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Endemic and Rare Plants of Mt. Halla

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漢拏山의 特産 및 稀貴植物

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摘 要

한라산에서 자라는 管束植物 1,624 종류 중에서 305 종류의 特産植物과 稀貴植物을 조사하여 收錄하였다. 한라산에서 자라는 特産植物 89종류 중에서 74종류는 한라산에서만 볼 수 있는 식물임을 指摘하였다.

특산식물 이외의 216종류는 植物分布上 分布限界 地域에 놓인 것이 大部分임으로 稀貴植物로 다루었다. 여기에 收錄된 305종류는 80科 201屬 293種 5變種 및 7品種이며 그중에서 北方系 1種과 新品種 3개는 이번 조사에서 처음 밝혀진 것들이다.

特産植物種은 學名 앞에 동그라미로 表示 하였는데 속이 빈 동그라미는 이번 조사기간 중 확인된 것들이고 검은 동그라미로 표시된 26종류(한라산에서 알려진 全特産種類의 29.4%)는 文獻上에서는 볼 수 있었으나 조사기간 중 찾을만한 시간이 없었던 것들이다.

Summary

Total number of vascular plants of Mt. Halla are estimated so far 1,624 taxa which consists of 200 taxa of Pteridophytes, 7 taxa of Gymnosperms, 344 taxa of Monocots and 1,073 taxa of Dicots. These numbers without doubt will change in course of time by a result of explorations of new elements companied with an advancement of taxonomic studies.

Two hundreds taxa of 252 Pteridophytes in Korea which is 79.4% of total fern allies are concentrated to this area, of which 60 taxa are thought to be growing only in this area. Among 60 taxa of limitted distribution to this area 56 taxa are at northern border of their distribution and one northern element is inhabited at the southern border.

Numbers of Gymnosperms are very few comprising of 7 taxa, of which 4 taxa are endemic plants of Korea and the rest are distributed up to main land.

Angiosperms consist of 344 taxa of Monocots and 1,073 taxa of Dicots. Twelve Monocots taxa are endemic plants and one of which goes up to main land. Sixty taxa of 70 endemic Dicots have limitted distribution to this area and 10 taxa extend their distribution to main land.

Rare plants of Angiosperms are enumerated 156 taxa including 36 taxa of Monocots and 120 of Dicots. 142 of 156 taxa are fronted at the northern border zone of their distribution and 9 taxa distribute from the main land of Red China to Japan through Mt. Halla region.

Three hundreds and five taxa of endemic and rara plants are included in the following list, which belong to 80 families, 201 genera, 293 species, 5 varieties and 7 forms. Endemic taxa are marked with hollow or solid circles at the head of their scientific names. Hollow circled taxa are these members whose habitats were found by the author and solid circled 26 taxa (29.4% of the

total endemics of Mt. Halla) were not found growing during his visit there, although they were reported before from this region.

Pteridophyta, 羊齒植物門

Psilotaceae, 솔잎란科

Psilotum nudum Griseb. 솔잎란

Grows on the southern coastal cliff and distributes to Japan.

Lycopodiaceae, 石松科

○*Lycopodium integrifolium* Matsuda et Nakai, 긴다람쥐꼬리

Closer to *L. cryptomerinum* but leaves 15~20mm long and 1.5mm wide.

Lycopodium sieboldii Miquel, 줄석송

Grows on the trunk of southern low land and distributes to Japan.

Isoetaceae, 물부추科

Isoetes japonica A. Br. 물부추

Survived at Bugchon-ri, Chochŏn-myon, Bugcheju-kun.

Ophioglossaceae, 나도고사리삼科

Ophioglossum vulgatum Lin. 나도고사리삼

Grows at shaded place of mountain foot and distributes to colder region of n. hemisphere. Not found.

Hymenophyllaceae, 처녀이끼科

Crepidomanes makinoi var. *tosae* K. Iwatsu. 괴불이끼

Grows at moist and shaded places of southern mt. foot. Distributes to Japan.

Hymenophyllum barbatum Bak. 수염이끼

Grows at moist and shaded places of southern mt. foot. Distributes to Japan, Formosa, Red China and India.

Vandenboschia amabilis K. Iwatsu. 난장이이끼

Grows at the shaded places of southern valley around 600m. above sea level. Distributes to Japan.

Vandenboschia radicans var. *orientalis* H. Ito, 누운괴불이끼

Grows at shaded places of southern mt. foot. Distributes to Japan, Formosa and southern part of Red China.

Pteridaceae, 고사리科

Adiantum monochlamys Eaton, 섬공작고사리

Grows at rocky site of southern slope and distributes to Japan and Formosa.

○var. *plurisorum* Christ, 큰공작고사리

Grows at rocky site of Yongsil.

Hypolepis punctata Mett. 점고사리

Grows at grassy places of humid site and distributes to tropics.

Lindsaea japonica Diels. 비고사리

Grows in the cave of Hyupjae and distributes to Japan and southern part of Red China.

Microlepia marginata Christ. 톱잔고사리

Grows in the bush of southern site and distributes to Japan, Formosa, Red China, India and Himalayas.

Microlepia strigosa Presl, 톱토끼고사리

Grows along the coastal rocky site, and distributes to tropical region of Asia. Bi-pinnate frond is a character.

Pteris dispar Kuntze, 반쪽고사리

Grows along the wood track of Mt. Halla. Distributes to Japan, Formosa and southern part of Red China.

Pteris inaequalis var. *aequata* Tagawa, 큰반쪽고사리

Grows along the wood track. Distributes to Japan, Formosa and southern part of Red China. Tripinnate character of frond is distinct.

Pteris inaequalis var. *fauriei* Tagawa, 탐라반쪽고사리

Similar to the former taxon but differs it by oblongo-lanceolate frond. Distributes to Japan.

Plagiogyriaceae, 폄고사리科

Plagiogyria euphlebia Mett. 폄고사리

Grows in the woods of low land and has stalked pinnae. Distributes to Japan, Formosa and southern part of Red China.

Plagiogyria japonica Nakai, 섬폄고사리

Grows in the woods of low land and has sessiled pinnae. Distributes to Japan and southern part of Red China.

Aspidiaceae, 면마科

Athyrium otophorum Koidz. 물개고사리

Similar to both of *A. vidalii* and *A. yokoscence* but spine like projection exist at the dividing point

of pinnae and pinnules. It was unable to find during my visit there and distributes to Japan and southern part of Red China.

Athyrium reflexipinnum Hayata, 거꾸리개고사리

It has been said that was growing in the woods. It is an alpine species in Japan and Formosa.

Athyrium sheareri Ching, 개톱날고사리

Grows at the southern mt. foot. Distributes to Japan and Red China. It has once compound leaves.

Athyrium viridifrons Makino, 푸른개고사리

Said to grow in the woods and distributes to Japan.

