

A Flora of Vascular Plants in Mt. Munsusan, Bonghwa

Hye Jeong Lee*, Jun Gi Byeon, Tae Im Heo, Ji Dong Kim, Byeong Joo Park,
Dong Hyuk Lee and Jun Woo Lee

Researcher, Baekdudaegan National Arboretum, Bonghwa 36209, Korea

Abstract - This study was carried out to elucidate the distribution of vascular plants and their usefulness of Mt. Munsusan (1,205 m) in Bonghwa County, North Gyeongsang Province, South Korea. The vascular plants that were investigated in 2 years (2019 ~ 2020) with 15 times consisted a total of 571 taxa; 94 families, 310 genera, 496 species, 4 subspecies, 63 varieties and 8 formas. For the Korean endemic plants, 17 taxa were recorded and 3 taxa of Vulnerable Species (VU) and 9 taxa of Least Concerned species (LC) categorized by the Korean Forest Service as rare plants were investigated in this region. Furthermore, IV, III degrees of floristic regional indicator plants designated by the Korean Ministry of Environment included 8 taxa and 27 taxa, respectively. Among them, edible, medicinal, ornamental, feed/composting, industrial plants were 391 taxa, 359 taxa, 301 taxa, 241 taxa, 217 taxa, respectively. In addition, 25 taxa of naturalized plants were observed.

Key words – Conservation, Endemic plants, Naturalized plants, Rare plants, Usefulness

Introduction

Mt. Munsusan (1,205 m) is surrounded by mountains over 1,200 m - Mt. Seondal, Mt. Okseok, Mt. Guryong, Mt. Gakhwa - to the north and east of its summit, and mostly relatively low mountains below 700 m to its west and south with villages at their foot. It is placed at the midpoint between Mt. Taebaek and Mt. Sobaek regions when Baekdudaegan of South Korea is broken down into five regions. This mountain is facing Mt. Okseok with Jusilryeong as its boundary on the section leading to Mt. Sobaek - Mt. Galgot - Mt. Seondal - Bakdalyeong- Mt. Okseok (Okdolbong) - Doraegijae - Mt. Guryong - Mt. Taebaek located between the sections 5 and 6 presented in the Baekdudaegan Ecology Map (<https://www.forest.go.kr/>).

Floristic-geographically speaking, it belongs to the Korean region of the Sino-Japanese region and warm-temperate forest zone, and it falls under the cool temperate forest central zone among the eight zones divided according to the flora zone of Korea (Lee and Yim, 1978). According to the new flora structure in the southern part of the Korean Peninsula suggested by the Korean Forest (VI) Flora Region and Vegetation Climate of Korea (Korea National Arboretum, 2020), it is a warm temperate

flora zone (Zone III) and Korean forests classified according to the vegetation climate area is part of deciduous broad-leaved forests (WI 45-85) in temperate northern vegetation climate.

Its climate displays a continental climate with large annual temperature variances owing to its geographical location of being in the mountainous inland of Gangwon Province. Its average annual temperature for the last five years (2016 - 2020) is 10.6°C (10.3 ~ 11°C), with the highest temperature of 37.8°C in 2018 and the lowest one of -21.7°C confirmed in 2018. Its mean maximum temperature is 18.1°C, coupled with the average minimum temperature of 3.9°C, and its precipitation is 1,086.78 mm (795.3 ~ 1297.3 mm) (Korea Meteorological Administration, 2020).

The geological map of the Korean Peninsula indicates most of the geology in this area is composed of Gyeonggi metamorphic rock complex, Mt. Sobaek metamorphic complex, Mt. Jiri metamorphic rock complex, and foliated granite, which are the rocks formed in the Archaeon-Proterozoic eon and the Mesozoic era. From the angle of the tectonic zone of the Korean Peninsula, it spans over the Yeongnam Massif and Mt. Taebaek Basin, and the present geological features were witnessed in the Yeongnam Massif during the Paleoproterozoic time of the Precambrian Period and in Mt. Taebaek Basin during the Ordovician-Cambrian Period (Ministry of Land,

*Corresponding author. E-mail : hj1117@koagi.or.kr
Tel. +82-54-679-0620

Infrastructure and Transport, 2016). Its soil is brown forest one, and its types are lithosols and red-yellow soil. Brown forest soil represents the forest soil of Korea, and humus decomposed from the organic matter on its topmost layer accumulates nearby the topsoil layer, rendering it with dark black color. For subsoil layer, its soil color gets brighter with the increase in mineral content. Soil in this mountain is mainly made up of loam and the average soil depth is 50 - 660 cm (Ministry of Land, Infrastructure and Transport, 2016).

Most of the flora studies in this region are relevant to the formation of the Baekdudaegan National Arboretum. Consequently, there have been many researches that reported the area where this arboretum was built - Mt. Munsusan, Mt. Okseok, and Mt. Guryong - in an integrated fashion, rather than an intensive survey on Mt. Munsusan (Byeon *et al.*, 2016; Chung *et al.*, 2015; Kim and Yun, 2009; You *et al.*, 2009). Accordingly, reported theses and report results so far demonstrate that no intensive investigation has been carried out on Mt. Munsusan, leading us to reach a decision to conduct a survey according to various routes by citing previous research data as it is. So we tried to come up with a list based on evidence samples by making a sample collection centering on field investigations. Any absence of sample during the process was supplemented through image data. The intention of our endeavor is to report on the vascular plants distributed in Mt. Munsusan, identify taxa requiring conservation, and use it as

the basis data for the efficient management of Baekdudaegan plants going forward.

Materials and Methods

This undertaking took place through fifteen field surveys of Mt. Munsusan ranging over two years (2019 and 2020). The said mountain is in the western part of Bonghwa County, North Gyeongsang Province at 36°48' ~ 37°03' in north latitude and 128°41' ~ 128°49' in east longitude, and it is part of Mullya-myeon, Chunyang-myeon, and Bongseong-myeon. Our survey was conducted in several routes to encompass various habitats such as slopes, ridges, valleys, and forest roads of Mt. Munsusan (Table 1, Fig. 1).

All species verified from our investigation of various routes were collated or photographed. Such collected plants were then dried and made into specimens of plant pressing and kept in the KBA (Herbarium of the Baekdudaegan National Arboretum). For exact identification, this job was performed using the illustrated books of Cho *et al.* (2016), Korea National Arboretum (2004, 2019), Lee (1996, 2003, 2006), Lee and Lee (2015), Park (2009), Yoo (2013) and so on. Their scientific and common names followed those in the National Standard Plant List (<http://www.nature.go.kr/>) published by the Korea National Arboretum. The vascular plants that have completed identification are based on Engler's vascular plant taxonomy

Table 1. The dates and routes of Mt. Munsusan

No.	Date	Survey routes
1	May. 2019	Jusil-ryeong → Forest road → Jusil-ryeong 2. Geosil → Forest road → Baekdudaegan National Arboretum
2	Jun. 2019	1. Chukseosa Temple → Top of Mt. Munsusan → Dune water springs 2. Dune water springs → Top of Mt. Munsusan → Jusil-ryeong
3	Jul. 2019	1. Geosil → Forest road → Baekdudaegan National Arboretum 2. Chukseosa Temple → Top of Mt. Munsusan → Chukseosa Temple
4	Sep. 2019	Chukseosa Temple → Yebae-ryeong → Jusil-ryeong 2. Geosil → Forest road → Baekdudaegan National Arboretum
5	Oct. 2019	1. Dune water springs → Yebae-ryeong → Chukseosa Temple 2. Jusil-ryeong → Forest road → Baekdudaegan National Arboretum
6	Apr. 2020	Chukseosa Temple → Yebae-ryeong → Jusil-ryeong
7	Sep. 2020	1. Chukseosa Temple → Top of Mt. Munsusan → Chukseosa Temple 2. Jusil-ryeong → Forest road → Jusil-ryeong
8	Oct. 2020	Dune water springs → Top of Mt. Munsusan → Chukseosa Temple 2. Geosil → Forest road → Baekdudaegan National Arboretum

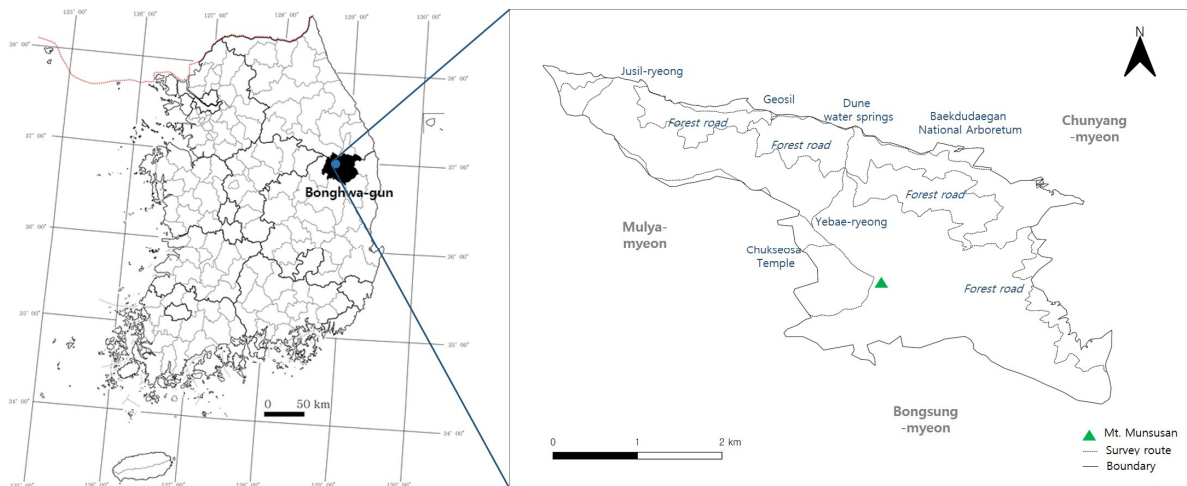


Fig. 1. The location of investigated area and survey routes in Mt. Munsusan.

(Melchior, 1964) for classification and placement. Especially, major plants of this mountain were prepared with reference to Korean endemic species (Chung *et al.*, 2017), rare species (Korea National Arboretum, 2008), floristic specific species (Kim *et al.*, 2018), and naturalized species (Lee *et al.*, 2011) and so forth.

Results

According to our survey on the distribution of vascular plants in Mt. Munsusan, 94 families, 310 genera, 496 species, 4 sub-species, 63 varieties, and 8 formas were found, comprising a total of 571 taxa (Table 2). It was confirmed that this finding corresponds to 34% of 1,684 taxa of vascular plants in North Gyeongsang Province (Korea National Arboretum, 2017) and 11.7% of 4,881 taxa of vascular plants existing on the Korean Peninsula (Korea National Arboretum, 2017; <http://www.nature.go.kr/kpni/>). Also, the recent results of the flora of Mt. Hwangaksan area in Baekdudaegan showed similar results as Mt. Munsusan results, and just over 30 taxa Angiospermae was investigated in Mt. Munsusan (Son *et al.*, 2021).

Compared with recent research outcomes and the total number of taxa provided in the previous studies undertaken in the identical surveyed area, 184 more than the 388 taxa presented in the result of Chung *et al.* (2015) as well as 130 more than the 442 taxa of Byeon *et al.* (2016) were examined in our research. The results of these two preceding studies

included Mt. Munsusan and its nearby mountain areas - Mt. Oksok, Mt. Guryong - and facilities & exhibition gardens of the Baekdudaegan National Arboretum. Through our exercise, we conducted a variety of routes and seasonal surveys, allowing us to believe it offers the result of an intensive investigation, and we could obtain more precise outcome for vascular plants that are native to Mt. Munsusan.

Endemic species of Mt. Munsusan

Seventeen taxa of 11 families and 16 genera, including *Salix koriyanagi* Kimura, *Clematis trichotoma* Nakai, *Corydalis maculata* B. U. Oh & Y. S. Kim, *Vicia chosenensis* Ohwi, *Cirsium setidens* Nakai, *Heloniopsis koreana* Fuse, N. S. Lee & M. N. Tamura, *Hemorocallis hakuimensis* Nakai, and *Carex okamotoi* Ohwi are identified, taking up about 4.7% of Korea's endemic plants (Chung *et al.*, 2017, Table 3).

Besides *Clematis trichotoma* Nakai, *Vicia chosenensis* Ohwi, and *Weigela subsessilis* (Nakai) L. H. Bailey seen throughout the inland area of North Gyeongsang Province, *Peucedanum insolens* Kitag, which is the southern limit species of the inland area of the province, is verified (Jeong, 2019). First discovered in Mt. Deokwoo, Gangneung City, it was confirmed that *P. insolens* Kitag is a northern plant mainly distributed in Gangwon Province and grows wild around the valley of Mt. Munsusan. Its flowering period is July and August, and its leaves are similar to those of *Astilbe chinensis* (Maxim.) Franch. & Sav.. According to the Comprehensive Report on

Table 2. The number of vascular plants by the taxonomic category in Mt. Munsusan

System	Fam.	Gen.	Sp.	subsp.	var.	f.	Taxa
Pteridophyta	9	16	27	0	3	0	30
Gymnospermae	1	2	3	0	0	0	3
Angiospermae	84	292	466	4	60	8	538
Dicotyledons	75	242	372	4	55	8	439
Monocotyledons	9	50	94	0	5	0	99
Total	94	310	496	4	63	8	571

Table 3. The list of the endemic plants in Mt. Munsusan

Scientific name	Korean name	1 ^z	2 ^y
<i>Populus tomentiglandulosa</i> T.B.Lee	은사시나무		
<i>Salix koriyanagi</i> Kimura	키버들	○	○
<i>Aconitum pseudolaeve</i> Nakai	진범		
<i>Cimicifuga heracleifolia</i> var. <i>bifida</i> Nakai	세잎승마		○
<i>Clematis trichotoma</i> Nakai	할미밀망	○	○
<i>Corydalis maculata</i> B.U.Oh & Y.S.Kim	점현호색		
<i>Vicia chosenensis</i> Ohwi	노랑갈퀴	○	○
<i>Ostericum praeteritum</i> Kitag.	강활		
<i>Peucedanum insolens</i> Kitag.	덕우기름나무		
<i>Ajuga spectabilis</i> Nakai	자란초	○	
<i>Paulownia coreana</i> Uyeki	오동나무		
<i>Weigela subsessilis</i> (Nakai) L.H.Bailey	병꽃나무	○	
<i>Cirsium setidens</i> (Dunn) Nakai	고려영경퀴		○
<i>Heloniopsis koreana</i> Fuse, N.S.Lee & M.N. Tamura	치녀치마	○	○
<i>Hemerocallis hakuunensis</i> Nakai	백운산원추리		
<i>Carex erythrobasis</i> H.Lév. & Vaniot	한라사초		
<i>Carex okamotoi</i> Ohwi	지리대사초	○	○

^z1 (Chung *et al.*, 2015), ^y2 (Byeon *et al.*, 2016).

the Distribution of Rare and Endemic Plants (Korea National Arboretum, 2010), *Lilium distichum* Nakai ex Kamib., *Rhododendron micranthum* Turcz., *Streptopus ovalis* (Ohwi) F. T. Wang & Y. C. Tang and *Weigela subsessilis* (Nakai) L. H. Bailey, amongst the endemic species spread across Baekdudaegan region, are distributed in Mt. Munsusan.

