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SIPHONAPTERA OF *PEROMYSCUS MANICULATUS* AND *P. TRUEI* IN CENTRAL AND WESTERN COLORADO

Helen K. Pigage*, Jon C. Pigage, and John R. Demboski

HQ USAFA/DFB, Biology Department, 2355 Faculty Drive Suite 2P389, USAF Academy, Colorado 80840-6226 (HP); Biology Department, University of Colorado Colorado Springs, 1420 Austin Bluffs Parkway, Colorado Springs, Colorado 80918 (JP); Zoology Department, Denver Museum of Nature & Science, 2001 Colorado Blvd. Denver, Colorado, 80205 (JD)

We examined 143 Siphonaptera (fleas) collected from 125 *Peromyscus maniculatus* and 20 *P. truei* from 17 counties in central and western Colorado. These fleas are housed in the Zoology collections of the Denver Museum of Nature & Science and were obtained between 2007 and 2009. Of these, 128 fleas represent 14 species collected from *P. maniculatus*, and 15 fleas of 4 species from *P. truei*. Three species of fleas, *Aetheca wagneri*, *Anomopsyllus nudatus*, and *Orchopeas leucopus* were common to both hosts. *Aetheca wagneri* was the most common flea identified and exhibited the widest distribution. The mean intensity of *A. wagneri* on *P. maniculatus* ranged from 1.0 in Archuleta County to 6.8 in Clear Creek County. We recorded the following fleas from *Peromyscus* hosts; 1 each of *Hystrichopsylla dippiei*, *H. occidentalis*, *Callistopsyllus terinus*, *Malaraeus telchinus*, *Peromyscopsylla selenis*, *Orchopeas sexdentatus*, 7 *Peromyscopsylla hesperomys adelpha*, 5 *Catallagia decipiens*, 10 *Opisodasys keeni*, and 2 *Orchopeas leucopus*. Two species of fleas, *Amaradix bitterrootensis* (Delta and Grand counties) and *Orchopeas nepos* (Delta County) were identified from *P. maniculatus* and we believe that they represent new flea distribution records for Colorado.

LINEAGE DIVERGENCE OF SINGING MICE (GENUS *SCOTINOMYS*) IN SOUTHERN CENTRAL AMERICAN HIGHLANDS

Jorge-Luis Pino*, David L. Reed, and Steven Phelps

Department of Biology and Florida Museum of Natural History, University of Florida, Gainesville, FL 32611 (JLP, DLR); Section of Integrative Biology, University of Texas at Austin, Austin, TX 78712 (SP)

Two lineages of Chiriqui brown singing mouse (*Scotinomys xerampelinus*) have been identified along their distribution in the mountains of Costa Rica and Panama based on mitochondrial cytochrome B. The greatest divergence within western lineage was 0.49% in localities separated by ~51 km (Irazu-Cuerici); greatest divergence within eastern lineage was 0.26% in localities separated by ~57 km (Pittier-Volcan Baru). *S. xerampelinus* from the two inner localities (Cuerici-Pittier), separated by ~97 km, diverged 5.39%. This divergence was unexpected since Cuerici, Pittier and Volcan Baru are located in the continuous Talamanca ridge with no evident geographic depression that could prevent current gene flow between both eastern and western lineages. A greater divergence within the western lineage compared to within the eastern lineage was expected due a depression the between Irazu locality and the Talamancan ridge where the other three localities are found. The same pattern was found in the lower elevation species, Alton's brown singing mouse (*S. teguina*), where divergence within the western lineage was 0.32% (Irazu-Cerro Gomez); 1.08% within eastern lineage (Pittier-Volcan Baru); and 4.71% between both lineages in the inner localities (Cerro Gomez-Pittier). Relatively similar geographic distances apply for *S. teguina* localities. Current divergences between lineages in both species suggests that genetic isolation could be an important factor maintaining the signal of an ancient divergence in a continuous landscape, in which case elevating populations to species status must be considered for both *S. teguina* and *S. xerampelinus*. Ongoing research in this field includes testing hypotheses of divergence timing between eastern and western lineages, determining the directionality of recent distributions and accessing lineages past distribution during the last glacial maximum; these approaches will provide a better understanding of how past climatic or geological events have promoted current phylogeographic patterns in these species.