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## A Study on the Flora of 15 Islands in the Western Sea of Jeollanamdo Province, Korea

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**Abstract:** This study aims to investigate the flora of 15 islands in Yeonggwang, Shinan, and Mokpo of the Jeollanamdo province and the distribution of major plants in order to use the results as fundamental data for studies on plants in islands. Field surveys were performed 25 times from 2004 to 2010 to investigate the flora in these regions. A total of 793 taxa including 123 families, 421 genera, 695 species, 2 subspecies, 88 varieties, and 8 forms was found. Korean endemic plants including *Hepatica insularis* and *Galium koreanum* were 6 taxa. 25 taxa of rare plants including *Trachomitum lancifolium*, *Daphne kiusiana*, and *Centranthera cochinchinensis* var. *lutea* were confirmed. 120 taxa floristic special plant species were confirmed; 11 taxa of the fifth class, four taxa of the fourth class, 28 taxa of the third class. 78 taxa of naturalized plants were confirmed.

**Keywords:** endemic plants, rare plants, floristic special plants, and naturalized plants

### Introduction

Yeonggwang is located in the north western seashore of the Jeollanamdo province, to which the Noryeong Mountains extend: Goseong, Taecheong, and Jangam mountains in the east make boundaries with Jangseong; in the west, there is the Chilsan sea in the Yellow sea; Hampyeong in the south; and Gochang in the north. It includes a total of 62 islands; its total area is 473.2 km<sup>2</sup>. Shinan is located on the north western sea adjacent to the Muan peninsula and was separated from Muan. It is composed of a total of 1,004 islands including Jaewondo, Maehwado, and Jido (73 inhabited islands and 931 uninhabited islands): there are Mokpo and Haenam in the east; Muan in the north; Jindo in the south. Its total area is 654.84 km<sup>2</sup>. Mokpo is located in the end of the south of the Muan peninsula: there is the Ipam mountain in the east; Udal mountain in the west; Yangeul, Daebak, and Jijeok mountains in the north; and tidelands such as Yeonbyeon, Bukhang, Daebandong, Baekryeondong, and Gatbawy beach at the mouth of the Yeongsan river in the south. These tidelands have been used as farms, residential quarters, and plant sites since it was easy to reclaim land owing to settled halophytes as sediments have been continuously accumulated and seawater decreased. Mokpo includes a total of 13 islands and its total area is 50.03 km<sup>2</sup>.

We investigated three regions in Yeonggwang including

Songido, 11 regions in Shinan including Aphaedo, and Dallido in Mokpo: they are located at the latitude 34°44'31"~35°24'35" and the longitude 125°58'06"~126°30'14" (Fig. 1).

These regions is in the northwest of Jeollanamdo and belong to the South Seashore region by plant geographics as suggested by Lee and Yim (2002). The weather of these regions surrounded by the ocean is an oceanic climate in the Temperate Zone: fogs frequently occur by the southwestern wind that is wet and warm in summer, and the average humidity is more than 80%; it is cold and dry due to the Siberian high pressure in winter. The average temperature in Yeonggwang for six years from 2005 to 2010 was 13.8°C: the highest temperature was 18.3°C and the lowest temperature is 10.0°C; the rainfall in a year was 1,237.8 mm (Yeonggwang Country office, 2011). The average temperature in Shinan was 13.9°C: the highest temperature was 27.9°C and the lowest temperature was 2.3°C; the rainfall was 1,171.0 mm (Shinan Country office, 2011). The average temperature in Mokpo was 13.9°C: the highest temperature was 18.1°C and the lowest temperature was 10.5°C; the rainfall was 1,171.0 mm (Mokpo Municipal office 2010, Table 1).

Kim (1984) reported the flora including 109 families, 334 genera, and 526 taxa in Heuksangundo, Shinan; Oh and Kim (1995) reported the flora including 95 families, 257 genera, and 346 taxa in Gohado, Mokpo; Im and Hong reported the flora of 380 taxa in a total of 50 islands that belong to Jido, Jeungdo, and Imjado in Shinan; Yim (2001) reported the flora including 37 families, 74 genera, and 84

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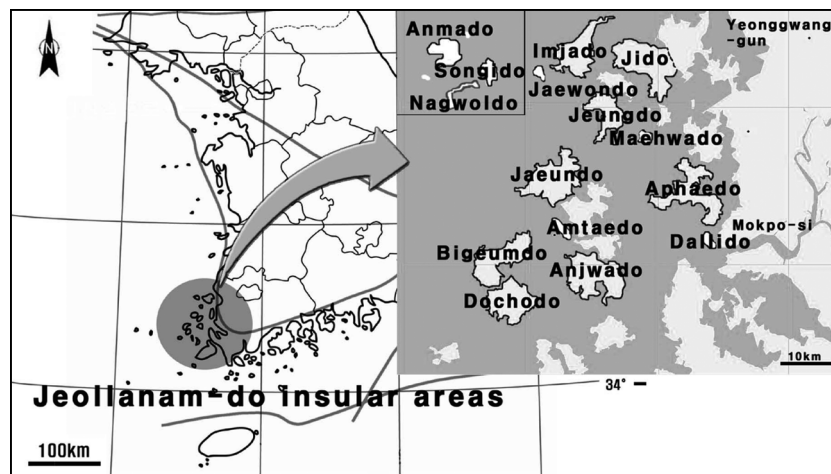


Fig. 1. Map of investigated regions in this study.

**Table 1.** The annual mean temperature and precipitation in Yeonggwang, Shinan, and Mokpo for the recent 6 years(2005-2010)

Region	Temperature (°C)			Precipitation (mm)
	Yearly mean	Maximum	Minimum	
Yeonggwang	13.8	18.3	10.0	1,237.8
Shinan	13.9	27.9	2.3	1,171.0
Mokpo	13.9	18.1	10.5	1,171.0

taxa in Chilsando, Yeonggwang. Recently, Park (2003) reported the flora of 712 taxa in 32 islands in Yeonggwang, Shinan, Jindo, and Wando; Jeong *et al.*(2011) reported 768 taxa in 17 islands in Shinan. Some of these studies, however, did not suggest sample evidences and it was still insufficient for data on the overall distribution of vascular plants in islands of Jeollanamdo because most investigated regions were some large islands or uninhabited islands. We investigated the flora of vascular plants based on sample evidences for major islands in Jeollanamdo where vegetation is regarded to be good in order to understand plant geographical peculiarity and importance of the investigated places and the distribution of major endemic and rare plants for conservation of species diversity and collection of fundamental data.

## Methods

Field surveys were performed 25 times for 34 days from October in 2004 to September in 2010 to investigate the flora of vascular plants in islands of Jeollanamdo (Table 2). For the precision of results, objects that have reproductive organs such as flowers, fruits, and spores were collected. All collected objects were assigned with numbers and dry specimens were made to make their lists after identification of taxa using illustrated guides (Lee 1980, 2003, Lee 1996a,

1996b). The GPS information on the distribution was obtained and specimens were stored in the specimen room (KH) in Korea National Arboretum. Scientific names and countries were denoted according to Korean Plant Name Index (Korea Forest Service 2012). Endemic plants were classified according to Oh *et al.* (2005), and rare plants according to National Arboretum (2008), and specific plants according to Ministry of Environment (2006). We referred Park (1995, 2001, and 2009) and Lee *et al.* (2011) to see the status of naturalized plants.

## Results

### Investigations on flora

Based on evidences of 4,225 samples, vascular plants in islands of Jeollanamdo include a total of 123 families, 421 genera, 695 species, 2 subspecies, 88 varieties, 8 forms, and 793 taxa: 27 taxa of pteridophytes including 15 families (3.4%), 9 taxa of gymnosperms including 3 families (1.1%), 506 taxa of dicotyledons in angiosperms including 89 families (63.8%), and 251 taxa of monocotyledons in angiosperms including 16 families (31.7%) (Table 3, Appendix).

Aphaedo had the most rich flora with 69 families, 191 genera, and 287 taxa, and followed by Songido with 76 families, 205 genera, and 272 taxa (Table 4).

Evergreen trees such as *Camellia japonica* and *Euonymus japonicus* were dominant in Aphaedo, Shinan; *Juniperus rigida* and *Machilus thunbergii* were dominant in Songido, Yeonggwang; *Lindera glauca* and *Machilus thunbergii* were dominant in Dallido, Mokpo.

### Endemic plants

Endemic plants found in survey regions were 6 taxa including *Hepatica insularis* and *Galium koreanum* except for *Forsythia koreana* that had been introduced (Table 5): it

**Table 2.** The dates and routes of investigations

No.	Date	Routes in islands in the west of Jeollanamdo.	
1	Oct. 9. 2004	Dochodo	The mountain behind the dock - The Mannyeon Temple - The Marshes on the Simok beach - Igok-ri Mt. Yongdang south-facing slope
		Bigeumdo	The Seosan temple surrounding - The Hanuneom beach - The Hansan headbay
2	Apr. 11. 2007	Jido	Mt. Duryu - Samam mountaintop
3	May 2. 2007	Aphaedo	Garyong-ri Mt. Geum - Songgong-ri Mt. Songgong
4	May 9. 2007	Amtaedo	Gidong-ri Mt. Seungbong - Garyong-ri Mt. Geum
		Jaeundo	The Baekgil beach surrounding - Yucheon-ri Mt. Dubong in the Domyeong temple valley
5	May 23. 2007	Jaеundo	Jaеun-myeon Yucheon-ri
6	May 30. 2007	Bigeumdo	Gwangdae-ri the Seongji mountain fortress surrounding - Yongso-ri the Myeongsasimni beach
7	Jun. 6. 2007	Dochodo	Oryu-ri the Simok beach surrounding - Oryu-ri Mt. Obong
8	Aug. 1. 2007	Imjado	Dochan-ri the Daegwang beach surrounding - Iheugam-ri Mt. Daedun
9	Aug. 15. 2007	Jeungdo	Jeungdong-ri Sanjeong mountaintop
10	Sep. 19. 2007	Aphaedo	Songgong-ri Mt. Songgong - Songgong-ri Mt. Songgong Songgong wetlands
11	Oct. 17. 2007	Anjwado	Dae-ri Mt. Hudong - Eupdong-ri Mt. An
		Dochodo	Oryu-ri Simok beach surrounding
12	Oct. 24. 2007	Bigeumdo	Gwangdae-ri Seongji mountain fortress surrounding
13	Sep. 17. 2008	Aphaedo	Songgong-ri wetlands ecology of world
14	Sep. 4. 2009	Aphaedo	Songgong-ri Mt. Songgong - Songgong-ri Songgong pot-planting park
15	Sep. 18. 2009	Aphaedo	Songgong-ri Mt. Songgongsan wetlands ecology - Songgong-ri Mt. Songgong - Ildeung rock surrounding - Songgong-ri Surak reservoir
		Imjado	Mt. Geomun - Mt. Samhak - Bulgapje - Mt. Daedunsan - The Daegwang beach
		Jeungdo	Daejo-ri Sanjeong mountaintop - Jeungdong-ri Jangseong reservoir
		Jido	Jeongam Marshes - Taecheon-ri Mt. Bonghwang
16	Apr. 6-9. 2010	Maehwado	Maehwa branch school - Mokje hill - Cheongdol - Mt. Maehwa
		Aphaedo	Bongnyong-ri Mt. Daema - Songgong-ri Mt. Songgong
		Nagwoldo	Down-nagwoldo - Dang hill-upnagwoldo - Dal rock
		Anmado	Anmado - Saeteo - Jageundangneommeo - Gwangamdock
		Songido	Keun village - Yanggol - Mujangdeung - Songi branch school
17	Apr. 23. 2010	Jido	Seondo-ri Seonchi branch school - Judong reservoir - Mt. Daedeok
18	May 13. 2010	Imjado	Imja-myeon Mt. Bulgap - Mt. Beong - Octagonal Pavillion - Imjado the Daegwang beach
19	Jun. 3. 2010	Songido	Keun village - Yanggol - Mujangdeung - Songi branch school
20	Jun. 7. 2010	Nagwoldo	Down-nagwoldo - Dangneomeo - Sangnagwoldo - Dal rock
21	Jun. 10. 2010	Jaewondo	Jaewondo Jaewon-ri - Mt. Bongthe dock
		Jeungdo	Jeungdong-ri - Tongsagoljae - Dontaebong
		Dallido	Dal-dong - Dalli branch school - Mt. Sajae
22	Jun. 15-18. 2010	Maehwado	Maehwa branch school - Mokje hill - Cheongdol - Mt. Maehwa
		Jeungdo	Jeungdo - Daejo-ri - Sanjeongbong
		Aphaedo	Songgong-ri Mt. Songgong - Aphaedo Mt. Bunmae in the beach
		Jido	Jeongam - Bong-riGitdaebong
		Anmado	Anmado - Saeteo - Jageundangneommeo - Gwangamthe dock
23	Sep. 8-10. 2010	Songido	Keun villige - Yanggol - Mujangdeung - Songi branch school
		Nagwoldo	Down-nagwoldo - Dangneomeo-Upnagwoldo - Dal rock
24	Sep. 13. 2010	Jaewondo	Jaewondo Jaewon-ri - Mt. Bongthe dock
25	Sep. 15-16. 2010	Maehwado	Maehwa branch school - Mokje hill - Cheongdol - Mt. Maehwa
		Dallido	Dal-dong - Dalli branch school - Mt. Sajae

**Table 3.** Summary on the floristics of the Western Sea of Jeollanamdo

Taxa	Family	Genus	Species	Subspecies	Variety	Form	Total	Ratio (%)
Pteridophyte	15	19	24	-	3	-	27	3.4
Gymnospermae	3	6	8	-	1	-	9	1.1
Angiospermae								
Dicotyledoneae	89	284	451	2	51	2	506	63.8
Monocotyledoneae	16	112	212	-	33	6	251	31.7
Total	123	421	695	2	88	8	793	100

occupies 0.8% of investigated plants in Korea. *Hepatica insularis* among these plants was known to inhabit in

forests of deciduous trees in mountains in Jejudo (Nakai 1937). Recently, it was known to be in islands of the South

**Table 4.** The number of vascular plants in each survey site of the Western Sea of Jeollanamdo

Located	Family	Genus	Species	Subspecies	Variety	Form	Total	
Yeonggwang-gun	Songjido	76	205	240	-	32	-	272
	Nagwoldo	70	174	208	-	25	2	235
	Anmado	69	172	196	1	22	1	220
Shinan-gun	Aphaedo	69	191	255	1	26	5	287
	Jaewondo	67	163	184	-	22	1	207
	Maehwado	64	167	181	-	19	-	200
	Jeungdo	66	147	160	-	17	-	177
	Bigeumdo	54	127	142	1	12	3	158
	Dochodo	55	129	138	1	17	1	157
	Jido	45	100	118	-	16	1	135
	Jaewondo	41	78	90	-	15	2	107
	Imjado	50	84	88	-	14	2	104
	Anjado	40	77	81	1	9	1	92
Amtaedo	15	17	17	-	2	1	20	
Mokpo-si	Dallido	61	153	162	-	18	2	182
Total		123	421	695	2	88	8	793

**Table 5.** List of the endemic plants in the Western Sea of Jeollanamdo

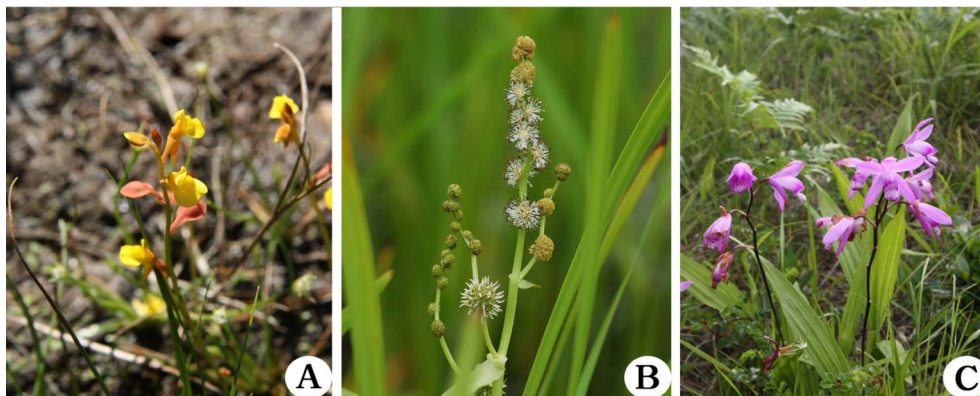
No.	Family name	Taxa	Appearance area
1	Ranunculaceae	<i>Hepatica insularis</i> Nakai	Anmado, Aphaedo, Imjado, Jaewondo, Jido
2	Aristolochiaceae	<i>Asarum glabrata</i> (C.S. Yook & J.G. Kim & J. Nam) B.U.Oh	Imjado, Jido
3	Rosaceae	<i>Prunus ishidoiyana</i> Nakai	Songjido
4	Rubiaceae	<i>Galium koreanum</i> (Nakai) Nakai	Songjido
5	Caprifoliaceae	<i>Weigela subsessilis</i> (Nakai) L.H. Bailey	Amtaedo, Jaewondo, Jeungdo

sea and in Daegu that is an inland as well as Byeonsan and Deokjeokdo in the Yellow sea (Kim and Lee 1994).

### Rare plants

Among rare plants designated by Korea Forest Service, a total of 25 taxa of them were found: three critically endangered species (CR) including *Salomonium oblongifolia* and *Trachomitum lancifolium* were found; endangered species (EN) were four taxa including *Albizia kalkora* found in Dallido, Maehwado, and Aphaedo, and *Daphne kiusiana* found in Bigeumdo; vulnerable species (VU) were 10 taxa including *Ilex cornuta* in Maehwado, Imjado, and Jeungdo, and *Syneilesis aconitifolia* and *Bletilla striata* in

Maehwado; least concerned species were 8 taxa including *Potentilla discolor* and *Chionanthus retusus* in Dallido and Aphaedo, and *Utricularia racemosa* in Maehwado, Aphaedo, and Imjado (Fig. 2, Table 6). *Salomonium oblongifolia*, a critically endangered species found in Aphaedo, is distributed at marsh places in mountains. However, it is likely to damage its habitats due to frequent artificial interference such as installation of wooden fences for conservation of marshy places and construction of parks. As *Bletilla striata*, a vulnerable species found in Dallido, inhabits mostly around roads in mountains or rocks near the seashore, it is likely to destroy its habitats by artificial damages around roads that are easy to approach.