When compared with the survey finding of Chung *et al.* (2015), seven taxa; *Lonicera subsessilis* Rehder, *Pseudostellaria coreana* (Nakai) Ohwi, *Saussurea macrolepis* (Nakai) Kitam., *Saussurea uchiyamana* Nakai, *Salvia chanroenica* Nakai, *Lysimachia coreana* Nakai, and *Thalictrum actaeifolium* var. *brevistylum* Nakai, along with five taxa; *Thalictrum actaeifolium*

var. *brevistylum* Nakai, *Philadelphus schrenkii* Rupr., *Eleutherococcus divaricatus* var. *chiisanensis* (Nakai) C. H. Kim & B. Y. Sun, *Saussurea macrolepis* (Nakai) Kitam, and *Saussurea uchiyamana* Nakai are not verified. *Thalictrum actaeifolium* var. *brevistylum* Nakai found in the central southern area of the Peninsula, out of the above unidentified taxa, is thought to be the misidentification of *Thalictrum filamentosum* var. *tenerum* (Huth) Ohwi, and other remaining taxa are believed to require further confirmation through a supplementary investigation on the research path of the preceding study. Among our surveyed taxa, newly identified endemic plants compared with the previous survey result are eight taxa, including

Populus tomentiglandulosa T. B. Lee, a planting tree, *Aconitum pseudolaeve* Nakai, *Corydalis maculata* B. U. Oh & Y. S. Kim, *Ostericum praeteritum* Kitag., *Peucedanum insolens* Kitag., *Paulownia coreana* Uyeki, *Hemerocallis hakuunensis* Nakai, and *Carex erythrobasis* H.Lév. & Vaniot.

Rare species of Mt. Munsusan

Rare plants designated by the Korea Forest Service are 12 taxa in 9 families and 12 genera, and critically endangered (CR), endangered species (EN), and data-deficient species (DD) were not investigated. Concerning vulnerable (VU) species, *Cimicifuga heracleifolia* var. *bifida* Nakai, *Paeonia japonica* (Makino) Miyabe & Takeda, and *Rhododendron micranthum* Turcz. are confirmed, while nine taxa of *Eranthis stellata* Maxim., *Viola albida* Palib., and *Parasenecio firmus* (Kom.) Y. L. Chen for least concerned (LC) species, are investigated during our exercise (Table 4).

If compared with the survey outcome of Chung *et al.* (2015), five taxa of *Panax ginseng* C. A. Mey., *Salvia chanryoenica* Nakai, *Epilobium angustifolium* L., *Lysimachia coreana* Nakai, and *Bupleurum* L. are not identified, while the survey outcome of Byeon *et al.* (2016), nine taxa of *Taxus cuspidata* Siebold & Zucc., *Eleutherococcus senticosus* (Rupr. & Maxim.) Maxim., *Aristolochia contorta* Bunge, *Syringa wolfii* C. K. Schneid., *Trigonotis icumae* (Maxim.) Makino, *Salvia chan-*

ryoenica Nakai, *Trillium camschatcense* Ker Gawl., *Eleutherococcus divaricatus* var. *chiisanensis* (Nakai) C. H. Kim & B. Y. Sun, and *Lloydia serotina* (L.) Rchb. are unaccounted for, too. Among such unidentified taxa, *Panax ginseng* C.A. Mey. is thought to be investigated in the cultivation area in this previous research, and *Lloydia serotina* (L.) Rchb. is believed to be the misidentification of *Lloydia triflora* (Ledeb.) Baker due to its distribution (Table 4, Δ^w). Our judgment is that additional confirmation would be necessary for other remaining taxa through a supplementary investigation on the research path of the preceding study. Amongst the taxa that we examined, newly identified rare plants compared with the previous survey result are the one taxa of *Arisaema heterophyllum* Blume.

It was found in Mt. Munsusan's neighborhood that the local national forest management office's annual intensive management of the forest stand of *Pinus densiflora* f. *erecta* Uyeki is producing the fragmentation of the population of *Rhododendron micranthum* Turcz.. On the other hand, many plant colonies could be confirmed along the valley, such as *Eranthis stellata* Maxim., *Parasenecio firmus* (Kom.) Y. L. Chen, *Paeonia japonica* (Makino) Miyabe & Takeda, and *Rodgersia podophylla* A. Gray, which prefer wet conditions rather than the dry environment.

Table 4. The list of rare species in Mt. Munsusan

Grade ^z	Scientific name	Korean name	1 ^y	2 ^x
VU(3)	<i>Cimicifuga heracleifolia</i> var. <i>bifida</i> Nakai	세잎승마		○
	<i>Paeonia japonica</i> (Makino) Miyabe & Takeda	백작약		○
	<i>Rhododendron micranthum</i> Turcz.	꼬리진달래	○	○
LC(9)	<i>Eranthis stellata</i> Maxim.	너도바람꽃	○	
	<i>Rodgersia podophylla</i> A.Gray	도깨비부채	○	○
	<i>Viola albida</i> Palib.	태백제비꽃	○	○
	<i>Gentiana triflora</i> var. <i>japonica</i> (Kusn.) H. Hara	과남풀		○
	<i>Parasenecio firmus</i> (Kom.) Y.L.Chen	병풍삼	○	
	<i>Lilium distichum</i> Nakai ex Kamib.	말나리	○	○
	<i>Lloydia triflora</i> (Ledeb.) Baker	나도개감채		Δ^w
	<i>Streptopus ovalis</i> (Ohwi) F.T.Wang & Y.C.Tang	금강애기나리	○	○
	<i>Arisaema heterophyllum</i> Blume	두루미천남성		

^zGrade: CR(Critically endangered), VU(Vulnerable), LC(Least concern).

^y1 (Chung *et al.*, 2015), ^x2 (Byeon *et al.*, 2016), ^w Δ : misidentification.

Floristic regional indicator plants of Mt. Munsusan

Floristic regional indicator plants verified in Mt. Munsusan are 49 families, 90 genera, and 114 taxa. Grade IV is 8 taxa, including *Woodsia macrochlaena* Mett. ex Kuhn, *Anemone reflexa* Steph. ex Willd., and *Rodgersia podophylla* A. Gray; Grade III is 27 taxa, like *Betula costata* Trautv., *Eranthis stellata* Maxim., *Spiraea fritschiana* C. K. Schneid., and *Vicia chosenensis* Ohwi. There are 46 taxa, such as *Huperzia miyoshiana* (Makino) Ching, *Paeonia japonica* (Makino) Miyabe & Takeda, and *Ajuga spectabilis* Nakai for Grade II; and 33 taxa for Grade I, such as *Onoclea sensibilis* var. *interrupta* Maxim., *Clematis patens* C. Morren & Decne. In total, 94 taxa were identified, accounting for 20.1% of the plants surveyed (Table 5, Appendix 1).

The floristic regional indicator plants designated by the Ministry of Environment (Ministry of Environment, 2018) are divided into five grades (I ~ V) according to the distribution range of the plants and 1,476 taxa are designated as such as a result. Thus, they are adopted to determine the characteristics and the priorities for preservation. Grade II, where 33 taxa were investigated, especially, is distributed in five South Korean floristic region but appears in mountainous areas over 1,000 m so it generally contains many plants that are seen around Baekdudaegan. A number of plants verified in high-altitude areas, like *Huperzia miyoshiana* (Makino) Ching, *Prunus maximowiczii* Rupr., *Geranium koreanum* Kom., *Streptopus ovalis* (Ohwi) F. T. Wang & Y. C. Tang, and *Carex okamotoi* Ohwi were observed and surveyed at the area we investigated.

Naturalized species of Mt. Munsusan

Naturalized species affirmed in Mt. Munsusan, it turned out, are 25 taxa in 9 families, 24 genera, such as *Phytolacca americana* L., *Robinia pseudoacacia* L., *Ambrosia artemisiifolia* L., *Aster pilosus* Willd., *Carduus crispus* L., and *Erigeron annuus* (L.) Pers. (Table 6). Consequently, the mountain's naturalization rate is 4.8% [number of naturalized species investigated / total number of emerged species × 100], and its urbanization index is 7.7% [number of naturalized species investigated / total number of naturalized species in South Korea (321 taxa) × 100]. This figure is higher than the average urbanization index of 6.84% for forest-type and urban-type

national parks in Korea (Jang *et al.*, 2019). It was confirmed that a number of naturalized plants were discovered in the vicinity of Mt. Munsusan roads, where there is frequent vehicle traffic. Mt. Munsusan seems to be affected by the forestation for the continuous management of *Pinus densiflora* f. *erecta* Uyeki, forming a large-sized colony, and planted *Larix kaempferi* (Lamb.) Carrière, combined with artificial factors originating from mountaineering and trekking users of Oe-ssi-beo-sun Trail Course 9 placed adjacent to the Baekdudaegan National Arboretum.

In comparison with the survey result of Chung *et al.* (2015), ten taxa, such as *Coreopsis lanceolata* L. and *Coreopsis tinctoria* Nutt., which are planted extensively as horticultural plants, and *Chenopodium album* L., *Dactylis glomerata* L., and *Capsella bursa-pastoris* (L.) L. W. Medicus, alongside the three taxa of *Rumex obtusifolius* L., *Dactylis glomerata* L., and *Festuca arundinacea* Shreb. were unidentified relative to the result of Byeon *et al.* (2016). We learned that most of such unidentified taxa are planted as horticultural species, pioneer species that entered bare or grassland first, or plants used for cover to stabilize the ground and slope after forest roads were opened. Given that fourteen more taxa were surveyed compared to latest researches, in particular, the number of naturalized plants is expected to increase gradually going forth.

Out of the investigated naturalized species, it was discovered that ecologically-disturbing plants with a high degree of harm to the ecosystem (Notice of Ecosystem Disturbance Designation, Ministry of Environment, No. 2020-61) are two taxa - *Ambrosia artemisiifolia* L. and *Aster pilosus* Willd. They are the species that invade the forest, spread rapidly and propagate, taking away the home of native plants. As they can harm the native species of Mt. Munsusan as such, continuous monitoring and removal are desired. So attempts have been made to observe their spread in the forest through sustained monitoring in the areas where they are identified, in parallel with preparing a plan by drawing on a guidebook for eliminating the species disturbing the ecosystem to stem their proliferation. The Guidebook on How to Remove the Plants Disturbing Ecosystems (Ministry of Environment, Wonju Regional Environment Office, 2016) states that the best method is to remove the root of *Aster pilosus* Willd. before its flower blooms because it is a perennial plant growing year

Table 5. The list of the floristic regional indicator plants (IV ~ II) investigated in Mt. Munsusan

Grade	Scientific name	Korean name
IV (8)	<i>Woodsia macrochlaena</i> Mett. ex Kuhn	참우드풀
	<i>Anemone reflexa</i> Steph. & Willd.	회리바람꽃
	<i>Cimicifuga heracleifolia</i> var. <i>bifida</i> Nakai	세잎승마
	<i>Rodgersia podophylla</i> A.Gray	도깨비부채
	<i>Spiraea trichocarpa</i> Nakai	갈기조팝나무
	<i>Peucedanum insolens</i> Kitag.	덕우기름나물
	<i>Rhododendron micranthum</i> Turcz.	꼬리진달래
	<i>Parasenecio firmus</i> (Kom.) Y.L.Chen	병풍삼
III (27)	<i>Betula costata</i> Trautv.	거제수나무
	<i>Betula davurica</i> Pall.	물박달나무
	<i>Betula schmidtii</i> Regel	박달나무
	<i>Urtica angustifolia</i> Fisch. ex Hornem.	가는잎췌기풀
	<i>Actaea asiatica</i> H.Hara	노루삼
	<i>Clematis heracleifolia</i> DC.	병조희풀
	<i>Eranthis stellata</i> Maxim.	너도바람꽃
	<i>Actinidia kolomikta</i> (Maxim. & Rupr.) Maxim.	쥐다래
	<i>Corydalis maculata</i> B.U.Oh & Y.S.Kim	점현호색
	<i>Ribes mandshuricum</i> (Maxim.) Kom.	까치밥나무
	<i>Ribes maximowiczianum</i> Kom.	명자순
	<i>Aruncus dioicus</i> var. <i>kamtschaticus</i> (Maxim.) H.Hara	눈개승마
	<i>Potentilla cryptotaeniae</i> Maxim.	물양지꽃
	<i>Prunus maackii</i> Rupr.	개벚나무
	<i>Prunus sargentii</i> Rehder	산벚나무
	<i>Sanguisorba hakusanensis</i> Makino	산오이풀
	<i>Spiraea fritschiana</i> C.K.Schneid.	참조팝나무
	<i>Vicia chosenensis</i> Ohwi	노랑갈퀴
	<i>Oxalis acetosella</i> L.	애기팽이밥
	<i>Acer mandshuricum</i> Maxim.	복장나무
	<i>Acer triflorum</i> Kom.	복자기
	<i>Rhamnus ussuriensis</i> J.Vass	참갈매나무
	<i>Vaccinium hirtum</i> var. <i>koreanum</i> (Nakai) Kitam.	산앵도나무
	<i>Lysimachia vulgaris</i> var. <i>davurica</i> (Ledeb.) R.Kunth	좁쌀풀
	<i>Brachybotrys paridiformis</i> Maxim. ex Oliv.	당개지치
	<i>Lilium distichum</i> Nakai ex Kamib.	말나리
	<i>Veratrum maackii</i> var. <i>japonicum</i> (Baker) T.Schmizu	여로
II (46)	<i>Lycopodium chinense</i> H.Christ	다람쥐꼬리
	<i>Osmunda cinnamomea</i> var. <i>forkiensis</i> Copel.	평고비
	<i>Dryopteris expansa</i> (C.Presl) Fraser-Jenk. & Jermy	퍼진고사리
	<i>Polystichum braunii</i> (Spenn.) Fee	좁나도히초미
	<i>Pinus koraiensis</i> Siebold & Zucc.	잣나무
	<i>Betula ermanii</i> Cham.	사스래나무

