

## Additional Anuran Distribution Records from Southeastern South Dakota, USA

Historically, amphibians of southeastern South Dakota, USA, have received more attention than many other groups or regions across the state (e.g., O'Roke 1924; Underhill 1958; Fishbeck and Underhill 1960); however, through recent efforts to compile and summarize distributional data (DRD, unpubl. data), it remains clear that gaps in our knowledge of species distributions still exist. Here, I report four new distributional records of three species of anurans from southeastern South Dakota. These records help to both fill in gaps and expand the recognized distribution of these species in South Dakota. County records were determined by examining Ballinger et al. (2000), Platt et al. (2005), Davis et al. (2016, 2017a, b), Austin et al. (2017), Davis and Farkas (2018), Davis (2018, 2021), Davis and Skadsen (2020), Davis and Guadiana (2022), individual accounts published in *Herpetological Review*, and a thorough review of museum holdings. All specimens were collected by Drew R. Davis, deposited at the Biodiversity Collections, The University of Texas at Austin (TNHC), and identifications were verified by Travis J. LaDuc. Locality information was collected with a handheld GPS (WGS 84), and nomenclature used follows that of Crother (2017). Specimens were collected under a South Dakota Game, Fish and Parks Scientific Collecting Permit (2022\_#15) issued to DRD and followed an approved IACUC protocol issued by The University of Texas Rio Grande Valley (AUP #22-12). Genetic tissue samples (liver) were collected from all individuals and deposited alongside the specimen at TNHC. The nearest known occurrence records in this note are represented by voucher specimens deposited at TNHC and those part of the former University of South Dakota Herpetological Collection that is now held at the University of Nebraska State Museum (UNSM).

### ANURA — FROGS

**ANAXYRUS AMERICANUS (American Toad).** MINER CO.: US Hwy 81, ca. 0.3 rd km W jct 441<sup>st</sup> Ave (44.00806°N, 97.38416°W). 20 May 2022. TNHC 116818 (DRD 9256). Adult (unsexed, unmeasured) collected dead on a paved road following light rainfall at 0146 h. This specimen represents a new county record (Kiesow and Davis 2020) and expands the western boundary of this species in South Dakota. Previously, Fischer (1998), and subsequently Fischer et al. (1999) and Naugle et al. (2005) who relied on the same data, reported this species from Miner County based off county-level call surveys (reported detections lack precise locality information), and no vouchered material (either calls or specimens) is known to exist. *Anaxyrus americanus* is known from

adjacent Kingsbury, Lake, and McCook counties (Ballinger et al. 2000; Davis et al. 2017a, b). The nearest known specimen record is ca. 3.4 km to the east in Lake County (TNHC 116819).

**ANAXYRUS COGNATUS (Great Plains Toad).** MINER CO.: 222<sup>nd</sup> St, ca. 0.5 rd km E jct 423<sup>rd</sup> Ave (44.16856°N, 97.74377°W). 9 September 2022. TNHC 116903 (DRD 9739). Adult female (47.0 g, 70 mm SVL) collected alive on a paved road following rainfall at 2022 h. 222<sup>nd</sup> St, ca. 1.7 rd km E jct 423<sup>rd</sup> Ave (44.16860°N, 97.72887°W). 9 September 2022. TNHC 116904 (DRD 9740). Adult male (28.7 g, 60 mm SVL) collected alive on a paved road following rainfall at 2043 h. 425<sup>th</sup> Ave, ca. 0.1 rd km N jct 231<sup>st</sup> St (44.03846°N, 97.71128°W). 9 September 2022. TNHC 116906 (DRD 9742). Juvenile (4.3 g, 32 mm SVL) collected alive on a paved road following rainfall at 2158 h. 425<sup>th</sup> Ave, ca. 0.2 rd km N jct 231<sup>st</sup> St (44.03945°N, 97.71134°W). 9 September 2022. TNHC 116907 (DRD 9743). Juvenile (4.6 g, 35 mm SVL) collected alive on a paved road following rainfall at 2201 h. Additional observations exist on iNaturalist (iNat 50833456, 52664780, 53049758, 75868495; www.inaturalist.org, 7 Nov 2022) from Carthage, suggesting this species occurs across a large portion of the county. *Anaxyrus cognatus* is known from adjacent Beadle, Hanson, Kingsbury, McCook, and Sanborn counties (Ballinger et al. 2000; Davis et al. 2017b; see below). Previously, Fischer (1998), and subsequently Fischer et al. (1999) and Naugle et al. (2005) who relied on the same data, reported this species from Miner County based off county-level call surveys (reported detections lack precise locality information), and no vouchered material (either calls or specimens) is known to exist. The nearest known specimen record is ca. 17.9 km to the west-southwest in Sanborn County (TNHC 116905, see below).

