

# HABITAT AND GROWING STATUS OF *Abeliophyllum distichum* NAKAI

미선나무의 서식처 현황과 성장상태

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## I. INTRODUCTION

One of the endemic genus of Korea, *Abeliophyllum distichum* Nakai, is a small upright, deciduous woody shrub reaching about one metre or slightly more in height, with erect branches arising from the base and spreading or arching over towards the apices, lateral branches curved and pendent; young shoots very slender, quadrangular, dark purple at first becoming brown and finally grey with loosely fissured bark which is exfoliated with age. Leaves thin, opposite, lanceolate to ovate-oblong, base rounded or widely cuneate, apex acute to attenuate-acute, 6 - 10cm long, 3.0 - 4.5cm wide. Inflorescens laterally borne on leafless shoots of previous year. Flowers varied from white to pink, fragrant, subulate, 3 - 5mm long, pedicles 4 - 5mm long, dark purple. Fruit a laterally compressed, circular samara (Cotton, 1948). Several forms and cultivars have been reported (Lee, 1976; Lord, 1990), This species belongs to the Oleaceae, grouped as 1 species, 1 variety, var. *rotundicarpum*, and 4 forms such as for. *lilacinum*, for. *eburneum*, and for. *viridicalycinum* (Lee, 1967, 1976, 1980). The name of *Abeliophyllum* was derived from its leaf shapes. It was first discovered at Chopyong-ni, Chinchon-gun, Chungchunpuk-do in 1917 by the botanists, Dr T. Nakai and T H Chung, and recorded as the new genus of Korea (Nakai, 1919).

The present study is to investigate the population status with growing characteristics. As this species is one of the value for their distribution and uses, but not so many works was done in Korea at the moment

## II. STUDY METHOD

### 1. Studied Areas

The seven wild populations such as Chinchon, Chujom-ni, Yulchi-ri, Songdok-ni, Yongdong in Chungchongpuk-do, Chongnim-ni and Chunggyae-ri in Chollapuk-do were investigated

### 2. Materials and Method

The present study was carried out from February to August for 25 days. The main surveys for the wild population of *Abeliophyllum distichum* are in the belows;

1) Distributional characteristics of the wild population: All individuals growing in the population was mapped in coordinates by the X and Y axis, and made distribution map.

2) Growing Status of the Wild Populations: All individuals were measured their tree height and crown width.

## III. RESULT AND DISCUSSIONS.

### 1. Habitat Status

All the populations of the studied sites are located in the vicinities from the farmland or hilly sloped with boulders from the stream-side. The wild populations but Chongnim-ni population have been conserved with fencing. The clear-cut is done regularly in the populations of Chujom-ni, Songdok-ni and Yulchi-ri.

In the Chujom-ni population, almost no floor species is shown by

the clear-cut habitat management, although the individuals are regularly distributed in the population. The seedlings such as *Pinus densiflora*, *Alangium platanifolium* var. *macrophyllum*, *Quercus dentata*, *Quercus aliena* and *Quercus serrata* are growing with healthy in the site. No clear-cut before 2000 was done in the Yulchi-ri population, but this was done in 2000. Some of seedlings was destructed during the construction of fence around the habitat. The species such as *Betula davurica* and *Zelcova serrata* is naturally growing in the site. In the Yongdong population, the species such as *Quercus dentata*, *Zelcova serrata*, *Rosa multiflora* and *Stephanandra incisa* is growing, but *Robinia pseudoacacia* which was artificially planted grows threats the original vegetation of the population. In the Chongnim-ni population, the species such as *Quercus variabilis*, *Zelcova serrata*, *Ligustrum japonicum*, *Secrrianea suffruticosa* and *Pueraria thunbergii* is growing. The overstry by *Quercus variabilis* is dorminant in the Chinchon population.

## 2. Status of Distribution

It was surveyed that 3,110 individual are growing in 7 populatons; 804 for Chujom-ni, 701 for Songdok-ni, 273 for Yulchi-ri, 178 for Yongdong, 790 for Chongnim-ni, Puan, 290 for Chunggyae-ri, Puan, and 74 for Chinchon, the habitat in Chinchon, where the species was first discovered. Although this population was discarded from the Natural Monument of Korea, the recovery works should be applied to manipulate the population.

## 3. Status of Growth

The tree height was ranged into 3 categories; below than 0.5m, 0.5 - 1.0m and more than 1.0m. The trees more than 1.0m in height was

1,629 (52.38%), while 923 (29.68%) for 0.5 - 1.0m and less than 0.5 m for 558 (17.94 (Table2). The Chujom-ni population has most highest trees and individual numbers. The shrubs in 0.5 - 1.0m in height was the most in Chongnim-ni population as 381 individual numbers. The trees which below than 0.5m in height is in the Chujom-ni population as 191.

The Songdok-ni population has more individuals more than 1.0m in height than the Chongnim-ni population, while the Chongnim-ni population has more individuals between 0.5 to 1.0m in height. Both Songdok-ni and Chongnim-ni populations has low individual numbers below 0.5m in height. The Chinchon population has the potential.

The Chinchon population, where delisted from the Natural Monument, has 30 individual trees in 0.5 - 1.0m in height and 38 for below than 0.5m, while only 6 individuals over 1.0m in height. This population will be increased further, but the habitat size is very limited. The expansion of the habitat should be considered based on the recovery plan.

The crown width of the individual shrubs was ranged from less than 0.5m, 0.5 - 1.0m, and more than 1.0m. More than half of the individual shrubs have more than 1.0m in crown width. The Chujom-ni population has the widest crown width

#### IV. Conclusion and Suggestions

It was firstly field surveyed the present status of population of this species, and the main conclusion and suggestions are in the follows;

We should give keep attention to the Chinchon population. This population has been neglected since the deleted from the Natural Monuments in 1969. The main reason for deletion of the population was the severe humans interception. Fortunately this population has

quite enough individual shrubs, so the recovery plan should be prepared to return its original status.

Unreasonable habitat management threatens the population. The present habitat management in the populations in Chujom-ni, Songdok-ni and Yulchi-ri is not adequate. The evidence of this is the many individual trees of the species were cut when the clear-cutting was done. The advice from the specialist should be applied when the habitat management. For instance, the Yulchi-ri population was not applied the clear-cutting until 1999, but many saplings were damaged when the fence construction and clear-cutting. Also the Chongnim-ni population has been destructed by the street tree planting. Also the Yongdong population has one half the individual numbers below 1.0m, and this evidence indicate that the population will be developed further as the successional changes continued. But the populations in Chujom-ni, Songdok-ni and Yulchi-ri has advert status, which compare to the Yongdong population, and will be decreased the mature individuals in the future. This, also, indicate that the special habitat management strategy should be prepared for this three wild populations. The clear-cut in the wild populations will be further problems in the habitat management. The non-clear-cut sites such as Yongdong and Puan populations have better environment for the seedling growth than at the clear-cut sites. This evidence indicates that the clear-cut of the site will be harmful to the growth of the species. In advent, this species needs the shelter from sunny climate.