

## Report of First Specimens of *Pekania pennanti* (Fisher) from Virginia

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**Abstract** - *Pekania pennanti* (Fisher) is believed to have occurred in portions of western Virginia prior to the late 1800s. However, except for fossil remains, no specimen or evidence of this species from Virginia has ever been reported in a museum collection. Here we document recent evidence of Fishers in Virginia from verified photographic records submitted to the Virginia Department of Game and Inland Fisheries and voucher specimens deposited into the Mammal Collection of the Virginia Museum of Natural History. These recently collected and observed Fishers in Virginia are likely dispersers from expanding Fisher populations in western Maryland and eastern West Virginia. This report provides the foundation for future investigations into the distribution and abundance of this species in Virginia.

*Pekania pennanti* (Erxleben) (Fisher) occurred in the northern forests of North America before European contact (ca. 1500). The geographic range of this species in historic times was reported to have extended along the Appalachian Mountains as far south as western North Carolina and eastern Tennessee (Audubon and Bachman 1846, Kurten and Anderson 1980, Powell 1981, Strickland et al. 1982). Evidence indicates that the Fisher's range became restricted during historic times as a result of habitat loss and unregulated trapping (Lewis et al. 2012).

Virginia was likely near the southern extent of the Fisher's historic range (Lewis et al. 2012), and the abundance of this species in the Commonwealth at the time of European contact is unknown. It is believed that the Fisher occurred in portions of western Virginia into the late 1800s (Handley 1980, 1991; Handley and Patton 1947). In 1846, before West Virginia became a separate state, Audubon and Bachman (1846) described an encounter with a Fisher that was chasing a *Sciurus carolinensis* Gmelin (Gray Squirrel) on Peter's Mountain, VA. This reported location is very near the current border of Monroe County, WV, and Craig County, VA, and it is unclear whether this observation occurred within the boundaries of modern-day Virginia. In his checklist of West Virginia mammals, Kellogg (1937) cited several reports of early settlers killing "black foxes" in regions that were part of the Commonwealth of Virginia until 1863. Also, Handley and Patton (1947) stated that, as late as 1890, "black foxes" (animals they suspected were Fishers) were reported to have been killed in Highland County, VA.

More recently, Handley (1980, 1991) detailed several sightings of presumed Fishers in Highland, Rappahannock, and Rockingham counties, VA, during the early 1970s and late 1980s. Observers described the animals in such a way that Handley (1991) believed the animals were Fishers, but none of these accounts were documented by photographs or specimens. If these observations were accurate, the animals were likely dispersers from Fisher reintroduction efforts in eastern West Virginia in 1969 (Pack and Cromer 1981).

The only previously reported museum specimens of Fisher from Virginia are fossil remains from Pleistocene deposits (Eshelman and Grady 1986, FAUNMAP Working Group

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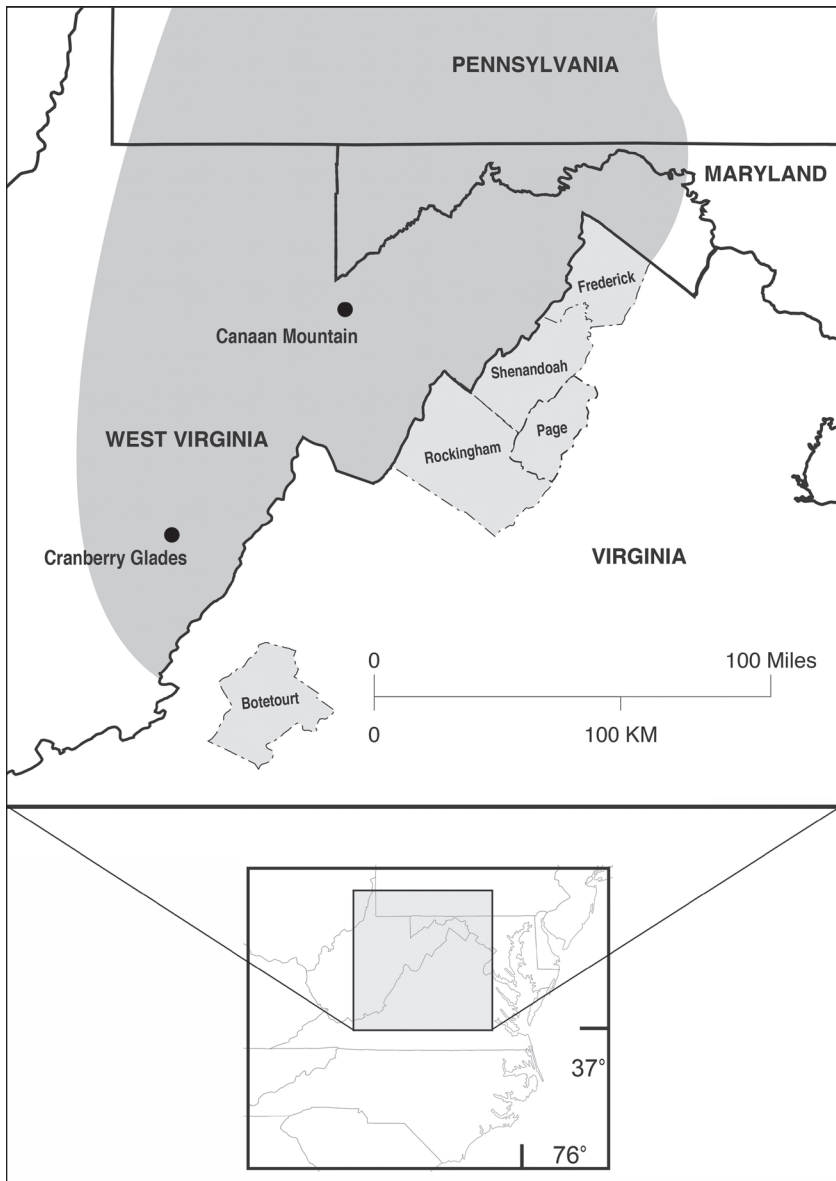
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1994). No other specimen of *P. pennanti* from Virginia has ever been reported in a museum collection (Handley 1980, 1991; Handley and Patton 1947; Linzey 1998). Herein, we provide details for the first specimens of Fishers collected in Virginia.