**Fig. 2.** A. *Utricularia bifida* L. (V, VU); B. *Sparganium erectum* L. (V, VU); C. *Bletilla striata* (Thunb.) Rchb.f. (V, VU)

**Table 6.** List of the rare plants designated by Korea Forest Service in the Western Sea of Jeollanamdo

No.	Family name	Taxa	Appearance area	Degree
1	Polygalaceae	<i>Salomonina oblongifolia</i> DC.	Aphaedo	CR (3 taxa)
2	Apocynaceae	<i>Trachomitum lancifolium</i> (Russanov) Pobed.	Aphaedo	
3	Lentibulariaceae	<i>Utricularia pilosa</i> Makino	Aphaedo	
4	Droseraceae	<i>Drosera peltata</i> var. <i>nipponica</i> (Masam.) Ohwi	Dochodo	EN (4 taxa)
5	Leguminosae	<i>Albizia kalkora</i> (Roxb.) Prain	Dallido, Maehwado, Aphaedo	
6	Thymelaeaceae	<i>Daphne kiusiana</i> Miq.	Bigeumdo	
7	Compositae	<i>Hololeion maximowiczii</i> Kitam.	Aphaedo	
8	Leguminosae	<i>Millettia japonica</i> (Siebold & Zucc.) A. Gray	Bigeumdo	VU (10 taxa)
9	Aquifoliaceae	<i>Ilex cornuta</i> Lindl. & Paxton	Maehwado, Imjado, Jeungdo	
10	Labiatae	<i>Mosla japonica</i> (Benth.) Maxim.	Aphaedo	
11	Scrophulariaceae	<i>Centranthera cochinchinensis</i> var. <i>lutea</i> (H. Hara) H. Hara	Aphaedo	
12	Lentibulariaceae	<i>Utricularia bifida</i> L.	Aphaedo	
13	Compositae	<i>Syneilesis aconitifolia</i> (Bunge) Maxim.	Dochodo, Maehwado	
14	Sparganiaceae	<i>Sparganium erectum</i> L.	Bigeumdo	
15		<i>Bletilla striata</i> (Thunb.) Rchb.f.	Dallido	
16	Orchidaceae	<i>Calanthe discolor</i> Lindl.	Aphaedo	
17		<i>Pogonia japonica</i> Rchb. f.	Dochodo	
18	Rosaceae	<i>Potentilla discolor</i> Bunge	Dallido, Aphaedo	LC (8 taxa)
19	Violaceae	<i>Viola albida</i> Palib.	Nagwoldo	
20	Umbelliferae	<i>Glehnia littoralis</i> F.Schmidt ex Miq.	Bigeumdo	
21	Oleaceae	<i>Chionanthus retusus</i> Lindl. & Paxton	Songido, Anmado	
22	Boraginaceae	<i>Lithospermum arvense</i> L.	Nagwoldo, Anmado	
23	Lentibulariaceae	<i>Utricularia racemosa</i> Wall.	Maehwado, Aphaedo, Imjado	
24	Iridaceae	<i>Iris ensata</i> var. <i>spontanea</i> (Makino) Nakai, Russian iris	Aphaedo	
25	Gramineae	<i>Phacelurus latifolius</i> (Steud.) Ohwi	Dallido, Songido, Jaewondo	

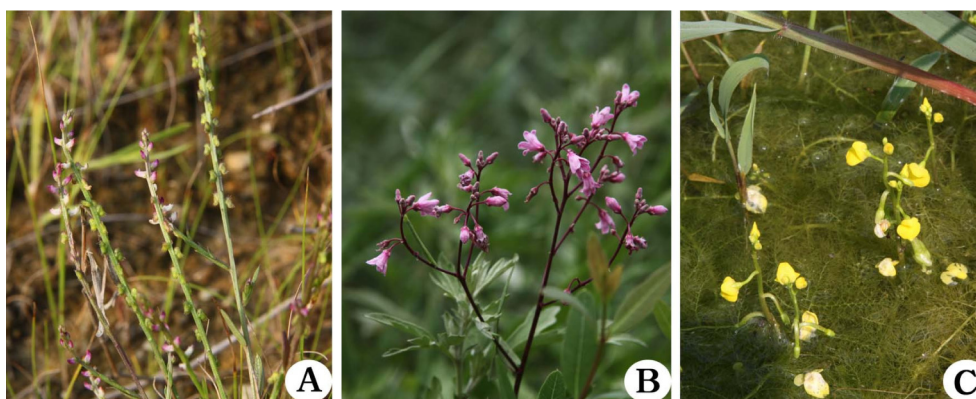
### Floristic special plants

Total 120 taxa of floristic special plant species designated by the Ministry of Environment was found in the survey regions: 11 taxa including *Juniperus chinensis* var. *procumbens*, *Albizia kalkora*, *Utricularia racemosa*, and *Bletilla striata* that are distributed in the southern seashore belong to the fifth class; four taxa including *Polygonum bellardii* found in Dochodo and *Trachomitum lancifolium* found in Aphaedo belong to the fourth class; 28 taxa including *Boehmeria nivea* var. *nipponnivea* found in Nagwoldo, Anmado, and Songido, and *Kadsura japonica* found in Nagwoldo, and *Stauntonia hexaphylla* found in Songido, and *Mitchella undulata*, *Aletris spicata* found in Jeungdo and Nagwoldo

belong to the third class (Fig. 3, Table 7); five taxa belong to the second class; and 71 taxa belong to the first class.

### Specially preserved species in forests

Four taxa were found in the survey regions among specially preserved species in forests designated by Korea Forest Service in 2012: *Albizia kalkora* was found in Dallido of Mokpo, in the seashore of Aphaedo in Shinsan, and Maehwado; *Salvia chanryoenica* was found in the Songgong mountain in Aphaedo, Shinan; *Bletilla striata* was found in Daldong, Dallido, Mokpo; *Calanthe discolor* was found in the Keum mountain in Aphaedo, Shinan.



**Fig. 3.** A. *Salomonina oblongifolia* DC. (IV, CR); B. *Trachomitum lancifolium* (Russanov) Pobed. (IV, CR); C. *Utricularia pilosa* Makino (V, CR).

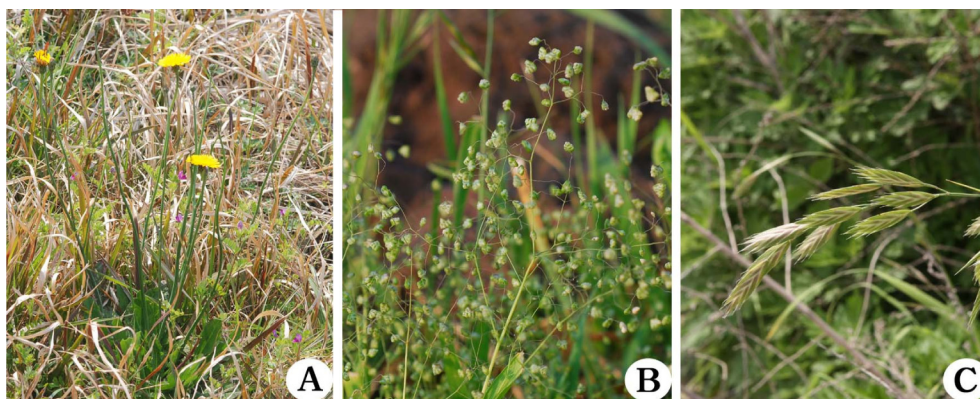
**Table 7.** The list of fifth to third class of specific plants designated by the Ministry of Environment.

Family name	Taxa	Class
Cupressaceae	<i>Juniperus chinensis</i> var. <i>procumbens</i> (Siebold) Endl.	V (11 taxa)
Saururaceae	<i>Houttuynia cordata</i> Thunb.	
Droseraceae	<i>Drosera peltata</i> var. <i>nipponica</i> (Masam.) Ohwi	
Leguminosae	<i>Albizia kalkora</i> (Roxb.) Prain, <i>Millettia japonica</i> (Siebold & Zucc.) A. Gray	
Lentibulariaceae	<i>Utricularia bifida</i> L., <i>U. pilosa</i> Makino, <i>U. racemosa</i> Wall.	
Sparganiaceae	<i>Sparganium erectum</i> L.	
Orchidaceae	<i>Bletilla striata</i> (Thunb.) Rchb.f., <i>Calanthe discolor</i> Lindl.	
Polygonaceae	<i>Polygonum bellardii</i> Alloni, <i>Salomonina oblongifolia</i> DC.	IV (4 taxa)
Apocynaceae	<i>Trachomitum lancifolium</i> (Russanov) Pobed.	
Cyperaceae	<i>Cladium chinense</i> Nees	
Salicaceae	<i>Salix rorida</i> Laksch.	III (28 taxa)
Urticaceae	<i>Boehmeria nivea</i> var. <i>nipponivea</i> (Koidz.) W.T.Wang	
Schisandraceae	<i>Kadsura japonica</i> (L.) Dunal	
Lardizabalaceae	<i>Stauntonia hexaphylla</i> (Thunb.) Decne.	
Rosaceae	<i>Raphiolepis indica</i> var. <i>umbellata</i> (Thunb.) Ohashi, <i>Spiraea chinensis</i> Maxim.	
Leguminosae	<i>Lespedeza juncea</i> (L.f.) Pers.	
Meliaceae	<i>Melia azedarach</i> L.	
Aquifoliaceae	<i>Ilex cornuta</i> Lindl. & Paxton, <i>I. integra</i> Thunb.	
Rhamnaceae	<i>Sageretia theezans</i> (L.) Brongn.	
Thymelaeaceae	<i>Daphne kiusiana</i> Miq.	
Cucurbitaceae	<i>Trichosanthes kirilowii</i> var. <i>japonica</i> (Miq.) Kitam.	
Ericaceae	<i>Vaccinium bracteatum</i> Thunb.	
Rubiaceae	<i>Mitchella undulata</i> Siebold & Zucc.	
Boraginaceae	<i>Bothriospermum secundum</i> Maxim.	
Verbenaceae	<i>Callicarpa mollis</i> Siebold & Zucc., <i>Verbena officinalis</i> L.	
Labiatae	<i>Salvia japonica</i> Thunb.	
Campanulaceae	<i>Wahlenbergia marginata</i> (Thunb.) A.DC.	
Alismataceae	<i>Alisma orientale</i> (Sam.) Juz.	
Liliaceae	<i>Aletris spicata</i> (Thunb.) Franch., <i>Asparagus oligoclonus</i> Maxim.	
Gramineae	<i>Diarrhena fauriei</i> (Hack.) Ohwi, <i>Elymus mollis</i> Trin., <i>Glyceria acutiflora</i> Torr., <i>Polypogon monspeliensis</i> (L.) Desf.	
Cyperaceae	<i>Carex laticeps</i> C.B. Clarke ex Franch.	

### Naturalized plants

Naturalized plants found in the survey regions were 17 families and 78 taxa including *Spergula arvensis*, *Malva neglecta*, and *Briza minor*: it occupied 9.8% of all the investigated plants (Fig. 4, Table 8). The most frequently found family was Gramineae (22 taxa) that occupied 28% of entire naturalized plants, and followed by compositae (16 taxa).

Few *Spergula arvensis* were found on ridgelines in the Songgong mountain, Shinan. *Phytolacca esculenta* was found in Daldong, Shinan that is a medicinal plant originated from China. This species is occasionally seen in regions such as Jeju since it has expanded by bumps like small ripples. Although its distribution regions are not wide, it is necessary to consider its potential dangers. *Paspalum distichum* var. *indutum* was found in Dallido,



**Fig. 4.** A. *Hypochaeris radicata* L.; B. *Briza minor* L.; C. *Bromus unioloides* H.B.K.

**Table 8.** The list of naturalized plants in the Western Sea of Jeollanamdo

Family name	Taxa	Total
Polygonaceae	<i>Fallopia dentatoalata</i> (F.Schmidt) Holub, <i>F. dumetorum</i> (L.) Holub, <i>Rumex acetosella</i> L., <i>R. crispus</i> L., <i>R. obtusifolius</i> L.	5
Phytolaccaceae	<i>Phytolacca americana</i> L.	1
Caryophyllaceae	<i>Cerastium glomeratum</i> Thuill., <i>Spergula arvensis</i> L.	2
Chenopodiaceae	<i>Chenopodium album</i> L., <i>C. ficifolium</i> Smith	2
Amaranthaceae	<i>Amaranthus blitum</i> L., <i>A. patulus</i> Bertol., <i>A. retroflexus</i> L., <i>A. viridis</i> L.	4
Saururaceae	<i>Houttuynia cordata</i> Thunb.	1
Cruciferae	<i>Brassica juncea</i> (L.) Czern., <i>Coronopus didymus</i> (L.) Smith, <i>Lepidium apetalum</i> Willd., <i>L. virginicum</i> L., <i>Thlaspi arvense</i> L.	5
Leguminosae	<i>Amorpha fruticosa</i> L., <i>Medicago lupulina</i> L., <i>M. polymorpha</i> L., <i>Melilotus suaveolens</i> Ledeb., <i>Robinia pseudoacacia</i> L., <i>Trifolium campestre</i> Schreb., <i>T. repens</i> L., <i>Vicia villosa</i> Roth	8
Euphorbiaceae	<i>Euphorbia supina</i> Raf.	1
Malvaceae	<i>Abutilon theophrasti</i> Medicus, <i>Malva neglecta</i> Wallr.	2
Onagraceae	<i>Oenothera biennis</i> L.	1
Rubiaceae	<i>Diodia teres</i> var. <i>hirsutior</i> Fernald & Griseb.	1
Convolvulaceae	<i>Cuscuta pentagona</i> Engelm., <i>Ipomoea hederacea</i> Jacq., <i>Quamoclit coccinea</i> Moench	3
Solanaceae	<i>Datura stramonium</i> var. <i>chalybea</i> Koch., <i>Physalis angulata</i> L.	2
Scrophulariaceae	<i>Veronica arvensis</i> L., <i>V. persica</i> Poir.	2
Compositae	<i>Ambrosia artemisiifolia</i> L., <i>Aster subulatus</i> Michx., <i>A. subulatus</i> var. <i>sandwicensis</i> A.G.Jones, <i>Bidens frondosa</i> L., <i>Coryza bonariensis</i> (L.) Cronquist, <i>C. canadensis</i> (L.) Cronquist, <i>C. sumatrensis</i> E.Walker, <i>Eclipta alba</i> var. <i>erecta</i> L., <i>Erechtites hieracifolia</i> Raf., <i>Erigeron annuus</i> (L.) Pers., <i>Hypochaeris radicata</i> L., <i>Senecio vulgaris</i> L., <i>Sonchus asper</i> (L.) Hill, <i>S. oleraceus</i> L., <i>Taraxacum officinale</i> Weber, <i>Xanthium strumarium</i> L.	16
Gramineae	<i>Alopecurus japonicus</i> Steud., <i>A. pratensis</i> L., <i>Avena fatua</i> L., <i>Briza minor</i> L., <i>Bromus unioloides</i> H.B.K., <i>Catapodium rigidum</i> (L.) C.E.Hubb., <i>Dactylis glomerata</i> L., <i>Eragrostis curvula</i> Nees, <i>Festuca arundinacea</i> Schreb., <i>F. myuros</i> L., <i>Leptochloa fusca</i> Kunth, <i>Lolium multiflorum</i> Lamarek, <i>L. multiflorum</i> var. <i>ramosum</i> Guss. ex Arcang., <i>L. perenne</i> L., <i>Panicum dichotomiflorum</i> Michx., <i>P. miliaceum</i> L., <i>Parapholis incurva</i> (L.) C.E.Hubb., <i>Paspalum distichum</i> L., <i>P. distichum</i> var. <i>indutum</i> Shinnars, <i>Phleum pratense</i> L., <i>Poa pratensis</i> L., <i>Sorghum halepense</i> f. <i>muticum</i> Hubb.	22

Mokpo. As this species disturbs the natural ecosystems, the Ministry of Environment designated it as a ecosystem disturbance wild plant to monitor its spread in March, 2002. The number of naturalized plants seems to increase as artificial interference increases due to development and tours in islands. It requires further studies on what impacts some ecosystem disturbance species of naturalized plants have on native plants. In the present, considerable amounts of naturalized plants were introduced into islands. It is concerned that large amounts of naturalized plants spread in small areas of islands.

### Noteworthy plants

1) *Juniperus chinensis* var. *procumbens* (Sieb.) Endl.  
This belongs to the Cupressaceae family: it is a prostrate evergreen tree that inhabits in the seashore of the South of Korea: new shoots are red and the second year shoots are reddish brown. Shoots are upward and leaves have two shapes: needles and scales. According to documents, it inhabits in Daeheuksando in South Korea and the Sepo seashore in North Korea (Korea National Arboretum 2009). In this study, it was found that Cupressaceae inhabits with laying down in the forest of Jaewondo in Shinan. According to the Agronomic characteristics of *Juniperus chinensis* var. *procumbens*, it seems to inhabit between rocks on cutting areas in the edge of islands and it requires further studies.

2) *Trachomitum lancifolium* (Russanov) Pobed.

This belongs to the Apocynaceae family: it blossoms in June and its distribution is limited to some regions of Gyeonggi and Gangwon (Korea National Arboretum 2009). Dozens of individuals were found in Aphaedo in this study, while few in habitats had been reported. As the number of individuals are not so much and they are likely to be damaged due to habits adjacent to roads and farms, it is urgent that preservation measures are prepared.

3) *Centranthera cochinchinensis* var. *lutea* (H.Hara) Haran  
This belongs to the Scrophulariaceae family: it blossoms in August. It is known to be distributed in Jindo, Jeollanamdo and Seongju, Gyeongsangbukdo (Korea National Arboretum 2009): it is generally distributed in marshy places. In this study, few individuals were found at marshy places in mountains of Aphaedo: it showed scattered distribution and mixed with *Salomonias oblongifolia*, *Utricularia bifida*, and *Utricularia racemosa*. *Centranthera cochinchinensis* var. *lutea* showed a limited distribution and it requires further information on its habitats and management.

4) *Opuntia humifusa* (Raf.) Raf.

This belongs to the Cactaceae family and its many species are distributed throughout the world (Med. Fl 1830). It originated from the North America and inhabits in the middle and west of the USA (Addison brown 2003). Shoots

**Table 9.** Usage types of vascular plants in the Western Sea of Jeollanamdo

	E	F	M	O	P	R	S	T	U
Number of taxa	232	7	197	78	273	3	15	14	178
Ratio (%)	29.3	0.9	24.8	9.8	34.4	0.4	1.9	1.8	22.4

are flat and elliptical and have joints and many branches: its surface has thorns. It blossoms in May or June with yellow flowers and its fruits are berries (Fernald 1950). In this study, it was found in the seashore of Sangnagwoldo in Yeonggwang. *O. humifusa* have been cultivated as local goods for sales: it is necessary to investigate in details the distribution of its habitats. *Opuntia ficus-indica* has been cultivated or is distributed as wild plants in Jeju-do: it originated from Mexico and naturalized in the tropical and subtropical zones. This species inhabits at the elevation of 600–2,900 m; it has fruits and was introduced to China in 1645 (Wu 2007). The difference of these two species is that *O. humifusa* grows with lying down on the ground while *O. ficus-indica* with standing upright (Addison brown 2003, Wu 2007).

### Division by use

After vascular plants in the survey regions were analyzed by their use based on data of Lee (1976), 615 taxa (77.6%) among 793 taxa were found to be available as resource plants except for 178 taxa (22.4%) whose uses could not be known. These vascular plants are classified by their use as followings: 232 taxa (29.3%) of edible plants (E), 7 taxa (0.9%) of fiber plants (F), 197 taxa (24.8%) of medicinal plants (M), 78 taxa (9.8%) of ornamental plants (O), 273 taxa (34.4%) of pasture plants (P), 3 taxa (0.4%) of industrial plants (R), 15 taxa (1.9%) of dyeing plants (S), and 14 taxa (1.8%) of timber plants (T) (Table 9, Appendix).

### Conclusions

We investigated the flora of islands in the west of Jeollanamdo including Nagwoldo, Songido, and Anmado in Yeonggwang, Dochodo, Maehwado, Bigeumdo, Anjwado, Amdaedo, Aphaedo, Imjado, Jaeundo, Jaewondo, Jeungdo, and Jido in Shinan, and Dallido in Mokpo. As results, a total of 793 taxa including 123 families, 421 genera, 695 species, 2 subspecies, 88 varieties, and 8 forms was found. Although some islands in the west of Jeollanamdo have been investigated targeting large islands or uninhabited islands, it was necessary to perform further studies on the distribution of vascular plants in islands of Jeollanamdo. In this study, therefore, endemic, rare, specific, and naturalized plants were investigated to preserve diversity in species and to suggest fundamental data for them, and their sample evidences with exact precision were presented.

