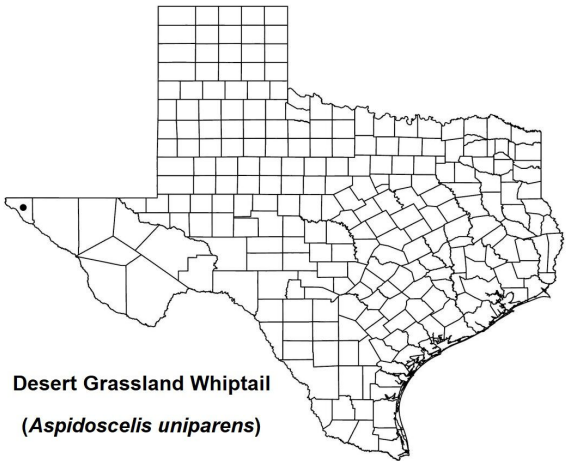

Figure 95. The single black dot indicates a county record according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013).

ORDER SQUAMATA (SNAKES)
Family Colubridae (*sensu lato*)

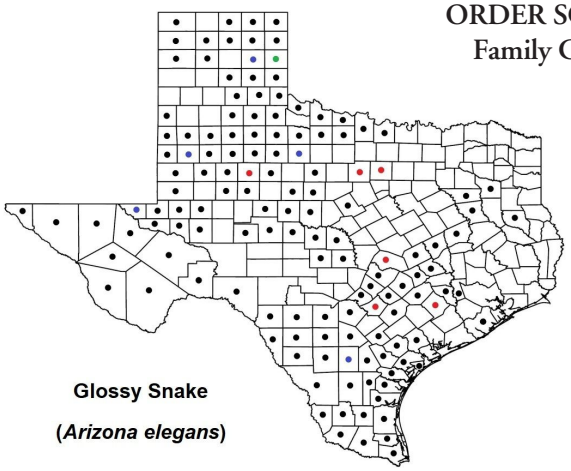

Figure 96. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 5) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 6) that have been published from 2010 onward that supplement the map provided by Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013).

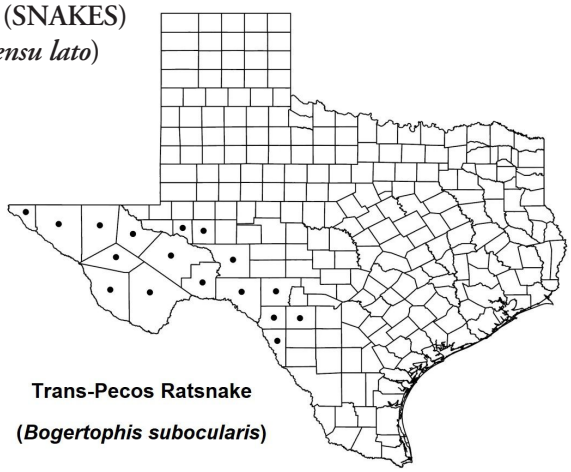

Figure 97. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013).

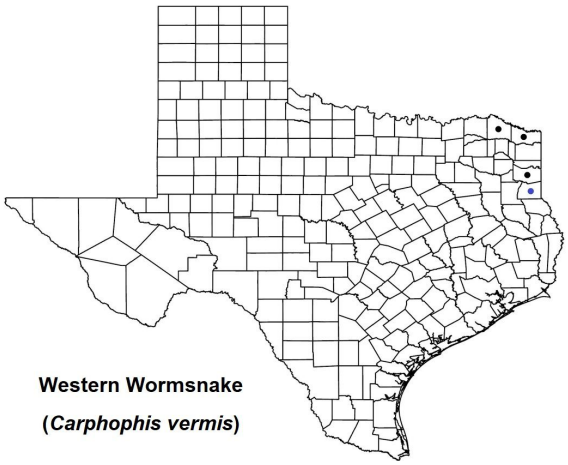

Figure 98. Black dots indicate county records according to Dixon (2013). The blue dot identifies a county record published prior to 2010 that was omitted from Dixon (2013). Dixon (2013) considered a record from Bosque County to be erroneous.

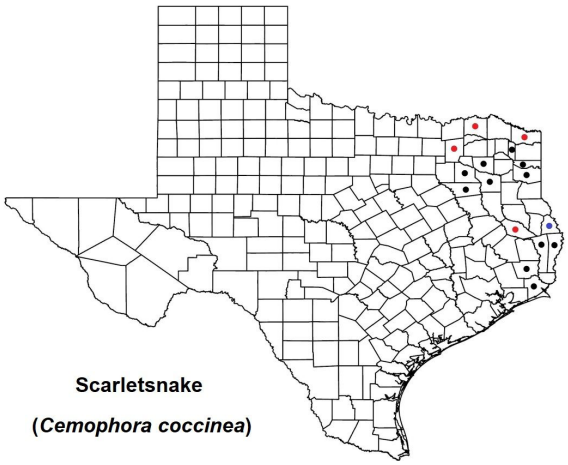

Figure 99. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). Red dots indicate county records (n = 4) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Note: the taxon Dixon (2013) referred to as *C. coccinea lineri* was elevated to *Cemophora lineri* (Weinell and Austin 2017) and therefore its occurrence records are not represented in this map (instead see Figure 99). The Texas Administrative Code has yet to incorporate the taxonomic changes recommended by Weinell and Austin (2017) and lists *C. c. lineri* and *C. c. coccinea* (now *C. lineri* and *C. coccinea*, respectively) as threatened (TSS 2020).

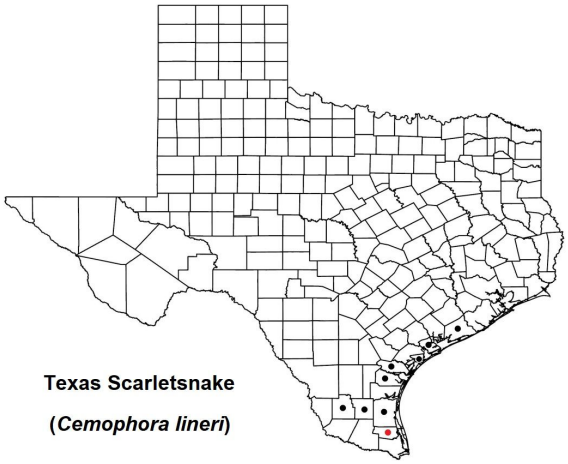

Figure 100. Black dots indicate county records according to Dixon (2013). The red dot identifies the single county record that has been published from 2010 onward that supplements the map provided by Dixon (2013). Note: Dixon (2013) referred to this taxon as *Cemophora coccinea lineri*. The Texas Administrative Code has yet to incorporate the taxonomic changes recommended by Weinell and Austin (2017) and lists *C. c. lineri* and *C. c. coccinea* (now *C. lineri* and *C. coccinea*, respectively) as threatened (TSS 2020).

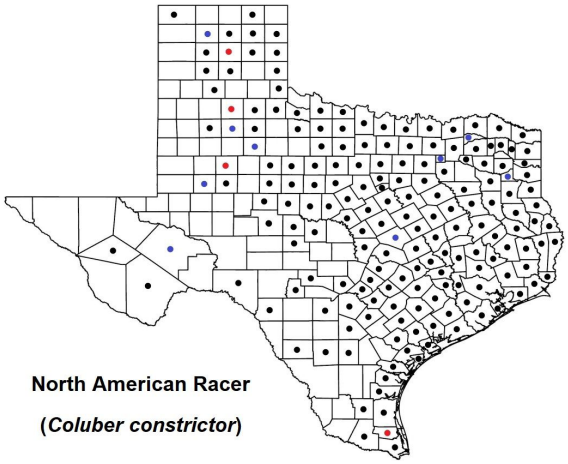

Figure 101. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 9) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 4) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

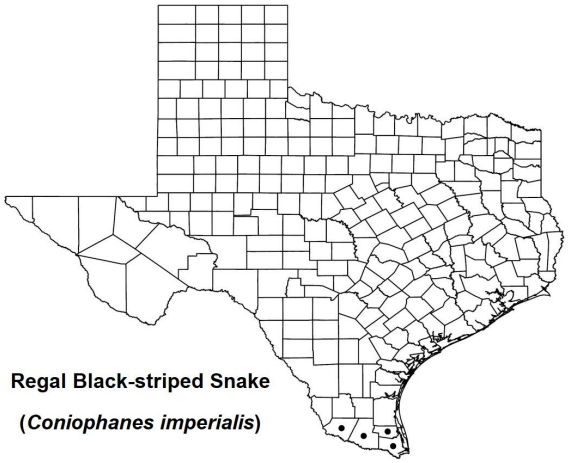

Figure 102. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). *Coniophanes imperialis* is listed as threatened by the state of Texas (TSS 2020).

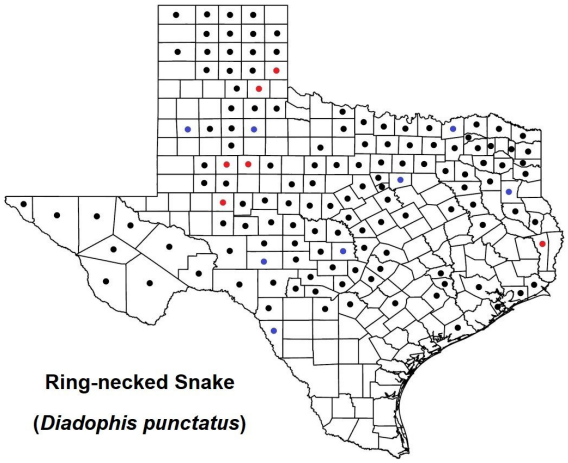

Figure 103. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 8) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 6) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Dixon (2013) questioned the record from Gonzales County.

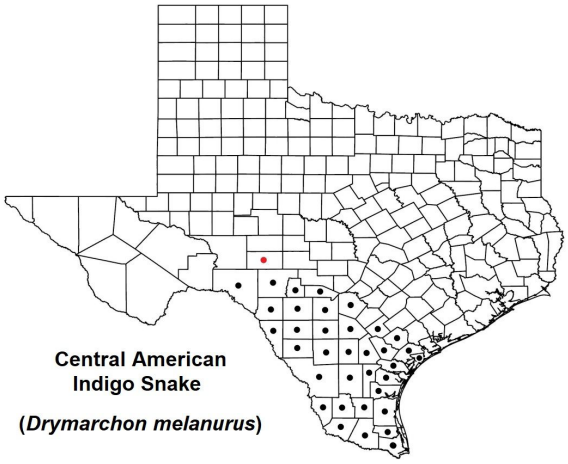

Figure 104. Black dots indicate county records according to Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013).

