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## Floristic study of Gogunsan Archipelago, Jeollabuk-do, Korea

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**Abstract:** We investigated the Gogunsan Islands from April 2012 to October 2012 for plant diversity. The vascular plants of Gogunsan Islands were recorded as total 565 taxa, 105 families, 333 genera, 502 species, 3 subspecies, 50 varieties, and 10 forms. Rare plants were observed 9 taxa. Korean endemic plants were 2 taxa, floristics special plants were 18 taxa, and naturalized plants were 72 taxa. Gogunsan Islands flora changes are in process slowly compared to earlier work thus, continuing interest and appropriate measures should be encouraged.

**Keywords:** Flora, Gogunsan Islands, Naturalized plants, Rare plants, Vascular plants

### Introduction

This study investigated 5 islands (i.e., Seonyudo, Daejangdo, Jangjado, Munyeodo, and Sinsido) of the Gogunsan Islands (north latitude of 37°47'30"~37°50'00" and east longitude of 126°22'30"~126°30'00") in Okdo-myeon, Gunsan-si, Jeonbuk, Korea.

Gogunsan Islands is an archipelago about 20 km from Jinbongbando, consisting of Yamido, Sinsido, Munyeodo, Seonyudo, Biando, Myeongdo, Maldo, Jangjado, and many other uninhabited islands (Ministry of Environment 2001). The uninhabited islands around the research site include two islands nearby Gaeyado to the north, ten islands of Sipleedongpado to the west, and five islands of Sinsido.

The research site, located in the southwest of the Korean Peninsula, has continental east coast climate, which indicates it is as hot in summer as the tropical climate because of oceanic anticyclone, whereas it is as cold in winter as the polar climate because of continental high pressure (Park and Park, 1997). The weather conditions of Gogunsan Islands show that the average annual temperature is 13.1 and the highest and lowest temperatures are 36.9, -14.5, respectively. The recorded precipitation is 1,305 mm (Korea Meteorological Administration 2012), which is even higher than the average annual precipitation (1,202 mm). It has warm climate characteristics. In summer, Gogunsan Islands often suffer from the wind and flood damage due to the intensive rainy season and frequent typhoons.

The research site is a rocky coast and its geological feature is composed of volcanic gneiss (Ha, 2011). The floristic region based on the geographical distribution of Korean plants is considered to be the southern province (Lee and Yim, 1978; 2002).

The research site consists of the mountainous terrain with hills, the sandy shores and sand dunes of the coast, the coastal erosion, and the tidal flats around the tidelands. Also, the area is characterized by the reclaimed land which was tidelands in the past, indicating very heterogenous terrain and landscape across the east-west (Park and Yoon 2003).

With regard to the previous research on the flora and vegetation of Gogunsan Islands, Lee and Kim (1980) investigated the flora of Gogunsan Islands. Lee *et al.* (1980) studied the vegetation of Gogunsan Islands. Also, Ministry of Environment (2001, 2007) investigated the flora in Okso-myeon areas, Gunsan-si. Nevertheless, little research has explored the comprehensive flora of vascular plants in the present research site because the previous research has been carried out in limited areas.

Currently in the research site, the construction work for Gogunsan Islands bridges to connect Sinsido, Munyeodo, Seonyudo, Jangjado, and Daejangdo has been underway until November, 2013. Upon completion of the construction, the issues regarding the deterioration of nearby forest vegetation and the environmental pollutions caused by hikers are considered severe. Therefore, this study investigated the vascular plants of Gogunsan Islands to explore the distribution of plants. Moreover, this study aims to provide a fundamental data not only for the effective management of major plants including endemic plants and rare plants, but also for the conservation of species diversity.

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**Table 1.** Dates and routes of the investigations

No.	Date	Investigation routes
1	Apr.	05: Seonyudo Mangjubong → Namak-ri → Daejangdo → Jangjado
		06: Seonyudo Elementary & Middle School → Munyeodo Keunmunyeobong → reservoir
2	May	07: Seonyudo Mangjubong → Singi-ri → Namak-ri → Hill
		08: The hill in front of Seonyudo Mangjubong → South mangjubong → Jangjado
		09: Daejangdo Jangjabong → Munyeodo Keunmunyeobong → Reservoir → Munyeo2-Gu
		10: Sinsido Angol reservoir → Village → Angol reservoir
3	Jul.	17: Seonyudo Elementary & Middle School → Mangjubong → Singi-ri → Hill
		18: Seonyudo → Daejangdo Jangjabong → The hill in back of the Munyeodo Keunmunyeobong → reservoir
		19: Seonyudo Okdol beach → Jangjado
		20: Seonyudo Namak-ri → Hill
6	Oct.	08: Seonyudo Elementary & Middle School → Mangjubong → Seonyubong → Jangjado
		09: Seonyudo Mangjubong → Daejangdo Jangjabong
		10: Munyeodo Keunmunyeobong → Reservoir → Munyeo2-gu
		11: Sinsido Angol reservoir → village → Daegaksan observatory → Angol reservoir
		12: Sinsido village → Woryeongbong → 199Bong → Parking lot



**Fig. 1.** Map of investigated area.

**Method**

The research site was surveyed four times between April and October in 2012 for the investigation of the flora of vascular plants in Gogunsan Islands (Fig. 1, Table 1). For accurate identification of species, only individuals having reproductive organs including flowers, fruits, and spores were collected. The collected plants were made into the dried specimens. Each specimen was labelled with collection number and coordinate and preserved in Korea National Herbarium (KH). The identification of taxa was based on illustrated guides from Lee (1980, 2003), Park

(1995, 2001), Lee (1996), and Korea National Arboretum (2008).

The identified plants were listed based on Engler's taxonomy (Melchior 1964). Within the families, the scientific names were listed in alphabetical order. The scientific and Korean name was based on Korea Plant Name Index (2013) (Appendix 1). Special plants were classified on the basis of Ministry of Environment (2006). Endemic plants were based on Oh *et al.* (2005). Rare plants were classified according to Korea National Arboretum (2008). We used the reference by Lee *et al.* (2011) to investigate the current status of naturalized plants.

**Table 2.** Summary of the floristics of Gogunsan archipelago

Taxa	Family	Genus	Species	Subspecies	Variety	Forma	Total	Ratio
Pteridophyta	11	14	16	-	1	-	17	3.0
Gymnospermae	2	3	4	-	-	-	4	0.7
Angiospermae								
Dicotyledons	80	237	345	3	32	5	386	68.2
Monocotyledons	12	79	137		17	5	159	28.1
Total	105	333	502	3	50	10	565	100.0

## Result and Discussion

### 1. Flora of vascular plants

The vascular plants of Gogunsan Islands were recorded as total 565 taxa, 105 families, 333 genera, 502 species, 3 subspecies, 50 varieties, and 10 forms. The total number of collected plant individuals was 2,609. This included some planted trees and cultivated plants. Of the total, the pteridophytes were recorded as total 17 taxa, 11 families, 14 genera, 16 species, and 1 varieties (3.0%). The gymnosperms were recorded as total 4 taxa, 2 families, 3 genera, and 4 species (0.7%). The angiosperms were recorded as total 385 taxa, 80 families, 237 genera, 345 species, 3 subspecies, 32 varieties, and 5 forms (68.2%). Finally, the endogenous plants were recorded as total 159 taxa, 12 families, 79 genera, 137 species, 17 varieties, and 5 forms (28.1%) (Table 2; Appendix 1).

By areas, the vascular plants observed in Seonyudo were recorded as total 399 taxa, 88 families, and 267 genera, indicating that Seonyudo had the highest number of species, followed by Munyeodo (272 taxa, 75 families, and 197 genera), Sinsido (204 taxa, 61 families, and 149 genera), Daejangdo (180 taxa, 70 families, and 149 genera), and Jangjado (135 taxa, 47 families, and 102 genera). These results indicated that relatively diverse vegetation was distributed in the mountain forest in Seonyudo and Munyeodo. It is assumed that these figures result from the size of the islands.

Meanwhile, this study did not identify about 90 taxa, which the previous research reported, such as *Pinus rigida*, *Alnus sibirica*, *Quercus acutissima*, *Achyranthes japonica*, *Clematis terniflora*, *Clematis trichotoma*, *Sedum kamtschaticum*, *Dunbaria villosa*, *Maackia amurensis*, *Euphorbia esula*, *Picrasma quassioides*, *Gentiana scabra*, *Argusia sibirica*, *Bulbostylis densa* etc. However, this study newly identified about 380 taxa such as *Equisetum arvense*, *Sceptridium ternatum*, *Thelypteris glanduligera*, *Pyrrosia hastata*, *Ficus oxyphylla*, *Rumex acetosella*, *Arenaria serpyllifolia*, *Salsola komarovii*, *Hylotelephium erythrostictum*, *Lespedeza maximowiczii*, *Mallotus japonicus*, *Rhamnus yoshinoi*, *Cyperus microiria*, *Amitostigma gracilis* etc. Such difference from 279 taxa observed in the previous study (Lee *et al.*, 1980) might result from the limitation of research sites and periods.

**Table 3.** List of the endemic plants in Gogunsan archipelago (Oh *et al.*, 2005)

No.	Family	Scientific name
1	Ranunculaceae	<i>Clematis brachyura</i> Maxim.
2	Caprifoliaceae	<i>Weigela subsessilis</i> (Nakai) L.H.Bailey

Specifically, the rare plants designated by Korea Forest Service were recorded as total 9 taxa such as *P. hastata*, *Koelreuteria paniculata*, *Bupleurum falcatum*, *Lithospermum arvense*, *Polygonum bellardii*, etc. The endemic plants were recorded as 2 taxa including *Clematis brachyura* and *Weigela subsessilis*. The regional plants designated by Ministry of Environment with grade were 18 taxa, such as *Arabidopsis thaliana*, *Ligustrum quihoui* var. *latifolium*, *Salsola collina*, etc. The naturalized plants were 72 taxa, which account for 13% of the total, such as *Fallopia dumetorum*, *Chenopodium ficifolium*, *Amaranthus patulus*, *Coronopus didymus*, etc.

The species of trees in Gogunsan Islands included *Elaeagnus macrophylla*, *Pinus densiflora*, *Quercus serrata*, *Eurya japonica*, *K. paniculata*, *Grewia parviflora*, *Camellia japonica*, etc. As these southern plants were dominant in this area, there was no significant difference from the characteristics of plant distribution in the southern province of Korea (Lee and Yim 1978, 2002).

Meantime, the sandy shores in this research site included many typical sandy dunes, in which halophytes grew such as *Atriplex gmelinii*, *Suaeda glauca*, *Artemisia fukudo*, *Elymus dahuricus*, *Zoysia sinica*, *Ischaemum crassipes*, and *Phacelurus latifolius*.

