

Liana abundance effect on avian acoustic community in tropical dry forests

B Hilje^a, S Stack^b, and A Sánchez-Azofeifa^a

^a *Earth and Atmospheric Sciences, University of Alberta, AB, Canada*

^b *Renewable Resources, University of Alberta, AB, Canada*

Dry forests are important sources of biodiversity where lianas are highly abundant given their ability to grow during times of drought, as well as a result of secondary growth processes. Lianas provide food and shelter for fauna such as birds, but there are no studies assessing the effect of liana abundance on birds in dry forests. Here we evaluate the effect of liana abundance on the avian acoustic community in the dry forests of Costa Rica at Santa Rosa National Park. We established plots in forest sites with low and high liana abundance and set up automated sound recorders to evaluate acoustic complexity.

Forest sites with high liana abundance have a more complex avian acoustic community indicating that lianas provide important resources for bird species (e.g. food, shelter, and perches). Lianas have shown negative effects on tree growth, carbon sequestration and biomass accumulation in the tropics; however, we demonstrate that lianas have a positive effect on the avian acoustic community. The positive relationship between liana abundance and birds is particularly important in dry forests where lianas are becoming highly abundant due to the level of forest disturbance and climate change, and where some bird species are restricted to this ecosystem.

Corresponding author: hiljerod@ualberta.ca