

## A floristic study of Donggeom-do (Isl.), Ganghwa-gun, Korea

Sun-Yu Kim, Byoung Yoon Lee and Jung-Hyun Kim\*

Division of Plant Resources, National Institute of Biological Resources, Incheon 404-708, Korea

\*Correspondent: kimjh4065@hanmail.net

The district of Ganghwa-gun in the western coast (Seohae) of the Korea is consisted of several islands, Ganghwa-do, Seokmo-do, Gyodong-do, Jumun-do, Boreum-do, Seoggeom-do and Donggeom-do. Since several islands of them were connected to mainland of Korea by bridges, the islands attract a lot of tourists from Seoul, Incheon and Gyeonggi-do areas. Construction of new roads, pensions, resort areas and restaurants provided economical benefits to local residents while natural vegetation of these islands has deteriorated continuously. Before biodiversity of vascular plants in these regions is damaged seriously by human impacts, it is needed to conserve original vegetation of the islands for restoration and monitoring in the future. Therefore, the primary purpose of the study is to clarify the flora of Donggeom-do, belonging to Ganghwa-gun. From the 15 times of field trips to the island, we have collected a number of vascular plants, 512 taxa in total, including 110 families, 329 genera, 449 species, six subspecies, 52 varieties, four forms and one hybrid. Of 512 taxa investigated, we have identified 12 taxa to be endemic to Korea. Six taxa were endangered or rare species which were designated by the Ministry of Environment and Korea Forest Service, respectively. 25 taxa were recognized as floristic regional indicator species designated specially by the Ministry of Environment. Seven species have shown their northern or southern distributional limit ranges, and 29 taxa were recognized as halophytes. The naturalized plants were identified as 55 taxa, and their naturalization ratio was 10.7%.

Keywords: Donggeom-do, flora, island, vascular plants

© 2013 National Institute of Biological Resources  
DOI: 10.12651/JSR.2013.2.2.203

### INTRODUCTION

In Korea, most of about 3,000 islands were considered as continental islands with the exception of Jeju-do, Dokdo and Ulleung-do. These three islands are isolated far from the mainland, and formed from volcanic activities. A lot of islands in Korea are located to western and southern coasts (Cho, 2002). In order to identify natural vegetative status of these islands, we have been investigating floristic studies of vascular plants of major islands in the western coast (Seohae) since 2007. The primary purpose of the research is to survey the flora of island of Donggeom which belongs to the Ganghwa-gun, Korea. The district of Ganghwa-gun is consisted of several islands in the Seohae, Ganghwa-do, Seokmo-do, Gyodong-do, Jumun-do, Boreum-do, Seoggeom-do and Donggeom-do. Since several islands of them were connected to mainland of Korea by bridges, the islands have attracted a lot of tourists from Seoul, Incheon and Gyeonggi-do areas. Construction of new roads, pensions, resort areas and restaurants provided economical benefits to local residents

while a natural vegetation of these islands has deteriorated continuously. Before biodiversity of vascular plants in these regions is damaged seriously by human impacts, it is needed to conserve original vegetation of the islands for restoration and monitoring in the future.

Donggeom-do belongs currently to Gilsang-myeon, Ganghwa-gun, Incheon metropolitan city. Before being incorporated into Gilsang-myeon in 1914, Donggeom-do was one of the local areas of Bucheon-gun, Gyeonggi-do (Ganghwa-gun, 2013). The island which is located at 37° 35' 22.67'' of north latitude, and 126° 31' 08.02'' of east longitude is situated at the south the main island of Ganghwa-do, consisting of 15 adjacent islands (Lee *et al.*, 2010). The island has an approximate area of 1.81 square kilometers, with 6.5 kilometer of coastal lines, and is connected to Seondu-ri of Ganghwa-do by a bridge (Shim *et al.*, 2002). The climate of Donggeom-do is typical of many islands belonging to Ganghwa-do. Mean annual rainfall recorded at the weather station in Ganghwa-gun is 1,757 mm and the mean annual temperature over last three years is 11.0°C with maximum temperature of 33.7°C and minimum of -20.1°C (Korea Meteorological

Administration, 2009-2011). The island Donggeom belongs to the central subregion according to a classification system of floristic subregions in Korea (Yim, 1977; Lee and Yim, 2002), while the island is situated at the central parts of cool temperate climate areas based on temperature zonation.

Of 3,000 islands belonging to Korean territory, Ganghwa island is the 5th largest one with 411 square kilometers and a flora study was first conducted by Chung and Kang (1971). Of 15 islands nearby the Ganghwa island, floras of Mal-do, Boreum-do, Acha-do and Jumun-do were investigated (Park, 1990) while floras of 16 islands such as Woo-do, Bi-do and etc. were surveyed by the project named "Natural survey of uninhabited islands" (Min and Jung, 1998; Min and Lee, 2002). Shim and his colleagues reported several taxa of halophytes including *Pinus thunbergii* Parl. from Donggeom-do (Shim *et al.*, 2002). Although many floristic researches were conducted on Ganghwa island and its appendages, several ones did not provide any information of voucher specimens. Therefore, the current study is to clarify the flora of Donggeom-do, with voucher information and to assess the importance of local flora.

## MATERIALS AND METHODS

In order to investigate flora of Donggeom island, we had field surveys 15 times from March to November,

2012 (Fig. 1). Vascular plants collected from the survey were prepared to dried specimens, and deposited at the herbarium (KB) of the National Institute of Biological Resources, Korea. The identification of specimens is accompanied with the use of illustrations, photographs, or published descriptions (Chung, 1956; 1957; Lee, 1980; 2003; Lee, 1996a; 1996b; Korean Fern Society, 2005; Lee, 2006; Oh, 2006; Korea National Arboretum, 2008a; 2011; Park, 2009; Kim and Kim, 2011). The voucher specimens were listed according to the Cronquist classification system of vascular plants (Cronquist, 1981). However, genera and species under the family were listed in an alphabetical order. Scientific and Korean names of vascular plants were followed by Lee *et al.* (2011) and a cultivated species was indicated by 'cult' after a Korean name. Endemic species to Korea were confirmed to lists reported by Korea National Arboretum (2005) and National Institute of Biological Resources (2011) while endangered and threatened species were evaluated following information of rare plants data book (Korea National Arboretum, 2008b) and Red data book of endangered vascular plants in Korea (National Institute of Biological Resources, 2012). Life forms, floristic regional indicator species, halophyte species, naturalized and invasive threatened species of vascular plants were identified by Lee (1996a), Ministry of Environment (2006), Shim *et al.* (2002; 2009), Lee *et al.* (2011b) and Ministry of Environment (2012), respectively.

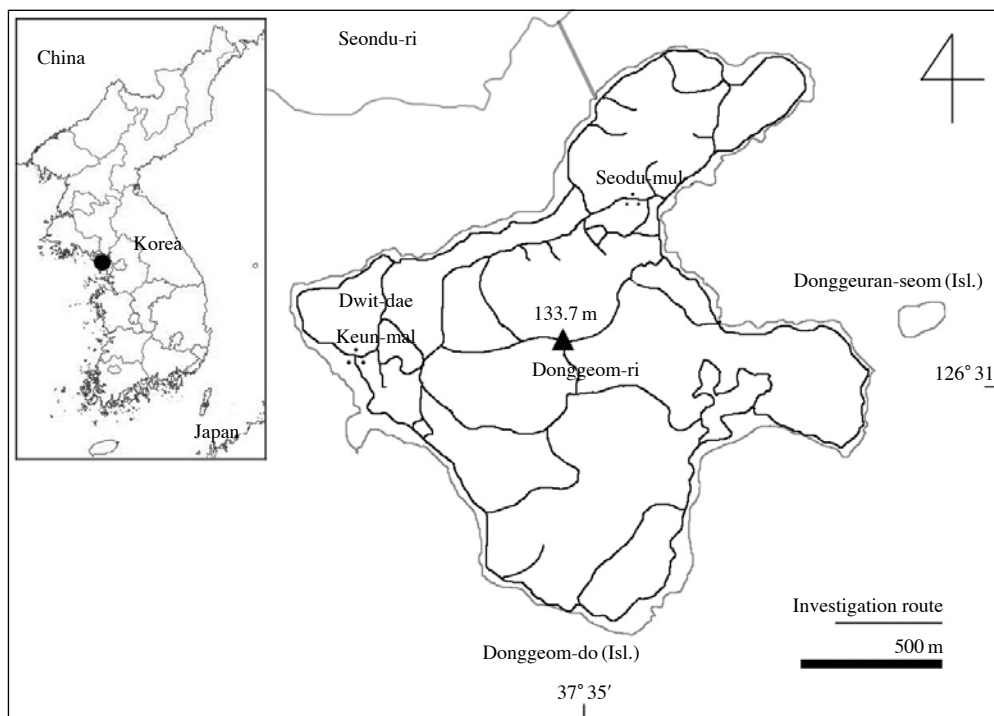


Fig. 1. A map of investigated routes in Donggeom-do (Isl.).

## RESULTS

### A flora of vascular plants

From the 15 times of field trips to the island, we have collected a number of vascular plants, 512 taxa in total, including 110 families, 329 genera, 449 species, six subspecies, 52 varieties, four forms and one hybrid. Of 512 taxa investigated, Pteridophyta included 15 species, comprising eight families, 10 genera, 14 species and one variety, while Gymnosperms were consisted of eight species belonging to two families, five genera and Angiosperms were 489 taxa with Dicotyledones of 83 families, 232 genera, 251 species, four subspecies, 33 varieties, three forms, one hybrid and Monocotyledones of 17 families, 82 genera, 176 species, two subspecies, 18 varieties and one forma (Table 1, Appendix 1). The 512 taxa of vascular plants in the flora of Donggeom-do represented 11.8%

of the total flora of Korea, 4,338 taxa (Lee *et al.*, 2011a). The largest families were as follows; Poaceae (66 taxa), Asteraceae (64), Cyperaceae (42), Rosaceae (24) and Fabaceae (24).