However, it is expected that the species diversity would be drastically changed in these areas because the influx of plants to these islands has been accelerated due to Saemangeum project.

### 2. Endemic plants

The endemic plants in the research site were confirmed to be 2 taxa (*C. brachyura* and *W. subsessilis*), excluding planted *Forsythia koreana* (Table 3).

*C. brachyura* is Ranunculaceae, which is rarely observed in the south because it grows in the middle part of North Korea (Lee 1980). However, it was found that it grows discontinuously on the ridges of Keunmunyeobong in Munyeodo. *W. subsessilis*

**Table 4.** List of the rare and endangered plants in Gogunsan archipelago (Korea National Arboretum 2008)

No.	Family	Scientific name	Degree
1	Polypodiaceae	<i>Pyrrosia hastata</i> (Thunb. ex Houtt.) Ching	
2	Sapindaceae	<i>Koelreuteria paniculata</i> Laxmann	VU
3	Umbelliferae	<i>Bupleurum falcatum</i> L.	
4	Cupressaceae	<i>Thuja orientalis</i> L.	
5	Gramineae	<i>Phacelurus latifolius</i> (Steud.) Ohwi	
6	Rosaceae	<i>Potentilla discolor</i> Bunge	LC
7	Aristolochiaceae	<i>Aristolochia contorta</i> Bunge	
8	Boraginaceae	<i>Lithospermum arvense</i> L.	
9	Polygonaceae	<i>Polygonum bellardii</i> Alloni	DD

EN: Endangered species; VU: Vulnerable species; LC: Least concerned species.

was observed around the trails of Daejangbong in Daejangdo and on the trails from Woryeongbong in Sinsido to Mt. Daegaksan. There should be no difficulty in maintaining the group because the number of individuals was abundant (Table 3).

### 3. Rare plants

The rare and endangered species in the research site were recorded as 9 taxa, such as *P. hastata*, *K. paniculata*, *B. falcatum*, *L. arvense*, *P. bellardii*, etc. It accounts for 1.7% of 565 taxa of vascular plants in Gogunsan Islands. By category, vulnerable species were 3 taxa such as *P. hastata*. Least concerned species were 5 taxa such as *P. latifolius*. Finally, the species of data deficient was *P. bellardii*.

Of those, *K. paniculata* clusters, distributed at the end of northern Munyeodo, were not artificially planted but natural forest. It has been regarded as plausible that the seeds were introduced through ocean currents from China to Korea and Japan (Ha 2011). The growth was in good condition and it was away from direct contact of human activities; however, there might be a potential risk of the deterioration of natural habitat caused by wildlife animal. 10 individuals of *L. arvense* were observed around the forest roads from Keunmunyeobong to reservoir in Munyeodo. As it inhabited nearby forest roads, more natural habitats of *L. arvense* might be distributed around the areas.

### 4. Floristic regional plants

The floristic regional plants designated by Ministry of Environment were recorded as total 65 taxa. By category, 5 taxa with 4th degree included *A. thaliana* (L.) Heynh., *V. bungei* Ohwi, *L. quihoui* var. *latifolium* Nakai. 13 taxa with 3rd degree included *S. collina* Pall., *E. mollis* Trin., *I. integra* Thunb. 1 taxon with 2nd degree was *C. incana*. 46 taxa with 1st degree included *S. adoxoides* (Table 5). These accounts for 11.7% of 565 taxa of vascular plants in Gogunsan Islands. Of those, the regional plants over 3rd degree, which are relatively important, were 18 taxa.

**Table 5.** List of 5th to 3rd degree taxa of floristic regional plants in Gogunsan archipelago (Ministry of Environment 2006)

No.	Scientific name	Degree
1	<i>Arabidopsis thaliana</i> (L.) Heynh.	
2	<i>Thuja orientalis</i> L.	
3	<i>Vicia bungei</i> Ohwi	IV
4	<i>Ligustrum quihoui</i> var. <i>latifolium</i> Nakai	
5	<i>Polygonum bellardii</i> Alloni	
6	<i>Salsola collina</i> Pall.	
7	<i>Vaccinium bracteatum</i> Thunb.	
8	<i>Elymus mollis</i> Trin.	
9	<i>Glechoma grandis</i> (A.Gray) Kuprian.	
10	<i>Lespedeza daurica</i> (Laxm.) Schindl.	
11	<i>Aletris spicata</i> (Thunb.) Franch.	
12	<i>Syringa reticulata</i> var. <i>mandshurica</i> (Maxim.) H.Hara	III
13	<i>Mitchella undulata</i> Siebold & Zucc.	
14	<i>Koelreuteria paniculata</i> Laxmann	
15	<i>Verbena officinalis</i> L.	
16	<i>Asparagus oligoclonus</i> Maxim.	
17	<i>Ilex integra</i> Thunb.	
18	<i>Polygonum monspeliensis</i> (L.) Desf.	

Of those, the small number of *L. quihoui* var. *latifolium* was observed on the ridges of Seonyubong in Seonyudo. Also, *A. thaliana* and *V. bungei* were sporadically observed to be distributed around the Mongdol beach on the Namak village in the north of Seonyudo. Nearby vegetation observed were *Rosa rugosa*, *Lathyrus japonicus*, *Calystegia soldanella*, *Lithospermum zollingeri*, etc. *I. integra* was grouped as small cluster around the forest roads from the top of Mt. Daegaksan to Angol reservoir in Sinsido. Since it was close to the forest roads, there was a potential risk of damage by picking plants.

### 5. Naturalized plant

The naturalized plants based on Lee *et al.* (2011) were recorded as 72 taxa and 17 families, including *O. laciniata* Hill, *V. alternifolia* Britton, *P. incurva* (L.) C.E.Hubb, etc. (Table 6). This accounts for 13% of 565 taxa of vascular plants in Gogunsan Islands. The urbanization index (UI: number of naturalized plant species in research site/total species of naturalized plants in South Korea×100), which indicates the extent to the damage or urbanization of nature (Yim and Jeon 1980), was 22.4%. In terms of the number of taxa by families, Compositae was 25 taxa, followed by Gramineae (15 taxa), Cruciferae and Leguminosae (5 taxa), and Chenopodiaceae (4 taxa).

The naturalized plants in Gogunsan Islands were frequently observed around Mangjubong and trails in Seonyudo, Seonyudo marine terminal, parking lots of Sinsido rest area, residential areas, and farmland. This might result from consistent interference and disturbance by human activity. Of those plants, *V. alternifolia*, which was observed in Jangjado, became widely spread around the marine terminal areas. There might be a risk of

**Table 6.** List of the naturalized plants in Gogunsan archipelago (Lee *et al.*, 2011)

Family	Scientific name	Total
Polygonaceae	<i>Fallopia dumetorum</i> (L.) Holub, <i>Rumex acetosella</i> L., <i>Rumex crispus</i> L.	3
Phytolaccaceae	<i>Phytolacca americana</i> L.	1
Caryophyllaceae	<i>Cerastium glomeratum</i> Thuill.	1
Chenopodiaceae	<i>Atriplex hastata</i> L., <i>Chenopodium album</i> L., <i>Chenopodium ficifolium</i> Smith, <i>Chenopodium glaucum</i> L.	4
Amaranthaceae	<i>Amaranthus patulus</i> Bertol.	1
Papaveraceae	<i>Papaver rhoeas</i> L.	1
Cruciferae	<i>Brassica juncea</i> (L.) Czern. <i>Coronopus didymus</i> (L.) Smith, <i>Lepidium apetalum</i> Willd., <i>Lepidium virginicum</i> L., <i>Thlaspi arvense</i> L.	5
Rosaceae	<i>Potentilla supina</i> L.	1
Leguminosae	<i>Amorpha fruticosa</i> L., <i>Medicago lupulina</i> L., <i>Medicago minima</i> Bartal., <i>Medicago polymorpha</i> L., <i>Melilotus suaveolens</i> Ledeb.	5
Simaroubaceae	<i>Ailanthus altissima</i> (Mill.) Swingle	1
Onagraceae	<i>Oenothera biennis</i> L., <i>Oenothera laciniata</i> Hill	2
Umbelliferae	<i>Anthriscus caucalis</i> M.Bieb.	1
Convolvulaceae	<i>Ipomoea hederacea</i> var. <i>integriscula</i> A.Gray, <i>Ipomoea purpurea</i> Roth	2
Solanaceae	<i>Physalis angulata</i> L.	1
Scrophulariaceae	<i>Veronica arvensis</i> L., <i>Veronica hederaefolia</i> L., <i>Veronica persica</i> Poir.	3
Compositae	<i>Ambrosia artemisiifolia</i> L., <i>Aster pilosus</i> Willd., <i>Aster subulatus</i> Michx., <i>Aster subulatus</i> var. <i>sandwicensis</i> A.G.Jones, <i>Bidens frondosa</i> L., <i>Coryza canadensis</i> (L.) Cronquist, <i>Coryza sumatrensis</i> E.Walker, <i>Coreopsis lanceolata</i> L., <i>Coreopsis tinctoria</i> Nutt., <i>Cosmos bipinnatus</i> Cav., <i>Cosmos sulphureus</i> Cav., <i>Crassocephalum crepidioides</i> (Benth.) S.Moore, <i>Erechtites hieracifolia</i> Raf., <i>Erigeron annuus</i> (L.) Pers., <i>Erigeron philadelphicus</i> L., <i>Helianthus tuberosus</i> L., <i>Senecio vulgaris</i> L., <i>Solidago serotina</i> Aiton, <i>Sonchus asper</i> (L.) Hill, <i>Sonchus oleraceus</i> L., <i>Tagetes minuta</i> L., <i>Taraxacum officinale</i> Weber, <i>Verbesina alternifolia</i> Britton, <i>Xanthium canadense</i> Mill., <i>Xanthium strumarium</i> L.	25
Gramineae	<i>Avena fatua</i> L., <i>Bromus rigidus</i> Roth, <i>Bromus tectorum</i> L., <i>Bromus unioloides</i> H.B.K., <i>Dactylis glomerata</i> L., <i>Festuca arundinacea</i> Schreb., <i>Festuca myuros</i> L., <i>Leptochloa fusca</i> Kunth, <i>Lolium multiflorum</i> Lamarck, <i>Lolium perenne</i> L., <i>Panicum dichotomiflorum</i> Michx., <i>Parapholis incurva</i> (L.) C.E.Hubb., <i>Poa pratensis</i> L., <i>Sorghum halepense</i> (L.) Pers., <i>Sorghum halepense</i> f. <i>muticum</i> Hubb.	15

spreading to the forest areas in the future. *O. laciniata* was distributed sporadically around the coastal roads in Seonyudo. *A. caucalis* was found in the entry of trails and the southern slope of beach in Sinsido. These two taxa and *Lepidium virginicum*, *A. patulus* are the species concerning their rapid spread (Lee *et al.*, 2011). It might result from the development of the tourism industry by region and the exchange with the land. This rate is considered to be increased continuously in the future.