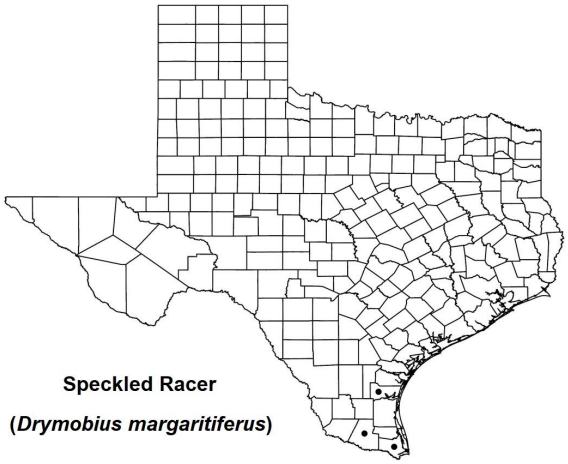

Figure 105. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). Dixon (2013) questioned records from Hidalgo and Kleberg Counties. *Drymobius margaritiferus* is listed as threatened by the state of Texas (TSS 2020).

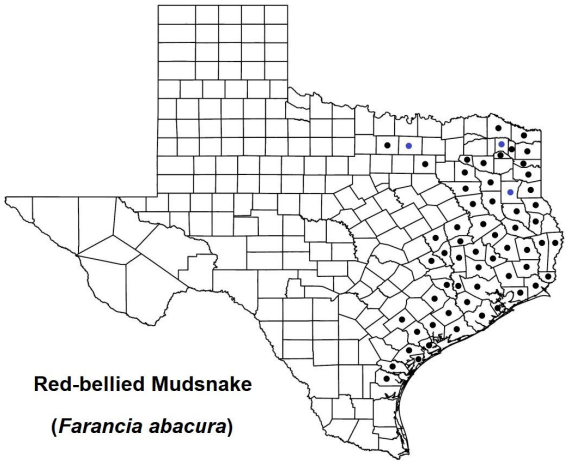

Figure 106. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 3) published prior to 2010 that were omitted from Dixon (2013).

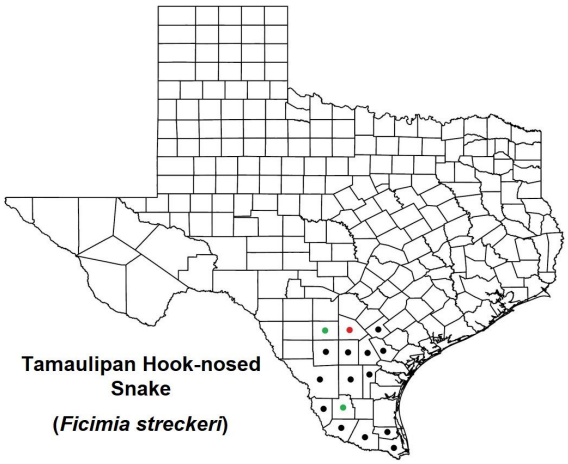

Figure 107. Black dots indicate county records according to Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013). Green dots indicate counties (n = 2) for which a record was published prior to 2010, as well as from 2010 onward, that supplement the map provided by Dixon (2013).

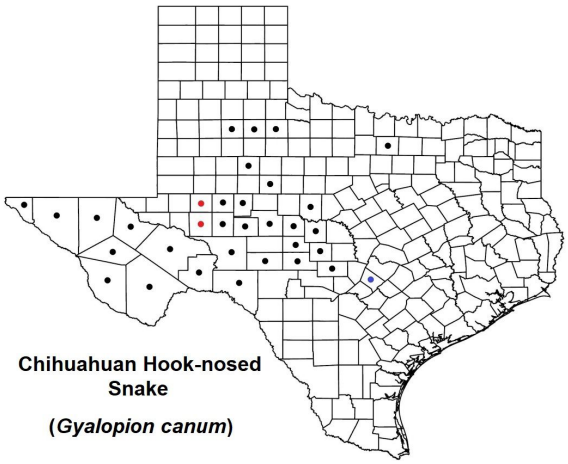

Figure 108. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). Red dots indicate county records (n = 2) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Dixon (2013) questioned a record from Wise County.

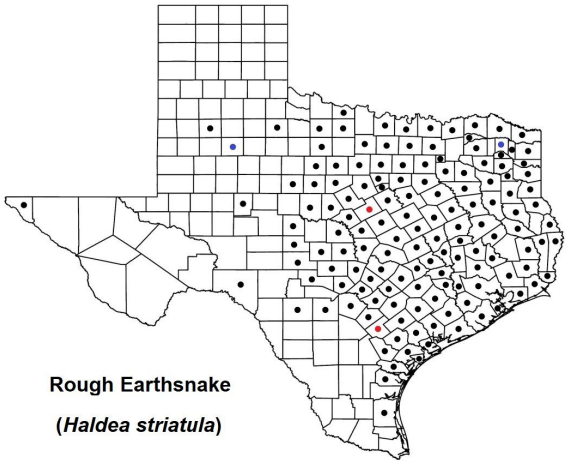

Figure 109. Black dots indicate county records according to Dixon (2013). Dixon (2013) stated that records from El Paso, King, and Lubbock counties were accidental introductions. Blue dots indicate county records (n = 2) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 2) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Note: Dixon (2013) referred to this taxon as *Virginia striatula*.

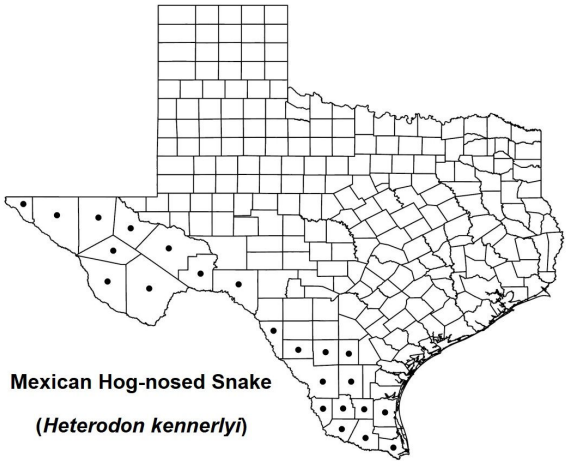

Figure 110. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013).

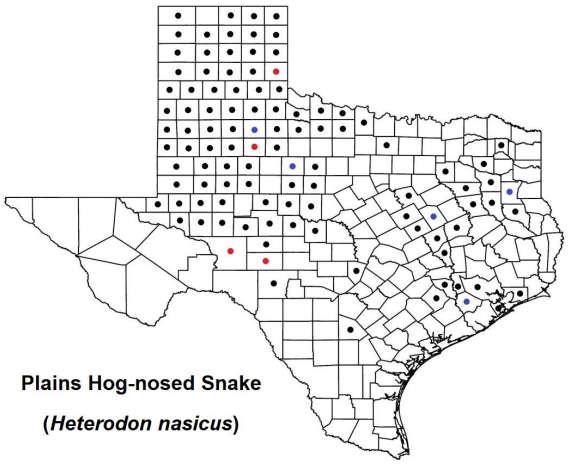

Figure 111. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 5) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 4) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Limestone and Rusk County records are included in Dixon (1987) but subsequently removed along with several others by Dixon (2000; 2013), where he states that there was a purposeful omission of several *H. nasicus* records on account of a personal communication with D. R. Platt, but does not mention which specifically. Since the Limestone and Rusk records (but not the other omissions) are still listed in Werler and Dixon (2000), we include them here as well,

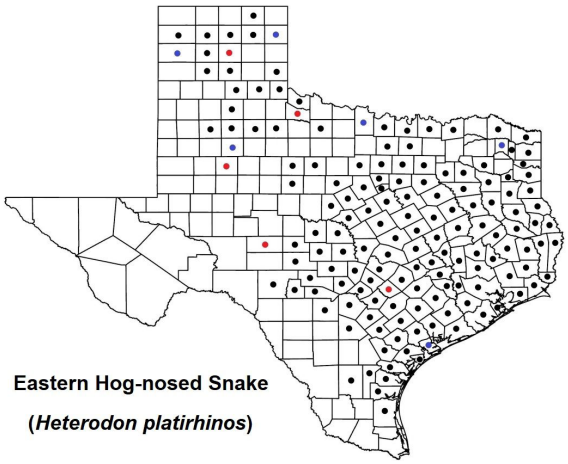

Figure 112. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 6) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 5) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

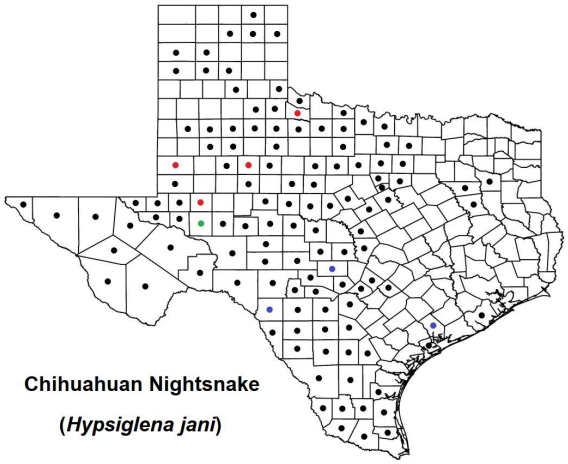

Figure 113. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 3) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 4) that have been published from 2010 onward that supplement the map provided by Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013).

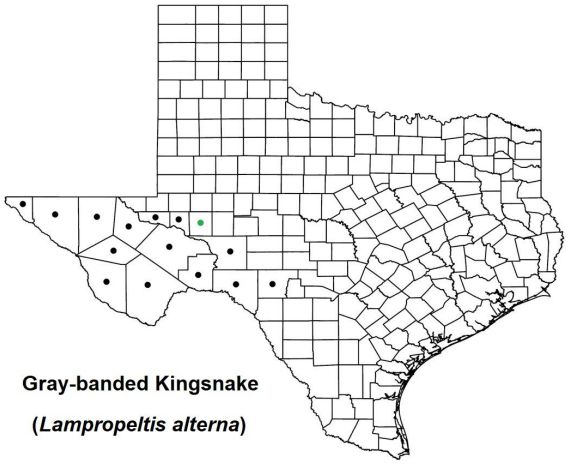

Figure 114. Black dots indicate county records according to Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013).