Table 5. Continued

Grade	Scientific name	Korean name
	<i>Bistorta manshuriensis</i> (Petrov ex Kom.) Kom.	범꼬리
	<i>Lychnis cognata</i> Maxim.	동자꽃
	<i>Magnolia sieboldii</i> K.Koch	함박꽃나무
	<i>Schisandra chinensis</i> (Turcz.) Baill.	오미자
	<i>Caltha palustris</i> L.	동의나물
	<i>Caulophyllum robustum</i> Maxim.	평의다리아재비
	<i>Paeonia japonica</i> (Makino) Miyabe & Takeda	백작약
	<i>Hylomecon vernalis</i> Maxim.	피나물
	<i>Hylotelephium viviparum</i> (Maxim.) H.Ohba	새끼평의비름
	<i>Chrysosplenium pilosum</i> var. <i>sphaerospermum</i> H.Hara	금괘이눈
	<i>Potentilla dickinsii</i> Franch. & Sav.	돌양지꽃
	<i>Prunus maximowiczii</i> Rupr.	산개벚나무
	<i>Sorbus commixta</i> Hedl.	마가목
	<i>Spiraea salicifolia</i> L.	꼬리조팝나무
	<i>Geranium koreanum</i> Kom.	등근이질풀
	<i>Phellodendron amurense</i> Rupr.	황벽나무
	<i>Euonymus macropterus</i> Rupr.	나래회나무
	<i>Tripterygium regelii</i> Sprague & Takeda	미역줄나무
	<i>Tilia amurensis</i> Rupr.	피나무
II (46)	<i>Tilia mandshurica</i> Rupr. & Maxim.	찰피나무
	<i>Viola orientalis</i> (Maxim.) W.Becker	노랑제비꽃
	<i>Viola tokubuchiana</i> var. <i>takedana</i> (Makino) F.Maek.	민둥뫼제비꽃
	<i>Bupleurum longeradiatum</i> Turcz.	개시호
	<i>Cymopterus melanotilingia</i> (H.Boissieu) C.Y.Yoon	큰참나물
	<i>Sanicula rubriflora</i> F.Schmidt ex Maxim.	붉은참반디
	<i>Primula jesoana</i> Miq.	큰앵초
	<i>Galium kinuta</i> Nakai & Hara	민둥갈퀴
	<i>Ajuga spectabilis</i> Nakai	자란초
	<i>Scrophularia kakudensis</i> Franch.	큰개현삼
	<i>Weigela florida</i> (Bunge) A.DC.	붉은병꽃나무
	<i>Achillea alpina</i> L.	톱풀
	<i>Ligularia fischeri</i> (Ledeb.) Turcz.	곰취
	<i>Heloniopsis koreana</i> Fuse, N.S.Lee & M.N.Tamura	처녀치마
	<i>Lloydia triflora</i> (Ledeb.) Baker	나도개감채
	<i>Maianthemum bifolium</i> (L.) F.W.Schmidt	두루미꽃
	<i>Carex augustiniowiczii</i> Menish. ex Korsh.	복사초
	<i>Carex erythrobasis</i> H.Lév. & Vaniot	한라사초
	<i>Carex jaluensis</i> Kom.	참삿갓사초
	<i>Carex onoei</i> Franch. & Sav.	바늘사초
	<i>Carex planiculmis</i> Kom.	그늘흰사초

Table 6. The list of the naturalized plants in Mt. Munsusan

Scientific name	Korean name	1 ^y	2 ^x
<i>Fallopia dentatoalata</i> (F.Schmidt) Holub	큰닭의당굴	○	
<i>Fallopia dumetorum</i> (L.) Holub	닭의당굴		
<i>Rumex crispus</i> L.	소리쟁이	○	
<i>Phytolacca americana</i> L.	미국자리공		
<i>Cerastium glomeratum</i> Thuill.	유럽점나도나물		
<i>Barbarea vulgaris</i> R.Br.	유럽나도냉이		
<i>Lepidium virginicum</i> L.	콩다닥냉이		
<i>Amorpha fruticosa</i> L.	족제비싸리		
<i>Indigofera bungeana</i> Walp.	큰냉이초		
<i>Medicago sativa</i> L.	자주개자리	○	
<i>Robinia pseudoacacia</i> L.	아까시나무		
<i>Trifolium repens</i> L.	토끼풀	○	○
<i>Oenothera biennis</i> L.	달맞이꽃		○
<i>Quamoclit coccinea</i> Moench	둥근잎유홍초		
<i>Veronica arvensis</i> L.	선개불알풀		
<i>Ambrosia artemisiifolia</i> L.	돼지풀 ¹		
<i>Aster pilosus</i> Willd.	미국쑥부쟁이 ¹		
<i>Bidens frondosa</i> L.	미국가막사리		○
<i>Carduus crispus</i> L.	지느러미영경귀		
<i>Coryza canadensis</i> (L.) Cronquist	망초		
<i>Erechtites hieracifolia</i> Raf.	붉은서나물	○	
<i>Erigeron annuus</i> (L.) Pers.	개망초	○	○
<i>Galinsoga ciliata</i> (Raf.) S.F.Blake	털별꽃아재비		○
<i>Senecio vulgaris</i> L.	개쑥갓		
<i>Taraxacum officinale</i> Weber	서양민들레		○

¹IAS (invasive alien species), ^y1 (Chung *et al.*, 2015), ²2 (Byeon *et al.*, 2016).

round. As for *Ambrosia artemisiifolia* L., the best way, likewise, is to eliminate this plant before its flower blossoms as it is an annual species growing all year round. Since a lot of seeds are formed and germinate while it is in the ground, this species needs to be continuously removed for 4-5 years. Because it moves along the wind or waterway, it needs to be displaced starting from the upstream.

Useful resource species of Mt. Munsusan

On the basis of the classification of resource species according to their uses grouped by the Korea Forest Service (Korea Forest Service, 2014), 554 taxa or 97%, excluding species with no use, were counted as useful plants. In addition, a single

Table 7. The Usefulness of vascular plants distributed in Mt. Munsusan

Usefulness	E ²	M ³	O ⁴	FC ^w	I ^v	R ^u	F ^t	Total
Number of taxa	391	359	301	241	217	203	17	554
Ratio (%)	68.5	62.8	52.6	42.0	37.9	35.3	3.1	97

²E: Edible, ³M: Medicinal, ⁴O: Ornamental, ^wFC: Feed/Compost, ^vI: Industrial, ^uR: Restoration, ^tF: Flavor.

plant can be used for multiple purposes so the sum of the proportions may exceed 100%. In terms of purpose, 391 taxa (68.5%) were the plants that can be consumed as food, 359 taxa (62.8%) for medicinal use, and 301 taxa (52.6%) for ornamental use. In all, over 50% of the surveyed flora can be utilized for edible, medicinal and ornamental purposes. Not only that, 241 taxa for feed/composting (42%), 217 taxa for industrial use (37.9%), 203 taxa for ecological restoration (35.3%), and 17 taxa for fragrance (3.1%) were identified, in this sequence (Table 7).

In particular, many species with high potential for use in various fields were investigated, as can be seen in our survey finding that plants which can be used for all of the seven purposes include 6 taxa, such as *Akebia quinata* (Houtt.) Decne., *Rosa multiflora* Thunb., and *Viola mandshurica* W. Becker; 36 taxa for the six purposes; 82 taxa for the five purposes; 122 taxa for the four purposes; 141 taxa for the three purposes; 122 taxa for the two purposes; and 48 taxa for the one purpose (Appendix 1). Therefore, this outcome can be capitalized on as the basic data for establishing a continued research and usage system since this discovery may lead not only to seed collection for rare and endemic species but also to plant nursery and further to the field of industrialization of wild plants.

In the list put forward in the Plant List of Mt. Munsusan (Appendix 1), edible (E) and medicinal (M) species requiring caution when they are for food intake are illustrated by additionally indicating them with (P). Table 7 is the sum of E+E(P) and M+M(P).

Discussion

Mt. Munsusan, our survey area, is at the foot of Mt. Okseok

(Okdolbong), the main ridge of Baekdudaegan, and situated at the Baekdudaegan National Arboretum established for the plant research of Chuk-seo-sa Temple, Du-nae Mineral Spring, and Baekdudaegan. Investigating the vascular plants growing in this mountain and identifying and reporting the distribution of its major plants is designed for the systematic conservation and protection of Baekdudaegan, and it is a step for understanding the Baekdudaegan Reserve and its surrounding region. Our judgment is that it can supplement the result of the flora survey centering on the core location of Baekdudaegan, namely, Marugeum, and it is valuable as the data informing the plants distributed in Mt. Sobaek area.

Furthermore, Mt. Munsusan is located where there is a colony of *Pinus densiflora* f. *erecta* Uyeki, serving as an important geographical location for gaining the foundational data to study and comprehend the plant resources of Baekdudaegan. Based the result of our plant survey, the distribution of various rare and endemic species was confirmed, above all else, so we believe it is an area suitable for a research aimed at learning about the changes in plant distribution and draw up management plans for the species in urgent need of conservation, through making ongoing surveys and long-term monitoring etc. At the same time, the outcome of such undertaking can be leveraged as the evidence for claiming Korea's biological sovereignty after the adoption of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity (ABS).

Human activities and their by-products, including the increase in naturalized plants, is the largest contributor to ecosystem disturbance. Should such activities go on, we gather it is necessary to carry out a monitoring on *Betula ermanii* Cham., the arboreal species observed at an altitude of 1,000 m or higher near the summit of Mt. Munsusan and emerging in individual unit, for there is concern about the reduction in its vertical distribution range from climate change. Continuous monitoring and attention are called for to sustain the value of forest resources and genetic resources, which should be protected and conserved for future generations, including here, Mt. Munsusan, where various vascular plants have been reported.

Acknowledgement

This study was carried out with the support of one of the research project (2020-BD-OB-02-05) results of the Baekdudaegan National Arboretum, Korea Arboreta and Gardens Institute.

References

- Byeon, J.G., J.K. Shin, S.H. Oh and D.K. Kim. 2016. The plant distribution of protected area for forest genetic resource conservation in the Korea National Baekdudaegan Arboretum, Gyeongsangbuk-do, South Korea. Korean J. Plant Res. 29 (2):204-224 (in Korean with English abstract).
- Cho, Y.H., J.H. Kim and S.H. Park. 2016. Grasses and Sedges in South Korea. Geobook, Seoul, Korea. pp. 1-528 (in Korean).
- Chung, B.K., S.G. Gang, J.G. Bae, J.H. Kim, J.W. Sung, G.S. Kim, S.Y. Lee, H.G. Youn, J.H. Im, Y.S. Lee and J.W. Jang. 2015. A study on the management and use of plant resource in Baekdudaegan arboretum -focused on arboretum core area, Munsu and Okseok Mountain-. J. Korean Env. Res. Tech. 18(6):111-133 (in Korean with English abstract).
- Chung, G.Y., K.S. Chang, J.M. Chung, H.J. Choi, W.K. Paik and J.O. Hyun. 2017. A checklist of endemic plants on the Korean Peninsula. Korean J. Pl. Taxon. 47(3):264-288 (in Korean with English abstract).
- Jang, H.D., H.S. Leem, S.H. Han and S.K. So. 2019. Floristic study of Juwangsang national park in Korea. Korean J. Plant Res. 32(4):379-406 (in Korean with English abstract).
- Jeong, S. 2019. A study on the distributional characteristics of vascular plants in inland of Gyeongsangbuk-do, Korea. Department of Plant Medicine, Ph.D. Thesis, The Graduate School, Andong National Univ., Korea. pp. 1-1153 (in Korean with English abstract).
- Kim, C.H, M.O. Moon, J.K. Ahn, I.C. Hwang, S.H. Lee, S.S. Choi, J.H. Lee, H.M. Bum, C.G. Kim and J.Y. Cha. 2018. Floristic Target Species in Korea. National Institute of Ecology. Seocheon, Korea. pp. 1-728 (in Korean).
- Kim, H.J. and C.W. Yun. 2009. Vascular plants of Mt. Munsu and Mt. Okseok. Korean J. Environ. Biol. 27(2):164-175 (in Korean with English abstract).
- Korea Forest Service. 2014. The assessment for vascular plant resources and the reclassification of their usefulness from Korea. Korea Forest Service, Daejeon, Korea (in Korean).

- _____. 2017. White Paper of Baekdudaegan National Arboretum: 2008-2016. Daejeon, Korea. pp. 1-807 (in Korean).
- Korea Meteorological Administration. 2020. Meteorological data open portal of the Korea Meteorological Administration. <https://data.kma.go.kr/cmmn/main.do>. (Accessed Jan. 2021).
- Korea National Arboretum. 2004. Illustrated Grasses of Korea. Korea National Arboretum, Pocheon, Korea. pp. 1-520 (in Korean).
- _____. 2008. Rare Plants Data Book in Korea. Korea National Arboretum. Pocheon, Korea. pp. 1-332 (in Korean).
- _____. 2010. The Comprehensive Report on the Distribution of Rare and Endemic Plants. Korea National Arboretum, Pocheon, Korea. pp. 1-366 (in Korean).
- _____. 2017. Checklist of Vascular Plants in Korea. Korea National Arboretum, Pocheon, Korea. pp. 1-1016 (in Korean).
- _____. 2019. Illustrated Juncaceae, Eriocaulaceae, Typhaceae of Korea. Korea National Arboretum, Pocheon, Korea. pp. 1-255 (in Korean).
- _____. 2020. Forest of Korea (VI) Biogeography of Korea: flora and vegetation 2020. Comprehensive planning Sumeungil, Korea. pp. 42-64 (in Korean).
- Lee, C.S. and K.H. Lee. 2015. Pteridophytes of Korea: Lycophytes & Ferns. Geobook, Seoul, Korea. pp. 1-491 (in Korean).
- Lee, T.B. 2003. Coloured Flora of Korea, Vol I, II. Hayangmunsa, Seoul, Korea. pp. 1-1824 (in Korean).
- Lee, W.T. 1996. Coloured Standard Illustrations of Korean Plants. Academy Publishing Co., Seoul, Korea. pp. 1-855 (in Korean).
- Lee, W.T. and Y.J. Yim. 1978. Studies on the distribution of vascular plants in the Korean peninsula. Korean J. Pl. Taxon. 8:1-33 (in Korean).
- Lee, Y.M., S.H. Park, S.Y. Jung, S.H. Oh and J.C. Yang. 2011. Study on the current status of naturalized plants in South Korea. Korean J. Pl. Taxon 41(1):87-101 (in Korean with English abstract).
- Lee, Y.N. 2006. New Flora of Korea, Vol. I, II. Kyohak publishing Co., Ltd, Seoul, Korea. pp. 1-1860 (in Korean).
- Ministry of Land, Infrastructure and Transport. 2016. The national atlas of Korea II. Suwon, Korea. pp. 1-242 (in Korean).
- Park, S.H. 2009. New Illustrations and Photographs of Naturalized Plants of Korea. Ilchokak. Seoul, Korea. pp. 1-575 (in Korean).
- Son, Y.H., S.H. Park, H.N. Seo, W.G. Park and H.J. Son. 2021. The flora of Mt. Hwang-ak and Jikjisa, temple forest in Baekdudaegan. Korean J. Plant Res. 34(2):115-143 (in Korean with English abstract).
- You, J.H., J.H. Ra, H.J. Cho and J.N. Ku. 2009. Practical plan and vascular plants around construct-reserved site of ecological forest in Baekdudaegan. Korean Env. Res. Tech. 12(5):42-58 (in Korean with English abstract).
- Yoo, K.O. 2013. Korean Violets. Jisungsa, Seoul, Korea. pp. 1-344 (in Korean).

