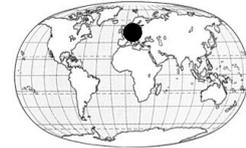


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LIFE HISTORY OF A MONOCARPIC INVASIVE SPECIES *HERACLEUM MANTEGAZZIANUM* IN NATIVE AND SECONDARY DISTRIBUTION AREAS

Heracleum mantegazzianum is a monocarpic invasive species native to the W Caucasus. In monocarpic species, age of flowering is a crucial aspect of their life history because of the single opportunity to set seed. Although the comparison of an invasive species behaviour in native and secondary distribution areas is important for understanding the principles of plant invasions, it has been rarely used. This study investigated whether there are differences in the age at which plants flower in their native (Caucasus) and introduced (Czech Rep.) range, and how does the age at flowering affect reproductive characteristics. In Caucasus and the Czech Republic, 27 populations of *H. mantegazzianum* were studied in habitats with low (unmanaged) and high (pastures) human impact. Age was estimated by using herbchronology. Region had a marginally significant effect on the age of flowering, with plants from the native range flowering later, which is possibly attributed to a higher altitude in Caucasus. Habitat had a highly significant effect on flowering age; in both regions, plants from pastures flowered later. In unmanaged sites, the median of flowering age was 3 years in the secondary and 4 yr in the native distribution area, while in pastures most plants flower in the fifth year irrespective of region. Maximum age found was 12 years in the Czech Republic. To explore the relationship between the age of flowering and fecundity, seed set of each plant was estimated based on its architecture. Seed set was not related to plant age and no difference between Caucasian and Czech populations was found. These results indicate that there are altitudinal constraints delaying the time of flowering and that in plants on pastures accumulation of resources needed for flowering is delayed by grazing pressure. The timing of flowering appears to be triggered by the amount of accumulated resources, following the same principles in native and secondary distribution ranges.

keywords: *Heracleum mantegazzianum*, monocarpy, herbchronology, age structure