In 2008, personnel from the Virginia Department of Game and Inland Fisheries (VDGIF) examined and photographed 2 taxidermy mounts of Fishers that were killed by hunters in Frederick County, VA, during 2006 and 2007 (F. Frenzel, VDGIF, Edinburg, VA, pers. comm.). These mounts were not housed in a museum. More recently, between 2009 and 2015, photographs sent to one of us (M.L. Fies) confirmed the presence of Fishers in Frederick County and 4 other Virginia counties (Fig. 1).

The following 3 Fisher specimens were recently deposited into the Mammal Collection of the Virginia Museum of Natural History (VMNH). A female (VMNH 2564) was

Figure 1. Current distribution (gray shading) of *Pekania pennanti* (Fisher) in Pennsylvania, Maryland, and West Virginia (adapted from Lewis et al. 2012), and location of counties in Virginia for which there are documented photographs and/or museum specimens.



killed by a hunter near Star Tannery in Frederick County on 19 November 2011. A second female (VMNH 2565) was found dead in Frederick County on 1 March 2014 near Cross Junction, VA. A third female (VMNH 2566) was road-killed on 27 February 2014 in Shenandoah County, VA, on Interstate 81 near mile marker 293.6. Each of these 3 specimens is represented by a study skin, skull, and partial skeleton. Additionally, frozen tissue samples (heart, liver, kidney, and skeletal muscle) were preserved from each animal. A fourth Fisher, a road-killed male, was collected 8 miles north of Winchester on Route 522 in Frederick County on 5 April 2015, but this specimen has not yet been prepared and deposited into the VMNH collection.

In an effort to better understand the historical distribution of the Fisher in Virginia, we searched electronic databases of more than 50 museum collections using the VertNet portal. We sent separate information requests to 7 institutions that do not have their collections databases available online. Because this species was previously assigned to the genus *Martes*, but recently was reclassified and placed in the genus *Pekania* (Koepfli et al. 2008, Li et al. 2014, Sato et al. 2012), we used both genus names in all our queries. We found no museum records for Fisher specimens from Virginia.

The animals photographed and collected in Virginia between 2006 and 2015 almost certainly are Fishers that dispersed from expanding populations in western Maryland and eastern West Virginia. In 1969, the West Virginia Department of Natural Resources released 23 Fishers from New Hampshire at 2 sites in eastern West Virginia: Canaan Mountain and Cranberry Glades (Fig. 1; Pack and Cromer 1981). According to Pack and Cromer (1981), no known Fisher population existed within 460 km of West Virginia at that time. By 1980, the Fisher had become reestablished in West Virginia and was also documented in western Maryland (Cottrell 1978, Dzialiak et al. 2006, Pack and Cromer 1981) and reported (without specimens or photographic evidence) in western Virginia (Handley 1980, 1991).

In the late 1800s, Fishers may have been restricted to the dense, isolated spruce and fir forests on the highest ridges (Handley 1980, 1991; Handley and Patton 1947; Linzey 1998) that were perhaps the last vestiges of mature forests in Virginia. However, recent studies suggest that Fishers are much more tolerant of human activity than they were once thought to be, colonizing different habitat types than previously expected (Gess et al. 2013, Kilpatrick and Rego 1994, Kontos and Bologna 2008). In the past few decades, Fisher populations in other areas of the eastern United States have expanded their geographic range, in part because of reintroductions (Lewis et al. 2012). For example, Fishers have been documented recently in New Jersey after being extirpated during the late 1800s (Kontos and Bologna 2008).

The number of confirmed photographic records of Fishers in western Virginia has increased in recent years (M.L. Fies, pers. observ.). While this increase is almost certainly the result of range expansion by this species from eastern West Virginia and western Maryland (Cottrell 1978, Dzialiak et al. 2006, Pack and Cromer 1981), these additional photographic records may also be a reflection, in part, of the increased availability and use of digital trail cameras during the past decade. Regardless of the particular circumstances associated with the Fisher's occurrence in Virginia since 2006, this report documents recent physical evidence of this species in 5 counties, and it provides the foundation for future investigations into the distribution and abundance of Fishers in this state.

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