

## **Abstract of the thesis**

Heathlands are an unique semi-natural element of European landscape, which historically evolved under continuous man land-use pressure. In conditions of our country, this biotope is relatively rare in occurrence and small in area. In the former military training zone Brdy, Protected landscape area nowadays, there are heathlands of great extent developed due to deforestation and history of fires and mechanical disturbances of the soil surface and vegetation, which used to accompany military trainings. After the termination of military use of the locality, there is a risk of gradual degradation of the biotope caused by tree encroachment, litter accumulation which inhibits generative regeneration of the heath, and degeneration of the heath itself. This thesis aims to entangle influence of the fire on the heathland vegetation in the area with special attention given to vitality and structure of heath stands. The fieldwork was focused on the dynamics and species composition of the vegetation, including bryophytes and lichens, separately on the long-term scale (up to 80 years) and the short-term scale (permanent plots in the recently burnt vegetation). Experimental part of the thesis tested germination of the seeds from Brdy area under the conditions of fire and with presence of different substrates. Results of the thesis indicate that fire is an important part of this heathland biotope and that without any ecosystem disturbance, the heathland community tend to degrade and disappear. The experiment showed significant smoke-stimulation of the seed germination and a also great tolerance to high temperatures. The possibility of prescribed burning as the management tool in the area is further discussed.