

New Amphibian and Reptile Distribution Records from Eastern South Dakota, USA

Over recent years, the continued collection of voucher specimens has helped to better document the distributions of South Dakota's amphibians and reptiles. Despite large increases in our knowledge of these distributions, it remains clear that gaps in our understanding remain. Here, I report 17 new county records of six species of amphibians and reptiles from eastern South Dakota (east of the Missouri River) that are the result of fieldwork conducted in September 2020. The majority of these records are from the northern portions of the James River Lowland, Missouri Coteau, and Drift Plains ecoregions (Bryce et al. 1998), which are areas where specimen records are lacking (DRD, unpubl. data). 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 (2018), Davis and Farkas (2018), individual accounts published in *Herpetological Review*, and a thorough review of museum holdings. All specimens were collected by Drew R. Davis and deposited at the Biodiversity Collections, University of Texas at Austin (TNHC), and all 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 (2020_#2) issued to DRD and followed an approved University of Texas Rio Grande Valley IACUC protocol (AUP #18-28). Genetic tissue samples (liver or skeletal muscle) were collected from all individuals and deposited alongside the specimen at TNHC. Many of the nearest known populations to the records included in this note are represented by voucher specimens that were also collected during September 2020 and deposited at TNHC. Additional nearest known populations are represented by voucher specimens housed at the Carnegie Museum of Natural History (CM), James Ford Bell Museum, University of Minnesota (JFBM), and the former University of South Dakota Herpetological Collection that is now housed at the University of Nebraska State Museum (UNSM).

CAUDATA — SALAMANDERS

AMBYSTOMA MAVORTIUM (Western Tiger Salamander). HYDE Co.: SD Hwy 47 at jct with 203rd St (44.44056°N, 99.44157°W). 7 September 2020. TNHC 114723 (DRD 7094). Adult male (55.4 g, 121 mm SVL, 92 mm tail length [incomplete]) collected AOR at 1817 h after a light rain. *Ambystoma mavortium* is known from adjacent Hand and Lyman counties (Ballinger et al. 2000; Davis and Farkas 2018). This species has previously been reported from Hyde County (Fischer et al. 1999), but no verifiable records or voucher specimens are known to exist. The nearest known specimen record is

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ca. 36.2 km to the east-northeast in Hand County (TNHC 106089; Davis and Farkas 2018).

ANURA — FROGS

ANAXYRUS HEMIOPHRYS (Canadian Toad). CODINGTON Co.: Eckman Game Production Area (44.97418°N, 97.15848°W). 9 September 2020. TNHC 114719 (DRD 7091). Juvenile (5.0 g, 36 mm SVL) collected under dead grass within a young shelterbelt at 1430 h. Another juvenile (TNHC 114720 [DRD 7092]: 6.4 g, 40 mm SVL) was collected nearby (44.97495°N, 97.15768°W) at 1506 h. *Anaxyrus hemiophrys* is known from adjacent Day, Grant, and Hamlin counties (Ballinger et al. 2000; Davis et al. 2017b). This species has previously been reported from Codington County (Fischer 1998; Fischer et al. 1999), but no verifiable records or voucher specimens are known to exist. The nearest known specimen record is ca. 34.9 km to the south-southeast in Hamlin County (CM 40756).

ANAXYRUS WOODHOUSII (Woodhouse's Toad). SANBORN Co.: 238th St, ca. 0.9 rd km W jct SD Hwy 37 (43.93805°N, 98.04167°W). 5 September 2020. TNHC 114706 (DRD 7007). Adult female (59.2 g, 71 mm SVL) collected AOR at 2102 h. 407th Ave, ca. 0.9 rd km N jct 236th St (43.97505°N, 98.07123°W). 5 September 2020. TNHC 114707 (DRD 7008). Adult male (51.0 g, 71 mm SVL) collected AOR at 2118 h. 407th Ave, ca. 0.8 rd km S jct 234th St (43.98781°N, 98.07142°W). 5 September 2020. TNHC 114708 (DRD 7009). Sub-adult female (19.4 g, 53 mm SVL) collected AOR at 2120 h. All specimens were located <1.2 km straight-line distance from the James River. *Anaxyrus woodhousii* is known from adjacent Beadle, Davison, and Hanson counties (Ballinger et al. 2000; Davis et al. 2017b). This species has previously been reported from Sanborn County (Fischer 1998; Fischer et al. 1999), but no verifiable records or voucher specimens are known to exist. Records for *A. woodhousii* now exist from all counties along the James River, from the Missouri River north to Spink County, South Dakota (TNHC 100574, 100575). The existence of records of *A. woodhousii* at more northern latitudes along the Missouri River in South Dakota (e.g., Campbell County: TNHC 108353) suggests that *A. woodhousii* may be documented further up the James River into Brown County in the future. The nearest known specimen record is ca. 19.5 km to the south-southwest in Davison County (UNSM ZM-18777).