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Appendix 1. List of vascular plants of Gogunsan Islands; 1: Seonyudo; 2: Daejangdo; 3: Jangjado; 4: Munyeodo; 5: Sinsido

Scientific name	1	2	3	4	5
<b>Selaginellaceae 부처손과</b>					
1 <i>Selaginella involvens</i> (Sw.) Spring 바위손 P120007	0	0			0
<b>Equisetaceae 속새과</b>					
2 <i>Equisetum arvense</i> L. 쇠뜨기 P120021	0			0	
<b>Ophioglossaceae 고사리삼과</b>					
3 <i>Sceptridium ternatum</i> (Thunb.) Lyon 고사리삼 P120028	0	0		0	0
<b>Osmundaceae 고비과</b>					
4 <i>Osmunda japonica</i> Thunb. 고비 P120355		0		0	0
<b>Dennstaedtiaceae 봉의꼬리과</b>					
5 <i>Pteridium aquilinum</i> var. <i>latiusculum</i> (Desv.) Underw. ex Hell. 고사리 P122253	0	0		0	
<b>Davalliaceae 넉줄고사리과</b>					
6 <i>Davallia mariesii</i> T.Moore ex Baker 넉줄고사리 P122469	0	0			
<b>Aspleniaceae 꼬리고사리과</b>					
7 <i>Asplenium incisum</i> Thunb. 꼬리고사리 P120189	0	0		0	
<b>Dryopteridaceae 면마과</b>					
8 <i>Cyrtotium falcatum</i> (L.f.) C.Presl 도깨비쇠고비 P122306		0			
9 <i>Dryopteris chinensis</i> (Baker) Koidz. 가는잎죽제비고사리 P122064	0	0			
10 <i>Dryopteris saxifraga</i> H.Ito 바위죽제비고사리 P120370		0			
11 <i>Thelypteris glanduligera</i> (Kunze) Ching 사다리고사리 P122417				0	
12 <i>Thelypteris japonica</i> (Baker) Ching 지네고사리 P122339				0	
13 <i>Deparia japonica</i> (Thunb.) M.Kato 진고사리 P120592				0	
14 <i>Deparia lasiopteris</i> (Kunze) Nakaike 큰진고사리 P122419				0	
<b>Polypodiaceae 고란초과</b>					
15 <i>Lemmaphyllum microphyllum</i> C.Presl 콩짜개덩굴 P120368		0			
16 <i>Lepisorus thunbergianus</i> (Kaulf.) Ching 일엽초 P120022	0				
17 <i>Pyrrosia hastata</i> (Thunb. ex Houtt.) Ching 세뿔석위 P120251	0				
<b>Pinaceae 소나무과</b>					
18 <i>Pinus densiflora</i> Siebold & Zucc. 소나무 P120498				0	0
19 <i>Pinus thunbergii</i> Parl. 곰솔 P120012	0	0	0	0	0
<b>Cupressaceae 측백나무과</b>					
20 <i>Juniperus rigida</i> Siebold & Zucc. 노간주나무 P120041	0	0	0	0	0
21 <i>Thuja orientalis</i> L. 측백나무 P124044	0		0		
<b>Juglandaceae 가래나무과</b>					
22 <i>Platycarya strobilacea</i> Siebold & Zucc. 굴피나무 P122122	0			0	
<b>Salicaceae 버드나무과</b>					
23 <i>Salix koreensis</i> Andersson 버드나무 P120511				0	0
<b>Betulaceae 자작나무과</b>					
24 <i>Alnus firma</i> Siebold & Zucc. 사망오리 P120019	0			0	0
25 <i>Carpinus turczaninowii</i> Hance 소사나무 P122065	0	0	0	0	0
26 <i>Corylus sieboldiana</i> var. <i>mandshurica</i> (Maxim. & Rupr.) C.K.Schneid. 물개암나무 P120507				0	
<b>Fagaceae 참나무과</b>					
27 <i>Quercus aliena</i> Blume 갈참나무 P124141		0			
28 <i>Quercus dentata</i> Thunb. 떡갈나무 P120288	0	0			
29 <i>Quercus mongolica</i> Fisch. ex Ledeb. 신갈나무 P120661					0
30 <i>Quercus serrata</i> Thunb. ex Murray 졸참나무 P120295	0	0		0	0
31 <i>Quercus variabilis</i> Blume 굴참나무 P120161	0	0	0	0	0
<b>Ulmaceae 느릅나무과</b>					
32 <i>Celtis biondii</i> Pamp. 쪽나무 P122435	0				
33 <i>Celtis sinensis</i> Pers. 팽나무 P120160	0	0	0	0	
34 <i>Hemiptelea davidii</i> (Hance) Planch. 시무나무 P122229	0				
35 <i>Ulmus parvifolia</i> Jacq. 참느릅나무 P124402					0
<b>Moraceae 뽕나무과</b>					
36 <i>Broussonetia papyrifera</i> (L.) L'Her. ex Vent. 꾸지나무 P120241	0			0	
37 <i>Cudrania tricuspidata</i> (Carr.) Bureau ex Lavallee 꾸지뽕나무 P122258		0		0	0
38 <i>Ficus oxyphylla</i> Miq. ex Zoll. 모람 P120051		0			
39 <i>Morus bombycis</i> Koidz. 산뽕나무 P120757					0
<b>Cannabaceae 참과</b>					
40 <i>Humulus japonicus</i> Siebold & Zucc. 환삼덩굴 P124150		0		0	0

## Appendix 1. Continued

Scientific name	1	2	3	4	5
<b>Urticaceae 쐬기풀과</b>					
41 <i>Boehmeria longispica</i> Steud. 왜모시풀 P122104	0		0		
42 <i>Boehmeria nivea</i> (L.) Gaudich. 모시풀 P124002	0				
43 <i>Boehmeria pannosa</i> Nakai & Satake 왕모시풀 P122505			0		0
<b>Santalaceae 단향과</b>					
44 <i>Thesium chinense</i> Turcz. 제비꽃 P120318	0			0	0
<b>Polygonaceae 마디풀과</b>					
45 <i>Fallopia dumetorum</i> (L.) Holub 닭의덩굴 P122217	0			0	
46 <i>Persicaria conspicua</i> (Nakai) Nakai ex Mori 꽃여뀌 P124041	0			0	
47 <i>Persicaria hydropiper</i> (L.) Spach 여뀌 P124034	0			0	0
48 <i>Persicaria lapathifolia</i> var. <i>salicifolia</i> Miyabe 솜흰여뀌 P122225	0				
49 <i>Persicaria longiseta</i> (Brujin) Kitag. 개여뀌 P123917	0	0	0		0
50 <i>Persicaria nodosa</i> (Pers.) Opiz 명아자여뀌 P124040	0			0	
51 <i>Persicaria senticosa</i> (Meisn.) H.Gross ex Nakai 머느리밀싹개 P122165	0				
52 <i>Persicaria thunbergii</i> (Siebold & Zucc.) H.Gross ex Nakai 고마리 P124042	0			0	
53 <i>Persicaria vulgaris</i> Webb & Moq. 붉여뀌 P124446					0
54 <i>Polygonum aviculare</i> L. 마디풀 P122083	0	0	0		0
55 <i>Polygonum bellardii</i> All. 큰옥매듭풀 P123893	0		0		
56 <i>Rumex acetosa</i> L. 수영 P120311	0				
57 <i>Rumex acetosella</i> L. 애기수영 P120726					0
58 <i>Rumex crispus</i> L. 소리쟁이 P120338	0		0	0	
59 <i>Rumex patientia</i> L. 부령소리쟁이 P120436			0		
<b>Phytolaccaceae 자리공과</b>					
60 <i>Phytolacca americana</i> L. 미국자리공 P123870	0			0	
<b>Molluginaceae 석류풀과</b>					
61 <i>Mollugo pentaphylla</i> L. 석류풀 P124384					0
<b>Aizoaceae 번행초과</b>					
62 <i>Tetragonia tetragonoides</i> (Pall.) Kuntze 번행초 P122238	0				
<b>Portulacaceae 쇠비름과</b>					
63 <i>Portulaca oleracea</i> L. 쇠비름 P124103		0	0		
<b>Caryophyllaceae 석죽과</b>					
64 <i>Arenaria serpyllifolia</i> L. 벼룩이자리 P120530				0	
65 <i>Cerastium glomeratum</i> Thuill. 유럽접나도나물 P120014	0	0		0	0
66 <i>Dianthus chinensis</i> L. 패랭이꽃 P122074	0				
67 <i>Gypsophila oldhamiana</i> Miq. 대나물 P122471	0				
68 <i>Sagina japonica</i> (Sw.) Ohwi 개미자리 P120608				0	
69 <i>Sagina maxima</i> A.Gray 큰개미자리 P120216	0				
70 <i>Silene aprica</i> var. <i>oldhamiana</i> (Miq.) C.Y.Wu 갯장구채 P120264	0	0	0	0	
71 <i>Spergularia marina</i> (L.) Griseb. 갯개미자리 P120299	0			0	0
72 <i>Stellaria alsine</i> var. <i>undulata</i> (Thunb.) Ohwi 벼룩나물 P120300	0				0
73 <i>Stellaria aquatica</i> (L.) Scop. 쇠별꽃 P122207	0			0	0
74 <i>Stellaria media</i> (L.) Vill. 별꽃 P120032	0		0	0	0
75 <i>Stellaria neglecta</i> Weihe ex Bluff & Fingerh. 초록별꽃 P120200	0	0	0	0	
<b>Chenopodiaceae 명아주과</b>					
76 <i>Atriplex gmelinii</i> C.A.Mey. 가는갯논쟁이 P123897	0		0	0	
77 <i>Atriplex hastata</i> L. 창명아주 P122381				0	
78 <i>Chenopodium album</i> L. 흰명아주 P123868	0	0	0	0	0
79 <i>Chenopodium album</i> var. <i>centrorubrum</i> Makino 명아주 P123994	0				
80 <i>Chenopodium ficifolium</i> Smith 좁명아주 P122094	0			0	
81 <i>Chenopodium glaucum</i> L. 취명아주 P122093	0				
82 <i>Corispermum chinganicum</i> Iljin 이삭호모초 P123884	0				
83 <i>Salicornia europaea</i> L. 퉁퉁마디 P122421				0	
84 <i>Salsola collina</i> Pall. 솔장다리 P123902	0				
85 <i>Salsola komarovii</i> Iljin 수송나물 P123885	0				
86 <i>Spinacia oleracea</i> L. 시금치 P120476	0				
87 <i>Suaeda glauca</i> (Bunge) Bunge 나문재 P122092	0		0	0	
88 <i>Suaeda maritima</i> (L.) Dumort. 해홍나물 P123877	0		0	0	
<b>Amaranthaceae 비름과</b>					
89 <i>Achyranthes fauriei</i> H.Lev. & Vaniot 털쇠무릎 P123943	0	0		0	