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**Appendix 1.** List of vascular plants of the Western Sea of Jeollanam-do

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>Lycopodiaceae 석송과</b>															
<i>Lycopodium clavatum</i> L. 석송 04100092, HHS100095; M			O												O
<b>Selaginellaceae 부치손과</b>															
<i>Selaginella involvens</i> (Sw.) Spring 바위손 HHS100362; U															O
<b>Equisetaceae 속새과</b>															
<i>Equisetum ramosissimu</i> Desf. 개속새 WR-070530-090; P					O										
<b>Osmundaceae 고비과</b>															
<i>Osmunda japonica</i> Thunb. 고비 ParkSH70430, Y100131, Y102120; E, M	O											O		O	
<b>Gleicheniaceae 풀고사리과</b>															
<i>Dicranopteris pedata</i> (Houtt.) Nakaike 발풀고사리 HHS100114, HHS100332, ParkSH70484, Y100119, YJ100037; U		O		O						O		O		O	
<b>Schizaeaceae 실고사리과</b>															
<i>Lygodium japonicum</i> (Thunb.) Sw. 실고사리 EJeon90612, Y101219, Y101310, Y101512, Y101651, Y102057; M	O	O				O	O			O				O	
<b>Dennstaedtiaceae 잔고사리과</b>															
<i>Pteridium aquilinum</i> var. <i>latiusculum</i> (Desv.) Und.exHeller. 고사리 ParkSH81803, WR-071024-188, Y101624, Y101976; E, M	O		O					O		O					
<b>Lindsaeaceae 비고사리과</b>															
<i>Sphenomeris chinensis</i> (L.) Maxon 바위고사리 04100105, ParkSH70482, WR-070606-051, WR-070815-128; U								O				O		O	
<b>Davalliaceae 넉줄고사리과</b>															
<i>Davallia mariesii</i> Moore ex Bak. 넉줄고사리 WR-070606-116; O					O										
<b>Parkeriaceae 공작고사리과</b>															
<i>Coniogramme japonica</i> (Thunb.) Diels 가지고비고사리 HHS100500; U								O							
<b>Aspleniaceae 꼬리고사리과</b>															
<i>Asplenium incisum</i> Thunb. 꼬리고사리 HHS100112, HHS100512, WR-070530-164, WR-071017-045, Y100029, Y100285, Y100404, Y101487, Y101642; U	O	O				O	O	O	O		O			O	O
<b>Dryopteridaceae 먼마과</b>															
<i>Cyrtomium falcatum</i> (L.f.) C. Presl 도깨비쇠고비 HHS100093, HHS100311, HHS100501, J100002, WR-071017-150, Y100084; U	O							O	O	O				O	O
<i>Cyrtomium fortunei</i> var. <i>clivicola</i> (Makino) Tagawa 산쇠고비 JKS2049								O							
<i>Dryopteris bissetiana</i> (Bak.) C. Chr. 산족제비고사리 HHS100097, ParkSH70443, WR-070502-082; U											O		O	O	
<i>Dryopteris chinensis</i> (Bak.) Koidz. 가는잎족제비고사리 WR-070606-119, WR-070815-054, Y100117, Y100395; U		O	O								O			O	
<i>Dryopteris erythrosora</i> (D.C.Eaton) Kuntze 홍지네고사리 HHS100099, HHS100159, HHS100520; U								O				O		O	
<i>Dryopteris hikonensis</i> (H.Ito) Nakaike 큰족제비고사리 HHS100521, WR-070606-121, WR-071017-003, Y100128, Y100400; U		O	O					O		O		O			
<i>Dryopteris lacera</i> (Thunb.) Kuntze 비늘고사리 Y101554; U								O							
<i>Dryopteris sacrosancta</i> Koidz. 애기족제비고사리 WR-071017-011; U										O					
<i>Polystichum ovatopaleaceum</i> var. <i>coraiense</i> (Christ) Kurata 참나도히초미 HHS100158; U												O			
<b>Thelypteridaceae 처녀고사리과</b>															
<i>Thelypteris acuminata</i> (Houtt.) Morton 별고사리 WR-071017-121; U										O					
<i>Thelypteris decursive-pinnata</i> (v.Hall) Ching 설설고사리 WR-070606-070, WR-070815-060, WR-071017-043, Y100030, Y101555; U								O		O				O	O
<i>Thelypteris glanduligera</i> (Kunze) Ching 사다리고사리 ParkSH70427, WR-070815-056, WR-071017-039, WR-071024-166, Y100126, Y101855; U		O	O					O		O				O	O
<b>Woodsiaceae 우드풀과</b>															
<i>Athyrium niponicum</i> (Mett.) Hance 개고사리 Y101899; E										O					
<i>Deparia japonica</i> (Thunb.) M.Kato 진고사리 Y100028, Y100138, Y100297, Y101940; U		O						O						O	O
<b>Polypodiaceae 고란초과</b>															
<i>Lemmaphyllum microphyllum</i> C.Presl 콩짜개덩굴 J100023, J100037; U		O								O					
<i>Lepisorus uchiyamae</i> (Makino) H.Itô 방망이일엽초 WR-070530-171, WR-070606-126								O		O					
<b>Pinaceae 소나무과</b>															
<i>Pinus densiflora</i> Siebold & Zucc. 소나무 HHS100073; E, M, O, T															O
<i>Pinus rigida</i> Mill. 리기다소나무 HHS100089, ParkSH70429; T														O	O
<i>Pinus thunbergii</i> Parl. 곰솔 HHS100090, HHS100515, ParkSH70476, Y100269, Y100604, Y101182, Y101902; T, M, E	O			O			O	O					O	O	O

Appendix 1. Continued

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>Taxodiaceae 낙우송과</b>															
<i>Cryptomeria japonica</i> (L.f.) D.Don 삼나무 Y100163; T															O
<i>Sciadopitys verticillata</i> (Thunb.) Siebold & Zucc. 금송 ESJeon90665; O										O					
<b>Cupressaceae 측백나무과</b>															
<i>Chamaecyparis obtusa</i> (Siebold & Zucc.) Endl. 편백 HHS100052; T, O															O
<i>Juniperus chinensis</i> var. <i>procumbens</i> (Siebold) Endl. 섬향나무 Y101300; O														O	
<i>Juniperus rigida</i> Siebold & Zucc. 노간주나무 HHS100082, HHS100329, HHS100346, HHS100506, WR-070606-130, WR-071017-025, Y100259, Y100336, Y100616; M, S		O	O	O		O		O		O	O		O	O	
<i>Thuja orientalis</i> L. 측백나무 Y101724; O, M						O									
<b>Juglandaceae 가래나무과</b>															
<i>Platycarya strobilacea</i> Siebold & Zucc. 굴피나무 WR-070919-102, Y100085, Y100249, Y100340, Y100462, Y101591, Y102039; S	O	O		O		O				O			O	O	
<b>Salicaceae 버드나무과</b>															
<i>Salix gracilistyla</i> Miq. 갯버들 YJ100061; P											O				
<i>Salix rorida</i> Laksch. 분버들 J100027; S								O							
<i>Salix subfragilis</i> Andersson 선버들 YJ100030; S				O											
<b>Betulaceae 자작나무과</b>															
<i>Alnus firma</i> Siebold & Zucc. 사방오리 ESJeon90617, HHS100156, HHS100310, HHS100535, J100007, ParkSH70440, WR-070530-047, Y100150, YJ100018; S	O		O	O	O	O				O	O	O		O	
<i>Alnus japonica</i> (Thunb.) Steud. 오리나무 ParkSH94432; P										O					
<i>Carpinus turczaninowii</i> Hance 소사나무 WR-070509-088, WR-070530-123, WR-070606-145, WR-070801-056, Y100088, Y100410, Y100456, Y101638, Y101830; S	O		O		O	O				O	O	O	O	O	
<b>Fagaceae 참나무과</b>															
<i>Castanea crenata</i> Siebold & Zucc. 밤나무 Y100429, Y101819; E, M, T, S							O			O					
<i>Quercus acuta</i> Thunb. 붉가시나무 HHS100517; T						O									
<i>Quercus aliena</i> Blume 갈참나무 WR-070502-073, Y100351; E, T, P		O								O					
<i>Quercus dentata</i> Thunb. 떡갈나무 WR-070502-015, Y101993; E, M, T, S							O			O					
<i>Quercus serrata</i> Thunb. 졸참나무 HHS100356, ParkSH81802, WR-070801-041, WR-070815-147, Y100083, Y100212, Y100348; E, T, P, M		O	O							O	O		O	O	O
<i>Quercus variabilis</i> Blume 굴참나무 Y100392, Y100611; E, T, M										O			O		
<b>Ulmaceae 느릅나무과</b>															
<i>Celtis sinensis</i> Pers. 팽나무 Y100080, Y100293, Y101486, Y101898, Y101924; E, M, P	O	O				O	O						O		
<b>Moraceae 뽕나무과</b>															
<i>Broussonetia kazinoki</i> Siebold 닥나무 Y100201; E, F, M				O											
<i>Broussonetia papyrifera</i> (L.) L'H'ér. ex Vent. 꾸지나무 Y100153, Y101608; F	O													O	
<i>Cudrania tricuspidata</i> (Carr.) Bureau ex Lavallée 꾸지뽕나무 WR-070530-121, Y100184, Y100272, Y100486, Y100527, Y101665, Y102131; E, P	O		O	O		O				O			O	O	
<i>Ficus oxyphylla</i> Miq. ex Zoll. 모람 HHS100303, HHS100510, J100022, WR-070530-130; E	O				O	O	O								
<b>Cannabaceae 삼과</b>															
<i>Humulus japonicus</i> Siebold & Zucc. 환삼덩굴 Y100576, Y100621, Y101230, Y101508, Y101692, Y102064; E, P, M	O	O				O	O						O	O	
<b>Urticaceae 켜기쭈름과</b>															
<i>Boehmeria longispica</i> Steud. 왜모시풀 Y101237, Y101516, Y101684; F	O	O					O								
<i>Boehmeria nivea</i> (L.) Gaudich. 모시풀 Y100627, Y101179; F, E, M	O												O		
<i>Boehmeria nivea</i> var. <i>nipponnivea</i> (Koidz.) W.T.Wang 섬모시풀 Y101525, Y101672, Y102024; F	O						O	O							
<i>Boehmeria pannosa</i> Nakai & Satake 왕모시풀 Y102022; F							O								
<i>Nanocnide japonica</i> Blume 나도물통이 J100015; U								O							
<b>Santalaceae 단향과</b>															
<i>Thesium chinense</i> Turcz. 제비꽃 ParkSH70480, WR-070502-032, WR-070509-081, WR-070530-151, WR-070606-059, WR-070815-062, WR-071017-047, Y100338, Y101988; M	O	O			O		O	O	O	O		O		O	
<b>Polygonaceae 마디풀과</b>															
<i>Fallopia dentatoalata</i> (F.Schmidt) Holub 큰닭의덩굴 04100085; U					O										
<i>Fallopia dumetorum</i> (L.) Holub 닭의덩굴 Y101308, Y101511, Y101566, Y101846; U	O					O	O						O		
<i>Persicaria conspicua</i> (Nakai) Nakai ex Mori 꽃여뀌 WR-070801-088, Y101323, Y101942; M						O					O		O		
<i>Persicaria filiformis</i> (Thunb.) Nakai ex Mori 이삭여뀌 Y101908; M								O							
<i>Persicaria hydropiper</i> (L.) Spach 여뀌 WR-070801-074; M, P											O				
<i>Persicaria japonica</i> (Meisn.) H.Gross ex Nakai 흰꽃여뀌 04100104, WR-071017-178, Y101403, Y101569, Y101726; U		O	O			O	O	O							

## Appendix 1. Continued

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
<i>Persicaria lapathifolia</i> (L.) Gray 흰여뀌 WR-070801-112, WR-070919-143, WR-071017-070, WR-071024-043, Y100235, Y100467, Y101455; U	O			O	O			O		O	O				O	
<i>Persicaria longiseta</i> (Brujin) Kitag. 개여뀌 WR-071017-060, WR-071024-073, Y101133, Y101314, Y101434, Y101475, Y101756; M	O			O	O		O	O							O	
<i>Persicaria nodosa</i> Opiz 큰개여뀌 Y101483, Y101700, Y101736; P	O					O	O									
<i>Persicaria perfoliata</i> (L.) H.Gross 머느리배꼽 Y101404, Y101452; E	O			O												
<i>Persicaria posumbu</i> var. <i>laxiflora</i> (Meisn.) H.Hara 장대여뀌 Y101402; U				O												
<i>Persicaria sagittata</i> (L.) H.Gross ex Nakai 미꾸리납시 WR-070801-128, WR-070919-072; P										O	O					
<i>Persicaria senticoso</i> (Meisn.) H.Gross ex Nakai 머느리밀씻개 Y100575, Y100649, Y101177, Y101778, Y102084; E, P	O					O	O							O	O	
<i>Persicaria thunbergii</i> (Siebold & Zucc.) H.Gross ex Nakai 고마리 WR-071024-050; P						O										
<i>Persicaria vulgaris</i> Webb & Moq. 봄여뀌 Y101221; U		O														
<i>Polygonum aviculare</i> L. 마디풀 WR-070919-085, Y100051, Y101561, Y102069; E, M								O	O		O				O	
<i>Polygonum bellardii</i> Alloni 큰옥매듭풀 WR-070606-089; U					O											
<i>Rumex acetosa</i> L. 수영 WR-070509-009, Y100043, Y100116, Y100540, Y102113; M	O	O											O	O	O	
<i>Rumex acetosella</i> L. 애기수영 WR-070530-093, WR-070606-077, Y100337, Y100384; E		O	O		O					O						
<i>Rumex crispus</i> L. 소리쟁이 JKS2094, WR-070530-061, Y100020, Y100271, Y100280, Y100440; E, M, P		O	O	O	O					O				O		
<i>Rumex obtusifolius</i> L. 돌소리쟁이 Y100310		O														
<b>Phytolaccaceae 자리공과</b>																
<i>Phytolacca americana</i> L. 미국자리공 Y100111, Y100277, Y100463, Y100513, Y100597, Y100640, Y101470, Y101782; U	O	O		O				O		O				O	O	O
<b>Molluginaceae 석류풀과</b>																
<i>Mollugo pentaphylla</i> L. 석류풀 WR-070815-102, Y101336, Y101366, Y101462, Y102081; U	O			O		O								O	O	
<b>Aizoaceae 번행초과</b>																
<i>Tetragonia tetragonoides</i> (Pall.) Kuntze 번행초 WR-070801-103, Y101798, Y102162; E, M	O							O				O				
<b>Portulacaceae 쇠비름과</b>																
<i>Portulaca oleracea</i> L. 쇠비름 Y101276, Y101471, Y101792, Y102067; E, M, P	O	O						O	O							
<b>Caryophyllaceae 석죽과</b>																
<i>Arenaria serpyllifolia</i> L. 벼룩이자리 WR-070530-170; E						O										
<i>Cerastium glomeratum</i> Thuill. 유럽접나도나물 HHS100103, HHS100371, HHS100523, Y102109, YJ100008	O			O		O								O	O	
<i>Dianthus chinensis</i> L. 패랭이꽃 Y101297; M														O		
<i>Dianthus japonicus</i> Thunb. 갯패랭이꽃 WR-070801-116, WR-071024-032; O						O					O					
<i>Pseudostellaria heterophylla</i> (Miq.) Pax ex Pax & Hoffm. 개별꽃 WR-070411-038; E, M															O	
<i>Pseudostellaria palibiniana</i> (Takeda) Ohwi 큰개별꽃 Y100053; E														O		
<i>Sagina japonica</i> (Sw.) Ohwi 개미자리 WR-070606-019, Y100042, Y102128; M	O		O											O		
<i>Silene aprica</i> var. <i>oldhamiana</i> (Miq.) C.Y.Wu 갯장구채 JKS2048, WR-070509-066, WR-070530-168, WR-070606-112, Y100048, Y101789; P				O		O	O	O		O				O		
<i>Spergula arvensis</i> L. 들개미자리 Y100382; U											O					
<i>Spergularia marina</i> (L.) Griseb. 갯개미자리 HHS100373, ParkSH70473, WR-071017-189, Y100172, Y100315, Y100499; U		O							O	O		O		O	O	
<i>Stellaria aquatica</i> (L.) Scop. 쇠별꽃 WR-070530-029, WR-071017-001, Y100060; E, M						O		O						O		
<i>Stellaria media</i> (L.) Vill. 별꽃 HHS100107, HHS100306, HHS100343, HHS100370, WR-070606-090, Y100112, YJ100001; E	O	O	O	O						O				O	O	
<b>Chenopodiaceae 명아주과</b>																
<i>Atriplex gmelinii</i> C.A.Mey. 가는갯논쟁이 WR-071017-151, Y101796, Y101844; P								O	O	O						
<i>Chenopodium album</i> L. 흰명아주 Y101362, Y101477, Y101734, Y101758; E, P	O			O				O	O							
<i>Chenopodium album</i> var. <i>centrorubrum</i> Makino 명아주 Y100653, Y101169, Y101215, Y101704; E, P	O	O						O						O		
<i>Chenopodium ficifolium</i> Smith 줌명아주 WR-070606-087, Y100218, Y100512; E, P					O	O				O						
<i>Chenopodium koraiense</i> Nakai 참명아주 Y101143; E, P	O															
<i>Salsola komarovii</i> Iljin 수송나물 WR-070801-101, Y101560; E								O			O					
<i>Suaeda glauca</i> (Bunge) Bunge 나문재 Y101406, Y101802; E						O		O								
<b>Amaranthaceae 비름과</b>																
<i>Achyranthes fauriei</i> H.Lév. & Vaniot 털쇠무릎 Y101178, Y101877, Y102073	O							O	O							
<i>Achyranthes japonica</i> (Miq.) Nakai 쇠무릎 Y101273, Y101313, Y101663; E, M, P		O						O						O		

Appendix 1. Continued

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Amaranthus lividus</i> L. 개비름 Y101278; E, M, P		O													
<i>Amaranthus patulus</i> Bertol. 가는털비름 Y101467, Y101891, Y102068	O					O	O								
<i>Amaranthus retroflexus</i> L. 털비름 WR-071017-128; E, P								O							
<i>Amaranthus viridis</i> L. 청비름 Y101364; E				O											
<b>Cactaceae 선인장과</b>															
<i>Opuntia humifusa</i> (Raf.) Raf. 선인장 J100045; O	O														
<b>Schisandraceae 오미자과</b>															
<i>Kadsura japonica</i> (L.) Dunal 남오미자 Y101479; P	O														
<b>Lauraceae 녹나무과</b>															
<i>Lindera erythrocarpa</i> Makino 비목나무 Y100536; O															O
<i>Lindera glauca</i> (Siebold & Zucc.) Blume 감태나무 Y100322, Y100390, Y100587		O								O					O
<i>Lindera obtusiloba</i> Blume 생강나무 HHS100068, HHS100511; E, M, O							O								O
<i>Machilus thunbergii</i> Siebold & Zucc. 후박나무 JKS2073, Y100067, Y100309, Y102127; M, O, T	O	O					O						O		
<i>Neolitsea sericea</i> (Blume) Koidz. 참식나무 HHS100518; O							O								
<b>Ranunculaceae 미나리아재비과</b>															
<i>Anemone raddeana</i> Regel 평의바람꽃 HHS100453; O															O
<i>Caltha palustris</i> L. 동의나물 WR-070502-096; P										O					
<i>Clematis apiifolia</i> DC. 사위질뽕 WR-070815-133, WR-071017-099, Y101168, Y101329, Y101674, Y102094; U	O						O	O	O				O	O	
<i>Clematis terniflora</i> DC. 참으아리 WR-070919-093; M										O					
<i>Clematis terniflora</i> var. <i>mandshurica</i> (Rupr.) Ohwi 으아리 WR-070815-039, Y100114, Y101303, Y101497, Y101803, Y102040; M	O	O					O	O					O	O	
<i>Hepatica asiatica</i> Nakai 노루귀 HHS10032, Y100584; O	O														O
<i>Hepatica insularis</i> Nakai 새끼노루귀 HHS100055, HHS100166, J100003, WR-070502-105, Y100019; O								O		O	O		O		O
<i>Pulsatilla koreana</i> (Yabe ex Nakai) Nakai ex Mori 활미꽃 HHS100094, HHS100365; M														O	O
<i>Ranunculus cantoniensis</i> DC. 털개구리미나리 WR-070530-020; U					O										
<i>Ranunculus chinensis</i> Bunge 첫가락나물 Y100054; U														O	
<i>Ranunculus sceleratus</i> L. 개구리자리 ParkSH70477, Y100044, Y100312; U		O											O	O	
<i>Ranunculus tachiroei</i> Franch. & Sav. 개구리미나리 Y100049, Y100168, Y100234, Y100560; M				O									O	O	O
<i>Semiaquilegia adoxoides</i> (DC.) Makino 개구리발톱 HHS100061, HHS100308, J100014, WR-070509-135, YJ100023, YJ100040, YJ100066; U	O		O				O			O	O	O			O
<i>Thalictrum kemense</i> var. <i>hypoleucum</i> (Siebold & Zucc.) Kitag. 쯤뽕의다리 Y101460, Y101857; E	O					O									
<b>Lardizabalaceae 으름덩굴과</b>															
<i>Akebia quinata</i> (Thunb.) Decne. 으름덩굴 Y101650; M, P, O								O							
<i>Stauntonia hexaphylla</i> (Thunb.) Decne. 멸골 Y102056; E, O							O								
<b>Menispermaceae 새모래덩굴과</b>															
<i>Cocculus trilobus</i> (Thunb.) DC. 땃뽕이덩굴 NAM-070815-137, WR-070801-038, WR-070919-116, WR-071017-027, WR-071024-090, WR-071024-107, Y100257, Y100331, Y100613, Y101458, Y101653, Y101739; E, M, P	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
<i>Sinomenium acutum</i> (Thunb.) Rehder & E.H.Wilson 방기 Y100599, Y101987; M, S								O						O	
<b>Saururaceae 삼백초과</b>															
<i>Houttuynia cordata</i> Thunb. 약모밀 ParkSH70456; M													O		
<b>Chloranthaceae 홀아비꽃대과</b>															
<i>Chloranthus fortunei</i> (A.Gray) Solms 옥녀꽃대 ParkSH70428, WR-070411-087, WR-070502-110, WR-070509-143, WR-070530-157; U					O					O	O	O	O	O	O
<i>Chloranthus japonicus</i> Siebold 홀아비꽃대 Y100031, Y100399, Y100538; U										O			O	O	O
<b>Aristolochiaceae 쥐방울덩굴과</b>															
<i>Asarum glabratum</i> (C.S.Yook & J.G.Kim & J.Nam) B.U.Oh 각시족도리풀 HHS100060, HHS100161											O				O
<b>Actinidiaceae 다래나무과</b>															
<i>Actinidia arguta</i> (Siebold & Zucc.) Planch. ex Miq. 다래 Y100079; U															O
<b>Theaceae 차나무과</b>															
<i>Camellia japonica</i> L. 동백나무 ESJeon90666, HHS100301, J100020, Y100082; O, M	O							O		O				O	
<i>Eurva japonica</i> Thunb. 사스레피나무 04100094, ESJeon90662, HHS100069, HHS100085, HHS100316, HHS100345, HHS100509, J100006, WR-070530-204, WR-071017-110, Y100076, Y100343, Y101415; P	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O