### Endemic species of Korea

There were two versions to identify endemic species of vascular plants in Korea; one of National Institute of Biological Resources (NIBR), Ministry of Environment of Korea, the other of Korea National Arboretum (KNA), Korea Forest Services. The nine species, *Abies koreana*, *Asarum misandrum*, *Clematis brachyura*, *Viola seoulensis*, *Forsythia koreana*, *Paulownia coreana*, *Weigela subsessilis*, *Polygonatum grandicaule* and *Polygonatum infundiflorum* were recognized as endemic species by two authorities (Table 2). *Populus x tomentiglandulosa* and *Rhododendron mucronulatum* were identified by NIBR while *Salix koriyanagi* was confirmed by KNA.

**Table 1.** The number of vascular plants distributed in Donggeom-do (Isl.).

Taxa	Family	Genus	Species	Subspecies	Variety	Forma	Hybrid	Total
Pteridophyta	8	10	14	—	1	—	—	15
Gymnospermae	2	5	8	—	—	—	—	8
Angiospermae	100	314	427	6	51	4	1	489
Dicotyledoneae	83	232	251	4	33	3	1	292
Monocotyledoneae	17	82	176	2	18	1	—	197
Total	110	329	449	6	52	4	1	512

**Table 2.** The list of the endemic plants investigated in Donggeom-do (Isl.).

No.	Family name	Scientific name/Korean name	MOE	KFS
1	Pinaceae	<i>Abies koreana</i> E. H. Wilson 구상나무 (cult)	○	○
2	Aristolochiaceae	<i>Asarum misandrum</i> B. U. Oh & J. G. Kim 각시족도리풀	○	○
3	Ranunculaceae	<i>Clematis brachyura</i> Maxim. 외대으아리	○	○
4	Violaceae	<i>Viola seoulensis</i> Nakai 서울제비꽃	○	○
5	Salicaceae	<i>Populus x tomentiglandulosa</i> T. B. Lee 은사시나무 (cult)	○	—
		<i>Salix koriyanagi</i> Kimura ex Goerz 키버들	—	○
6	Ericaceae	<i>Rhododendron mucronulatum</i> Turcz. 진달래	○	—
7	Oleaceae	<i>Forsythia koreana</i> (Rehder) Nakai 개나리 (cult)	○	○
8	Scrophulariaceae	<i>Paulownia coreana</i> Uyeki 오동나무 (cult)	○	○
9	Diervillaceae	<i>Weigela subsessilis</i> (Nakai) L. H. Bailey 병꽃나무	○	○
10	Liliaceae	<i>Polygonatum grandicaule</i> Y. S. Kim, B. U. Oh & C. G. Jang 선동굴레	○	○
		<i>Polygonatum infundiflorum</i> Y. S. Kim, B. U. Oh & C. G. Jang 늦동굴레	○	○

MOE: Ministry of Environment, KFS: Korea Forest Service.

**Table 3.** The list of rare plants investigated in Donggeom-do (Isl.).

No.	Family name	Scientific name/Korean name	MOE	KFS
1	Polygonaceae	<i>Polygonum fusco-ochreatum</i> Kom. 큰옥매듭풀	NE	DD
2	Rosaceae	<i>Neillia uekii</i> Nakai 나도국수나무	LC	LC
3	Lamiaceae	<i>Mosla chinensis</i> Maxim. 가는잎산들개	NE	DD
4	Poaceae	<i>Phacelurus latifolius</i> (Steud.) Ohwi 모새달	LC	LC
5	Liliaceae	<i>Polygonatum grandicaule</i> Y. S. Kim, B. U. Oh & C. G. Jang 선동굴레	NE	DD
		<i>Polygonatum infundiflorum</i> Y. S. Kim, B. U. Oh & C. G. Jang 늦동굴레	NE	DD

MOE: Ministry of Environment, KFS: Korea Forest Service.

### Endangered vascular plants

In 2012, NIBR has published “Red data book of endangered vascular plants in Korea” according to a guideline of the International Union for Conservation of Nature (IUCN). Of vascular plants surveyed in the current study, based on the lists of the book, least concern (LC) taxa were *Neillia uekii* and *Phacelurus latifolius* while not evaluated (NE) taxa were *Polygonum fusco-ochreatum*, *Mosla chinensis*, *Polygonatum grandicaule* and *Polygonatum infundiflorum* (Table 3). From the perspective of rare plants data book published by Korea National Arboretum (2008b), *Neillia uekii* and *Phacelurus latifolius* were classified into least concern (LC) taxa, but other taxa were categorized into data deficient (DD), not NE.

### Floristic indicator species of specific regions

From the present flora of Donggeom-do, 25 taxa were recognized as floristic regional indicator species designated specially by the Ministry of Environment (Table 4). The indicator species were represented on Donggeom-do with a total of 19 families and 24 genera. With the exception of three cultivated species, *Abies koreana*, *Pinus koraiensis* and *Buxus koreana*, the indicator species were counted to 22 taxa. The indicators assigned into the first degree were 17 taxa including *Clematis patens* and *Aristolochia contorta*. There were no indicator species with the second degree, and a couple of taxa with the third degree, *Betula dahurica* and *Monochoria korsakowii*, were found. The fourth and fifth degree species were

**Table 4.** The list of floristic regional indicator plants investigated in Donggeom-do (Isl.).

No.	Family name	Scientific name/Korean name	Grade
1	Polypodiaceae	<i>Crypsinus hastatus</i> (Thunb.) Copel. 고란초	V
2	Polygonaceae	<i>Polygonum fusco-ochreatum</i> Kom. 큰옥매듭풀	IV
3	Rosaceae	<i>Neillia uekii</i> Nakai 나도국수나무	
4	Pinaceae	<i>Abies koreana</i> E. H. Wilson 구상나무 (cult)	III
5	Betulaceae	<i>Betula dahurica</i> Pall. 물박달나무	
6	Pontederiaceae	<i>Monochoria korsakowii</i> Regel & Maack 물옥잠	

**Table 5.** The list of halophytes in Donggeom-do (Isl.).

No.	Family name	Scientific name/Korean name
1	Pinaceae	<i>Pinus thunbergii</i> Parl. 곰솔
2	Chenopodiaceae	<i>Atriplex gmelinii</i> C. A. Mey. 가는갯능쟁이 <i>Suaeda glauca</i> (Bunge) Bunge 나문재 <i>Suaeda japonica</i> Makino 칠면초
3	Caryophyllaceae	<i>Spergularia marina</i> (L.) Griseb. 갯개미자리
4	Polygonaceae	<i>Polygonum fusco-ochreatum</i> Kom. 큰옥매듭풀
5	Plumbaginaceae	<i>Limonium tetragonum</i> (Thunb.) Bullock 갯길경
6	Rosaceae	<i>Rosa rugosa</i> Thunb. 해당화
7	Fabaceae	<i>Lathyrus japonicus</i> Willd. 갯완두
8	Apiaceae	<i>Cnidium japonicum</i> Miq. 갯사상자
9	Convolvulaceae	<i>Calystegia soldanella</i> (L.) Roem. & Schult. 갯메꽃
10	Plantaginaceae	<i>Plantago major</i> var. <i>japonica</i> (Franch. & Sav.) Miyabe 왕질경이
11	Asteraceae	<i>Artemisia capillaris</i> Thunb. 사철쭉 <i>Artemisia fukudo</i> Makino 큰비쭉 <i>Aster hispidus</i> Thunb. 갯쭉부쟁이 <i>Aster tripolium</i> L. 갯개미취 <i>Sonchus brachyotus</i> DC. 사데풀 <i>Triglochin maritimum</i> L. 지채
12	Juncaginaceae	<i>Juncus setchuensis</i> var. <i>effusoides</i> Buchenau 푸른갯골풀
13	Juncaceae	<i>Carex scabrifolia</i> Steud. 천일사초
14	Cyperaceae	<i>Carex pumila</i> Thunb. 쯤보리사초 <i>Scirpus triquetus</i> L. 세모고랭이
15	Poaceae	<i>Calamagrostis epigeios</i> (L.) Roth 산조풀 <i>Elymus dahuricus</i> Turcz. ex Griseb. 갯보리 <i>Ischaemum crassipes</i> (Steud.) Thell. 쇠보리 <i>Phacelurus latifolius</i> (Steud.) Ohwi 모새달 <i>Phragmites communis</i> Trin. 갈대 <i>Puccinellia nipponica</i> Ohwi 갯꾸러미풀 <i>Zoysia sinica</i> Hance 갯잔디

**Table 6.** The list of southern and northern limit of distribution plants investigated in Donggeom-do (Isl.).

No.	Family name	Scientific name/Korean name	Distribution
1	Sabiaceae	<i>Meliosma myriantha</i> Siebold & Zucc. 나도밤나무	Southern
2	Apiaceae	<i>Cnidium japonicum</i> Miq. 갯사상자	
3	Juncaceae	<i>Juncus setchuensis</i> var. <i>effusoides</i> Buchenau 푸른갯골풀	
4	Fumariaceae	<i>Corydalis turtschaninovii</i> Besser 조선현호색	Northern
5	Rosaceae	<i>Neillia uekii</i> Nakai 나도국수나무	
6	Asteraceae	<i>Artemisia dubia</i> Wall. ex DC. 참쑥 <i>Cirsium pendulum</i> Fisch. ex DC. 큰엉겅퀴	

*Polygonum fusco-ochreatum* and *Neillia uekii* (degree IV) and *Crypsinus hastatus* (degree V).

