

New county records for the Mediterranean house gecko (*Hemidactylus turcicus*) in Central Texas, with comments on human-mediated dispersal

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Key data

Hemidactylus turcicus; Gekkonidae; Mediterranean house gecko; Texas; United States; Collection data in table 1; all specimens verified by James R. Dixon and located at the Texas Cooperative Wildlife Collection in College Station, Texas.

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The Mediterranean house gecko (*Hemidactylus turcicus*) is native to countries surrounding the Mediterranean and extends east to India and Somalia (Conant and Collins, 1998). However, *H. turcicus* has spread to several New World countries including Cuba, Mexico, Puerto Rico, Panama, and the United States. The first verified report of *H. turcicus* in the United States is known from Key West, Florida in 1915, with other notable introductions documented in Arizona, California, Louisiana, Alabama, Texas, and other areas of Florida (Lever, 2003). Spread of this species has since been documented in many additional states (Livo et al., 1998; Hare, 2006; Kleopfer et al., 2006; Reed et al., 2006; NatureServe, 2008; Platt et al., 2008). Human-mediated dispersal is thought to be the major cause of this species' dramatic range expansion (Lever, 2003), and Locey and Stone (2006) suggested that dispersal ability is limited and jump dispersal events are the major mode of expansion. Climate is thought to be a major factor preventing the northward spread of this species (Meshaka et al., 2006). However, cold climates are circumvented through exploitation of heated buildings, demonstrated by gecko presence in Colorado, South Dakota, and Maryland (Livo et al., 1998; NatureServe, 2008; Platt et al., 2008).

Hemidactylus turcicus has been recorded throughout much of East and South Texas, but notable gaps exist in its distribution, such as the apparent absence from the panhandle with the exception of Lubbock County (Dixon, 2000; Jadin and Coleman, 2007). Approximately 28 counties in Central Texas lack a record

Table 1.

Mediterranean house gecko (*Hemidactylus turricus*) specimens collected by V.R. Farallo (VRF) and R.L. Swanson (RLS). Specimens were captured on buildings unless otherwise noted in the “location” column. All specimens are deposited at the Texas Cooperative Wildlife Collection (TCWC), Texas A&M University, College Station.

County	Location	WGS84	Date (2008)	Collector	TCWC ID
Atascosa	Jourdanton; 1.1 km southeast of the intersection of route 16 and route 97 on route 16 under debris	28.91038N, -98.54004W	28 June	VRF	93078
Bee	Beeville; 100 m southwest of intersection of Hwy 181 and Hwy 59 on Hwy 59 under debris	28.40878N, -97.72972W	28 June	RLS	93073
Gillespie	Fredericksburg; 0.35 km from intersection of route 16 and Hwy 290 on Hwy 290	30.27705N, -98.87521W	23 May	RLS	93066
Goliad	Goliad; At intersection of Hwy 183 and Hwy 239	28.66798N, -97.38912W	28 June	VRF	93072
Kendall	Comfort; 100 m east of the intersection of Route 87 and Blueridge road on Blueridge road found under debris	29.97895N, -98.90509W	23 May	VRF	93069
Live Oak	George West; At intersection of Hwy 59 and Hwy 37	28.33905N, -98.02608W	28 June	VRF	93075
Llano	Llano; 70 m west of the intersection of Young Street and Bessmer Ave on Bessmer Ave	30.75974N, -98.67594W	23 May	RLS	93068
Mason	Mason; 50 m northwest of the intersection of El Paso St and Fort McKavitt St on Fort McKavitt St	30.74927N, -99.23345W	23 May	VRF	93067
McMullen	Tilden; 100 m northeast of the intersection of route 16 and route 72 on route 16 found under debris	28.46201N, -98.54851W	28 June	RLS	93077
Milam	Buckholts; Corner of Hwy 190 and North 10th Street	30.87250N, -97.12411W	14 June	VRF	93070
Wilson	Floresville; 80 m northeast of the intersection of Standish St and route 181 on Standish St	29.14621N, -98.15654W	28 June	RLS	93079

for *H. turcicus* despite records for neighboring counties (Dixon, 2000). Our initial search results verified the presence of *H. turcicus* in Caldwell and Guadalupe Counties, sometimes in areas remote from significant urban development (Farallo et al., 2008; Swanson et al., 2008). This suggests that the distributional gaps may represent absence of effort, rather than absence of geckos. We therefore expanded our search effort, surveying 11 additional counties in Central Texas. We focused our searches near debris located in proximity to town centers and lighted buildings adjacent to interstates after sunset. In each attempt we successfully located one or more individuals within approximately 20 min (table 1). As one example, the town of Tilden is approximately 109 km from San Antonio, 35 km from a major highway, and has a human population of approximately 500 (<http://www.tshaonline.org/handbook/online/articles/TT/hlt18.html>). However, we readily found *H. turcicus* within this town. These distributional records fill gaps within the species' known range and indicate its likely occurrence across a far greater range than currently documented. The presence of *H. turcicus* in small, isolated towns is indicative of their potential to spread throughout Texas.

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