associated with amphibian population declines. Here, we present an observation of polydactyly in a unisexual salamander from the *Ambystoma laterale-jeffersonianum* complex. All handling and tissue collection was done under proper permits (UMaine IACUC permit A2023-02-02, Maine IF&W Scientific Collection Permit 2023-686).

The salamander was captured on 18 April 2024 in an aquatic funnel trap in a forested vernal pool in Old Town, Maine, USA (44.9°N, 68.7°W; WGS 84; 32.6 m elev.), during a population study on breeding adult amphibians. Out of 154 *Ambystoma* salamanders collected at this population and out of 781 *Ambystoma* collected in the local study area over two years, no other limb abnormalities have been observed. The salamander had an SVL of 6.8 cm, a total length of 13.2 cm, and a weight of 9.9 g. A small tail clip was obtained from the individual to confirm the species identity as Unisexual *Ambystoma* (biotype not determined) via mitochondrial sequencing. The salamander exhibited polydactyly on its left foot (Fig. 1), with 10 digits growing from a single limb in a roughly symmetrical fashion and appearing as two feet fused together. One digit grew independently from the limb, offset immediately above the plane of the foot. We did not take an X-ray or conduct histological analysis to further characterize bone anatomy and potential underlying causes (e.g., trematode infection). It is unclear whether the salamander had further bone duplication consistent with polymelia.

Malformations have been reported widely in anurans and salamanders, including various species in the genus *Ambystoma* (e.g., Bishop and Hamilton 1947. Science 106:641–642) and in the Unisexual *Ambystoma* (Lannoo M. 2008. Malformed Frogs: The Collapse of Aquatic Ecosystems. University of California Press, Berkeley, California. 270 pp.). However, explicit documentation of polydactyly or polymelia in Unisexual *Ambystoma* is limited, as is comparison of malformations between Unisexual *Ambystoma* and co-occurring sexual *Ambystoma* species. Unisexual *Ambystoma*, especially those with higher levels of ploidy, have been found to display greater tail coiling, spinal curvature (Phillips et al. 1997. J. Herpetol. 31:530–535), and tissue regeneration rates (Saccucci et al. 2016. J. Zool. 300.2:77–81) than sexual species. Other characteristic morphological abnormalities are not known in Unisexual *Ambystoma*.

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***PLETHODON CINEREUS* (Eastern Red-Backed Salamander). SCOLIOSIS.** Skeletal abnormalities in amphibians may be caused by environmental contaminants, pathogens, injury, or developmental errors (Danto and McGuire 2022. Zoomorphology 141:209–220). There are few reports of scoliosis in plethodontid salamanders (e.g., *Plethodon glutinosus*, Marvin 1995. Herpetol. Rev. 26:30; *Eurycea junaluska*, Ryan 1998. Herpetol. Rev. 29:163; *P. idahoensis*, Peterson et al. 1999. Herpetol. Rev. 30:222; *Pseudotriton ruber*, Haines-Eitzen 2016. Herpetol. Rev. 47:276). Here, we report the first observation, to our knowledge, of scoliosis in *Plethodon cinereus*.

Plethodon cinereus is a widespread lungless salamander found in mainland eastern North America, inhabiting temperate forest floors within its native range. However, one established population exists outside of its native range, on the island of Newfoundland, Canada (Baxter-Gilbert et al. 2022. Can. Field-Nat. 136:5–9). The history and status of this population is currently unknown and under investigation.