### Life forms and ecological types

Plant life forms were arranged according to a revised Raunkiaer's (1934) classification system, which divided plants based on the place of plant's buds during cold or dry seasons. Phanerophytes with buds more than 25 cm above the soil level, includes trees (MM), subtrees (M) and shrubs (N). Of 512 taxa investigated at Donggeom-do, phanerophytes were counted to 101 comprising 42 of trees (8.2%), 24 of subtrees (4.7%) and 35 of shrubs (6.8%). Chamaephytes (Ch) with persistent shoots near the ground were consisted of 14 taxa (2.7%) while hemi-cryptophytes (H) with buds at the soil surface were 137 taxa (26.8%). Cryptophytes which were identified as plants with buds below ground or under water revealed to 63 (12.3%) of geophytes (G) and 55 (10.7%) of hydrophytes (HH). 141 taxa (27.5%) of total plants examined belonged to annuals, therophytes (Th). Epiphyte (E), which was originally placed at Phanerophytes but separated due to irrelevance of soil position, was just one species, *Crypsinus hastatus* (Appendix 1). According to Shim *et al.* (2002; 2009) typical halophytes detected in the study area were counted to 29 taxa comprising 15 families, 25 genera, 27 species and two forms. Other ecological types such as hygrophalophytes, psammohalophytes, xerophytes and xerohalophytes could not be concerned because of lack of sufficient information. Shim *et al.* (2002) reported that there were a total of 28 halophytic taxa comprising 12 families, 24 genera, 25 species, two varieties and one forma vegetated at the areas of Donggeom-do and nearby Yeocha-ri, Ganghwa-do. The halophytic taxa detected first from our studies were *Suaeda glauca*, *Plantago major* var. *japonica*, *Artemisia fukudo*, *Aster hispidus*, *Sonchus brachyotus*, *Carex pumila*, *Elymus dahuricus*, *Ischaemum crassipes* and *Puccinellia nipponica* (Table 5).

### Climate-sensitive biological indicator species

The ministry of Environment, Korea, selected 100 climate-sensitive biological indicator species (CBIS) to predict biodiversity distribution shift by climate change (Lee

*et al.*, 2010). The 100 CBIS were categorized into four different taxonomic fields; 46 species of animals, 44 of vascular plants, five of fungi and five of macro-algae, respectively. Among the CBIS, *Abies koreana* (planted) was recognized at the Donggeom-do. According to the list of 300 target plants adaptable to climate change in the Korean peninsula (Korea National Arboretum, 2010), southern species moving northwards as the climate shift were *Meliosma myriantha*, *Cnidium japonicum* and *Juncus setchuensis* var. *effusoides* while northern species moving southwards were *Corydalis turtschaninovii*, *Neillia uekii*, *Artemisia dubia* and *Cirsium pendulum* (Table 6). *Meliosma myriantha* was known to be vegetated at 10-700 m above sea level of island areas near Incheon, but real vegetation was not confirmed (Korean National Arboretum, 2010). While recent surveys could not identify the habitat of the species (Yang *et al.*, 2012), we discovered real vegetation of the species from floristic surveys of Baengnyeong-do (Kim *et al.*, 2013) and the current study.

### Naturalized and invasive exotic species

Recently, it was reported that numbers of the naturalized plants in South Korea were 321 taxa of vascular plants (Lee *et al.*, 2011b). Of 321 plant lists indicated, a total of 55 taxa (17.1%) comprising 19 families, 44 genera, 52 species, two varieties and one forma were found including *Phytolacca americana*, *Chenopodium album* and *Amaranthus patulus* (Table 7). Out of 512 taxa investigated at the current study, the naturalized ratio was calculated at 10.7%. Especially, 20 exotic taxa were belonged to the family of Asteraceae. Of 12 invasive exotic plant species disturbing ecosystem, we found five taxa; *Rumex acetosella*, *Ambrosia artemisiifolia*, *A. trifida*, *Aster pilosus* and *Lactuca scariola*.

## DISCUSSION

Donggeom-do is one of several islands belonged to the district of Ganghwa-gun. The floras of other islands nearby Donggeom-do revealed that the vascular plants of Mal-do were represented by 71 family and 235 taxa, Acha-do by 85 families and 303 taxa, Boreum-do by 94

**Table 7.** The list of naturalized plants in Donggeom-do (Isl.).

No.	Family name	Scientific name/Korean name
1	Phytolaccaceae	<i>Phytolacca americana</i> L. 미국자리공
2	Chenopodiaceae	<i>Chenopodium album</i> L. 흰명아주 <i>Chenopodium ficifolium</i> Sm. 줌명아주 <i>Chenopodium glaucum</i> L. 취명아주
3	Amaranthaceae	<i>Amaranthus patulus</i> Bertol. 가네틸비름 <i>Amaranthus retroflexus</i> L. 털비름
4	Caryophyllaceae	<i>Silene armeria</i> L. 끈끈이대나물
5	Polygonaceae	<i>Polygonum orientale</i> L. 털여뀌 <i>Rumex acetosella</i> L. 애기수영 <i>Rumex crispus</i> L. 소리쟁이
6	Malvaceae	<i>Abutilon theophrasti</i> Medik. 어저귀 <i>Sida spinosa</i> L. 공단폴
7	Brassicaceae	<i>Thlaspi arvense</i> L. 말냉이
8	Rosaceae	<i>Potentilla supina</i> L. 개소시랑개비 <i>Rubus fruticosus</i> L. 서양산딸기
9	Fabaceae	<i>Amorpha fruticosa</i> L. 족제비싸리 <i>Medicago lupulina</i> L. 잔개자리 <i>Trifolium repens</i> L. 토끼풀
10	Onagraceae	<i>Oenothera odorata</i> Jacq. 달맞이꽃
11	Euphorbiaceae	<i>Euphorbia supina</i> Raf. 애기땅빈대
12	Simaroubaceae	<i>Ailanthus altissima</i> (Mill.) Swingle 가중나무
13	Geraniaceae	<i>Geranium carolinianum</i> L. 미국취손이
14	Solanaceae	<i>Datura meteloides</i> Dunal 털독말풀
15	Convolvulaceae	<i>Cuscuta pentagona</i> Engelm. 미국실새삼 <i>Ipomoea hederacea</i> Jacq. 미국나팔꽃 <i>Ipomoea purpurea</i> (L.) Roth 둥근잎나팔꽃
16	Boraginaceae	<i>Symphytum officinale</i> L. 컴프리
17	Scrophulariaceae	<i>Veronica arvensis</i> L. 선개불알풀 <i>Veronica persica</i> Poir. 큰개불알풀
18	Asteraceae	<i>Ambrosia artemisiifolia</i> L. 돼지풀 <i>Ambrosia trifida</i> L. 단풍돼지풀 <i>Aster pilosus</i> Willd. 미국쑥부쟁이 <i>Aster subulatus</i> var. <i>sandwicensis</i> (A. Gray) A. G. Jones 큰비짜루국화 <i>Bidens frondosa</i> L. 미국가막사리 <i>Carduus crispus</i> L. 지느러미영경귀 <i>Conyza canadensis</i> (L.) Cronquist 망초 <i>Cosmos bipinnatus</i> Cav. 코스모스 (cult) <i>Cosmos sulphureus</i> Cav. 노랑코스모스 (cult) <i>Erechtites hieracifolia</i> (L.) Raf. ex DC. 붉은서나물 <i>Erigeron annuus</i> (L.) Pers. 개망초 <i>Erigeron philadelphicus</i> L. 봄망초 <i>Galinsoga ciliata</i> (Rafin.) S. F. Blake 털별꽃아재비 <i>Helianthus tuberosus</i> L. 뚱딴지 <i>Lactuca scariola</i> L. 가시상추 <i>Rudbeckia hirta</i> var. <i>pulcherrima</i> Farw. 원추천인국 (cult) <i>Senecio vulgaris</i> L. 개쑥갓 <i>Sonchus oleraceus</i> L. 방가지뚱 <i>Taraxacum officinale</i> F. H. Wigg. 서양민들레 <i>Xanthium canadense</i> Mill. 큰도꼬마리
19	Poaceae	<i>Dactylis glomerata</i> L. 오리새 <i>Elymus repens</i> (L.) Gould 구주개밀 <i>Elymus repens</i> f. <i>aristatum</i> Holmb. 까락구주개밀 <i>Festuca arundinacea</i> Schreb. 큰김의털 <i>Panicum dichotomiflorum</i> Michx. 미국개기장 <i>Poa pratensis</i> L. 왕포아풀

families and 439 taxa, Jumun-do by 92 families and 426 taxa (Park, 1990). Recent floristic surveys on several islands of Ganghwa resulted that the flora of Seokmo-do was represented by 90 families, 271 genera and 442 taxa,

Gyodong-do by 82 families, 228 genera and 338 taxa, Boreum-do by 66 families, 196 genera and 286 taxa, Jumun-do by 57 families, 120 genera and 145 taxa (Lee *et al.*, 2010). Although the flora of same islands was inves-

tigated, the results from Park (1990) and Lee *et al.* (2010) showed differences in species numbers and composition. These discrepant results might be reflected by different periods, seasons and methods of surveys.

Of 512 taxa surveyed, six species were classified into threatened or endangered species under IUCN categories. According to information of NIBR's red data book (2012), *Neillia uekii*, least concern (LC) taxon, is widespread in the central regions of Korea. The species, however, is distributed usually on the mountainous slope, and thus is under high pressure of habitat loss by human-induced disturbance. For example, the natural habitat of the species was known to be disappeared completely at Yesan-si by road construction. From the present study, we found several individuals of the species nearby coastal areas, but their habitats were also not in good conditions due to probable impacts of high salinity. 30 individuals of *Phacelurus latifolius*, another least concern (LC) taxon, were found along the roadside of the Donggeom-do, and thus the natural habitat of the species would be damaged by road widening in the future. Among four not evaluated (NE) taxa, taxonomic identity of *Polygonum fusco-ochreatum* was unclear because *P. bellardii* var. *effusum* was often used for the name of species in the earlier Korean flora (Lee, 1980; 2003). In consideration of the original habitat of *P. bellardii* in Europe and North America, it is weird that a variety of the species was found only in the western part of Korea (NIBR, 2012). As Park and Hong (2007) mentioned, a more careful study of the species is needed for taxonomic treatment. Almost 10 individuals of the species were found at coastal areas of Seodu-mul. *Mosla chinensis* was widely distributed at the southern part of Korea, but the species habitats were known only in Haenam and Hwasun, Jeollanam-do. The status of the species was classified as endangered (EN) in Japan while the species was categorized as NE because of lack of necessary information in Korea (NIBR, 2012). From the current study, we have found approximately 50 individuals of the species vegetated at a wetland near a village. A couple of species of *Polygonatum*, *P. grandicaule* and *P. infundiflorum* were reported as new species by characteristics of stem, perianth and filaments (Jang, 2002). Original habitats of *P. grandicaule* and *P. infundiflorum* were known to be Mt. Gakhosan (Chungcheongbuk-do) and Pung-do (Gyeonggi-do), respectively. From the result of the current study, *P. grandicaule* was found at the foot of mountain slopes near Seodu-mul, and *P. infundiflorum* near a village of Dwit-dae with less than 10 individuals of each species. Also, a new intermediate type between *P. grandicaule* and *P. odoratum* was observed, which needed more taxonomic works in the future.