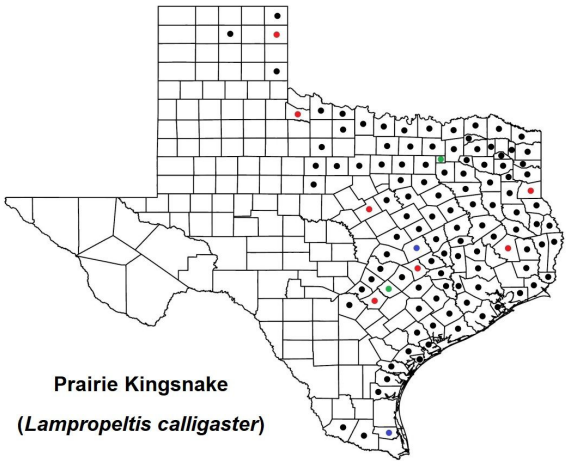

Figure 115. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 2) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 7) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Green dots indicate counties (n = 2) for which a record was published prior to 2010, as well as from 2010 onward, that supplement the map provided by Dixon (2013). Dixon (2013) states that records from Jeff Davis County are erroneous.

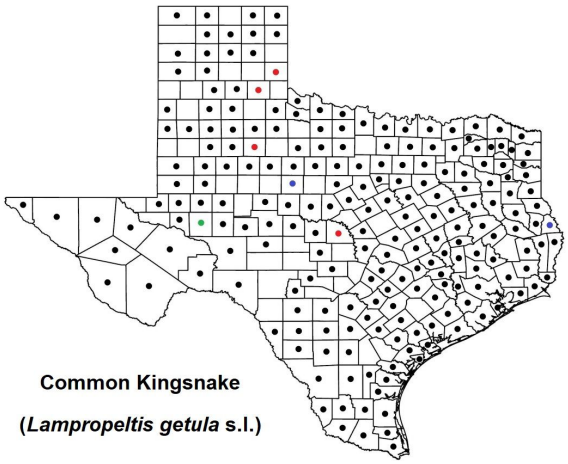

Figure 116. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 2) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 4) that have been published from 2010 onward that supplement the map provided by Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013).

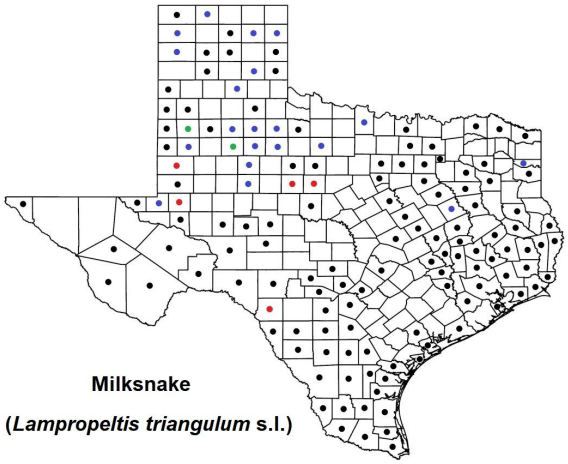

Figure 117. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 20) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 5) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Green dots indicate counties (n = 2) for which a record was published prior to 2010, as well as from 2010 onward, that supplement the map provided by Dixon (2013).

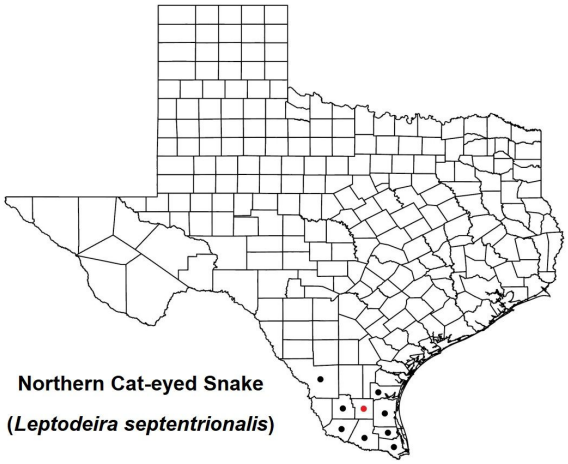

Figure 118. Black dots indicate county records according to Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013). Dixon (2013) questioned the record for Kleberg County. *Leptodeira septentrionalis* is listed as threatened by the state of Texas (TSS 2020).

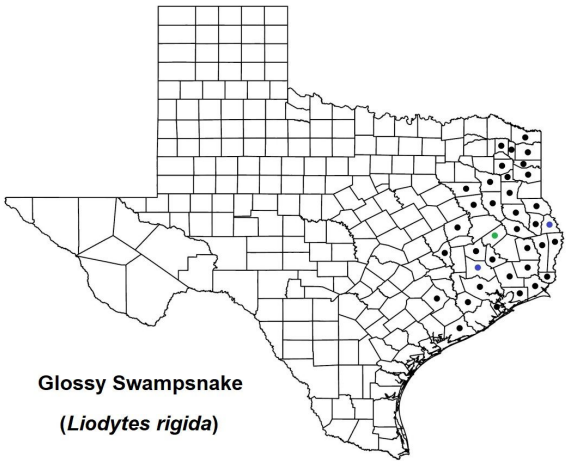

Figure 119. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 2) published prior to 2010 that were omitted from Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013). Note: Dixon (2013) referred to this taxon as *Regina rigida*.

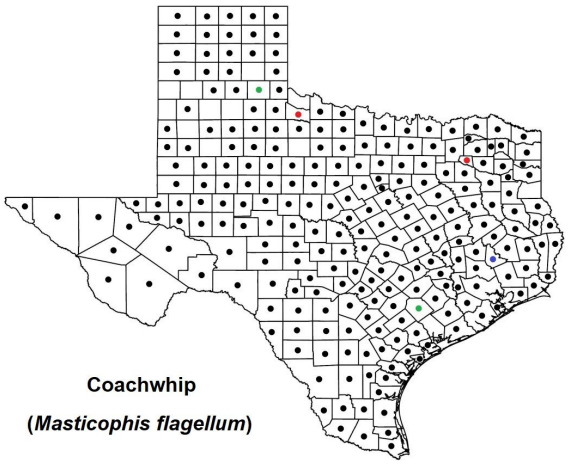

Figure 120. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). Red dots indicate county records (n = 2) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Green dots indicate counties (n = 2) for which a record was published prior to 2010, as well as from 2010 onward, that supplement the map provided by Dixon (2013).

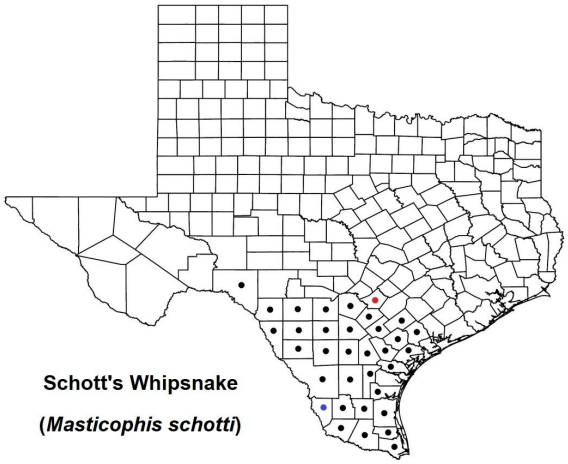

Figure 121. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013).

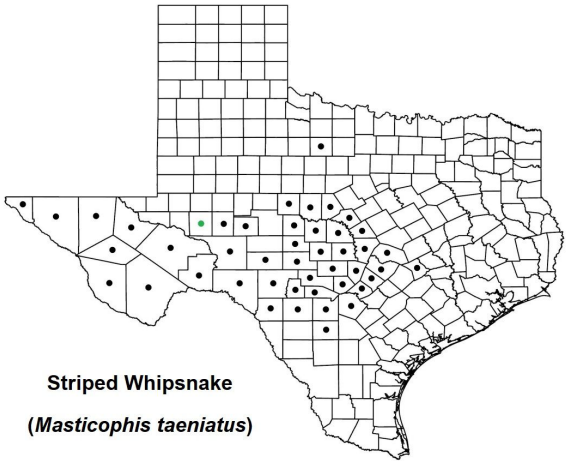

Figure 122. Black dots indicate county records according to Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013). Dixon (2013) questioned records from Throckmorton and Lee counties.

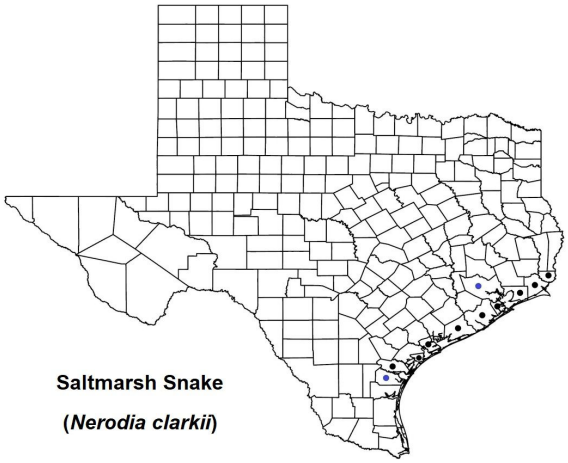

Figure 123. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 2) published prior to 2010 that were omitted from Dixon (2013).

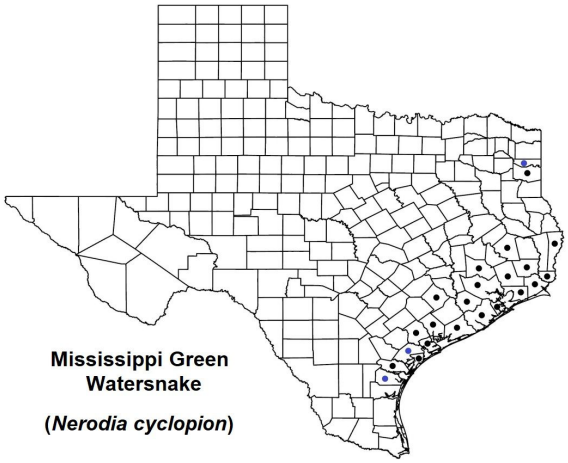

Figure 124. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 3) published prior to 2010 that were omitted from Dixon (2013).