Cornopteris decurrenti-alata Nakai, 뿔고사리

Grows at humid shaded places and distributes to Japan. Korean materials were treated some times as a variety of this species.

Diplazium chinense C. Christ. 암고사리

Grows in the woods and has tri-pinnately compound fronds. Distributes to Japan, Red China and Indo-china.

Diplazium hachijoense Nakai, 섬잔고사리

Grows in the woods and shaded places. Scales of the basal part of frond have smoothed margin. Distributes to Japan and Liuchu.

Diplazium subsinuatum Tagawa, 바톱참빗

Grows on the rock surface and shaded places. Distributes to Japan, Formosa and India.

Diplazium virescens Kunze, 검정비늘고사리

Grows in the evergreen forest and has filiform projections on both sides of scales. Distributes to Japan, Formosa, Red China and Indo-China.

Diplazium wichurae Diels. 주름고사리

Grows at humid shaded places, and has pinnately compound fronds. Distribute to Japan, Formosa and southern part of Red China.

Dryopteris atrata Ching, 톱지네고사리

Evergreen fern which grows under the woods. It resembles to *D. tokyoensis* and differs from it by having no projections at the basal part of pinnae with scattered sori beneath. Distributes to Japan, Formosa, Red China, and northern part of India.

Dryopteris championi C. Christ. 제주지네고사리

An evergreen fern growing at sunny site of mt. foot. It has rough margined scales. Distributes to Japan and Red China.

Dryopteris fuscipes Christ. 큰지네고사리

An evergreen fern growing under the evergreen forest, scales of which are smoothed. Distributes to Japan and Red China.

Lastrea cystopteroides Copel. 좀사다리고사리

An evergreen fern which grows at shaded places forming dense population. No trichomes on the frond, and distributes to Japan and Formosa.

Lastrea nipponica Copel. 키다리처녀고사리

Grows under the woods and very closer to *L. beddomei* in appearance. Distributes to Japan and southern part of Red China.

Lastrea oligophlebia var. elegans Tagawa, 각시고사리

It is similar to *L. viridifrons* in appearance and differs by having sessiled pinnules. Distributes to Japan and Red China.

Lastrea omeiensis Copel. 나도진퍼리고사리

An evergeen fern which grows at the humid shaded places of Seoguipo and Eorimok. No indusium is a character of it and distributes to Japan, Formosa and Red China.

Lastrea subochthodes Tagawa, 제비꼬리고사리

Grows near the water fall of Seoguipo and distributes to Japan and Red China.

Polystichum tsussimense J. Smith, 검정개관중

An evergreen fern which grows under the woods of Hyodong, and distributes to Japan, Formosa and Red China. Needle like teeth of the frond and dark brown scales appear to be characteristics of it.

Blechnaceae, 새깃아재비科

Woodwartia japonica Smith, 새깃아재비

An evergreen fern which grows under the evergreen forest of southern side of Mt. Halla, and distributes to Japan, Formosa, southern part of Red China and Burma.

Aspleniaceae

●*Asplenium anogrammoides* Christ, 에기좀고사리

Grows at rocky site of Yongsil, which is an endemic taxon of this area. It is closer to *A. ritoense* and differs from it by having indusia which opens downward.

Asplenium antiquum Makino, 파초일엽

It was grown formerly at Seopseom, which place

is being designated as natural monument no. 18 natural habitat of *A. antiquum*. Distributes to Japan and Formosa.

Asplenium normale Don, 깃고사리

Said to grow under the woods of southern low land, and distributes to tropical region.

Asplenium oligophlebium Bak. 개차고사리

Grows under the woods and distributes to Japan. This is similar to the former taxon but it's pinnae are divided.

Asplenium ritoense Hayata, 쪽잔고사리

It is similar to *A. prolongatum* and differs by having a frond of 3-4 pinnately compound with no elongation of it's apex. Distributes to Japan, Formosa and southern part of Red China.

Asplenium tenerum Forster, 선너고사리

It is very similar to *A.wrightii* and differs by obtuse pinnae. Distributes to Japan and Formosa.

Asplenium unilaterale Lam. 지느러미고사리

Grows at humid site of woodland, and distributes to tropical region.

Asplenium wilfordii Mett. 수수고사리

Grows on the rocky site in the woodland. Distributes to Japan, Formosa and Red China.

Asplenium wrightii Eaton, 눈섭고사리

Grows in the wood land distributes to Japan, Formosa Red China and Indo-China. Pinnately compound frond with acute top is a character.

Polypodiaceae, 고란초科

Colysis elliptica Ching, 손고비

Shaded places of Seopseom and Andeok valley are place where this element is growing, and distributes to Japan, Liuchu, eastern and southern part of Red China, and Indo-China.

Colysis simplicifrons Tagawa, 창고사리

Grows at southern valley of Mt. Halla, and distributes to Japan, Formosa and southern part of Red China.

Colysis wrightii Ching, 밤잎고사리

It is similar to *Neocheiropteris ensata* in appearance but sori are arranged pararell to lateral veins. Distributes to Japan, Formosa, southern part of Red China and Indo-China.

Crypsis engleri Copel. 큰고란초

Grows on the rock surface and trunks in the wood land. Distributes to Japan and Formosa.

Crypsinus veitchi Copel. 층층고란초

Grows on the rock surface of higher elevation, and distributes to Japan, Red China and Tibet.

Lepisorus annuifrons Ching, 다시마잎엽초

It was reported but nowhere it was found Once it was reported from Mt. Diamond. On the other hand it was reported as an endemic species of Japan.

Loxogramme grammitoides C. Christ. 주걱잎엽

Grows in the wood land of lower elevation, and distributes to alpine area of Japan, Formosa and wormer zone of Red China.

Loxogramme salicifolia Makino, 버들잎엽

Grows at shaded places of Donnaeco valley, and distributes to Japan, Formosa, Indo-China, and northern part of India.

Loxogramme saziran Tagawa, 숟갈잎엽

Grows on the rock surface and trunks in the wood land of lower elevation, and distributes to Japan.

Neocheiropteris ensata Ching, 밤잎엽

Grows near places of Kumnyong cave and in the Socheong cave and distributes to Japan, Formosa and southern part of Red China.

Polypodium fauriei H. Christ, 나사미역고사리

Grows in the woods of Eorimok, and distributes to Japan. It resembles to *P. vulgare* but has long hairs on the beneath.

Vittariaceae, 잎엽아재비과

Vittaria flexuosa Fee, 잎엽아재비

Grows under evergreen forest of Seondol valley, and distributes to Japan, Formosa, Red China, Indo-China and northern part of India.

Gymnospermae (Pinophyta), 裸子植物門

Taxaceae, 주목科

Torreya nucifera Sieb. et Zucc. 비자나무

There is a well maintained *Torreya* forest at Song-dangni, Kuja-up, Pukcheju-kun, where 5000 *Torreya* trees were growing in the past occupying 38 ha of an area. *Cardamine violifolia* on the ground and *Oberonia japonica* on the trunks of *Torreya* trees still can be seen though *Aerides japonicum* was disappeared. It grows in the main land and distributes to Red China.

