

New Distributional Records of Amphibians and Reptiles from the Western Gulf Coastal Plain of Texas, USA

The Western Gulf Coastal Plain of Texas, USA stretches from Orange, Orange County southwest down through Brownsville, Cameron County, and extends up to 110 km inland from the Gulf of Mexico (Griffith et al. 2004, 2007). This landscape is relatively flat, with few topographic features, and is primarily dominated by coastal marshes and interior grasslands, interspersed with oak-dominated savannas. Agriculture is a major component of the landscape, with extensive row crops of cotton, soybeans, sorghum, and rice replacing historic coastal prairies and wetlands (Sohl et al. 2016). Additionally, urbanization of the coastline has increased greatly in recent years, partially driven by accompanying increases in oil and gas production, as well as wind energy (Pierre et al. 2018). With extensive habitat loss occurring, it is important to have a thorough understanding of species distributions and occurrence so that more informed management decisions can occur (e.g., Lane 1996, Davis 2018).

Here, I report 12 new county records of eight species of amphibians and reptiles from the Western Gulf Coastal Plain of south-central Texas, USA from 2021. County records were determined by examining Dixon (1987, 2000, 2013), accounts published in *Herpetological Review* since 2013, and through VertNet (www.vertnet.org) queries. I collected all voucher specimens and deposited them at the Biodiversity Collections at The University of Texas at Austin (TNHC) where Travis J. LaDuc verified all species identifications. Locality information was collected with a handheld GPS (WGS 84). The nomenclature used primarily follows that of Crother (2017), though I continue to recognize the genus *Rana* (Yuan et al. 2016). All specimens were collected under Texas Parks and Wildlife Scientific Collecting Permits SPR-1018-294 issued to DRD or SPR-1097-912 issued to Travis J. LaDuc, and all collecting activities followed an approved IACUC protocol (UTRGV AUP #18-28). Tissue samples (liver or muscle) were collected from all individuals and deposited along with the specimen. Outside of specimens housed at TNHC, the closest known specimen records are from the Cornell University Museum of Vertebrates (CUMV), Biodiversity Research and Teaching Collections, Texas A&M University (TCWC), Florida Museum of Natural History, University of Florida (UF), and National Museum of Natural History, Smithsonian Institution (USNM).

ANURA — FROGS

ELEUTHERODACTYLUS CYSTIGNATHOIDES (Rio Grande Chirping Frog). DEWITT Co.: Fordtran Rd, ca. 3.5 rd km E jct US Hwy 87 (29.00269°N, 97.12151°W). 15 August 2021. TNHC 116118

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(DRD 7945). One adult individual (0.9 g, 23 mm SVL) was collected alive on a gravel road at 2229 h. Numerous additional males were heard calling from vegetation along Fordtran Rd, likely the result of rain that fell earlier that evening, but none were collected. This specimen represents a new county record and fills part of a gap in the distribution of this introduced species in the region (Dixon 2013). *Eleutherodactylus cystignathoides* is known from adjacent Goliad and Victoria counties (Cox et al. 2012; Guadiana et al. 2020; see below), as well as unpublished records from Gonzales County. The nearest known population is ca. 40.7 km to the southwest in Goliad County (TNHC 114549, 114550; Guadiana et al. 2020).

VICTORIA Co.: Smith Elementary School (28.82900°N, 96.97577°W). 12 September 2021. TNHC 116112 (DRD 8577). One adult individual (0.6 g, 20 mm SVL) collected among leaf litter from a Live Oak (*Quercus virginiana*) at 0103 h. Another individual (TNHC 116113 [DRD 8578]: 0.4 g, 18 mm SVL) was collected nearby at 0107 h. These specimens represent a new county record and fill part of a gap in the distribution of this introduced species in the region (Dixon 2013). Lott (2012) reported *E. cystignathoides* from along Coleto Creek in Victoria County from 2008, but the collected specimen remains part of a personal collection and not deposited in publicly available institution. *Eleutherodactylus cystignathoides* is known from adjacent Aransas, DeWitt, and Goliad counties (Cox et al. 2012; Ruppert and Davis 2019; Guadiana et al. 2020; see above), and the nearest known population is ca. 23.9 km to the northwest in DeWitt County (TNHC 116118; see above).

