



The effect of wood ant *Formica rufa* nests on distribution and growth of *Impatiens parviflora*

Michal Holec (1), Diana Holcová (1), and Jan Frouz (2)

(1) Jan Evangelista Purkyně University in Ústí nad Labem, Ústí nad Labem, the Czech Republic (michal.holec@ujep.cz), (2) Institute for Environmental Studies, Faculty of Science, Charles University in Prague, Prague, the Czech Republic (frouz@natur.cuni.cz)

The effect of wood ants *Formica rufa* on distribution of introduces invasive jewelweed *Impatiens parviflora* was studied in oak forest in North west of the Czech Republic. Jewelweed occurred only rarely in the forest floor, the average density was 3.2 plant m⁻² here while on and around the ant nest mounds the jewelweed density reached 85.4 plant m⁻². Jewelweed growing on the nest mounds were also significantly taller, bigger, with more flowers and produced more seeds than plants in surrounding forest floor. Better growth of jewelweed in ant nests apparently corresponds with significantly higher content of nitrates and available phosphorus in the nest compare to forest floor. Seed collection experiment show that ants do not selectively collect jewelweed seeds but may collect them randomly in about the same rates as other organic material. This non targeted collection however may be sufficient to make sure that some seeds get close or in to the nest where population can grow vigorously due to suitable soil conditions.