Pinaceae, 소나무科

○*Abies koreana* Wilson, 구상나무

It appears to be similar to *A. veitchi* of Japan but differs from it by anatomical character of the leaf and ranges of distribution. It appears from 1500 m above sea level towards the summit of Mt. Halla. It is an endemic species which distributes to main land together with it's three forms.

○*for. koreana*, 구상나무

Female strobiles are dark purple.

○for. chlorocarpa T. Lee, 푸른구상

Female strobiles are light green or yellowish green.

○for. nigrocarpa Hatus. 검구상

Female strobiles are black purple or black.

○for. rubrocarpa T. Lee, 붉은구상

Female strobiles are redish or dark red.

Pinus thunbergii Parlatore, 곰솔

The trees at Sanchŏn-dan are the bigest size of all in Korea, one of which attained 27.6 m in height and the other is 5.8 m of circumference at the breast height. These trees were designated as natural monument no. 160 *Pinus thunbergii* of Cheju city.

Cupressaceae

Juniperus chinensis var. sargentii Henry, 눈향나무

It grows from the middle part to the top of Mt. Halla forming broad populations in certain places especially at windy sites. It distributes to coastal and alpine areas of Japan.

Angiospermae (Magnoliophyta), 被子植物門

Monocotyledoneae, 單子葉植物綱

Gramineae, 벼科

○*Sasa quelpaertensis* Nakai, 제주조릿대

An endemic species which is growing from the mountain foot to the summit of Mt. Halla. It is similar to *S. borealis* but unbranched culm and thickened node are different from it.

Deshampsia caespitosa Beauv. 좀새풀

It is growing on the Mts. Paikdu in the north and Halla in the south. It distributes to colder region of northern hemisphere, South America, New Zealand and Africa.

Glyceria acutiflora Torr. 육절보리풀

Grows on the wet places of low land, and distributes to eastern Asia, and north America.

Isachne nipponensis Ohwi, 누운기장대풀

Grows on the wet places and distributes to Japan and Red China.

Microstegium japonicum Koidz. 민바랭이새

It resembles to *M. vimineum var. polystachyum* and differs it by having hairy rachis and two stamins. Distributes to Japan and Red China.

Muhlenburgia hakonensis Makino, 선쥐꼬리새

Grows grassy land of mountin foot and distributes toward north of Mt. Diamond and Japan.

Tripogon longearistatus Nakai, 교래잠자리피

Grows at dry sites of Kyoraeri and distributes to Red China.

Cyperaceae, 사초科

Carex incisa Boott, 바랭이사초

Grows on the wet places and distributes to Japan.

Carex nervata Fr. et Sav. 양지사초

Grows at sunny site of grass land and distributes to north of Mt. Chii and Japan.

Carex macrandrolepis Lev. 청피사초

Grows in the grass land of southern coastal area and distributes to Japan.

Carex maculata Boott, 무늬사초

Grows in the area between Hyupjae and Daejeong, and distributes to Japan and Formosa.

Carex metallica Lev. 흰이삭사초

Grows along the rocky stream sides and distributes to Japan and Formosa.

Carex teinogyna Boott, 푹이사초

Grows in the grassy site of southern wood land and distributes to Japan.

Carex tenuiformis Fr. et Sav. 나도그늘사초

It was expected to grow at grassy site of the mountain summit but was unable to find it. It grows along the ridges of Mt. Chii and distributes to Japan and Sachaline.

Carex transversa Boott, 화살사초

It was collected from Chochŏn and distributes to Japan and Red China.

Cladium chinense Nees, 충충고랭이

Grows along coastal area and distributes from warm region to tropical areas.

Cyperus cyperoides Kuntze, 방동사니아재비

Grows at open sunny sites of mountain foot and distributes to tropical region including southern part of Japan.

Cyperus haspan Lin. 모기방동사니

Grows near paddy field and distributes to subtropical and tropical region.

Cyperus rotundus Lin. 향부자

Grows at coastal area of Yong-ion, and distribute to subtropical and tropical region.

Liliaceae, 百合科

Allium taquetii Lev. et Vnt. 한라부추

Grows rocky sites of 1400 m above sea level, and distributes to Mts. Chii and Kaya, and Manchuria.

Allium thunbergii G. Don, Mem. Wern. Soc. 6, 84 (1827), T. Lee, Ill. Fl. Kor. 205 (1980, 1985).

○*for. alba, for. nov.* 흰한라부추

Petala alba et cetera ut typica.

Grows at the wet site of 1000 m above sea level with basic species and next red members.

○*for. rubra, for. nov.* 붉은한라부추

Petala rubra et cetera ut typica.

Grows at wet sites of 1000 m above sea level near road side.

Chionographis japonica Max. 실꽃풀

Grows under the woods and distributes to Japan.

●*Ophiopogon taquetii* Lev.

It was collected from Hongnori and hard to distinguish from *O. jaburan* except flower number at the node.

●*Polygonatum humillimum* Nakai, 좀각시둥굴레

It was collected in the woods and hard to identify it from *P. humile* except it's size.

●*Polygonatum odorum var. quelpaertense* Hara, 제주둥굴레

An endemic element which was unable to find it.

○*Tofieldia fauriei* Lev. et Vnt. 한라돌창포

Grows around 1700~1500 m. above sea level, flowers are redish.

○*for taquetii*, st. *nov.*

Tofieldia taquetii Lev. et Vnt. in Fedde Rep. Sp. Nov. 283 (1908)-Nakai, Fl. Kor. 2:253 (1911).

Flowers are white and the others are similar to basic type. It grows together with basic types at the same site.

○*Tricyrtis dilatata* Nakai, 삐죽나리

Grows in the woods and distributes up to south of Kyunggido.

Amaryllidaceae, 수선화科

Crinum asiaticum var. japonicum Bak. 문주란

It inhabited to Tokki-seom where was known as the northern limit of it's distribution. Therefore it was designated as the natural monument no. 19 Natural Habitat of *Crinum asiaticum var. japonicum*. It distributes to Japan and Liuchu.

Lycoris albiflora Koidz. 흰상사화

Grows along the coastal area and distributes to Japan. It is thought to be a hybrid between *L. squamigera* and *L. radiata*.

Orchidaceae, 난초科

Aerides japonicum Reichb. fil. 나도풍란

This is a member of threatening plants which was growing in the *Torreya* forest. It distributes from warm area to subtropical area.

Coeloglossum viride var. bracteatum Richt. 개제비난

Grows at shaded place around 1500 m above sea level, and distributes to alpine area of Siberia, Red China, Japan and north America.

Bulbophyllum drymoglossum Max. 콩짜개난

Grows on the old trunks and rock surface in the woods, and distributes to Japan.