(Received 12 October 2021 ; Revised 16 November 2021 ; Accepted 16 November 2021)

Appendix 1. The list of vascular plants distributed in Mt. Munsusan

Family name & Scientific name	Korean name	1 ²	2 ²	3 ²
Equisetaceae	속새과			
<i>Equisetum arvense</i> L.	쇠뜨기	MSP-200001		E(P),M(P),I,FC
Lycopodiaceae	석송과			
<i>Lycopodium chinense</i> H.Christ	다람쥐꼬리	MSP-200002	II	M,O
Selaginellaceae	부처손과			
<i>Selaginella rossii</i> (Baker) Warb.	구실사리	MSP-200003		M,O,R
Ophioglossaceae	고사리삼과			
<i>Sceptridium ternatum</i> (Thunb.) Lyon	고사리삼	MSP-200004		E,M,O
Osmundaceae	고비과			
<i>Osmunda cinnamomea</i> var. <i>forkiensis</i> Copel.	평고비	MSS-190194	II	E(P),M(P),O,R
<i>Osmunda japonica</i> Thunb.	고비	MSP-200005		E(P),M(P),O,R
Pteridaceae	고사리과			
<i>Dennstaedtia hirsuta</i> (Sw.) Mett. ex Miq.	잔고사리	MSP-200006		O
<i>Dennstaedtia wilfordii</i> (T.Moore) H.Christ	황고사리	MSS-190245		E(P),O
<i>Pteridium aquilinum</i> var. <i>latiusculum</i> (Desv.) Underw. ex Hell.	고사리	MSS-200060		E(P),M(P),I,R
Dryopteridaceae	면마과			
<i>Athyrium brevifrons</i> Kodama ex Nakai	참새발고사리	MSP-200007		E,M
<i>Athyrium distentifolium</i> Tausch ex Opiz	산고사리			O
<i>Athyrium niponicum</i> (Mett.) Hance	개고사리	MSS-190086		E(P),M(P)
<i>Deparia coreana</i> (H.Christ) M.Kato	곰새고사리	MSP-200008		E(P),M(P)
<i>Deparia japonica</i> (Thunb.) M.Kato	진고사리	MSP-200009		E(P),M(P)
<i>Deparia orientalis</i> (Z.R.Wang & J.J.Chien) Nakaike	흰털고사리	MSS-190277		
<i>Deparia pycnosora</i> (H.Christ) M.Kato	털고사리	MSP-200010		
<i>Dryopteris chinensis</i> (Baker) Koidz.	가늘은잎제비고사리	MSP-200011		O
<i>Dryopteris crassirhizoma</i> Nakai	관중	MSP-200012		E(P),M(P),R
<i>Dryopteris expansa</i> (C.Presl) Fraser-Jenk. & Jermy	퍼진고사리	MSP-200013	II	O
<i>Dryopteris lacera</i> (Thunb.) Kuntze	비늘고사리	MSP-200014		E(P),M(P),O,R
<i>Onoclea orientalis</i> (Hook.) Hook.	개면마	MSP-200015		E,M,O
<i>Onoclea sensibilis</i> var. <i>interrupta</i> Maxim.	야산고비	MSS-190203	I	E(P),M(P),O
<i>Polystichum braunii</i> (Spenn.) Fee	좁나도히초미	MSS-190063	II	M,O
<i>Polystichum tripterum</i> (Kunze) C.Presl	십자고사리	MSP-200016		E(P),M(P),O
<i>Thelypteris palustris</i> (Salisb.) Schott	쳐녀고사리	MSP-200017		E(P),M(P),O
<i>Woodsia macrochaena</i> Mett. ex Kuhn	참우드풀		IV	O
<i>Woodsia manchuriensis</i> Hook.	만주우드풀	MSS-190181		O
Aspleniaceae	꼬리고사리과			
<i>Asplenium incisum</i> Thunb.	꼬리고사리	MSP-200018		O
<i>Asplenium yokoscense</i> (Franch. & Sav.) H.Christ	뱀고사리	MSS-200011		E(P),M(P)
Polypodiaceae	고란초과			
<i>Lepisorus ussuriensis</i> (Regel & Maack) Ching	산일엽초	MSS-190138		M,O
Pinaceae	소나무과			
<i>Larix kaempferi</i> (Lamb.) Carriere	일본잎갈나무	MSP-200019		M,I,O,R
<i>Pinus densiflora</i> Siebold & Zucc.	소나무	MSS-200032		E,M,F,I,O,R
<i>Pinus koraiensis</i> Siebold & Zucc.	잣나무	MSP-200020	II	E,M,I,O,R

Appendix 1. Continued

Family name & Scientific name	Korean name	1 ²	2 ²	3 ³
Juglandaceae	가래나무과			
<i>Juglans mandshurica</i> Maxim.	가래나무	MSP-200021	I	E(P),M(P),I,R
Salicaceae	버드나무과			
<i>Populus davidiana</i> Dode	사시나무			M,I,R,FC
<i>Populus tomentiglandulosa</i> T.B.Lee	은사시나무	MSS-190022	Endemic	I,R
<i>Salix caprea</i> L.	호랑버들	MSP-200022		M,I,O,R,FC
<i>Salix chaenomeloides</i> Kimura	왕버들	MSS-190039	I	M,I,O,R
<i>Salix gracilistyla</i> Miq.	갯버들	MSS-190196		M,I,O,R,FC
<i>Salix koreensis</i> Andersson	버드나무	MSP-200023		M,I,O,R,FC
<i>Salix koriyanagi</i> Kimura	키버들	MSP-200024	Endemic	M,I,O,R
Betulaceae	자작나무과			
<i>Alnus sibirica</i> Fisch. ex Turcz.	물오리나무	MSS-190035		M,I,O,R
<i>Betula costata</i> Trautv.	거제수나무	MSP-200025	III	E,M,I,O,R,FC
<i>Betula davurica</i> Pall.	물박달나무	MSP-200026	III	M,I,FC
<i>Betula ermanii</i> Cham.	사스래나무	MSP-200027	II	E,M,I,R,FC
<i>Betula schmidtii</i> Regel	박달나무	MSP-200028	III	M,I,O,R
<i>Carpinus laxiflora</i> (Siebold & Zucc.) Blume	서어나무	MSP-200029		M,I,O,R,FC
<i>Corylus heterophylla</i> Fisch. ex Trautv.	개암나무	MSS-190257		E,M,I,R,FC
<i>Corylus sieboldiana</i> Blume var. <i>sieboldiana</i>	참개암나무	MSP-200030		E,M,R
<i>Corylus sieboldiana</i> var. <i>mandshurica</i> (Maxim. & Rupr.) C.K.Schneid.	물개암나무			E,M,O
Fagaceae	참나무과			
<i>Castanea crenata</i> Siebold & Zucc.	밤나무	MSP-200031		E,M,I,R
<i>Quercus acutissima</i> Carruth.	상수리나무	MSP-200032		E,M,I,O,R,FC
<i>Quercus aliena</i> Blume	갈참나무	MSP-200033		E,M,I,O,R,FC
<i>Quercus mongolica</i> Fisch. ex Ledeb.	신갈나무	MSP-200034		E,M,I,R,FC
<i>Quercus serrata</i> Thunb.	졸참나무	MSP-200035		E,M,I,R,FC
<i>Quercus variabilis</i> Blume	굴참나무	MSP-200036		E,M,I,O,R
Ulmaceae	느릅나무과			
<i>Ulmus davidiana</i> var. <i>japonica</i> (Rehder) Nakai	느릅나무	MSS-190016	I	E,M,I,O,R,FC
<i>Zelkova serrata</i> (Thunb.) Makino	느티나무	MSP-200037		E,M,I,O,R,FC
Moraceae	뽕나무과			
<i>Morus bombycis</i> Koidz.	산뽕나무	MSS-190095		E,M,I,O,R,FC
Cannabaceae	삼과			
<i>Humulus japonicus</i> Siebold & Zucc.	환삼덩굴	MSP-200038		E,M,I,FC
Urticaceae	췌기풀과			
<i>Boehmeria platanifolia</i> Franch. & Sav.	개모시풀	MSP-200343		E,M,I,FC
<i>Boehmeria spicata</i> (Thunb.) Thunb.	췌개잎나무	MSP-200039		E,M,I,O,R
<i>Boehmeria tricuspis</i> var. <i>unicuspis</i> Makino	풀거북꼬리	MSS-190047		E,I,FC
<i>Pilea japonica</i> (Maxim.) Hand.-Mazz.	산물통이	MSP-200040	I	E,M
<i>Pilea mongolica</i> Wedd.	모시물통이	MSP-200041		E,M,FC
<i>Urtica angustifolia</i> Fisch. ex Hornem.	가는잎췌기풀	MSS-190162	III	E,M

Appendix 1. Continued

Family name & Scientific name	Korean name	1 ²	2 ²	3 ³
Santalaceae	단향과			
<i>Thesium chinense</i> Turcz.	제비꽃	MSP-200042		M
Loranthaceae	겨우살이과			
<i>Viscum album</i> var. <i>coloratum</i> (Kom.) Ohwi	겨우살이	MSS-190142		E(P),M(P),O
Polygonaceae	마디풀과			
<i>Bistorta manshuriensis</i> (Petrov ex Kom.) Kom.	범꼬리	MSS-190177 II		E,M,I,FC
<i>Fallopia dentatoalata</i> (F.Schmidt) Holub	큰닭의덩굴	MSS-190174 N		E,M
<i>Fallopia dumetorum</i> (L.) Holub	닭의덩굴	MSP-200043 N		E,M
<i>Persicaria dissitiflora</i> (Hemsl.) H.Gross ex Mori	가시여뀌	MSP-200044		I,FC
<i>Persicaria filiformis</i> (Thunb.) Nakai ex Mori	이삭여뀌	MSS-200007		E,M,I,O
<i>Persicaria lapathifolia</i> (L.) Gray	흰여뀌	MSS-190004		E,M,I,FC
<i>Persicaria nepalensis</i> (Meisn.) H.Gross	산여뀌	MSS-190043		M,FC
<i>Persicaria perfoliata</i> (L.) H.Gross	머느리배꼽	MSP-200045		E,M,I
<i>Persicaria posumbu</i> var. <i>laxiflora</i> (Meisn.) H.Hara	장대여뀌	MSS-190274		E,M,I,O
<i>Persicaria sagittata</i> (L.) H.Gross ex Nakai	미꾸리늪시	MSS-190042		M,I,FC
<i>Persicaria thunbergii</i> (Siebold & Zucc.) H.Gross ex Nakai	고마리	MSS-200038		E,M,I,O,FC
<i>Polygonum aviculare</i> L.	마디풀	MSP-200046		E,M
<i>Rumex acetosa</i> L.	수영	MSS-190197		E,M,I,O
<i>Rumex crispus</i> L.	소리쟁이	MSP-200047 N		E(P),M(P),I,FC
Phytolaccaceae	자리공과			
<i>Phytolacca americana</i> L.	미국자리공	MSS-190225 N		E(P),M(P),O,FC
Portulacaceae	쇠비름과			
<i>Portulaca oleracea</i> L.	쇠비름	MSP-200048		E,M,R,FC
Caryophyllaceae	석죽과			
<i>Arenaria serpyllifolia</i> L.	벼룩이자리	MSP-200049		E,M
<i>Cerastium glomeratum</i> Thuill.	유럽점나도나물	MSS-190205 N		E,FC
<i>Cerastium holosteoides</i> var. <i>hallaisanense</i> (Nakai) Mizush.	점나도나물	MSS-190129		E,M
<i>Lychnis cognata</i> Maxim.	동자꽃	MSP-200050 II		E,M,O,R,FC
<i>Pseudostellaria davidii</i> (Franch.) Pax ex Pax & Hoffm.	덩굴개별꽃	MSS-190104		E,M,FC
<i>Pseudostellaria heterophylla</i> (Miq.) Pax ex Pax & Hoffm.	개별꽃	MSS-190158		E,M
<i>Pseudostellaria palibiniana</i> (Takeda) Ohwi	큰개별꽃	MSS-190067		E,M,FC
<i>Silene firma</i> Siebold & Zucc.	장구채	MSP-200051		E,M,O,FC
<i>Stellaria alsine</i> var. <i>undulata</i> (Thunb.) Ohwi	벼룩나물	MSP-200052		E,M,FC
<i>Stellaria aquatica</i> (L.) Scop.	쇠별꽃	MSP-200053		E,M,O,FC
<i>Stellaria media</i> (L.) Vill.	별꽃	MSP-200054		E,M,O
Chenopodiaceae	명아주과			
<i>Chenopodium album</i> var. <i>centrorubrum</i> Makino	명아주	MSP-200055		E(P),M(P),I,O,FC
Magnoliaceae	목련과			
<i>Magnolia sieboldii</i> K.Koch	함박꽃나무	MSP-200056 II		M,I,O,R,FC
Schisandraceae	오미자과			
<i>Schisandra chinensis</i> (Turcz.) Baill.	오미자	MSP-200057 II		E,M,R