SANBORN CO.: 224<sup>th</sup> St, ca. 1.1 rd km W jct 413<sup>th</sup> Ave (44.14069°N, 97.96433°W). 9 September 2022. Drew R. Davis. TNHC 116905 (DRD 9741). Adult female (41.0 g, 65 mm SVL) collected alive on a gravel road following rainfall at 2112 h. Two additional observations exist on iNaturalist (iNat 48403907, 48403959; www.inaturalist.org, 7 Nov 2022), ca. 22.0 km southwest of this vouchered specimen, suggesting that this species is widely distributed across Sanborn County. *Anaxyrus cognatus* is known from all adjacent counties (Ballinger et al. 2000; Davis et al. 2017b; see above). Previously, Fischer (1998), and subsequently Fischer et al. (1999) and Naugle et al. (2005) who relied on the same data, reported this species from Sanborn County based off county-level call surveys (reported detections lack precise locality information), and no vouchered material (either calls or specimens) is known to exist. The nearest known specimen record is ca. 14.7 km to the north-northwest in Beadle County (UNSM ZM-17240).

**ANAXYRUS WOODHOUSII (Woodhouse's Toad).** MINNEHAHA CO.: Big Sioux Recreation Area, at boat launch along Big Sioux River (43.57315°N, 96.60036°W). 6 September 2022. TNHC 116902 (DRD 9704). Adult male (46.2 g, 71 mm SVL) collected in a gravel parking area at 2146 h. This specimen represents a new county record (Kiesow and Davis 2020) and expands the distribution

#### DREW R. DAVIS

School of Earth, Environmental, and Marine Sciences,  
The University of Texas Rio Grande Valley,  
1 W University Boulevard, Brownsville, Texas 78520, USA;  
Biodiversity Collections, Department of Integrative Biology,  
The University of Texas at Austin, 10100 Burnet Road,  
PRC 176–R4000, Austin, Texas 78758, USA;  
e-mail: drew.davis@utrgv.edu

of this species in South Dakota further north up the Big Sioux River drainage. Fischer (1998), Fischer et al. (1999), and Naugle et al. (2005) list Minnehaha County as part of the species' "probable range". This vouchered individual confirms the presence of *A. woodhousii* in Minnehaha County; however, both the lack of verifiable material from anuran surveys and misidentification of voucher specimens reported by Fischer (1998) has resulted in a greatly exaggerated distribution of *A. woodhousii* across eastern South Dakota. Verifiable records of *A. woodhousii* in eastern South Dakota occur along the Missouri River from Campbell County (e.g., TNHC 103772) downstream to Union County (e.g., TNHC 108245); up the Vermillion River drainage to northeast of Centerville, Turner County (UNSM ZM-21012); up the James River drainage to Redfield, Spink County (TNHC 100574, 100575); and up the Big Sioux River drainage into Brandon, Minnehaha County (this record). *Anaxyrus woodhousii* is known from adjacent Lincoln and Turner counties, South Dakota (Ballinger et al. 2000) and Lyon County, Iowa (LeClere 2013). The nearest known specimen record is ca. 33.5 km to the south in Lincoln County (UNSM ZM-19232).

**Acknowledgements.**—I thank C. Heimerl, E. Dowd Stukel, and South Dakota Game, Fish and Parks (SDGFP) for collecting permits and continued support of my herpetological research program. Additionally, I thank T. LaDuc (TNHC) for verifying and cataloging these specimens. Funding for this research was provided, in part, by a 2022 Wildlife Diversity Small Grant from SDGFP awarded to DRD. Museum information was graciously provided by T. Labedz (UNSM).

