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Scripps '06 Environmental Science

**The Effects of Habitat Type and Disturbance on the Species-Richness of
Fruit-Feeding Butterflies at the Firestone Center for Restoration
Ecology in Costa Rica**

Abstract

The fruit-feeding guild of nymphalid butterflies was sampled at the Firestone Center for Restoration Ecology (FCRE) in southwestern Costa Rica to investigate the effects of four habitat types on species-richness. Species-richness was expected to differ among riparian forest, secondary forest, bamboo forest and pastureland. Over two years and 53 sampling days, 1456 fruit-feeding nymphalid butterflies in 56 species and five subfamilies were caught at the FCRE. Observed species-richness was lowest in the riparian and highest in the secondary forest and pasture, but unequal samples were collected in each habitat. Rarefaction analysis showed that the pasture was the most species-rich and the bamboo the least species-rich. The observed species value in the riparian habitat fell along the rarefaction curve, indicating that the riparian zone may contain more species than indicated by raw data, although a species estimator predicted the riparian habitat to be the most species-poor. Species accumulation curves are still rising in each of the four habitats, indicating that additional fruit-feeding nymphalid species are present but have not yet been recorded. Greater species-richness in the most disturbed habitat suggests that highly disturbed habitats that are oftentimes overlooked may contribute greatly to the conservation of butterfly biodiversity.

1st Reader: McFarlane

2nd Reader: Thomson