Appendix 1. Continued

Family name & Scientific name	Korean name	1 ²	2 ²	3 ³
Lauraceae	녹나무과			
<i>Lindera obtusiloba</i> Blume	생강나무	MSS-190075		E,M,F,I,O,R
Ranunculaceae	미나리아재비과			
<i>Aconitum jaluense</i> Kom.	투구꽃	MSS-200061	I	E(P),M(P),I,O,R
<i>Aconitum pseudolaeve</i> Nakai	진범	MSP-200058	Endemic	M(P),O
<i>Actaea asiatica</i> H.Hara	노루삼	MSS-190066	III	E(P),M(P),O
<i>Anemone reflexa</i> Steph. & Willd.	회리바람꽃	MSP-200059	IV	M(P),O
<i>Caltha palustris</i> L.	동의나물	MSP-200060	II	E(P),M(P),O,R, FC
<i>Cimicifuga dahurica</i> (Turcz. ex Fisch. & C.A.Mey.) Maxim.	눈빛승마	MSS-190252		E(P),M(P)
<i>Cimicifuga heracleifolia</i> var. <i>bifida</i> Nakai	세잎승마	MSP-200061	Rare(VU), Endemic, IV	
<i>Cimicifuga simplex</i> (DC.) Turcz.	쫄대승마	MSP-200062	I	E(P),M(P),O
<i>Clematis apiifolia</i> DC.	사위질빵	MSP-200063		E(P),M(P),I,O,R
<i>Clematis heracleifolia</i> DC.	병조희풀	MSS-190256	III	E(P),M(P),O
<i>Clematis patens</i> C.Morren & Decne.	큰꽃으아리	MSP-200064	I	E,M,O
<i>Clematis terniflora</i> var. <i>mandshurica</i> (Rupr.) Ohwi	으아리	MSS-190161		E(P),M(P),O,R
<i>Clematis trichotoma</i> Nakai	할미밀망	MSS-190238	Endemic	E,M,O
<i>Eranthis stellata</i> Maxim.	너도바람꽃	MSP-200065	Rare(LC), III	O
<i>Hepatica asiatica</i> Nakai	노루귀	MSP-200066	I	M(P),O,R
<i>Pulsatilla koreana</i> (Yabe ex Nakai) Nakai ex Nakai	할미꽃	MSP-200067		E(P),M(P),I,O,R
<i>Ranunculus chinensis</i> Bunge	젓가락나물	MSP-200068		E(P),M(P)
<i>Ranunculus japonicus</i> Thunb.	미나리아재비	MSP-200069		E(P),M(P),I,FC
<i>Thalictrum filamentosum</i> var. <i>tenerum</i> (Huth) Ohwi	산평의다리	MSP-200070		E,M,O
Berberidaceae	매자나무과			
<i>Caulophyllum robustum</i> Maxim.	평의다리아재비	MSP-200071	II	E,M,O
Lardizabalaceae	으름덩굴과			
<i>Akebia quinata</i> (Houtt.) Decne.	으름덩굴	MSP-200072		E,M,F,I,O,R,FC
Menispermaceae	방기과			
<i>Menispermum dauricum</i> DC.	새도래덩굴	MSP-200073		M,I,R
Chloranthaceae	홀아비꽃대과			
<i>Chloranthus japonicus</i> Siebold	홀아비꽃대	MSS-190267	I	E,M,O,R
Aristolochiaceae	쥐방울덩굴과			
<i>Asarum sieboldii</i> Miq.	족도리풀	MSS-190079		E(P),M(P),I,O
Paeoniaceae	작약과			
<i>Paeonia japonica</i> (Makino) Miyabe & Takeda	백작약	MSP-200074	Rare(VU), II	E,M,F,O
Actinidiaceae	다래나무과			
<i>Actinidia arguta</i> (Siebold & Zucc.) Planch. ex Miq.	다래	MSP-200075		E,M,I,O,R
<i>Actinidia kolomikta</i> (Maxim. & Rupr.) Maxim.	쥐다래	MSP-200076	III	E,M,I
<i>Actinidia polygama</i> (Siebold & Zucc.) Planch. ex Maxim.	개다래	MSS-190150		E(P),M(P),I,R

Appendix 1. Continued

Family name & Scientific name	Korean name	1 ²	2 ²	3 ³
Guttiferae	물레나물과			
<i>Hypericum ascyron</i> L.	물레나물	MSS-190023		E,M,O,R
<i>Hypericum erectum</i> Thunb.	고추나물	MSS-200003		E,M,O,FC
Papaveraceae	양귀비과			
<i>Chelidonium majus</i> var. <i>asiaticum</i> (Hara) Ohwi	애기똥풀	MSP-200077		E(P),M(P),I
<i>Hylomecon vernalis</i> Maxim.	피나물	MSP-200078	II	E(P),M(P),O
Fumariaceae	현호색과			
<i>Corydalis maculata</i> B.U.Oh & Y.S.Kim	점현호색	MSP-200079	Endemic, III	
<i>Corydalis pauciovulata</i> Ohwi	선괴불주머니	MSS-190261		M,FC
<i>Corydalis remota</i> Fisch. ex Maxim.	현호색	MSS-190068		E(P),M(P),O
<i>Corydalis speciosa</i> Maxim.	산괴불주머니	MSP-200080		E(P),M(P),O,FC
Cruciferae	십자화과			
<i>Arabis glabra</i> Bernh.	장대나물	MSP-200081		E
<i>Arabis pendula</i> L.	느린진장대	MSP-200082		E,M
<i>Barbarea vulgaris</i> R.Br.	유럽나도냉이	MSP-200083	N	E
<i>Capsella bursapastoris</i> (L.) L.W.Medicus	냉이	MSP-200084		E,M
<i>Cardamine fallax</i> L.	좁쌀냉이	MSP-200085		E
<i>Cardamine flexuosa</i> With.	황새냉이	MSP-200086		E,M
<i>Cardamine impatiens</i> L.	싸리냉이	MSS-190092		E,M
<i>Cardamine leucantha</i> (Tausch) O.E.Schulz	미나리냉이	MSS-190216		E,M,R
<i>Cardamine manshurica</i> (Kom.) Nakai	애기황새냉이	MSS-190209		
<i>Cardamine scutata</i> Thunb.	큰황새냉이	MSP-200344		E
<i>Draba nemorosa</i> L.	꽃다지	MSP-200087		E,M,R
<i>Lepidium virginicum</i> L.	콩다닥냉이	MSP-200088	N	E,M
<i>Rorippa indica</i> (L.) Hiern	개갓냉이	MSP-200089		E,M
<i>Rorippa palustris</i> (Leyss.) Besser	속속이풀	MSP-200090		E,M
<i>Sisymbrium luteum</i> (Maxim.) O.E.Schulz	노란장대	MSS-190173	I	E
Crassulaceae	돌나물과			
<i>Hylotelephium viviparum</i> (Maxim.) H.Ohba	새끼꿩의비름	MSS-200004	II	E,M,O
<i>Sedum aizoon</i> L.	가는기린초	MSS-190137		E,M,O
<i>Sedum kamtschaticum</i> Fisch. & Mey.	기린초	MSS-190114		E,M,O,R
<i>Sedum sarmentosum</i> Bunge	돌나물	MSP-200091		E,M,O,R
Saxifragaceae	범의귀과			
<i>Astilbe koreana</i> (Kom.) Nakai	속은노루오줌	MSP-200092		E,O
<i>Astilbe rubra</i> Hook.f. & Thomson	노루오줌	MSS-200020		E,M,O,R,FC
<i>Chrysosplenium flagelliferum</i> F.Schmidt	애기팽이눈	MSS-190080		E
<i>Chrysosplenium pilosum</i> var. <i>sphaerospermum</i> H.Hara	금팽이눈	MSP-200093	II	
<i>Deutzia glabrata</i> Kom.	물참대	MSP-200094	I	I,O
<i>Deutzia parviflora</i> Bunge	말밭도리	MSP-200345	I	M,I,O,R
<i>Deutzia uniflora</i> Shirai	매화말밭도리	MSP-200095	I	I,O
<i>Hydrangea serrata</i> f. <i>acuminata</i> (Siebold & Zucc.) E.H.Wilson	산수국	MSS-190107		E,M,I,O,R
<i>Philadelphus tenuifolius</i> Rupr. & Maxim.	얇은잎고광나무	MSP-200096		I,O
<i>Ribes mandshuricum</i> (Maxim.) Kom.	까치밥나무	MSP-200097	III	E,M,O
<i>Ribes maximowiczianum</i> Kom.	명자순	MSS-190160	III	E,M,O
<i>Rodgersia podophylla</i> A.Gray	도개비부채	MSP-200098	Rare(LC), IV	M,O
<i>Saxifraga fortunei</i> var. <i>incislobata</i> (Engl. & Irmsch.) Nakai	바위떡풀	MSP-200099		E,M,O

Appendix 1. Continued

Family name & Scientific name	Korean name	1 ²	2 ²	3 ²
Rosaceae	장미과			
<i>Agrimonia pilosa</i> Ledeb.	짚신나물	MSS-200029		E,M,I,FC
<i>Aruncus dioicus</i> var. <i>kamtschaticus</i> (Maxim.) H.Hara	눈개승마	MSP-200100	III	E,M,O
<i>Duchesnea indica</i> (Andr.) Focke	뱀딸기	MSS-190011		E,M,O,R,FC
<i>Filipendula glaberrima</i> Nakai	터리풀	MSS-190159	I	E,M,O,R,FC
<i>Geum aleppicum</i> Jacq.	큰뱀무	MSP-200101		E,M,FC
<i>Malus baccata</i> (L.) Borkh.	아광나무	MSS-190097	I	E,M,I,O,R
<i>Potentilla cryptotaeniae</i> Maxim.	물양지꽃	MSP-200102	III	E,M,O,FC
<i>Potentilla dickinsii</i> Franch. & Sav.	돌양지꽃	MSP-200103	II	E,M
<i>Potentilla fragarioides</i> var. <i>major</i> Maxim.	양지꽃	MSS-190135		E,M,O,R
<i>Potentilla freyniana</i> Bornm.	세잎양지꽃	MSP-200104		E,M,O,FC
<i>Potentilla koreana</i> H.Ikeda & H.T.Im	털양지꽃	MSP-200105		
<i>Prunus maackii</i> Rupr.	개벚지나무	MSS-190073	III	E,M
<i>Prunus maximowiczii</i> Rupr.	산개벚지나무	MSP-200106	II	E,M,I,O
<i>Prunus padus</i> L.	귀룽나무	MSS-190237		E,M,R
<i>Prunus persica</i> (L.) Batsch	복사나무	MSS-190214		E,M,I,O,R,FC
<i>Prunus sargentii</i> Rehder	산벚나무	MSP-200346	III	E,M,I,O,R,FC
<i>Prunus serrulata</i> var. <i>pubescens</i> (Makino) Nakai	잔털벚나무	MSS-190065		E,O
<i>Pyrus ussuriensis</i> Maxim.	산돌배	MSP-200107		E,M,I,O,R
<i>Rosa multiflora</i> Thunb.	찔레꽃	MSP-200108		E,M,F,I,O,R,FC
<i>Rubus crataegifolius</i> Bunge	산딸기	MSP-200109		E,M,I,R,FC
<i>Rubus idaeus</i> var. <i>microphyllus</i> Turcz.	멍덕딸기	MSP-200110		E
<i>Rubus oldhamii</i> Miq.	줄딸기	MSS-190204		E,M,I
<i>Rubus parvifolius</i> L.	멍석딸기	MSP-200111		E,M,I
<i>Rubus phoenicolasius</i> Maxim.	곰딸기	MSS-190033		E,M,I
<i>Sanguisorba hakusanensis</i> Makino	산오이풀	MSP-200112	III	E,M,I,O,R
<i>Sanguisorba officinalis</i> L.	오이풀	MSS-200063		E,M,I,O,FC
<i>Sorbus alnifolia</i> (Siebold & Zucc.) K.Koch	팔배나무	MSP-200113		E,M,I,O,R,FC
<i>Sorbus commixta</i> Hedl.	마가목	MSS-190131	II	E,M,I,O,R
<i>Spiraea fritschiana</i> C.K.Schneid.	참조팝나무	MSP-200114	III	E,M,I,O
<i>Spiraea prunifolia</i> f. <i>simpliciflora</i> Nakai	조팝나무	MSP-200115		E,M,I,O,R
<i>Spiraea salicifolia</i> L.	꼬리조팝나무	MSP-200116	II	E,M,I,O,R
<i>Spiraea trichocarpa</i> Nakai	갈기조팝나무	MSP-200117	IV	E,I,O,R
<i>Stephanandra incisa</i> (Thunb.) Zabel	국수나무	MSP-200118		E,I,O,R
Leguminosae	콩과			
<i>Amorpha fruticosa</i> L.	죽색비싸리	MSP-200119	N	M,I,O,R,FC
<i>Amphicarpaea bracteata</i> subsp. <i>edgeworthii</i> (Benth.) H.Ohashi	새콩	MSS-190049		E,M,FC
<i>Chamaecrista nomame</i> (Siebold) H.Ohashi	차풀	MSP-200120		E,M,R,FC
<i>Desmodium oldhami</i> Oliv.	큰도둑놈의갈고리	MSP-200121		M,O,FC
<i>Desmodium podocarpum</i> var. <i>oxyphyllum</i> (DC.) H.Ohashi	도둑놈의갈고리	MSS-190255		M,I,O,FC
<i>Glycine soja</i> Siebold & Zucc.	돌콩	MSP-200122		E,M,FC

