

## **Local abundance of leaf-nosed bats on the Osa Peninsula, Costa Rica**

Kieryn Houlder, Jonathan Naslund, Doris Audet\*, and Anne McIntosh\* (University of Alberta-Augustana)

### *Poster Presentation Abstract:*

Leaf-nosed bats make up over half of Neotropical bat diversity and provide essential ecological services. They can be restricted to certain distributions and habitats due to factors such as roost selection, feeding habits and the structure of forests. Arita (1993) studied the average local abundance and distribution of bats across the Neotropics, using a rank abundance and rank distribution method to categorize rare species. Our study investigated the local abundance of leaf-nosed bats based on sampling efforts carried out at Piro Biological Research station on the Osa Peninsula, Costa Rica. The purpose of this study was to (1) see how the abundance of leaf-nosed bats compared to the Neotropical average; (2) determine if trends existed among leaf-nosed bats within the same dietary group (frugivores, animalivores, nectarivores, sanguinivore); and (3) identify individual bats notably deviating away from what was expected. We created a rank local abundance vs. rank area of distribution graph. We did not observe any trends that appeared to be related to each dietary group, but seven individual species did show notable deviations. We concluded that the dietary groups often used for leaf-nosed bats are not an effective method for categorization. Individual bat species should be considered when determining reasons for rarity, considering individual dietary habits and other potential environmental factors such as moon phase.

Arita HT. 1993. Rarity in Neotropical bats: correlations with phylogeny, diet and body mass. *Ecol App.* 3(3): 506-517.

\* Indicates faculty mentor