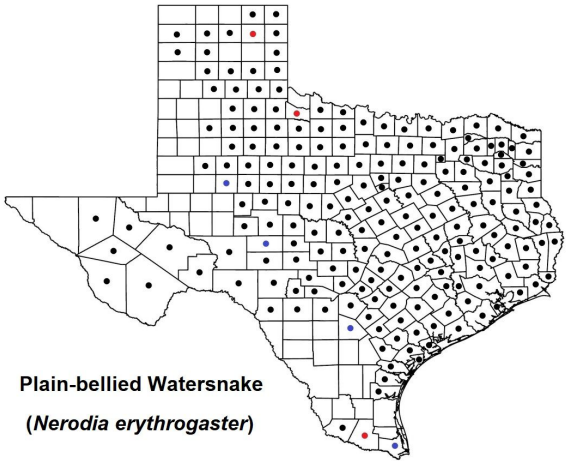

Figure 125. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 4) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 3) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Dixon (2013) considered the Starr County record to be questionable, but with additional records now reported from Hidalgo and Cameron counties, a population of *N. erythrogaster* in South Texas seems undeniable.

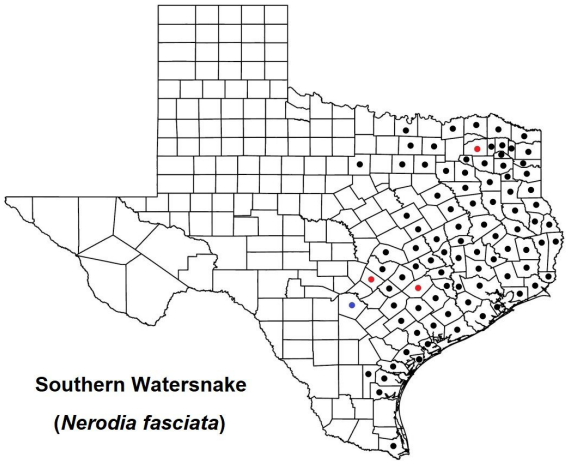

Figure 126. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). Red dots indicate county records (n = 3) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

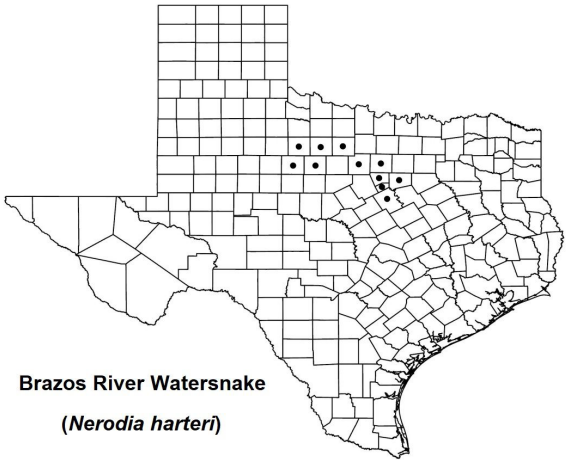

Figure 127. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). *Nerodia harteri* is listed as threatened by the state of Texas (TSS 2020).

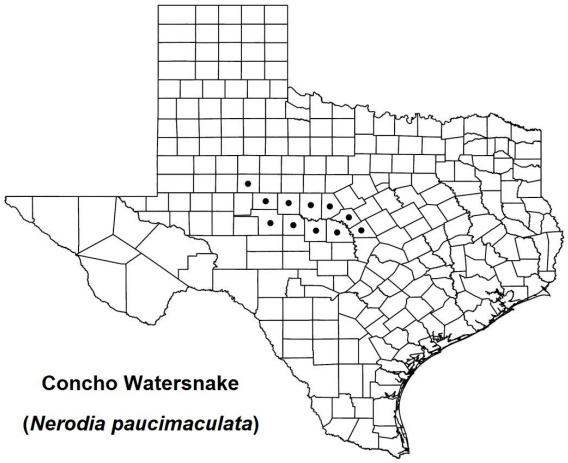

Figure 128. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013).

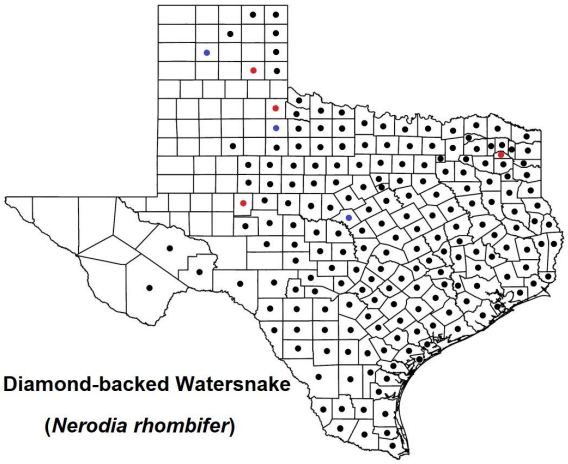

Figure 129. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 3) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 4) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

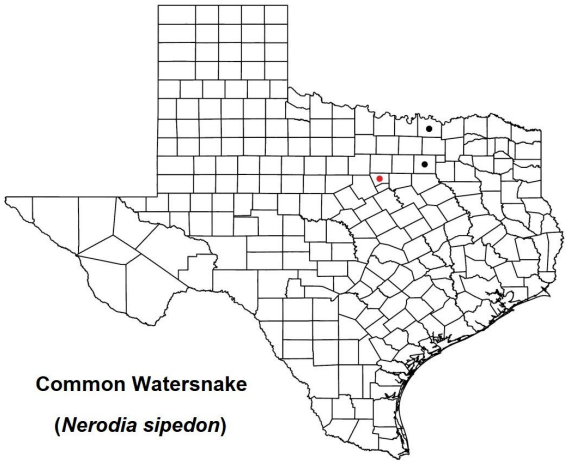

Figure 130. Black dots indicate county records according to Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013).

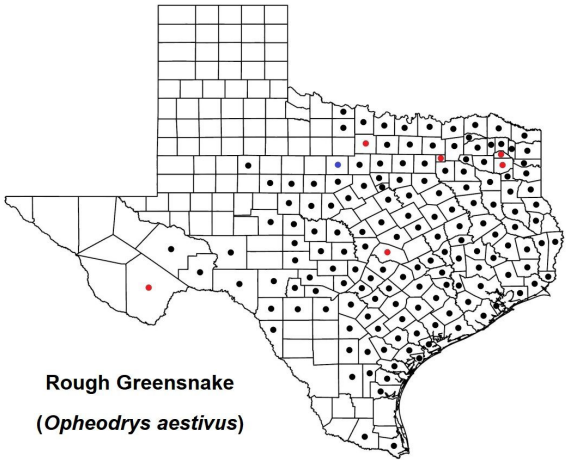

Figure 131. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). Red dots indicate county records (n = 6) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

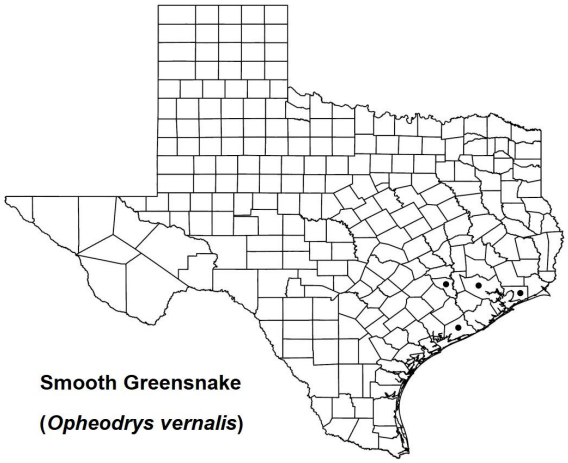

Figure 132. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). Dixon (2013) considers records from Armstrong, Bosque, and Ellis counties to be erroneous. To our knowledge, it has been over four decades since a live specimen of *O. vernalis* has been found in Texas (Dixon 2013). The species may very well be extirpated from the state.

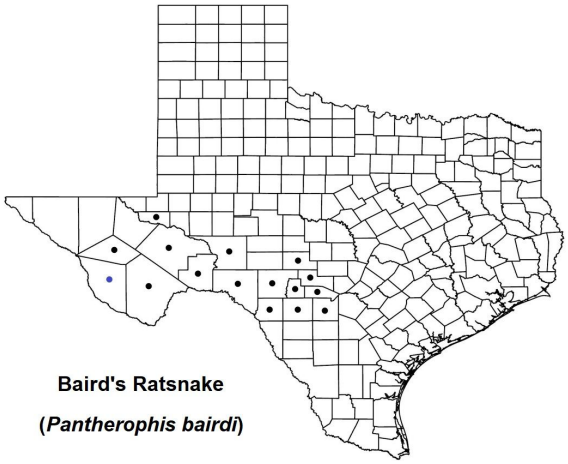

Figure 133. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). Dixon (2013) considered a record from Cameron County to be erroneous.

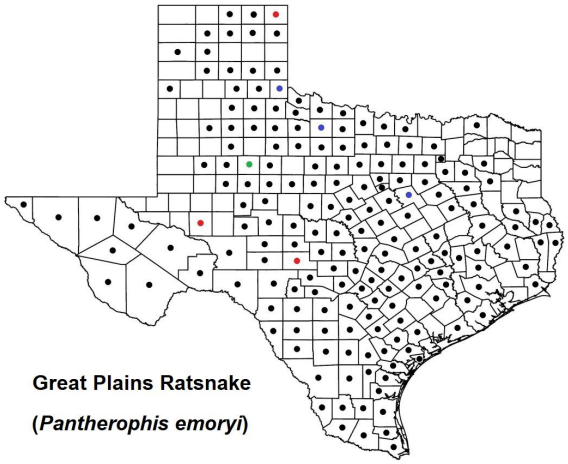

Figure 134. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 3) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 3) that have been published from 2010 onward that supplement the map provided by Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013). Note: Dixon (2013) refers to this taxon as two separate species (i.e., *Elaphe* [*Pantherophis*] *emoryi* and *Elaphe* [*Pantherophis*] *guttata*).

