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SHORTER CONTRIBUTIONS

INCIDENTAL HERPETOLOGICAL OBSERVATIONS FROM A BUMBLE BEE HABITAT SURVEY IN HIGHLAND COUNTY, VIRGINIA

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ABSTRACT

Details are provided for observations of 13 taxa (12 species and one species complex) of reptiles and amphibians encountered incidentally during a bumble bee (*Bombus* sp.) habitat survey in Highland County, Virginia. They included a first county record for Fowler’s toad (*Anaxyrus fowleri* [Hinckley, 1882]), along with three other anurans, three salamanders, four snakes, and one turtle.

Keywords: anurans, Bullpasture River, salamanders, snakes, turtles.

In May and June 2020, the authors were part of a team of biologists involved in an assessment of bumble bee (*Bombus* sp.) habitat on a private parcel of land in southern Highland County, Virginia. This property was in consideration for use as a mitigation site during the proposed development of the Atlantic Coast Pipeline (ACP) by Dominion Energy and Duke Energy. Many studies involving extensive field work, biological and otherwise, had been completed or were in progress when the proposed pipeline was cancelled in July 2020, including the bumble bee study we were involved in. As a result of the ACP cancellation, the bumble bee study was left incomplete, and data from this study, and presumably others, went unreported. In this article, we are reporting herpetological observations which were made incidentally while we were surveying bee habitat on the proposed mitigation site.

The property that was being considered for a mitigation site is located on either side of the Bullpasture River, with the western border of the tract located along state route 678 (Bullpasture River Road) at its intersection with state route 609 (Burnsville Road). Much of the northwestern portion of the site between the road and the river was a damp meadow with scattered shrubs. The

southeastern portion of the property extends up the western slope of a western arm of Bullpasture Mountain, with the southeast border following the ridge crest and in places bordering a unit of the state-owned Highland Wildlife Management Area. The slopes were mainly wooded, mostly with deciduous forest. The landscape has karst features, with some sinkholes noted on the property, though no cave entrances were recorded. An abandoned house, a storage shed, and a swinging bridge over the river were among the manmade features of the property, some of which had been used as farmland in the past. Elevations on the property range from about 1790 feet along the river to 2600+ feet atop the mountain ridge.

The observations reported here were made during field work at the site on 22-24 May and 15-16 June 2020. While assessing bumble bee habitat, we worked in teams of two and performed pedestrian surveys that covered the entire property aside from the stream. The reptiles and amphibians noted and discussed in this article were found incidentally to these surveys, either during the surveys themselves or while walking to or from survey sites.

Following is a list of the 13 amphibian and reptile taxa that were found, along with comments about their occurrence on the site and any significance we noted about the records. The order and names in this list follow the taxonomy in the most recent version of the checklist published by the Society for the Study of Amphibians and Reptiles (Nicholson, 2025). In the following reports, the authors of this article are identified by initials (TB and CMS).

Anurans

Anaxyrus americanus (Holbrook, 1836) (American toad). One was captured, photographed, and released on 15 June 2020 by CMS.

Anaxyrus fowleri (Hinckley, 1882) (Fowler's toad). CMS captured one, photographed it, and released it on 16 June 2020. This appears to be the first county record for Fowler's toad, based on information at the website of the Virginia Herpetological Society (VHS, 2025), and is being reported to that organization as such.

Dryophytes versicolor (LeConte, 1825) (gray treefrog). Considered a "species complex" by Nicholson (2025), in western Virginia *D. versicolor* (*sensu lato*) should be distinguished from *Dryophytes chrysoscelis* (Cope, 1880) by voice. The species was heard calling on 23 May 2020 by TB and other observers. Based on the VHS (2025) website, this would be the first county record of the species, but no recording of the frog's vocalizations was made.

Lithobates clamitans (Latreille, 1801) (green frog). Heard calling on 16 June 2020 by one of our co-workers. CMS (Stinson, 2020) recorded a vocalizing green frog in Highland County on 8 July 2020 which was reported as a first documented record for the county but noted that he had heard the species calling in Highland County "in late May, June, and early July" on several occasions. This report therefore complements and pre-dates that observation.

Lithobates sylvaticus (LeConte, 1825) (wood frog). Two different individuals of this species were captured, photographed, and released by CMS on 15 June 2020 in the forested portion of the site.

Salamanders

Plethodon cinereus (Green, 1818) (eastern red-backed salamander). This is one of the most common salamanders in wooded habitats in western Virginia, so its presence is not unexpected. One was captured, examined, and released by one of our co-workers on 23 May 2020.

Plethodon glutinosus Complex (slimy salamander). One individual of this taxon was captured, examined and released on 22 or 23 May (exact date not recorded) by one of our coworkers. No picture or specimen was taken, so we remain uncertain of the species involved; *Plethodon cylindraceus* (Harlan, 1825) and *Plethodon glutinosus* (Green, 1818) (sensu strictu) are both candidates, and the record is near the line dividing the range of these two species.

Plethodon hoffmani Highton, 1972 (valley and ridge salamander). On 15 June 2020, CMS found one of these under an overturned rock on a wooded slope. It was photographed and released.

Snakes

Lampropeltis triangulum (Lacépède, 1789) (eastern milksnake). TB captured a young individual of this species near the parking area along route 678 on 23 May 2020. It was also seen by CMS and some of our coworkers before being photographed and released.

Nerodia sipedon (Linnaeus, 1758) (common watersnake). TB saw one of these snakes on the property on 22 May 2020.

Pantherophis alleghaniensis (Holbrook, 1836) (central ratsnake). One ratsnake was found inside a shed on the property on 22 May 2020. We recognize the complexity of relationships within the ratsnakes of the *Pantherophis obsoletus* Complex; assigning the ratsnake we saw to this species is based on the information provided by Burbrink et al. (2021).

Thamnophis sirtalis (Linnaeus, 1758) (common gartersnake). TB saw one of these snakes on the property on 22 May 2020.

Turtles

Terrapene carolina (Linnaeus, 1758) (eastern box turtle). One of our co-workers reported seeing a box turtle on the property without specifying the exact date of their sighting. According to a review of the VHS (2025) website, there is no previous record of this species for Highland County. Unfortunately, no picture was taken of the turtle, but the individual who reported it is a professional herpetologist with extensive experience in the eastern United States, and we have no reason to doubt his report of this easy-to-identify turtle.

As noted in the introduction, the animals reported here were found incidentally to a survey of bumble bee habitat. We are not presenting these records with any pretention to this being a complete assessment of reptiles and amphibians present in the area studied, but rather as an example of the sort of valuable but incidental reports that can be made concurrently with more formal surveys for other taxa. As a result of the cancellation of the ACP, the bumble bee study at

the mitigation site was abandoned while partly completed. We suspect that additional reptile and amphibian species could have been found on the property during the additional time provided by the planned (but canceled) surveys if they had occurred.

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