

A New Long-tailed Weasel County Record in Shenandoah National Park

Jason V. Lombardi¹, Michael T. Mengak^{1*}, Steven B. Castleberry¹, V. K. Terrell¹,
and Mike Fies²

¹*Daniel B. Warnell School of Forestry and Natural Resources,
University of Georgia, Athens, GA 30602.*

²*Virginia Department of Game and Inland Fisheries, Verona, VA 24482*

*Corresponding Author - Email: mmengak@uga.edu

ABSTRACT

Though abundant throughout much of its range, the ecology and local geographic distribution of *Mustela frenata* (Long-tailed Weasel) is not well-known, especially in the central Appalachian Mountains. In 2015, we conducted a camera study in rock outcrop habitats within Shenandoah National Park, Virginia. Our objective was to determine the presence of mammals considered uncommon in these habitats. After 2,016 trap nights, we report eleven photographic captures of Long-tailed Weasels at eight sites. Two of these sites represent the first record of this species in Rappahannock County, Virginia. These detections represent the first record of Long-tailed Weasels in Shenandoah National Park in 60 years and extend their known range within the Park.

Mustela frenata Lichtenstein (Long-tailed Weasel), is abundant throughout most of its geographic range, which extends from southern Canada to northwestern South America (Chapman 2007). Long-tailed Weasels are considered habitat generalists, as they have been found in low-elevation agriculture areas to high-elevation (2,133 m) forests of Colorado (Chapman 2007, Quick 1949). However, their ecology and geographic distribution throughout the eastern United States as compared to other furbearer species is essentially unknown (Richter and Schauber 2006). According to the International Union for Conservation in Nature (IUCN), they are considered Stable-Least Concern throughout their geographic range (Reid and Helgren 2008). In the Central - Southern Appalachian Mountains, they are considered vulnerable in North Carolina and uncommon in West Virginia, but secure in Maryland, Tennessee and Virginia (Webster et al. 1985, Chapman 2007, WVDNR 2001). In the Great Smoky Mountains National Park (GRSM), Linzey (1994) states that this weasel is “fairly common” but lists only eight locations in a park that is nearly twice the size of Shenandoah National Park (SHEN). In SHEN, only five confirmed records of Long-tailed Weasels exist (Manville 1956). Only one other nearby record outside of the Park (e.g. Warren County, Smithsonian Conservation Center, Front Royal; Lat 38 53 42.6, Long -78 09 49.6; live capture – released alive) exists (VDGIF 2013).

Over the course of 18 weeks during the spring-early fall 2015, we conducted a camera study at 48 rock outcrop sites in SHEN. The overall objective of this project was to investigate the presence and distribution of Long-tailed Weasels, *Spilogale putorius* (L.) (Eastern Spotted Skunk), *Neotoma magister* Baird (Allegheny Woodrats), *Mustela nivalis* (L.) (Least Weasel), and *Martes pennanti* Erxleben (Fisher). In the paper, we confine our results to new records of Long-tailed Weasels. Camera sites were primarily located in rock outcrop habitat types (e.g., talus slopes, boulder fields, cliff lines & faces, and rock barrens) in both Mesophytic *Quercus* sp. (L.) (Oak) – *Carya* sp. Nutt. (Hickory) and Central Oak – *Pinus* sp. (L.) (Pine) Forests (USGS 2011). We detected Long-Tailed Weasels at eight sites in Warren, Page, Madison and Rappahannock Counties in the North and Central districts of SHEN (Figure 1). Previously recorded locations of Long-Tailed Weasels in SHEN (Manville 1956) include 3 sites in Page County (Park Headquarters, Gravel Ridge, and Rock Spring Shelter) and 2 in Madison County (Limberlost and near Hawksbill Gap).

In Warren County, a Long-tailed Weasel was detected on 9 June 2015 at 0323 h and again on 16 September 2015 at 0003h at Dickey Hill (Elevation 744 m; 38°85'381"N, 78°20'601"W) in a Central Oak-Pine Forest near the edge of a field. Due to the inability to identify individual Long-tailed Weasels, we are uncertain whether these were the same or different individuals. In Page County, a Long-tailed Weasel was first detected at Miller's Head Viewpoint (Elevation 991 m; 38°59'315"N, 78°39'506"W) on 3 June 2015 in a Mesophytic Oak – Hickory Forest at 0343 h. A Long-tailed Weasel was detected at a second site in Page County on 18 June 2015 at 0410 h in a closed-canopy Oak-Hickory Forest located along Skyline Drive 140 m from Hazeltop Overlook (mile marker 52) (Elevation 1006 m; 38°47'824"N, 78°45'644"W).

In Madison County, a Long-tailed Weasel was recorded at three sites. The first detection was a location in a closed canopy Oak-Hickory Forest intermixed with *Kalmia latifolia* (L.) (Mountain Laurel) (Elevation 1009 m; 38°61'762"N, 78°34'817"W) where weasels were photographed on 19 July 2015 at 0433 h, 6 September 2015 at 0021 h and 9 September 2015 at 0053 h (Figure 2). The second detection was located along a trail that cuts across an exposed talus slope on Hawksbill Mountain (elevation 1113.1 m, 38°55'683"N, 78°39'360"W) and occurred on 23 July 2015. Interestingly, this was also the same location where we recorded the first known record of an Eastern Spotted Skunk in Madison County almost two months later (Lombardi et al. In Review). The third site was located under a *Pinus rigida* Mill (Pitch Pine) on a steep talus slope near the summit of Stony Man Mountain (Elevation 1637 m; 38°59'889"N, 78°37'388"W) and occurred on 8 September 2015 at 2101 hr.