From the present flora of Donggeom-do, 25 taxa were recognized as floristic regional indicator species. Among them, *Crypsinus hastatus* with the degree V were found

at the island. From previous floristic examination on four islands near Ganghwa-do, Park (1990) mentioned that it was noteworthy to find seven vascular plants including *C. hastatus*, *Euonymus fortunei* and *Pyrrosia hastata*. Especially, he reported that *C. hastatus* could be observed at the all areas surveyed. Furthermore, the species was suggested to represent the floristic regional indicator species from uninhabited islands near Ganghwa-do (Min and Jung, 1998; Min and Lee, 2002). Considering that natural habitats of *C. hastatus* were narrow at Donggeom-do, those of nearby islands might be distributed narrowly. Therefore, we suggested that more detailed examination of *C. hastatus* will be conducted urgently, and in turn ex situ conservation policy of the species will be made.

The flora of Ganghwa-do was confirmed to be 366 taxa of vascular plants (Chung and Kang, 1971). Although Ganghwa-do is about 160 times larger in areas than Donggeom-do, taxa of vascular plants of Donggeom and Ganghwa-do were 512 and 366 taxa, respectively. The result indicated that much more taxa might be identified through detailed floristic investigations of Ganghwa-do, which was in high pressure for land-use and a transition to forest cover loss in the island. Investigation on several uninhabited islands nearby the Ganghwa-do showed that there were 11 to 281 taxa in their floras (Min and Jung, 1998; Min and Lee, 2002). In these uninhabited islands, *Grewia biloba*, the first degree of floristic regional indicator species, was reported which was not confirmed to be present in Donggeom-do from the current study. A total of 55 exotic species were found at Donggeom-do, and the naturalized ratio were 17.1% according to numbers of the naturalized plants in South Korea (Lee *et al.*, 2011b). As compared with islands nearby, Donggeom-do is a very small island with a well-constructed road system and development of resort areas, and thus introduction of invasive exotic species will be profound and increasing. Also, grazing of goats were frequent in the private lands of uninhabited islands, in which in turn affected soil degradation and biodiversity loss. Goats can debark trees and eat all the vegetation left untouched by other species, and subsequently affects reduction in vegetative cover and plant biodiversity from grazing (FAO, 2009; Peacock and Sherman, 2010). Likewise, coastal areas of Donggeom-do used for grazing of goats will be managed by the local government for biodiversity conservation.

## ACKNOWLEDGEMENTS

This research was supported by grants from the project called "Flora of Hot-spot areas in Korea" of National Institute of Biological Resources under the Ministry of

Environment, Korea. We thank the colleagues of the Plant Resources Division of National Institute of Biological Resources for the valuable comments, and three anonymous reviewers for their critical reading of the manuscript and helpful suggestions.

## REFERENCES

- Cho, Y.H. 2002. Characteristics and Status of Health Resources and Services of Islands in Korea. *Journal of Korean Island* 14(1):17-29 (in Korean).
- Chung, T.H. 1956. Korean Flora. Vol. II. Herbaceous Plants. Shinjisa, Seoul, Korea. p. 1025 (in Korean).
- Chung, T.H. 1957. Korean Flora. Vol. I. Woody Plants. Shinjisa, Seoul, Korea. p. 507 (in Korean).
- Chung, Y.H. and Y.M. Kang. 1971. A taxonomic study in Kanghwa island. *Journal of the National Academy of Sciences*, Seoul, Korea. pp. 91-299 (in Korean).
- Cronquist, A. 1981. *An Integrated System of Classification of Flowering Plants*. Columbia Univ. Press, New York. p. 1262.
- Food and Agriculture Organization of the United Nations. (FAO). 2009. *The State of Food and Agriculture 2009: Livestock in the Balance*.
- Ganghwa-gun. 2013. [Available from: [http://www.ganghwa.incheon.kr/open\\_content/township/introduction/present.jsp?enm=gsm](http://www.ganghwa.incheon.kr/open_content/township/introduction/present.jsp?enm=gsm), accessed 28 January 2013].
- Jang, C.G. 2002. A taxonomic review of Korean *Polygonatum* (Ruscaceae). *Korean J. Pl. Tax.* 32(4):417-447 (in Korean).
- Kim, J.H., G.H. Nam, S.Y. Kim, J.S. Kim, J.E. Choi and B.Y. Lee. 2013. A floristic study of Baengnyeongdo (Isl.) in Korea. *Korean J. Plant Res.* 26(2):178-213 (in Korean).
- Kim, J.S. and T.Y. Kim. 2011. *Woody Plants of Korean Peninsula*. Dolbegae, Paju, Korea. p. 688 (in Korean).
- Korea Fern Society. 2005. *Ferns and Fern Allies of Korea*. Geobook, Seoul, Korea. p. 399 (in Korean).
- Korea Meteorological Administration. 2009-2011. *Annual Climatological Report*. Korea Meteorological Administration, Seoul, Korea. p. 22, 25, 27 (in Korean).
- Korea National Arboretum. 2005. *Endemic Vascular Plants in the Korean Peninsula*. Korea National Arboretum, Pocheon, Korea. p. 205 (in Korean).
- Korea National Arboretum. 2008a. *Illustrated Pteridophytes of Korea*. Korea National Arboretum, Pocheon, Korea. p. 547 (in Korean).
- Korea National Arboretum. 2008b. *Rare Plants Data Book in Korea*. Korea National Arboretum, Pocheon, Korea. p. 332 (in Korean).
- Korea National Arboretum. 2010. *300 Target Plants Adaptable to Climate Change in the Korean Peninsula*. Korea National Arboretum, Pocheon, Korea. p. 492 (in Korean).
- Korea National Arboretum. 2011. *Illustrated Grasses of Korea* (Revised and enlarged edition). Korea National Arboretum, Pocheon, Korea. p. 600 (in Korean).
- Lee, B.Y., G.H. Nam, J.H. Yun, G.Y. Cho, J.S. Lee, J.H. Kim, T.S. Park, K.G. Kim and K.H. Oh. 2010. Biological indicators to monitor responses against climate change in Korea. *Korean J. Pl. Taxon.* 40(4):202-207.
- Lee, B.Y., G.H. Nam, J.Y. Lee, C.H. Park, C.E. Lim, M.H. Kim, S.J. Lee, T.K. Roh, J.A. Lim, J.E. Han and J.H. Kim. 2011a. *National List of Species of Korea (Vascular Plants)*. National Institute of Biological Resources, Incheon, Korea. p. 633 (in Korean).
- Lee, T.B. 1980. *Illustrated Flora of Korea*. Hyangmunsa, Seoul, Korea. p. 990 (in Korean).
- Lee, T.B. 2003. *Coloured Flora of Korea*. Vol. I, II. Hyangmunsa, Seoul, Korea. p. 914, p. 910 (in Korean).
- Lee, W.T. 1996a. *Lineamenta Florae Koreae*. Academy Press, Seoul, Korea. p. 1688 (in Korean).
- Lee, W.T. 1996b. *Standard Illustrations of Korean Plants*. Academy Press, Seoul, Korea. p. 624 (in Korean).
- Lee, Y.N. 2006. *New Flora of Korea*. Vol. I, II. Gyohaksa, Seoul, Korea. p. 974, p. 885 (in Korean).
- Lee, Y.M., S.H. Park, S.Y. Jung and J.C. Yang. 2010. Study on the vascular plants found in nearby island regions of Ganghwado. *Journal of Korean Nature* 3(2):83-101.
- Lee, Y.M., S.H. Park, S.Y. Jung, S.H. Oh and J.C. Yang. 2011b. Study on the current status of naturalized plants in South Korea. *Korean J. Pl. Taxon.* 41(1):87-101 (in Korean).
- Lee, W.T. and Y.J. Yim. 2002. *Plant Geography with special reference to Korea*. Kangwon National Univ. Press, Chuncheon, Korea. p. 412 (in Korean).
- Min, B.M. and J.H. Jung. 1998. *Uninhabited Islands in the National of Korea*. Natural Environment Research. Ministry of Environment. p. 148 (in Korean).
- Min B.M. and S.R. Lee, 2002. *Uninhabited Islands in the National of Korea*. Natural Environment Research. Ministry of Environment. p. 309 (in Korean).
- Ministry of Environment. 2006. *A Guide to the Third National Natural Environment Research*. Ministry of Environment, Incheon, Korea. pp. 114-155 (in Korean).
- Ministry of Environment. 2010. [Available from: <http://www.nibr.go.kr/species/home/species/spc033001.jsp>, accessed 28 January 2013].
- Ministry of Environment. 2012. [Available from: [http://www.me.go.kr/web/292/me/common/board/detail.do?idx=183593&decoratorm&boardId=notice\\_03&categoryId=06](http://www.me.go.kr/web/292/me/common/board/detail.do?idx=183593&decoratorm&boardId=notice_03&categoryId=06), accessed 28 January 2013].
- National Institute of Biological Resources. 2011. *Endemic Species of Korea*. Geobook, Incheon, Korea. pp. 318-415 (in Korean).
- National Institute of Biological Resources. 2012. *Red Data Book of Endangered Vascular Plants in Korea (Red Data Book 5)*. Eeonature, Seoul, Korea. p. 391 (in Korean).
- Oh, Y.C. 2006. *Illustrated Encyclopedia of Fauna & Flora of*