## Appendix 1. Continued

Scientific name	1	2	3	4	5
90 <i>Amaranthus patulus</i> Bertol. 가는털비름 P124031	0				
<b>Lauraceae 녹나무과</b>					
91 <i>Lindera obtusiloba</i> Blume 생강나무 P120018	0	0			
92 <i>Machilus thunbergii</i> Siebold & Zucc. 후박나무 P124016	0	0			
<b>Ranunculaceae 미나리아재비과</b>					
93 <i>Clematis apiifolia</i> DC. 사위질빵 P123945	0		0	0	0
94 <i>Clematis brachyura</i> Maxim. 외대으아리 P122336				0	
95 <i>Clematis terniflora</i> var. <i>mandshurica</i> (Rupr.) Ohwi 으아리 P123927	0				
96 <i>Hepatica asiatica</i> Nakai 노루귀 P120386		0			
97 <i>Ranunculus cantoniensis</i> DC. 털개구리미나리 P122179	0				
98 <i>Ranunculus sceleratus</i> L. 개구리자리 P120587				0	0
99 <i>Semiaquilegia adoxoides</i> (DC.) Makino 개구리발톱 P120020	0		0	0	0
<b>Lardizabalaceae 으름덩굴과</b>					
100 <i>Akebia quinata</i> (Houtt.) Decne. 으름덩굴 P120202	0	0		0	
<b>Menispermaceae 새모래덩굴과</b>					
101 <i>Cocculus trilobus</i> (Thunb.) DC. 덩댕이덩굴 P122119	0	0	0	0	
<b>Aristolochiaceae 쥐방울덩굴과</b>					
102 <i>Aristolochia contorta</i> Bunge 쥐방울덩굴 P122399				0	
<b>Theaceae 차나무과</b>					
103 <i>Camellia japonica</i> L. 동백나무 P120045		0			0
104 <i>Eurya japonica</i> Thunb. 사스레피나무 P120011	0	0		0	0
<b>Guttiferae 물레나물과</b>					
105 <i>Hypericum erectum</i> Thunb. 고추나물 P123920	0				
<b>Papaveraceae 양귀비과</b>					
106 <i>Papaver rhoeas</i> L. 개양귀비 P120473	0	0			
<b>Fumariaceae 현호색과</b>					
107 <i>Corydalis remota</i> Fisch. ex Maxim. 현호색 P120058			0	0	
108 <i>Corydalis turtschaninowii</i> Besser 조선현호색 P120065	0		0	0	0
<b>Cruciferae 십자화과</b>					
109 <i>Arabidopsis thaliana</i> (L.) Heynh. 애기장대 P120237	0				
110 <i>Arabis glabra</i> Bernh. 장대나물 P120249	0	0		0	0
111 <i>Berteroella maximowiczii</i> (Palib.) O.E.Schulz 장대냉이 P120425			0		
112 <i>Brassica juncea</i> (L.) Czern. 갓 P120210	0		0	0	0
113 <i>Capsella bursapastoris</i> (L.) L.W.Medicus 냉이 P120004	0		0	0	0
114 <i>Cardamine flexuosa</i> With. 황새냉이 P120178	0	0		0	0
115 <i>Coronopus didymus</i> (L.) Sm. 뉘새냉이 P124373					0
116 <i>Lepidium apetalum</i> Willd. 다닥냉이 P122326		0		0	
117 <i>Lepidium virginicum</i> L. 콩다닥냉이 P122088	0			0	0
118 <i>Rorippa cantoniensis</i> (Lour.) Ohwi 좁개갓냉이 P120617				0	
119 <i>Rorippa indica</i> (L.) Hiern 개갓냉이 P124187	0				
120 <i>Rorippa palustris</i> (Leyss.) Besser 속속이풀 P120618				0	0
121 <i>Thlaspi arvense</i> L. 말냉이 P120208	0				
<b>Crassulaceae 돌나물과</b>					
122 <i>Hylotelephium erythrostictum</i> (Miq.) H.Ohba 평의비름 P123898	0				
123 <i>Orostachys japonica</i> (Maxim.) A.Berger 바위솔 P122137	0	0	0		0
124 <i>Sedum bulbiferum</i> Makino 말뚝비름 P123913	0				
125 <i>Sedum oryzifolium</i> Makino 땅채송화 P122057	0	0	0		
126 <i>Sedum polytrichoides</i> Hemsl. 바위채송화 P124163	0				
127 <i>Sedum sarmentosum</i> Bunge 돌나물 P122078	0				
<b>Pittosporaceae 돈나무과</b>					
128 <i>Pittosporum tobira</i> (Thunb.) W.T.Aiton 돈나무 P120454	0	0		0	
<b>Rosaceae 장미과</b>					
129 <i>Agrimonia pilosa</i> Ledeb. 짚신나물 P124206	0				
130 <i>Duchesnea indica</i> (Andr.) Focke 뱀딸기 P120198	0				0
131 <i>Geum aleppicum</i> Jacq. 큰뽕나무 P122103	0				
132 <i>Malus baccata</i> Borkh. 야광나무 P120374		0		0	
133 <i>Malus sieboldii</i> (Regel) Rehder 아그배나무 P123839	0	0			
134 <i>Potentilla chinensis</i> Ser. 딱지꽃 P122268		0	0	0	
135 <i>Potentilla discolor</i> Bunge 솜양지꽃 P120320	0				

## Appendix 1. Continued

Scientific name	1	2	3	4	5
136 <i>Potentilla fragarioides</i> var. <i>major</i> Maxim. 양지꽃 P120576				0	0
137 <i>Potentilla freyniana</i> Bornm. 세일양지꽃 P120213	0				0
138 <i>Potentilla supina</i> L. 개소시랑개비 P120399			0		
139 <i>Pourthiaea villosa</i> (Thunb.) Decne. var. <i>villosa</i> 윤노리나무 P120185	0			0	0
140 <i>Prunus japonica</i> var. <i>nakaii</i> (H.Lev.) Rehder 이스라지 P120169	0	0			0
141 <i>Prunus persica</i> (L.) Batsch 복사나무 P122311		0		0	
142 <i>Prunus serrulata</i> var. <i>pubescens</i> (Makino) Nakai 잔털벚나무 P120159	0	0	0	0	0
143 <i>Prunus serrulata</i> var. <i>spontanea</i> (Maxim.) E.H.Wilson 벚나무 P122372				0	
144 <i>Prunus tomentosa</i> Thunb. 앵도나무 P120220	0	0	0		0
145 <i>Pyrus calleryana</i> var. <i>fauriei</i> (C.K.Schneid.) Rehder 콩배나무 P120252	0			0	0
146 <i>Pyrus ussuriensis</i> Maxim. 산돌배 P120257	0			0	
147 <i>Rosa multiflora</i> Thunb. 철레꽃 P120242	0			0	
148 <i>Rosa rugosa</i> Thunb. 해당화 P120269	0	0	0		
149 <i>Rosa wichuraiana</i> Crep. ex Franch. & Sav. 돌가시나무 P124025	0	0		0	0
150 <i>Rubus corchorifolius</i> L.f. 수리딸기 P120384		0			0
151 <i>Rubus parvifolius</i> L. 멩석딸기 P120162	0		0		0
152 <i>Sanguisorba officinalis</i> L. 오이풀 P123962	0	0		0	0
153 <i>Sorbus alnifolia</i> (Siebold & Zucc.) K.Koch 팔배나무 P120188	0	0		0	0
154 <i>Stephanandra incisa</i> (Thunb.) Zabel 국수나무 P120650					0
<b>Leguminosae 콩과</b>					
155 <i>Aeschynomene indica</i> L. 자귀풀 P124006	0				
156 <i>Albizia julibrissin</i> Durazz. 자귀나무 P122123	0	0			
157 <i>Amorpha fruticosa</i> L. 족제비싸리 P122106		0	0		
158 <i>Caragana sinica</i> (Buc'hoz) Rehder 골담초 P120215	0				
159 <i>Chamaecrista nomame</i> (Siebold) H.Ohashi 차풀 P124054	0			0	
160 <i>Desmodium podocarpum</i> DC. 개도독놈의갈고리 P122491	0				
161 <i>Desmodium podocarpum</i> var. <i>oxyphyllum</i> (DC.) H.Ohashi 도독놈의갈고리 P123840	0				
162 <i>Glycine soja</i> Siebold & Zucc. 돌콩 P122310		0			
163 <i>Indigofera kirilowii</i> Maxim. ex Palib. 땅비싸리 P120272	0	0		0	0
164 <i>Kummerowia striata</i> (Thunb.) Schindl. 매듭풀 P123970	0				
165 <i>Lathyrus japonicus</i> Willd. 갯완두 P120263	0			0	
166 <i>Lespedeza bicolor</i> Turcz. 싸리 P123973	0	0		0	0
167 <i>Lespedeza cuneata</i> G.Don 비수리 P123860	0		0		
168 <i>Lespedeza cyrtobotrya</i> Miq. 참싸리 P122077	0				
169 <i>Lespedeza daurica</i> (Laxm.) Schindl. 호비수리 P123954	0				
170 <i>Lespedeza maximowiczii</i> C.K.Schneid. 조록싸리 P122060	0	0		0	
171 <i>Lespedeza pilosa</i> (Thunb.) Siebold & Zucc. 팽이싸리 P122125	0				
172 <i>Medicago lupulina</i> L. 잔개자리 P120177	0			0	
173 <i>Medicago minima</i> Bartal. 좁개자리 P120452	0		0	0	
174 <i>Medicago polymorpha</i> L. 개자리 P120416			0		0
175 <i>Melilotus suaveolens</i> Ledeb. 전동싸리 P122464	0				
176 <i>Pueraria lobata</i> (Willd.) Ohwi 칩 P122107	0			0	
177 <i>Sophora flavescens</i> Solander ex Aiton 고삼 P122158	0				
178 <i>Vicia angustifolia</i> var. <i>segetilis</i> (Thuill.) K.Koch. 살갈퀴 P120219	0	0	0	0	0
179 <i>Vicia bungei</i> Ohwi 들완두 P120334	0				
180 <i>Vicia hirsuta</i> (L.) Gray 새완두 P120176	0				0
181 <i>Vicia tetrasperma</i> (L.) Schreb. 열치기완두 P120256	0		0	0	
182 <i>Vigna angularis</i> var. <i>nipponensis</i> (Ohwi) Ohwi & H.Ohashi 새팥 P123853	0			0	
183 <i>Vigna radiata</i> (L.) Wilczek 녹두 P124371				0	
<b>Oxalidaceae 팽이밥과</b>					
184 <i>Oxalis corniculata</i> L. 팽이밥 P120016	0	0	0	0	0
185 <i>Oxalis stricta</i> L. 선팽이밥 P120336	0				
<b>Geraniaceae 쥐손이풀과</b>					
186 <i>Geranium sibiricum</i> L. 쥐손이풀 P122208	0				
187 <i>Geranium thunbergii</i> Siebold & Zucc. 이질풀 P122174	0			0	
<b>Euphorbiaceae 대극과</b>					
188 <i>Acalypha australis</i> L. 깨풀 P122087	0	0	0	0	
189 <i>Euphorbia helioscopia</i> L. 등대풀 P120006	0				
190 <i>Euphorbia humifusa</i> Willd. ex Schldt. 땅빈대 P124393					0

