ECOLOGY AND ENVIRONMENTAL SCIENCES

Prey Resource Partitioning Between Sympatric Bat Species, Macy J. Kailing\*, Terry L. Derting, and Gary T. ZeRuth, Department of Biological Sciences, Murray State University, Murray, KY 42071.

The decline of cave-dwelling bats since the introduction of white-nose syndrome (WNS) to North America has led to changes in community interactions as evidenced by spatial and temporal partitioning investigations. Indirect effects, such as disease-mediated competition at the community level, can influence the ability of imperiled species to recover because of competitive exclusion. To further investigate community structure following WNS, we assessed the diet of sympatric species with differential WNS susceptibility using molecular techniques. In western Kentucky, *Perimyotis subflavus* (Cuvier; susceptible) populations have severely declined following WNS occurrence. Conversely, *Nycticeius humeralis* (Rafinesque; non-susceptible) populations have increased markedly. We collected guano from *N. humeralis* (n=38) and *P. subflavus* (n=9) captured in mist nets during summer 2016. Arthropod DNA was extracted from the guano and a 157 bp target region of insect-COI was amplified. Sequences were analyzed to the lowest taxonomic level provided by the online Barcode of Life Database. *Nycticeius humeralis* consumed 165 genera belonging to 12 arthropod orders, while *P. subflavus* ate 92 genera from 8 arthropod orders. All orders consumed by *P. subflavus* were also eaten by *N. humeralis*, while 33% percent of all orders occurred exclusively in *N. humeralis*. Furthermore, *N. humeralis* consumed 61% of the genera identified in *P. subflavus*. These data support the potential of increased niche overlap between the two species based on 1) the more generalist habits of *N. humeralis* and 2) high dietary similarity between *N. humeralis* and *P. subflavus.* An increase in niche overlap may suppress the recovery of *P. subflavus* populations.