

Expanding the Known Range of *Hemidactylus* aff. *malcolmsmithi*: New Records from Louisiana and Mississippi, USA

Hemidactylus aff. *malcolmsmithi* was first introduced to the USA in New Orleans, Louisiana, in 2012, and is believed to have hitchhiked on shipments of cargo and plants from southern Asia (Heckard et al. 2013). This species was first considered to be *H. parvimaclatus* (Heckard et al. 2013), but recent genetic work has suggested it is an undescribed species related to, but distinct from, *H. malcolmsmithi* (Agarwal et al. 2019). Following its initial introduction, this species has spread along the Gulf Coast into Mississippi (Pellecchia and Benson 2019), Alabama, and Florida (Genter and Davis, *in press*), as well as additional localities across Louisiana (Borgardt 2015, 2016; Glorioso 2016, 2021; Erdmann 2017; McClure 2019; Pellecchia et al. 2019) and into Texas (Davis and LaDuc 2019; Davis et al. 2024). Many authors (e.g., Davis and LaDuc 2019; Genter and Davis, *in press*) have highlighted the likely role of human-mediated transport along major transportation corridors in the dispersal of this species, similar to what has been reported for other members of the genus *Hemidactylus* (McCallum and McCallum 2014).

Here, we report three new parish records and three new county records of *H. aff. malcolmsmithi*, which serve to fill in distributional gaps or extend the known range of this species across Louisiana and southern Mississippi. Specimen records were collected at rest areas, travel stops, or welcome centers located along major federal and state highways, all areas with high vehicular traffic where animals could have been introduced through hitchhiking on personal and/or commercial vehicles or cargo. These new distributional records were determined by querying Global Biodiversity Information Facility (GBIF; www.gbif.org) and a database of known *H. aff. malcolmsmithi* specimens (DRD, unpubl. data). All specimens were deposited at the Biodiversity Collections, The University of Texas at Austin (TNHC) and their identifications were verified by Travis J. LaDuc. The nearest existing specimens are deposited in the Southeastern Vertebrate Museum, Southeastern Louisiana University (SLU), the Florida Museum of Natural History, University of Florida (UF), and TNHC. All specimens were collected by Kevin E. Green and Drew R. Davis, and a handheld GPS was used to record the location of each individual (WGS 84 datum). Tissue (liver) samples were collected and deposited alongside voucher specimens, and all specimen collection was conducted under an approved ENMU IACUC protocol (#2023-DAV-005).

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SQUAMATA — LIZARDS

HEMIDACTYLUS AFF. MALCOLMSMITHI. USA: LOUISIANA: DE SOTO PAR.: Relay Station, 6797 LA 175, Frierson, LA 71027 (32.21455°N, 93.70534°W). 4 November 2024. TNHC 117485, 117486 (DRD 12356, 12357). One adult female (TNHC 117486: 2.7 g, 50 mm SVL, 56 mm tail length) was collected at the base of an exterior light pole at 1927 h, and one adult male (TNHC 117485: 1.9 g, 45 mm SVL, 50 mm tail length) was collected on a storage building at 1946 h. The presence of an adult pair suggests an established population at this site. These specimens represent a new parish record of *H. aff. malcolmsmithi* and are the northernmost recognized population of this species in the USA (Boundy and Carr 2017; DRD, unpubl. data). Within Louisiana, records of *H. aff. malcolmsmithi* are primarily located east of the Mississippi River (Boundy and Carr 2017). The nearest known specimen is from ca. 141.9 km to the southeast in Rapides Parish (TNHC 117482–117484; see below).

LOUISIANA: RAPIDES PAR.: Love's Travel Stop, 7046 LA 1, Boyce, LA 71409 (31.36077°N, 92.58862°W). 4 November 2024. TNHC 117482–117484 (DRD 12353–12355). These specimens include one juvenile (TNHC 117482: 0.4 g, 28 mm SVL, 21 mm tail length [incomplete]), one adult female (TNHC 117483: 1.6 g, 43 mm SVL, 52 mm tail length), and one adult male (TNHC 117484: 1.8 g, 46 mm SVL, 55 mm tail length), all of which were collected on the exterior walls of the travel stop from 1741–1747 h. These specimens represent a new parish record of *H. aff. malcolmsmithi* and the presence of both adult sexes and a juvenile suggests an established population in central Louisiana (Boundy and Carr 2017). The nearest known specimen is from ca. 120.4 km to the southeast in St. Landry Parish (TNHC 117479–117481; see below).