## Appendix 1. Continued

Scientific name	1	2	3	4	5
191 <i>Mallotus japonicus</i> (Thunb.) Muell. Arg. 예덕나무 P122130	0			0	
192 <i>Phyllanthus urinaria</i> L. 여우구슬 P122145	0				
<b>Rutaceae 윤향과</b>					
193 <i>Zanthoxylum schinifolium</i> Siebold & Zucc. 산초나무 P122484	0	0		0	0
<b>Simaroubaceae 소테나무과</b>					
194 <i>Ailanthus altissima</i> (Mill.) Swingle 가죽나무 P122142	0				
<b>Polygalaceae 원지과</b>					
195 <i>Polygala japonica</i> Houtt. 애기풀 P120190	0	0		0	0
<b>Anacardiaceae 옷나무과</b>					
196 <i>Rhus javanica</i> L. 붉나무 P122190	0	0			
197 <i>Rhus sylvestris</i> Siebold & Zucc. 산검양옷나무 P120488				0	
<b>Aceraceae 단풍나무과</b>					
198 <i>Acer pictum</i> subsp. <i>mono</i> (Maxim.) Ohashi 고로쇠나무 P120457	0				
<b>Sapindaceae 무환자나무과</b>					
199 <i>Koelreuteria paniculata</i> Laxmann 모감주나무 P122228	0			0	
<b>Aquifoliaceae 감탕나무과</b>					
200 <i>Ilex integra</i> Thunb. 감탕나무 P120787					0
201 <i>Ilex macropoda</i> Miq. 대뺨집나무 P120781					0
<b>Celastraceae 노박덩굴과</b>					
202 <i>Celastrus orbiculatus</i> Thunb. 노박덩굴 P120591				0	
203 <i>Euonymus alatus</i> (Thunb.) Siebold 화살나무 P120586				0	
204 <i>Euonymus alatus</i> f. <i>ciliatodentatus</i> (Franch. & Sav.) Hiyama 회잎나무 P120212	0		0	0	
205 <i>Euonymus hamiltonianus</i> Wall. 참빗살나무 P120203	0				
206 <i>Euonymus japonicus</i> Thunb. 사철나무 P122171	0	0	0		
207 <i>Euonymus oxyphyllus</i> Miq. 참회나무 P120389		0		0	
<b>Staphyleaceae 고추나무과</b>					
208 <i>Euscaphis japonica</i> (Thunb.) Kanitz 말오줌때 P122445	0			0	0
<b>Rhamnaceae 갈매나무과</b>					
209 <i>Rhamnus yoshinoi</i> Makino 짝자래나무 P122434	0				
<b>Vitaceae 포도과</b>					
210 <i>Ampelopsis brevipedunculata</i> (Maxim.) Trautv. 개머루 P122098	0			0	0
211 <i>Cayratia japonica</i> (Thunb.) Gagnep. 거지덩굴 P124106		0	0		
212 <i>Parthenocissus tricuspidata</i> (Siebold & Zucc.) Planch. 담쟁이덩굴 P122084	0		0		
213 <i>Vitis amurensis</i> Rupr. 왕머루 P122113	0		0		
214 <i>Vitis ficifolia</i> var. <i>sinuata</i> (Regel) H. Hara 까마귀머루 P122096	0	0	0	0	
215 <i>Vitis flexuosa</i> Thunb. 새머루 P122535			0	0	0
<b>Tiliaceae 피나무과</b>					
216 <i>Corchoropsis tomentosa</i> (Thunb.) Makino 수까치개 P124416					0
217 <i>Grewia parviflora</i> Bunge 장구밥나무 P122062	0	0	0	0	
<b>Elaeagnaceae 보리수나무과</b>					
218 <i>Elaeagnus macrophylla</i> Thunb. 보리밥나무 P120009	0	0	0		
219 <i>Elaeagnus umbellata</i> Thunb. 보리수나무 P120582				0	0
<b>Violaceae 제비꽃과</b>					
220 <i>Viola acuminata</i> Ledeb. 줄방제비꽃 P124164	0				
221 <i>Viola albida</i> var. <i>chaerophylloides</i> (Regel) F.Maek. ex Hara 남산제비꽃 P120393		0			0
222 <i>Viola grypoceras</i> A.Gray 낚시제비꽃 P120034	0	0		0	0
223 <i>Viola japonica</i> Langsd. ex Ging. 왜제비꽃 P120068	0			0	
224 <i>Viola lactiflora</i> Nakai 흰젓제비꽃 P120313	0			0	0
225 <i>Viola mandshurica</i> W.Becker 제비꽃 P120191	0	0		0	0
226 <i>Viola phalaecarpa</i> Maxim. 털제비꽃 P120463	0				0
227 <i>Viola rossii</i> Hemsl. 고깔제비꽃 P124015	0	0			
<b>Cucurbitaceae 박과</b>					
228 <i>Trichosanthes kirilowii</i> Maxim. 하늘타리 P122109	0	0	0	0	
<b>Lythraceae 부처꽃과</b>					
229 <i>Ammannia multiflora</i> Roxb. 줌부처꽃 P124415					0
<b>Onagraceae 바늘꽃과</b>					
230 <i>Ludwigia prostrata</i> Roxb. 여뀌바늘 P124035	0				
231 <i>Oenothera biennis</i> L. 달맞이꽃 P122245	0	0	0	0	
232 <i>Oenothera laciniata</i> Hill 애기달맞이꽃 P124045	0				

## Appendix 1. Continued

Scientific name	1	2	3	4	5
<b>Haloragaceae 개미담과</b>					
233 <i>Haloragis micrantha</i> (Thunb.) R.Br. ex Siebold & Zucc. 개미담 P122453	0			0	0
<b>Araliaceae 두릅나무과</b>					
234 <i>Hedera rhombea</i> (Miq.) Bean 송악 P120069	0	0	0	0	
235 <i>Kalopanax septemlobus</i> (Thunb.) Koidz. 음나무 P120453	0	0			
<b>Umbelliferae 산형과</b>					
236 <i>Anthriscus caucalis</i> M.Bieb. 유럽전호 P120690					0
237 <i>Anthriscus sylvestris</i> (L.) Hoffm. 전호 P120206	0				
238 <i>Bupleurum falcatum</i> L. 시호 P122466	0				
239 <i>Cnidium japonicum</i> Miq. 갯사상자 P123900	0	0	0		
240 <i>Coriandrum sativum</i> L. 고수 P124396					0
241 <i>Daucus carota</i> L. 산당근 P122299		0			
242 <i>Hydrocotyle maritima</i> Honda 선피막이 P122161	0				
243 <i>Peucedanum japonicum</i> Thunb. 갯기름나물 P122257		0	0		
244 <i>Peucedanum terebinthaceum</i> (Fisch.) Fisch. ex DC. 기름나물 P123919	0	0		0	0
245 <i>Torilis japonica</i> (Houtt.) DC. 사상자 P122114	0	0	0	0	
<b>Pyrolaceae 노루발과</b>					
246 <i>Chimaphila japonica</i> Miq. 매화노루발 P122283		0			
247 <i>Pyrola japonica</i> Klenze ex Alef. 노루발 P122276		0			
<b>Ericaceae 진달래과</b>					
248 <i>Rhododendron mucronulatum</i> Turcz. 진달래 P120036	0	0		0	0
249 <i>Rhododendron yedoense</i> f. <i>poukhanense</i> (H.Lev.) M.Sugim. ex T.Yamaz. 산철쭉 P120492				0	0
250 <i>Vaccinium bracteatum</i> Thunb. 모새나무 P122438	0			0	
251 <i>Vaccinium oldhamii</i> Miq. 정금나무 P122120	0	0		0	0
<b>Myrsinaceae 자금우과</b>					
252 <i>Ardisia japonica</i> (Thunb.) Blume 자금우 P122264		0			
<b>Primulaceae 앵초과</b>					
253 <i>Lysimachia clethroides</i> Duby 큰까치수염 P122131	0				
254 <i>Lysimachia mauritiana</i> Lam. 갯까치수염 P122528			0	0	
<b>Plumbaginaceae 갯질경과</b>					
255 <i>Limonium tetragonum</i> (Thunb.) Bullock 갯질경 P122240	0		0		
<b>Styracaceae 때죽나무과</b>					
256 <i>Styrax japonicus</i> Siebold & Zucc. 때죽나무 P120694					0
<b>Symplocaceae 노린재나무과</b>					
257 <i>Symplocos chinensis</i> f. <i>pilosa</i> (Nakai) Ohwi 노린재나무 P122485	0	0			
258 <i>Symplocos tanakana</i> Nakai 검노린재나무 P120179	0	0	0	0	0
<b>Oleaceae 물푸레나무과</b>					
259 <i>Forsythia koreana</i> (Rehder) Nakai 개나리 P120071				0	
260 <i>Fraxinus rhynchophylla</i> Hance 물푸레나무 P124143		0			
261 <i>Ligustrum japonicum</i> Thunb. 광나무 P122266		0	0		
262 <i>Ligustrum obtusifolium</i> Siebold & Zucc. 쥐똥나무 P122180	0			0	
263 <i>Ligustrum quihoui</i> var. <i>latifolium</i> Nakai 상동잎쥐똥나무 P122058	0				
264 <i>Syringa reticulata</i> var. <i>mandshurica</i> (Maxim.) H. Hara 개회나무 P120298	0				
<b>Gentianaceae 용담과</b>					
265 <i>Swertia japonica</i> (Schult.) Griseb. 쓴풀 P124292				0	
<b>Apocynaceae 협죽도과</b>					
266 <i>Trachelospermum asiaticum</i> (Siebold & Zucc.) Nakai 마삭줄 P120010	0		0		
<b>Asclepiadaceae 박주가리과</b>					
267 <i>Cynanchum paniculatum</i> (Bunge) Kitag. 산해박 P122116	0	0		0	
268 <i>Metaplexis japonica</i> (Thunb.) Makino 박주가리 P122213	0			0	
<b>Rubiaceae 꼭두서니과</b>					
269 <i>Galium spurium</i> var. <i>echinospermon</i> (Wallr.) Hayek 갈퀴덩굴 P120176-1	0				0
270 <i>Galium verum</i> var. <i>asiaticum</i> Nakai 솔나물 P122100	0	0	0		
271 <i>Mitchella undulata</i> Siebold & Zucc. 호자덩굴 P123985	0	0			0
272 <i>Paederia scandens</i> (Lour.) Merr. 계요등 P120033	0	0		0	
273 <i>Rubia cordifolia</i> var. <i>pratensis</i> Maxim. 갈퀴꼭두서니 P123872	0	0	0	0	
<b>Convolvulaceae 메꽃과</b>					
274 <i>Calystegia hederacea</i> Wall. 애기메꽃 P122141	0				
275 <i>Calystegia soldanella</i> (L.) Roem. & Schultb. 갯메꽃 P122424				0	

