

Endemic and Rare Plants of Mt. Sorak

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雪嶽山の 特産 및 稀貴植物

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Summary

With an investigation of the flora of the nature reserve area of Mt. Sorak the author presented 114 taxa among more or less 1000 total vascular plants reported so far from this area. He concluded that 65 of 114 taxa were endemic plants, in which 17 taxa were inhabited only in this area. The most of the rest taxa were those plants that were growing at the border area of their distributions, which he listed them under a category of rare plants. Thirteen taxa which include alpine species and endangered species were presented with their ecological status.

摘 要

雪嶽山地域에서 지금까지 報告된 약 1000種의 管束植物중에서 114種類의 稀貴植物이 天然保護區域內에서 자라고 있음을 밝혔다. 114種類중에서 65種類는 特産植物이며, 특히 그중에서 17種類는 이 區域內에서만 生育한다. 이 밖에 대부분의 植物들은 分布限界線에 놓여 있으므로 이 植物들은 稀貴植物로 收錄하였다. 高山植物 및 멸종위기에 놓인 種을 포함하는 13種類는 그들의 生態의 特性을 보고하였다.

There are more or less 1000 vascular plant taxa growing in the nature reserve area of Mt. Sorak, in which 65 endemic taxa are included. Besides of those endemic plants some rare plants which stand on the border line of their distributions or those which are endangering state caused by an environmental changes are listed here.

One hundred and fourteen taxa of vascular plants which include endemic and rare plants are listed below. In the endemic species of total one taxon stands on the northern border of it's distribution, 17 taxa are limited to this area and 47 taxa are further extended out side of this area.

On the rare plants 35 taxa are those that occupied front area of their distributions. Thirty three taxa

extended further down to this area from northern part through the Taebaek Mountain Range and 4 taxa came up to this area from the south and were prohibited further migration toward north by a high range of mountains.

Seven taxa of northern alpine plants which have survived at the summit of both Mountains, Sorak and Chombong are treated here as rare plants, and 5 taxa, such as *Lespedeza bicolor* for. *alba*, *Acer mono* var. *ambiquum*, *Gentiana uchiyamei*, *Melampyrum setaceum* var. *nakaiancum*, and *Schizopepon bryoniaefolia* are also included here under a category of rare plants because of a few individuals and limited growing places. Among these white flower of *Lespedeza* is found only at the eastern slope of Mt. Wha-

chaebong, a ridge of Mt. Sorak while a hairy variety of *Acer mono* appears to be quite often though it is very few in other areas.

Angelica gigas, *Paeonia japonica*, *Aconitum koreanum*, *Scopolia japonica*, *Crataegus komarovii* and *Cnidium tachiroeii* belong to a category of endangered species, therefore they were put here as rare plants. These plants except last two have been dug up as a material of medicinal sources by herbal diggers, which made them almost disappearing from wild. *Crataegus* was left only a few trees on the summit of Mts. Sorak and Chombong and disappearing gradually from the habitat caused by human disturbances of habitat, while *Cnidium* is disappearing from the habitat because of its special requirement for the stand "cracks of rock".

Juniperus chinensis var. *sargentii*, *Iris ensata* var. *spontanea*, *Iris koreana*, *Iris rossii* and *Sisymbrium luteum* will come to a category of threatening plants because of increasing loss of their proper habitat.

The following list includes 114 taxa of vascular plants growing in the nature reserve area of Mt. Sorak.

Aspidiaceae

Phegopteris decursive-pinnate Fee

Stands at the northern border line of its distribution.

Taxaceae

Taxus caespitosa Nakai

Grows between Mts. Jungbong and Daechongbong with a population of *Pinus pumila*. Endemic taxon of this place.

Cupressaceae

Thuja koraiensis Nakai

Grows 700m above sea level and forms population from valley bottom to the edge line of the mountain. There are two forms of tree shape, straight and creeping. This area is the southern border area of its distribution and extends further north.

Pinaceae

Pinus densiflora for. *erecta* Uyeki

Endemic form of this area and grows straight with smooth bark and stem.

Cyperaceae

Carex fusanensis Ohwi

An endemic species growing on the rock of stream side.

Carex okamotoi Ohwi

An endemic species standing at the front line of its northern boundary of distribution along the edge of Hankeryong.