Bulbophyllum inconspicuum Max. 흑난초

Grows on the old trunks and rock surface in the woods, and distributes to Japan.

●*Calanthe coreana* Nakai, 섬새우난

It was collected in the woods near Daejeong in 1909 by Rev. Taquet.

Calanthe reflexa Max. 여름새우난

Grows in the woods and distributes to Japan.

Cremastra unguiculata Finet, 두잎약난초

It resembles to *C. appendiculata* but has two leaves. It grows in the woods and distributes to Japan.

Cymbidium kanran Makino, 한란

This taxon of Mt. Halla was designated as the natural monument no. 191 *Cymbidium kanran* of Mt. Halla. It grows under evergreen forest near Seondol and distributes to Japan.

●*Diplolabellum coreanum* F. Maekawa, 두잎감자난

An endemic taxon which was collected around

1000 m above sea level by Rev. Faurie in 1907.

Galea septentrionalis Reichb. fil. 으름난초

A leafless orchid which is growing in the shaded places and distributes to Japan.

○*Goodyera maximowicziana* Makino *for. alba, for. nov.* 흰섬사철난

Petala alba et cetera ut typica.

It grows under the woods of Eorimok with basic species.

Goodyera velutina Max. 털사철난

Grows under the woods of southern side, and distributes to Japan.

Oberonia japonica Makino, 차걸이난

Grows on old trunks in the woods of Torreya, and distributes to Japan.

Platanthera minor Reichb. fil. 한라잠자리난

It was collected from Mt. Halla and distributes to Japan.

Platanthera japonica Lindl. 갈매기난초

It was collected from Mt. Halla and distributes to Japan.

Taeniophyllum aphyllum Makino, 거미난

Grows on the tree bark and distributes to Japan.

Tipularia japonica Matsum. 비비추난

Grows in the woods and distributes to Mt. Daedun and Japan.

Dicotyledoneae, 雙子葉植物綱

Piperaceae, 후추科

Piper kadsura Ohwi, 후추등

Grows at humid site of southern shaded place of Mt. Halla and distributes to Japan, Formosa and southern part of Red China.

Saururaceae, 三白草科

Saururus chinensis Baill. 삼백초

Grows on the wet places near Hyupjae and distributes to southern part of Japan, Philippines and southern part of Red China.

Chloranthaceae, 홀애비꽃대科

Chloranthus glaber Makino, 죽절초

Grows in the southern valley of Mt. Halla and distributes to Japan, Formosa, Red China, India, and Malaysia.

Salicaceae, 버드나무科

○Salix blinii Lev. 제주산버들

Grows at 1450~1500 m above sea level on way from Donnaeco to the summit of Mt. Halla.

○*Salix hallaisanensis* Lev. 떡버들

It appears often from mt. foot to the summit of Mt. Halla and distributes to main land.

Salix subopposita Miquel, 들버들

It was collected around 1600 m above sea level and distributes to Japan.

Betulaceae, 자작나무科

○*Betula ermani var. saitoana* Hatus. 고채목

Appears around 1800 m above sea level and distributes to alpine area of the main land.

Ostrya japonica Sarg. 새우나무

Grows in the woods of Eorimok and distributes to Wando, Japan, and Red China.

var. homochaeta Honda, 좀새우나무

Grows at the same area with basic species.

●*Corylus hallaisanensis* Nakai, 병개암나무

Grows at 1300~1800 m above sea level and shortened bract of the fruit is a key point to identify from *C. sieboldiana.*

Myricaceae

Myrica rubra S. et Z. 소귀나무

It is growing more often in the valley of Donnaeco and distributes to Japan, Liuchu, Formosa, and Red China.

Fagaceae, 참나무科

Quercus actua Thunb. 붉가시나무

It is growing not often and not rare and the bigest one is standing at 600 m above sea level along the road south to Seongpan-ak. Distributes to main land and Japan.

Quercus gilva Blume, 개가시나무

It was not found during my visit and distributes to Japan, Formosa, and Red China. Villous hairs on the leaf beneath is a distinct character of this species.

Ulmaceae, 느릅나무科

Celtis sinensis Pers. 팽나무

This species with the next *Zelkova* of Seong-up have been designated as natural monument no. 161 *Zelkova serrata* and *Celtis sinensis* at Seong-upni because of their tree size and age which attained to one of the bigest and oldest among these taxa in Korea.

Zelkova serrata Makino, 느티나무

It is the same with *Celtis* mentioned above.

Urticaceae, 쐐기풀科

●*Boehmeria hirtella* Satake, 털긴잎모시풀

It was collected near Sambang-san and short dense hairs on leaf beneath is a key point to identify from *B. sieboldiana*

●*Boehmeria nakaiana* Satake, 제주긴잎모시풀

It was collected from the northern side of Mt. Halla and resembles to *Urtica angustifolia* in appearance. It was included into *B. sieboldiana.*

●*Boehmeria quelpaertensis* Satake, 제주모시풀

This was segrigated from *B. pannosa* and type specimen of this species was collected from Uimi.

●*Boehmeria taquetii* Nakai, 섬거북꼬리

According to original description it resembles to *B. sieboldiana* and differs by having smaller size of teeth and flower. Flowers are similar to those of *B. spicata* but leaf shape is different. It was collected from a residential district at first.

○*Pilea taquetii* Nakai, 제주큰물통이

Grows at the foot of rocks around 600 m above sea level and resembles to *P. hamaoi.*

Loranthaceae, 겨우살이科

Loranthus yadoriki Sieb. 참나무겨우살이

It is growing on evergreen trees of southern mt. foot, and distributes to Japan.

Aristolochiaceae, 쥐방울덩굴科

○*Asarun maculatum* Nakai, 개족도리

Grow in the woods somewhat often, and once it was a target of root digers for medical uses.

Polygonaceae, 마디풀科

Bistorta alopeculoides Kom. 가는범꼬리

Grows ndar the summit of Mt. Halla and distributes to Manchuria and eastern part of Siberia.

Bistorta suffulta Greene, 눈범꼬리

Grows in the woods from 1000 m above sea level and distributes to Japan and Red China.

Bistorta tenuicaulis Nakai, 이른범꼬리

It is growing near the summit of Mt. Halla, and distributes to Japan.

Persicaria taquetii Koidz. 겨이삭여뀌

It was collected at wet place around 800 m above sea level and distributes to Japan. It resembles to *P. foliosa* but becomes green when dried and no glandular dots on the leaf beneath.

Caryophyllaceae, 石竹科

○*Silene fasciculata* Nakai, 한라장구채

Grows on the top part of Mt. Halla and occurs rare.

Ranunculaceae, 미나리아재비科

Aconitum napiforme Lev. et Vnt. 한라돌쩌귀

Inhabited in the woods and distributes to Japan.

