

New county records of the Mediterranean house gecko (*Hemidactylus turcicus*) in northeastern Texas, with comments on range expansion

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Key data: *Hemidactylus turcicus*; Gekkonidae; Mediterranean house gecko; range expansion; Texas; United States; Collection data in Table 1; UTA R-54450 to R-54476; all specimens verified by Ronald L. Gutberlet, Jr.; University of Texas at Tyler.

The Mediterranean house gecko (*Hemidactylus turcicus*) was first observed in the United States in Key West, Florida as early as 1915 (Stejneger, 1922). At least two other independent introductions of *H. turcicus* are believed to have occurred, one in New Orleans, Louisiana in the late 1940's (Etheridge, 1952), and the other near the border of Mexico in Brownsville, Texas, in the early 1950's (Conant, 1955). They have since been found in Alabama, Arizona, Arkansas, California, Georgia, Kansas, Maryland, Mississippi, Nevada, New Mexico, South Carolina, Utah, and Virginia (Hare, 2006; NatureServe, 2006; Reed et al., 2006). In the southern states, only North Carolina and Tennessee have no records. *H. turcicus* is nocturnal and in its introduced range associated with urban and suburban habitats, feeds on insects attracted to outdoor lights (Davis, 1974). Its success as a colonizer has been attributed to quick maturation, limited interspecific competition, low predation pressure, and multiple clutches per reproductive season (Selcer, 1986).

In Texas, Davis (1974) showed that *H. turcicus* had expanded its range north, using highways as corridors to human domiciles, but remaining below a line from Del Rio through San Antonio to Austin and Houston. With few barriers and increasing transportation of this species to new localities, *H. turcicus* is becoming common throughout urban areas of the southern United States (Meshaka et al., 2006). In Texas it is currently documented in more than 70 counties (Dixon, 2000). Although no studies have documented negative impacts on native species, its expanding distribution and abundance should be documented. Currently, 28

Table 1. Collection information for specimens reported. All were captured on building, and additional individuals were observed in most cases. Specimens are at the Amphibian and Reptile Diversity Research Center, University of Texas at Arlington.

County	Location	UTM (NAD 83), elevation	Date in 2006	Collector	Tag #
Anderson	Cayuga, 45 m W of Hwy 287, 6.6 km NW of Fm Road 2706	15R, 0218823N, 3539409W 102 m	1 September	J.L. Coleman, R.C. Jadin	UTA R-54450 UTA R-54451
Cass	Hughes Springs, 28 m S of Texas Hwy 49, 1.0 km E of Fm Road 161	15S, 0348604N, 3652229W 113 m	9 September	J.A. Pruett, J.L. Coleman, R.C. Jadin	UTA R-54452
Cherokee	Jacksonville, 13 m S of Hwy 79, 1.5 km W of Hwy 69	15R, 0283834N, 3538146W 154 m	1 September	J.L. Coleman, R.C. Jadin	UTA R-54453
Cooke	Gainesville; 34 m N of Fm Road 51, 1.0 km E of I-35	14S, 0672453N, 3722104W 246 m	16 September	J.L. Coleman, J.M. Gullett	UTA R-54454
Delta	Cooper, 25 m S of TX Hwy 154, 1.0 km E of TX Hwy 64	15S, 0249864N, 3695927W 154 m	16 September	J.L. Coleman, J.M. Gullett	UTA R-54455
Fannin	Bonham; 42 m N of jct. TX Hwy 78 and TX Hwy 56	14S, 0761951N, 3718880W 176 m	16 September	J.M. Gullett, J.L. Coleman	UTA R-54456
Franklin	45 m S of I-30, 4.5 km W of TX Hwy 37, 0.32 km W of mile marker 144	15S, 0286855N, 3671836W 132 m	30 July	J.L. Coleman, R.C. Jadin	UTA R-54457
Grayson	Bells, 28 m N of TX Hwy 56, 1.0 km E of TX Hwy 69	14S, 0739166N, 3722183W 233 m	16 September	J.L. Coleman, J.M. Gullett	UTA R-54458
Gregg	Gladewater, 20 m S of Quitman St., 0.5 km W of Hwy 271	15S, 0317031N, 3601772W 98 m	6 July	J.L. Coleman, J.L. Coleman, J.A. Pruett, R.C. Jadin	UTA R-54460
Harrison	Marshall, 100 m E of Hwy 59, 0.15 km S of I-20	15S, 0372402N, 3595456W 109 m	8 September	R.C. Jadin, J.L. Coleman	UTA R-54461
Henderson	Chandler; 47 m N of TX Hwy 31, 85 m E of Fm Road 315	15S, 0266594N, 3577328W 163 m	1 September	R.C. Jadin, J.L. Coleman	UTA R-54462
Hopkins	Sulphur Springs, 50 m S of I-30, 0.5 km W TX Hwy 154	15S, 0257239N, 3667123W 152 m	30 July	R.C. Jadin, J.L. Coleman	UTA R-54462
Hunt	Greenville, 40 m NE of jct. Hwy 69 Business and Fm Road 1570, 0.65 km S of I-30	14S, 0771605N, 3667780W 177 m	30 July	R.C. Jadin, J.L. Coleman	UTA R-54462

Table 1.