In Rappahannock County, we detected a Long-tailed Weasel at two sites, which represents the first evidence of Long-tailed Weasels in the county. The first record occurred on 3 July 2015 at North Marshall Mountain (Elevation 973 m; 38°77'382"N, 78°20'788"W) along the Appalachian Trail at 0721 h in a closed canopy Oak-Pine Forest near the edge of a cliff-face heavily dominated by Mountain Laurel and *Rhododendron* sp. (L.) *Rhododendron*. The second record was located just below the Mt. Marshall Overlook (mile marker 20) (Elevation 852 m; 38°25'140"N, 78°25'140"W) at the bottom of a steep boulder field near the edge of an Oak-Hickory Forest on 12 July 2015 at 2202 h.

The observations reported here represent the first documentation of Long-tailed Weasels in SHEN in sixty years, a new county record in Rappahannock County, VA and extends the known range of this species within the National Park. Given this species' wide habitat breadth and the spatial extent of the sampling, it suggests that Long-tailed Weasels are more common in the Park than previously thought and further research and monitoring is warranted.

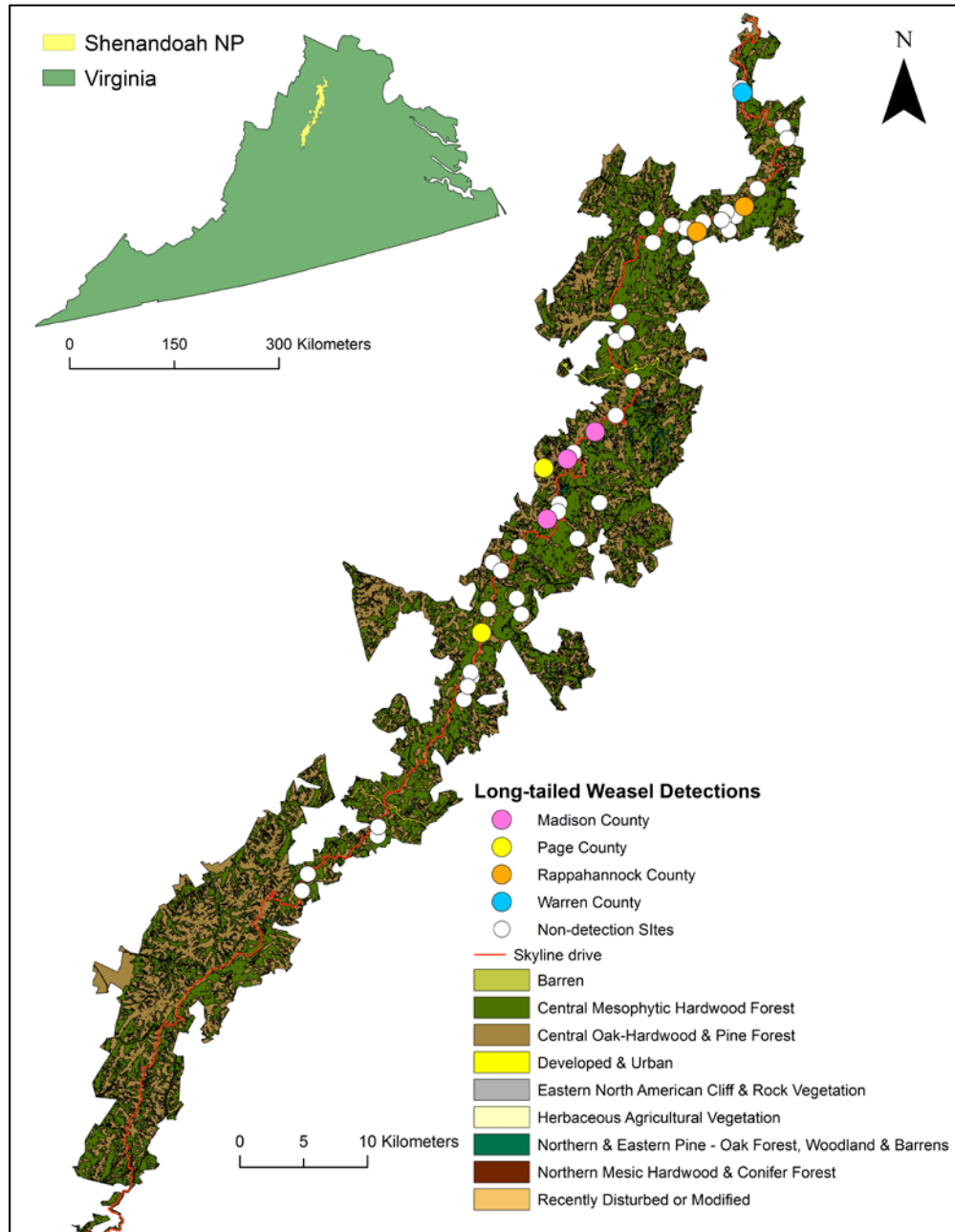


FIGURE 1: Detection sites for Long-tailed Weasels, classified by county, and non-detection sites in Shenandoah National Park, Virginia



FIGURE 2: Photographic capture of a Long-tailed Weasel in a closed canopy Oak-Hickory Forest intermixed with Mountain Laurel in Page County, Virginia, USA on 9 September 2015 at 0053h.

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