Anemone stolonifera Max. 세바람꽃

Inhabits in or margin of the woods around the summit of the mt, and distributes to Japan, Manchuria and Red China.

Cimicifuga acerina Tanaka, 개승마

Grows often in the woods and distributes to Keojedo and Japan.

Cimicifuga japonica Spreng, 왜승마

Grows along the stream sides of southern valley and distridutes to Japan.

○*Hepatica insularis* Nakai, 세끼노루귀

Grows in the woods which has smaller leaves variegated.

Pulsatilla cernua Spreng, 가는잎할미꽃

Grows at sunny site of low land, and distridutes to Japan and Red China. Terminal leaflets are acute end and 3~6mm wide.

Ranunculus borealis Trautv. 구름미나리아재비

Grows around the summit of the mountain and distridutes to Europe through Mt. Paikdu, Manchuria and Siberia.

○*Ranunculus crucilobus* Lev. 바위미나리아재비

Grows in the crater of Mt. Halla, which covered with brown hairs and decumbent branches.

Ranunculus ternatus Thunb. 개구리갓

Grows at wet places of the mountain foot and distributes to Mt. Seorak, Japan, Liuchu, Formosa, Red China.

●Thalictrum punctatum Lev. 큰잎산꿩의 다리

An endemic species which grows around 1500~1950 m. above sea level, and distridute to Hong-do.

○*Thalictrum raphanorhizon* Nakai, 작은산꿩의다리

Grows at 800~1700 m above sea level which is a miniature of *T. filamentosum* except purplish flower and single tuberous root.

●*Thalictrum taquetii Lev.* 한라꿩의 다리

It was collected from 1, 800 m above sea level, which seems to be a miniature of *T. actaefolium* in

appearance but length of pedicels are 2~3 times longer than achenes.

Berberidaceae, 매자나무科

○*Berberis amurensis* var. *quelpaertensis* Nakai, 섬매발톱나무

Grows from 1300 m above sea level to the top of the mountain. Oblanceolate leaves, ciliate teeth and stout thorns are it's main characters.

Magnoliaceae, 목련科

Magnolia kobus A. P. DC. 목련

There is a tree which attained to over one meter of circumference at breast height in the woods of Seongpan-ak, and distributes to Japan.

Michelia compressa Sarg. 초령목

A tree which is growing in Huksan-do has been thought to be introduced from Japan but some of natural growth were found from Donnaeco valley. Distributes to Japan, and Formosa.

Schizandra nigra Max. 흑오미자

It was fruited at Eorimok and distributes to Japan.

Illiciaceae, 붓순나무科

Illicium religiosum Sieb. et Zucc. 붓순나무

Grows in the southern woods and rare. Distributes to Japan, Formosa and Red China.

Lauraceae, 녹나무科

Cinnamomum camphora Sieb. 녹나무

Cinnamomum woods which is located at Dosun-ri, Seoguipo has been designated as natural monument no. 162 Natural Habitat of *Cinnamomum camphora* at Dosun-ri. It is almost disappeared from wild and distributes to Japan, Formosa and Red China.

Neolitsea aciculata Koidz. 새덕이

There are sevral trees in the shelter woods of Uimi and was unable to see it in the wild. Distributes to Japan and Liuchu.

Fumariaceae, 현호색科

Corydalis decumbens Pers. 좀현호색

Inhabits at the foot of mountain and distributes to Japan, Formosa and Red China.

Cruciferae, 十字花科

Arabis serrata var. glauca Ohwi, 바위장때

Grows on the rocky sites and resembles to *A. nipponica* in appearance but differs by having petals over 6 mm long and trichomes on the radical leaves are stalked. Distributes to Japan and Sacchaline.

○*Arabis serrata var. hallaisanensis* Ohwi, 섬바위장때

An endemic species which inhabits on the rocky site of mountain summit.

Cardamine violifolia O. E. Schulz, 벌깨냉이

Grows in the woods of Torreya forest and Sankumburi which distributes to the middle part of Red China.

Saxifragaceae, 범의귀科

●*Chrysosplenium hallaisanense* Nakai, 제주괭이눈

Inhabits at wet shaded places of the mountain which has longitudinal stripes on the seed.

Chrysosplenium pilosum Max. 털괭이눈

A hairy northern element of Manchuria and Siberia settled down to this mountain.

Parnasia alpina Makino, 애기물매화

An alpine species inhabited on the upper part of the mountain and distributes to Japan.

Hamamelidaceae, 조록나무科

Distylium racemosum S. et Z. 조록나무

Trees at Nyongpyong-dong are being designated as local natural monument no. 21, and distributes to Japan There are several trees of big size at windy site which shows those trees are wind hardy species.

Rosaceae, 장미科

Amelanchier asiatica Endl. 채진목

Grows around 1100~1600 m above sea level and distributes to Japan.

○*Aruncus aethusifolius* Nakai, 한라개승마

Grows on the rocky site and stream sides from the middle part to the summit of the mountain.

Malus micromalus Makino, 제주아그배

Appears from the foot to the top of the mountain and distributes to Japan and Red China. Undivided leaves with persistent calyx on the fruit are distinct characters of it.

Potentilla matsumurae Wolf, 좀양지꽃

Grows around the summit of the mountain and beneath of the leaf is green with long hairs. Distributes to Mt. Seorak and Japan.

○*Potentilla stolonifera var. quelpaertensis* Nakai, 제주양지꽃

An endemic species which grows at low land.

It appears to be similar to *P. fragarioides var. major* but produces stolons.

Prunus yedoensis Matsum. 왕빛나무

Natural habitats where this tree is growing at shin-yeri and Bong-gaedong are being designated as nat. mon. no. 156 and 159 Natural Habitat of *P yedoensis*. It occurs at mt. Daidun near Daehung Buddhist Temple also.

Rubus buergeri Miquel, 겨울딸기

Grows in the wood land of lower elevation and distributes to Japan, Formosa and Red China.

Rubus croceacantha Lev. 검은딸기

Grows around 1100 m above sea level and distributes to Japan and Formosa. It is similar to *R. sorbifolius* but differs from it by having short glandular hairs(less than 2mm) and solitary flower at the branch end.

●*Rubus hongnoensis* Nakai, 가시딸기

An endemic species which stands straight and leaves are glandular dotted instead of glandular hairs. It was collected near the water fall of Seoguipo and Hongno-ri.

●*Rubus sorbifolius var. myriadenus* T. Lee, 복딸나무

An endemic variety which differs from basic species is white fruit and hairless leaves. It grows around 700 m above sea level.

○*Rubus schizostylus* Lev. 가시복분자딸기

Grows along sea coast, procumbent habit of which differs from *R. coreana*.

Sibbaldia procumbens L. 너도양지꽃

It is an alpine element of northern hemisphere and grows on Mt. Paikdu, and it was reported to grow on the summit of the mountain here.

○*Spiraea prunifolia for. simpliciflora* Nakai, 조팝나무

An endemic element which grows common in Korea. Basic species is growing in Red China.

