

First Identification of Caudal Bifurcation in the Texas Spotted Whiptail (*Aspidoscelis gularis gularis*)

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Caudal wounds in many species of lizards can cause a variety of responses, ranging from simple wound healing and continued tail growth to the development of one or more supernumerary branches at the injury site. An injury to the tail in many lizards (i.e., incomplete caudal loss) most often results in a bifurcated tail (i.e., old tail growth and new tail growth; Bateman and Fleming 2009, Pheasey et al. 2014, Walker and Flanagan 2019). Caudal bifurcation has been documented in numerous groups of lizard species that exhibit tail regeneration (e.g., iguanids, scincids, lacertids, agamids, and geckonids [Tamar et al. 2013, Vergilov and Natchev 2017, Koleska 2018, Ofori 2018]) and groups of salamander species that exhibit tail regeneration (e.g., salamandrids, ambystomatids, and plethodontids [Semlitch et al. 1981, Henle et al. 2012, Hartzell 2017]).

Although *Aspidoscelis* is a diverse lizard genus, tail bifurcation has only been documented in relatively few species within this group. More specifically, tail bifurcation has only been reported in five species within *Aspidoscelis*: *A. exsanguis*, *A. neomexicana*, *A. uniparens* (Bateman and Chung-MacCoubrey 2013), *A. sexlineatus* (Trauth et al. 2014) and *A. velox* (Cordes and Walker 2013, Caicedo-Martínez et al. 2022). However, other closely related species with documented tail bifurcation include *Cnemidophorus lemniscatus* (Walker and Flanagan 2019) and *Kentropyx pelviceps* (Caicedo-Martínez et al. 2022). Here, we report the first known instance of tail bifurcation in the Texas Spotted Whiptail (*Aspidoscelis gularis gularis*; Baird and Girard, 1852).

On Tuesday, 11 July 2023, a male *A. g. gularis* was captured in a prawn trap (ca. 26.0640°N, -98.0234°W, WGS84) used to capture whiptail lizards as part of a larger field study at the La Coma Land Tract. This is a small natural area within the Lower Rio Grande Valley National Wildlife Refuge and is situated directly south of Weslaco, Hidalgo County, Texas. It stretches roughly 1.754 km along the Rio Grande (i.e., ca. 26.059809°N, -98.021574°W to 26.063297°N,

-98.032800°W, WGS84, elev. ca. 23 m). Our observation was unusual in that it exemplified an early stage of tail bifurcation (Fig. 1, C and D), with the secondary tail growth measuring only 6 mm from the node of bifurcation. The dorsal and ventral color patterns (Fig. 1, A and B) indicate that the individual is a male. We further everted the hemipenes to confirm the sex. This individual had a snout-vent length of 82 mm and a tail length of 162 mm. The node of tail bifurcation started 55 mm from the caudal end of the tail. Note that the images were taken post-collection of a tail clip sample (10 mm) for genetic analysis. This individual has been recaptured twice, first on Sunday, 16 July 2023 and then on Thursday, 20 July 2023.

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Fig. 1. Dorsal (A) and ventral (B) photographs of male *Aspidoscelis gularis gularis* captured with a bifurcated tail. Photographs C and D exemplify the positioning of the observed tail bifurcation.