## Appendix 1. Continued

Scientific name	1	2	3	4	5
276 <i>Ipomoea hederacea</i> var. <i>integriuscula</i> A.Gray 등근잎미국나팔꽃 P124070		0	0	0	
277 <i>Ipomoea purpurea</i> Roth 등근잎나팔꽃 P124005	0		0		0
278 <i>Pharbitis nil</i> (L.) Choisy 나팔꽃 P123903	0				
<b>Boraginaceae 지치과</b>					
279 <i>Bothriospermum tenellum</i> (Hornem.) Fisch. & C.A.Mey. 꽃받이 P120678					0
280 <i>Lithospermum arvense</i> L. 개지치 P120078				0	
281 <i>Lithospermum zollingeri</i> A.DC. 반디지치 P120163	0	0	0	0	0
282 <i>Trigonotis peduncularis</i> (Trevir.) Benth. ex Hemsl. 꽃마리 P120005	0		0	0	0
<b>Verbenaceae 마편초과</b>					
283 <i>Callicarpa dichotoma</i> (Lour.) K.Koch 좁작살나무 P124026	0				
284 <i>Callicarpa japonica</i> Thunb. 작살나무 P122467	0				
285 <i>Caryopteris incana</i> (Thunb.) Miq. 층꽃나무 P123843	0	0		0	0
286 <i>Verbena officinalis</i> L. 마편초 P122163	0	0	0		
287 <i>Vitex rotundifolia</i> L.f. 순비기나무 P122250	0	0		0	
<b>Callitrichaceae 별이끼과</b>					
288 <i>Callitriche palustris</i> L. 물별이끼 P120699					0
<b>Labiatae 꿀풀과</b>					
289 <i>Amethystea caerulea</i> L. 개차즈기 P124239				0	
290 <i>Clinopodium chinense</i> var. <i>parviflorum</i> (Kudo) Hara 층층이꽃 P124057	0			0	
291 <i>Glechoma grandis</i> (A.Gray) Kuprian. 긴병꽃풀 P120205	0				
292 <i>Isodon inflexus</i> (Thunb.) Kudo 산박하 P122124	0	0	0	0	0
293 <i>Lamium amplexicaule</i> L. 광대나물 P120013	0			0	0
294 <i>Leonurus japonicus</i> Houtt. 익모초 P123876	0				
295 <i>Mosla dianthera</i> (Buch.-Ham. ex Roxb.) ex Maxim. 쥐깨풀 P123926	0			0	0
296 <i>Mosla punctulata</i> (J.F.Gmelin) Nakai 들깨풀 P124297				0	
297 <i>Salvia plebeia</i> R.Br. 배암차즈기 P122211	0			0	
298 <i>Scutellaria indica</i> L. 골무꽃 P122127	0	0		0	0
<b>Solanaceae 가지과</b>					
299 <i>Lycium chinense</i> Mill. 구기자나무 P123901	0				
300 <i>Physalis angulata</i> L. 땅파리 P124385					0
301 <i>Solanum lyratum</i> Thunb. 배풍등 P122081	0	0	0	0	
302 <i>Solanum nigrum</i> L. 까마중 P122079	0	0	0	0	0
<b>Scrophulariaceae 현삼과</b>					
303 <i>Lindernia procumbens</i> (Krock.) Borbas 발뚝외풀 P122511			0		0
304 <i>Mazus pumilus</i> (Burm.f.) Steenis 주름잎 P122504			0	0	0
305 <i>Melampyrum roseum</i> Maxim. 꽃머느리밥풀 P122186	0	0		0	0
306 <i>Veronica arvensis</i> L. 선개불알풀 P120465	0		0	0	
307 <i>Veronica didyma</i> var. <i>lilacina</i> (H. Hara) T.Yamaz. 개불알풀 P120081				0	
308 <i>Veronica hederifolia</i> L. 눈개불알풀 P120064	0		0		
309 <i>Veronica peregrina</i> L. 문모초 P120720					0
310 <i>Veronica persica</i> Poir. 큰개불알풀 P120002	0			0	0
<b>Acanthaceae 쥐꼬리망초과</b>					
311 <i>Justicia procumbens</i> L. 쥐꼬리망초 P124218	0				0
<b>Phrymaceae 파리풀과</b>					
312 <i>Phryma leptostachya</i> var. <i>asiatica</i> H. Hara 파리풀 P122184	0				
<b>Plantaginaceae 질경이과</b>					
313 <i>Plantago asiatica</i> L. 질경이 P124189	0				
314 <i>Plantago major</i> f. <i>yezomaritima</i> (Koidz.) Ohwi 갯질경이 P124696			0		
<b>Caprifoliaceae 인동과</b>					
315 <i>Abelia xgrandiflora</i> (Rovelli ex Andre) Rehder 꽃댕강나무 P124395					0
316 <i>Lonicera japonica</i> Thunb. 인동덩굴 P123881	0				
317 <i>Lonicera japonica</i> var. <i>repens</i> (Siebold) Rehder 털인동 P122095	0	0	0	0	
318 <i>Lonicera praeflorens</i> Batalin 울피불나무 P120412			0		
319 <i>Sambucus williamsii</i> var. <i>coreana</i> (Nakai) Nakai 딱총나무 P120446			0		
320 <i>Viburnum carlesii</i> Hemsl. 분꽃나무 P120211	0		0	0	0
321 <i>Viburnum erosum</i> Thunb. 털평나무 P120164	0	0		0	0
322 <i>Weigela subsessilis</i> (Nakai) L.H.Bailey 병꽃나무 P120356		0			0
<b>Valerianaceae 마타리과</b>					
323 <i>Patrinia scabiosaefolia</i> Fisch. ex Trevir. 마타리 P123941	0	0		0	0

## Appendix 1. Continued

Scientific name	1	2	3	4	5
324 <i>Patrinia villosa</i> (Thunb.) Juss. 뚝갈 P124019	0	0		0	
<b>Campanulaceae 초롱꽃과</b>					
325 <i>Adenophora stricta</i> Miq. 당잔대 P123986	0	0		0	0
326 <i>Adenophora triphylla</i> var. <i>japonica</i> (Regel) H. Hara 잔대 P122460	0			0	
327 <i>Platycodon grandiflorum</i> (Jacq.) A.DC. 도라지 P122454	0			0	0
328 <i>Platycodon grandiflorum</i> f. <i>albiflorum</i> (Honda) H. Hara 백도라지 P122371				0	
<b>Compositae 국화과</b>					
329 <i>Ainsliaea apiculata</i> Sch.Bip. 좁막취 P122275		0			
330 <i>Ambrosia artemisiifolia</i> L. 돼지풀 P124389					0
331 <i>Artemisia capillaris</i> Thunb. 사철쭉 P124056	0		0		
332 <i>Artemisia fukudo</i> Makino 큰비쭉 P124682			0	0	
333 <i>Artemisia japonica</i> Thunb. 제비쭉 P124029	0				0
334 <i>Artemisia japonica</i> subsp. <i>littoricola</i> Kitam. 갯제비쭉 P122237	0				
335 <i>Artemisia keiskeana</i> Miq. 맑은대쭉 P124112		0			
336 <i>Artemisia princeps</i> Pamp. 쭉 P124064	0	0		0	
337 <i>Aster hispidus</i> Thunb. 갯쭉부쟁이 P123949	0	0		0	0
338 <i>Aster incisus</i> Fisch. 가새쭉부쟁이 P122172	0				
339 <i>Aster pilosus</i> Willd. 미국쭉부쟁이 P124209	0		0		
340 <i>Aster scaber</i> Thunb. 참취 P122432	0	0		0	0
341 <i>Aster sphathulifolius</i> Maxim. 해국 P124709			0		
342 <i>Aster subulatus</i> Michx. 비짜루국화 P123874	0			0	
343 <i>Aster subulatus</i> var. <i>sandwicensis</i> A.G.Jones 큰비짜루국화 P123879	0				
344 <i>Aster tripolium</i> L. 갯개미취 P123899	0		0		
345 <i>Aster yomena</i> (Kitam.) Honda 쭉부쟁이 P124454					0
346 <i>Atractylodes ovata</i> (Thunb.) DC. 삼주 P122134	0	0		0	0
347 <i>Bidens bipinnata</i> L. 도깨비바늘 P122219	0	0	0	0	
348 <i>Bidens frondosa</i> L. 미국가막사리 P124451					0
349 <i>Bidens tripartita</i> L. 가막사리 P124409					0
350 <i>Breea segeta</i> (Willd.) Kitam. f. <i>segeta</i> 조뱅이 P122195	0				
351 <i>Carpesium abrotanoides</i> L. 담배풀 P124392					0
352 <i>Carpesium cernuum</i> L. 좁담배풀 P123937	0				
353 <i>Carpesium divaricatum</i> Siebold & Zucc. 긴담배풀 P122465	0				
354 <i>Carpesium glossophyllum</i> Maxim. 천일담배풀 P122269		0			
355 <i>Centipeda minima</i> (L.) A.Br. & Asch. 중대가리풀 P122155	0		0		0
356 <i>Cirsium japonicum</i> var. <i>maackii</i> (Maxim.) Matsum. 영경취 P122128	0	0	0	0	
357 <i>Comyza canadensis</i> (L.) Cronquist 망초 P123960	0	0	0	0	
358 <i>Comyza sumatrensis</i> E.Walker 큰망초 P124123		0	0		
359 <i>Coreopsis lanceolata</i> L. 큰금계국 P122089	0				
360 <i>Coreopsis tinctoria</i> Nutt. 기생초 P123892	0				
361 <i>Cosmos bipinnatus</i> Cav. 코스모스 P124055	0				0
362 <i>Cosmos sulphureus</i> Cav. 노랑코스모스 P124448					0
363 <i>Crassocephalum crepidioides</i> (Benth.) S.Moore 주홍서나물 P124140		0			
364 <i>Crepidiastrum denticulatum</i> (Houtt.) Pak & Kawano 이고들빼기 P123838	0	0			
365 <i>Crepidiastrum sonchifolium</i> (Bunge) Pak & Kawano 고들빼기 P120285	0			0	
366 <i>Dendranthema boreale</i> (Makino) Ling ex Kitam. 산국 P123909	0		0		
367 <i>Dendranthema indicum</i> (L.) DesMoul. 감국 P124199	0	0	0		
368 <i>Dendranthema zawadskii</i> var. <i>latilobum</i> (Maxim.) Kitam. 구절초 P124129		0			
369 <i>Eclipta prostrata</i> (L.) L. 한련초 P124125		0	0	0	0
370 <i>Erechtites hieracifolia</i> Raf. 붉은서나물 P124381					0
371 <i>Erigeron annuus</i> (L.) Pers. 개망초 P124051	0			0	
372 <i>Erigeron philadelphicus</i> L. 봄망초 P120643					0
373 <i>Eupatorium japonicum</i> Thunb. 등골나물 P122063	0				
374 <i>Eupatorium lindleyanum</i> DC. 골등골나물 P123999	0			0	
375 <i>Eupatorium makinoi</i> var. <i>oppisitifolium</i> (Koidz.) Kawahara & Yahara 별등골나물 P122071	0				
376 <i>Gnaphalium affine</i> D.Don 떡쭉 P120673					0
377 <i>Gnaphalium japonicum</i> Thunb. 풀쭉나물 P122189	0			0	
378 <i>Helianthus tuberosus</i> L. 뚱뚱지 P123997	0				
379 <i>Hemistepta lyrata</i> Bunge 지칭개 P120622				0	0
380 <i>Hieracium umbellatum</i> L. 조밥나물 P122068	0				

