Development of a Mammal Hair Identification Guide for Common Species in New York

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Identifying mammals by hair characteristics is valuable for wildlife management applications, law enforcement, and regulation of international treaties. Researchers use hair identification in scat- and gastrointestinal-based diet studies, genetic-based hair-snare collections, and monitoring trade of rare and protected species. No accessible mammalian hair identification key exists for New York or other northeastern states. Identification keys are beneficial for researchers, wildlife managers and interested members of the general public that attempt to identify specific taxa. We created a guard-hair identification key for common mammalian species in New York State. This key was needed to identify diet components during a suburban coyote study. We collected hair samples of common mammal species in New York from private fur collections, road-killed specimens, and museum archives. Hair samples were characterized using 10 categorical variables. We then used single-fusion, hierarchical cluster analysis (Program JMP 7.0) to rapidly facilitate the identification of unique patterns, similarities, and dissimilarities of the hair characteristics. This statistical-based analysis produced a dendrogram that was used as a road map for the structural organization of the hair key. JMP's dynamical interface allowed us to select specific branches of the dendrogram, thus highlighting the observations in the data table, and quickly identifying the important characteristics that differentiated mammal groupings and subsets. This is a new application of a multivariate technique, hierarchical cluster analysis, to rapidly develop a mammalian guard-hair identification key. This method could be used to develop locally-customized identification keys for wildlife damage research and management.

Alabama Wildlife Damage Management Website

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Alabama population growth rates have begun to soar in the last decade. A surge of new communities now exist where wildlands once stood; bringing humans into unexpected and unwanted wildlife encounters. Increasingly, citizens look to state agencies to remove unwanted animals that cause property damage or are perceived to be a threat to humans. While state agencies can provide assistance in some cases, they are not equipped to dispatch personnel to meet every individual's need. The Alabama Wildlife Damage Management website is presented as a resource for citizens to learn solutions for common wildlife damage problems in our area, learn more about the role of our state agencies in wildlife damage management, and become aware of the state laws and regulations that determine how damage management issues are resolved. Wildlife biologists and conservation officers serving in the state of Alabama were surveyed to determine the wildlife damage complaints they fielded most often that could best be handled on a self-help basis. Solutions to the reported problems were sought by interviews with various professionals in the field and through a literature review of state cooperative pamphlets addressing wildlife damage issues. The website includes practical information for constructing

exclusion devices, insight into ecological factors that attract unwanted wildlife, videos demonstrating proper trapping techniques, and contact information for professionals within the state of Alabama that offer nuisance animal removal services. The purpose of the website is to help bridge the gap between the services that our citizens request and those that the state can actually provide.

Behavioral Ecology and Management of Suburban Coyotes in Westchester County, New York

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The coyote (*Canis latrans*) is now established as a relatively common inhabitant of nearly all landscapes in the northeastern United States. However, the ecology and management of this larger, mid-sized carnivore in urban areas is poorly understood, and creates much uncertainty for residents and wildlife managers alike. Detailed behavioral ecology studies are important to understand the role of the coyote in urbanized landscapes and their interactions with humans. We are studying the behavioral ecology of coyotes in Westchester County, N.Y., a predominantly urban county directly north of New York City. We investigated the diet of coyotes through trail-based fecal collections to identify potential anthropogenic food items that could lead to negative human-coyote interactions. Concurrently, we examined the spatial ecology of coyotes using both VHF- and GPS-based telemetry. Preliminary results from the diet analysis indicated that >50% of the scats collected contained white-tailed deer (*Odocoileus virginianus*) remains. Other natural food items accounted for most of the remaining food items. No domestic dog remains have been identified in scats and only 4 scats contained domestic cat remains—3 of which were collected during the same day along the same collection trail. Spatial ecology data indicated that coyote home ranges (n = 26) averaged 5.53 km^2 ± 3.18 SD, and ranged from 1.16–12.02 km^2. Habitat use revealed that 71% of coyote locations (n = 1,987) were in natural lands, and 28% were in residential, recreational and agricultural areas. While these findings indicated the risk for negative interactions was lower than for other areas of the U.S., potential does remain for conflicts to occur. Overall, resident coyotes appear to be living natural lives and remain embedded in natural processes, while avoiding human interactions in developed landscapes.

Managing Meadow Vole Damage on a Natural Area Restoration Site

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Meadow voles (*Microtus pennsylvanicus*) can cause extensive damage to nursery and orchard plantings when food is scarce. Historically, significant research has been devoted to managing vole populations in agricultural or horticultural settings. Restoration of a former New York City municipal landfill to a native ecosystem has been hampered due to expanding vole populations.