TESTIDUNES — TURTLES

CHRYSEMYS PICTA (Painted Turtle). AURORA Co.: US Hwy 281 at jct with 243rd St (43.86404°N, 98.45163°W). 10 September 2020. TNHC 114797 (DRD 7060). Adult female collected DOR at 1934 h. US Hwy 281, ca. 0.3 rd km S jct 262nd St (43.58321°N, 98.44121°W). 10 September 2020. TNHC 114798 (DRD 7061). Adult male collected DOR at 1957 h. *Chrysemys picta* is known from all adjacent counties (Ballinger et al. 2000; Davis et al. 2017b; Davis and Farkas 2018; see below). The nearest known specimen records to these vouchers are from ca. 14.5 km to the northeast in Jerauld County (USNM ZM-23829) and ca. 25.4 km to the south-southeast in Douglas County (TNHC 114800; see below), respectively.

BUFFALO Co.: SD Hwy 34, ca. 2.9 rd km W jct 356th Ave (44.07829°N, 99.10229°W). 9 September 2020. TNHC 114796 (DRD 7059). Adult female collected DOR at 2054 h. *Chrysemys picta* is known from all adjacent counties (Ballinger et al. 2000; Davis et al. 2017b; see below). The nearest known specimen record is ca. 34.2 km to the southwest in Brule County (TNHC 112242).

BROWN Co.: Co Rd 13 (W Richmond Rd), ca. 0.6 rd km W jct 384th Ave (45.51789°N, 98.56460°W). 6 September 2020. TNHC 114755 (DRD 7030). Adult male (142.2 g, 103 mm carapace length, 97 mm plastron length) collected DOR at 1238 h. US Hwy 12, ca. 0.5 rd km W jct 378th Ave (45.44469°N, 98.64629°W). 6 September 2020. TNHC 114756 (DRD 7031). Juvenile female (84.1 g, 90 mm carapace length, 84 mm plastron length) collected DOR at 1519 h. *Chrysemys picta* is known from all adjacent counties in South Dakota (Ballinger et al. 2000; Davis et al. 2017a, b; see below). The nearest record to both these two occurrences is ca. 45.9 and 35.7 km to the southwest in Faulk County (TNHC 114791), respectively.

DOUGLAS Co.: US Hwy 281, ca. 0.4 rd km N jct 278th St (43.35892°N, 98.34598°W). 10 September 2020. TNHC 114799 (DRD 7062). Juvenile collected DOR at 2051 h. US Hwy 281, ca. 1.1 rd km N jct 278th St (43.36525°N, 98.34649°W). 10 September 2020. TNHC 114800 (DRD 7063). Juvenile collected DOR at 2054 h. *Chrysemys picta* is known from all adjacent counties (Ballinger et al. 2000; see above). The nearest record to both these two occurrences is ca. 15.3 and 15.9 km southwest in Charles Mix County (UNSM ZM-23592), respectively.

EDMUNDS Co.: US Hwy 12, ca. 0.2 rd km W jct 346th Ave (45.44836°N, 99.27956°W). 6 September 2020. TNHC 114757 (DRD 7032). Juvenile (46.2 g, 77 mm carapace length, 72 mm plastron length) collected DOR at 1732 h. *Chrysemys picta* is known from all adjacent counties (Ballinger et al. 2000; Austin et al. 2017; Davis et al. 2017b; see above; see below). The nearest known specimen record is ca. 33.3 km to the northeast in McPherson County (TNHC 114789; see below).

HAND Co.: SD Hwy 45, ca. 0.6 rd km N jct 186th St (44.69822°N, 98.98830°W). 6 September 2020. TNHC 114790 (DRD 7028). Subadult female collected DOR at 1055 h. *Chrysemys picta* is known from all adjacent counties (Ballinger et al. 2000; Davis et al. 2017b; see above; see below). The nearest known specimen record is ca. 35.8 km to the southeast in Beadle County (TNHC 114759).

HYDE Co.: US Hwy 14 at jct with 338th Ave (44.52788°N, 99.42146°W). 7 September 2020. TNHC 114794 (DRD 7052). Adult male collected DOR at 1803 h. *Chrysemys picta* is known from all adjacent counties (Ballinger et al. 2000; Austin et al. 2017; Davis et al. 2017b; Davis and Farkas 2018; see above). The nearest known specimen record is ca. 39.2 km to the northeast in Hand County (TNHC 114790).

McPHERSON Co.: SD Hwy 10, ca. 0.8 rd km W jct 355th Ave (45.72292°N, 99.10722°W). 6 September 2020. TNHC 114789 (DRD 7033). Adult male (452.8 g, 157 mm carapace length, 151 mm plastron length) collected AOR at 1618 h. SD Hwy 10, ca. 0.6 rd km W jct 350th Ave (45.75088°N, 99.20804°W). 6 September 2020. TNHC 114758 (DRD 7034). Adult male (292.8 g, 136 mm carapace length, 128 mm plastron length) collected AOR at 1632 h. SD Hwy 10, ca. 1.3 rd km E jct 342nd Ave (45.76684°N, 99.32886°W). 10 September 2020. TNHC 114801 (DRD 7064). Juvenile collected DOR at 1431 h. *Chrysemys picta* is known from all adjacent counties in South Dakota (Ballinger et al. 2000; Austin et al. 2017; see above) and McIntosh County, North Dakota (LeClere et al. 2009). The nearest record to all these three occurrences is ca. 33.3, 34.0, and 35.6 km south in Edmunds County (TNHC 114757), respectively.

