



2008 Luis F. Bacardi Post-Doctoral Award for Advances in Tropical Conservation

The Luis F. Bacardi Award for Advances in Tropical Conservation is granted to a young post-doctoral researcher (≤ 5 years after completing their PhD) for an outstanding conservation-related talk at each ATBC annual meeting. The \$300 award is generously provided by the Lube Bat Conservancy, founded by the late Luis F. Bacardi.

Marco Mello of Universidade Federal de São Carlos, Brazil, was the 2008 winner with his presentation, entitled “*Small differences may lead to big consequences: bat and bird seed dispersal networks*”. His research compared the structure and fragility of seed dispersal by bats and birds. Along with his collaborators, Marco found that bird networks were larger and more diverse than bats, however the higher proportion of avian specialists were predicted to be more sensitive to co-extinctions than bats.

The award committee would also like to honor the presentations by finalists: **Felipe Melo** (UNAM) and **Xiaodong Chen** (Michigan State University).

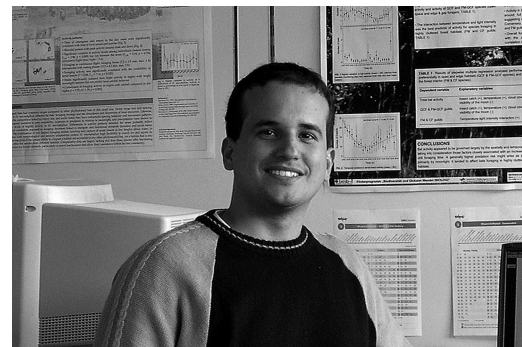
Susan G. Laurance
(Chair, Luis F. Bacardi Award)

Small Differences May Lead to Big Consequences: Bat and Bird Seed Dispersal Networks

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Although mutualisms tend to follow general patterns, small differences among systems may be pervasive. We compared the structure and fragility of seed dispersal networks formed by two key Neotropical frugivores: bats and birds. Considering the greater phylogenetic affinity of fruit bats, we expected bird networks to be more heteroge-

neous. We used species richness, nestedness, distribution of degrees, and modularity to describe networks and identify compartments. Finally, we tested network fragility by simulating extinctions. Bat networks are four times smaller, and bats disperse four times less plant families. Both bat and bird networks are highly nested, with bird networks being more heterogeneous. Bird networks have a three times higher proportion of specialists. Bat and bird networks have similar modularities, although bird networks have modules that are three times larger and more heterogeneous. Both kinds of network exhibited little change after single-species extinctions, but in bird networks the number of co-extinctions was less predictable. In simulations of cumulative extinctions bird networks collapsed 20 percent faster. Considering our results and dietary preferences of bats and birds, those small differences may result in a more robust forest regeneration service, and in a higher and more unpredictable late forest development. Forest restoration programs should work at network level, and pay attention to system fragility at each successional stage.



Marco Mello