

## Abstract

Vegetation succession at the clearings at the pine forests areas was studied in the sandstone landscapes of the Czech Republic (Bohemian Paradise, Doksy region, Bohemian Switzerland). The aim of the study was to reveal the course of succession, the rate of changes, the factors influencing succession and the differences between the vegetation succession trajectory at the clearings and the burnt places. *Space-for-time substitution* method was used to record overall 249 phytocenological relevés (100 m<sup>2</sup>) at the clearings from 1 to 170 years, divided into 7 successional stages. The results showed the total number of species did not change significantly during the succession. There were differences in the species composition between successional stages. The youngest successional stages (to 5 years) differed the most from the older stages by the occurrence of shade-intolerant ruderal species. The eldest stages (over 40 years) were similar in the species composition. The type of planted tree and locality influenced the species composition the most within 10 years. The comparative study between the succession at the clearings and the burnt places showed significantly lower total number of species at the clearings. The development of the shrub and tree layer was faster at the clearings. The differences in species composition between the clearings and the burnt places were significant at all of the successional stages. The burnt places differed from the clearings mainly by the occurrence of pioneer bryophytes (e.g. *Ceratodon purpureus* and *Marchantia polymorpha*).

Key words: vegetation succession, clearings, pine forests