Carex lasiolepis Franchet

Grows along trail side as well as open space in the wood occupying southern border of its distribution.

Eriophorum gracile Koch

Grows along the stream side of valley and stands at the southern border of its distribution.

Liliaceae

Alettris fauriei Lev. et Vnt.

An endemic species growing along stream side but it goes up to grass land in the Mt. Jiri.

Allium senescens Lin.

Appears at the upper part of the mountain and occupies southern border of its distribution.

Allium victorialis var. *platyphyllum* Makino

Grows at the upper part of the mountain confronting southern border of its distribution though it appears at the upper part of Mt. Jiri.

Lilium cernuum Kom.

This area is closer to the southern border of distribution and grows at the upper part of the mountain.

Lilium distichum Nakai

Grows at the upper part of the mountain occupying southern border of its distribution.

Trillium tschonoskii Max.

An endangered northern species growing in the woods.

Iridaceae

Iris uniflora var. *carinata* Kitagawa grows at the open space of deep valley, along the upper edge of the whachaebong and around Bongjong-am, standing at the southern border of its distribution.

Salicaceae

Salix hallaisanensis Lev.

An endemic species growing among shrubby woods.

Salix hallaisensis var. *longifolia* Nakai

An endemic variety, growing with basic species.

Salix maximowiczii Kom.

This area is closer to the southern border of its distribution and grows along the stream side of valley.

Chosenia bracteosa Nakai

It grows only from Suryom Hutte to Sang-pok where is the southern border line of its distribution.

Betulaceae

Alnus fruticosa var. *mandshurica* Callier

Grows mostly along the stream side of deep valley and standing at the front line of its distribution.

Caryophyllaceae

Silene jeniseensis Willd.

Grows at the summit of the mountain where is the southern border of its distribution, rare.

Silene koreana Kom.

Grows at the mountain foot where is the southern limit of its distribution or closer to it.

Ranunculaceae

Aconitum koreanum Reymond

An endangered species growing in the open space of the woods.

Anemone glabrata Juzepc.

Grows on the edge of the forest and stands on the front line of southern border of its distribution.

Anemone koraiensis Nakai

An endemic species distributed to this area limited.

Clematis fusca var. *coreana* Nakai

An endemic variety of the species growing to this area limited.

Clematis trichotoma Nakai

An endemic species growing on the edge of the woods.

Eranthis stellata Max.

Grows on the upper part of the mountain such as Daesung-ryong and is standing at the front line of the southern border of its distribution.

Ipsopyrum raddeanum Max.

Grows under woods confronting the southern border of its distribution.

Megaleranthis saniculaefolia Ohwi

An endemic genus to Korea and growing along the stream sides of the Mt. Chombong.

Thalictrum coreanum Lev.

An endemic taxon growing along the rocky site of Mt. Whachaebong.

Thalictrum rochebrunnianum var. *grandisepalum*

Ohwi

An endemic variety of the species differing from the basic species by sepal size and occurs at the foot of the mountain.

Paeonia japonica Miyabe et Takeda

An endangered species growing in the open space of the woods.

Berberidaceae

Berberis koreana Palibin

An endemic taxon growing in the shrubby woods of the mountain foot.

Leontice microrhyncha S. Moore

Grows on the summitish area of Mt. Bugamryong along boundary of the nature reserve where *Erythronium japonicum*, *Symplocarpus nipponicum* and *Anemone raddeana* etc form a population.

Menispermaceae

Menispermum davuricum var. *pilosum* Schneider

Grows at the foot of Mt. Chombong near the village of Osaek confronting the southern border of its distribution.

Cruciferae

Cardamine amaraeformis Nakai

An endemic species growing along the stream sides and wet places of the valley.

Saxifragaceae

Saxifraga oblongifolia Nakai

An endemic species growing on the wet rock surface.

Saxifraga punctata Lin.

Grows at the upper part of the mountain confronting at the southern border of its distribution.

Deutzia coreana Lev.

An endemic taxon which grows on crack of the rock through all parts of Korea.

Deutzia coreana var. *triradiata* Hatus.

An endemic variety limited in the southern part of Korea.

Rosaceae

Filipendula glaberrima Nakai

An endemic species growing near wet places.