## Appendix 1. Continued

Scientific name	1	2	3	4	5
381 <i>Ixeridium dentatum</i> (Thunb.) Tzvelev 썸바귀 P120289	0			0	0
382 <i>Ixeris debilis</i> (Thunb.) A.Gray 벌음썸바귀 P122387				0	
383 <i>Ixeris polycephala</i> Cass. 벌썸바귀 P120600				0	
384 <i>Ixeris strigosa</i> (H.Lev. & Vaniot) J.H.Pak & Kawano 선썸바귀 P120187	0				
385 <i>Lactuca indica</i> L. 왕고들빼기 P122450	0				
386 <i>Lactuca raddeana</i> Maxim. 산썸바귀 P122341				0	
387 <i>Leibnitzia anandria</i> (L.) Turcz. 숨나물 P120204	0	0		0	
388 <i>Petasites japonicus</i> (Siebold & Zucc.) Maxim. 머위 P120043		0		0	0
389 <i>Senecio vulgaris</i> L. 개썸갓 P120196	0				
390 <i>Sigesbeckia glabrescens</i> (Makino) Makino 진득찰 P123905	0	0	0		0
391 <i>Sigesbeckia pubescens</i> (Makino) Makino 털진득찰 P124677			0		0
392 <i>Solidago serotina</i> Aiton 미국미역취 P124073		0	0		
393 <i>Solidago virgaurea</i> subsp. <i>asiatica</i> Kitam. ex Hara 미역취 P123859	0	0		0	0
394 <i>Sonchus asper</i> (L.) Hill 큰방가지뚥 P120195	0	0	0		0
395 <i>Sonchus brachyotus</i> DC. 사데풀 P124270				0	
396 <i>Sonchus oleraceus</i> L. 방가지뚥 P124050	0			0	0
397 <i>Tagetes minuta</i> L. 만수국아재비 P124403					0
398 <i>Taraxacum coreanum</i> Nakai 흰민들레 P120468	0			0	0
399 <i>Taraxacum mongolicum</i> Hand.-Mazz. 털민들레 P120015	0		0		
400 <i>Taraxacum officinale</i> Weber 서양민들레 P120218	0			0	0
401 <i>Taraxacum platycarpum</i> Dahlst. 민들레 P120354	0		0		
402 <i>Tephrosieris kirilowii</i> (Turcz. ex DC.) Holub 솜방망이 P120283	0			0	
403 <i>Verbesina alternifolia</i> Britton 나래가막사리 P122499			0		
404 <i>Xanthium canadense</i> Mill. 큰도꼬마리 P124027	0				
405 <i>Xanthium strumarium</i> L. 도꼬마리 P124030	0				
406 <i>Youngia japonica</i> (L.) DC. 뿌리뱅이 P120197	0		0	0	0
<b>Juncaginaceae 지체과</b>					
407 <i>Triglochin maritimum</i> L. 지체 P120265	0				
<b>Potamogetonaceae 가래과</b>					
408 <i>Ruppia maritima</i> L. 줄말 P120588				0	
<b>Liliaceae 백합과</b>					
409 <i>Aletris spicata</i> (Thunb.) Franch. 쥐꼬리풀 P120282	0	0			
410 <i>Allium macrostemon</i> Bunge 산달래 P120344	0			0	0
411 <i>Allium monanthum</i> Maxim. 달래 P120233	0				
412 <i>Allium sacculiferum</i> Maxim. 참산부추 P123982	0	0		0	0
413 <i>Allium thunbergii</i> G.Don 산부추 P122475	0			0	0
414 <i>Allium tuberosum</i> Rottler ex Spreng. 부추 P124076		0			
415 <i>Asparagus cochinchinensis</i> (Lour.) Merr. 천문동 P122132	0	0		0	
416 <i>Asparagus oligoclonos</i> Maxim. 방울비짜루 P120418			0		
417 <i>Asparagus schoberioides</i> Kunth 비짜루 P120469	0				
418 <i>Disporum smilacinum</i> A.Gray 애기나리 P120380		0		0	0
419 <i>Hemerocallis fulva</i> (L.) L. 원추리 P122255		0			
420 <i>Lilium lancifolium</i> Thunb. 참나리 P122073	0	0	0	0	
421 <i>Liriope platyphylla</i> F.T.Wang & T.Tang 맥문동 P122162	0				
422 <i>Liriope spicata</i> (Thunb.) Lour. 개맥문동 P122102	0		0	0	
423 <i>Ophiopogon jaburan</i> (Kunth) Lodd. 맥문아재비 P120008	0	0			
424 <i>Ophiopogon japonicus</i> (L.f.) KerGawl. 소엽맥문동 P120017	0	0		0	
425 <i>Polygonatum cryptanthum</i> H.Lev. & Vaniot 목포용동굴레 P120166	0	0		0	0
426 <i>Polygonatum involucreatum</i> (Franch. & Sav.) Maxim. 용동굴레 P122292		0		0	
427 <i>Polygonatum lasianthum</i> Maxim. 죽대 P120366		0		0	0
428 <i>Polygonatum odoratum</i> var. <i>pluriflorum</i> (Miq.) Ohwi 등굴레 P120182	0	0		0	0
429 <i>Scilla scilloides</i> (Lindl.) Druce 무릇 P123883	0			0	0
430 <i>Smilax china</i> L. 청미래덩굴 P120184	0			0	0
431 <i>Smilax nipponica</i> Miq. 선밀나물 P120654					0
432 <i>Smilax sieboldii</i> f. <i>intermis</i> (Nakai) Hara 민청가시덩굴 P124196	0				
433 <i>Tulipa edulis</i> (Miq.) Baker 산자고 P120001	0	0		0	
<b>Dioscoreaceae 마과</b>					
434 <i>Dioscorea batatas</i> Decne. 마 P122170	0			0	
435 <i>Dioscorea japonica</i> Thunb. 참마 P122101	0	0		0	

## Appendix 1. Continued

Scientific name	1	2	3	4	5
436 <i>Dioscorea nipponica</i> Makino 부채마 P124086		0			
437 <i>Dioscorea quinqueloba</i> Thunb. 단풍마 P122479	0				
438 <i>Dioscorea septemloba</i> Thunb. 국화마 P124419					0
439 <i>Dioscorea tenuipes</i> Franch. & Sav. 각시마 P124060	0				
<b>Pontederiaceae 물옥잠과</b>					
440 <i>Monochoria vaginalis</i> var. <i>plantaginea</i> (Roxb.) Solms 물달개비 P124406					0
<b>Juncaceae 갈골과</b>					
441 <i>Juncus gracillimus</i> (Buchenau) V.I.Krecz. & Gontsch. 물갈골 P122382				0	
442 <i>Juncus setchuensis</i> var. <i>effusoides</i> Buchenau 푸른갯골풀 P122193	0	0		0	0
443 <i>Luzula capitata</i> (Miq.) Miq. 평의밥 P120173	0	0	0	0	0
444 <i>Luzula multiflora</i> Lej. 산평의밥 P120725					0
<b>Commelinaceae 닭의장풀과</b>					
445 <i>Commelina communis</i> L. 닭의장풀 P122203	0	0	0		
<b>Gramineae 벼과</b>					
446 <i>Agropyron tsukushiense</i> var. <i>transiens</i> (Hack.) Ohwi 개밀 P122111	0			0	
447 <i>Agrostis clavata</i> var. <i>nukabo</i> Ohwi겨이삭 P120228	0				
448 <i>Alopecurus aequalis</i> Sobol. 뚝새풀 P120305	0			0	0
449 <i>Arthraxon hispidus</i> (Thunb.) Makino 조개풀 P124208	0			0	
450 <i>Arundinella hirta</i> (Thunb.) Koidz. 새 P124043	0			0	
451 <i>Arundinella hirta</i> var. <i>ciliata</i> Koidz. 털새 P122449	0	0	0	0	
452 <i>Avena fatua</i> L. 메귀리 P120250	0		0	0	
453 <i>Beckmannia syzigachne</i> (Steud.) Fernald 개피 P120610				0	
454 <i>Bothriochloa ischaemum</i> (L.) Keng 바랭이새 P124195	0		0	0	
455 <i>Brachypodium sylvaticum</i> (Huds.) P.Beauv. 숲개밀 P123895	0	0			
456 <i>Bromus japonicus</i> Thunb. 참새귀리 P120238	0		0	0	0
457 <i>Bromus pauciflorus</i> (Thunb.) Hack. 꼬리새 P122085	0				
458 <i>Bromus rigidus</i> Roth 긴까락뼉새귀리 P120408			0		
459 <i>Bromus tectorum</i> L. 털뼉새귀리 P120316	0				
460 <i>Bromus unioloides</i> H.B. & K. 큰이삭풀 P122251	0				
461 <i>Calamagrostis arundinacea</i> (L.) Roth 실새풀 P123894	0	0		0	0
462 <i>Calamagrostis epigeios</i> (L.) Roth 산조풀 P122241	0			0	
463 <i>Capillipedium parviflorum</i> (R.Br.) Stapf 나도기름새 P124172	0			0	
464 <i>Cleistogenes hackelii</i> (Honda) Honda 대새풀 P123882	0	0			
465 <i>Cleistogenes hackelii</i> var. <i>nakaii</i> (Keng) Ohwi 수염대새풀 P123904	0			0	
466 <i>Cymbopogon tortilis</i> var. <i>goeringii</i> (Steud.) Hand.-Mazz. 개솔새 P122437	0	0	0	0	0
467 <i>Cynodon dactylon</i> (L.) Pers. 우산잔디 P122315		0			
468 <i>Dactylis glomerata</i> L. 오리새 P120296	0				0
469 <i>Digitaria ciliaris</i> (Retz.) Koel. 바랭이 P122197	0	0	0		
470 <i>Digitaria violascens</i> Link 민바랭이 P124461					0
471 <i>Echinochloa crusgalli</i> (L.) P.Beauv. 돌피 P122196	0		0	0	0
472 <i>Echinochloa crusgalli</i> var. <i>praticola</i> Ohwi좁돌피 P122056	0		0		
473 <i>Eleusine indica</i> (L.) Gaertn. 왕바랭이 P123906	0	0	0		
474 <i>Elymus dahuricus</i> Turcz. ex Griseb. 갯보리 P122227	0			0	
475 <i>Elymus mollis</i> Trin. 갯그렁 P120294	0				
476 <i>Eragrostis cilianensis</i> (Bellardi) Link ex Janch. 참새그렁 P123869	0				
477 <i>Eragrostis ferruginea</i> (Thunb.) P.Beauv. 그렁 P124236				0	
478 <i>Eragrostis japonica</i> (Thunb.) Trin. 각시그렁 P124375					0
479 <i>Eragrostis minor</i> Host 좁새그렁 P122139	0				
480 <i>Eragrostis multicaulis</i> Steud. 비노리 P124374					0
481 <i>Eriochloa villosa</i> (Thunb.) Kunth 나도개피 P122166	0				
482 <i>Eulalia speciosa</i> (Debeaux) Kuntze 개억새 P124023	0			0	0
483 <i>Festuca arundinacea</i> Schreb. 큰김의털 P120301	0				0
484 <i>Festuca myuros</i> L. 들목새 P122496	0			0	
485 <i>Festuca ovina</i> L. 김의털 P120165	0				
486 <i>Festuca parvigluma</i> Steud. 김의털아재비 P120175	0	0		0	0
487 <i>Imperata cylindrica</i> var. <i>koenigii</i> (Retz.) Pilg. 띠 P120803					0
488 <i>Ischaemum crassipes</i> (Steud.) Thell. 쇠보리 P122393				0	
489 <i>Leersia japonica</i> Makino 나도겨풀 P124400					0
490 <i>Leptochloa fusca</i> Kunth 갯드렁새 P124048	0	0	0		0