LOUISIANA: ST. LANDRY PAR.: Billy's Boudin & Cracklins, 24451 US Route 190, Krotz Springs, LA 70750 (30.54203°N, 91.76110°W). 4 November 2024. TNHC 117479–117481 (DRD 12350–12352). These specimens include one juvenile (TNHC 117479: 0.4 g, 27 mm SVL, 30 mm tail length), one adult female (TNHC 117480: 2.4 g, 50 mm SVL, 54 mm tail length), and one adult male (TNHC 117481: 3.6 g, 54 mm SVL, 63 tail length) that were collected on the exterior walls of the travel stop from 1546–1553 h. These individuals represent an established population and a new parish record in south-central Louisiana (Boundy and Carr 2017). An unpublished record of *H. aff. malcolmsmithi* exists from 6.6 km to the southeast in adjacent St. Martin Parish (SLU 94).

MISSISSIPPI: HANCOCK Co.: Hancock County Welcome Center, I-10 and MS Hwy 607, Pearlinton, MS 39572 (30.31299°N, 89.59989°W). 4 November 2024. TNHC 117476–117478 (DRD 12339–12341). Three adults were collected, including two males (TNHC 117476: 1.8 g, 45 mm SVL, 52 mm tail length; TNHC 117478: 3.6 g, 56 mm SVL, 65 mm tail length) and one female (TNHC 117477: 2.9 g, 52 mm SVL, 42 mm tail length [incomplete]), on the exterior walls of the welcome center from 0443–0449 h.

These specimens represent a new county record and expand the distribution of *H. aff. malcolmsmithi* into the southwestern corner of Mississippi. Records of *H. aff. malcolmsmithi* are present in adjacent Harrison County, Mississippi (see below) and St. Tammany Parish, Louisiana (Boundy and Carr 2017). The nearest known specimen is from ca. 62.3 km to the southwest in Orleans Parish, Louisiana (TNHC 117511).

MISSISSIPPI: HARRISON CO.: Love's Travel Stop, 11332 Cedar Lake Rd, Biloxi, MS 39532 (30.45225°N, 88.93345°W). 4 November 2024. TNHC 117472–117475 (DRD 12333–12336). These specimens, which consist of three juveniles (TNHC 117472–117474: 0.3–0.8 g, 23–36 mm SVL, 23–42 mm tail length) and one adult female (TNHC 117475: 2.4 g, 53 mm SVL, 60 mm tail length), represent a new county record of *H. aff. malcolmsmithi* in southern Mississippi. Records of *H. aff. malcolmsmithi* are known from adjacent Hancock and Jackson counties (see above; see below). The nearest known specimen is from ca. 29.9 km to the east in Jackson County, Mississippi (TNHC 117463–117471; see below).

MISSISSIPPI: JACKSON CO.: I-10 Eastbound Rest Stop, MM-63, Gautier, MS 39553 (30.43688°N, 88.62240°W). 4 November 2024. TNHC 117463–117471 (DRD 12324–12332). Three juveniles (TNHC 117463–117465: 0.3–0.9 g, 22–35 mm SVL, 20–38 mm tail length), four adult females (TNHC 117466–117469: 1.8–2.3 g, 45–51 mm SVL, 54–57 mm tail length), and two adult males (TNHC 117470: 1.6 g, 42 mm SVL, 51 mm tail length; TNHC 117471: 3.7 g, 55 mm SVL, 65 mm tail length) were collected from 0241–0251 h on the exterior walls of several buildings. These individuals represent a new county record and a well-established population, expanding the distribution of *H. aff. malcolmsmithi* into the southeastern corner of Mississippi. Interestingly, no *H. aff. malcolmsmithi* were detected during surveys at the Jackson County Welcome Center located along I-10 Westbound (30.46237°N, 88.43431°W) nor at the I-10 Westbound Rest Stop (30.43863°N, 88.61907°W), which is only 0.3 airline km NE of the I-10 Eastbound Rest Stop locality reported above. Though not definitive, this suggests that the introduction of *H. aff. malcolmsmithi* is occurring in an eastward direction along I-10 in this region, which seems plausible if individuals are spreading out from New Orleans or other areas where they have previously been established. Records of *H. aff. malcolmsmithi* occur in adjacent Harrison County, Mississippi (see above) and Mobile County, Alabama (Genter and Davis, *in press*). The nearest known specimen is from ca. 22.9 km to the east in Mobile County, Alabama (UF 194087; Genter and Davis, *in press*).

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