Appendix 1. Continued

Family name & Scientific name	Korean name	1 ²	2 ²	3 ³
<i>Indigofera bungeana</i> Walp.	큰낭아초	MSS-190014	N	
<i>Indigofera kirilowii</i> Maxim. ex Palib.	땅비싸리	MSP-200123		E,M,I,O,R
<i>Kummerowia striata</i> (Thunb.) Schindl.	매듭풀	MSS-190036		M,R,FC
<i>Lathyrus davidii</i> Hance	활랑나물	MSS-190034		E,M,I,O
<i>Lespedeza bicolor</i> Turcz.	싸리	MSS-200049		E,M,I,O,R,FC
<i>Lespedeza cuneata</i> G.Don	비수리	MSS-190012		E,M,I,O,R,FC
<i>Lespedeza cyrtobotrya</i> Miq.	참싸리	MSP-200124		E,M,I,O,R
<i>Lespedeza maximowiczii</i> C.K.Schneid.	조록싸리	MSS-200015		E,M,I,O,R,FC
<i>Maackia amurensis</i> Rupr.	다릅나무	MSP-200125		M,I,R
<i>Medicago sativa</i> L.	자주개자리	MSP-200126	N	E,M,R,FC
<i>Pueraria lobata</i> (Willd.) Ohwi	췌	MSP-200127		E,M,I,R,FC
<i>Robinia pseudoacacia</i> L.	아까시나무	MSS-190246	N	E,M,F,I,O,R,FC
<i>Trifolium repens</i> L.	토끼풀	MSP-200128	N	E,M,I,O,R,FC
<i>Vicia amurensis</i> Oett.	별완두	MSP-200129		E,FC
<i>Vicia chosenensis</i> Ohwi	노랑갈퀴	MSS-200006	Endemic, III	E,FC
<i>Vicia hirsuta</i> (L.) Gray	새완두	MSP-200130		E,M,I,O,FC
<i>Vicia unijuga</i> A.Braun	나비나물	MSS-200023		E,M,FC
<i>Vicia venosa</i> var. <i>cuspidata</i> Maxim.	광릉갈퀴	MSS-200059		E,I,O
Oxalidaceae	괘이밥과			
<i>Oxalis acetosella</i> L.	애기괘이밥	MSS-190069	III	E,M,O
<i>Oxalis corniculata</i> L.	괘이밥	MSP-200131		E,M,I,O
<i>Oxalis obtriangulata</i> Maxim.	큰괘이밥	MSS-190026		E,M,I,O
Geraniaceae	쥐손이풀과			
<i>Geranium koreanum</i> Kom.	등근이질풀	MSP-200132	II	M,FC
<i>Geranium thunbergii</i> Siebold & Zucc.	이질풀	MSP-200133		E,M,R,FC
<i>Geranium wilfordii</i> Maxim.	세잎쥐손이	MSP-200134		M
Euphorbiaceae	대극과			
<i>Acalypha australis</i> L.	깨풀	MSP-200135		E,M,FC
<i>Euphorbia sieboldiana</i> Morren & Decne.	개감수	MSP-200136		M,O
<i>Securinega suffruticosa</i> (Pall.) Rehder	광대싸리	MSP-200137		E,M,I
Rutaceae	윤향과			
<i>Phellodendron amurense</i> Rupr.	황벽나무	MSP-200138	II	M,I,O,R,FC
<i>Zanthoxylum schinifolium</i> Siebold & Zucc. var. <i>schinifolium</i>	산초나무	MSP-200139		E,M,I,R
<i>Zanthoxylum schinifolium</i> var. <i>inermis</i> (Nakai) T.B.Lee	민산초나무	MSP-200140		E
Simaroubaceae	소태나무과			
<i>Picrasma quassioides</i> (D.Don) Benn.	소태나무	MSP-200141		E,M,I,O
Anacardiaceae	웃나무과			
<i>Rhus javanica</i> L.	붉나무	MSP-200142		E(P),M(P),I,O,R
<i>Rhus tricocarpa</i> Miq.	개웃나무	MSS-190141		E(P),M(P),I,R
Aceraceae	단풍나무과			
<i>Acer mandshuricum</i> Maxim.	복장나무	MSP-200143	III	I,O

Appendix 1. Continued

Family name & Scientific name	Korean name	1 ²	2 ²	3 ³
<i>Acer pictum</i> subsp. <i>mono</i> (Maxim.) Ohashi	고로쇠나무	MSS-190219		E,M,I,O,R,FC
<i>Acer pictum</i> var. <i>truncatum</i> (Bunge) C.S.Chang	만주고로쇠	MSS-190183		E,M,I,O
<i>Acer pseudosieboldianum</i> (Pax) Kom.	당단풍나무	MSS-190182		I,O,R
<i>Acer tataricum</i> subsp. <i>ginnala</i> (Maxim.) Wesm.	신나무	MSP-200144		E,M,I,O,R,FC
<i>Acer triflorum</i> Kom.	복자기	MSP-200145	III	M,I,O,R
Balsaminaceae	봉선화과			
<i>Impatiens nolitangere</i> L.	노랑물봉선	MSP-200146	I	M,I,O,FC
<i>Impatiens textori</i> Miq.	물봉선	MSS-200012		M,I,O
Celastraceae	노박덩굴과			
<i>Celastrus flagellaris</i> Rupr.	푼지나무	MSP-200147		E,I,O
<i>Celastrus orbiculatus</i> Thunb.	노박덩굴	MSP-200148		E,M,I,O,R
<i>Euonymus alatus</i> (Thunb.) Siebold f. <i>alatus</i>	화살나무	MSS-190027		E,M,I,O,R,FC
<i>Euonymus alatus</i> f. <i>ciliatodentatus</i> (Franch. & Sav.) Hiyama	회잎나무	MSS-190030		E,FC
<i>Euonymus hamiltonianus</i> Wall.	참빗살나무	MSP-200149		E,M,I,O,R,FC
<i>Euonymus macropterus</i> Rupr.	나래회나무	MSS-190088	II	M,I,O,FC
<i>Euonymus oxyphyllus</i> Miq.	참회나무	MSS-200014		M,I,O,FC
<i>Euonymus sachalinensis</i> (F.Schmidt) Maxim.	회나무	MSP-200150	I	E,M,R
<i>Tripterygium regelii</i> Sprague & Takeda	미역줄나무	MSP-200151	II	E(P),M(P),I,O,R
Staphyleaceae	고추나무과			
<i>Staphylea bumalda</i> DC.	고추나무	MSS-190211		E,M,O,R
Rhamnaceae	갈매나무과			
<i>Rhamnus ussuriensis</i> J.Vass	참갈매나무	MSP-200152	III	
Vitaceae	포도과			
<i>Ampelopsis brevipedunculata</i> (Maxim.) Trautv.	개머루	MSP-200153		E,M
<i>Parthenocissus tricuspidata</i> (Siebold & Zucc.) Planch.	담쟁이덩굴	MSP-200154		E,M,I,O,R,FC
<i>Vitis amurensis</i> Rupr.	왕머루	MSP-200155		E,M,I,O,FC
Tiliaceae	피나무과			
<i>Tilia amurensis</i> Rupr.	피나무	MSP-200156	II	E,M,I,O,R,FC
<i>Tilia mandshurica</i> Rupr. & Maxim.	찰피나무	MSS-190163	II	M,I,O,FC
Violaceae	제비꽃과			
<i>Viola acuminata</i> Ledeb.	졸방제비꽃	MSP-200157		E,M,O
<i>Viola albida</i> Palib. var. <i>albida</i>	태백제비꽃	MSS-190259	Rare(LC)	E,M,O
<i>Viola albida</i> var. <i>chaerophylloides</i> (Regel) F.Maek. ex Hara	남산제비꽃	MSP-200158		E,M,O
<i>Viola collina</i> Besser	둥근털제비꽃	MSS-190242		E,M,O
<i>Viola japonica</i> Langsd. ex Ging.	왜제비꽃	MSP-200159		E,M,O
<i>Viola keiskei</i> Miq.	잔털제비꽃	MSS-190056		E,M,O
<i>Viola mandshurica</i> W.Becker	제비꽃	MSP-200160		E,M,F,I,O,R,FC
<i>Viola orientalis</i> (Maxim.) W.Becker	노랑제비꽃	MSS-190133	II	M
<i>Viola phalacrocarpa</i> Maxim.	털제비꽃	MSP-200161		E,M,O
<i>Viola rossii</i> Hemsl.	고깔제비꽃	MSS-200010		E,M
<i>Viola selkirkii</i> Pursh ex Goldie	뒤펀제비꽃	MSP-200162		E,M,O

Appendix 1. Continued

Family name & Scientific name	Korean name	1 ²	2 ²	3 ³
<i>Viola tokubuchiana</i> var. <i>takedana</i> (Makino) F.Maek. f. <i>takedana</i>	민둥뫼제비꽃	MSP-200163	II	M,O
<i>Viola tokubuchiana</i> var. <i>takedana</i> f. <i>variegata</i> F.Maek.	줄민둥뫼제비꽃	MSP-200164		
<i>Viola variegata</i> Fisch. ex Link var. <i>variegata</i>	알록제비꽃	MSS-190207		E,M,O,R
<i>Viola variegata</i> var. <i>chinensis</i> Bunge	자주알록제비꽃	MSP-200165		
<i>Viola verecunda</i> A.Gray	콩제비꽃	MSP-200166		E,M,O,FC
<i>Viola yedoensis</i> Makino	호제비꽃	MSP-200167		E,M
Onagraceae	바늘꽃과			
<i>Circaea mollis</i> Slebold & Zucc.	털이슬	MSP-200168		M,O,FC
<i>Oenothera biennis</i> L.	달맞이꽃	MSP-200169	N	E,M,I,O,R,FC
Alangiaceae	박쥐나무과			
<i>Alangium platanifolium</i> var. <i>trilobum</i> (Miq.) Ohwi	박쥐나무	MSS-190123		E(P),M(P),O,R,FC
Cornaceae	층층나무과			
<i>Cornus controversa</i> Hemsl.	층층나무	MSP-200170		E,M,I,O,R
Araliaceae	두릅나무과			
<i>Aralia cordata</i> var. <i>continentalis</i> (Kitag.) Y.C.Chu	독활	MSS-200034		E,M,I,O
<i>Aralia elata</i> (Miq.) Seem.	두릅나무	MSP-200171		E,M,O,R
<i>Eleutherococcus divaricatus</i> (Siebold & Zucc.) S.Y.Hu	털오갈피나무	MSP-200172		E,M
<i>Eleutherococcus sessiliflorus</i> (Rupr. & Maxim.) S.Y.Hu	오갈피나무	MSS-190064	I	E,M,I,O,R
<i>Kalopanax septemlobus</i> (Thunb.) Koidz.	읍나무	MSS-190184		E,M,I,O,R,FC
Umbelliferae	산형과			
<i>Angelica amurensis</i> Schischk.	지리강활	MSP-200173		E,M
<i>Angelica anomala</i> Ave-Lall.	개구릿대	MSP-200347	I	E,M
<i>Angelica cartilagino-marginata</i> (Makino) Nakai	처녀바디	MSP-200174		E,M
<i>Angelica dahurica</i> (Fisch. ex Hoffm.) Benth. & Hook.f. ex Franch. & Sav.	구릿대	MSP-200175		E,M,FC
<i>Angelica decursiva</i> (Miq.) Franch. & Sav.	바디나물	MSS-200064		E,M
<i>Angelica gigas</i> Nakai	참당귀	MSP-200348		E,M
<i>Angelica polymorpha</i> Maxim.	궁궁이	MSS-200037		E,M,F,I,R
<i>Anthriscus sylvestris</i> (L.) Hoffm.	전호	MSP-200176		E,M,FC
<i>Bupleurum longeradiatum</i> Turcz.	개시호	MSS-190175	II	E,M
<i>Cymopterus melanotilingia</i> (H.Boissieu) C.Y.Yoon	큰참나물	MSP-200177	II	E,M
<i>Heracleum moellendorffii</i> Hance	어수리	MSP-200178		E,M,FC
<i>Ostericum grosseserratum</i> (Maxim.) Kitag.	신감채	MSP-200179		E,M,FC
<i>Ostericum praeteritum</i> Kitag.	강활	MSP-200180	Endemic	E,M
<i>Peucedanum insolens</i> Kitag.	덕우기름나물	MSP-200181	Endemic, IV	
<i>Peucedanum terebinthaceum</i> (Fisch.) Fisch. ex DC.	기름나물	MSS-200044		E,M
<i>Pimpinella brachycarpa</i> (Kom.) Nakai	참나물	MSS-200018		E,M,FC
<i>Sanicula chinensis</i> Bunge	참반디	MSP-200182		E,M
<i>Sanicula rubriflora</i> F.Schmidt ex Maxim.	붉은참반디	MSP-200183	II	E,M,FC
<i>Torilis japonica</i> (Houtt.) DC.	사상자	MSP-200184		E,M,I
Pyrolaceae	노루발과			
<i>Pyrola japonica</i> Klenze ex Alef.	노루발	MSS-200043		E,M,O

Appendix 1. Continued

Family name & Scientific name	Korean name	1 ²	2 ²	3 ³
Ericaceae	진달래과			
<i>Rhododendron micranthum</i> Turcz.	꼬리진달래	MSS-190171	Rare(VU), IV	M(P),O
<i>Rhododendron mucronulatum</i> Turcz.	진달래	MSS-200047		E,M,I,O,R
<i>Rhododendron schlippenbachii</i> Maxim.	철쭉	MSP-200186		E(P),M(P),I,O,R
<i>Rhododendron yedoense</i> f. <i>poukhanense</i> (H.Lév.) M.Sugim. ex T.Yamaz.	산철쭉	MSP-200187		M,I,O,R
<i>Vaccinium hirtum</i> var. <i>koreanum</i> (Nakai) Kitam.	산앵도나무	MSS-200050	III	E,M,O
Primulaceae	앵초과			
<i>Lysimachia clethroides</i> Duby	큰까치수염	MSP-200188		E,M,O,FC
<i>Lysimachia vulgaris</i> var. <i>davurica</i> (Ledeb.) R.Kunth	좁쌀풀	MSS-190164	III	E,M,O
<i>Primula jesoana</i> Miq.	큰앵초	MSP-200189	II	E,M,O
Styracaceae	매죽나무과			
<i>Styrax japonicus</i> Siebold & Zucc.	매죽나무	MSP-200190		M(P),I,O,R,FC
<i>Styrax obassia</i> Siebold & Zucc.	쪽동백나무	MSS-190115		M,I,O,R,FC
Symplocaceae	노린재나무과			
<i>Symplocos chinensis</i> f. <i>pilosa</i> (Nakai) Ohwi	노린재나무	MSS-190108		E,M,I,O,R,FC
Oleaceae	물푸레나무과			
<i>Fraxinus rhynchophylla</i> Hance	물푸레나무	MSS-190232		E,M,I,O,R,FC
<i>Fraxinus sieboldiana</i> Blume	쇠물푸레나무	MSS-190113		M,I,O,R
<i>Ligustrum obtusifolium</i> Siebold & Zucc.	취퐁나무	MSP-200191		E,M,I,O,R
<i>Syringa patula</i> (Palib.) Nakai	털개회나무	MSS-190122	I	M,I,O
Gentianaceae	용담과			
<i>Gentiana scabra</i> Bunge	용담	MSP-200192		M,O,R,FC
<i>Gentiana triflora</i> var. <i>japonica</i> (Kusn.) H.Hara	과납풀	MSP-200193	Rare(LC)	E,M,O
<i>Gentiana zollingeri</i> Faw.	큰구슬봉이	MSS-190134		M,O
Asclepiadaceae	박주가리과			
<i>Cynanchum asecrifolium</i> (Franch. & Sav.) Matsum.	민백미꽃	MSS-200026	I	M,O
<i>Metaplexis japonica</i> (Thunb.) Makino	박주가리	MSP-200194		E,M,I,FC
Rubiaceae	꼭두서니과			
<i>Asperula maximowiczii</i> Kom.	개갈퀴	MSS-200005		E
<i>Galium dahuricum</i> Turcz. var. <i>dahuricum</i>	큰잎갈퀴	MSP-200195		E,O,R
<i>Galium dahuricum</i> var. <i>tokyoense</i> (Makino) Cufod.	흰갈퀴			O,R
<i>Galium gracilens</i> (A.Gray) Makino	좁네잎갈퀴	MSP-200196		E,O,R
<i>Galium kinuta</i> Nakai & Hara	민둥갈퀴	MSS-190153	II	E,O,R
<i>Galium pogonanthum</i> Franch. & Sav.	산갈퀴	MSP-200197		E,O,R
<i>Galium spurium</i> var. <i>echinospermon</i> (Wallr.) Hayek	갈퀴덩굴	MSP-200198		E,M,O,R
<i>Galium verum</i> var. <i>asiaticum</i> Nakai	솔나물	MSP-200199		E,M,I,O,R,FC
<i>Rubia akane</i> Nakai	꼭두서니	MSP-200200		E(P),M(P),I,FC
<i>Rubia chinensis</i> Regel & Maack	큰꼭두서니	MSP-200201		M,I
<i>Rubia cordifolia</i> var. <i>pratensis</i> Maxim.	갈퀴꼭두서니	MSP-200202		E,M,I,FC
Convolvulaceae	메꽃과			
<i>Cuscuta japonica</i> Choisy	새삼	MSP-200203		E,M
<i>Quamoclit coccinea</i> Moench	등근잎유홍초	MSP-200204	N	E,M,O