Crataegus komarovii Sargent

Grows on the summit of Mts Sorak and Chombong but disappeared from the latter place, both places are southern border of its distribution.

Potentilla matsumurae Wolf.

An alpine plants which appears not often.

Pyrus ussuriensis var. *diamantica* Uyeki

An endemic taxon limited to this area grows in the woods.

Pyrus ussuriensis var. *hakunensis* T. Lee

An endemic variety growing in the woods.

Rosa acicularis Lindley

An alpine shrub growing in the shrubby woods, rare.

Rosa koreana Kom.

Grows on the upper part of the mountain where is the southern border of it's distribution.

Rosa marrettii Lev.

Grows on the summitish part of the mountain where is the southern border of it's distribution.

Spiraea pubescens var. *lasiocarpa* Nakai

An endemic variety restricted to this area.

Waldsteinia ternata Fritsch

Grows under forest standing on the southern border of it's distribution.

Leguminosae

Gleditsia japonica var. *koraiensis* Nakai

Grows at lower part of the mountain and is an endemic variety.

Lespedeza thunbergii var. *intermedia* T. Lee

An endemic variety growing at the foot of the mountain.

Lespedeza bicolor for. *alba* Ohwi

A rare form growing at the foot of Mt. Whachae-bong.

Vicia unijuga var. *apoda* Max.

Grows on the summit of Mt. Daechong-bong.

Vicia venosa var. *cuspidata* Max.

An endemic variety growing in the open forest and grass land.

Vicia venosissima Nakai

An endemic taxon growing from the foot to the summit of the mountain.

Geraniaceae

Geranium davuricum DC.

An alpine species of northern element which grows on the summitish part of the mountain.

Geranium eriostemon Fischer

An alpine species of northern element growing on

the summitish part of the mountain.

Euphorbiaceae

Sapium japonicum Pax et Hoffm.

Grows in the eastern valley of the mountain where is the northern border of it's distribution.

Aceraceae

Acer mono var. *ambiguum* Rehder

This variety appears very often from the entrance of Shinhung Buddhist temple to the Gejo-am through valley bottom though it appears rare in the other areas.

Rhamnaceae

Rhamnus koraiensis Schneider

An endemic species growing in the shrubby woods.

Tiliaceae

Tilia megaphylla Nakai

An endemic species restricted to this area.

Violaceae

Viola diamantica Nakai

An endemic species forms small populations in the woods.

Araliaceae

Acanthopanax chiisanensis Nakai

An endemic species growing in the open woods.

Oplopanax elatus Nakai

An endemic species growing along the upper ridges of the mountain.

Umbelliferae

Angelica gigas Nakai

This endemic species has been dug up by herbal diggers and made it almost endangered.

Bupleurum euphorbioides Nakai

An endemic species restricted to this area grows on the ridge line of the mountain.

Cnidium tachiroei Makino

This species grows on cracks of the rock or sometimes appears often on the rock near stream sides.

Ericaceae

Arctous ruber Nakai

An alpine plant which stands at the southern border of it's distribution.

Rhododendron aureum Georgi

Inhabited at the summit of Mt. Junchong-bong where is the southern border of it's distribution.

Rhododendron fauriei for. *rufescens* T. Lee

It forms good populations occasionally in the woods of *Thuja koraiensis* etc. This is a rare species growing in the deep valley of the higher mountains.

Vaccinium koreanum Nakai

An endemic species growing mostly along the ridges of the mountains through all parts of Korea.

Vaccinium uliginosum Lin.

Grows only at the summit of Jungchong-bong where is the southern border of it's distribution though it appears again at the top of Mt. Halla.

Primulaceae

Androsace cortucaefolia Nakai

An endemic species growing at the southern border of it's distribution.

Styracaceae

Styrax japonica Siebold et Zucc.

The valley of Sorak-dong is the northern border of distriburion for this species.

Oleaceae

Forsythia ovata Nakai

An endemic taxon of this area and grows along the ridge of Mt. Whachaebong as well as on the cracks of the cliff of outer Sorak area from the river sides to the summit of Mt. Daechong-bong.

Gentianaceae

Gentiana axillariiflora var. *coreana* Kudo

An endemic taxon growing in this area restricted.

Gentiana uchiyamai Nakai

A rare species growing from valley bottom to the top of the mountain in the area of higher altitude.