SPINK Co.: US Hwy 212, ca. 0.5 rd km E jct 408th Ave (44.89238°N, 98.05804°W). 9 September 2020. TNHC 114760 (DRD 7058). Adult male (156.9 g, 110 mm carapace length, 101 mm plastron length) collected AOR at 1252 h. *Chrysemys picta* is known from all adjacent counties (Ballinger et al. 2000; Davis et al. 2017b; Davis and Farkas 2018; see above). The nearest known specimen record is ca. 43.5 km to the northeast in Clark County (TNHC 106061; Davis and Farkas 2018).

Despite Bandas (2003) and Bandas and Higgins (2004) stating that *C. picta* had been captured or observed in all 44 counties of eastern South Dakota (east of the Missouri River), including the nine counties listed above, they collected no verifiable records (photographs or voucher specimens). Additionally, *C. picta* was reported from Douglas County by Backlund (2005), but no vouchered material exists. The voucher specimens listed above now provide verifiable occurrence records at these localities, resulting in *C. picta* being recognized across in all 44 counties of eastern South Dakota.

SQUAMATA — SNAKES

OPHEODRYS VERNALIS (Smooth Greensnake). BROWN Co.: Richmond Lake Recreation Area, Forest Drive Area, trail near picnic shelter (45.54067°N, 98.61014°W). 10 September 2020. TNHC 114712 (DRD 7037). Hatchling male (1.1 g, 110 mm SVL, 51 mm tail length) collected alive at 1200 h. *Ophedryis vernalis* is known from adjacent Edmunds, Marshall, and McPherson counties (Ballinger et al. 2000; Davis and Zimmer 2017; see below). The nearest known specimen record is ca. 49.3 km to the southwest in Edmunds County (TNHC 114711).

McPHERSON Co.: SD Hwy 247 at jct with SD Hwy 10 (45.76664°N, 99.36596°W). 6 September 2020. TNHC 114710 (DRD 7035). Adult female (4.7 g, 212 mm SVL, 83 mm tail length) collected DOR at 1647 h. *Ophedryis vernalis* is known from adjacent Brown, Edmunds, and Walworth counties (Davis and Zimmer 2017; see above; see below). The nearest known specimen record is ca. 29.3 km to the southwest in Edmunds County (TNHC 114713).

WALWORTH Co.: 322nd Ave, ca. 1.8 rd km N jct 132nd St (45.49327°N, 99.72860°W). 10 September 2020. TNHC 114714 (DRD 7068). Adult female (7.4 g, 270 mm SVL, 97 mm tail length) collected DOR at 1522 h. *Ophedryis vernalis* is known from adjacent Edmunds and McPherson counties (Davis and Zimmer 2017; see above). The nearest known specimen record is ca. 6.5 km to the east in Edmunds County (TNHC 106102; Davis and Zimmer 2017).

THAMNOPHIS RADIX (Plains Gartersnake). CLARK Co.: SD Hwy 25, ca. 1.1 rd km S jct SD Hwy 20 (45.08406°N, 97.53484°W). 6 September 2020. TNHC 114742 (DRD 7041). Adult female (116.0 g, 585 mm SVL, 157 mm tail length [incomplete]) collected DOR at 2044 h. *Thamnophis radix* is known from all adjacent counties (Ballinger et al. 2000; Davis et al. 2017b; see below). The nearest known specimen record is ca. 18.2 km to the southeast in Codington County (JFBM R-1049).

SPINK Co.: SD Hwy 26, ca. 1.4 rd km W jct 378th Ave (44.82185°N, 98.64263°W). 5 September 2020. TNHC 114379 (DRD 7006). Adult female (152.2 g, 670 mm SVL, 174 mm tail length) collected DOR at 2359 h. US Hwy 212, ca. 0.3 rd km W jct 388th Ave (44.87902°N, 98.45836°W). 6 September 2020. TNHC 114743 (DRD 7042). Adult female (117.6 g, 650 mm SVL, 68 mm tail length [incomplete]) collected DOR at 2154 h. *Thamnophis radix* is known from all adjacent counties (Ballinger et al. 2000; Davis et al. 2017b; see above). The nearest known specimen records to these vouchers

are from ca. 30.9 km to the southwest in Hand County (TNHC 114740) and ca. 38.7 km to the south in Beadle County (TNHC 114748), respectively.

With these two records, voucher specimens of *T. radix* now exist from every county in South Dakota, confirming the expected state-wide distribution of this species (Thompson and Backlund 1998; Kiesow 2006).

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