Leguminosae, 콩科

Astragalus adsurgens Pallas, 자주황기

There is a record of collection in 1906 and distributes to Japan, Manchuria, Siberia, and North America.

●*Astragalus adsurgens var. alpinus* Nakai, 한라황기

A miniature of the basic taxon which was collected by Rev. Faurie in 1906.

○*Astragalus membranaceus var. alpinus* Nakai, 제주황기

An endemic taxon which grows on the summit area of the mountain. It forms small populations.

Canavalia lineata DC. 해녀콩

It is growing in Tokki-seom and distributes to Japan, Formosa and Red China.

Desmodium caudatum DC. 뚠장풀

Grows at lower elevation of Hong-ni and distributes to Japan, Red China, India, and Malaysia.

Desmodium heterocarpon DC. 잔디갈고리

Grows with *Zoysia japonica* along road sides of Arirang Hill and distributes to Japan, Formosa, Red China, India and Malaysia.

○*Gleditsia japonica var. koraiens* Nakai, 주엽나무

It is common in Korea and grows at Yong-ion.

○*Lespedeza thunbergii var. intermedia* T. Lee, 풀싸리

Appears at grassy land of lower elevation and distributes to main land.

○*Maackia fauriei* Takeda, 솔비나무

Appears often from mountain foot to the summit

Euchresta japonica Benth. 만녕콩

Grows in the Donnaeco valley and distributes to Japan, which was unable to find during my last visit.

○*Trifolium lupinaster var. alpinum* Nakai 제주달구지풀

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

Vigna vexillata var. tsusimensis Matsum. 돌동부

Grows at grassy site of low land, and distributes to Jindo and Japan.

Geraniaceae, 쥐손이풀科

Geranium davuricum DC. 산쥐손이풀

An alpine species which stationed to the summit of Mt. Halla distributes to northern alpine area of Korea, Manchuria, and Davuria.

●*Geranium shikokianum var. quelpaertense* Nakai, 섬쥐손이

An endemic element which was collected from 1500 m above sea level, basic species of which distributes to Japan.

Geranium tripartitum R. Kunth, 좀쥐손이

It is growing in the woods of Eorimok and distributes to Japan.

Rutaceae, 운향科

Zanthoxylum coreanum Nakai, 왕초피나무

Grows in the woods of low land and distributes to the eastern part of Red China.

Euphorbiaceae, 대극科

○*Euphorbia fauriei* Lev. et Vnt. 두메대극

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

Empetraceae, 시로미科

Empetrum nigrum var. japonicum K. Koch, 시로미

Appears from 1700 m above sea level towards the summit and distributes to Japan. The basic one distributes to the alpine area and colder zones of northern hemisphere.

Aquifoliaceae, 감탕나무科

Ilex rotunda Thunb. 먼나무

The bigest tree of this species is standing at the garden of Seoguipo City Hall, which is being designated as local monument no. 15. There are no such big sized tree in the wild, and distributes to Japan, Formosa, Red China and Indo-China.

○*Ilex crenata var. mirophylla* Max. 좀꽝꽝나무

An endemic taxon to this area appears from mountain foot to the summit with basic ones. Basic species distributes to the main land and Japan.

Celastraceae, 노박덩굴科

●*Euonymus quelpaertensis* Nakai, 둥근잎참빗살

It was collected by Rev. Faurie in 1907 and differs from *E. bungeana* by it's petiole length (17 mm).

Rhamnaceae, 갈매나무科

Paliurus ramosissimus Poiret, 갯대추

There was only one specimen collected from near Tosan, and distributes to Japan, Formosa and southern part of Red China.

○*Rhamnus taquetii* Lev. 좀갈매나무

Appears from 1000~1600 m above sea level on way from Yongsil towards the summit.

Tiliaceae, 피나무科

○*Tilia taquetii* Schneider, 뽕잎피나무

Grows in the woods of Eorimok and distributes to main land

Elaeocarpaceae, 담팔수科

Elaeocarpus sylvestris var. ellipticus Hara, 담팔수

The specimen which is growing near the water fall of Chŏnji-ion is being designated as natural monument no. 163 Natural Habitat of *Elaeocarpus sylvestris var. ellipticus* at Seoguipo, and one which is standing near the water fall of Chŏnje-ion is a local monument no. 14. Some others which were growing at Seopsom were left far biger stumps there. Distributes to Japan and basic one to the southern part of Red China.

Malvaceae, 아욱科

Hibiscus hamabo Sieb. et Zucc. 황근

Grows near sea coast and distributes to Wando, Japan and Liuchu.

Theaceae, 차나무科

Ternstroemia japonica Thunb. 후피향나무

Grows at southern low land and distributes to Japan, Formosa, Red China, Philipines, Borneo and India.

Violaceae, 제비꽃科

Viola biossieuana Makino, 각시제비꽃

It was collected in the woods of *Abies koreana* but was unable to find it during my recent visit. Distributes to Japan.

Cucurbitaceae, 박科

Melothria japonica Max. 새박

Grows at wet stream sites and distributes to Japan.

Thymeleaceae, 서향科

Daphne kiusiana Miquel, 백서향

These which are growing at Seonhulni, Chochŏn-myon, Puk-Cheju-kun are being designated as local monument no. 18, and distributes to Udo, Japan and Liuchu.

●*Stellera rosea* Nakai, 피빠리풀

It was growing in the Songdang pasture but was unable to find it during my last visit and distributes to Huanghae-do.

Elaeagnaceae, 보리수科

Elaeagnus submacrophylla Serv. 큰보리장나무

It was collected from Uimi area which has been treated as a hybrid between *E. macrophylla* and *E. glabra*. It was reported from Japan too.

Onagraceae, 달맞이꽃科

Ludwigia ovalis Makino, 눈여뀌바늘

It was growing wet places around 600 m above sea level, and distributes to Japan and Formosa.

Araliaceae, 두릅나무科

○*Acanthopanax koreanus* Nakai, 섬오갈피나무

An endemic element which grows below the mountain foot.

○*Dendropanax morbifera* Lev. 황칠나무

An endemic evergreen tree which is growing below mountain foot.

Umbelliferae, 傘形科

○*Angelica fallax* H. De Boissieu, 개강활

Grows in the valley and somewhat similar to *A. polymorpha.*

○*Bupleurum leveillei* H. De Boissieu, 등대시호

It was collected from 1300 m above sea level and distributes to main land.

Hydrocotyle nepalensis Hooker, 큰잎피막이

Grows at shaded places of low land and distributes to Japan, tropical Asia, Africa and Australia.

Hydrocotyle japonica Makino, 제주피막이

Grows at shaded places of low land and distributes to Japan.

○*Libanotis coreana* Kitagawa, 털기름나물

An endemic element which appears from 1300 m above sea level towards the summit.