- Korea. Vol. 41. Monocotyledoneae, Cyperaceae. Ministry of Education and Human Resources Development, Seoul, Korea. p. 757 (in Korean).
- Park, C.-W. and S.P. Hong. 2007. Polygonaceae. In: The Genera of Vascular Plants of Korea. Flora of Korea Editorial Committee (eds.), Academy Publishing Co., Seoul, pp. 337-351.
- Park, S.H. 2009. New Illustrations and Photographs of Naturalized Plants of Korea. Ilchokak, Seoul, Korea. p. 575 (in Korean).
- Park, S.J. 1990. A study on the flora of Mal, Jumun, Bolum and Acha islands in Kyong-gi bay. M.S. Thesis. Kyung Hee Univ. Seoul, Korea. p. 50 (in Korean).
- Peacock, C. and D.M. Sherman. 2010. Sustainable Goat Production-Some Global Perspectives. Small Ruminant Research 89:70-80.
- Raunkiaer, C. 1934. The Life Forms of Plants and Statistical Plant Geography. Oxford Univ. Press, Oxford. p. 632.
- Shim, H.B., S.M. Seo and B.H. Choi. 2002. Floristic survey of salt marshes and dunes on Gyeonggi bay in Korea. Korean J. Environ. Biol. 20(1):5-34 (in Korean).
- Shim, H.B., W.B. Cho and B.H. Choi. 2009. Distribution of halophytes in coastal salt marsh and on sand dunes in Korea. Korean J. Pl. Taxon. 39(4):264-276 (in Korean).
- Yang, J.C., S.H. Park, S.G. Ha and Y.M. Lee. 2012. The flora of vascular plants in Daecheong island, South Korea. Korean J. Plant Res. 25(1):31-47 (in Korean).
- Yim, Y.J. 1977. Distribution of forest vegetation and climate in the Korean peninsula. IV. Zonal distribution of forest vegetation in relation to thermal climate. Jap. J. Ecol. 27: 269-278.

*Submitted: March 5, 2013, Accepted: August 2, 2013*

## Appendix 1. The list of vascular plants in Donggeom-do (Isl.).

Scientific name/Korean name/Collection number	Life form
Equisetaceae 속새과	
1. <i>Equisetum arvense</i> L. 쇠뜨기 Donggeom12033	G
Osmundaceae 고비과	
2. <i>Osmunda cinnamomea</i> L. 평고비 Donggeom12256	G
3. <i>Osmunda japonica</i> Thunb. 고비 Donggeom12127	G
Dennstaedtiaceae 잔고사리과	
4. <i>Dennstaedtia hirsuta</i> (Sw.) Mett. ex Miq. 잔고사리 Donggeom12165	H
5. <i>Pteridium aquilinum</i> var. <i>latiusculum</i> (Desv.) Underw. ex A. Heller 고사리 Donggeom12762	G
Aspleniaceae 꼬리고사리과	
6. <i>Asplenium incisum</i> Thunb. 꼬리고사리 Donggeom12001	H
7. <i>Asplenium ruprechtii</i> Sa. Kurata 거미고사리 Donggeom12450	H
Athyriaceae 개고사리과	
8. <i>Athyrium niponicum</i> (Mett.) Hance 개고사리 Donggeom12709	G
9. <i>Athyrium yokoscense</i> (Franch. & Sav.) H. Christ 백고사리 Donggeom12456	H
10. <i>Deparia coreana</i> (H. Christ) M. Kato 곱새고사리 Donggeom12451	H
Thelypteridaceae 처녀고사리과	
11. <i>Thelypteris palustris</i> (Salisb.) Schott 처녀고사리 Donggeom12527	G
Dryopteridaceae 관중과	
12. <i>Dryopteris bissetiana</i> (Baker) C. Chr. 산죽제비고사리 Donggeom12007	H
13. <i>Dryopteris chinensis</i> (Baker) Koidz. 가는잎죽제비고사리 Donggeom12008	H
14. <i>Dryopteris sacrosancta</i> Koidz. 애기죽제비고사리 Donggeom12002	Ch
Polypodiaceae 고란초과	
15. <i>Crypsinus hastatus</i> (Thunb.) Copel. 고란초 Donggeom12014	E
Pinaceae 소나무과	
16. <i>Abies koreana</i> E. H. Wilson 구상나무 (cult) Donggeom12019	MM
17. <i>Cedrus deodara</i> (Roxb.) G. Don 개잎갈나무 (cult) Donggeom12003	MM
18. <i>Larix kaempferi</i> (Lamb.) Carrière 일본잎갈나무 (cult) Donggeom12624	MM
19. <i>Pinus densiflora</i> Siebold & Zucc. 소나무 Donggeom12004	MM
20. <i>Pinus koraiensis</i> Siebold & Zucc. 잣나무 (cult) Donggeom12042	MM
21. <i>Pinus thunbergii</i> Parl. 곰솔 Donggeom12016	MM
Cupressaceae 측백나무과	
22. <i>Juniperus rigida</i> Siebold & Zucc. 노간주나무 Donggeom12005	M
23. <i>Juniperus virginiana</i> L. 연필향나무 (cult) Donggeom12375	M
Magnoliaceae 목련과	
24. <i>Magnolia heptapeta</i> (Buc'hoz) Dandy 백목련 (cult) Donggeom12254	MM
Lauraceae 녹나무과	
25. <i>Lindera obtusiloba</i> Blume 생강나무 Donggeom12009	N
Aristolochiaceae 쥐방울덩굴과	
26. <i>Aristolochia contorta</i> Bunge 쥐방울덩굴 Donggeom12393	H
27. <i>Asarum misandrum</i> B. U. Oh & J. G. Kim 각시죽도리풀 Donggeom12047	G
Ranunculaceae 미나리아재비과	
28. <i>Adonis pseudoamurensis</i> W. T. Wang 개복수초 Donggeom12108	G
29. <i>Cimicifuga dahurica</i> (Turcz. ex Fisch. & C. A. Mey.) Maxim. 눈빛승마 Donggeom12538	G
30. <i>Clematis brachyura</i> Maxim. 외대으아리 Donggeom12260	N
31. <i>Clematis patens</i> C. Morren & Decne. 큰꽃으아리 Donggeom12271	N
32. <i>Clematis terniflora</i> DC. 참으아리 Donggeom12425	N
33. <i>Pulsatilla cernua</i> var. <i>koreana</i> (Yabe ex Nakai) U. C. La 활미꽃 Donggeom12071	H
34. <i>Ranunculus chinensis</i> Bunge 젓가락나물 Donggeom12201	Th <sup>(w)</sup>
35. <i>Ranunculus japonicus</i> Thunb. 미나리아재비 Donggeom12099	H
36. <i>Ranunculus sceleratus</i> L. 개구리자리 Donggeom12098	HH <sup>(Thw)</sup>
37. <i>Thalictrum minus</i> var. <i>hypoleucum</i> (Siebold & Zucc.) Miq. 쯤평의다리 Donggeom12542	G
Menispermaceae 새모래덩굴과	
38. <i>Cocculus trilobus</i> (Thunb.) DC. 땡땡이덩굴 Donggeom12361	N
39. <i>Menispermum dauricum</i> (Thunb.) DC. 새모래덩굴 Donggeom12229	N
Sabiaceae 나도밤나무과	
40. <i>Meliosma myriantha</i> Siebold & Zucc. 나도밤나무 Donggeom12339	MM
Papaveraceae 양귀비과	
41. <i>Chelidonium majus</i> var. <i>asiaticum</i> (H. Hara) Ohwi 애기똥풀 Donggeom12037	Th <sup>(w)</sup>