Continued.

County	Location	UTM (NAD 83), elevation	Date in 2006	Collector	Tag #
Kaufman	Terrell, 50 m SW of TX Hwy 34, 0.32 km N of I-20	14S, 0755246N, 3621759W 125 m	17 August	J.L. Coleman, R.C. Jadin	UTA R-54463 UTA R-54464
Marion	Jefferson, 114 m S of TX Hwy 49, 0.15 km W of Hwy 59	15S, 0372707N, 3625552W 70 m	8 September	R.C. Jadin, J.A. Pruett, J.L. Coleman	UTA R-54465
Morris	Daingerfield, 224 m N of TX Hwy 49, 0.32 km E of Hwy 259	15S, 0339243N, 3656160W 140 m	9 September	R.C. Jadin, J.L. Coleman, J.A. Pruett	UTA R-54466
Navarro	Kerens, 14 m S of TX Hwy 31, 0.76 km W of TX Hwy 309	14S, 0760864N, 3558430W 110 m	1 September	R.C. Jadin, J.L. Coleman	UTA R-54467
Panola	Carthage, 20 m W of Hwy 59 Business, 3.2 km S of Hwy 79	15S, 0373920N, 3558081W 96 m	8 September	R.C. Jadin, J.L. Coleman, J.A. Pruett	UTA R-54468
Rains	Emory, 50 m NE of jct. TX Hwy 19 and Hwy 69	15S, 0241248N, 3640709W 166 m	27 July	J.L. Coleman, R.C. Jadin	UTA R-54469
Red River	Clarksville, 150 m N of TX Hwy 82, 2.1 km E of TX Hwy 37	15S, 0309733N, 3721065W 170 m	15 September	J.M. Gullett, J.L. Coleman	UTA R-54470
Rockwall	Rockwall, 8 m S of TX Hwy 66, 100 m E of TX Hwy 205	14S, 0737550N, 3646505W 175 m	17 September	R.C. Jadin	UTA R-54471
Rusk	Henderson, 88 m SE of Hwy 79, 2.1 km SW of Hwy 259	15S, 0329508N, 3556225W 142 m	8 September	R.C. Jadin, J.L. Coleman, J.A. Pruett	UTA R-54472
Shelby	Tenaha, 18 m N of Hwy 84, 0.8 km W of Hwy 96	15R, 0382322N, 3534892W 141 m	8 September	R.C. Jadin, J.A. Pruett, J.L. Coleman	UTA R-54473
Titus	Mt. Pleasant, 30 m E of Hwy 271, 0.32 km S of I-30	15S, 0313687N, 3671515W 153 m	30 July	J.L. Coleman, R.C. Jadin	UTA R-54474
Upshur	Gladewater, 25 m N of Hwy 80, 0.16 km E of Fm Road 2685	15S, 0314684N, 3602793W 171 m	31 July	R.C. Jadin, J.L. Coleman	UTA R-54475
Wood	Mineola, 20 m W of Hwy 69, 0.16 km S of Hwy 80	15S, 0266596N, 3616618W 155 m	26 July	R.C. Jadin, J.L. Coleman	UTA R-54476
Van Zandt	Grand Saline, 0.15 km W of Fm Road 17, 50 m S of Hwy 80	15S, 0245815N, 3618430W 148 m	27 July	J.L. Coleman, R.C. Jadin	

counties in the corner of northeast Texas do not have published records of this species. Here we report new county records from 27 of them. Geckos were encountered with minimal search effort between dusk, approximately 2100 h, and just after midnight. Most buildings examined were made of brick, concrete, or stucco and had a high probability of gecko residence. On one night, geckos were caught in seven adjacent and undocumented counties in less than 5.5 h, with most time allocated to driving. We surveyed the only gecko-free county left, Camp County, on five separate occasions, approximately 2 h each time, and were unable to document any geckos.

Hemidactylus turcicus is well established in northeastern Texas, with numerous breeding colonies in even the smallest towns. These colonies are potential origins for future colonies in Oklahoma and Arkansas, and may already have spread across the Red river. Meshaka et al. (2006) noted that the northern limit of this species would be dictated by cold weather, restricting time available for foraging and reproduction. This being the case, colonies such as those in Virginia (Kloepfer et al., 2006) provide evidence that as *H. turcicus* expands northward it may be able to seek shelter in and around buildings that yield adequate protection from the cold, ultimately providing suitable environmental conditions for *H. turcicus* to over-winter. The ease with which this species colonizes northeastern Texas and its consequent ubiquity in southern localities underscores the importance of populations such as these as a source of individuals for geographic expansion into less hospitable regions further north.

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