

# Occurrence and selected biological traits of *Bassia scoparia* in Prague

## Summary

*Bassia scoparia* as an invasive plant quickly spreads inside Czech republic nowadays. Questioning its biological specifications represents main part of this work. Even though this plant primarily contributes inside ruderal parts of cities or outside, it also reaches agricultural fields. Thereby this weed grows inside rootstock. Multiple resistance of *Bassia* against herbicides strongly complicates its management. Wise planning of agricultural management, change of crops, till or herbicide application after harvest contributes to effective eradication of *Bassia*. Problems caused by invasive species nowadays are getting their international attention. Late management leads to considerable ecological and also economical impacts. Presence of *Bassia* is being tolerated in Czech republic as for now. Because of its spread in sub-urban areas, eradication seems not effective or possible. Nowadays monitoring of such species is supported by long distance screening technologies. Further support can be provided by using UAV planes that are screening differences in reflectance of vegetation canopy.

Other part of this paper is monitoring of *Bassia* spread through Prague. Results have shown, that occurrence of *Bassia* was influenced by presence of main traffic ways. Estimated statistical analysis also supports this conclusion. Plant was found on 71 places around town, these data were sent to AOPK databasis. Overview map was made afterwards. It is recommended visiting actual places multiple times, because of common road and railway management, when plants are cut or weakened by herbicides. After time, plants grow again. Their most significant fertility time is autumn. This specimen typically produces large amounts of seeds. Plant physiology helps its spreading with wind, it also produces light seeds. Maternal plants grow into round shape and they break near surface so spreading by wind as tumbleweed can happen. This mean of spreading effectively works even at distances of many kilometers. Together with growing construction needs, development of traffic routes is also supported, so migration of expansive weedy plants might be strengthened. Main migration routes inside Czech republic landscape are those of Elbe from Germany and through Panonic lowland through region of Moravia. Highway roads, railway tracks and river traffic that contributes to transport of material becomes mostly used corridors for invasive species. In this paper spreading through ruderal places that goes with highways and railways gets most attention.

Methodical experiment also includes germination investigation from the perspective of primary dormancy. Seeds used were collected in the late vegetative season. Mature seeds had shown short primary dormancy through experiment, so hypothesis was verified. Seeds were ready to germinate in relatively short time. Significant difference was proven around second week of germination. Descriptive statistics are pointing out high fertility of this plant.

**Keywords:** Biological invasions, alien species, ruderal plants, *Bassia scoparia*