## Appendix 1. Continued.

Scientific name/Korean name/Collection number	Life form
Fumariaceae 현호색과	
42. <i>Corydalis remota</i> Fisch. ex Maxim. 현호색 Donggeom12137	G
43. <i>Corydalis turtschaninovii</i> Besser 조선현호색 Donggeom12094	G
Ulmaceae 느릅나무과	
44. <i>Ulmus davidiana</i> var. <i>japonica</i> (Rehder) Nakai 느릅나무 Donggeom12241	MM
Celtidaceae 팽나무과	
45. <i>Celtis sinensis</i> Pers. 팽나무 Donggeom12300	MM
Cannabaceae 삼과	
46. <i>Humulus japonicus</i> Siebold & Zucc. 환삼덩굴 Donggeom12530	Th
Moraceae 뽕나무과	
47. <i>Morus alba</i> L. 뽕나무 Donggeom12103	MM
Urticaceae 쐯기풀과	
48. <i>Pilea mongolica</i> Wedd. 모시물통이 Donggeom12529	Th
Juglandaceae 가래나무과	
49. <i>Juglans mandshurica</i> Maxim. 가래나무 Donggeom12066	MM
50. <i>Platycarya strobilacea</i> Siebold & Zucc. 굴피나무 Donggeom12244	MM
Fagaceae 참나무과	
51. <i>Castanea crenata</i> Siebold & Zucc. 밤나무 (cult) Donggeom12306	MM
52. <i>Quercus acutissima</i> Carruth. 상수리나무 Donggeom12073	MM
53. <i>Quercus aliena</i> Blume 갈참나무 Donggeom12161	MM
54. <i>Quercus dentata</i> Thunb. 떡갈나무 Donggeom12058	MM
55. <i>Quercus mongolica</i> Fisch. ex Ledeb. 신갈나무 Donggeom12057	MM
56. <i>Quercus serrata</i> Murray 졸참나무 Donggeom12044	MM
Betulaceae 자작나무과	
57. <i>Alnus hirsuta</i> Turcz. ex Rupr. 물오리나무 (cult) Donggeom12006	MM
58. <i>Betula dahurica</i> Pall. 물박달나무 Donggeom12168	MM
59. <i>Carpinus laxiflora</i> (Siebold & Zucc.) Blume 서어나무 Donggeom12452	MM
60. <i>Carpinus turczaninowii</i> Hance 소사나무 Donggeom12092	M
61. <i>Corylus heterophylla</i> var. <i>thunbergii</i> Blume 개암나무 Donggeom12012	M
Phytolaccaceae 자리공과	
62. <i>Phytolacca americana</i> L. 미국자리공 Donggeom12311	G
Chenopodiaceae 명아주과	
63. <i>Atriplex gmelinii</i> C. A. Mey. 가는갯능쟁이 Donggeom12578	Th
64. <i>Chenopodium album</i> L. 흰명아주 Donggeom12325	Th
65. <i>Chenopodium ficifolium</i> Sm. 좁명아주 Donggeom12270	Th
66. <i>Chenopodium glaucum</i> L. 취명아주 Donggeom12277	Th
67. <i>Suaeda glauca</i> (Bunge) Bunge 나문재 Donggeom12577	Th
68. <i>Suaeda japonica</i> Makino 칠면초 Donggeom12301	Th
Amaranthaceae 비름과	
69. <i>Achyranthes japonica</i> (Miq.) Nakai 쇠무릎 Donggeom12513	H
70. <i>Amaranthus patulus</i> Bertol. 가는털비름 Donggeom12763	Th
71. <i>Amaranthus retroflexus</i> L. 털비름 Donggeom12512	Th
Molluginaceae 석류풀과	
72. <i>Mollugo pentaphylla</i> L. 석류풀 Donggeom12689	Th
Caryophyllaceae 석죽과	
73. <i>Cerastium holosteoides</i> var. <i>hallaisanense</i> (Nakai) M. Mizush. 점나도나물 Donggeom12121	H
74. <i>Cucubalus baccifer</i> var. <i>japonicus</i> Miq. 덩굴별꽃 Donggeom12526	H
75. <i>Dianthus chinensis</i> L. 패랭이꽃 Donggeom12403	H
76. <i>Gypsophila oldhamiana</i> Miq. 대나물 Donggeom12490	H
77. <i>Pseudostellaria palibiniana</i> (Takeda) Ohwi 큰개별꽃 Donggeom12107	H
78. <i>Silene armeria</i> L. 끈끈이대나물 Donggeom12232	Th <sub>(w)</sub>
79. <i>Silene firma</i> Siebold & Zucc. 장구채 Donggeom12520	H
80. <i>Spergularia marina</i> (L.) Griseb. 갯개미자리 Donggeom12238	Th <sub>(w)</sub>
81. <i>Stellaria alsine</i> var. <i>undulata</i> (Thunb.) Ohwi 벼룩나물 Donggeom12109	Th <sub>(w)</sub>
82. <i>Stellaria aquatica</i> (L.) Scop. 쇠별꽃 Donggeom12114	Th <sub>(w)</sub>
83. <i>Stellaria media</i> (L.) Vill. 별꽃 Donggeom12143	Th <sub>(w)</sub>
Polygonaceae 마디풀과	
84. <i>Aconogonon alpinum</i> (All.) Schkuhr 상아 Donggeom12500	H
85. <i>Polygonum aviculare</i> L. 마디풀 Donggeom12234	Th

## Appendix 1. Continued.

Scientific name/Korean name/Collection number	Life form
86. <i>Polygonum fusco-ochreatum</i> Kom. 큰옥매듭풀 Donggeom12767	Th
87. <i>Polygonum hydropiper</i> L. 여뀌 Donggeom12660	HH
88. <i>Polygonum lapathifolium</i> L. 흰여뀌 Donggeom12447	Th
89. <i>Polygonum longisetum</i> Bruijn 개여뀌 Donggeom12730	Th
90. <i>Polygonum orientale</i> L. 털여뀌 Donggeom12536	Th
91. <i>Polygonum perfoliatum</i> L. 머느리배꼽 Donggeom12378	Th
92. <i>Polygonum persicaria</i> L. 봄여뀌 Donggeom12263	Th
93. <i>Polygonum posumbu</i> Buch.-Ham. ex D. Don 장대여뀌 Donggeom12567	Th
94. <i>Polygonum pubescens</i> Blume 바보여뀌 Donggeom12359	Th
95. <i>Polygonum sagittatum</i> var. <i>sieboldii</i> (Meisn.) Maxim. ex Kom. 미꾸리낙시 Donggeom12635	HH
96. <i>Polygonum senticosum</i> (Meisn.) Franch. & Sav. 머느리밀셋개 Donggeom12305	Th
97. <i>Polygonum thunbergii</i> Siebold & Zucc. 고마리 Donggeom12581	HH(Th)
98. <i>Polygonum viscosum</i> Buch.-Ham. ex D. Don 기생여뀌 Donggeom12728	HH(Th)
99. <i>Rumex acetosella</i> L. 애기수영 Donggeom12068	H
100. <i>Rumex crispus</i> L. 소리쟁이 Donggeom12158	H
101. <i>Rumex japonicus</i> Houtt. 참소리쟁이 Donggeom12489	H
Plumbaginaceae 갯길경과	
102. <i>Limonium tetragonum</i> (Thunb.) Bullock 갯길경 Donggeom12411	Th(w)
Elatinaceae 물별과	
103. <i>Elatine triandra</i> Schkuhr 물별 Donggeom12741	HH(Th)
Clusiaceae 물레나물과	
104. <i>Hypericum ascyron</i> L. 물레나물 Donggeom12356	H
105. <i>Hypericum erectum</i> Thunb. 고추나물 Donggeom12437	H
106. <i>Hypericum laxum</i> (Blume) Koidz. 좁고추나물 Donggeom12430	Th
Tiliaceae 피나무과	
107. <i>Grewia parviflora</i> Bunge 장구밥나무 Donggeom12406	N
108. <i>Tilia mandshurica</i> Rupr. & Maxim. 찰피나무 Donggeom12200	MM
Malvaceae 아욱과	
109. <i>Abutilon theophrasti</i> Medik. 어저귀 Donggeom12670	Th
110. <i>Sida spinosa</i> L. 공단풀 Donggeom12724	Th
Violaceae 제비꽃과	
111. <i>Viola albidia</i> var. <i>chaerophylloides</i> (Regel) F. Maek. 남산제비꽃 Donggeom12038	H
112. <i>Viola mandshurica</i> W. Becker 제비꽃 Donggeom12050	H
113. <i>Viola patrinii</i> DC. ex Ging. 흰제비꽃 Donggeom12051	H
114. <i>Viola rossii</i> Hemsl. 고갈제비꽃 Donggeom12039	H
115. <i>Viola seoulensis</i> Nakai 서울제비꽃 Donggeom12024	H
116. <i>Viola variegata</i> Fisch. ex Link 알록제비꽃 Donggeom12049	H
117. <i>Viola verecunda</i> A. Gray 콩제비꽃 Donggeom12084	H
Cucurbitaceae 박과	
118. <i>Citrullus vulgaris</i> Schrad 수박 (cult) Donggeom12605	Th
119. <i>Cucumis melo</i> var. <i>makuwa</i> Makino 참외 (cult) Donggeom12514	Th
120. <i>Trichosanthes kirilowii</i> Maxim. 하늘타리 Donggeom12347	G
Salicaceae 버드나무과	
121. <i>Populus x tomentiglandulosa</i> T. B. Lee 은사시나무 (cult) Donggeom12772	MM
122. <i>Salix caprea</i> L. 호랑버들 Donggeom12011	M
123. <i>Salix koreensis</i> Andersson 버드나무 Donggeom12023	MM
124. <i>Salix koriyanagi</i> Kimura ex Goerz 키버들 Donggeom12029	N
Brassicaceae 십자화과	
125. <i>Arabis glabra</i> (L.) Bernh. 장대나물 Donggeom12203	Th(w)
126. <i>Barbarea orthoceras</i> Ledeb. 나도냉이 Donggeom12082	HH(Thw)
127. <i>Capsella bursa-pastoris</i> (L.) Medik. 냉이 Donggeom12017	Th(w)
128. <i>Cardamine fallax</i> (O. E. Schulz) Nakai 좁쌀냉이 Donggeom12064	Th(w)
129. <i>Descurainia sophia</i> (L.) Webb ex Prantl 재속 Donggeom12226	Th(w)
130. <i>Draba nemorosa</i> L. 꽃다지 Donggeom12031	Th(w)
131. <i>Lepidium apetalum</i> Willd. 다닥냉이 Donggeom12095	Th(w)
132. <i>Rorippa palustris</i> (L.) Besser 속속이풀 Donggeom12100	Th(w)
133. <i>Thlaspi arvense</i> L. 말냉이 Donggeom12020	Th(w)
Ericaceae 진달래과	
134. <i>Rhododendron mucronulatum</i> Turcz. 진달래 Donggeom12010	N