## Appendix 1. Continued

Scientific name	1	2	3	4	5
491 <i>Lolium multiflorum</i> Lam. 취보리 P122244	0		0		
492 <i>Lolium perenne</i> L. 호밀풀 P122546			0		
493 <i>Miscanthus sacchariflorus</i> (Maxim.) Benth. 물억새 P123871	0		0	0	
494 <i>Miscanthus sinensis</i> Andersson 참억새 P124222				0	
495 <i>Miscanthus sinensis</i> f. <i>gracillimus</i> (Hitche.) Ohwi 가는잎억새 P123887	0	0	0	0	0
496 <i>Miscanthus sinensis</i> var. <i>purpurascens</i> (Andersson) Rendle 억새 P123866	0	0		0	0
497 <i>Oplismenus undulatifolius</i> (Ard.) P.Beauv. 주름조개풀 P123928	0				
498 <i>Oplismenus undulatifolius</i> var. <i>japonicus</i> (Steud.) Koidz. 민주름조개풀 P124083		0			0
499 <i>Panicum bisulcatum</i> Thunb. 개기장 P124243				0	
500 <i>Panicum dichotomiflorum</i> Michx. 미국개기장 P124214	0			0	
501 <i>Parapholis incurva</i> (L.) C.E.Hubb. 뿔이삭풀 P120244	0				
502 <i>Paspalum thunbergii</i> Kunth ex Steud. 참새피 P122493	0	0		0	
503 <i>Pennisetum alopecuroides</i> (L.) Spreng. 수크령 P123931	0	0		0	
504 <i>Phacelurus latifolius</i> (Steud.) Ohwi 모새달 P122249	0			0	
505 <i>Phacelurus latifolius</i> f. <i>angustifolius</i> (Debeaux) Kitag. 가는잎모새달 P122226	0			0	
506 <i>Phragmites communis</i> Trin. 갈대 P123890	0			0	
507 <i>Phyllostachys bambusoides</i> Siebold & Zucc. 왕대 P122108	0				
508 <i>Poa acroleuca</i> Steud. 실포아풀 P120712					0
509 <i>Poa annua</i> L. 새포아풀 P120003	0		0	0	0
510 <i>Poa nipponica</i> Koidz. 큰꾸러미풀 P120193	0			0	
511 <i>Poa pratensis</i> L. 왕포아풀 P120637					0
512 <i>Poa sphondylodes</i> Trin. 포아풀 P120199	0	0	0	0	0
513 <i>Poa trivialis</i> L. 큰새포아풀 P120648					0
514 <i>Polypogon monspeliensis</i> (L.) Desf. 갯쇠돌피 P120797					0
515 <i>Pseudosasa japonica</i> (Siebold & Zucc. ex Steud.) Makino 이대 P120194	0			0	
516 <i>Sasa borealis</i> (Hack.) Makino 조릿대 P120214	0				
517 <i>Setaria faberii</i> Herrm. 가을강아지풀 P122090	0		0	0	0
518 <i>Setaria glauca</i> (L.) P.Beauv. 금강아지풀 P122218	0		0		0
519 <i>Setaria pallidifusca</i> (Schumach.) Stapf & C.E.Hubb. 가는금강아지풀 P122500			0		
520 <i>Setaria x pycnocomma</i> (Steud.) Henrard ex Nakai 수강아지풀 P122224	0				
521 <i>Setaria viridis</i> (L.) P.Beauv. 강아지풀 P122110	0				
522 <i>Setaria viridis</i> var. <i>pachystachys</i> (Franch. & Sav.) Makino & Nemoto 갯강아지풀 P123908	0	0		0	0
523 <i>Sorghum halepense</i> (L.) Pers. 시리아수수새 P122243	0				
524 <i>Sorghum halepense</i> f. <i>muticum</i> Hubb. 무망시리아수수새 P122242	0				
525 <i>Spodipogon sibiricus</i> Trin. 큰기름새 P123946	0	0		0	
526 <i>Sporobolus fertilis</i> (Steud.) Clayton 쥐꼬리새풀 P124193	0		0	0	
527 <i>Themeda triandra</i> var. <i>japonica</i> (Willd.) Makino 솔새 P123889	0	0		0	
528 <i>Zoysia japonica</i> Steud. 잔디 P120279	0				
529 <i>Zoysia sinica</i> Hance 갯잔디 P123867	0			0	
<b>Araceae 천남성과</b>					
530 <i>Pinellia ternata</i> (Thunb.) Breitenb. 반하 P122188	0	0		0	
<b>Typhaceae 부들과</b>					
531 <i>Typha angustifolia</i> L. 애기부들 P122205	0				
<b>Cyperaceae 사초과</b>					
532 <i>Carex bostrychostigma</i> Maxim. 길뚝사초 P120487				0	
533 <i>Carex breviculmis</i> R.Br. 청사초 P120174	0		0		0
534 <i>Carex ciliatomarginata</i> Nakai 털대사초 P120312	0			0	0
535 <i>Carex dimorpholepis</i> Steud. 이삭사초 P120722					0
536 <i>Carex kobomugi</i> Ohwi 통보리사초 P120291	0				
537 <i>Carex lanceolata</i> Boott 그늘사초 P120029	0			0	0
538 <i>Carex leiorhyncha</i> C.A.Mey. 산괭이사초 P122176	0				
539 <i>Carex lenta</i> D.Don 줄사초 P124467					0
540 <i>Carex maximowiczii</i> Miq. 왕비늘사초 P120663					0
541 <i>Carex neurocarpa</i> Maxim. 팽이사초 P122177	0				
542 <i>Carex phacota</i> Spreng. 비늘사초 P120756					0
543 <i>Carex polyschoena</i> H.Lev. & Vaniot 가지청사초 P120181	0		0	0	0
544 <i>Carex pumila</i> Thunb. 좁보리사초 P120293	0				
545 <i>Carex scabrifolia</i> Steud. 천일사초 P120621				0	
546 <i>Carex siderosticta</i> Hance 대사초 P120027	0				

## Appendix 1. Continued

Scientific name	1	2	3	4	5
547 <i>Carex transversa</i> Boott 화살사초 P120302	0			0	0
548 <i>Carex tristachya</i> Thunb. 반들사초 P120172	0			0	0
549 <i>Cyperus difformis</i> L. 알방동사니 P124007	0	0		0	0
550 <i>Cyperus iria</i> L. 참방동사니 P122149	0		0		0
551 <i>Cyperus microiria</i> Steud. 금방동사니 P122140	0	0	0	0	0
552 <i>Cyperus nipponicus</i> Franch. & Sav. 푸른방동사니 P122152	0				0
553 <i>Cyperus sanguinolentus</i> Vahl 방동사니대가리 P124213	0				0
554 <i>Fimbristylis autumnalis</i> (L.) Roem. & Schult. 애기하늘지기 P124264				0	
555 <i>Fimbristylis complanata</i> f. <i>exalata</i> T.Koyama 들하늘지기 P122436	0				
556 <i>Fimbristylis miliacea</i> (L.) Vahl 바람하늘지기 P124405					0
557 <i>Fimbristylis tristachya</i> var. <i>subbispicata</i> (Nees & Meyen) T.Koyama 풀하늘지기 P124263				0	
558 <i>Kyllinga brevifolia</i> Rottb. 파대가리 P122495	0				0
559 <i>Scirpus fluviatilis</i> (Torr.) A.Gray 큰매자기 P122210	0				
560 <i>Scirpus planiculmis</i> F.Schmidt 좁매자기 P122308		0		0	
<b>Orchidaceae 난초과</b>					
561 <i>Amitostigma gracilis</i> (Blume) Schltr. 병아리난초 P122451	0				
562 <i>Cymbidium goeringii</i> (Rchb.f.) Rchb.f. 보춘화 P120086				0	0
563 <i>Epipactis thunbergii</i> A.Gray 닭의난초 P122446	0			0	
564 <i>Platanthera mandarinorum</i> var. <i>brachycentron</i> (Franch. & Sav.) Koidz. ex Ohwi 산제비란 P120317	0			0	
565 <i>Spiranthes sinensis</i> (Pers.) Ames 타래난초 P122072	0	0		0	