

Role of Bats and Birds in Biodiversity Management in Man-made Ecosystems.

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Biodiversity management calls several aspects of the complexity of interactions between the individual species with rest of the other species and interdependency of other ecological factors. Birds and bats play pivotal role in disseminating the fruits (seeds) to a newer ecosystem and strengthening the establishment of plant communities in natural and man-made ecosystems. A preliminary observation relating the role of birds and bats with regard to dispersal of seeds and their germinability was initiated at four different localities of Palayamkottai, South India, between 2008 and 2014. Three species of birds, Asian Koel (*Eudynamis scolopacea*), Bul bul (*Pycnonotus cafer*) and Myna (*Aridotheres tristis*) and three species of bats, viz. *Cynopterus sphinx*, *Rousettus leschunaulti* and *Pteropus giganteus* which were visiting and feeding the fruits of *Azadirachta indica*, *Muntingia calabura*, *Lawsonia inermis*, *Polyalthia longifolia* and *Terminalia catapa* during day hours and immediately after the dusk from 6 pm to 8 pm. These fruit trees provide good forage for birds and bats during the peak fruiting seasons especially from March to July. The fruits or seeds fallen (partly eaten or chewed) under the radius of 3-5 meter and the different species of seedling emerged around the tree were recorded. It was observed that, the bats and birds carried only good and healthy fruits or seeds. Similarly, the seedlings emerged under the trees were also in good and earlier germinability and healthy. About 23 species of trees and shrubs were noted under the five trees. The emergence of seedlings of *Phoenix lourii* and *Fluggea leucopyrus* under *Polyalthia longifolia* were the result of fruits or seeds brought from dry scrub jungles of Western Ghats ecosystems nearby by the birds and bats. The emergence of seedlings of a semi parasite tree, *Santalum album* under *Muntingia calabura* tree was interesting to point out here since, this is the first host-parasite interaction report in the field of dispersal biology which was mediated by bat species.

KEY WORDS:

Biodiversity, animal-plant interactions, seed dispersal, ecosystem services and germination