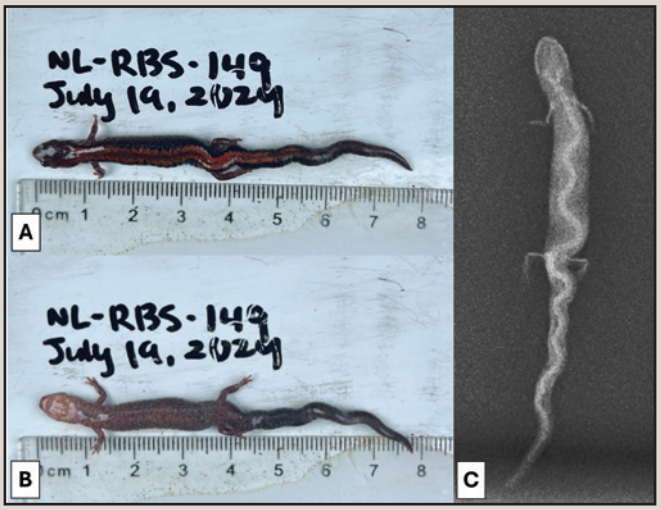

FIG. 1. *Plethodon cinereus* exhibiting scoliosis from the dorsal (A) and ventral viewpoints (B). A radiograph showing the skeletal structure of this individual's spine (C).

On 19 July 2024 at 1530 h, while surveying for *P. cinereus* in Newfoundland, we captured an adult *P. cinereus* (44 mm SVL, 77 mm total length; 1.06 g) in a residential woodlot located in Conception Bay South, Newfoundland, Canada (47.5073°N, 52.9965°W; WGS 84). The *P. cinereus* was found under a rock with a substrate temperature of 18.7°C, while the ambient air temperature was 22.4°C. We determined the *P. cinereus* to be male due to prominent cirri and an angular nose (Rucker et al. 2021. J. Fish Wildl. Manag.12:585–603). The *P. cinereus* appeared to exhibit sciolosis (Fig. 1A, 1B), which was confirmed from a radiograph of the individual's spine (Fig. 1C). The *P. cinereus* did not appear to have any issues with locomotion, suggesting that its condition was not due to recent trauma or injury and was likely congenital. Similarly, the color and pattern on the tail suggest that there was no tail autotomy or regeneration (Fig. 1A, 1B).

There are several potential factors that may have caused this salamander's scoliosis. First, the immediate habitat of this *P. cinereus* is a developed residential landscape, and the salamander may have been exposed to environmental pollutants from anthropogenic sources (e.g., Alvarez et al. 1995. Arch. Environ. Contam. Toxicol. 28:349–356). This invasive population has been seen ingesting microplastics (Williams et al. *in press*. Herpetol. Rev.). Second, due to the isolated nature of this population from the rest of the geographic range of *P. cinereus*, the reduction of gene flow over time may have led to an inbreeding depression in this population, which might contribute to mutations in the genome that lead to impaired development (e.g., inbreeding in lizards, Olsson et al. 1996. J. Evol. Biol. 9:229–242). However, previous work on *Ambystoma tigrinum* (Tiger Salamander) found no correlation between deformity rates and inbreeding (Williams et al. 2008. Biol. Lett. 5:549–552). Given that this deformity was seen in only 0.59% of the sampled individuals (N = 171), it appears that rates of scoliosis remain low within this invasive population.

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***PLETHODON CINEREUS* (Eastern Red-backed Salamander). INCOMPLETE MELANISM.** Color polymorphism has long attracted attention as a means to better understand genetic diversity and processes in ecology and evolution. Although common in anurans, color polymorphism is rare in caudate amphibians (Beukema et al. 2016. J. Zool. Syst. Evol. Res. 54:127-137). However, its wide prevalence in *Plethodon cinereus,* and the abundance of this species, has led numerous investigators to draw on *P. cinereus* as a model organism (Ryan et al. 2024. Herpetologica 80:83–90 and references cited therein). In the interests of better assessing the prevalence and distribution of color phenotypes in *P. cinereus* in North America, Ouellet and Moore (2016. Can. Field-Nat. 130:133–136) encouraged the documentation of rare color morphs in this species.

On 10 August 2024, PJC collected an unusually marked *P. cinereus* (Fig. 1; New Brunswick Museum AR-14368; 68.9 mm total length; 32.9 mm SVL) from under a coverboard adjacent to conifer-dominant mixed forest in Tantramar, Westmorland County, New Brunswick, Canada (64.51709°W, 45.88865°N; WGS 84). Dorsally, the *P. cinereus* was black with about seven irregular red blotches, while the venter was unmarked and translucent. The irises were dark. In pattern, the specimen resembled the "partially erythristic" *P. cinereus* from New Hampshire illustrated by Moore and Ouellet (2014. Can. Field-Nat 128:250–259). However, the tone of the red blotches in the live animal matched that of normal striped individuals at the site, rather than the orange-red hue seen in individuals identified as erythristic (see Jongsma 2012. Herpetol. Rev. 43:318; Moore and Ouellet 2014, *op. cit.*; McAlpine et al. 2022. Herpetol. Rev 53:460). Among 1002 specimens of *P. cinereus* from New Brunswick in the New Brunswick Museum collection, no others resemble this variant, suggesting it is exceedingly rare.

