

Abstract

For a long time studies were focused on searching optimal conditions of germination of individual species. During the last few years studies have started to search for a relationship between germination and various species characteristics. Most of them, however, use only one temperature during germination tests. Very few studies use more than one temperature during the germination tests. In the last years studies started also to compare germination between rare and common species, but these studies compare just a few species. There are no studies which would compare germination on broader range of species.

Aim of this study was to identify which factors are determining germination of species and to find relationships between germination and characteristics of rare species (n=62). Another aim was to find out differences in germination of pairs (n=24) of closely related rare and common species. To test the germination I have chosen a methodology with several consecutive temperatures. Throughout the time of testing, the seeds were placed either in light or in dark. The dataset was processed by linear regression.

The results show that germination requirements of species are determined by time of flowering, weight of seeds, dispersal mode, species requirements for soil humidity and nutrients and type of vegetation in which species live. The results of a comparing study showed that rare species germinate more than closely related common species.

Key words: germination, rare species, seed mass, seed dispersal, phylogeny, habitat requirements, Giant Mountains