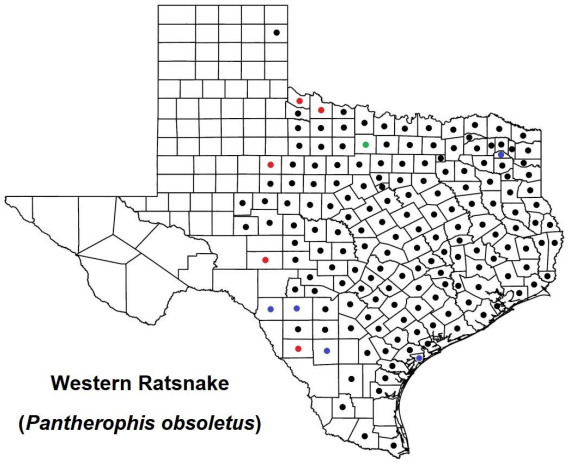

Figure 135. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 5) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 5) that have been published from 2010 onward that supplement the map provided by Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013).

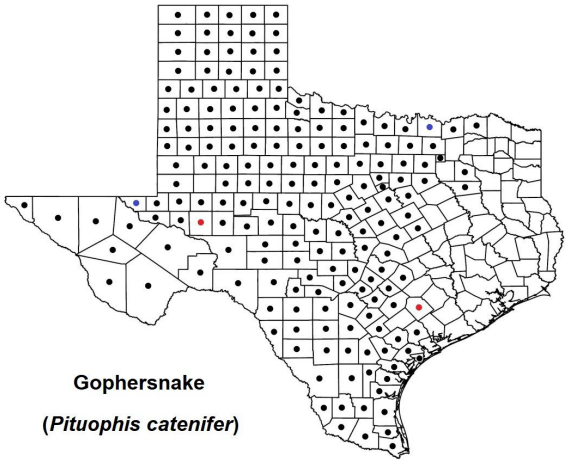

Figure 136. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 2) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 2) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

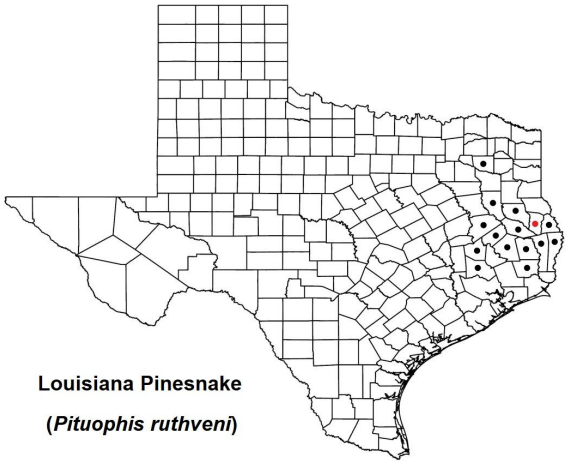

Figure 137. Black dots indicate county records according to Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013). Adams et al. (2018) found that specimen records from Houston (TCWC 14977), Montgomery (TCWC 81602), and Walker (TCWC 52078) counties were actually *Pituophis catenifer* misidentified as *P. ruthveni*. However, Dixon (2013) made no note of records from these counties being questionable and did not identify what specimens or publications these records were based on. We therefore mark these counties with black dots but caution that the records could possibly be erroneous. *Pituophis ruthveni* is listed as threatened on the state and federal level (TSS 2020; USFWS 2023).

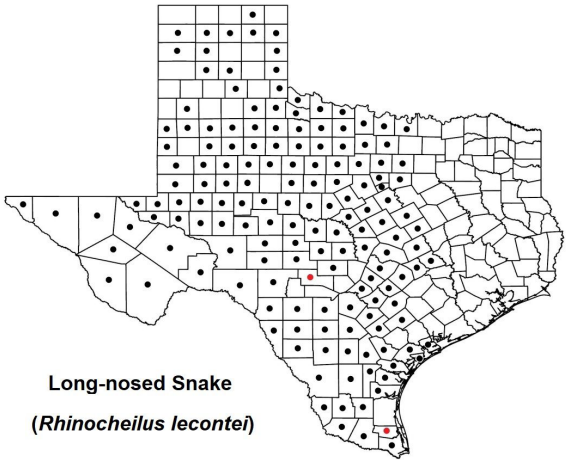

Figure 139. Black dots indicate county records according to Dixon (2013). Red dots indicate county records (n = 2) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

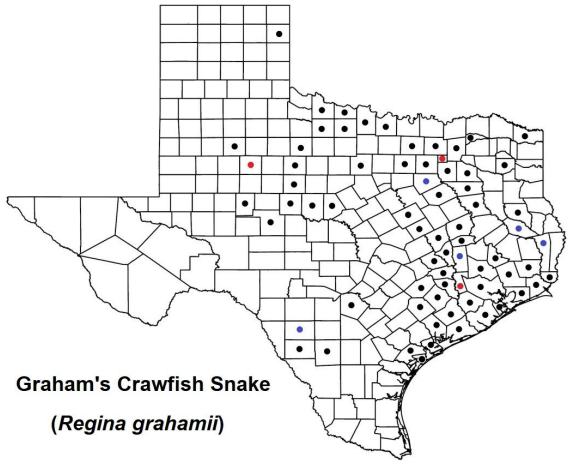

Figure 138. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 5) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 3) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

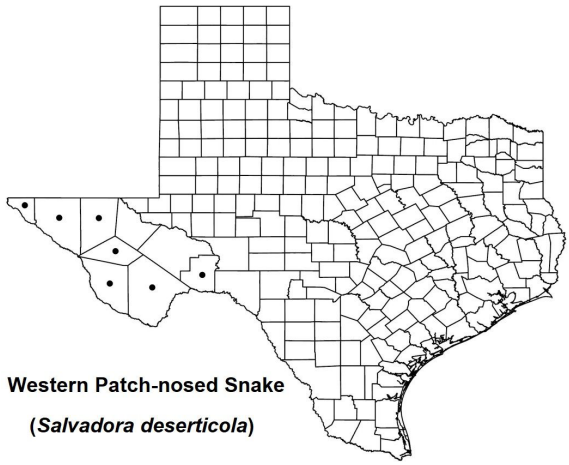

Figure 140. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013).

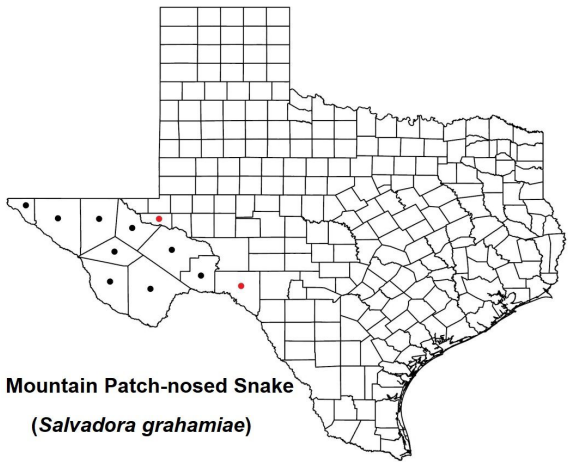

Figure 141. Black dots indicate county records according to Dixon (2013). Red dots indicate county records (n = 2) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

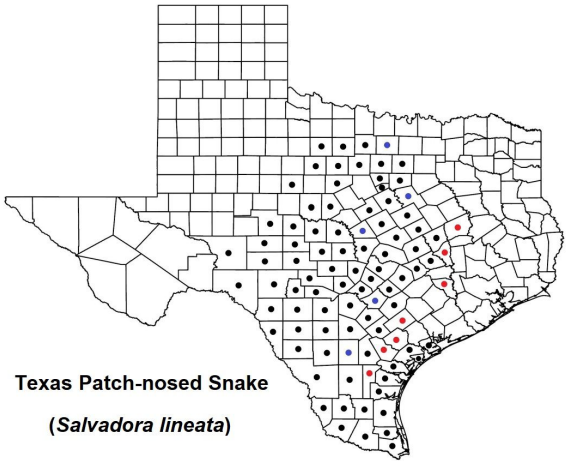

Figure 142. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 5) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 7) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Note: Dixon (2013) referred to this taxon as *Salvadora grahamiae lineata*.

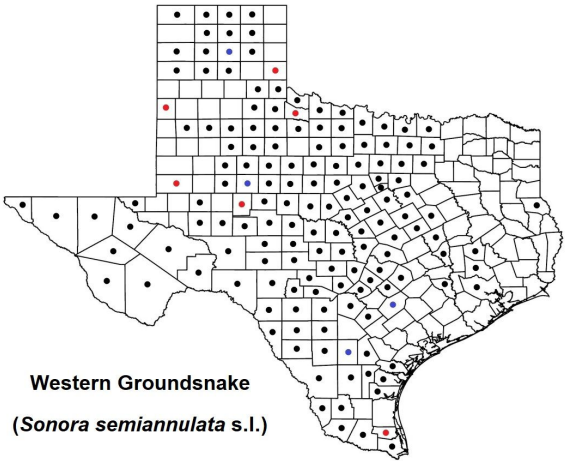

Figure 143. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 4) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 6) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Dixon questioned records from Calhoun and Shelby County.

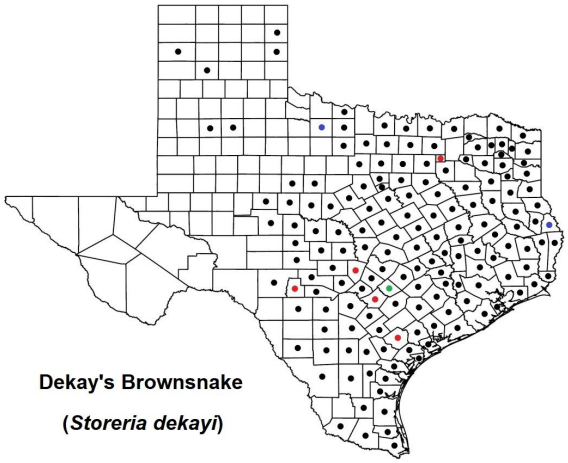

Figure 144. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 2) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 5) that have been published from 2010 onward that supplement the map provided by Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013). Dixon (2013) questioned records from Crosby and Lubbock counties and considered them potential accidental introductions.