Appendix 1. Continued

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>Guttiferae 물레나물과</b>															
<i>Hypericum ascyron</i> L. 물레나물 Y101841; E, O															
<i>Hypericum erectum</i> Thunb. 고추나물 ESJeon90962, WR-070801-047, WR-070815-124, WR-071017-125, Y100652, Y101262, Y101357, Y101451, Y101962; M, P	O	O		O	O	O		O		O	O			O	O
<i>Hypericum japonicum</i> Thunb. 애기고추나물 ESJeon90656, WR-070801-126, WR-070815-098, WR-071024-021, Y101350; U				O	O					O	O				O
<i>Hypericum laxum</i> (Blume) Koidz. 좁고추나물 WR-070801-013, Y101925; U												O			
<b>Droseraceae 끈끈이주걱과</b>															
<i>Drosera peltata</i> var. <i>nipponica</i> (Masam.) Ohwi 끈끈이주걱 WR-070606-080; U															O
<b>Fumariaceae 현호색과</b>															
<i>Corydalis heterocarpa</i> Siebold & Zucc. 염주괴불주머니 Y102147; U		O													
<i>Corydalis incisa</i> (Thunb.) Pers. 자주괴불주머니 HHS100312, HHS100394, HHS100504; M		O						O	O						
<i>Corydalis remota</i> Fisch. ex Maxim. 현호색 HHS100066, HHS100313, HHS100544, J100013, YJ100063; M		O						O	O			O			O
<i>Corydalis speciosa</i> Maxim. 산괴불주머니 HHS100397, Y100015; U								O							O
<b>Cruciferae 십자화과</b>															
<i>Arabis glabra</i> Bernh. 장대나물 JKS2101, WR-070502-112, Y100045, Y100288, Y100595; E		O								O				O	O
<i>Arabis hirsuta</i> (L.) Scop. 털장대 Y100036; E															O
<i>Brassica juncea</i> (L.) Czern. 갓 HHS100339, HHS100360, HHS100390, Y101531, YJ100004; E		O			O					O					O
<i>Capsella bursa-pastoris</i> (L.) L.W.Medicus 냉이 HHS100053, HHS100108, HHS100320, HHS100340, HHS100386, HHS100529, Y100057, YJ100011, YJ100057; E, M		O			O			O	O		O	O		O	O
<i>Cardamine fallax</i> L. 좁쌀냉이 HHS100080, HHS100335, HHS100358, HHS100524, J100011, YJ100022; E					O			O	O						O
<i>Cardamine flexuosa</i> With. 황새냉이 HHS100106, HHS100337, HHS100398, Y100023, Y100215; E					O			O						O	O
<i>Cardamine impatiens</i> L. 싸리냉이 HHS100157; E												O			
<i>Coronopus didymus</i> (L.) Smith 뉘새냉이 ParkSH70465															O
<i>Draba nemorosa</i> L. 꽃다지 J100024; E, M															O
<i>Lepidium apetalum</i> Willd. 다닥냉이 Y101863, Y101915, Y102108; E, M		O								O	O				
<i>Lepidium virginicum</i> L. 콩다닥냉이 WR-070530-002, WR-070606-029, WR-070801-071, Y100143, Y100227, Y100362, Y100432, Y100557		O	O	O	O						O	O			O
<i>Rorippa indica</i> (L.) Hiern 개갓냉이 WR-070801-077, WR-071017-126, Y101478; E		O										O			
<i>Rorippa palustris</i> (Leyss.) Besser 속속이풀 WR-070530-017, Y100052, Y100313; E		O				O									O
<i>Thlaspi arvense</i> L. 말냉이 JKS2070; E								O							
<b>Crassulaceae 돌나물과</b>															
<i>Sedum bulbiferum</i> Makino 말뚝비름 Y100007, Y100530; U															O
<i>Sedum kamschaticum</i> Fisch. & Mey. 기린초 WR-070530-132; U										O					
<i>Sedum oryzifolium</i> Makino 땅채송화 Y100402, Y101741, Y102148; U		O								O					
<b>Saxifragaceae 범의귀과</b>															
<i>Parnassia palustris</i> L. 물매화 04100081, WR-071024-162; O					O	O									
<i>Ribes fasciculatum</i> var. <i>chinense</i> Maxim. 까마귀랍나무 Y100594															O
<b>Pittosporaceae 돈나무과</b>															
<i>Pittosporum tobira</i> (Thunb.) W.T.Aiton 돈나무 HHS100115, JKS2072, WR-070530-043, Y100009, Y100368; O		O				O	O								O
<b>Rosaceae 장미과</b>															
<i>Agrimonia coreana</i> Nakai 산짚신나물 WR-070801-052; E, M															O
<i>Agrimonia pilosa</i> Ledeb. 짚신나물 WR-070815-042, Y101207, Y101337, Y101765, Y102047; E, M, P		O								O	O				O
<i>Agrimonia pilosa</i> var. <i>nipponica</i> (Koidz.) Kitam. 좁짚신나물 WR-070815-040															O
<i>Duchesnea indica</i> (Andr.) Focke 뱀딸기 HHS100526, WR-070411-013, WR-070502-035, Y100142, Y100296, YJ100027; E, M, P		O								O					O
<i>Malus baccata</i> Borkh. 야광나무 Y102055; E, M															O
<i>Malus sieboldii</i> (Regel) Rehder 아그네나무 WR-070606-132, Y100248, Y100471; E, O															O
<i>Potentilla chinensis</i> Ser. 딱지꽃 04100098, WR-070801-098, WR-071024-052, Y101807; E, M, P															O
<i>Potentilla discolor</i> Bunge 솜양지꽃 WR-070502-010, Y100287; E, M		O													O
<i>Potentilla fragarioides</i> var. <i>major</i> Maxim. 양지꽃 HHS100065, HHS100347, HHS100513, WR-070502-034, WR-070509-148, Y100018, YJ100012; E, M															O

Appendix 1. Continued

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Potentilla freyniana</i> Borm. 세잎양지꽃 WR-070502-100, WR-070509-146; E, P										0	0				
<i>Pourthiaea villosa</i> (Thunb.) Decne. 율노리나무 JKS2102, ParkSH70425, WR-070502-054, Y100195; U						0				0	0	0			
<i>Prunus ishidozana</i> Nakai 산이스라지 JKS2097; E, M, P						0									
<i>Prunus japonica</i> var. <i>nakaii</i> (H.L.Év.) Rehder 이스라지 WR-070411-044, WR-070509-124, WR-070530-133, WR-070606-134, Y100003; E, M, P			0	0							0	0	0		
<i>Prunus persica</i> (L.) Batsch 복사나무 Y100081, Y101669, Y102163; E, P	0						0						0		
<i>Prunus serrulata</i> var. <i>pubescens</i> (Makino) Nakai 잔털벚나무 Y100323, Y100482, Y100516; O, E		0								0					0
<i>Prunus serrulata</i> var. <i>spontanea</i> (Maxim.) E.H.Wilson 벚나무 JKS2046, ParkSH70442; O, E						0						0			
<i>Prunus verecunda</i> (Koidz.) Koehne 개벚나무 HHS100355, WR-070606-136; O, E			0												0
<i>Pyrus calleryana</i> var. <i>fauriei</i> (C.K.Schneid.) Rehder 콩배나무 ESJeon90660, HHS100364, WR-070509-128, WR-070815-151; E										0	0	0	0	0	0
<i>Pyrus pyrifolia</i> (Burm.f.) Nakai 돌배나무 ParkSH70457; E												0			
<i>Raphiolepis indica</i> var. <i>umbellata</i> (Thunb.) Ohashi 다정큼나무 Y100066, Y101738; O							0						0		
<i>Raphiolepis indica</i> var. <i>integerrima</i> (Hook. & Arn.) Rehder ex Ohwi 둥근잎다정큼 HHS100508; O						0									
<i>Rhodotypos scandens</i> (Thunb.) Makino 병아리꽃나무 Y100074; O													0		
<i>Rosa maximowicziana</i> Regel 용가시나무 Y101705; E, M							0								
<i>Rosa multiflora</i> Thunb. 찔레나무 JKS2054, WR-070530-097, WR-070606-056, WR-070815-139, Y100206, Y100308, Y100502, Y100521		0	0	0	0	0	0			0				0	0
<i>Rosa rugosa</i> Thunb. 해당화 WR-070530-024, WR-070606-012; M			0	0											
<i>Rosa wichuraiana</i> Crép. ex Franch. & Sav. 돌가시나무 ParkSH70486, WR-070530-037, WR-070606-142, Y100010, Y100120, Y100205, Y100412, Y100474, Y100578, Y102106	0	0	0	0	0	0				0	0	0	0	0	0
<i>Rubus corchorifolius</i> L.f. 수리딸기 HHS100071, HHS100084, HHS100163, Y100061, YJ100034; E				0							0	0	0	0	0
<i>Rubus crataegifolius</i> Bunge 산딸기 JKS2045; E, M, P						0									
<i>Rubus hirsutus</i> Thunb. 장딸기 HHS100395, JKS2044, ParkSH70437, Y100069, Y102119; E	0					0	0					0	0		
<i>Rubus parvifolius</i> L. 명석딸기 JKS2103, WR-070509-062, WR-070509-120, WR-070530-041, WR-070606-009, Y100062, Y100198, Y100208, Y100291, Y100403, Y100567, Y102111; E	0	0	0	0	0	0	0			0	0	0	0	0	0
<i>Sanguisorba officinalis</i> L. 오이풀 WR-070919-027, WR-071017-083, WR-071024-042, WR-071024-143, Y101160, Y101426, Y101717; M, P	0	0	0	0	0	0		0		0					
<i>Sorbus alnifolia</i> (Siebold & Zucc.) K.Koch 팔배나무 Y100256, Y100408, Y100593, Y101909; E, P				0	0					0					0
<i>Spiraea chinensis</i> Maxim. 당조팝나무 WR-070606-055; O			0												
<i>Spiraea pubescens</i> Turcz. 아구장나무 WR-070509-109; O												0			
<i>Stephanandra incisa</i> (Thunb.) Zabel 국수나무 WR-070509-049, WR-070509-099, WR-070530-103, Y100132, Y100585; S				0					0			0	0	0	0
<b>Leguminosae 콩과</b>															
<i>Aeschynomene indica</i> L. 자귀풀 WR-070815-084, WR-070919-001, Y101571; U								0		0				0	
<i>Albizia julibrissin</i> Durazz. 자귀나무 WR-070815-094, Y100441, Y100537, Y101163, Y101733, Y101772; M, P, O	0						0	0		0				0	0
<i>Albizia kalkora</i> (Roxb.) Prain 왕자귀나무 Y100344, Y100506, Y101345; M, O, P		0	0							0					
<i>Amorpha fruticosa</i> L. 죽제비싸리 WR-070606-004; P			0												
<i>Amphicarphaea bracteata</i> subsp. <i>edgeworthii</i> (Benth.) H.Ohashi 새콩 Y101862; E, P								0							
<i>Caesalpinia decapetala</i> (Roth) Alston 실거리나무 J100009, JKS2056, ParkSH70445, WR-070509-046, WR-070530-105, Y100014; S						0	0	0	0			0	0		
<i>Chamaecrista nomame</i> (Siebold) H.Ohashi 차풀 WR-070919-002, WR-071017-134, WR-071024-138, Y100658, Y101203, Y101338, Y101510, Y101759, Y101922; E, M, P	0	0	0	0		0	0	0		0			0		
<i>Crotalaria sessiliflora</i> L. 활나물 WR-071024-174, Y101341; U			0	0											
<i>Desmodium podocarpum</i> DC. 개도독놈의갈고리 Y101661, Y101928; U						0	0								
<i>Desmodium podocarpum</i> var. <i>oxyphyllum</i> (DC.) H.Ohashi 도독놈의갈고리 Y101647							0								
<i>Dunbaria villosa</i> (Thunb.) Makino 여우팍 04100090, 04100093, ESJeon90618, WR-070801-043, WR-070919-195, WR-071017-179, Y101417, Y101493, Y101875, Y102093	0	0	0	0	0	0	0	0		0	0				
<i>Glycine soja</i> Siebold & Zucc. 돌콩 WR-071017-160, Y101883, Y101939; E, P						0	0	0							
<i>Indigofera kirilowii</i> Maxim. ex Palib. 땅비싸리 ParkSH70431, WR-070502-078, WR-070530-075, WR-070606-122, Y100113, Y100457; O	0	0		0						0	0	0			

## Appendix 1. Continued

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Indigofera koreana</i> Ohwi 민땃비싸리 ESJeon90602, JKS2108; O						0				0					
<i>Kummerowia striata</i> (Thunb.) Schindl. 매듭풀 WR-071017-173, WR-071024-037, WR-071024-137, Y100660, Y101214, Y101419, Y101465, Y101888, Y102052; P	0	0	0	0	0	0	0	0					0		
<i>Lathyrus japonicus</i> Willd. 갯완두 JKS2051, WR-070530-087, Y102137; M	0				0	0									
<i>Lespedeza bicolor</i> Turcz. 싸리 WR-070801-054, WR-070815-156, WR-070919-126, WR-071024-114, Y101232; O, P		0	0							0	0			0	
<i>Lespedeza cuneata</i> G.Don 비수리 WR-070815-122, WR-070919-110, Y101185, Y101432, Y101811, Y102050; P		0	0		0	0				0				0	
<i>Lespedeza cyrtobotrya</i> Miq. 참싸리 Y101390; O, F				0											
<i>Lespedeza juncea</i> (L.f.) Pers. 땃비수리 WR-071024-080; P					0										
<i>Lespedeza maximowiczii</i> C.K.Schneid. 조록싸리 WR-070606-071, WR-070815-157, Y100124, Y100430, Y100580; O, P		0	0							0				0	0
<i>Lespedeza maximowiczii</i> var. <i>tomentella</i> Nakai 털조록싸리 Y100202, Y100352; O, P		0	0												
<i>Lespedeza pilosa</i> (Thunb.) Siebold & Zucc. 팽이싸리 WR-070919-132, WR-071017-097, WR-071024-086, WR-071024-127, Y101289, Y101766, Y101823; P		0	0		0	0	0	0		0					
<i>Lespedeza tomentosa</i> (Thunb.) Siebold ex Maxim. 개싸리 WR-071024-082, Y100294, Y101961; P		0			0	0									
<i>Lespedeza virgata</i> (Thunb.) DC. 줄싸리 04100107, ESJeon90663, WR-070801-081, WR-070815-121, WR-071017-087, Y101288, Y101544; O, P	0	0	0					0		0	0			0	
<i>Lotus corniculatus</i> var. <i>japonica</i> Regel 별노랑이 ParkSH70474, WR-070606-075, Y100265; P, M			0	0								0			
<i>Medicago lupulina</i> L. 잔개자리 WR-070606-010, Y102144; P	0		0												
<i>Medicago polymorpha</i> L. 개자리 HHS100381, HHS100534, ParkSH70475, WR-070606-073, Y100035, Y100244, Y100328; P		0	0	0		0						0	0		0
<i>Melilotus suaveolens</i> Ledeb. 전동싸리 04100097, Y102001; P			0				0								
<i>Milletia japonica</i> (Siebold & Zucc.) A.Gray 애기등 04100080; O					0										
<i>Pueraria lobata</i> (Willd.) Ohwi 췌 WR-070815-164, Y100628, Y101146, Y101231, Y101436, Y101695, Y102051; E, M, S, P	0	0		0		0	0						0	0	
<i>Rhynchosia acuminatifolia</i> Makino 큰여우콩 WR-070801-085, WR-071024-126; P				0							0				
<i>Rhynchosia volubilis</i> Lour. 여우콩 HHS100098, HHS100514, J100017, ParkSH94430, WR-071024-019, WR-071024-190, Y102025; U			0		0	0	0			0				0	
<i>Robinia pseudoacacia</i> L. 아까시나무 ParkSH70491, Y100011, Y101556, Y102130; T, P	0							0				0	0		
<i>Senna tora</i> (L.) Roxb. 결명자 Y101260, Y101405; M		0		0											
<i>Sophora flavescens</i> Solander ex Aiton 고삼 Y100300, Y100373; M		0									0				
<i>Trifolium campestre</i> Schreb. 노랑토끼풀 WR-070530-092					0										
<i>Trifolium repens</i> L. 토끼풀 Y100367, Y100514; P		0													0
<i>Vicia amoena</i> Fisch. ex DC. 갈퀴나물 WR-070502-021; E, P										0					
<i>Vicia angustifolia</i> var. <i>segetilis</i> (Thuill.) K.Koch. 살갈퀴 HHS100369, J100031, WR-070502-013, WR-070509-142, Y100164, Y100319; E, P	0	0								0		0		0	0
<i>Vicia cracca</i> L. 등갈퀴나물 Y102126; E, P		0													
<i>Vicia hirsuta</i> (L.) Gray 새완두 WR-070509-092, WR-070606-108, Y102124; E, P	0		0									0			
<i>Vicia sepium</i> L. 구주갈퀴덩굴 JKS2092						0									
<i>Vicia tetrasperma</i> (L.) Schreb. 열치기완두 WR-070502-012, Y100174, Y102125; P	0									0				0	
<i>Vicia unijuga</i> A.Braun 나비나물 ParkSH94427; E, P										0					
<i>Vicia villosa</i> Roth 뱃지 Choi-105182, Choi-105187; P											0				
<i>Vigna angularis</i> (Willd.) Ohwi & H. Ohashi 팥 Y101981; E								0							
<i>Vigna angularis</i> var. <i>nipponensis</i> (Ohwi) Ohwi & H. Ohashi 새팥 Y101239, Y101461, Y101892; E	0	0						0							
<i>Vigna umbellata</i> (Thunb.) Ohwi & Ohahsi 덩굴팥 Y101673, Y101786; E								0							
<i>Vigna unguiculata</i> (L.) Walp. 동부 Y101261, Y101407, Y101408; E		0		0											
<i>Vigna vexillata</i> var. <i>tsusimensis</i> Matsum. 돌동부 Y100622, Y101613; E, P	0													0	
<b>Oxalidaceae 켁이밥과</b>															
<i>Oxalis corniculata</i> L. 켁이밥 HHS100392, HHS100525, WR-070411-016, WR-070530-051, WR-070606-085, WR-071017-142, Y100156, Y100320, Y100433, Y101150, Y101320; E, M	0	0	0		0	0	0	0		0				0	0
<i>Oxalis stricta</i> L. 선쟁이밥 WR-070509-097, Y100017, Y101526, Y101867, Y102079; E	0					0	0					0	0		
<b>Geraniaceae 쥐손이풀과</b>															
<i>Geranium thunbergii</i> Siebold & Zucc. 이질풀 WR-071024-132, Y101396, Y101978, Y102048; M, P			0	0		0	0								
<i>Geranium wilfordii</i> Maxim. 세잎쥐손이 Y101879, Y101947; M						0	0								



