

Conservation Biology of Endangered Plant Species in the National Parks of Korea with Special Reference to *Iris dichotoma* Pall. (Iridaceae)

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The aim of this study was to provide basic guidelines for conservation and management of endangered plants in the national parks of Korea. *Iris dichotoma* Pall. (Iridaceae), which is a popular garden plant, is considered a second-class endangered species by Korean government and it is listed as a EN (Endangered) species in Red Data Book of Korea. We analyzed ecological conditions of *I. dichotoma* habitats based on vegetation properties and soil characteristics. This species which is known to inhabit in grassland adjacent to the ocean of lowlands slope and its population was located at an elevation of 8 m to 11 m. In the study sites, the mean of soil organic matter, total nitrogen and soil pH were 6.16%, 0.234% and 5.39 respectively. Additionally, the genetic variation and structure of three populations were assessed using ISSR (Inter Simple Sequence Repeat) markers. The genetic diversity of *I. dichotoma* ($P = 59.46\%$, $H = 0.206$, $S = 0.310$) at the species level was relatively high. Analysis of molecular variance (AMOVA) showed 82.1% of the total genetic diversity was occurred in within populations and 17.9% variation among populations. Lastly, we developed predicted distribution model based on climate and topographic factors by applying SDMs (Species Distribution Models). Consequently, current status of *I. dichotoma* habitats is limited with natural factors such as the increase of the coverage rate of the herbs due to ecological succession. Therefore, it is essential to establish *in situ* and *ex situ* conservation strategies for protecting natural habitats and to require exploring potential and alternative habitats for reintroduction.

Key words: *Iris dichotoma*, Conservation, Genetic diversity, Species distribution models

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