ABSTRACT

A number of factors can influence disperser diversity and abundance, and therefore seed rain into early-successional communities. Microhabitats and distance to forest edge are important characteristics given that many disperser species prefer to inhabit late-successional forests. In this study, we determined the species density and abundance of both seed rain and their vertebrate dispersers in relation to different microhabitats (shrub-like vs. tree-like vegetation vs. grassland patches) in a 20–ha weedy-grassland mixed with early successional woody vegetation in southern Thailand. We quantified seed rain from 60 seed traps placed in each microhabitat, and compared differences in seed abundance and species richness, while also examining the effect of distance from the forest edge. Seed disperser species and abundance among microhabitats were also observed. We found that seed rain abundance, but not seed species richness, was significantly different among microhabitats. Amount of seed rain was highest under shrubs, followed by under trees and then grassland. Distance from the forest edge affected seed rain abundance under trees only. Birds (bulbuls and flowerpeckers) were the main dispersers of seeds at shrubs and trees, while bats were the primary dispersers for the grassland patches. Different seed disperser groups appear to have complementary roles, such that planting a mixture of vegetation types may significantly increase seed rain.

Key words: bat-dispersed seeds; bird-dispersed seeds; bulbuls; edge effects; forest restoration; seed dispersal