Pternopetalum tanakae Handel-Mazz. 반디미나리

Grows at shaded places near the summit, and distributes to Japan and Red China.

Clethraceae, 매화오리나무科

Clethra barbinervis Sieb. et Zucc. 매화오리나무

There was a report of collection but was unable to find it by the author. Distributes to Japan.

Pyrolaceae, 노루발과

Monotropa hypopythis Lin. 구상난풀

Grows in the woods of *Abies koreana* and distributes to Japan, Formosa, Red China, Manchuria, Siberia, Europe and North America.

Diapensiaceae, 돌매화나무科

Diapensia lapponica var. obovata Fr. Schmidt, 돌매화

Appears at 1800~1950 m above sea level and distributes to Japan, Kamtchaca and western part of North America.

Ericaceae, 진달래科

Hugeria japonica Nakai, 산매자나무

Appears from Eorimok towards the summit and distribute to Japan.

Rhododendron dauricum L. 산진달래

Seems to de growing along the ridges of Wangkwan near the summit of Mt. Halla, and distributes to alpine areas of n. Hamkyong do and n. Pyongando, Japan, Red China and Eastern Siberia.

●*Rhododendron saisyuense* Nakai, 제주진달래

It was collected from the summit area, leaves of which are smaller and trichomes on the veins of both sides, and brown hairs on pedicels and bracts.

Rhododendron weyrichii Max. 참꽃나무

Grows from the mountain foot to 1100 m above sea level and distributes to Japan.

var. psilostylum Nakai, 털참꽃나무

Grows together with basic species and differs from it by hairy basal part of pistils.

Vaccinium uliginosum L. 들쭉

A northern element which stationed at top of the mountain and distributes to northern alpine area through Mt. Seorak in Korea, colder regions of northern hemisphere.

○*Vaccinium koreanum* Nakai, 산앵도나무

An endemic element which grows along the ridges of mountains in Korea.

Myrsinaceae, 자금우科

Ardisia crenata Sims, 백량금

Grows in the woods below mountain foot and distributes to Hongdo and Japan.

for. taquetii (Lev.) Ohwi, 왕백량금

Grows below 300 m above sea level and distributes to Japan.

Ardisia pusilla DC. 산호수

Inhabits below mountain foot and distributes to Japan.

Primulaceae, 앵초科

Lysimachia acroadenia Max. 섬까치수염

Inhabits at wet spot of shaded place, and distributes to Japan.

○*Primula hallaisanensis* Nakai, 털앵초

Grows in the wooded area of the upper site, hairy scape is main differeence from allied taxa.

Primula modesta var. fauriei Takeda, 설앵초

Inhabits at the summit area and distributes to Japan.

Symplocaceae, 노린재나무科

Symplocos coreana Ohwi, 섬노린재

Grows in the woods of Eorimok and distributes to Japan.

Symplocos prunifolia Sieb. et Zucc. 검은재나무

Grows around 700~800 m above sea level and distributes to Japan, and Liuchu.

Oleaceae, 물푸레나무科

Ligustrum ibota Sieb. et Zucc. 좀쥐똥나무

Grows in the woods and distributes to Japan. It differs from *L. obtusifolium* by short inflorescence and rhomboid ovate form of the leaf.

Ligustrum lucidum Ait. 제주광나무

Grows at lower elevation and distributes to Red China. It resembles to *L. japonicum* but differs by floral and fruit characters.

Osmanthus insularis Ohwi, 박달목서

There are two big sized trees at Jeolbu-am, Daejeong, which are all male trees. It distributes to Keomundo and Japan.

Gentianaceae, 용담科

Gentiana pseudo-aquatica Kusnezov, 흰구름용담

Grows at the upper part of 1000 m above sea level, and distributes to northern Red China, Mongolia, Tibet, Siberia and Himalayas.

Tripterospermum japonicum Max. 덩굴용담

Grows in the woods of Eorimok and distributes to Dagelet Isl. Sacchaline, Japan, Formosa and Red China.

Asclepiadaceae, 박주가리科

Cynanchum nipponicum Matsum. 덩굴박주가리

Grows around 1000 m above sea level and distributes to north of Kangwondo and Japan.

Marsdenia tomentosa Morr. et Decne, 나도은조롱

Inhabits at Seopseom and distributes to Keomunod, Japan and Liuchu.

Borraginaceae, 지치科

Ehretia ovalifolia Hasskarl, 송양나무

Grows below 700 m above sea level, and distributes to western island of Keomundo, Japan, Liuchu and Formosa.

Cynoglossum asperrimum var. tosaense Hara, 제주꽃마리

Grows at open space of Yongsil and distributes to Japan.

Bothriospermum secundum Max. 참꽃바지

Grows at grassy site of low land, and distributes to Danyang, Manchuria and northern part of Red China.

Labiatae, 꿀풀科

○*Elscholtzia minima* Nakai, 좀향유

Grows at open spaces around 1300~1500 m above sea level.

Teucrium veronicoides Max. 곽향

It was known from both places including Chejudo and Myongchŏn kun, n. Hamkyongdo, and distributes to Japan. One of the main characteristics is that this plant is covered with long hairs.

Solanaceae, 가지科

●*Physalis repens* Nakai, 덩굴꽈리

Annual herb which was found from cultivated field of Hongno.

Scrophulariaceae, 현삼科

Deinostema adenocaula Yamazaki, 둥근잎고추풀

Grows at wet places and paddy field and distribute to Japan.

○*Euphrasia coreana* W. Becker, 깔끔좁쌀풀

An endemic element which grows around 1000~1700 m above sea level, and elongated sharp teeth is one of main character.

Limnophilla aromatica Merr. 소엽풀

Grows at wet places of Hongnori, and distributes to Japan, Liuchu, Formosa, Red China, India, Malaysia and Australia. One of main character is opposite leaves.

Microcarpaea minima Merr. 진흙풀

An Annual herb which is growing at wet places and distributes to Japan, Liuchu, Formosa, Red China, India, Malaysia and Australia.

○*Pedicularis hallaisanensis* Hurusawa, 한라송이풀

An endemic taxon which is growing around 1600~1950 m above sea level. It is very similar to *P. verticillata* except hairy state of plant.

●*Veronica linaliaefolia var. villosula* T. Lee, 털꼬리풀

Grows near coastal area and similar to the basic species except hairs.

●*Veronica ovata* Nakai, 넓은산꼬리풀

There was a report that it was growing in the grassy site but was unable to find living material.

●*Veronica rotunda* Nakai, 둥근산꼬리풀

It was unable to fiand living plant though there

was a report to grow at grassy land.

Vandelia crustacea Benth. 외풀

An annual herb which is growing in the cultivated field, and distributes to Japan, Liuchu, Formosa, Red China, India and Malaysia.

Orobanchaceae, 열당科

Aeginetia indica L. 야고

Grows at *Miscanthus* field of Arirang Hill, and distributes to Japan, Liuchu, Malaysia.