## Appendix 1. Continued.

Scientific name/Korean name/Collection number	Life form
Pyrolaceae 노루발과	
135. <i>Pyrola japonica</i> Klenze ex Alef. 노루발 Donggeom12336	Ch
Ebenaceae 감나무과	
136. <i>Diospyros kaki</i> Thunb. 감나무 (cult) Donggeom12319	MM
137. <i>Diospyros lotus</i> L. 고욤나무 Donggeom12163	MM
Styracaceae 때죽나무과	
138. <i>Styrax japonicus</i> Siebold & Zucc. 때죽나무 Donggeom12210	MM
139. <i>Styrax obassia</i> Siebold & Zucc. 쪽동백나무 Donggeom12384	MM
Symplocaceae 노린재나무과	
140. <i>Symplocos sawafutagi</i> Nagam. 노린재나무 Donggeom12246	N
Primulaceae 앵초과	
141. <i>Androsace umbellata</i> (Lour.) Merr. 봄맞이꽃 Donggeom12139	Th <sub>(w)</sub>
142. <i>Lysimachia davurica</i> Ledeb. 좁쌀풀 Donggeom12344	Th
Grossulariaceae 까치밥나무과	
143. <i>Ribes fasciculatum</i> var. <i>chinense</i> Maxim. 까마귀밥나무 Donggeom12093	N
Crassulaceae 돌나물과	
144. <i>Sedum kamtschaticum</i> Fisch. & C. A. Mey. 기린초 Donggeom12541	H
Saxifragaceae 범의귀과	
145. <i>Astilbe rubra</i> Hook. f. & Thomson ex Hook. f. 노루오줌 Donggeom12374	H
Rosaceae 장미과	
146. <i>Agrimonia pilosa</i> Ledeb. 짚신나물 Donggeom12422	G
147. <i>Aria alnifolia</i> (Siebold & Zucc.) Decne. 팔배나무 Donggeom12089	MM
148. <i>Crataegus pinnatifida</i> Bunge 산사나무 Donggeom12708	M
149. <i>Duchesnea chrysantha</i> (Zoll. & Moritzi) Miq. 뱀딸기 Donggeom12067	Ch
150. <i>Malus sieboldii</i> (Regel) Rehder 아그배나무 Donggeom12312	M
151. <i>Neillia ukii</i> Nakai 나도국수나무 Donggeom12312	N
152. <i>Potentilla fragarioides</i> L. 양지꽃 Donggeom12027	Ch
153. <i>Potentilla freyniana</i> Bornm. 세잎양지꽃 Donggeom12123	Ch
154. <i>Potentilla supina</i> L. 개소시랑개비 Donggeom12146	Ch
155. <i>Prunus jamasakura</i> Siebold ex Koidz. 벚나무 Donggeom12170	MM
156. <i>Prunus persica</i> (L.) Batsch 복숭아나무 Donggeom12059	M
157. <i>Prunus serrulata</i> var. <i>pubescens</i> (Makino) E. H. Wilson 잔털벚나무 Donggeom12041	MM
158. <i>Prunus tomentosa</i> Thunb. 앵도나무 Donggeom12131	N
159. <i>Pyrus calleryana</i> var. <i>fauriei</i> (C. K. Schneid.) Rehder 롱배나무 Donggeom12124	N
160. <i>Pyrus pyrifolia</i> var. <i>culta</i> (Makino) Nakai 배나무 (cult) Donggeom12043	MM
161. <i>Pyrus ussuriensis</i> Maxim. 산돌배나무 Donggeom12245	MM
162. <i>Rosa multiflora</i> Thunb. 찔레나무 Donggeom12149	N
163. <i>Rosa rugosa</i> Thunb. 해당화 (cult) Donggeom12380	N
164. <i>Rubus fruticosus</i> L. 서양산딸기 Donggeom12204	N
165. <i>Rubus oldhamii</i> Miq. 줄딸기 Donggeom12136	N
166. <i>Rubus parvifolius</i> L. 멩석딸기 Donggeom12190	N
167. <i>Sanguisorba officinalis</i> L. 오이풀 Donggeom12503	G
168. <i>Spiraea prunifolia</i> var. <i>simpliciflora</i> (Nakai) Nakai 조팝나무 Donggeom12052	N
169. <i>Stephanandra incisa</i> (Thunb.) Zabel 국수나무 Donggeom12205	N
Fabaceae 콩과	
170. <i>Aeschynomene indica</i> L. 자귀풀 Donggeom12454	Th
171. <i>Amorpha fruticosa</i> L. 죽제비싸리 Donggeom12169	N
172. <i>Amphicarpaea bracteata</i> ssp. <i>edgeworthii</i> (Benth.) H. Ohashi 새콩 Donggeom12562	Th
173. <i>Caragana sinica</i> (Buc'hoz) Rehder 골담초 Donggeom12132	N
174. <i>Chamaecrista nomame</i> (Siebold) H. Ohashi 차풀 Donggeom12516	Th
175. <i>Desmodium podocarpum</i> DC. 개도독늪의갈고리 Donggeom12507	H
176. <i>Glycine soja</i> Siebold & Zucc. 돌콩 Donggeom12426	Th
177. <i>Indigofera kirilowii</i> Maxim. ex Palib. 팻비싸리 Donggeom12195	N
178. <i>Kummerowia striata</i> (Thunb.) Schindl. 매듭풀 Donggeom12561	Th
179. <i>Lathyrus japonicus</i> Willd. 갯완두 Donggeom12115	G
180. <i>Lespedeza bicolor</i> Turcz. 싸리 Donggeom12392	N
181. <i>Lespedeza cuneata</i> (Dum. Cours.) G. Don. 비수리 Donggeom12470	H
182. <i>Lespedeza cyrtobotrya</i> Miq. 참싸리 Donggeom12496	N
183. <i>Lespedeza tomentosa</i> (Thunb.) Siebold ex Maxim. 개싸리 Donggeom12515	Ch

## Appendix 1. Continued.

Scientific name/Korean name/Collection number	Life form
184. <i>Lotus corniculatus</i> var. <i>japonicus</i> Regel 벌노랑이 Donggeom12176	H
185. <i>Medicago lupulina</i> L. 잔개자리 Donggeom12122	Th <sub>(w)</sub>
186. <i>Pueraria lobata</i> (Willd.) Ohwi 칩 Donggeom12424	Ch
187. <i>Robinia pseudoacacia</i> L. 아까시나무 (cult) Donggeom12255	MM
188. <i>Senna obtusifolia</i> (L.) H. S. Irwin & Barneby 결명자 (cult) Donggeom12610	Th
189. <i>Sophora flavescens</i> Aiton 고삼 Donggeom12307	G
190. <i>Trifolium repens</i> L. 토끼풀 Donggeom12252	Ch
191. <i>Vicia amoena</i> Fisch. 갈퀴나물 Donggeom12537	G
192. <i>Vicia cracca</i> L. 등갈퀴나물 Donggeom12491	G
193. <i>Vigna angularis</i> var. <i>nipponensis</i> (Ohwi) Ohwi & H. Ohashi 새팥 Donggeom12532	Th
Elaeagnaceae 보리수나무과	
194. <i>Elaeagnus multiflora</i> Thunb. 들보리수 (cult) Donggeom12196	M
Lythraceae 부처꽃과	
195. <i>Rotala indica</i> (Willd.) Koehne 마디꽃 Donggeom12758	HH <sub>(Th)</sub>
Onagraceae 바늘꽃과	
196. <i>Ludwigia epilobioides</i> Maxim. 여뀌바늘 Donggeom12587	HH
197. <i>Oenothera odorata</i> Jacq. 달맞이꽃 Donggeom12431	Th <sub>(w)</sub>
Cornaceae 층층나무과	
198. <i>Cornus walteri</i> Wangerin 말채나무 Donggeom12296	MM
Santalaceae 단향과	
199. <i>Thesium chinense</i> Turcz. 제비꽃 Donggeom12197	H
Celastraceae 노박덩굴과	
200. <i>Celastrus flagellaris</i> Rupr. 훈지나무 Donggeom12544	M
201. <i>Celastrus orbiculatus</i> Thunb. 노박덩굴 Donggeom12162	M
202. <i>Euonymus alatus</i> f. <i>ciliatodentatus</i> (Franch. & Sav.) Hiyama 회잎나무 Donggeom12075	N
203. <i>Euonymus oxyphyllus</i> Miq. 참회나무 Donggeom12091	M
Buxaceae 회양목과	
204. <i>Buxus koreana</i> (Nakai ex Rehder) T. H. Chung & al. 회양목 Donggeom12018	N
Euphorbiaceae 대극과	
205. <i>Acalypha australis</i> L. 깨풀 Donggeom12599	Th
206. <i>Euphorbia himalaica</i> Willd. ex Schtdl. 땅빈대 Donggeom12606	Th
207. <i>Euphorbia supina</i> Raf. 애기땅빈대 Donggeom12501	Th
208. <i>Phyllanthus ussuriensis</i> Rupr. & Maxim. 여우주머니 Donggeom12596	Th
209. <i>Ricinus communis</i> L. 피마자 (cult) Donggeom12761	Th
210. <i>Securinega suffruticosa</i> (Pall.) Rehder 광대싸리 Donggeom12299	M
Vitaceae 포도과	
211. <i>Parthenocissus tricuspidata</i> (Siebold & Zucc.) Planch. 담쟁이덩굴 Donggeom12291	M
212. <i>Vitis flexuosa</i> Thunb. 새머루 Donggeom12313	M
Polygalaceae 원지과	
213. <i>Polygala japonica</i> Houtt. 애기풀 Donggeom12056	G
Aceraceae 단풍나무과	
214. <i>Acer tataricum</i> ssp. <i>ginnala</i> (Maxim.) Wesm. 신나무 Donggeom12208	M
Anacardiaceae 옷나무과	
215. <i>Rhus javanica</i> L. 붉나무 Donggeom12387	M
216. <i>Toxicodendron trichocarpum</i> (Miq.) Kuntze 개옷나무 Donggeom12153	M
Simaroubaceae 소태나무과	
217. <i>Ailanthus altissima</i> (Mill.) Swingle 가중나무 Donggeom12224	MM
218. <i>Picrasma quassioides</i> (D. Don) Benn. 소태나무 Donggeom12211	M
Rutaceae 운향과	
219. <i>Euodia daniellii</i> (Benn.) Hemsl. 쉬나무 Donggeom12408	M
Oxalidaceae 팽이밥과	
220. <i>Oxalis stricta</i> L. 선팽이밥 Donggeom12236	H
Geraniaceae 쥐손이풀과	
221. <i>Geranium carolinianum</i> L. 미국쥐손이 Donggeom12317	H
222. <i>Geranium thunbergii</i> Siebold ex Lindl. & Paxton 이질풀 Donggeom12471	H
Balsaminaceae 봉선화과	
223. <i>Impatiens balsamina</i> L. 봉선화 (cult) Donggeom12718	Th
Araliaceae 두릅나무과	
224. <i>Aralia cordata</i> var. <i>continentalis</i> (Kitag.) Y. C. Chu 독활 Donggeom12790	G