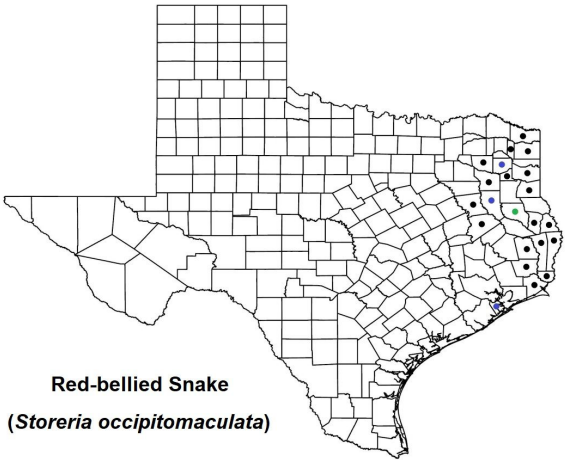

Figure 145. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 3) published prior to 2010 that were omitted from Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013).

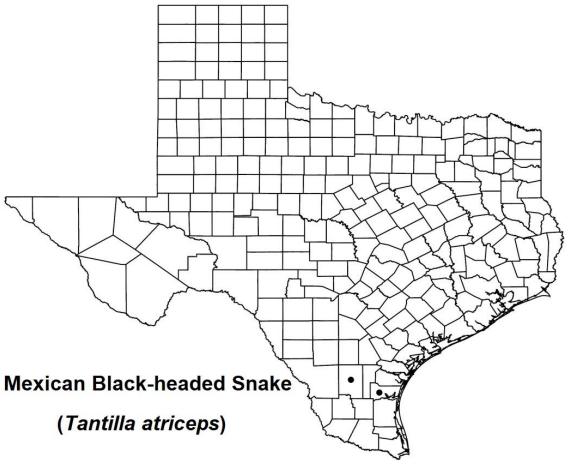

Figure 146. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013).

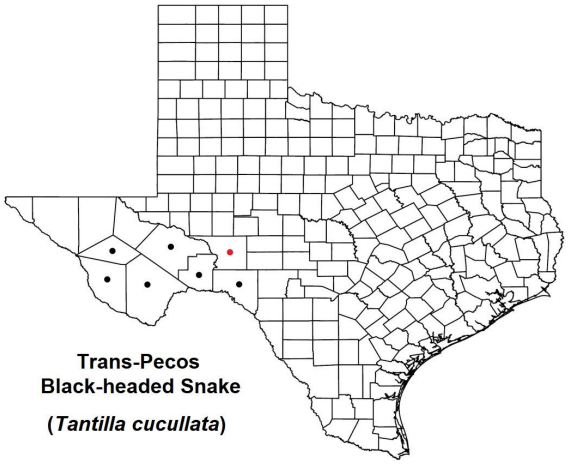

Figure 147. Black dots indicate county records according to Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013). *Tantilla cucullata* is listed as threatened by the state of Texas (TSS 2020).

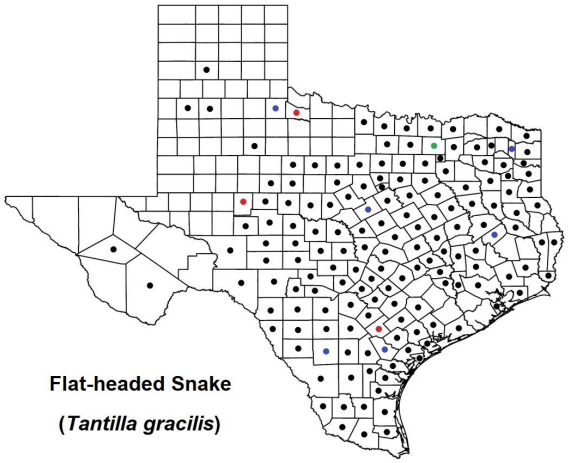

Figure 148. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 6) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 3) that have been published from 2010 onward that supplement the map provided by Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013). Dixon (2013) questioned records from Brewster, Hale, Kent, Lamb, and Randall counties. However, a new vouchered county record from Foard County (Pandelis et al. 2021) indicates the range of this species may be larger than previously realized.

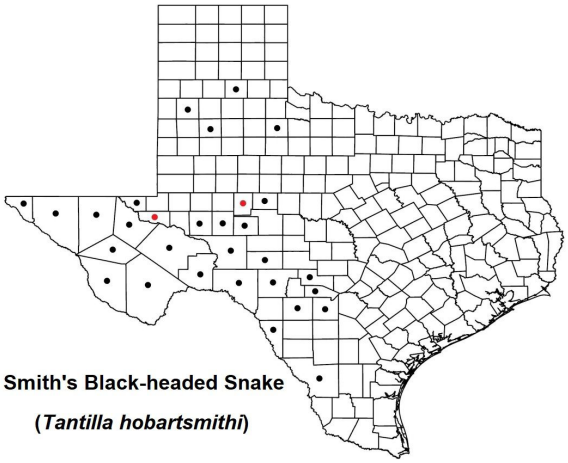

Figure 149. Black dots indicate county records according to Dixon (2013). Red dots indicate county records (n = 2) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Dixon (2013) questioned records from Briscoe, King, Lamb, and Lubbock counties.

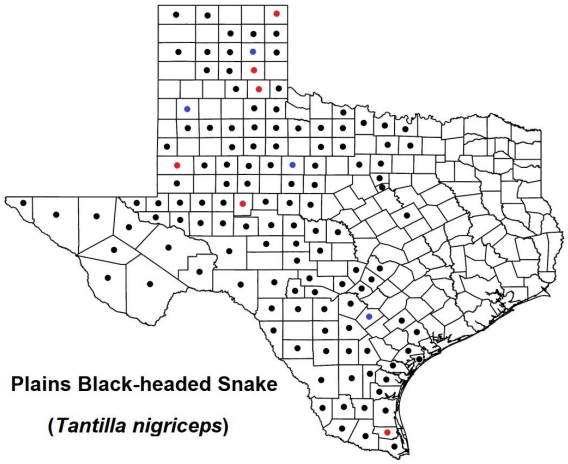

Figure 150. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 4) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 6) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Dixon (2013) noted that the McLennan County record was based on a single specimen that could not be located for verification.

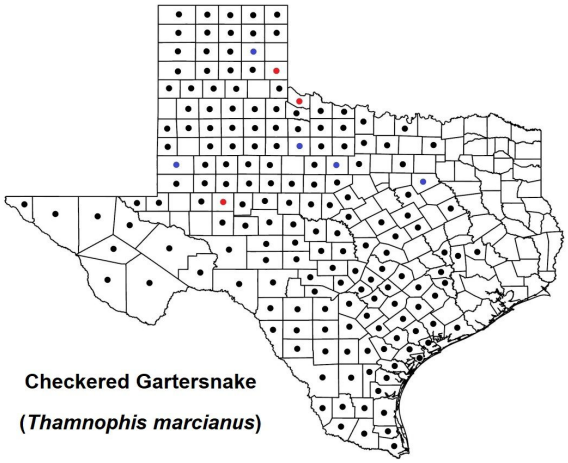

Figure 152. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 5) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 3) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

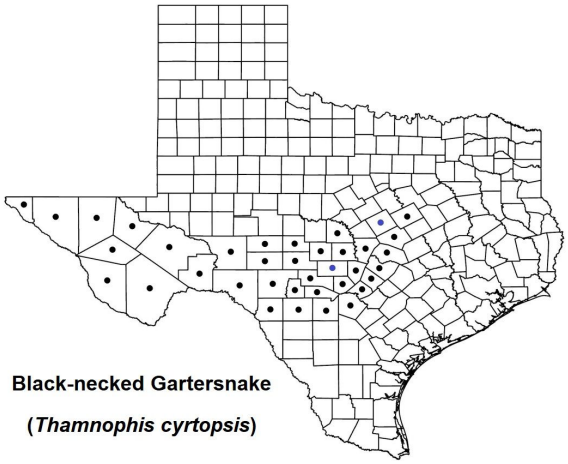

Figure 151. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 2) published prior to 2010 that were omitted from Dixon (2013). Dixon (2013) commented that a record from Cameron County was erroneous and that a record for McLennan County was likely valid.

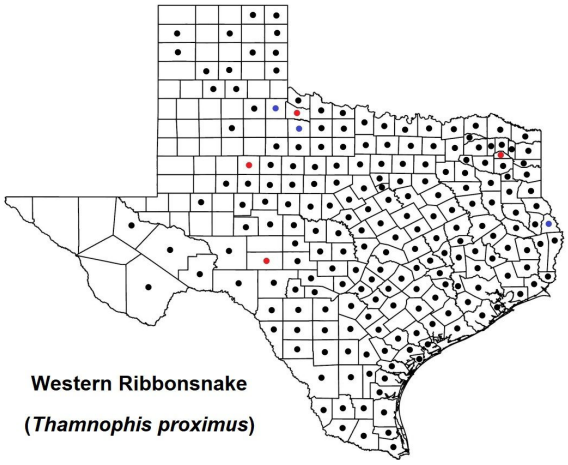

Figure 153. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 3) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 4) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

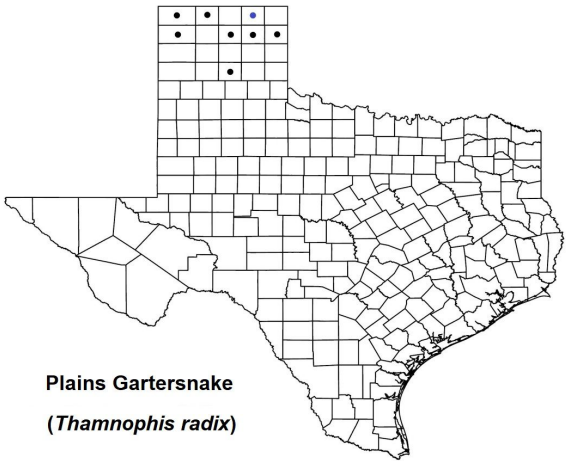

Figure 154. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013).