ELEUTHERODACTYLUS PLANIROSTRIS (Greenhouse Frog). NUECES Co.: Texas A&M University-Corpus Christi, near Ferguson Engineering Building (27.71251°N, 97.32585°W). 24 September 2021. TNHC 116131 (DRD 8615). One adult (0.5 g, 19 mm SVL) collected alive at 2238 h. Another individual (TNHC 116135 [DRD 8619]: 0.5 g, 18 mm SVL) was collected nearby at 2318 h. Texas A&M University-Corpus Christi, near Center for the Arts (27.71357°N, 97.32276°W). 24 September 2021. TNHC 116132–116134 (DRD 8616–8618). One juvenile (TNHC 116133: 0.1 g, 11 mm SVL) and two adults (TNHC 116132: 0.5 g, 17 mm SVL; TNHC 116134: 1.2 g, 24 mm SVL) were collected from 2303–2307 h, and several additional individuals (N = 6) were observed, but not collected. Montclair Elementary School (27.72345°N, 97.35193°W). 24 September 2021. TNHC 116136–116139 (DRD 8620–8623). Two adult males (TNHC 116136: 0.5 g, 18 mm SVL; TNHC 116137: 0.4 g, 18 mm SVL) and two adult females (TNHC 116138: 1.2 g, 24 mm SVL; TNHC 116139: 0.7 g, 21 mm SVL) were collected from 2346–2349 h under several large trashcans. W. B. Ray High School (27.75183°N, 97.39480°W). 25 September 2021. TNHC 116140–116144 (DRD 8627–8631). Five individuals, including both juveniles and adults (0.3–0.9 g, 15–22 mm SVL) were collected from 0014–0021 h, and several additional individuals (N > 8) were observed, but not collected. Sander Elementary School (27.70244°N, 97.40732°W). 25 September 2021. TNHC 116145 (DRD 8632). One adult male (0.4 g, 17 mm SVL) collected alive at 0041 h. These specimens represent a new county record and expand the recognized distribution of this introduced species in Texas (Dixon 2013). Hickman (1995) did not list *E. planirostris* (or *E. cystignathoides*) from Ward Island

(where Texas A&M University-Corpus Christi is located), suggesting a recent introduction and establishment of this species. *Eleutherodactylus planirostris* is known from no adjacent counties, and the nearest known population is ca. 126.7 km to the north-northeast in Victoria County (TNHC 116119; see below).

VICTORIA Co.: Victoria College, near Allied Health Building (28.81531°N, 96.97847°W). 12 September 2021. TNHC 116119 (DRD 8566). One adult (0.4 g, 18 mm SVL) collected alive at 0016 h. Five additional individuals (TNHC 116120–116124 [DRD 8567–8571]: 0.3–1.3 g, 17–27 mm SVL) were collected nearby, and several additional individuals ($N > 12$) were observed along buildings across campus and in the grass. Victoria ISD Aquatic Center (28.82464°N, 96.97396°W). 12 September 2021. TNHC 116125 (DRD 8574). One adult female (1.2 g, 27 mm SVL) collected alive at 0045 h. Two additional individuals (TNHC 116126 [DRD 8575]: 0.4 g, 18 mm SVL; TNHC 116127 [DRD 8576]: 0.5 g, 18 mm SVL) were collected nearby, with numerous additional individuals ($N > 8$) observed along buildings and in the grass. Smith Elementary School (28.82899°N, 96.97575°W). 12 September 2021. TNHC 116128 (DRD 8579). One juvenile (0.3 g, 15 mm SVL) collected alive among Live Oak (*Q. virginiana*) leaf litter at 0105 h. Two additional individuals (TNHC 116129 [DRD 8580]: 0.4 g, 17 mm SVL; TNHC 116130 [DRD 8581]: 0.7 g, 21 mm SVL) were collected nearby, with numerous additional individuals ($N > 8$) observed along the building and among the leaf litter. These specimens represent a new county record and expand the recognized distribution of this introduced species in Texas (Dixon 2013). *Eleutherodactylus planirostris* is known from no adjacent counties, and the nearest known population is ca. 126.7 km to the south-southwest in Nueces County (TNHC 116132–116134; see above).

