
CAN MONTANA SHREWS BE IDENTIFIED USING MORPHOLOGY OF DORSAL GUARD HAIRS?

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Several species of shrews present in Montana are considered species of concern by state and federal agencies, primarily due to a lack of information. Current methods for identifying shrew species can be costly, potentially inaccurate, and logistically challenging. We sought to validate a novel methodology developed in the United Kingdom that uses morphological characteristics of dorsal guard hairs for identification of shrew species. Utilizing museum collections at Montana State University and the University of Montana, we sampled dorsal guard hairs from specimens of Montana shrews with known identities. We measured four length and width characteristics for each hair sample and used a discriminate function analysis to calculate the probability of correctly identify a specimen to species. We achieved >80% confidence identifying the pygmy shrew (*Sorex hoyi*), which is a species of concern in Montana, and >70% confidence identifying the Northern short-tailed shrew (*Blarina brevicauda*). To increase our ability to discriminate between species we analyzed subsets of species found within discrete ecoregions and habitats. Within these subsets we achieved >80% confidence identifying the masked shrew (*S. cinereus*), and >60% confidence identifying the dwarf shrew (*S. nanus*). These findings suggest that this new methodology is viable for some species and can provide a simple, affordable research tool for the targeted study of shrews in Montana.