Appendix 1. Continued

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>Euphorbiaceae 대극과</b>															
<i>Acalypha australis</i> L. 깨풀 WR-070801-078, WR-071017-093, Y100200, Y101174, Y101277, Y101306, Y101421, Y101572, Y101612; E	○	○		○		○	○	○			○			○	○
<i>Euphorbia esula</i> L. 흰대극 WR-070530-073, WR-070606-076; M			○		○										
<i>Euphorbia helioscopia</i> L. 등대풀 HHS100077, HHS100319, HHS100393, HHS100530; M	○					○	○								○
<i>Euphorbia pekinensis</i> Rupr. 대극 Y100275, Y101602; M, P	○			○											
<i>Euphorbia supina</i> Raf. 애기땅빈대 ParkSH81844, WR-071017-144, Y101149, Y101212, Y101749; U	○	○						○	○		○				
<i>Mallotus japonicus</i> (Thunb.) Müell.Arg. 예덕나무 WR-070815-162, WR-071024-111, Y100204, Y100289, Y100492, Y100525, Y101154, Y101330, Y101770, Y101966; M	○	○	○	○		○	○			○				○	○
<i>Phyllanthus ussuriensis</i> Rupr. & Maxim. 여우주머니 Y101151, Y101213, Y101387, Y101691, Y101950; U	○	○		○		○	○								
<i>Securinega suffruticosa</i> (Pall.) Rehder 광대싸리 Y101529; M	○														
<b>Rutaceae 윤향과</b>															
<i>Dictamnus dasycarpus</i> Turcz. 백선 Y100326; M			○												
<i>Orixa japonica</i> Thunb. 상산 04100095, HHS100075, HHS100305, WR-070502-042, Y100064; M	○		○							○				○	○
<i>Zanthoxylum piperitum</i> (L.) DC. 초피나무 WR-070509-105, Y100075, Y101668; E, M								○				○	○		
<i>Zanthoxylum planispinum</i> Siebold & Zucc. 개산초 Y101315, Y101901, YJ100041; E								○		○			○		
<i>Zanthoxylum schinifolium</i> Siebold & Zucc. 산초나무 WR-070815-069, WR-071017-029, WR-071024-098, WR-071024-128, Y100624, Y101637, Y102002, Y102031; E	○		○		○	○	○	○						○	○
<b>Meliaceae 멸구슬나무과</b>															
<i>Melia azedarach</i> L. 멸구슬나무 WR-070530-153, WR-070606-002, WR-070919-229, Y100078, Y100354, Y100465; M		○	○		○					○				○	○
<b>Polygalaceae 원지과</b>															
<i>Polygala japonica</i> Houtt. 애기풀 WR-070502-008, WR-070606-097, Y100274; E, M				○	○					○					
<i>Salomonina oblongifolia</i> DC. 병아리다리 WR-070919-200; U										○					
<b>Anacardiaceae 옷나무과</b>															
<i>Rhus javanica</i> L. 붉나무 WR-071024-094, Y101317, Y101393, Y101600, Y102042; E, M, R	○			○	○	○	○							○	
<i>Rhus sylvestris</i> Siebold & Zucc. 산검양옷나무 ParkSH70490, WR-070919-106, Y100166, Y100255, Y100623; U					○					○		○	○	○	○
<b>Aceraceae 단풍나무과</b>															
<i>Acer pictum</i> Thunb. 털고로쇠나무 WR-070509-103; O, M, P													○		
<b>Sabiaceae 나도밤나무과</b>															
<i>Meliosma oldhamii</i> Maxim. 합다리나무 Y100070, Y100207; E					○									○	
<b>Aquifoliaceae 감탕나무과</b>															
<i>Ilex cornuta</i> Lindl. & Paxton 호랑가시나무 HHS100096, YJ100032, YJ100052; O					○						○			○	
<i>Ilex integra</i> Thunb. 감탕나무 HHS100516; O, P								○							
<i>Ilex macropoda</i> Miq. 대팻집나무 WR-070606-159; E				○											
<b>Celastraceae 노박덩굴과</b>															
<i>Celastrus orbiculatus</i> Thunb. 노박덩굴 JKS2100, WR-070530-101, WR-070815-135, Y100250, Y100298, Y100505, Y101144, Y101696; E, O, R	○	○		○	○	○	○			○					○
<i>Euonymus alatus</i> (Thunb.) Siebold 화살나무 JKS2096, WR-070530-065, WR-070606-104, Y100252, Y100573, Y101657; E, M, P				○	○	○	○	○							○
<i>Euonymus fortunei</i> var. <i>radicans</i> (Miq.) Rehder 줄사철나무 Y100524; O															○
<i>Euonymus hamiltonianus</i> Wall. 참빗살나무 WR-070509-107, Y100072, Y100523, Y101156; M, P	○											○	○	○	○
<i>Euonymus japonicus</i> Thunb. 사철나무 HHS100117, Y100008, Y100494, Y101140, Y101788; O	○							○		○				○	○
<i>Euonymus oxyphyllus</i> Miq. 참회나무 Y100608; P														○	
<i>Euonymus quelpaertensis</i> Nakai 등근잎참빗살나무 Y102136; U	○														
<i>Euonymus sachalinensis</i> (F.Schmidt) Maxim. 회나무 WR-070502-069										○					
<i>Tripterygium regelii</i> Sprague & Takeda 미역줄나무 ESJeon90682; U										○					
<b>Staphyleaceae 고추나무과</b>															
<i>Euscaphis japonica</i> (Thunb.) Kanitz 말오줌때 JKS2059, WR-070509-051, WR-070606-068, WR-070801-040, WR-070815-149, WR-070919-108, Y100346, Y100394; U		○	○				○			○	○	○			○
<i>Rhamnella franguloides</i> (Maxim.) Weberb. 까마귀베개 Y100185; U															○
<i>Rhamnus yoshinoi</i> Makino 짝자래나무 WR-070606-157; U						○									
<i>Sageretia theezans</i> (L.) Brongn. 상동나무 WR-070530-098, WR-070606-151; E						○	○								

Appendix 1. Continued

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Zizyphus jujuba</i> var. <i>inermis</i> (Bunge) Rehder 대추나무 Y100160; E, M															0
<b>Vitaceae 포도과</b>															
<i>Ampelopsis brevipedunculata</i> (Maxim.) Trautv. 개머루 WR-071024-079, Y100087, Y100251, Y100438, Y101148, Y101229, Y101768, Y101848; U	0	0		0	0	0	0			0					0
<i>Cayratia japonica</i> (Thunb.) Gagnep. 거지덩굴 Y101170; M	0														
<i>Parthenocissus tricuspidata</i> (Siebold & Zucc.) Planch. 담쟁이덩굴 Y100086, Y102153; O, P	0														0
<i>Vitis ficifolia</i> var. <i>simata</i> (Regel) H.Hara 까마귀머루 WR-070530-039, WR-070801-036, WR-071017-114, Y100141, Y100345, Y100503, Y100606, Y101395, Y101509, Y101706; E, P	0	0		0	0	0		0		0	0			0	0
<i>Vitis flexuosa</i> Thunb. 새머루 NAM-070530-116, WR-070815-137, Y100511, Y101662; E, P						0		0		0					0
<b>Tiliaceae 피나무과</b>															
<i>Corchoropsis psilocarpa</i> Harms & Loes. 까치깨 Y101517; U	0														
<i>Corchoropsis tomentosa</i> (Thunb.) Makino 수까치깨 WR-071024-038, Y100655, Y101211; U		0			0										0
<i>Grewia parviflora</i> Bunge 장구밥나무 04100089, Y101694; E, P					0		0								
<b>Malvaceae 아욱과</b>															
<i>Abutilon theophrasti</i> Medicus 어저귀 Y101281, Y101343, Y101727		0		0		0									
<i>Malva neglecta</i> Wallr. 난쟁리아욱 Y102066							0								
<b>Thymelaeaceae 팔꽃나무과</b>															
<i>Daphne kiusiana</i> Miq. 백서향 WR-070530-138; R						0									
<b>Elaeagnaceae 보리수나무과</b>															
<i>Elaeagnus glabra</i> Thunb. 보리장나무 WR-071017-158, WR-071024-109, YJ100055; E, P				0					0		0				
<i>Elaeagnus macrophylla</i> Thunb. 보리밥나무 HHS100317, J100021, J100034, Y101722; E, P		0					0	0							
<i>Elaeagnus umbellata</i> Thunb. 보리수나무 04100088, WR-070502-038, WR-070509-126, WR-071017-103, Y100135, Y101268, Y101693, Y102058; E, P		0			0	0	0	0		0		0		0	0
<b>Violaceae 제비꽃과</b>															
<i>Viola acuminata</i> Ledeb. 줄방제비꽃 WR-070502-122, Y100529; E										0					0
<i>Viola albida</i> Palib. 태백제비꽃 Y101473; E		0													
<i>Viola albida</i> var. <i>chaerophylloides</i> (Regel) F.Maek. 남산제비꽃 HHS100059, HHS100450, WR-070502-086, WR-070509-177, Y100040; U							0			0		0	0		0
<i>Viola collina</i> Besser 둥근털제비꽃 WR-070411-019; U															0
<i>Viola grypoceras</i> A.Gray 뉘시제비꽃 HHS100452, HHS100455, J100029, J100051, WR-070502-109, WR-070509-176; U		0					0	0		0		0			0
<i>Viola japonica</i> Langsdorf ex Ging. 왜제비꽃 HHS100167, J100025, WR-070411-006, WR-070502-123; U		0						0		0					0
<i>Viola mandshurica</i> W.Becker 제비꽃 WR-070411-115, WR-070502-017, WR-070509-074, WR-070509-136, WR-070530-074, WR-070801-070, WR-071024-179, Y101499; M, E, P	0		0		0				0	0	0	0			0
<i>Viola ovato-oblonga</i> (Miq.) Makino 긴잎제비꽃 HHS100058; U															0
<i>Viola patrinii</i> DC. ex Ging. 흰제비꽃 Y100237, Y100489, Y101614; U		0		0						0					
<i>Viola rossii</i> Hemsl. 고깔제비꽃 HHS100542, WR-070502-087; M							0			0					
<i>Viola variegata</i> var. <i>chinensis</i> Bunge ex Regel 자주알록제비꽃 HHS100168															0
<i>Viola yedoensis</i> Makino 호제비꽃 HHS100451, WR-070411-005; U							0								0
<b>Cucurbitaceae 박과</b>															
<i>Trichosanthes kirilowii</i> Maxim. 하늘타리 Y100609, Y101485, Y101656, Y102076; E, M	0						0	0						0	
<i>Trichosanthes kirilowii</i> var. <i>japonica</i> (Miq.) Kitam. 노랑하늘타리 Y101897; E, M								0							
<b>Onagraceae 바늘꽃과</b>															
<i>Epilobium pyrricholophum</i> Franch. & Sav. 바늘꽃 WR-070919-164; U										0					
<i>Ludwigia prostrata</i> Roxb. 여뀌바늘 WR-071017-164, Y101389, Y101577; U				0			0	0							
<i>Oenothera biennis</i> L. 달맞이꽃 WR-070801-045, Y101348, Y101498, Y101903; O, P	0		0				0				0				
<b>Haloragaceae 개미땀과</b>															
<i>Halorraxis micrantha</i> (Thunb.) R.Br. ex Siebold & Zucc. 개미땀 ParkSH81812, WR-070801-014, Y100144, Y100347; U		0								0	0				0
<b>Cornaceae 층층나무과</b>															
<i>Cornus kousa</i> F.Buenger ex Miguel 산딸나무 Y100453															0
<i>Cornus officinalis</i> Siebold & Zucc. 산수유 YJ100020; M, O					0										
<b>Araliaceae 두릅나무과</b>															
<i>Aralia elata</i> (Miq.) Seem. 두릅나무 Y101769; E, M								0							
<i>Hedera rhombea</i> (Miq.) Bean 송악 HHS100309, YJ100025; M, O, P	0		0												

## Appendix 1. Continued

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>Umbelliferae 산형과</b>															
<i>Angelica decursiva</i> (Miq.) Franch. & Sav. 바디나물 Y101593; E, M	O														
<i>Anthriscus sylvestris</i> (L.) Hoffm. 전호 Y102146; M, P	O														
<i>Cnidium japonicum</i> Miq. 갯사상자 Y101701; M						O									
<i>Daucus carota</i> L. 산당근 Y102006								O							
<i>Daucus littoralis</i> var. <i>koreana</i> Nakai 갯당근 Y101800, Y102155; U	O							O							
<i>Glehnia littoralis</i> F.Schmidt ex Miq. 갯방풍 WR-070530-004; M					O										
<i>Hydrocotyle maritima</i> Honda 선피막이 Y100146, Y100448, Y101397, Y101951; M				O		O				O					O
<i>Hydrocotyle sibthorpioides</i> Lam. 피막이 WR-070919-167										O					
<i>Oenanthe javanica</i> (Blume) DC. 미나리 Y101948; E, M										O					
<i>Ostericum grosseserratum</i> (Maxim.) Kitag. 신감채 Y101312, Y101710, Y101864; P										O	O				O
<i>Peucedanum japonicum</i> Thunb. 갯기름나물 WR-071017-188, WR-071024-041; E							O		O						
<i>Peucedanum terebinthaceum</i> (Fisch.) Fisch. ex DC. 기름나물 WR-070919-163, WR-071017-089, WR-071024-039, WR-071024-142; E				O		O			O		O				
<i>Sium ninsi</i> L. 감자개발나물 ESJeon90966, Y101361; U					O						O				
<i>Torilis japonica</i> (Houtt.) DC. 사상자 JKS2121, WR-070801-075, Y100264, Y100442; M					O		O				O	O			
<i>Torilis scabra</i> (Thunb.) DC. 개사상자 Y101880, Y102043; U							O	O							
<b>Pyrolaceae 노루발과</b>															
<i>Pyrola japonica</i> Klenze ex Alef. 노루발 WR-070606-018, Y100484; M				O							O				
<b>Ericaceae 진달래과</b>															
<i>Rhododendron mucronulatum</i> Turcz. 진달래 HHS100070, HHS100076, HHS100334, HHS100349, HHS100505, Y100253, Y100292; O, E			O	O		O				O	O			O	O
<i>Rhododendron yedoense</i> f. <i>poukhanense</i> (H.Lév.) Sugim. 산철쭉 WR-070502-036, WR-070509-061, WR-070509-101, WR-071017-109, Y100127; O			O						O	O	O		O		
<i>Vaccinium bracteatum</i> Thunb. 보새나무 ESJeon90616, HHS100118, WR-071017-115, WR-071024-095; E						O			O		O				O
<i>Vaccinium oldhamii</i> Miq. 청금나무 04100083, ESJeon90658, WR-070606-140, WR-070815-045, Y100123, Y100617; E			O	O		O					O			O	O
<b>Myrsinaceae 자금우과</b>															
<i>Ardisia japonica</i> (Thunb.) Blume 자금우 HHS100072, HHS100083, HHS100396, HHS100543, J100046, WR-070606-110, YJ100033; O		O	O	O		O	O							O	O
<b>Primulaceae 앵초과</b>															
<i>Lysimachia barystachys</i> Bunge 까치수염 WR-070919-026; E											O				
<i>Lysimachia clethroides</i> Duby 큰까치수염 ESJeon90613, WR-070606-102, WR-070801-086, WR-070815-088, Y100047, Y100224, Y100324, Y101849; E, P		O	O	O		O				O	O			O	O
<i>Lysimachia japonica</i> Thunb. 좁가지풀 JKS2060, ParkSH70438, Y100139, Y100236, Y100589; U					O		O					O		O	O
<i>Lysimachia mauritiana</i> Lam. 갯까치수염 JKS2090, WR-070530-079, Y102007, Y102160; U		O				O	O	O							
<b>Plumbaginaceae 갯질경과</b>															
<i>Limonium tetragonum</i> (Thunb.) A.A.Bullock 갯질경 Y100498, Y101853; E								O			O				
<b>Styracaceae 매죽나무과</b>															
<i>Styrax japonicus</i> Siebold & Zucc. 매죽나무 JKS2099, ParkSH70434, WR-070815-078, Y100065, Y100254, Y100341; O, P		O		O		O						O	O	O	
<b>Symplocaceae 노린재나무과</b>															
<i>Symplocos chinensis</i> f. <i>pilosa</i> (Nakai) Ohwi 노린재나무 WR-070502-077, WR-070530-136, WR-070801-064, Y100068, Y100350; P			O			O				O	O			O	
<i>Symplocos tanakana</i> Nakai 검노린재나무 ESJeon90604, JKS2057, ParkSH70419, WR-070509-059, WR-070606-143, WR-070815-079, WR-071017-021, WR-071024-088, Y100209, Y100542, Y101640, Y101652; U		O	O	O	O	O	O	O	O	O	O		O		O
<b>Oleaceae 물푸레나무과</b>															
<i>Chionanthus retusus</i> Lindl. & Paxton 이팝나무 Y101783, Y102099; O								O	O						
<i>Forsythia koreana</i> (Rehder) Nakai 개나리 YJ100019, YJ100053; O, M					O						O				
<i>Fraxinus rhynchophylla</i> Hance 물푸레나무 WR-070502-065, Y100199; M, P											O				O
<i>Ligustrum japonicum</i> Thunb. 광나무 JKS2104, Y100245					O		O								
<i>Ligustrum obtusifolium</i> Siebold & Zucc. 쥐똥나무 WR-070815-142, WR-070919-118, WR-071024-116, Y100073, Y100246, Y100295, Y101515, Y101690, Y102035; M		O	O	O	O	O	O	O		O				O	O
<b>Loganiaceae 마전과</b>															
<i>Mitrasacme pygmaea</i> R.Br. 큰벼룩아재비 WR-070919-148, Y101413; U					O						O				
<b>Gentianaceae 용담과</b>															
<i>Gentiana scabra</i> Bunge 용담 WR-071024-045, WR-071024-145; M, P				O		O									