Acanthaceae, 쥐꼬리망초科

Strobilanthes oligantha Miquel, 방울꽃

It is growing at Hongnori and Sankumburi, and distributes to Japan.

Hygrophila lancea Miquel, 물잎풀

Grows along the stream sides of southern valley, and distributes to Japan, Liuchu and Formosa.

Rubiaceae, 꼭두서니科

Hedyotis lindleyana var. hirsuta Hara, 탐나풀

Grows in the tamna valley and distributes to Japan and Malaysia. Basic species distributes to India.

Adina rubella Hance, 중대가리나무

Grows at rocky stream sides of Uimi, and distributes to the southern part of Red China.

Damnacanthus indicus Gaertn. 호자나무

Grows below 700 m above sea level, and distributes to Japan, Liuchu, Red China, northern east part of India and Sham.

Damnacanthus major S. et Z. 수정목

Grows in the woods of low elevation, and distributes to Japan and Liuchu.

Galium trifloriforme Kom. 개선갈퀴

Grows at shaded spot, and distributes to Manchuria, Red China and Japan.

○*Galium pusillum* Nakai, 애기솔나물

Grows at upper part of 1700 m above sea level, and is a miniature of *G. verum* in appearance.

Lasianthus japonicus Miquel, 무주나무

Grows under evergreen forest of Seondol valley, and distributes to Japan, Liuchu, Formosa and southern part of Red China.

Caprifoliaceae, 忍冬科

Sambucus sieboldiana Blume, 덧나무

Grows around 200~1400 m above sea level, and distributes to Japan.

Viburnum awabuki K. Koch, 아왜나무

Grows at 700~1100 m above sea level, and distributes to Japan, Liuchu, Formosa, Red China and India.

Viburnum furcatum Blume, 분단나무

Grows at 700~1950 m above sea level, and distributes to Dagelet Island, Japan and Sachaline.

Weigela japonica DC, 축자 병꽃나무

Grows at mountain foot which was unable to find living material, and distributes to Japan. It's calyx is similar to that of *W. subsessilis* but colour is changing from white to red.

○*Weigela subsessilis* Bailey, 병꽃나무

It is growing throughout Korea, which is thought to be an endemic species to Korea.

Dipsacaceae, 산토끼꽃科

○*Scabiosa mansenensis* for. alpina Nakai, 구름체꽃

An alpine endemic element inhabits at the summit of mountain.

Campanulaceae, 초롱꽃科

Adenophora coronopifolia Fischer, 둥근잔대

Grows at the summit of the mountain and distributes to Manchuria and eastern part of Siberia.

Adenophora liliifolia Ledeb. 나리잔대

Grows near the summit of mountain, and distributes to Mt. Paikdu, Manchuria, Siberia and Europe.

●*Adenophora taquetii* Lev. 섬잔대

Grows around 1800 m above sea level, and distributes to Japan.

●Codonopsis minima Nakai, 애기소경불알

It was collected around 1000 m above sea level near Yongsil, and seems to be a miniature of *C. ussuriensis*.

Peracarpa carnosa var. circaeoides Makino, 홍노도라지

It was collected from wet shaded place of Hongnori, and distributes to Japan and Kamtschaka.

Compositae, 국화科

○Anaphalis sinica subsp, morii Kitam. 구름떡쑥

Appears from 1500 m above sea level toward the summit of the mountain.

○Artemisia japonica var. hallaisanensis Kitam. 섬제비쑥

Appears from 1500 m above sea level toward the summit of the mountain.

Artemisia laciniata Willd. 구와쑥

Appears around 1500 m above sea level on way to the summit from Yongsil. This is the new addition to the flora of Mt. Halla, and distributes to Mt. Paikdu, Manchuria, Siberia, Red China, northern part of Japan, Sachaline and to Europe.

○*Aster hayatae* Lev.et Vnt. 눈개쑥부장이

Grows around 1500 m above sea level, and is similar to *A. hispidus* in appearance except prostrated stem.

○*Aster chejuensis* Kitam. 털쑥부장이

Grows along the coastal sites and is similar to *A. hispidus* in appearance but has stout stem with spathulate leaves and villous hairs on the plant.

Carpesium rosulatum Miquel, 애기담배풀

Grows in the woods of Eorimok and distributes to Dagelet Isl. and Japan.

○*Cirsium maackii var spinosissimum* Nakai, 가시엉겅퀴

Appears over 1300 m above sea level, and becomes blackish when dried.

○Cirsium rhinoceros Nakai, 바늘엉겅퀴

An endimic species which appears around 600~1,800 m above sea level. Needle like strong sharp spines are one of the important characters.

○*for. albiflorum* Satake, 흰바늘엉겅퀴

Appears around 1600~1800 m above sea level.

Lapsana humilis Makino, 그늘보리뺑이

Appeare around 800 m above sea level and distributes to Japan.

Leontopodium coreanum Nakai, 솜다리

Appears from middle part of the mountain. Shortened steril stem is a distinct character to identify from allied members.

○*Leontopodium hallaisanense* Hand. - Mazz. 한라산솜다리

Appears from over 1500 m above sea level. Elongated steril stem and spathulate leaves of the lower part are of worthy to identify from allied species.

○*Ligularia taquetii* Nakai, 갯취

Grows between Hyupjae and Shinchang, and distributes to Keojedo.

Rhynchospermum verticillatum Reinw. 추분취

Grows south to Seongpan-ak and distributes to Japan, Liuchu, Formosa, Malaysia and India.

Senecio flammeus Turcz. 산솜방망이

Appears from 1200 m above sea level towards the summit and distributes to Manchuria, northern part of Red China, Davuria, and Japan. A glabrous variety is growing north to the middle part of main land.

○*Serratula coronata var. insularis for. koreana* T. LEE, 한라산비장이

Appears from 1000 m above sea level and seems to be an alpine form of a variety.

Siegesbeckia orientalis L. 제주진득찰

It is growing in the cultivated field and dichotomously branching stem is a distinct feature. Distributes to Japan, Liuchu, Formosa, Red China, Malaysia, India, Australia and Africa.

○*Taraxacum hallaisanensis* Nakai, 좀민들레

An endemic species which is growing around 1200 m above sea level, and differs from *T. mongolicum* by glabrous leaves and involucral scales are blackish with acute end.

Wedelia chinensis Merr. 긴갯금불초

Grows along the coastal area and distributes to Japan, Liuchu, Formosa, Red China, Malaysia and India.

Wedelia prostrata Hemsl. 갯금불초

Grows along the coastal site, peduncle of which is less than 4 cm long. Distributes to Japan, Liuchu, Formosa, Red China, and Indo-China.

○*Yongia denticulata var. alpina* T. Lee, 한라고들빼기

It is growing from 1700 m above sea leve toward volcanic crater, which seems to be derived from an origin of hybrid.

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