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Distribution of the Eastern Spotted Skunk, *Spilogale putorius*, in the Early Twentieth Century

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Running Title: Distribution of the Eastern Spotted Skunk

The eastern spotted skunk (*Spilogale putorius*) is a small carnivore that was once common across the eastern United States, but which apparently has experienced significant population declines across much of its range. Because of these declines the plains spotted skunk subspecies (*S. p. interrupta*) is being considered for federal protection as an endangered species (Gompper and Hackett 2005; U.S. Fish and Wildlife Service 2012). These declines followed expansion to the north between the Mississippi River and the Rockies in the first half of the twentieth century (Van Gelder 1959). However, early range maps were published without methodological information and combined ranges of the eastern and western spotted skunk (*Spilogale gracilis*), which were considered a single species. Thus, it is difficult to ascertain the true extent of range expansion of the eastern spotted skunk during this period (Lantz 1923; Ashbrook and Arnold 1927; Van Gelder 1959).

To document the range of the spotted skunk at the beginning of the twentieth century historic records were obtained by compiling records of spotted skunk, usually described as “civet” or “civit”, captures or presence reported in Hunter, Trader, Trapper magazine from 1903-1919 and Fur News from 1907-1920; two extant magazines from this period that focused primarily on trapping. Records for which no county locality information was available were excluded from analysis. Magazine records were supplemented with museum specimens identified as eastern spotted skunks that were collected prior to 1920 that were published to VertNet (<http://www.vertnet.org>; accessed March 29, 2016) (Table 1).

A total of 690 magazine records and 243 museum specimens were collected (Table 1). Magazine records from Indiana (1), Ohio (1), Michigan (1), and Wisconsin (1) were excluded as outliers possibly due to misidentification or magazine editing mistakes. A range map was drawn to include all these county records. Where gaps existed between counties with records the map was drawn directly between these

Table 1. Eastern spotted skunk magazine and museum occurrence records prior to 1920. Magazine record numbers indicate any mention of spotted skunk being present and could represent multiple individuals while museum record numbers indicate individual specimens.

<u>State</u>	<u>Magazine</u>	<u>Museum</u>
Alabama	13	36
Arkansas	12	0
Colorado	1	2
Florida	4	53
Georgia	15	2
Illinois	1	0
Iowa	214	8
Kansas	103	71
Kentucky	3	0
Louisiana	0	4
Minnesota	42	0
Mississippi	6	1
Missouri	77	1
Nebraska	77	8
North Carolina	0	13
Oklahoma	45	13
South Carolina	1	1
South Dakota	20	1
Tennessee	5	0
Texas	42	27
Virginia	5	1
West Virginia	2	1
<u>Wyoming</u>	<u>2</u>	<u>0</u>
Total	690	243

counties so as to include the least amount of territory without documented records as possible.

This map indicates that the spotted skunk was firmly established in southern Minnesota, southeastern South Dakota, and eastern Nebraska at this time, but with a large gap along the Mississippi River valley that is perhaps associated with the bottomland hardwood habitat found in this area (Figure 1).

Illinois has generally not been included within the range of the eastern spotted skunk although there have been reports of uncertain reliability of their presence in southern Illinois (Mohr 1943). The inclusion of this

state within their range herein is based on a letter from a trapper that reported capturing a single spotted skunk while trapping along Crooked Creek in Hancock County in the winter of 1907-1908 (Manning 1908). Unlike those records from states that were excluded, this was immediately adjacent to other parts of the range. The species appeared to have been absent from the Gulf Coastal Plain of eastern Texas, northern Louisiana, southern Arkansas, and along the Gulf Coast and most of Georgia; areas that were colonized in the subsequent forty years. The western limits of the range map should be viewed with uncertainty in areas where western spotted skunk populations may overlap. Interestingly, the map generally represents the distribution of the three subspecies of eastern spotted skunks (Van Gelder 1959).

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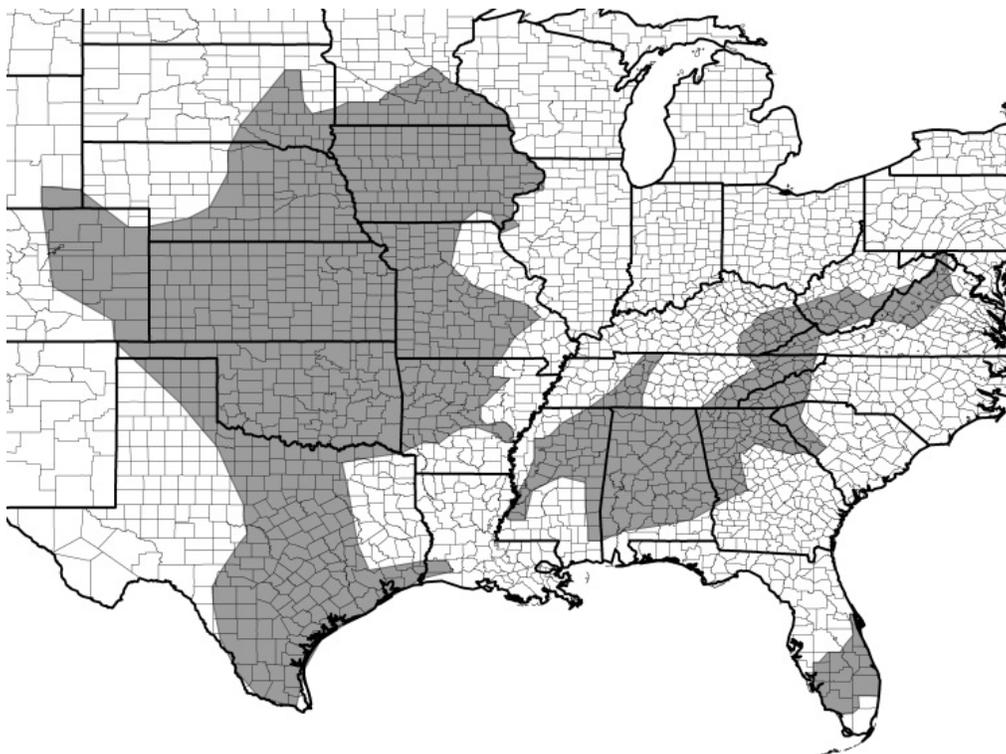


Figure 1. Distribution of the eastern spotted skunk 1900-1920.