Appendix 1. Continued

Family name & Scientific name	Korean name	1 ²	2 ²	3 ²
Boraginaceae	지치과			
<i>Brachybotrys paridiformis</i> Maxim. ex Oliv.	당개지치	MSP-200205	III	E,M
<i>Trigonotis peduncularis</i> (Trevir.) Benth. ex Hemsl.	꽃마리	MSP-200206		E,M,O
<i>Trigonotis radicans</i> var. <i>sericea</i> (Maxim.) H.Hara	참꽃마리	MSP-200207		E,M,O
Verbenaceae	마편초과			
<i>Callicarpa japonica</i> Thunb.	작살나무	MSS-190148		M,I,O,R,FC
<i>Caryopteris divaricata</i> (Siebold & Zucc.) Maxim.	누린내풀	MSP-200208		E,M,I,O
<i>Clerodendrum trichotomum</i> Thunb.	누리장나무	MSS-190166		E,M,I,O,R,FC
Labiatae	꿀풀과			
<i>Agastache rugosa</i> (Fisch. & Mey.) Kuntze	배초향	MSS-190013		E,M,I,R,FC
<i>Ajuga spectabilis</i> Nakai	자란초	MSP-200209	Endemic, II	E,M,I,O
<i>Clinopodium chinense</i> var. <i>shibetchense</i> (H.Lév.) Koidz.	산층층이	MSP-200210		E,FC
<i>Elsholtzia ciliata</i> (Thunb.) Hyl.	향유	MSS-190046		E,M,I,O
<i>Elsholtzia splendens</i> Nakai	꽃향유	MSP-200211		E,M,F,I,O,R
<i>Isodon excisus</i> (Maxim.) Kudo	오리방풀	MSP-200212		E,M,I,O
<i>Isodon inflexus</i> (Thunb.) Kudo	산박하	MSS-200024		E,M,I,O
<i>Isodon japonicus</i> (Burm.) Hara	방아풀	MSS-190187		E,M,I,O,FC
<i>Lamium album</i> var. <i>barbatum</i> (Siebold & Zucc.) Franch. & Sav.	광대수염	MSS-190218		E,M,I,O,FC
<i>Leonurus japonicus</i> Houtt.	익모초	MSP-200213		E,M,F,I,O
<i>Lycopus lucidus</i> Turcz. ex Benth.	십사리	MSS-200030		E,M,I,O
<i>Meehania urticifolia</i> (Miq.) Makino	벌개덩굴	MSS-190096		E,M,I,R,FC
<i>Mosla punctulata</i> (J.F.Gmelin) Nakai	들개풀	MSP-200214		E,M,FC
<i>Phlomis umbrosa</i> Turcz.	속단	MSS-200021		E,M
<i>Prunella vulgaris</i> var. <i>lilacina</i> Nakai	꿀풀	MSP-200215		E,M,I,O,R
<i>Salvia plebeia</i> R.Br.	배암차즈기	MSP-200216		E,M,I,O
<i>Scutellaria fauriei</i> H.Lév. & Vaniot	그늘골무꽃	MSS-190167		
<i>Scutellaria indica</i> L.	골무꽃	MSP-200217		E,M,R
<i>Scutellaria peginensis</i> var. <i>transitra</i> (Makino) Hara	산골무꽃	MSP-200218		M,FC
<i>Stachys japonica</i> Miq.	석잠풀	MSP-200219		E,M,I,R,FC
Solanaceae	가지과			
<i>Solanum nigrum</i> L.	까마중	MSP-200220		E(P),M(P),FC
Scrophulariaceae	현삼과			
<i>Mazus pumilus</i> (Burm.f.) Steenis	주름잎	MSP-200221		E,M,I
<i>Melampyrum roseum</i> Maxim. var. <i>roseum</i>	꽃머느리밥풀	MSP-200222		M,I,O
<i>Melampyrum roseum</i> var. <i>ovalifolium</i> Nakai ex Beauverd	알머느리밥풀	MSS-200046		I,O
<i>Mimulus nepalensis</i> Benth.	물파리아재비	MSS-200008		M
<i>Paulownia coreana</i> Uyeki	오동나무	MSP-200223	Endemic	E,M,I,O,R
<i>Pedicularis resupinata</i> L.	송이풀	MSP-200224		E,M,I,O,FC
<i>Phtheirospermum japonicum</i> (Thunb.) Kanitz	나도송이풀	MSS-190236		E,M,I,O
<i>Scrophularia buergeriana</i> Miq.	현삼			M,O
<i>Scrophularia kakudensis</i> Franch.	큰개현삼	MSP-200225	II	M,O
<i>Veronica arvensis</i> L.	선개불알풀	MSP-200226	N	M,I
<i>Veronica rotunda</i> var. <i>subintegra</i> (Nakai) T.Yamaz.	산꼬리풀	MSP-200227		E,M,I,R

Appendix 1. Continued

Family name & Scientific name	Korean name	1 ²	2 ²	3 ³
Phrymaceae	파리꽃과			
<i>Phryma leptostachya</i> var. <i>asiatica</i> H.Hara	파리꽃	MSS-200033		M(P),I,O,FC
Plantaginaceae	질경이과			
<i>Plantago asiatica</i> L.	질경이	MSP-200228		E,M,I,O
Caprifoliaceae	인동과			
<i>Lonicera japonica</i> Thunb.	인동덩굴	MSP-200229		E,M,F,I,O,R,FC
<i>Lonicera maackii</i> (Rupr.) Maxim.	괴불나무	MSP-200230	I	E,M,I,O,R
<i>Lonicera praeflorens</i> Batalin	올괴불나무	MSP-200231		E,M,I,O
<i>Sambucus williamsii</i> var. <i>coreana</i> (Nakai) Nakai	딱총나무	MSS-190093		E,M,I,O,R,FC
<i>Viburnum carlesii</i> Hemsl.	분꽃나무	MSP-200350		E,O,R
<i>Viburnum opulus</i> var. <i>calvescens</i> (Rehder) H.Hara	백당나무	MSP-200232	I	M,I,O,R
<i>Weigela florida</i> (Bunge) A.DC.	붉은병꽃나무	MSS-190020	II	I,O,FC
<i>Weigela subsessilis</i> (Nakai) L.H.Bailey	병꽃나무	MSP-200233	Endemic	E,M,O,R,FC
Adoxaceae	연복초과			
<i>Adoxa moschatellina</i> L.	연복초	MSP-200234	I	O
Valerianaceae	마타리과			
<i>Patrinia scabiosaefolia</i> Fisch. ex Trevir.	마타리	MSP-200235		E,M,O,R,FC
<i>Patrinia villosa</i> (Thunb.) Juss.	뚝갈	MSS-200068		E,M,I,O,R
<i>Valeriana fauriei</i> Briq.	쥐오줌풀	MSS-190213		E,M,F,I,O,R
Campanulaceae	초롱꽃과			
<i>Adenophora divaricata</i> Franch. & Sav.	넓은잔대	MSP-200236		E,M,O
<i>Adenophora remotiflora</i> (Siebold & Zucc.) Miq.	모시대	MSP-200237		E,M,O
<i>Adenophora triphylla</i> var. <i>japonica</i> (Regel) H.Hara	잔대	MSP-200238		E,M
<i>Adenophora verticillata</i> Fisch.	층층잔대	MSS-200065		E,M
<i>Asyneuma japonicum</i> (Miq.) Briq.	영아자	MSP-200239		E,O
<i>Codonopsis lanceolata</i> (Siebold & Zucc.) Trautv.	더덕	MSP-200240		E,M,I,O,FC
<i>Platycodon grandiflorum</i> (Jacq.) A.DC.	도라지	MSP-200241		E,M,I,O,R
Compositae	국화과			
<i>Achillea alpina</i> L.	톱풀	MSP-200242	II	E,M,R
<i>Adenocaulon himalaicum</i> Edgew.	멸가치	MSP-200243		E,M,I,O,R
<i>Ainsliaea acerifolia</i> Sch.Bip.	단풍취	MSS-200002		E,M,O
<i>Ambrosia artemisiifolia</i> L.	돼지풀	MSS-190229	N	
<i>Artemisia capillaris</i> Thunb.	사철쭉	MSS-190248		E(P),M(P),R,FC
<i>Artemisia dubia</i> Wall.	참쭉	MSP-200244		E,M,FC
<i>Artemisia feddei</i> H.Lév. & Vaniot	뽕쭉	MSP-200245		E,M,FC
<i>Artemisia gmelini</i> Weber ex Stechm.	더위지기	MSP-200246		E(P),M(P),F,FC
<i>Artemisia japonica</i> Thunb.	제비쭉	MSP-200247		E,M,I,R,FC
<i>Artemisia keiskeana</i> Miq.	맑은대쭉	MSS-200057		E,M,F,R,FC
<i>Artemisia princeps</i> Pamp.	쭉	MSS-190018		E,M,I,R
<i>Artemisia rubripes</i> Nakai	덤불쭉	MSP-200248	I	E,M,FC
<i>Artemisia stolonifera</i> (Maxim.) Kom.	넓은잎외잎쭉	MSS-190186		E,M,FC

Appendix 1. Continued

Family name & Scientific name	Korean name	1 ²	2 ²	3 ³
<i>Aster ageratoides</i> Turcz.	까실쑥부쟁이	MSS-200017		E,M,O
<i>Aster hispidus</i> Thunb.	갯쑥부쟁이	MSP-200249		E,M,R
<i>Aster incisus</i> Fisch.	가새쑥부쟁이	MSP-200250		E,M,O
<i>Aster meendorffii</i> (Regel & Maack) Voss	개쑥부쟁이	MSS-200058		E,R
<i>Aster pilosus</i> Willd.	미국쑥부쟁이	MSS-190044 N		E,O
<i>Aster scaber</i> Thunb.	참취	MSS-200013		E,M,I,O,R,FC
<i>Aster tataricus</i> L.f.	개미취	MSP-200251		E,M,O,R,FC
<i>Atractylodes ovata</i> (Thunb.) DC.	삼주	MSP-200252		E,M,I,FC
<i>Bidens bipinnata</i> L.	도깨비바늘	MSP-200253		E,M,FC
<i>Bidens frondosa</i> L.	미국가막사리	MSS-190051 N		E,M,I,FC
<i>Bidens parviflora</i> Willd.	까치말	MSP-200254		E,M
<i>Carduus crispus</i> L.	지느러미영경귀	MSP-200255 N		E,M
<i>Carpesium abrotanoides</i> L.	담배풀	MSP-200256		E(P),M(P)
<i>Carpesium divaricatum</i> Siebold & Zucc.	긴담배풀	MSS-190017		E,M
<i>Carpesium macrocephalum</i> Franch. & Sav.	여우오줌	MSP-200257 I		E,M
<i>Carpesium triste</i> Maxim.	두메담배풀	MSP-200258		E,M
<i>Cirsium japonicum</i> var. <i>maackii</i> (Maxim.) Matsum.	영경귀	MSP-200259		E,M,I,R,FC
<i>Cirsium pendulum</i> Fisch. ex DC.	큰영경귀	MSS-190223 I		E,M
<i>Cirsium setidens</i> (Dunn) Nakai	고려영경귀	MSP-200260 Endemic, I		E,M
<i>Coryza canadensis</i> (L.) Cronquist	망초	MSP-200261 N		E,M
<i>Crepidiastrum chelidoniifolium</i> (Makino) Pak & Kawano	까치고들빼기	MSS-200040		E,M
<i>Crepidiastrum denticulatum</i> (Houtt.) Pak & Kawano	이고들빼기	MSS-200051		E,M,FC
<i>Crepidiastrum sonchifolium</i> (Bunge) Pak & Kawano	고들빼기	MSP-200262		E,M,FC
<i>Dendranthema boreale</i> (Makino) Ling ex Kitam.	산국	MSS-190052		E,M,I,O,R,FC
<i>Dendranthema sichotense</i> Tzvelev	바위구절초	MSP-200263		E,M,O,FC
<i>Dendranthema zawadskii</i> var. <i>latilobum</i> (Maxim.) Kitam.	구절초	MSS-190272		E,M,I,O,R,FC
<i>Erechtites hieracifolia</i> Raf.	붉은서나물	MSS-190002 N		E,I,FC
<i>Erigeron annuus</i> (L.) Pers.	개망초	MSP-200264 N		E,M,I
<i>Eupatorium japonicum</i> Thunb.	등골나물	MSS-190249		E,M,I,O,FC
<i>Galinsoga ciliata</i> (Raf.) S.F.Blake	털별꽃아재비	MSP-200265 N		E
<i>Hemistepta lyrata</i> Bunge	지칭개	MSP-200266		E,M,I,FC
<i>Hieracium umbellatum</i> L.	조밥나물	MSP-200267		E,M,O,FC
<i>Inula britannica</i> var. <i>japonica</i> (Thunb.) Franch. & Sav.	금불초	MSP-200268		E,M,O,R,FC
<i>Ixeridium dentatum</i> (Thunb.) Tzvelev	쌈바귀	MSP-200269		E,M,I,FC
<i>Ixeris chinensis</i> (Thunb.) Nakai	노랑선쌈바귀	MSP-200270		E,M
<i>Ixeris polycephala</i> Cass.	별쌈바귀	MSP-200271		E,M,FC
<i>Lactuca indica</i> L.	왕고들빼기	MSS-190040		E,M,FC
<i>Lactuca raddeana</i> Maxim.	산쌈바귀	MSP-200272		E,M,FC
<i>Lactuca triangulata</i> Maxim.	두메고들빼기	MSP-200273		E,M,FC
<i>Leibnitzia anandria</i> (L.) Turcz.	솜나물	MSP-200274		E,M,O,FC
<i>Ligularia fischeri</i> (Ledeb.) Turcz.	곰취	MSP-200275 II		E,M,O,R