Collectively, these new localities represent the fifth and sixth recognized counties where *E. planirostris* has been reported. Previously, *E. planirostris* has been reported from Cameron, Galveston, Harris, and Tarrant counties (Dixon 2013; Simpson et al. 2019; Guadiana et al. 2020). The presence of numerous individuals at multiple localities across the cities of Corpus Christi and Victoria suggests that this species is well established there, though when and how this species was introduced is unknown. From these high abundances, it is likely that populations of *E. planirostris* persisted through an extreme cold weather event recorded in Texas in February 2021. Given the superficial similarities in appearance with *E. cystignathoides*, *E. planirostris* is likely underreported from additional areas in Texas.

GASTROPHRYNE CAROLINENSIS (Eastern Narrow-mouthed Toad). DEWITT Co.: Fordtran Rd, ca. 3.9 rd km E jct US Hwy 87 (29.00334°N, 97.11733°W). 15 August 2021. TNHC 116116 (DRD 7934). One adult male (0.8 g, 20 mm SVL) collected alive on a gravel road at 2218 h. An additional adult male (TNHC 116117 [DRD 7935]: 0.7 g, 20 mm SVL) was collected nearby (29.00227°N, 97.12428°W) at 2234 h. Activity of these individuals was likely the result of rain that fell earlier that evening. These specimens represent a new county record and fill part of a gap along the western extent of this species in Texas (Dixon 2013). *Gastrophryne carolinensis* is known from adjacent Gonzales and Victoria counties (Dixon 2013), and the nearest known population is ca. 24.6 km to the southeast in Victoria County (USNM 23942, 42332–42334, 51509, 78689).

HYLA SQUIRELLA (Squirrel Treefrog). BEE Co.: Chase Field Industrial & Airport Complex sign (28.38161°N, 97.65597°W).

5 August 2021. TNHC 115961–115963 (DRD 7863–7865). One adult male (TNHC 115961: 1.1 g, 25 mm SVL) and two adult females (TNHC 115962: 1.4 g, 28 mm SVL; TNHC 115963: 1.2 g, 28 mm SVL) collected alive at 2100 h while foraging on an illuminated sign. These specimens represent a new county record and extend the known distribution of this species northwest from the Texas Gulf Coast (Dixon 2013). *Hyla squirella* is known from adjacent Goliad, Refugio, and San Patricio (Dixon 2013; see below), and the nearest known population is ca. 33.2 km to the northeast in Goliad County (TNHC 116114; see below).

GOLIAD Co.: Co Rd 2441, ca. 5.3 rd km SW jct US Hwy 183 (28.59915°N, 97.40263°W). 16 August 2021. TNHC 116115 (DRD 7952). One adult female (2.0 g, 31 mm SVL) collected alive on a paved road at 0014 h. One additional adult male (TNHC 116114 [DRD 7951]: 1.8 g, 29 mm SVL) was collected DOR nearby (28.58235°N, 97.40505°W) at 0038 h. Activity of these individuals was likely the result of rain that fell earlier that evening. These specimens represent a new county record and extend the known distribution of this species northwest from the Texas Gulf Coast (Dixon 2013). *Hyla squirella* is known from adjacent Bee, Refugio, and Victoria counties (Dixon 2013; see above, below), and the nearest known population is ca. 33.2 km to the southwest in Bee County (TNHC 115961–115963; see above).

REFUGIO Co.: roadside ditch along Co Rd 2040, ca. 0.8 rd km SE jct Hopper Rd (28.33970°N, 96.79602°W). 12 May 2021. TNHC 115816 (DRD 7569). One adult male (1.3 g, 28 mm SVL) collected while calling in a vegetated ephemeral pool at 2217 h. Numerous additional males were heard calling in ephemeral pools nearby, but not collected. This specimen represents a new county record and fills part of a gap in the distribution of this species along the Texas Gulf Coast (Dixon 2013). *Hyla squirella* is known from all adjacent counties (Dixon 2013; see above), and the nearest known population is ca. 12.1 km to the southwest in Aransas County (UF 17387–17390).