Solanaceae

Scopolia japonica Max.

An endangered species caused by continuous digging of herbal diggers. It distribute several places of Korea but tends to disappear caused by the same reason.

Labiatae

Salvia chanroenica Nakai

An endemic taxon growing at the margin of forest in the lower elevation.

Schrophulariaceae

Pedicularis mandshurica Max.

Grows at the upper part or summitish area where is supposed to be the southern border of it's distribution.

Melampyrum setaceum var. *nakaianum* Yamazaki

Grows in the open forest from the middle part towards upper elevation.

Pedicularis verticillata L.

Inhabits at the summitish area of the mountain where is supposed to be the southern border of it's distribution.

Pseudolysimachion kiusianum var. *diamantica* Yamazaki

An endemic speices which grows from 970m above sea level and this area is the southern border of it's distribution or closer.

Pseudolysimachion rotundum var. *subintegrum* Yamazaki

An endemic variety which grows at the upper part of the mountain.

Pseudolysimachion rotundum var. *coreanum* Yamazaki

An endemic taxon which inhabits at the upper area of the mountain.

Scrophularia koraiensis Nakai

An endemic taxon which appears from the middle towards higher elevation of the mountain.

Cucurbitaceae

Schizopepon bryoniaefolia Max.

A rare species which grows at the margin of forest.

Rubiaceae

Asprela lasiantha Nakai

An endemic species which grows on the open places of woods.

Caprifoliaceae

Lonicera coreana Nakai

An endemic shrub growing at the upper part of the mountain.

Lonicera okamotoana Ohwi

An endemic taxon which appears in the same habitat of the former taxon.

Weigela subsessilis Bailey

An endemic taxon which grows in the valley bottom through all parts of Korea.

Valerianaceae

Patrinia saniculaefolia Hemsley

An endemic species which grows mostly on the rocky site of mountain ridges.

Dipsacaceae

Scabiosa mansenensis for. *pinnata* Nakai

An endemic form which grows at the upper site of the mountain.

Campanulaceae

Adenophora grandiflora Nakai

An endemic species which grows in the higher area than 1200m above sea level.

Adenophora grandiflora for. *alba* T. Lee

An endemic form which appears with basic species.

Adenophora lamarckii Fischer

Grows from 1300m above sea level which is the southern border of it's distribution.

Adenophora lamarckii for. *albifloras* T. Lee

An endemic form from this area grows together with basic species.

Hanabusaya asiatica Nakai

An endemic genus of Korea grows in the area higher than 700m above sea level.

Hanabusaya asiatica for. *alba* T. Lee

Grows around the Nymph's Water Fall of Osaek valley.

Hanabusaya asiatica for. *albescens* T. Lee

Grows on the higher elevation than 1200m above sea level along the ridge of the Mt. Whachae-bong towards Daechong-bong, from Mt. Jungchong-bong downwards Hangeryong and eastern slope of Mt. Chombong.

Hanabusaya asiatica for. *rubescens* T. Lee

Grows on the lower elevation than 1000m above sea level in the eastern slope of Mt. Chombong.

Hanabusaya asiatica for. *rubropurpurea* T. Lee

This endemic form differs from basic species by

its corona colour only and appears to be reddish than basic species. This form is growing in the eastern slope of the Mt. Chombong.

Compositae

Cirsium chanroenicum Nakai

An endemic species growing in the open space of the upper part of the mountain.

Leontopodium coreanum Nakai

An endemic species which inhabited only to this area. It appears on cracks of the rock through Mt. Hwachae-bong from 700m above sea level as well as Hankeryong ridges etc.

Saussurea diamantica Nakai

An endemic species which grows in the open woods appears on the higher elevation than 960m above sea level along the ridges of Mt. Whachae-bong.

Saussurea diamantica var. *longifolia* Nakai

An endemic variety which seems to be growing further north than the basic species was not found yet from this area.

Saussurea nutans Nakai

An endemic species which appears at the upper part of the mountain.

Saussurea triangulata Fr. et Meyer

An alpine species which appears not often.

Saussurea triangulata subsp. *manshurica* Kitagawa

Grows at the southern border of it's distribution.

Senecio koreanus Kom.

An endemic taxon which grows from the middle to the summitish area of the mountain.