Appendix 1. Continued

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Swertia japonica</i> (Schult.) Makino 쓴풀 04100082, WR-071024-159; U					O	O									
<i>Swertia pseudochinensis</i> H.Hara 자주쓴풀 WR-071024-057, WR-071024-140; M					O	O									
<b>Apocynaceae 협죽도과</b>															
<i>Trachelospermum asiaticum</i> (Siebold & Zucc.) Nakai 마삭줄 HHS100088, ParkSH70483, WR-070530-118, WR-070606-147, Y100247, Y100396, Y100532, Y102102; M, P	O	O	O	O	O					O	O		O	O	O
<i>Trachomitum lancifolium</i> (Russov) Pobed. 개정향풀 Ysm026; U										O					
<b>Asclepiadaceae 박주가리과</b>															
<i>Cynanchum atratum</i> Bunge 백미꽃 WR-070530-076; M						O									
<i>Cynanchum paniculatum</i> (Bunge) Kitag. 산해박 WR-070530-143, WR-070530-144, Y100219, Y100386; M						O	O			O					
<i>Metaplexis japonica</i> (Thunb.) Makino 박주가리 WR-070530-071, WR-070801-094, WR-070815-115, Y101210, Y101368, Y101660; E, M, P	O	O	O	O	O					O				O	
<b>Rubiaceae 꼭두서니과</b>															
<i>Diodia teres</i> var. <i>hirsutior</i> Fernald & Griseb. 털백령풀 ChoYH0009; U											O				
<i>Galium dahuricum</i> Turcz. 큰일갈퀴 Y100006; U													O		
<i>Galium koreanum</i> (Nakai) Nakai 참갈퀴덩굴 JKS2065; U								O							
<i>Galium pogonanthum</i> Franch. & Sav. 산갈퀴 Y100533; U															O
<i>Galium spurium</i> var. <i>echinospermum</i> (Wallr.) Hayek 갈퀴덩굴 WR-070509-054, Y100186, Y100304, Y100551, Y102140; E, M	O	O								O				O	O
<i>Galium trachyspermum</i> A.Gray 네일갈퀴 WR-070509-152, WR-070606-109; U						O						O			
<i>Galium verum</i> var. <i>asiaticum</i> Nakai 솔나물 ESJeon90614, WR-070801-051, WR-070815-104; P										O	O			O	
<i>Mitchella undulata</i> Siebold & Zucc. 호자덩굴 HHS100086, Y101594; U	O														O
<i>Paederia scandens</i> (Lour.) Merr. 계요등 ESJeon90655, WR-070815-146, WR-071017-112, Y100615, Y101147, Y101269, Y101388, Y101827, Y101904; M	O	O	O	O	O	O	O	O	O	O			O	O	
<i>Rubia akane</i> Nakai 꼭두서니 Y101453; U	O														
<i>Rubia cordifolia</i> var. <i>pratensis</i> Maxim. 갈퀴꼭두서니 Y101533, Y101654, Y101763, Y101954; M	O						O	O							
<i>Serissa japonica</i> (Thunb.) Thunb. 백정화 Y100357; U					O										
<b>Convolvulaceae 매꽃과</b>															
<i>Calystegia hederacea</i> Wall. 애기매꽃 Y101469, Y101890; E, M	O							O							
<i>Calystegia soldanella</i> (L.) Roem. & Schultb. 갯매꽃 JKS2050, WR-070530-007, WR-070606-038, Y100027, Y102158; U	O	O			O	O	O						O		
<i>Cuscuta pentagona</i> Engelm. 미국실새삼 Y101409					O										
<i>Ipomoea hederacea</i> Jacq. 미국나팔꽃 Y101626, Y101723	O					O									
<i>Quamoclit coccinea</i> Moench 둥근잎유홍초 Y101205; O		O													
<i>Quamoclit pennata</i> (Desr.) Bojer 유홍초 ParkSH81815; O										O					
<b>Boraginaceae 지치과</b>															
<i>Argusia sibirica</i> (L.) Dandy 모래지치 JKS2079, WR-070530-140, WR-070606-021, Y102165; U	O	O			O	O									
<i>Bothriospermum secundum</i> Maxim. 참꽃받이 HHS100378, Y100214, Y100495; U					O					O					O
<i>Bothriospermum tenellum</i> (Hornem.) Fisch. & C.A.Mey. 꽃받이 Y100021, Y102115; U	O												O		
<i>Lithospermum arvense</i> L. 개지치 HHS100300, HHS100391; E	O							O							
<i>Lithospermum zollingeri</i> A.DC. 반디지치 04100096, HHS100304, WR-070411-085, WR-070502-120, WR-070509-089; U	O	O								O	O				O
<i>Trigonotis peduncularis</i> (Trevir.) Benth. ex Hemsl. 꽃마리 HHS100374, JKS2061, Y100155, Y100217; E						O	O							O	O
<b>Verbenaceae 마편초과</b>															
<i>Callicarpa japonica</i> Thunb. 작살나무 Y100378, Y100591, Y101644; O								O		O					O
<i>Callicarpa mollis</i> Siebold & Zucc. 새비나무 JKS2093, ParkSH70458, WR-070530-108, WR-070606-106, WR-070815-153, WR-071024-123, Y100077, Y100380; O					O	O	O			O	O	O	O	O	
<i>Callicarpa shirasawana</i> Makino 개새비나무 WR-071024-125; O					O										
<i>Caryopteris incana</i> (Thunb.) Miq. 층꽃나무 WR-071017-023, WR-071024-003, Y101259, Y101309; O		O			O			O					O		
<i>Clerodendrum trichotomum</i> Thunb. 누리장나무 Y100625, Y101206, Y101482, Y101767, Y102062; E, M, P	O	O					O	O					O		
<i>Verbena officinalis</i> L. 마편초 WR-071017-005, Y100316, Y101134, Y101676, Y101959; M	O	O					O	O	O						
<i>Vitex rotundifolia</i> L.f. 순비기나무 04100103, WR-070801-099, Y101164, Y101342, Y101559, Y101913; M	O	O	O			O	O				O				

Appendix 1. Continued

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>Labiatae 꿀풀과</b>															
<i>Agastache rugosa</i> (Fisch. & Mey.) Kuntze 배초향 Y101731; E															
<i>Ajuga decumbens</i> Thunb. 금창초 HHS100532, J100044, WR-070411-032; M															
<i>Amethystea caerulea</i> L. 개차즈기 Y101548; U															
<i>Clinopodium chinense</i> var. <i>parviflorum</i> (Kudo) Hara 층층이꽃 Y100654, Y101208, Y101488, Y101762, Y102045; E															
<i>Isodon inflexus</i> (Thunb.) Kudô 산박하 WR-070919-161, WR-071017-062, WR-071024-030, WR-071024-151, Y100663, Y101173, Y101267, Y101344, Y101649, Y101719; E															
<i>Lamium amplexicaule</i> L. 광대나물 HHS100109, HHS100330, HHS100380, HHS100389, Y100039, Y102150, YJ100003, YJ100056; E															
<i>Leonurus japonicus</i> Houtt. 익모초 WR-070801-058, Y101204, Y101328, Y101428, Y101500, Y101697, Y102087; M															
<i>Leonurus macranthus</i> Maxim. 송장풀 Y101746; M															
<i>Lycopus lucidus</i> Turcz. 썩싸리 WR-070919-068, WR-070919-069; M															
<i>Lycopus maaackianus</i> (Maxim.ex Herder) Makino 애기썩싸리 ESJeon90967; U															
<i>Lycopus ramosissimus</i> (Makino) Makino 개썩싸리 Y101283; U															
<i>Mosla chinensis</i> Maxim. 가는잎산들개 WR-070919-255, WR-071024-170; U															
<i>Mosla dianthera</i> (Buch.-Ham. ex Roxb.) Maxim. 쥐깨풀 WR-071017-187, WR-071024-074, Y101631, Y101688; M, E															
<i>Mosla japonica</i> (Benth.) Maxim. 산들개 ParkSH81833; P															
<i>Mosla punctulata</i> (J.F.Gmel.) Nakai 들깨풀 WR-070919-257, WR-071017-066, Y100033, Y100241, Y101220, Y101504; M															
<i>Prunella vulgaris</i> var. <i>lilacina</i> Nakai 꿀풀 ParkSH70448, WR-070530-145, WR-070606-099, WR-070801-050, Y100059, Y100171, Y100239, Y100339, Y100421, Y100547; E, M															
<i>Salvia japonica</i> Thunb. 둥근배암차즈기 Y100418; M															
<i>Salvia plebeia</i> R.Br. 배암차즈기 Y100321, Y100550; U															
<i>Scutellaria fauriei</i> H.Lév. & Vaniot 그늘골무꽃 Y100488, Y100535; U															
<i>Scutellaria indica</i> L. 골무꽃 JKS2053, ParkSH70439, WR-070502-009, WR-070509-079, WR-070530-174, WR-070606-100, Y100058, Y100181, Y100519, Y102154; M															
<i>Scutellaria strigillosa</i> Hemsl. 참골무꽃 Y100363; U															
<b>Solanaceae 가지과</b>															
<i>Datura stramonium</i> var. <i>chalybea</i> Koch 독말풀 Y102008; M															
<i>Lycium chinense</i> Mill. 구기자나무 Y102005; E, M															
<i>Physalis alkekengi</i> var. <i>francheti</i> (Mast.) Hort. 파리 Y101618; E, M															
<i>Physalis angulata</i> L. 땅파리 Y101454; O															
<i>Solanum lyratum</i> Thunb. 배풍등 04100087, Y100626, Y101519; U															
<i>Solanum nigrum</i> L. 까마중 Y101274, Y101437, Y101507, Y101835; E, M, P															
<b>Scrophulariaceae 현삼과</b>															
<i>Centranthera cochinchinensis</i> var. <i>lutea</i> (Hara) Hara 성주풀 ParkSH81840															
<i>Lindernia micrantha</i> D.Don 논뚝외풀 Y101398															
<i>Lindernia procumbens</i> (Krock.) Borbás 발뚝외풀 WR-071017-180, Y100050, Y101583; U															
<i>Mazus pumilus</i> (Burm.f.) Steenis 주름잎 HHS100102, HHS100359, WR-071017-016, Y100232, Y100333, Y101579; E															
<i>Melampyrum roseum</i> Maxim. 꽃머느리밥풀 WR-070801-097, WR-070919-159, Y101744, Y101960; U															
<i>Melampyrum roseum</i> var. <i>ovalifolium</i> Nakai ex Beauverd 알머느리밥풀 Y101296, Y101702; U															
<i>Paulownia coreana</i> Uyeki 오동나무 Y100284; T															
<i>Veronica arvensis</i> L. 선개불알풀 Y100041, Y100177; U															
<i>Veronica didyma</i> var. <i>lilacina</i> (H.Hara) T.Yamaz. 개불알풀 HHS100375, HHS100387, Y102114															
<i>Veronica linariifolia</i> Pall. ex Link 꼬리풀 ESJeon90968; U															
<i>Veronica persica</i> Poir. 큰개불알풀 HHS100318, HHS100344, HHS100379, HHS100533, J100012, Y100025, Y100356, YJ100006, YJ100058; U															
<i>Veronica undulata</i> Wall. 물칭개나물 JKS2109; U															
<b>Acanthaceae 쥐꼬리망초과</b>															
<i>Justicia procumbens</i> L. 쥐꼬리망초 WR-071017-007, WR-071024-071, Y101218, Y101367, Y101683, Y101953; M, P															

**Appendix 1. Continued**

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>Lentibulariaceae 통발과</b>															
<i>Utricularia bifida</i> L. 땅귀개 ParkSH94434															0
<i>Utricularia pilosa</i> Makino 들통발 WR-070919-224; U															0
<i>Utricularia racemosa</i> Wall. 이삭귀개 ParkSH94435, WR-070801-096, Y101450; U				0							0	0			
<b>Phrymaceae 파리풀과</b>															
<i>Phryma leptostachya</i> var. <i>asiatica</i> H.Hara 파리풀 WR-070801-092, Y101490; M		0										0			
<b>Plantaginaceae 질경이과</b>															
<i>Plantago asiatica</i> L. 질경이 WR-070801-069, WR-070815-063, WR-071017-170, Y100046, Y100437, Y101216, Y101466, Y101785; E, M, P		0	0					0	0		0	0		0	0
<i>Plantago major</i> var. <i>japonica</i> (Franch. & Sav.) Miyabe 왕질경이 Y101938; E, M							0								
<b>Caprifoliaceae 인동과</b>															
<i>Lonicera harai</i> Makino 길마가지나무 HHS100074, HHS100321; U		0													0
<i>Lonicera japonica</i> Thunb. 인동 JKS2068, WR-070530-114, WR-070606-006, WR-070801-060, WR-070815-073, WR-070919-197, WR-071017-095, Y100012, Y100229, Y100355, Y100588, Y102105; M, P		0	0	0	0	0	0		0		0	0		0	0
<i>Lonicera japonica</i> var. <i>repens</i> (Siebold) Rehder 털인동 WR-070530-022, Y101575, Y101955; M, P							0	0	0						
<i>Sambucus williamsii</i> var. <i>coreana</i> (Nakai) Nakai 딱총나무 J100005; E, M, P									0						
<i>Viburnum carlesii</i> Hemsl. 분꽃나무 HHS100540, Y100603; U								0					0		
<i>Viburnum erosum</i> Thunb. 털팽나무 ESJeon90659, JKS2105, WR-070509-115, Y100472, Y100586, Y100607; P								0			0	0	0	0	0
<i>Weigela subsessilis</i> (Nakai) L.H.Bailey 병꽃나무 WR-070509-052, WR-070815-140, Y100071; O, P										0			0	0	
<b>Valerianaceae 마타리과</b>															
<i>Patrinia scabiosaefolia</i> Fisch. ex Trevir. 마타리 WR-070815-047, WR-070919-031, WR-071017-088, WR-071024-150, Y101425; E, M, P				0	0				0		0				0
<i>Patrinia villosa</i> (Thunb.) Juss. 똑갈 WR-070919-171, WR-071017-092, WR-071024-185, Y100662, Y101435, Y101492, Y101963; E				0	0	0		0		0				0	
<i>Valeriana fauriei</i> var. <i>dasycarpa</i> Hara 광릉취오줌풀 Y102122; M, E				0											
<b>Campanulaceae 초롱꽃과</b>															
<i>Adenophora polyantha</i> Nakai 수원잔대 04100099, ParkSH94426, WR-071017-081, WR-071024-104; E				0		0			0		0				
<i>Adenophora remotiflora</i> (Siebold & Zucc.) Miq. 모시대 WR-070919-034; E, M											0				
<i>Adenophora stricta</i> Miq. 당잔대 WR-071024-102, WR-071024-106; E						0	0								
<i>Adenophora triphylla</i> var. <i>japonica</i> (Regel) H.Hara 잔대 Y101491, Y101784, Y101840	0							0	0						
<i>Adenophora verticillata</i> Fisch. 층층잔대 WR-070815-075, WR-070919-169, Y101175; E	0										0				0
<i>Codonopsis ussuriensis</i> (Rupr. & Maxim.) Hemsl. 소경불알 Y100468; E															0
<i>Platycodon grandiflorum</i> (Jacq.) A.DC. 도라지 WR-070801-095, WR-070815-076, WR-070919-226, WR-071024-048, WR-071024-187, Y101359, Y101821; M, O				0	0	0	0				0	0			0
<i>Wahlenbergia marginata</i> (Thunb.) A.DC. 애기도라지 WR-070530-053, WR-070606-078, WR-071017-009; U				0	0				0						
<b>Compositae 국화과</b>															
<i>Ambrosia artemisiifolia</i> L. 돼지풀 Y101565; U															0
<i>Artemisia capillaris</i> Thunb. 사철쭉 Y101167, Y101295, Y101563, Y101707; E, P		0						0	0						0
<i>Artemisia japonica</i> Thunb. 제비쭉 ParkSH81806, WR-070815-101, Y101286, Y101427, Y101596, Y101703, Y101750; E, P		0	0		0			0	0		0				0
<i>Artemisia keiskeana</i> Miq. 맑은대쭉 WR-070919-166, Y100657; E, M, P											0				0
<i>Artemisia princeps</i> Pamp. 쭉 Y100385, Y101162, Y101217, Y101418, Y101658, Y102074; U		0	0		0			0	0		0				0
<i>Aster hispidus</i> Thunb. 갯쭉부쟁이 ParkSH70488, WR-070530-167, Y101132, Y101294, Y101742, Y101748; E, M		0					0	0	0			0	0		
<i>Kalimeris incisa</i> (Fisch.) DC. 가새쭉부쟁이 Y100276; U						0									
<i>Aster magnus</i> Y.N.Lee & C.S.Kim 왕갯쭉부쟁이 WR-070606-082					0										
<i>Aster meyerendorffii</i> (Regel & Maack) Voss 개쭉부쟁이 WR-071017-051, WR-071024-065, WR-071024-121; U					0		0		0						
<i>Aster scaber</i> Thunb. 참취 WR-070919-020, WR-071024-149, Y100661, Y101360, Y101495, Y101666, Y101965; E, P		0	0	0		0	0		0		0				0
<i>Aster subulatus</i> Michx. 비짜루국화 WR-071017-074											0				
<i>Aster subulatus</i> var. <i>sandwicensis</i> A.G.Jones 큰비짜루국화 Y101257, Y101400, Y101578, Y101936			0		0		0	0							
<i>Kalimeris yomena</i> Kitam. 쭉부쟁이 Y101860											0				
<i>Atractylodes ovata</i> (Thunb.) DC. 삼주 WR-070919-170, WR-071024-183, Y101824; E, M, P					0			0			0				

## Appendix 1. Continued

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Bidens bipinnata</i> L. 도깨비바늘 WR-071017-057, Y100656, Y101135, Y101291, Y101438, Y101923, Y101979; E, M, P	O	O		O		O	O	O							O
<i>Bidens biternata</i> (Lour.) Merr. & Sherff ex Sherff 털도깨비바늘 Y101546, Y101687, Y101837; P		O				O	O								
<i>Bidens frondosa</i> L. 미국가막사리 WR-070919-078, Y101201; P		O								O					
<i>Breca segeta</i> (Willd.) Kitam. 조뱅이 Y100302, Y100479, Y102088; E, M, P		O				O								O	
<i>Calendula arvensis</i> L. 금잔화 HHS100087; O														O	
<i>Carpesium abrotanoides</i> L. 담배풀 WR-070919-030, Y101258; M		O								O					
<i>Carpesium cernuum</i> L. 춤담배풀 WR-070919-234; E										O					
<i>Carpesium divaricatum</i> Siebold & Zucc. 긴담배풀 Y101209, Y102059; E, M		O				O									
<i>Centipeda minima</i> (L.) A.Br. & Asch. 중대가리풀 WR-070815-106, WR-071017-141, Y101318, Y101446, Y101582; P				O				O	O				O	O	
<i>Cirsium japonicum</i> var. <i>maackii</i> (Maxim.) Matsum. 영경취 JKS2058, WR-070801-049, WR-070815-125, Y100213, Y100534, Y101543; E, M, P	O			O		O					O			O	O
<i>Comyza bonariensis</i> (L.) Cronquist 실망초 WR-070815-103, Y102070; U							O							O	
<i>Comyza canadensis</i> (L.) Cronquist 망초 WR-070801-110, Y101153, Y101188, Y101325, Y101340, Y101558, Y102071; E	O	O		O		O	O				O		O		
<i>Comyza sumatrensis</i> E.Walker 큰망초 ParkSH70455, Y101171, Y101887	O						O					O			
<i>Crepidiastrum denticulatum</i> (Houtt.) J.H.Pak & Kawano 이고들빼기 WR-071024-017, Y102032; E, P					O	O									
<i>Crepidiastrum sonchifolium</i> (Bunge) J.Pak & Kawano 고들빼기 JKS2067, WR-070509-145, WR-070530-161, Y102010; E, P					O	O	O					O			
<i>Dendranthema boreale</i> (Makino) Ling ex Kitam. 산국 WR-071024-055; M, P					O										
<i>Dendranthema indicum</i> (L.) Des Moul. 감국 WR-071024-122; E, M, P			O												
<i>Dendranthema zawadskii</i> var. <i>latilobum</i> (Maxim.) Kitag. 구절초 WR-071017-148; M, P								O							
<i>Eclipta alba</i> var. <i>erecta</i> L. 가는잎한련초 Y101513	O														
<i>Eclipta prostrata</i> (L.) L. 한련초 WR-071017-041, WR-071024-006, Y101279, Y101365, Y101585, Y102092; M		O		O	O	O	O	O							
<i>Erechtites hieracifolia</i> Raf. 붉은서나물 Y101255, Y101496, Y101850; E	O	O				O									
<i>Erigeron annuus</i> (L.) Pers. 개망초 Y100055, Y100145, Y100225, Y100450, Y100543, Y101280; E		O		O						O			O	O	O
<i>Eupatorium japonicum</i> Thunb. 등골나물 WR-070801-091, WR-070815-043, WR-071017-018, WR-071024-005, WR-071024-147, Y101222, Y101298, Y101412, Y101634, Y101643, Y101842; E, P	O	O	O	O	O	O	O	O		O		O	O	O	
<i>Eupatorium lindleyanum</i> DC. 골등골나물 04100091, ParkSH81832, Y101339; E, P			O	O						O					
<i>Eupatorium makinoi</i> var. <i>oppositifolium</i> (Koidz.) Kawahara & Yahara 벌등골나물 WR-070801-090, Y101964; E, P							O				O				
<i>Gnaphalium affine</i> D.Don 떡쭉 JKS2107, ParkSH70436, WR-070411-029, WR-070502-094, WR-070509-094, WR-070530-019, WR-070606-030, WR-070801-117, WR-070815-067, Y100034, Y100240, Y100334; E, M		O	O	O	O	O				O	O	O	O	O	O
<i>Gnaphalium japonicum</i> Thunb. 풀쭉나물 WR-070530-142, WR-070606-061, WR-070801-072, WR-071017-049, WR-071024-075, Y100353, Y100428, Y100455, Y101327, Y102117; E	O	O	O		O			O		O	O		O	O	
<i>Hemistepa lyrata</i> Bunge 지칭개 JKS2095, Y100210, Y100477, Y100515; E, P				O		O								O	O
<i>Holleion maximowiczii</i> Kitam. 깨묵 ParkSH81818; E, M, P										O					
<i>Hypochaeris radicata</i> L. 서양금혼초 WR-070606-083, Y100118, Y100466, Y100570		O	O											O	O
<i>Ixeridium dentatum</i> (Thunb. ex Mori) Tzvelev 씘바귀 JKS2052, ParkSH70415, WR-070502-031, WR-070509-043, WR-070509-149, WR-070530-149, WR-070606-098, Y100038, Y100140, Y100283, Y100574, YJ100005; E, M, P		O	O	O	O	O			O	O		O	O	O	O
<i>Ixeris chinensis</i> (Thunb.) Nakai 노랑선쭉바귀 Y100022														O	
<i>Ixeris debilis</i> (Thunb.) A. Gray 벌음쭉바귀 JKS2074, ParkSH70452, WR-070530-031, WR-070606-020, Y100026, Y100223; E, P				O	O	O	O					O	O		
<i>Ixeris strigosa</i> (H.Lév. & Vaniot) J.H.Pak & Kawano 선쭉바귀 Y102157; E, P	O														
<i>Lactuca indica</i> L. 왕고들빼기 Y100546, Y101275, Y101304, Y101456, Y101581, Y101957; E, M, P	O	O				O	O						O		O
<i>Lactuca raddeana</i> Maxim. 산쭉바귀 Y100553, Y101161, Y101828; E, P	O					O									O
<i>Leibnitzia anandria</i> (L.) Turcz. 솜나물 HHS100056, WR-071024-184, Y100659; E, P			O										O		O
<i>Petasites japonicus</i> (Siebold & Zucc.) Maxim. 머위 HHS100333, J100018; E, M, P								O		O					
<i>Saussurea pulchella</i> (Fisch.) Fisch. 각시취 WR-070919-082; E										O					
<i>Senecio vulgaris</i> L. 개쭉갓 HHS100062, HHS100081, HHS100342, WR-070801-079, YJ100010; U					O					O	O			O	O
<i>Serratula coronata</i> var. <i>insularis</i> (Iljin) Kitam. 산비장이 ESJeon90960, WR-071024-186; E			O							O					

