Chemical Insect Attractants Produced by Flowers of *Impatiens* spp. (Balsaminaceae) and List of Floral Visitors

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The study of the semiochemicals produced by the flowers of Impatiens spp. is an important topic that may explain the reason for the rapid expansion of some species in this genus. Impatiens L. belongs to the Balsaminaceae family, which includes several species considered to be invasive plants in Europe. This study aimed to characterize the phytochemistry of four naturally occurring plant species in Poland, including three invasive alien taxa (Impatiens parviflora, I. glandulifera, and I. capensis) and one native species (I. noli-tangere). Gas chromatographic techniques were used to assess phytochemical profiles of chemical attractant cues in their pollination biology. We detected differences in the scent profiles of the investigated species. All the examined Impatiens species produce various alcohols, i.e., heptacosanol, octacosanol, aldehydes (e.g., octadecanal, eicosanal, etc.), and fatty acids, as well as long-chain hydrocarbons such as dodecane, tricosane, petacosane, hexacosane, and farnesene. Impatiens parviflora, I. glandulifera, and I. capensis produce geraniol and linalool, which attract members of the Apidae family, including bumblebees and honeybees. Impatiens parviflora also produces linalool-derived monoterpenes (linalool oxide and 8-hydroxylinalool), which are a strong attractant for Diptera; this may clarify why the species is mainly visited and pollinated by syrphid flies. A list of insect visitors to the Impatiens species under study can be found in the article.

Słowa kluczowe

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