PSEUDACRIS CLARKII (Spotted Chorus Frog). GOLIAD Co.: Co Rd 2441, ca. 7.0 rd km SW jct US Hwy 183 (28.58786°N, 97.40417°W). 16 August 2021. TNHC 116109 (DRD 7948). One adult male (0.7 g, 23 mm SVL) collected alive on a paved road at 0033 h. Two additional adult females (TNHC 116110 [DRD 7949]: 1.0 g, 24 mm SVL; TNHC 116111 [DRD 7950]: 0.7 g, 27 mm SVL) were also collected nearby (28.58232°N, 97.40508°W and 28.58026°N, 97.40539°W, respectively). Activity of these individuals was likely the result of rain that fell earlier that evening. These specimens represent a new county record and fill a remaining gap in the species' recognized distribution in the area. *Pseudacris clarkii* is known from all surrounding counties (Dixon 2013), and the nearest known population is ca. 39.1 km to the southwest in Bee County (CUMV 1315, 1376).

RANA AREOLATA (Crawfish Frog). GOLIAD Co.: Co Rd 2441, ca. 6.4 rd km SW jct US Hwy 183 (28.58965°N, 97.40399°W). 16 August 2021. TNHC 116108 (DRD 7957). One juvenile (5.1 g, 42 mm SVL) collected alive on a paved road at 0029 h. Two additional, larger juveniles (TNHC 116106 [DRD 7955]: 13.0 g, 53 mm SVL; TNHC 116107 [DRD 7956]: 13.8 g, 53 mm SVL) were collected DOR nearby (28.59375°N, 97.40338°W and 28.58019°N, 97.40541°W, respectively). Activity of these individuals was likely the result of rain that fell earlier that evening. These specimens represent a new county record and expand the known distribution of this species in Texas (Dixon 2013).

Rana areolata is known from adjacent Refugio County (Dixon 2013), and the nearest known population is ca. 21.7 km to the southeast in Refugio County (TCWC 79735).

TESTUDINES — TURTLES

TERRAPENE ORNATA (Ornate Box Turtle). KLEBERG CO.: US Hwy 77, ca. 0.6 rd km N bridge over Los Olmos Creek (27.27823°N, 97.80379°W). 24 September 2021. TNHC 116102 (DRD 8587). One adult male (327 g, 122 mm straight-line carapace length, 120 mm straight-line plastron length) collected DOR at 1854 h, after recent light showers in the area. This specimen represents a new county record and fills part of a gap in the distribution of this species in the region (Dixon 2013). *Terrapene ornata* is known from adjacent Brooks, Kenedy, and Nueces counties (Dixon 2013), and the nearest known population is ca. 39.6 km to the south in Kenedy County (TNHC 22489).

SQUAMATA — SNAKES

AGKISTRODON PISCIVORUS (Northern Cottonmouth). DEWITT CO.: Wolf Hollow Rd, ca. 0.2 rd km N jct Fordtran Rd (29.02064°N, 97.09507°W). 15 August 2021. TNHC 116094 (DRD 7924; photo voucher). One adult female collected alive on a gravel road at 2126 h, kept alive in captivity, and subsequently gave birth to three offspring on 31 August 2021. Two of these three juveniles were vouchered (TNHC 116103 [DRD 7994]: male, 17.8 g, 240 mm SVL, 48 mm tail length; TNHC 116104 [DRD 7995]: female, 18.6 g, 237 mm SVL, 45 mm tail length), while the third juvenile and adult female were released on 1 September 2021. These specimens represent a new county record and fills the remaining gap in the distribution of this species in the region (Dixon 2013). A query of museum records revealed one additional specimen collected in DeWitt County in 1967 (TCWC 22894), from “18 mi NW Victoria, Lower Mission Valley Rd”, which has not been formally reported. *Agkistrodon piscivorus* is known from all adjacent counties (Dixon 2013), and the nearest known population is ca. 23.1 km to the south in Victoria County (UF 119784).

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