## Appendix 1. Continued

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Sigesbeckia glabrescens</i> Makino 진득찰 WR-071017-037, Y100650, Y101505, Y101689; M, P	O							O	O				O		
<i>Sigesbeckia pubescens</i> Makino 털진득찰 Y101186, Y102097; M, P		O				O									
<i>Solidago virgaurea</i> subsp. <i>asiatica</i> Kitam. ex Hara 미역취 WR-070919-256, WR-071017-056, WR-071024-069, WR-071024-160; E, M			O		O			O		O					
<i>Sonchus asper</i> (L.) Hill 큰방가지뚥 WR-070801-073, WR-071017-175, Y100016, Y100161, Y100314, Y100559, Y102072; P		O					O	O			O		O	O	O
<i>Sonchus brachyotus</i> DC. 사데풀 NAM-070815-103, WR-070530-163, WR-070606-088, Y101282, Y101391, Y101805; E, P		O	O	O	O		O								O
<i>Sonchus oleraceus</i> L. 방가지뚥 Y100221, Y100303, Y100449, Y101476; E, P	O	O		O						O					
<i>Syneilesis aconitifolia</i> (Bunge) Maxim. 애기우산나물 WR-070606-118, Y100220; E, P				O	O										
<i>Taraxacum coreanum</i> Nakai 흰민들레 HHS100314; E, M	O														
<i>Taraxacum mongolicum</i> Hand.-Mazz. 털민들레 HHS100527; E							O								
<i>Taraxacum officinale</i> Weber 서양민들레 HHS100078, HHS100315; E	O														O
<i>Taraxacum platycarpum</i> Dahlst. 민들레 HHS100110, HHS100323, HHS100368, HHS100502, J100019, YJ100007; E, M	O			O		O	O								O
<i>Tephrosia kirilowii</i> (Turcz. ex DC.) Holub 솜방망이 HHS100100, WR-070502-083; E										O					O
<i>Xanthium strumarium</i> L. 도꼬마리 Y101868; M								O							
<i>Youngia japonica</i> (L.) DC. 뿌리뽕이 WR-070411-031, WR-070502-107, WR-070530-070, Y100024, Y100121, Y102112; E	O	O			O					O			O		O
<b>Alismataceae 택사과</b>															
<i>Alisma canaliculatum</i> A. Br. & Bouché 택사 WR-070801-008; M												O			
<i>Alisma orientale</i> (Sam.) Juz. 절경이택사 Y100233; M					O										
<b>Juncaginaceae 지체과</b>															
<i>Triglochin maritimum</i> L. 지체 HHS100377, Y100032; E													O		O
<b>Potamogetonaceae 가래과</b>															
<i>Potamogeton distincutus</i> A.Benn. 가래 Y101946; M, P							O								
<i>Ruppia maritima</i> L. 줄말 WR-070509-001; U												O			
<b>Liliaceae 백합과</b>															
<i>Alettris spicata</i> (Thunb.) Franch. 쥐꼬리풀 ParkSH70416, WR-070509-041, WR-070530-172, WR-070606-065, Y100122, Y100165, Y100238, Y100414, Y100539; U	O	O	O	O	O				O	O		O		O	O
<i>Allium macrostemon</i> Bunge 산달래 HHS100325, ParkSH70444, Y100037, Y100290; E, M	O	O											O	O	
<i>Allium sacculiferum</i> Maxim. 참산부추 WR-071017-053; E								O							
<i>Allium thunbergii</i> G.Don 산부추 ParkSH94428, WR-071024-023, WR-071024-157; E				O		O				O					
<i>Asparagus cochinchinensis</i> (Lour.) Merr. 천문동 04100086, WR-070606-101; M, E				O		O									
<i>Asparagus oligoclonus</i> Maxim. 방울비짜루 ParkSH70423, Y100325; E				O									O		
<i>Asparagus schoberioides</i> Kunth 비짜루 JKS2106, ParkSH70459, WR-070530-186, Y100056, Y100286; E				O		O	O						O	O	
<i>Disporum smilacinum</i> A.Gray 애기나리 JKS2069, WR-070502-018, Y100475; E, P							O			O					O
<i>Disporum uniflorum</i> Baker 윤판나물 Y100528; E, P															O
<i>Hemerocallis dumortieri</i> Morren 각시원추리 WR-070815-058, Y100270; O, E, P					O										O
<i>Hemerocallis fulva</i> (L.) L. 원추리 WR-070530-001; M, O, E, P						O									
<i>Hemerocallis minor</i> Mill. 애기원추리 ParkSH81801; O, E										O					
<i>Hemerocallis thunbergii</i> Baker 노랑원추리 JKS2075; O, E							O								
<i>Lilium amabile</i> Palib. 털중나리 Y100397; M, E										O					
<i>Lilium lancifolium</i> Thunb. 참나리 Y101183, Y101311, Y101732; M, E	O						O							O	
<i>Lilium tsingtauense</i> Gilg 하늘말나리 WR-070919-130, Y100148, Y100582; E, M, P, O										O				O	O
<i>Liriope platyphylla</i> F.T.Wang & T.Tang 맥문동 WR-070815-049, WR-070919-134, Y101157, Y101682, Y101735; M, P	O						O	O		O				O	
<i>Liriope spicata</i> (Thunb.) Lour. 개맥문동 WR-071017-033; M, P									O						
<i>Ophiopogon japonicus</i> (L.f.) Ker Gawl. 소엽맥문동 HHS100302, J100001; M	O							O							
<i>Polygonatum falcatum</i> A.Gray 진황정 WR-070502-062; M, E										O					
<i>Polygonatum involucreatum</i> (Franch. & Sav.) Maxim. 용동굴레 JKS2064, WR-070502-131, WR-070509-132, WR-070606-124, Y100531, Y100648; E, P					O		O			O		O	O	O	O
<i>Polygonatum lasianthum</i> Maxim. 죽대 WR-070502-061; M										O					
<i>Scilla scilloides</i> (Lindl.) Druce 무릇 WR-070815-108, Y101158, Y101287, Y101293, Y101410, Y101675, Y101941; E	O	O		O		O	O						O	O	
<i>Smilax china</i> L. 청미래덩굴 HHS100366, JKS2047, WR-070502-044, WR-070509-064, WR-070509-117, WR-070530-045, WR-070606-149, WR-070815-160, WR-071017-107, Y100063, Y100203, Y100335, Y101659; M, E, P		O	O	O	O	O	O	O	O	O	O	O	O	O	O
<i>Smilax nipponica</i> Miq. 선밀나물 WR-070502-056; E, P													O		



## Appendix 1. Continued

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
<i>Smilax riparia</i> var. <i>ussuriensis</i> (Regel) Hara & T.Koyama 밀나물 WR-071017-101; E, P																O	
<i>Smilax sieboldii</i> f. <i>intermis</i> (Nakai) Hara 민청가시덩굴 WR-070530-125, Y100526, Y102135; E, P	O					O										O	
<i>Tulipa edulis</i> (Miq.) Baker 산자고 HHS100092, HHS100307, HHS100503, WR-070411-014, YJ100065; U	O						O					O		O	O		
<b>Dioscoreaceae 마과</b>																	
<i>Dioscorea japonica</i> Thunb. 참마 WR-070815-167, Y100619; M, E																O	O
<i>Dioscorea nipponica</i> Makino 부채마 WR-071017-105, Y101322, Y101459, Y101667; O, P	O								O	O				O			
<i>Dioscorea quinqueloba</i> Thunb. 단풍마 WR-070815-096, Y100620, Y101484, Y101721, Y101757; P	O								O	O				O	O		
<i>Dioscorea tenuipes</i> Franch. & Sav. 각시마 WR-070801-083, Y101969, Y102041; M									O			O					
<b>Pontederiaceae 물옥잠과</b>																	
<i>Monochoria vaginalis</i> var. <i>plantaginea</i> (Roxb.) Solms 물달개비 Y101580, Y101926; U									O	O							
<b>Iridaceae 붓꽃과</b>																	
<i>Iris ensata</i> var. <i>spontanea</i> (Makino) Nakai 꽃창포 Y100376; O, P																	O
<i>Iris rossii</i> Baker 각시붓꽃 HHS100376, WR-070502-004, WR-070509-096; O, P																	O
<b>Juncaceae 갈대과</b>																	
<i>Juncus alatus</i> Franch. & Sav. 날개골풀 Y100109, Y100194, Y100216; U																O	O
<i>Juncus diastrophanthus</i> Buchenau 별날개골풀 WR-070815-129, Y100242; U																O	
<i>Juncus effusus</i> var. <i>decepiens</i> Buchenau 골풀 WR-070530-083, WR-070606-028, Y101686; M, P																O	
<i>Juncus gracillimus</i> (Buchenau) V.I.Krecz. & Gontsch. 물골풀 Y100508; U																O	
<i>Juncus krameri</i> Franch. & Sav. 비너골풀 WR-070919-036; U																O	
<i>Juncus setchuensis</i> var. <i>effusoides</i> Buchenau 푸른갯골풀 Y100110, Y100134, Y100243, Y100307, Y100413, Y102044; U																O	O
<i>Juncus wallichianus</i> Laharpe 눈비너골풀 WR-070606-057, WR-070801-006, WR-070919-058; U																O	O
<i>Luzula capitata</i> (Miq.) Miq. 평의밥 HHS100054, HHS100091, HHS100331, HHS100531, J100016, J100041, ParkSH70432, WR-070530-135, YJ100024, YJ100054; U	O															O	O
<i>Luzula multiflora</i> Lej. 산평의밥 HHS100539; U																O	
<b>Commelinaceae 닭의장풀과</b>																	
<i>Aneilema keisak</i> Hassk. 사마귀풀 WR-071017-146, Y101356; U																O	
<i>Commelina communis</i> L. 닭의장풀 WR-071024-072, Y100563, Y101181, Y101285, Y101394, Y101670, Y102019; M, E, P	O	O															O
<b>Eriocaulaceae 곡정초과</b>																	
<i>Eriocaulon hondoense</i> Satake 큰개수염 ParkSH81845; U																	O
<i>Eriocaulon miqelianum</i> Körn. 개수염 ParkSH81828; U																	O
<b>Gramineae 벼과</b>																	
<i>Agropyron ciliare</i> (Trin.) Franch. 속털개밀 JKS2083, ParkSH70435, WR-070530-059, Y100095, Y100157, Y100226, Y100359, Y100409, Y100577, Y102181; P	O	O														O	O
<i>Agropyron ciliare</i> f. <i>hackelianum</i> (Ohwi) Y.N.Lee 가는개밀 ParkSH70426, Y102182; P	O															O	
<i>Agropyron tsukushiense</i> var. <i>transiens</i> (Hack.) Ohwi 개밀 Y100262, Y100561, Y100598; P	O															O	O
<i>Agropyron yezoense</i> Honda 자주개밀 Y102173; P	O																
<i>Agrostis clavata</i> Trin. 산겨이삭 WR-070606-034, WR-070606-035; P																O	
<i>Agrostis clavata</i> var. <i>nukabo</i> Ohwi 겨이삭 JKS2082, ParkSH70446, Y100091, Y100417; P																O	O
<i>Alopecurus aequalis</i> var. <i>amurensis</i> (Kom.) Ohwi 뚝새풀 HHS100079, ParkSH70460, Y100101, YJ100015; P																O	O
<i>Alopecurus japonicus</i> Steud. 털뚝새풀 ParkSH70461, WR-070530-013																O	
<i>Alopecurus pratensis</i> L. 큰뚝새풀 HHS100354																	O
<i>Andropogon brevifolius</i> Sw. 쇠풀 WR-070919-173; P																	O
<i>Arthraxon hispidus</i> (Thunb.) Makino 조개풀 WR-071017-176, WR-071024-067; P																O	
<i>Arundinella hirta</i> (Thunb.) Koidz. 새 WR-070919-022, WR-071017-117, WR-071024-011, Y101251, Y101334, Y101636, Y101720, Y101814, Y102192; P	O	O														O	
<i>Arundinella hirta</i> var. <i>ciliata</i> Koidz. 털새 WR-070801-053, WR-070815-071, WR-070919-064, WR-071017-073, WR-071024-153, Y100665, Y101138, Y101254, Y101371, Y101817	O	O	O	O												O	O
<i>Avena fatua</i> L. 메귀리 J100049, ParkSH70453, ParkSH70471, WR-070509-056, Y100093, YJ100002; E, P	O															O	O
<i>Beckmannia syzigachne</i> (Steud.) Fernald 개피 Y100192, Y100311; P																	O
<i>Brachypodium sylvaticum</i> (Huds.) P.Beauv. 숲개밀 Y101645; P																	O
<i>Briza minor</i> L. 방울새풀 Y100231; P																	O

## Appendix 1. Continued

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Bromus japonicus</i> Thunb. 참새귀리 JKS2115, ParkSH70449, WR-070530-057, Y100170, Y100263, Y100358, Y102168; P	0	0		0	0	0						0			0
<i>Bromus unioloides</i> H.B.K. 큰이삭풀 JKS2118, ParkSH70470, WR-070530-062, Y100279, YJ100044		0			0	0						0			0
<i>Calamagrostis arundinacea</i> (L.) Roth 실새풀 WR-070919-153, WR-071024-164, Y100631, Y101243, Y101833; P		0	0			0				0			0		
<i>Calamagrostis epigeios</i> (L.) Roth 산조풀 WR-070801-025, Y101943; P						0					0				
<i>Calamagrostis pseudophragmites</i> (Haller f.) Koeler 갯조풀 WR-070801-108; P											0				
<i>Capillipedium parviflora</i> (R.Br.) Stapf. 나도기름새 ParkSH81805, WR-071017-019, WR-071024-009, WR-071024-155, Y101832, Y101972; P			0		0	0	0	0		0					
<i>Catapodium rigidum</i> (L.) C.E.Hubb. 고사리새 ParkSH70466												0			
<i>Cleistogenes hackelii</i> (Honda) Honda 대새풀 Y100667, Y101760, Y101826; P							0	0					0		
<i>Cymbopogon tortilis</i> var. <i>goeringii</i> (Steud.) Hand.-Mazz. 개솔새 ParkSH81846, WR-071017-077, WR-071024-035, WR-071024-177, Y100671, Y101145, Y101246, Y101439, Y101994, Y102028; P	0	0	0	0	0	0	0	0		0			0		
<i>Cynodon dactylon</i> (L.) Pers. 우산잔디 Y101137, Y101200, Y101557; U	0	0						0							
<i>Dactylis glomerata</i> L. 오리새 Y100266, Y100464, Y100549, Y102171; P	0			0											0 0
<i>Diarrhena fauriei</i> (Hack.) Ohwi 광릉용수염 JKS2081, Y100094; P								0					0		
<i>Digitaria ciliaris</i> (Retz.) Koel. 바랭이 ParkSH81841, WR-071017-015, WR-071024-015, Y100642, Y101136, Y101250, Y101372, Y101562, Y102082	0	0		0	0	0	0	0		0			0		
<i>Digitaria violascens</i> Link 민바랭이 Y101245; P		0													
<i>Dimeria ornithopoda</i> Trin. 잔디바랭이 ParkSH81831, WR-071024-063, WR-071024-135; P			0		0					0					
<i>Echinochloa crusgalli</i> (L.) P.Beauv. 돌피 Y100637, Y101240, Y101376, Y101474, Y101576, Y101729; E, S	0	0		0		0	0						0		
<i>Echinochloa crusgalli</i> var. <i>echinata</i> Honda 물피 Y101440, Y101813, Y101937; E, P				0		0	0								
<i>Echinochloa crusgalli</i> var. <i>praticola</i> Ohwi 줌돌피 WR-070919-232										0					
<i>Echinochloa oryzoides</i> (Ard.) Fritsch 논피 WR-070919-154										0					
<i>Eleusine indica</i> (L.) Gaertn. 왕바랭이 WR-071017-031, Y100668, Y101180, Y101248, Y101374, Y101564, Y102063; P	0	0		0		0	0	0					0		
<i>Elymus dahuricus</i> Turcz. ex Griseb. 갯보리 Y100104, Y100490, Y102177; U	0									0			0		
<i>Elymus mollis</i> Trin. 갯그렁 WR-070530-060, Y100108, Y102166; U	0				0								0		
<i>Eragrostis curvula</i> Nees 능수참새그렁 WR-070606-043, Y100458			0												0
<i>Eragrostis ferruginea</i> (Thunb.) P.Beauv. 그렁 Y101249, Y101333, Y101377, Y101747, Y101945; P		0		0		0	0						0		
<i>Eragrostis japonica</i> (Thunb.) Trin. 각시그렁 Y102091; P							0								
<i>Eragrostis multicaulis</i> Steud. 비노리 Y101574; P								0							
<i>Eragrostis pilosa</i> (L.) P.Beauv. 큰비노리 Y101973; P								0							
<i>Eriochloa villosa</i> (Thunb.) Kunth 나도개피 Y100638, Y101523, Y101989; P	0							0					0		
<i>Eulalia speciosa</i> (Debeaux) Kuntze 개억새 ParkSH81822, WR-071017-055, WR-071024-061, WR-071024-133, Y101872; P				0		0		0	0	0					
<i>Festuca arundinacea</i> Schreb. 큰김의털 JKS2091, WR-070509-038, WR-070530-055, WR-070801-004, Y100301, Y100569, Y102172	0	0			0	0					0	0			0
<i>Festuca myuros</i> L. 들묵새 Y100097, Y100125, Y100179, Y100222, Y100572, Y102183; P	0	0		0									0	0	0
<i>Festuca ovina</i> L. 김의털 HHS100353, ParkSH70492, WR-070502-029, WR-070530-176, Y102174; P	0				0					0		0			0
<i>Festuca parvigluma</i> Steud. 김의털아재비 JKS2116, ParkSH70424, WR-070530-188, WR-070606-033, Y100102, Y102170; P	0		0		0	0						0	0		
<i>Glyceria acutiflora</i> Torr. 육절보리풀 Y100228; P					0										
<i>Hemarthria sibirica</i> (Gand.) Ohwi 쇠치기풀 Y101264, Y102100; P	0	0													
<i>Hierochloa odorata</i> (L.) P.Beauv. 향모 YJ100059; U												0			
<i>Hordeum vulgare</i> var. <i>hexastichon</i> (L.) Asch. 보리 ParkSH70464, YJ100028; E					0							0			
<i>Imperata cylindrica</i> var. <i>koenigii</i> (Retz.) Pilg. 락 ParkSH70420, WR-070530-068, WR-070606-032, Y100107, Y100193, Y100267, Y100327, Y100383, Y102003, Y102101; E	0	0	0	0	0		0			0		0	0	0	0
<i>Isachne globosa</i> (Thunb.) Kuntze 기장대풀 WR-070530-015, WR-070801-031, WR-070919-014, Y101930; P						0	0			0	0				
<i>Ischaemum antheploroides</i> (Steud.) Miq. 갯쇠보리 WR-070801-104, Y100639, Y101166; P	0										0		0		
<i>Ischaemum crassipes</i> (Steud.) Thell. 쇠보리 04100084, ESJeon90654, WR-070801-029, WR-070815-110, Y101444, Y101714; P					0	0	0			0	0				0
<i>Koeleria cristata</i> Pers. 도랭이피 JKS2084, ParkSH70478, WR-070530-178, WR-070606-040, Y100282, Y100434, Y102175; P	0	0	0		0	0				0		0			
<i>Leersia japonica</i> Makino 나도겨풀 Y102014; P								0							

