

The American Midland Naturalist

Published Quarterly by The University of Notre Dame, Notre Dame, Indiana

Vol. 162

October 2009

No. 2

Am. Midl. Nat. 162:213–223

Postdispersal Sugar Maple (*Acer saccharum*) Seed Predation by Small Mammals in a Northern Hardwood Forest

JENNIFER F. HSIA¹

Department of Biological Sciences, University of Notre Dame, Notre Dame, Indiana 46556

AND

KAREN E. FRANCL

Biology Department, Radford University, Radford, Virginia 24142

ABSTRACT.—Small granivorous mammals may have marked effects on plants through their seed predation. Using live-trapping efforts and tagged sugar maple (*Acer saccharum*) seeds in 2006 at eight mixed forest sites in the northern Great Lakes region, we asked: (1) Were small mammals seed dispersers or predators at these sites? (2) How did seed predator (*i.e.*, all granivorous small mammals) and sciurid (chipmunks and squirrels only) biomasses affect the proportion of seeds eaten? (3) How did habitat structure affect seed predator biomasses? We found that small mammals, particularly eastern chipmunks (*Tamias striatus*), were predators of sugar maple seeds as the proportion of seeds eaten and seed predator biomasses were positively related. We also found a larger seed predator biomass and the presence of eastern chipmunks in areas with higher proportions of deciduous trees. Our findings have important implications for forest regeneration, as seed predators may negatively impact restoration efforts.