Appendix 1. Continued

Family name & Scientific name	Korean name	1 ²	2 ²	3 ³
<i>Parasenecio firmus</i> (Kom.) Y.L.Chen	병풍삼	MSS-190189	Rare(LC), IV	E
<i>Petasites japonicus</i> (Siebold & Zucc.) Maxim.	머위	MSP-200276		E,M,I,O,R,FC
<i>Picris hieracioides</i> var. <i>koreana</i> Kitam.	쇠서나물	MSP-200277		E,M,FC
<i>Saussurea gracilis</i> Maxim.	은분취	MSP-200278		E,M,O,FC
<i>Saussurea grandifolia</i> Maxim.	서덜취	MSS-190253		E,M,FC
<i>Senecio vulgaris</i> L.	개쑥갓	MSS-190019	N	E,M,I
<i>Serratula coronata</i> var. <i>insularis</i> (Iljin) Kitam.	산비장아이	MSP-200279		E,O,R
<i>Sigesbeckia glabrescens</i> (Makino) Makino	진득찰	MSP-200280		E,M,FC
<i>Sigesbeckia pubescens</i> (Makino) Makino	털진득찰	MSP-200281		E,M,FC
<i>Solidago virgaurea</i> subsp. <i>asiatica</i> Kitam. ex Hara	미역취	MSP-200282		E,M,I,O
<i>Syneilesis palmata</i> (Thunb.) Maxim.	우산나물	MSS-200016		E,M,O,R,FC
<i>Synurus deltoides</i> (Aiton) Nakai	수리취	MSS-190021		E,M,I,R,FC
<i>Taraxacum coreanum</i> Nakai	흰민들레	MSS-190217		E,M,I
<i>Taraxacum mongolicum</i> Hand.-Mazz.	털민들레	MSP-200283		E,M
<i>Taraxacum officinale</i> Weber	서양민들레	MSS-190130	N	E,M,I
<i>Tephrosieris kirilowii</i> (Turcz. ex DC.) Holub	솜방망이	MSS-190126		E,M,O,FC
<i>Youngia japonica</i> (L.) DC.	뽕리뱅이	MSP-200284		E,M
Liliaceae	백합과			
<i>Allium macrostemon</i> Bunge	산달래	MSP-200285		E,M,FC
<i>Allium monanthum</i> Maxim.	달래	MSP-200286		E,M
<i>Allium thunbergii</i> G.Don	산부추	MSP-200287		E,M,I,O,R
<i>Asparagus schoberioides</i> Kunth	비짜루	MSS-190028		E,M,I,R
<i>Convallaria keiskei</i> Miq.	은방울꽃	MSP-200288		M(P),F,O,R
<i>Disporum smilacinum</i> A.Gray	애기나리	MSS-200001		E(P),M(P),O,R, FC
<i>Disporum viridescens</i> (Maxim.) Nakai	큰애기나리	MSP-200289		E(P),M(P),O,FC
<i>Erythronium japonicum</i> (Balrer) Decne.	얼레지	MSP-200290		E,M,I,O,R
<i>Heloniopsis koreana</i> Fuse, N.S.Lee & M.N.Tamura	처녀치마	MSP-200291	Endemic, II	O,R
<i>Hemerocallis fulva</i> (L.) L.	원추리	MSP-200292		E(P),M(P),F,I,O, R,FC
<i>Hemerocallis hakuunensis</i> Nakai	백운산원추리	MSP-200293	Endemic	E,M,O,FC
<i>Hosta capitata</i> (Koidz.) Nakai	일월비비추	MSS-190119	I	E,M,O,FC
<i>Hosta longipes</i> (Franch. & Sav.) Matsum.	비비추	MSP-200294		E,M,R,FC
<i>Lilium amabile</i> Palib.	털중나리	MSP-200295		E,M,I,O
<i>Lilium distichum</i> Nakai ex Kamib.	말나리	MSP-200296	Rare(LC), III	E,M,I,O
<i>Lilium tsingtauense</i> Gilg	하늘말나리	MSP-200297		E,M,O,FC
<i>Lloydia triflora</i> (Ledeb.) Baker	나도개감채	MSS-190098	Rare(LC), II	E,M
<i>Maianthemum bifolium</i> (L.) F.W.Schmidt	두루미꽃	MSP-200298	II	E,M,O
<i>Paris verticillata</i> M.Bieb.	삿갓나물	MSP-200299		E(P),M(P),O

Appendix 1. Continued

Family name & Scientific name	Korean name	1 ²	2 ²	3 ³
<i>Polygonatum acuminatifolium</i> Kom.	종동굴레			
<i>Polygonatum humile</i> Fisch. ex Maxim.	각시등굴레	MSP-200300		E,M,O,FC
<i>Polygonatum inflatum</i> Kom.	통등굴레	MSS-190112		E,M,O,FC
<i>Polygonatum involucratum</i> (Franch. & Sav.) Maxim.	용등굴레	MSS-190266		E,M,O,FC
<i>Polygonatum lasianthum</i> Maxim.	죽대	MSP-200301		E,M,O,FC
<i>Polygonatum odoratum</i> var. <i>pluriflorum</i> (Miq.) Ohwi	등굴레	MSS-200053		E,M,I,O,R,FC
<i>Scilla scilloides</i> (Lindl.) Druce	무릇	MSP-200302		E(P),M(P),O,R
<i>Smilacina japonica</i> A.Gray	풀솜대	MSP-200303		E,M,O
<i>Smilax china</i> L.	청미래덩굴	MSP-200304		E,M,I,O,FC
<i>Smilax nipponica</i> Miq.	선밀나물	MSS-190215		E,M,O,FC
<i>Smilax sieboldii</i> Miq.	청가시덩굴	MSP-200305		E,M,I,O,FC
<i>Streptopus ovalis</i> (Ohwi) F.T.Wang & Y.C.Tang	금강애기나리	MSS-190125	Rare(LC)	
<i>Veratrum maackii</i> var. <i>japonicum</i> (Baker) T.Schmizu	여로	MSP-200306	III	M(P)
Dioscoreaceae	마과			
<i>Dioscorea batatas</i> Decne.	마	MSP-200307		E,M,O,FC
<i>Dioscorea nipponica</i> Makino	부채마	MSP-200308		E,M,O,FC
Iridaceae	붓꽃과			
<i>Iris rossii</i> Baker	각시붓꽃	MSP-200309		M,O,FC
<i>Iris sanguinea</i> Donn ex Horn	붓꽃	MSP-200310		M,O,R,FC
Juncaceae	골풀과			
<i>Juncus effusus</i> var. <i>decipiens</i> Buchenau	골풀	MSP-200311		E,M,I,O,R,FC
<i>Juncus papillosus</i> Franch. & Sav.	청비녀골풀	MSP-200312		M
<i>Juncus tenuis</i> Willd.	길골풀	MSP-200313		FC
<i>Luzula capitata</i> (Miq.) Miq.	평의밥	MSP-200314		E,M,R
Commelinaceae	닭의장풀과			
<i>Commelina communis</i> L.	닭의장풀	MSP-200315		E,M,FC
Gramineae	벼과			
<i>Agropyron ciliare</i> (Trin.) Franch.	속털개밀	MSP-200316		I,R,FC
<i>Arthraxon hispidus</i> (Thunb.) Makino	조개풀	MSS-190005		M,I,FC
<i>Arundinella hirta</i> (Thunb.) Koidz.	새	MSS-190224		O,R,FC
<i>Bromus japonicus</i> Thunb.	참새귀리	MSS-190228		M,FC
<i>Calamagrostis arundinacea</i> (L.) Roth	실새풀	MSS-200042		O,R,FC
<i>Diarrhena fauriei</i> (Hack.) Ohwi	광릉용수염	MSS-190155		FC
<i>Diarrhena japonica</i> (Franch. & Sav.) Franch. & Sav.	용수염			R,FC
<i>Diarrhena mandshurica</i> Maxim.	겉질용수염	MSP-200317		FC
<i>Digitaria ciliaris</i> (Retz.) Koel.	바랭이	MSP-200318		M,R,FC
<i>Echinochloa crusgalli</i> (L.) P.Beauv.	돌피	MSS-190007		E,M
<i>Eragrostis ciliaris</i> (Bellardi) Link ex Janch.	참새그렁	MSS-190210		I,O,R,FC
<i>Glyceria leptolepis</i> Ohwi	왕미꾸리광이	MSP-200319		FC
<i>Hierochloa odorata</i> (L.) P.Beauv.	향모	MSS-190136		E,M,F,O
<i>Isachne globosa</i> (Thunb.) Kuntze	기장대풀	MSP-200320		FC

Appendix 1. Continued

Family name & Scientific name	Korean name	1 ²	2 ²	3 ³
<i>Milium effusum</i> L.	나도겨이삭	MSS-190226		FC
<i>Miscanthus sinensis</i> var. <i>purpurascens</i> (Andersson) Rendle	억새	MSS-190235		E,M,I,R,FC
<i>Oplismenus undulatifolius</i> (Ard.) P.Beauv.	주름조개풀	MSS-190025		FC
<i>Panicum bisulcatum</i> Thunb.	개기장	MSP-200321		E,I,FC
<i>Phragmites japonica</i> Steud.	달뿌리풀	MSP-200322		M,I,R,FC
<i>Setaria glauca</i> (L.) P.Beauv.	금강아지풀	MSS-190001		FC
<i>Setaria viridis</i> (L.) P.Beauv.	강아지풀	MSS-190041		E,M,FC
<i>Spodipogon cotulifer</i> (Thunb.) Hack.	기름새	MSP-200323		I,FC
<i>Spodipogon sibiricus</i> Trin.	큰기름새	MSS-190006		FC
<i>Stipa pekinensis</i> Hance	나래새	MSS-200022		FC
<i>Trisetum bifidum</i> (Thunb.) Ohwi	잠자리피	MSP-200324		O,FC
Araceae	천남성과			
<i>Arisaema amurense</i> Maxim.	등근잎천남성	MSS-190260		M(P),FC
<i>Arisaema heterophyllum</i> Blume	두루미천남성	MSP-200325	Rare(LC), I	M
<i>Arisaema peninsulae</i> Nakai	점박이천남성	MSS-200025		M(P),FC
<i>Pinellia ternata</i> (Thunb.) Breitenb.	반하	MSP-200352		M(P)
Cyperaceae	사초과			
<i>Carex augustinowiczii</i> Menish. ex Korsh.	복사초	MSP-200326	II	R
<i>Carex bostrychostigma</i> Maxim.	길뚝사초	MSP-200327		R,FC
<i>Carex breviculmis</i> R.Br.	청사초	MSS-190140		R,FC
<i>Carex ciliatomarginata</i> Nakai	털대사초	MSP-200328		R,FC
<i>Carex dimorpholepis</i> Steud.	이삭사초	MSP-200329		R,FC
<i>Carex dispalata</i> Boott	삿갓사초	MSP-200330	I	I,O,R,FC
<i>Carex erythrobasis</i> H.Lév. & Vaniot	한라사초	MSS-190083	Endemic, II	R,FC
<i>Carex forficula</i> Franch. & Sav.	산뚝사초	MSS-190060		R,FC
<i>Carex gifuensis</i> Franch.	애기감동사초	MSP-200331		R,FC
<i>Carex heterolepis</i> Bunge	산비늘사초	MSS-190059		FC
<i>Carex humilis</i> var. <i>nana</i> (H.Lév. & Vaniot) Ohwi	가는잎그늘사초	MSP-200332		R,FC
<i>Carex jaluensis</i> Kom.	참삿갓사초	MSP-200333	II	R,FC
<i>Carex japonica</i> Thunb.	개찌버리사초	MSS-190192		R,FC
<i>Carex kamagariensis</i> K. Okamoto	좁목포사초	MSS-190132		
<i>Carex laevisima</i> Nakai	애팽이사초	MSP-200334		FC
<i>Carex lanceolata</i> Boott	그늘사초	MSP-200335		M,R,FC
<i>Carex leiorhyncha</i> C.A.Mey.	산팽이사초	MSP-200336		FC
<i>Carex miyabei</i> Franch.	융단사초	MSP-200337		
<i>Carex neurocarpa</i> Maxim.	팽이사초	MSP-200338		O,FC
<i>Carex okamotoi</i> Ohwi	지리대사초	MSP-200339	Endemic, I	R,FC
<i>Carex onoei</i> Franch. & Sav.	비늘사초	MSS-190212	II	R,FC
<i>Carex planiculmis</i> Kom.	그늘흰사초	MSP-200340	II	FC
<i>Carex polyschoena</i> H.Lév. & Vaniot	가지청사초	MSS-190191		FC

Appendix 1. Continued

Family name & Scientific name	Korean name	1 ^z	2 ^y	3 ^x
<i>Carex sabyensis</i> Less. ex Kunth	실청사초	MSS-190057		FC
<i>Carex siderosticta</i> Hance	대사초	MSS-190239		M,R,FC
<i>Cyperus amuricus</i> Maxim.	방동사니	MSP-200341		M
Orchidaceae	난초과			
<i>Cephalanthera longibracteata</i> Blume	은대난초	MSS-200054		E,O
<i>Liparis krameri</i> Franch. & Sav.	나나벌이난초	MSP-200342		O
<i>Liparis kumokiri</i> F.Maek.	옥잠난초	MSS-200009		O

^z1: Collection & Photograph number: MSS (MunSu-Specimen), MSP (MunSu-Photo).

^y2: ①Rare Plant(Forest service, 2008 / EN ~ DD), ②Endemic Plant (Chung *et al.*, 2017), ③Floristics special plant(Ministry of environment, 2018 / V ~ I), ④Naturalized Plant (Lee *et al.*, 2011).

^x3: Uses of Plant: ①E[Edible / (p) Edible caution], ②M[Medicinal / (P)Medicinal caution], ③F(Flavor), I(Industrial), ④O(Ornamental), ⑤R(Restoration), ⑥FC(Feed/Compost).