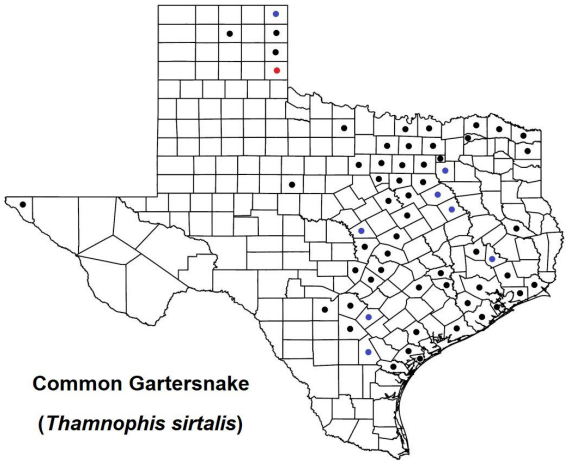

Figure 155. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 8) published prior to 2010 that were omitted from Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013). Dixon (1987) considers the Taylor County record questionable.

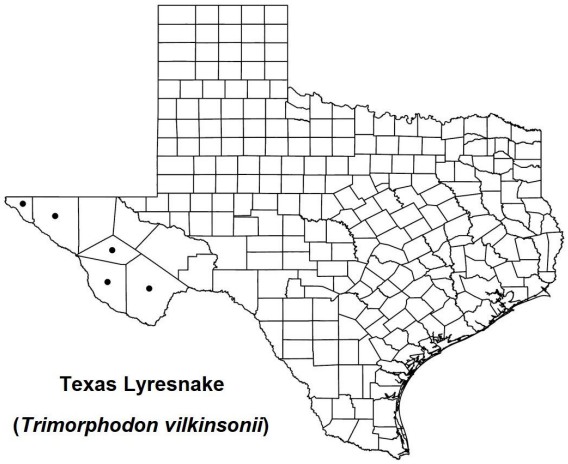

Figure 156. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013).

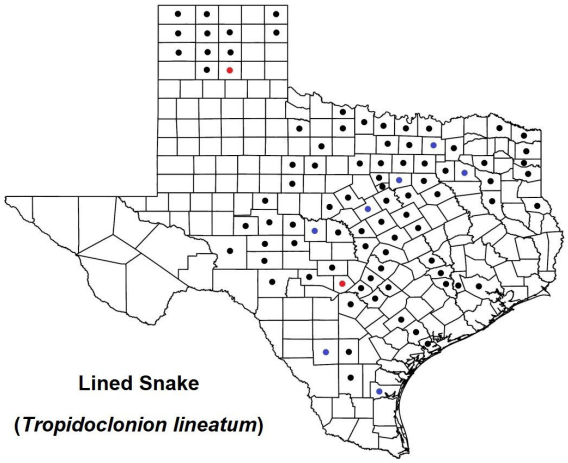

Figure 157. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 7) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 2) that have been published from 2010 onward that supplement the map provided by Dixon (2013).

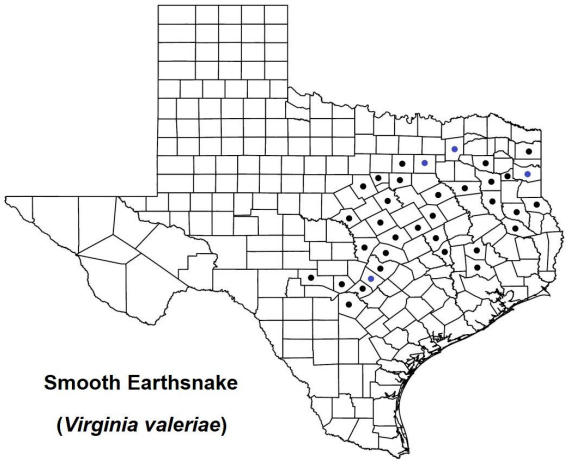

Figure 158. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 4) published prior to 2010 that were omitted from Dixon (2013).

Family Elapidae

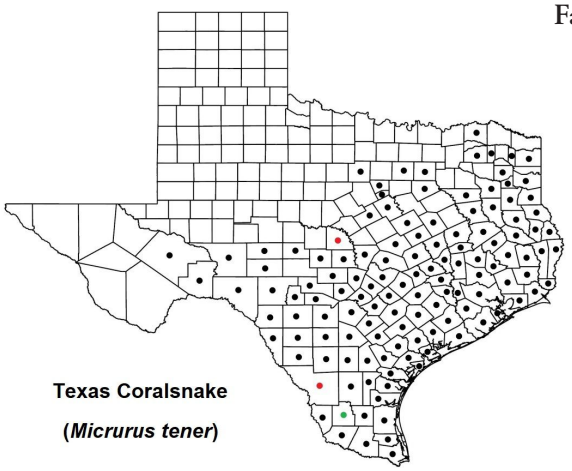

Figure 159. Black dots indicate county records according to Dixon (2013). Red dots indicate county records (n = 2) that have been published from 2010 onward that supplement the map provided by Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013).

Family Leptotyphlopidae

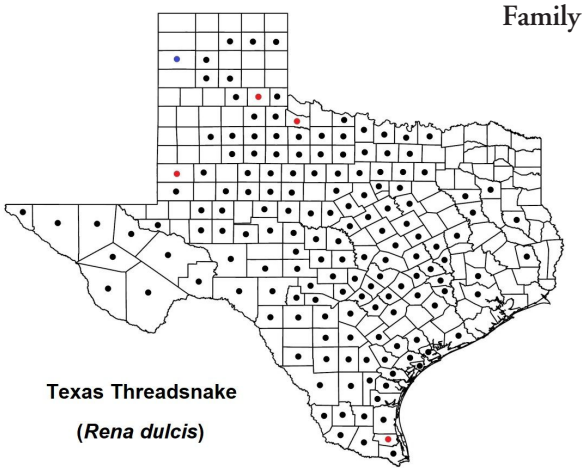

Figure 160. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). Red dots indicate county records (n = 4) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Note: Dixon (2013) refers to this taxon as two separate species (i.e., *Leptotyphlops* [*Rena*] *dissectus* and *Leptotyphlops* [*Rena*] *dulcis*). Dixon (2013) also notes that records for Anderson, Harris, Montgomery, Nacogdoches, Smith, and Tyler counties may be introductions or natural populations.

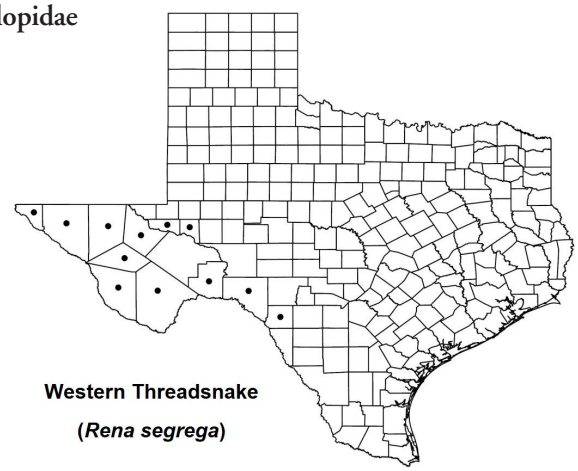

Figure 161. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013).

Family Typhlopidae

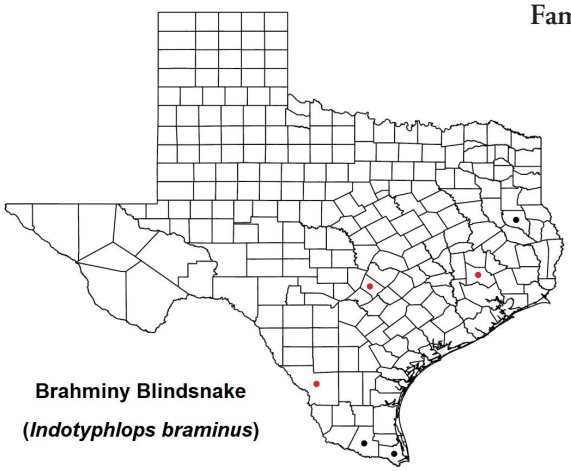

Figure 162. Black dots indicate county records according to Dixon (2013). Red dots indicate county records (n = 3) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Note: Dixon (2013) referred to this taxon as *Rhamphotyphlops braminus*. This species is not native to Texas.

Family Viperidae

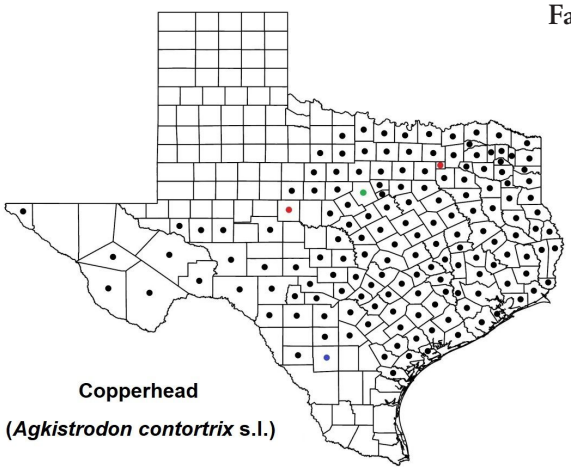

Figure 163. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). Red dots indicate county records (n = 2) that have been published from 2010 onward that supplement the map provided by Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013). We purposefully omit a record from Lubbock County, which Dixon (2013) notes represents a specimen in a load of wood from Kerrville.

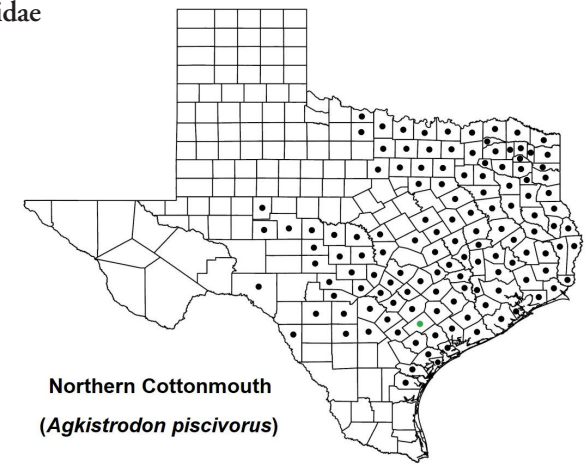

Figure 164. Black dots indicate county records according to Dixon (2013). The single green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, that supplements the map provided by Dixon (2013). Dixon (2013) questioned records from Maverick, Sterling, and Val Verde counties. Dixon (2013) considered records from Cameron and Fisher counties to be erroneous.