Moore and Ouellet (2014, *op. cit.*) reviewed color phenotypes in *P. cinereus* in North America, reporting that the striped, lead-backed (unstriped), and erythristic morphs were the most widespread among eight color morphs reported to date. Most studies of color polymorphism in *P. cinereus* have focused on at least two of these three phenotypes (Davis and Milanovich 2010. Curr. Biol. 56:238–243; Kraemer et al. 2012. Copeia 2012:748–55; Ryan et al. 2024, *op. cit.*), which can occur at high enough frequencies to facilitate study. Other phenotypes (albino, amelanistic, iridistic, leucistic, melanistic) apparently occur rarely. Moore and Ouellet (2014, *op. cit.*) and others (e.g., Chapman et al. 2017. Virginia J. Sci. 68:10.25778/VCC9-MM67; Grant et al. 2018. J. Herpetol. 52:127–135) approach these phenotypes as discrete, although intermediate coloration among these morphs has been reported and illustrated (Moore and Ouellet 2014, *op. cit.*; Ouellet and Moore 2016, *op. cit.*). Furthermore, pigment cells populated with reflecting platelets (iridiophores) produce the iridistic form (Kraemer et al. 2012, *op. cit.*), which potentially overlaps with all other phenotypes. To date, in North America, the melanistic morph of *P. cinereus* has only been reported from Quebec (Moore and Ouellet 2014, *op. cit.*). The phenotype is apparently readily identified by its uniform dark coloration and translucent belly, the latter differentiating the phenotype from the salt-and-pepper venter of darker forms of the lead-back morph (Moore and Ouellet 2014, *op. cit.*).

FIG. 1. Incomplete melanistic *Plethodon cinereus* collected 10 August 2024, Tantramar, Westmorland County, New Brunswick, Canada (NBM-AR-14368).

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ANURA — FROGS

***ANAXYRUS AMERICANUS* (American Toad). ARBOREAL BEHAVIOR.** *Anaxyrus americanus* is a common species of toad found throughout the eastern United States and Canada (Conant and Collins 1998. A Field Guide to Reptiles and Amphibians. Eastern and Central North America. Third Edition. Houghton Mifflin Company, Boston, Massachusetts. 616 pp.). *Anaxyrus americanus* has been described as a terrestrial amphibian that spends time both on land and in water during the breeding season (e.g., Jermakowicz et al. 2004. J. Morphol. 261:225–248). To date, there have only been a smattering of documented reports of climbing behavior or arboreal habitat use in North American bufonids (but see Pitt et al. 2015. Herpetol. Rev. 46:229–230; Moberg and Moberg, 2022. Herpetol. Rev. 53:460–461).

We observed arboreal behavior by an *A. americanus* (ca. 5.0 cm SVL) while camping on a peninsula located on Kawishiwi Lake in the Boundary Waters Canoe Area Wilderness (BWCA), Minnesota, USA. (47.8495°N, 91.1153°W; WGS 84; Fig. 1). In a global context, the BWCA is in the southern edge of the boreal forest biome, which is the largest biome in the world, crossing northern Asia, Europe, and North America. The *A. americanus* was observed at 1930 h on 30 September 2022 and was 0.89 meters from the forest floor near a cavity on the trunk of an *Abies balsamea* (Balsam Fir). When approached, the toad moved slightly closer to the cavity in the fir, though it was not observed entering the cavity. In a visit to the tree the next morning at ca. 0700 h, the *A. americanus* was no longer seen on the trunk of the *A. balsamea*.

There has been increasing evidence that arboreal behavior in *A. americanus* and other bufonids is more common than previously believed. Consistent with our observations in the