## Appendix 1. Continued

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Leptochloa fusca</i> Kunth 갯드렁새 WR-070815-099															0
<i>Lolium multiflorum</i> Lamarck 쥐보리 JKS2117, ParkSH70451, WR-070530-182, Y100100, Y100487, Y102178	0				0	0				0		0	0		
<i>Lolium multiflorum</i> var. <i>ramosum</i> Guss. ex Arcang. 가지쥐보리 ParkSH70469												0			
<i>Lolium perenne</i> L. 호밀풀 WR-070606-036, WR-070801-001, Y100096, Y100137, Y100230, Y100541; U			0	0							0		0	0	0
<i>Melica nutans</i> L. 왕쌀새 WR-070502-088; P										0					
<i>Melica onoei</i> Franch. & Sav. 쌀새 Y101982; P								0							
<i>Microstegium japonicum</i> (Miq.) Koidz. 민바랭이새 WR-071024-130, WR-071024-131			0												
<i>Microstegium vimineum</i> (Trin.) A.Camus 나도바랭이새 WR-071024-059; P					0										
<i>Microstegium vimineum</i> var. <i>imberbe</i> (Nees ex Steud.) Honda 큰듬성이사새 WR-071017-064									0						
<i>Miscanthus sinensis</i> Anderss. 참억새 ESJeon90959, Y101384, Y101680, Y101712; S, M				0		0	0			0					
<i>Miscanthus sinensis</i> f. <i>gracillimus</i> (Hitcch.) Ohwi 가는알억새 ParkSH81804; P										0					
<i>Miscanthus sinensis</i> var. <i>purpurascens</i> (Andersson) Rendle 억새 WR-070919-206, WR-071017-072, WR-071024-013, Y101244; P		0			0			0		0					
<i>Molinia japonica</i> Hack. 진피리새 ParkSH81820, ParkSH94425; P										0					
<i>Oplismenus undulatifolius</i> (Ard.) P.Beauv. 주름조개풀 WR-070919-155, Y100641, Y101481; P	0									0			0		
<i>Oplismenus undulatifolius</i> var. <i>japonicus</i> (Steud.) Koidz. 민주름조개풀 Y101825; P								0							
<i>Oryza sativa</i> L. 벼 Y101382, Y101584; E, P				0			0								
<i>Panicum bisulcatum</i> Thunb. 개기장 Y101266; E, P		0													
<i>Panicum dichotomiflorum</i> Michx. 미국개기장 Y101464, Y101590; P	0							0							
<i>Panicum miliaceum</i> L. 기장 Y101373				0											
<i>Parapholis incurva</i> (L.) C.E.Hubb. 뿔이사풀 ParkSH70462, WR-070606-001			0										0		
<i>Paspalum distichum</i> L. 물참새피 WR-071024-001						0									
<i>Paspalum distichum</i> var. <i>indutum</i> Shinnars 털물참새피 WR-071017-186, Y101241		0							0						
<i>Paspalum thunbergii</i> Kunth ex Steud. 참새피 WR-070815-083, WR-070919-018, WR-071017-132, WR-071024-175, Y100647, Y101383, Y101501, Y101568, Y101834; P, M	0	0	0	0	0	0	0	0	0	0			0	0	0
<i>Pennisetum alopecuroides</i> (L.) Spreng. 수크령 Y100670, Y101225, Y101379, Y101884, Y101958; P		0	0		0	0							0		
<i>Phacelurus latifolius</i> (Steud.) Ohwi 모새달 Y100299, Y100632, Y101709; P		0					0						0		
<i>Phleum pratense</i> L. 큰조아재비 WR-070801-019; P											0				
<i>Phragmites communis</i> Trin. 갈대 Y101810; P, M								0							
<i>Phragmites japonica</i> Steud. 달뿌리풀 Y101292; P, M													0		
<i>Poa acroleuca</i> Steud. 실포아풀 Y102176; P	0														
<i>Poa annua</i> L. 새포아풀 HHS100057, HHS100341, HHS100522, J100010, Y100176, Y100361, YJ100009; P		0	0		0	0				0				0	0
<i>Poa pratensis</i> L. 왕포아풀 WR-070502-049; P										0					
<i>Poa sphondylodes</i> Trin. 포아풀 JKS2110, WR-070509-031, Y100099, Y100426, Y100548, Y102179; P	0					0				0		0	0		0
<i>Polypogon fugax</i> Nees ex Steud. 쇠돌피 ParkSH70454, WR-070530-184, Y100281; P	0			0								0			
<i>Polypogon monspeliensis</i> (L.) Desf. 갯쇠돌피 ParkSH70468, WR-070530-005, Y100278, Y100305, Y100497; P		0		0	0					0		0			
<i>Pseudosasa japonica</i> (Siebold & Zucc. ex Steud.) Makino 이대 HHS100324; S	0														
<i>Puccinellia nipponica</i> Ohwi 갯꾸리미풀 WR-070606-041; P			0												
<i>Sacciolepis indica</i> (L.) Chase 좁물뜯새 ParkSH81817, Y101449; P				0						0					
<i>Sasa borealis</i> (Hack.) Makino 조릿대 Y100389; E, P, M										0					
<i>Setaria chondrachne</i> (Steud.) Honda 조아재비 Y101893; P								0							
<i>Setaria faberii</i> Herrm. 가을강아지풀 WR-070801-033, Y100644, Y101198, Y101380, Y101506, Y101678, Y101917; P	0	0		0		0	0				0		0		
<i>Setaria glauca</i> (L.) P.Beauv. 금강아지풀 WR-070801-066, WR-070815-086, WR-070919-090, WR-071017-068, Y100646, Y101141, Y101196, Y101385, Y101730, Y101984; P	0	0		0		0	0	0		0	0		0	0	
<i>Setaria pallidifusca</i> (Schumach.) Stapf & C.E.Hubb. 가는금강아지풀 Y101677, Y102096							0	0							
<i>Setaria</i> × <i>pyncnocoma</i> (Steud.) Henrard ex Nakai 수강아지풀 WR-070919-236; P										0					
<i>Setaria verticillata</i> (L.) P.Beauv. 유럽강아지풀 WR-070801-084												0			
<i>Setaria viridis</i> (L.) P.Beauv. 강아지풀 WR-070815-064, WR-070919-235; P										0				0	
<i>Setaria viridis</i> var. <i>pachystachys</i> (Franch. & Sav.) Makino & Nemoto 갯강아지풀 WR-070801-067; P											0				

## Appendix 1. Continued

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Sorghum bicolor</i> (L.) Moench 수수 Y101411; E															
<i>Sorghum halepense</i> for. <i>muticum</i> Hubb. 무망시리아수수 Y101567															
<i>Sorghum nitidum</i> (Vahl) Pers. 좁기장새 04100106, ParkSH81836															
<i>Spodiopogon cotulifer</i> (Thunb.) Hack. 기름새 Y100669, Y101775, Y101956; P															
<i>Spodiopogon sibiricus</i> Trin. 큰기름새 WR-071024-165, Y100643, Y101242, Y101355, Y101836; P															
<i>Sporobolus fertilis</i> (Steud.) Clayton 쥐꼬리새풀 ParkSH81842, Y101142, Y101253, Y101332, Y101375, Y101753, Y101949; P															
<i>Stipa sibirica</i> (L.) Lam. 나래새 Y100636, Y101822, Y101856; P															
<i>Themeda triandra</i> var. <i>japonica</i> (Willd.) Makino 솔새 WR-070815-090, WR-070919-145, WR-071017-079, WR-071024-007, Y100664, Y101152, Y101252, Y101386, Y101761, Y101818; P															
<i>Trisetum bifidum</i> (Thunb.) Ohwi 잠자리피 Y100090, Y100178, Y100268, Y100365; P															
<i>Zoysia japonica</i> Steud. 잔디 Y100089, Y100115, Y100435, Y102180: O															
<i>Zoysia macrostachya</i> Franch. & Sav. 왕잔디 WR-070530-003, WR-070606-027; P															
<i>Zoysia sinica</i> Hance 갯잔디 JKS2087, Y100261, Y100496; P															
<b>Araceae 천남성과</b>															
<i>Pinellia ternata</i> (Thunb.) Breitenb. 반하 WR-070502-007; M															
<b>Sparganiaceae 흑삼릉과</b>															
<i>Sparganium erectum</i> L. 흑삼릉 WR-070530-033; U															
<b>Typhaceae 부들과</b>															
<i>Typha angustifolia</i> L. 애기부들 WR-070801-035, Y101970; M, P															
<b>Cyperaceae 사초과</b>															
<i>Bulbostylis densa</i> (Wall.) Hand.-Mazz. 꽃하늘지기 ParkSH94416, WR-071017-058, WR-071024-168, Y101354; U															
<i>Carex boottiana</i> Hook. & Arn. 밀사초 HHS100328, HHS100401, HHS100519, Y100092; P															
<i>Carex breviculmis</i> R.Br. 청사초 HHS100326, HHS100385, HHS100399, HHS100546, WR-070509-058, WR-070509-164; U															
<i>Carex breviculmis</i> var. <i>fibriflora</i> Kük. 갯청사초 WR-070509-017, WR-070530-026, WR-070606-025; P															
<i>Carex ciliato-marginata</i> Nakai 털대사초 ParkSH70450, WR-070411-090, WR-070502-133; P															
<i>Carex dimorpholepis</i> Steud. 이삭사초 Y102184; P															
<i>Carex fernaldiana</i> H.Lév. & Vaniot 실사초 JKS2089; P															
<i>Carex gibba</i> Wahlenb. 나도별사초 ParkSH70472, WR-070509-075, Y100005, Y102186; P															
<i>Carex humilis</i> var. <i>nana</i> (H.Lév. & Vaniot) Ohwi 가는잎그늘사초 ParkSH70441, WR-070606-115; P															
<i>Carex kobomugi</i> Ohwi 통보리사초 HHS100388, WR-070509-015, WR-070530-008, WR-070606-022, Y100105; P															
<i>Carex lanceolata</i> Boott 그늘사초 HHS100111, HHS100327, HHS100350, HHS100454, JKS2111, ParkSH70422, WR-070502-023, WR-070509-085, YJ100016; P															
<i>Carex lasiolepis</i> Franch. 난사초 HHS100162; U															
<i>Carex laticeps</i> C.B.Clarke ex Franch. 갯보리사초 WR-070411-051, WR-070502-019; P															
<i>Carex lenta</i> D.Don 줄사초 WR-071024-154, Y101247, Y101331; P															
<i>Carex leucochlora</i> Bunge 이삼사초 J100028, WR-070502-025															
<i>Carex maculata</i> Boott 무늬사초 WR-070502-050, WR-070509-172; P															
<i>Carex maximowiczii</i> Miq. 왕비늘사초 ParkSH70433, WR-070502-101, WR-070606-016, Y100162; P															
<i>Carex metallica</i> H.Lév. 흰이삭사초 ParkSH70417; P															
<i>Carex mitrata</i> Franch. 겨사초 Y102196; P															
<i>Carex mitrata</i> var. <i>aristata</i> Ohwi 겨락겨사초 HHS100400, HHS100537, WR-070502-001															
<i>Carex pediformis</i> C.A.Mey. 넓은잎그늘사초 HHS100165, HHS100383, HHS100539; P															
<i>Carex polyschoena</i> H.Lév. & Vaniot 가지청사초 JKS2112, NAM-070530-197, ParkSH70421, WR-070411-060, WR-070502-116, Y100098, Y102190, YJ100067; P															
<i>Carex pumila</i> Thunb. 좁보리사초 WR-070509-023, WR-070530-010, WR-070606-023, Y100106, Y102191; P															
<i>Carex sabyensis</i> Less. ex Kunth 실청사초 WR-070502-052; P															
<i>Carex scabrifolia</i> Steud. 천일사초 JKS2085, WR-070509-025, Y100260; P															
<i>Carex tristachya</i> Thunb. 반들사초 HHS100538, ParkSH70418, WR-070411-054, WR-070502-002, WR-070509-044, Y100175, YJ100017; P															
<i>Carex tristachya</i> var. <i>pocilliformis</i> Kük. 애기반들사초 HHS100384, WR-070502-005, Y100004, Y102188; P															

## Appendix 1. Continued

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Cladium chinense</i> Nees 충충고랭이 ParkSH81821; U										0					
<i>Cyperus amuricus</i> Maxim. 방동사니 Y100629, Y101223, Y101457 M	0	0												0	
<i>Cyperus cyperoides</i> (L.) Kuntze 방동사니아재비 WR-071024-026; U					0										
<i>Cyperus difformis</i> L. 알방동사니 WR-070919-057, Y100635, Y101226, Y101381, Y101586, Y101715; U		0	0	0	0	0				0				0	
<i>Cyperus globosus</i> All. 트렁방동사니 ParkSH81839; U										0					
<i>Cyperus haspan</i> L. 모기방동사니 ParkSH81838, WR-070801-021, WR-071024-028, Y101713; U					0	0				0	0				
<i>Cyperus iria</i> L. 참방동사니 WR-070801-002, WR-070815-068, WR-070919-178, WR-071017-035, Y100645, Y101165, Y101202, Y101441, Y101794; U	0	0	0				0	0		0	0			0	0
<i>Cyperus microiria</i> Steud. 금방동사니 WR-070815-131, WR-070919-003, WR-071017-094, Y100633, Y101176, Y101587, Y101711; U	0						0	0	0	0				0	0
<i>Cyperus nipponicus</i> Franch. & Sav. 푸른방동사니 Y101573; U								0							
<i>Cyperus polystachyos</i> Rottb. 갯방동사니 04100102, WR-071024-024, Y100666, Y102004; U			0	0	0									0	
<i>Cyperus sanguinolentus</i> Vahl 방동사니대加里 Y101370, Y101588, Y101716; U				0	0	0									
<i>Cyperus tenuispica</i> Steud. 우산방동사니 ParkSH81835; U										0					
<i>Eleocharis attenuata</i> f. <i>laevisetata</i> (Nakai) Hara 참바늘골 WR-070801-023; U											0				
<i>Eleocharis congesta</i> D.Don 바늘골 Y100211; U				0											
<i>Eleocharis mamillata</i> var. <i>cyclocarpa</i> Kitag. 물꼬챙이골 WR-070606-015; U			0												
<i>Eleocharis tetraquetra</i> Nees ex Wight 네모골 WR-070919-247; U										0					
<i>Eleocharis wichuræ</i> Boeck. 좁네모골 ParkSH81808										0					
<i>Fimbristylis autumnalis</i> (L.) Roem. & Schult. 애기하늘지기 04100101, ParkSH81809, WR-070801-120, WR-070815-126, Y101442; U			0	0						0	0			0	
<i>Fimbristylis complanata</i> f. <i>exalata</i> T.Koyama 들하늘지기 WR-070530-048, WR-070606-064, Y100372; U			0	0						0					
<i>Fimbristylis dichotoma</i> (L.) Vahl 하늘지기 ParkSH81847, Y101423; U				0						0					
<i>Fimbristylis ferruginea</i> var. <i>sieboldii</i> (Miq.) Ohwi 갯하늘지기 WR-070919-243, Y101851; U								0		0					
<i>Fimbristylis longispica</i> Steud. 큰하늘지기 04100100; U			0												
<i>Fimbristylis miliacea</i> (L.) Vahl 바람하늘지기 ParkSH81830, WR-071017-136, WR-071024-002, Y101263, Y101378, Y101934; U	0		0	0	0	0		0		0					
<i>Fimbristylis squarrosa</i> var. <i>esquarrosa</i> Makino 암하늘지기 ParkSH81814; U										0					
<i>Fimbristylis tristachya</i> var. <i>subbispicata</i> (Nees & Meyen) T.Koyama 풀하늘지기 WR-070801-009, WR-070815-051, WR-070919-049, WR-071024-077, WR-071024-169, Y101352			0	0	0					0	0			0	
<i>Kyllinga brevifolia</i> Rottb. 파대加里 WR-070919-073, WR-071017-013, Y100634, Y101224, Y101349, Y101589, Y101944; U	0	0	0	0	0	0				0				0	
<i>Rhynchospora chinensis</i> Nees & Mey. ex Nees 고양이수염 ESJeon90657, WR-070801-015, WR-070815-119, Y101443; P					0					0	0			0	
<i>Rhynchospora fabri</i> C.B.Clarke 곶풀아재비 ParkSH81811, Y101445; P				0						0					
<i>Rhynchospora fauriei</i> Franch. 큰고양이수염 WR-070919-004; P										0					
<i>Scirpus fluviatilis</i> (Torr.) A.Gray 큰매자기 JKS2113								0							
<i>Scirpus juncooides</i> var. <i>hotaru</i> (Ohwi) Ohwi 올챙이코랭이 ParkSH81834, WR-070801-011, Y101401, Y101935; U				0	0	0				0	0				
<i>Scirpus lacustris</i> var. <i>creber</i> (Fern.) T.Koyama 큰고랭이 WR-070606-014; U			0												
<i>Scirpus maritimus</i> L. 매자기 WR-070530-035; M					0										
<i>Scirpus mitsukurianus</i> Makino 솔방울골 WR-070919-218										0					
<i>Scirpus planiculmis</i> F.Schmidt 좁매자기 JKS2114, Y100306, Y100501; U		0				0				0					
<i>Scirpus wichuræ</i> var. <i>asiaticus</i> (Beetle) T.Koyama 방울고랭이 WR-070801-017; U											0				
<i>Scleria caricina</i> (R.Br.) Benth. 애기개울미 ParkSH81824										0					
<i>Scleria parvula</i> Steud. 너도고랭이 ParkSH81810, Y101351; P				0						0					
<i>Scleria rugosa</i> R.brown 가시개울미 ParkSH81819, WR-070815-114, WR-070919-008										0				0	
<i>Scleria pergracilis</i> Kunth 애기덕산풀 WR-070815-112; P														0	
<b>Orchidaceae 난초과</b>															
<i>Amitostigma gracile</i> (Blume) Schltr. 병아리난초 WR-070606-060; U			0												
<i>Bletilla striata</i> (Thunb.) Rehb.f. 자란 Y100329; M, O		0													
<i>Calanthe discolor</i> Lindl. 새우난초 WR-070502-059; M, O										0					
<i>Cephalanthera falcata</i> (Thunb.) Blume 금난초 WR-070502-057; U										0					
<i>Cymbidium goeringii</i> (Rehb.f.) Rehb.f. 보춘화 HHS100067, HHS100101, HHS100164, HHS100507, YJ100035; O				0	0						0			0	0
<i>Epipactis thunbergii</i> A.Gray 닭의난초 ESJeon90620, WR-071024-171, Y100544; U		0								0				0	

**Appendix 1. Continued**

Scientific name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Habenaria linearifolia</i> Maxim. 참자리난초 ParkSH81837; U										O					
<i>Platanthera freynii</i> Kränzl. 제비난초 JKS2066, ParkSH70447, WR-070530-126, Y100013						O	O					O	O		
<i>Platanthera mandarinorum</i> var. <i>brachycentron</i> (Franch. & Sav.) Koidz. ex Ohwi 산제비란 WR-070606-066, Y100480, Y100545; U				O										O	O
<i>Pogonia japonica</i> Rchb.f. 큰방울새란 WR-070606-092					O										

\* 1. Nagwoldo; 2. Dallido 3. Dochodo; 4. Maehwado; 5. Bigeumdo; 6. Songido; 7. Anmado; 8. Anjwado; 9. Amtaedo; 10. Aphaedo; 11. Imjado; 12. Jaeundo; 13. Jaewondo; 14. Jeungdo; 15. Jido.