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A RANGE EXTENSION OF THE HISPID COTTON RAT, *SIGMODON HISPIDUS*, IN VIRGINIA. – We report recent captures of Hispid Cotton Rats (*Sigmodon hispidus virginianus*) at Addison Field (Caldwell Fields complex, Jefferson National Forest; UTM NAD83 Zone 17N, 4132500N, 559900E, elevation 510 m) in Montgomery County, Virginia (Ridge and Valley physiographic province). Addison Field is a 5.5-ha, fire-maintained early successional habitat dominated by a mixture of native and exotic herbaceous vegetation (*Verbesina occidentalis*, *Rubus hispidus*, *Lespedeza cuneata*, *Andropogon gerardi*, and *Andropogon virginicus*). We surveyed Addison Field for eight nights (19-22 May 2008, 29 June-3 July 2008) with snap traps, Sherman traps, and squirrel- and raccoon-sized tomahawk traps (944 trap-nights). We captured four live Hispid Cotton Rats (3 adult males, 1 juvenile male) in Shermans. All were subsequently measured, ear-clipped, and released near the point of capture; none were recaptured. Three additional individuals (2 adult males, 1 adult female) were taken in snap-traps; two were prepared as museum specimens and were deposited in the Radford University Biology Department's natural history collection (Accession ID #RU 2139, RU 2140). The skin and skull of one badly damaged adult male specimen were discarded. Other species captured at this site included Meadow Vole (*Microtus pennsylvanicus*), Southern Bog Lemming (*Synaptomys cooperi*), White-footed Mouse (*Peromyscus leucopus*), Deer Mouse (*P. maniculatus*), Least Shrew (*Cryptotis parva*), Northern Short-tailed Shrew (*Blarina brevicauda*), and Eastern Cottontail (*Sylvilagus floridanus*). All trapping was completed with prior approval by the Radford University Animal Care and Use Committee and under state scientific collection permit # 031158 (Francel).

Based on published reports, we discovered that these Hispid Cotton Rat captures in Montgomery County were new county records and suggest that this species may be extending its range northward and westward in Virginia. In Virginia, the cotton rat was not discovered until 1940, apparently emigrating north from North Carolina (Patton, 1941). Since then, this species has been most commonly captured in the south-central portion of the state, but captures in the Great Dismal Swamp (Rose et al., 1990) and extreme southwestern Virginia (Lee County; Davis & Barbour, 1979) also have been recorded (Linzey, 1998). This range extension is not limited to Virginia; indeed, the Hispid Cotton Rat has been expanding its range over the past century (e.g., Anderson, 1959; Clark, 1972),

including northward range extensions (e.g., Genoways & Schlitter, 1966) and with increased elevation (Dunnum et al., 2002). One statewide range map is available for the Hispid Cotton Rat: Linzey's (1998) map is based upon verified museum specimens and brief literature review (D. Linzey, pers. comm.). His map appears to follow the physiognomy of the state (and therefore includes portions of some counties).

We contacted (via e-mail) 48 colleges and universities (including all 4-year institutions in the Commonwealth of Virginia) and independent natural history museums to determine: 1) if their museum collection housed cotton rats; and, if so 2) in which counties they were collected. We also utilized MaNIS (Mammal Networked Information System; <http://manisnet.org>), the on-line mammal museum collection search engine available to query dozens of museums in a single search, and literature on cotton rat captures in Virginia (e.g., Patton, 1941; Pagels & Adleman, 1971; Pagels, 1977).

We received 24 responses from queried institutions, and discovered that the Hispid Cotton Rat was captured in two additional counties not previously documented in Linzey's (1998) map – Montgomery (described above) and Botetourt (housed at the Virginia Museum of Natural History [VMNH], Martinsville, Virginia; Fig. 1). We also report captures of the Hispid Cotton Rat in Nelson County from the mid-1990s, at elevations ranging from ca. 850-1040 m, from the Wintergreen Resort. Although no specimens could be taken, J. A. Cranford (VPI&SU), J. F. Pagels (VCU), and R. Reynolds (VDGIF) captured them from at least two sites at the resort (J. F. Pagels, pers. comm.; also anecdotally cited in Bellows et al. [2001]). As noted in Fig. 1, these new captures demonstrate that Hispid Cotton Rats are located in every physiographic province in the Commonwealth.

Reasons for these additional counties may simply be attributed to the lack of adequate surveys, or the lack of adequate data sharing. For example, the Botetourt specimen was captured in 1980 (collected on 19 April 1980 by J. E. Campbell, 5.1 km from Pines Campground; N. Moncrief, VMNH, pers. comm.), yet did not appear on any current range map. However, as data from collections are increasingly being made available in a digital format (e.g., MaNIS), these limitations may not hold true for long. Secondly, our findings may actually be documenting a true range extension, as others have suggested may be a result of a warming climate (Linzey, 1998; Mengak & Laerm, 2007). Continued trapping efforts throughout the state will increase our understanding of this species as it continues its presumed expansion northward and westward.

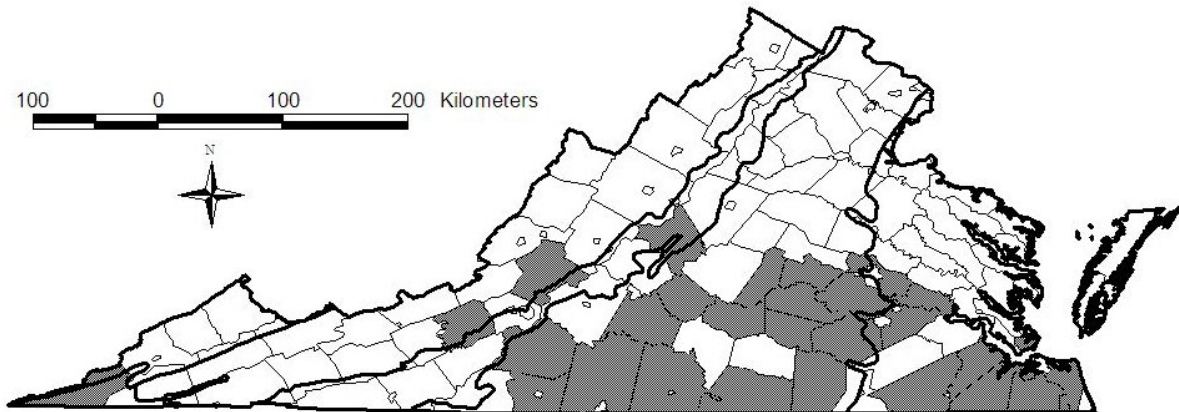


Fig. 1. Range map of *Sigmodon hispidus* in Virginia counties, based on confirmed museum records and literature reports (shaded counties). Physiographic province boundaries (from west to east: Cumberland Plateau, Ridge & Valley, Blue Ridge, Piedmont, Coastal Plain) are heavily outlined to demonstrate that Hispid Cotton Rats have been documented in every province in the Commonwealth.

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