ABSTRACT

Three of *Impatiens* species are widespread in the Czech republic, one is native, two of them invasive. Because all species occur in relatively similar habitats, the question is, whether the invasive species can negatively affect the native species, or even the original can be displaced. The aim of the thesis was: (i) to compare habitat requirements of the *Impatiens* species, (ii) to determine if the coexistence of species is possible, (iii) to assess the impact of invasive species to the original species.

The investigation was carried out using two sets of permanent plots in 5 localities. In the first set with a total of 84 plots (combinations of occurrence of the three species) site characteristics as tree cover, soil humidity, slope and bare land cover were directly measured and nutrient, light, humidity and soil reaction characteristic assessed using Ellenberg indicator values. The second set contained a total of 45 plots with one of the native-invasive congener pair being removed and the intact controls. Number, cover and height of the plants were assessed.

The key environmental factors determining distribution of the species were soil moisture for *I. noli-tangere* and *I. parviflora*, and tree cover for *I. glandulifera* and *I. parviflora*. Ellenberg indicator values had poor explanation value; significant effect was revealed only in nutrients. Individual species niches overlap considerably, but are not identical. The coexistence of species in the field is therefore possible, but only in the relatively narrow range of conditions. Invasive species were generally not stronger competitors, plant cover was the best predictor of competitive ability of plants.

Key words: *Impatiens noli-tangere*, *Impatiens parviflora*, *Impatiens glandulifera*, plant invasions, non-indigenous species, congeners, environmental characteristics, competition, field experiment