## LITERATURE CITED

- AUSTIN, S. D., J. L. KERBY, AND D. R. DAVIS. 2017. Distributional records of amphibians and reptiles from Lake Oahe, South Dakota, USA. *Herpetol. Rev.* 48:817–820.
- BALLINGER, R. E., J. W. MEEKER, AND M. THIES. 2000. A checklist and distribution maps of the amphibians and reptiles of South Dakota. *Trans. Nebraska Acad. Sci.* 26:29–46.
- CROTHER, B. I. (ed.). 2017. Scientific and standard English names of amphibians and reptiles of North America north of Mexico, with comments regarding confidence in our understanding. 8th Edition. SSAR *Herpetol. Circ.* 43:1–103.
- DAVIS, D. R. 2018. Distributional records of amphibians and reptiles from the lower James River Valley, South Dakota, USA. *Herpetol. Rev.* 49:720–721.
- . 2021. New amphibian and reptile distribution records from eastern South Dakota, USA. *Herpetol. Rev.* 52:97–99.
- AND J. K. FARKAS. 2018. New county records of amphibians and reptiles from South Dakota, USA from 2017. *Herpetol. Rev.* 49:288–295.
- AND C. J. GUADIANA. 2022. New records of amphibians and reptiles from south-central South Dakota, USA. *Herpetol. Rev.* 53:90–92.
- AND D. R. SKADSEN. 2020. Distributional records of amphibians and reptiles from the Prairie Coteau, South Dakota, USA. *Herpetol. Rev.* 51:89–90.
- , K. J. FERGUSON, A. D. KOCH, E. A. BERG, J. R. VLCEK, AND J. L. KERBY. 2016. New amphibian and reptile county records from eastern South Dakota, USA. *Herpetol. Rev.* 47:267–270.
- , J. K. FARKAS, R. E. JOHANNSEN, K. M. LEONARD, AND J. L. KERBY. 2017a. Distributional records of amphibians and reptiles from South Dakota, USA. *Herpetol. Rev.* 48:133–137.
- , ———, ———, AND G. A. MALTAVERNE. 2017b. Historic amphibian and reptile county records from South Dakota, USA. *Herpetol. Rev.* 48:394–406.
- FISCHER, T. D. 1998. Anura of eastern South Dakota: their distribution and characteristics of their wetland habitats, 1997–1998. M.S. Thesis, South Dakota State University, Brookings, South Dakota. xii + 93 pp.
- , D. C. BACKLUND, K. E. HIGGINS, AND D. E. NAUGLE. 1999. A Field Guide to South Dakota Amphibians. SDAES Bulletin 733. South Dakota State University, Brookings, South Dakota. 52 pp.
- FISHBECK, D. W. AND J. C. UNDERHILL. 1960. Amphibians of eastern South Dakota. *Herpetologica* 16:131–136.
- KIESOW, A. M. AND D. R. DAVIS. 2020. Field Guide to Amphibians and Reptiles of South Dakota. Second Edition. South Dakota Department of Game, Fish and Parks, Pierre, South Dakota. vii + 161 pp.
- LECLERE, J. B. 2013. A Field Guide to the Amphibians and Reptiles of Iowa. ECO Herpetological Publishing & Distribution, Rodeo, New Mexico. viii + 349 pp.
- NAUGLE, D. E., T. D. FISCHER, K. E. HIGGINS, AND D. C. BACKLUND. 2005. Distribution of South Dakota anurans. In M. J. Lannoo (ed.), *Amphibian Declines: the Conservation Status of United States Species*, pp. 283–291. University of California Press, Berkeley, California.
- O'ROKE, E. C. 1924. The amphibians of South Dakota. *Proc. South Dakota Acad. Sci.* 9:13–15.
- PLATT, S. G., Z. FAST HORSE, L. B. J. WILLIAMS, S. M. MILLER, AND T. R. RAINWATER. 2005. Distribution records of amphibians and reptiles in South Dakota. *Herpetol. Rev.* 36:210–211.
- UNDERHILL, J. C. 1958. Notes on the toads of eastern South Dakota. *Copeia* 1958:149–151.