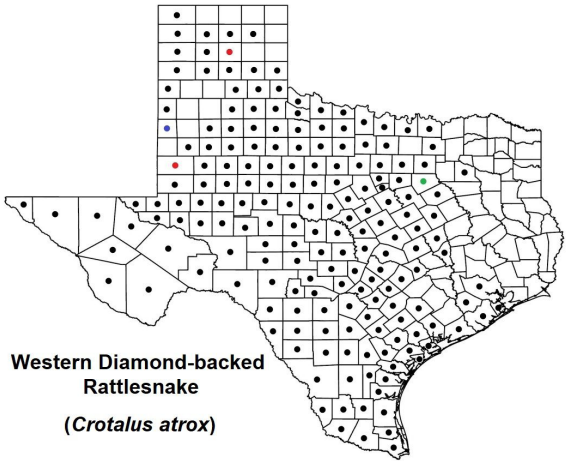

Figure 165. Black dots indicate county records according to Dixon (2013). The blue dot indicates a county record that was published prior to 2010 and was omitted from Dixon (2013). Red dots indicate county records (n = 2) that have been published from 2010 onward that supplement the map provided by Dixon (2013). The green dot indicates a county for which a record was published prior to 2010, as well as from 2010 onward, and supplements the map provided by Dixon (2013). Dixon (2013) considers a record from Jefferson County to be erroneous.

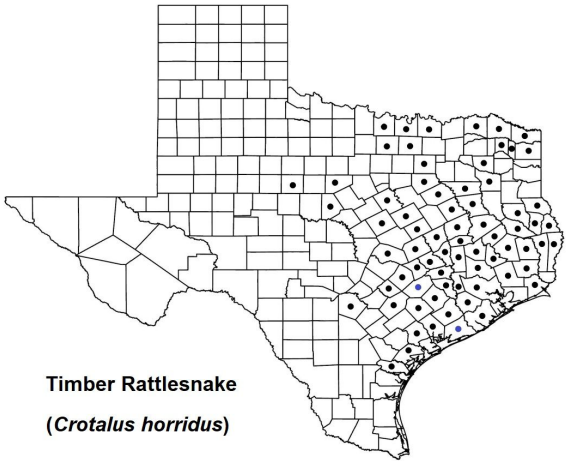

Figure 166. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 2) published prior to 2010 that were omitted from Dixon (2013). Dixon (2013) considers records from Eastland and Taylor counties to be erroneous and Brown and Bexar counties as questionable. We include the former here, however, as they are tied to vouchered specimens (KU 1643, 1648 and CHAS HERP-393) and a recent verified iNaturalist record from Eastland County (https://www.inaturalist.org/observations/86619604) corroborates that *C. horridus* is present this far West.

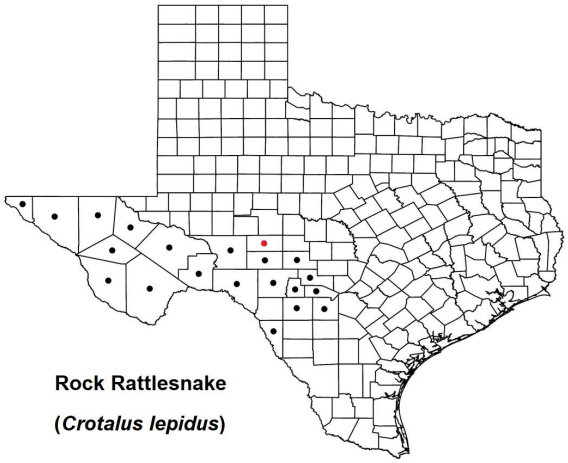

Figure 167. Black dots indicate county records according to Dixon (2013). The single red dot indicates a county record published from 2010 onward that supplements the map provided by Dixon (2013).

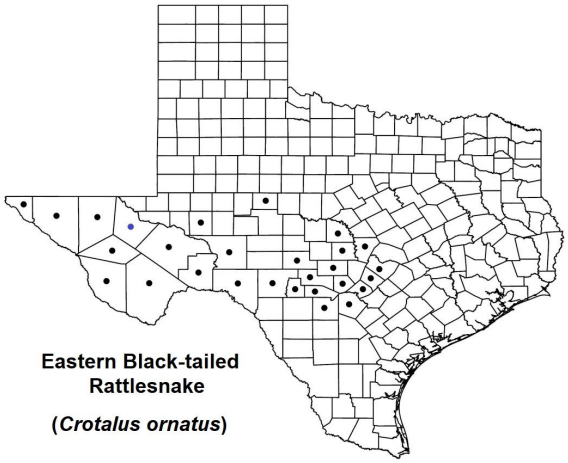

Figure 168. Black dots indicate county records according to Dixon (2013). The single blue dot indicates a county record published prior to 2010 that was omitted from Dixon (2013). Note: Dixon (2013) refers to this taxon as *Crotalus molossus* and considered the Coke County record to be questionable.

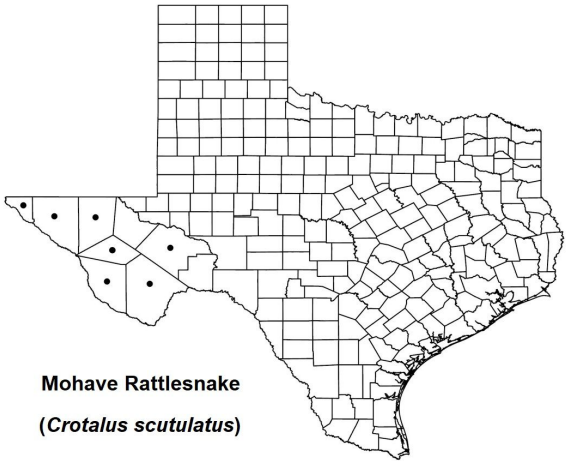

Figure 169. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013).

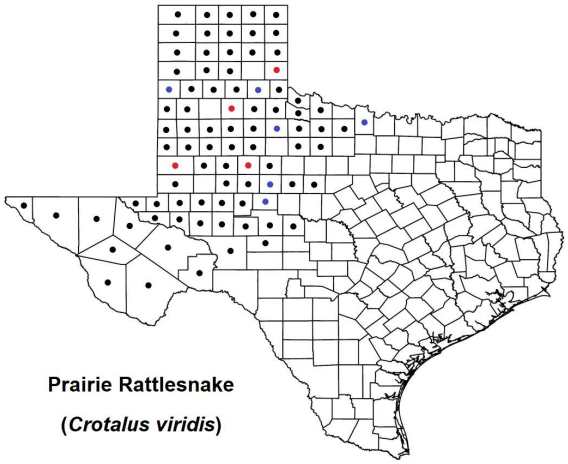

Figure 170. Black dots indicate county records according to Dixon (2013). Blue dots indicate county records (n = 6) published prior to 2010 that were omitted from Dixon (2013). Red dots indicate county records (n = 4) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Dixon (2013) stated that records from Bexar, Burnet, and Tarrant counties are erroneous.

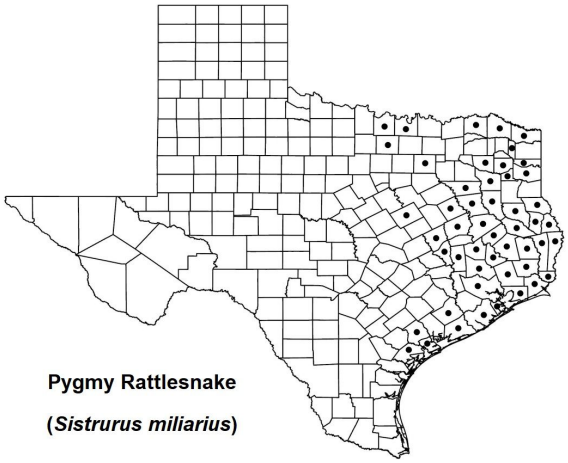

Figure 171. Black dots indicate county records according to Dixon (2013). No county records have been published that supplement the map provided by Dixon (2013). Dixon (2013) questioned the record from McLennan County and considered records for Mitchell and Somervell counties to be erroneous.

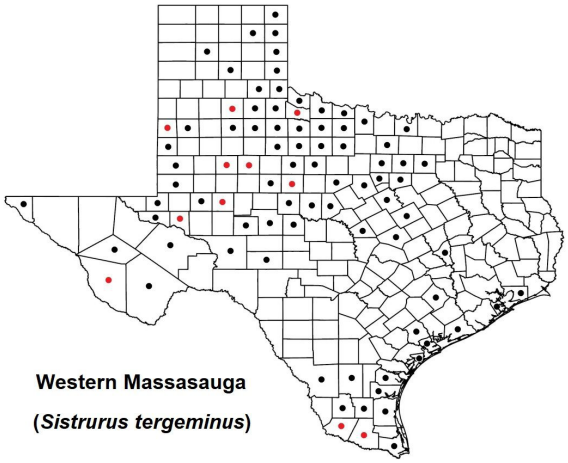

Figure 172. Black dots indicate county records according to Dixon (2013). Red dots indicate county records (n = 11) that have been published from 2010 onward that supplement the map provided by Dixon (2013). Note: Dixon (2013) referred to this taxon as *Sistrurus catenatus*.

Acknowledgements

This paper is a continuation of work that was initiated over 100 years ago by John K. Strecker. We acknowledge John and the many researchers who have built upon his work — Bryce C. Brown, Gerald G. Raun, Frederick R. Gehlbach, Ralph W. Axtell, James R. Dixon, John E. Werler, and Peter V. Lindeman. Their tomes will forever have a place in our personal libraries. We thank Toby Hibbitts for his kind words and thoughts on records omitted from Dixon's work, which were important in developing our approach to this study. Travis Laduc provided copies of some of the difficult-to-find publications by Ralph Axtell that we incorporated in this work. Peter Lindeman, David Rosenbaum, and Toby Hibbitts helped clarify the locations of several freshwater turtle records. We extend our sincere appreciation to the many individuals who published distribution notes and papers involving Texas reptiles. The views expressed here are those of the authors and do not reflect the official position of the Texas Commission on Environmental Quality.

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