## Appendix 1. Continued.

Scientific name/Korean name/Collection number	Life form
225. <i>Eleutherococcus sessiliflorus</i> (Rupr. & Maxim.) S. Y. Hu 오갈피나무 Donggeom12789	N
226. <i>Kalopanax septemlobus</i> (Thunb.) Koidz. 음나무 Donggeom12130	MM
Apiaceae 미나리과	
227. <i>Angelica decursiva</i> (Miq.) Franch. & Sav. 바다나물 Donggeom12611	G
228. <i>Angelica decursiva</i> f. <i>albiflora</i> (Maxim.) Nakai 흰꽃바다나물 Donggeom12612	G
229. <i>Cnidium japonicum</i> Miq. 갯사상자 Donggeom12459	Th <sub>(w)</sub>
230. <i>Hydrocotyle maritima</i> Honda 선피막이 Donggeom12788	Ch
231. <i>Oenanthe javanica</i> (Blume) DC. 미나리 Donggeom12405	HH
232. <i>Peucedanum terebinthaceum</i> (Fisch. ex Trevir.) Fisch. ex Turcz. 기름나물 Donggeom12589	H
233. <i>Sanicula chinensis</i> Bunge 참반디 Donggeom12435	Th <sub>(w)</sub>
234. <i>Sium ninsi</i> L. 감자개발나물 Donggeom12712	HH
235. <i>Sium suave</i> Walter 개발나물 Donggeom12622	HH
236. <i>Torilis japonica</i> (Houtt.) DC. 사상자 Donggeom12316	Th <sub>(w)</sub>
Loganiaceae 마전과	
237. <i>Mitrasacme pygmaea</i> R. Br. 큰벼룩아재비 Donggeom12593	Th
Gentianaceae 용담과	
238. <i>Gentiana scabra</i> Bunge 용담 Donggeom12692	H
239. <i>Gentiana zollingeri</i> Fawc. 큰구슬봉이 Donggeom12120	Th <sub>(w)</sub>
240. <i>Swertia pseudochinensis</i> H. Hara 자주쓴풀 Donggeom12800	Th <sub>(w)</sub>
Asclepiadaceae 박주가리과	
241. <i>Cynanchum paniculatum</i> (Bunge) Kitag. 산해박 Donggeom12419	G
242. <i>Metaplexis japonica</i> (Thunb.) Makino 박주가리 Donggeom12404	G
Solanaceae 가지과	
243. <i>Datura meteloides</i> Dunal 털독말풀 Donggeom12710	Th
244. <i>Solanum nigrum</i> L. 까마중 Donggeom12546	Th
Convolvulaceae 메꽃과	
245. <i>Calystegia hederacea</i> Wall. 애기메꽃 Donggeom12192	G
246. <i>Calystegia soldanella</i> (L.) Roem. & Schult. 갯메꽃 Donggeom12278	G
247. <i>Cuscuta pentagona</i> Engelm. 미국실새삼 Donggeom12280	Th
248. <i>Ipomoea hederacea</i> Jacq. 미국나팔꽃 Donggeom12394	Th
249. <i>Ipomoea purpurea</i> (L.) Roth 둥근잎나팔꽃 Donggeom12492	Th
Boraginaceae 지치과	
250. <i>Symphytum officinale</i> L. 컴프리 (cult) Donggeom12264	H
251. <i>Trigonotis peduncularis</i> (Trevis.) Benth. ex Baker 꽃마리 Donggeom12034	Th <sub>(w)</sub>
Verbenaceae 마편초과	
252. <i>Callicarpa japonica</i> Thunb. 작살나무 Donggeom12273	M
253. <i>Clerodendrum trichotomum</i> Thunb. 누리장나무 Donggeom12386	MM
Phrymaceae 파리풀과	
254. <i>Phryma leptostachya</i> var. <i>asiatica</i> H. Hara 파리풀 Donggeom12390	G
Lamiaceae 꿀풀과	
255. <i>Agastache rugosa</i> (Fisch. & C. A. Mey.) Kuntze 배초향 Donggeom12626	H
256. <i>Ajuga multiflora</i> Bunge 조개나물 Donggeom12062	H
257. <i>Clinopodium chinense</i> (Benth.) Kuntze 층층이꽃 Donggeom12575	H
258. <i>Elsholtzia ciliata</i> (Thunb.) H. Hyl. 향유 Donggeom12659	Th
259. <i>Elsholtzia splendens</i> Nakai ex F. Maek. 꽃향유 Donggeom12809	Th
260. <i>Isodon inflexus</i> (Thunb.) Kudô 산박하 Donggeom12478	G
261. <i>Lamium amplexicaule</i> L. 광대나물 Donggeom12097	G
262. <i>Leonurus japonicus</i> Houtt. 익모초 Donggeom12445	Th <sub>(w)</sub>
263. <i>Lycopus lucidus</i> Turcz. ex Benth. 썩싸리 Donggeom12343	HH
264. <i>Lycopus maackianus</i> (Maxim. ex Heder) Makino 애기썩싸리 Donggeom12460	HH
265. <i>Mosla chinensis</i> Maxim. 가는잎산들개 Donggeom12630	Th
266. <i>Mosla punctulata</i> (J. F. Gmel.) Nakai 들개풀 Donggeom12523	Th
267. <i>Phlomis umbrosa</i> Turcz. 속단 Donggeom12433	H
268. <i>Prunella asiatica</i> Nakai 꿀풀 Donggeom12230	H
269. <i>Salvia plebeia</i> R. Br. 배암차즈기 Donggeom12243	Th <sub>(w)</sub>
270. <i>Scutellaria pekinensis</i> var. <i>transitra</i> (Makino) H. Hara ex H. W. Li 산골무꽃 Donggeom12231	H
271. <i>Teucrium japonicum</i> Houtt. 개곽향 Donggeom12399	H
272. <i>Teucrium viscidum</i> Blume 덩굴곽향 Donggeom12423	H

## Appendix 1. Continued.

Scientific name/Korean name/Collection number	Life form
Callitrichaceae 별이끼과	
273. <i>Callitriche palustris</i> L. 물별이끼 Donggeom12355	HH
Plantaginaceae 질경이과	
274. <i>Plantago asiatica</i> L. 질경이 Donggeom12080	H
275. <i>Plantago major</i> var. <i>japonica</i> (Franch. & Sav.) Miyabe 왕질경이 Donggeom12499	H
Oleaceae 물푸레나무과	
276. <i>Forsythia koreana</i> (Rehder) Nakai 개나리 (cult) Donggeom12030	N
277. <i>Fraxinus rhynchophylla</i> Hance 물푸레나무 Donggeom12128	MM
278. <i>Ligustrum obtusifolium</i> Siebold & Zucc. 쥐똥나무 Donggeom12142	M
279. <i>Syringa vulgaris</i> L. 라일락 (cult) Donggeom12314	M
Scrophulariaceae 현삼과	
280. <i>Lindernia procumbens</i> (Krock.) Borbás 발독외풀 Donggeom12756	HH
281. <i>Paulownia coreana</i> Uyeki 오동나무 (cult) Donggeom12268	MM
282. <i>Phtheirospermum japonicum</i> (Thunb.) Kanitz 나도송이풀 Donggeom12722	Th
283. <i>Veronica arvensis</i> L. 선개불알풀 Donggeom12177	Th <sub>(w)</sub>
284. <i>Veronica persica</i> Poir. 큰개불알풀 Donggeom12022	Th <sub>(w)</sub>
Acanthaceae 쥐꼬리망초과	
285. <i>Justicia procumbens</i> L. 쥐꼬리망초 Donggeom12551	Th
Bignoniaceae 능소화과	
286. <i>Catalpa ovata</i> G. Don 개오동 (cult) Donggeom12293	MM
Campanulaceae 초롱꽃과	
287. <i>Adenophora stricta</i> Miq. 당잔대 Donggeom12595	G
288. <i>Adenophora stricta</i> var. <i>lancifolia</i> Honda 긴당잔대 Donggeom12680	G
289. <i>Adenophora triphylla</i> var. <i>japonica</i> (Regel) H. Hara 잔대 Donggeom12679	G
290. <i>Platycodon grandiflorum</i> (Jacq.) A. DC. 도라지 Donggeom12475	G
Rubiaceae 꼭두선이과	
291. <i>Galium spurium</i> var. <i>echinospermum</i> (Wallr.) Hayek 갈퀴덩굴 Donggeom12079	Th <sub>(w)</sub>
292. <i>Galium trachyspermum</i> A. Gray 네일갈퀴 Donggeom12337	H
293. <i>Galium verum</i> var. <i>asiaticum</i> Nakai 솔나물 Donggeom12310	H
294. <i>Rubia cordifolia</i> var. <i>pratensis</i> Maxim. 갈퀴꼭두선이 Donggeom12552	G
Diervillaceae 병꽃나무과	
295. <i>Weigela subsessilis</i> (Nakai) L. H. Bailey 병꽃나무 Donggeom12160	N
Caprifoliaceae 인동과	
296. <i>Lonicera japonica</i> Thunb. 인동 Donggeom12274	M
Viburnaceae 산분꽃나무과	
297. <i>Viburnum carlesii</i> Hemsl 분꽃나무 Donggeom12045	N
298. <i>Viburnum erosum</i> Thunb. 덜꿩나무 Donggeom12156	N
Valerianaceae 마타리과	
299. <i>Patrinia scabiosifolia</i> Fisch. ex Trevir. 마타리 Donggeom12429	H
300. <i>Patrinia villosa</i> (Thunb.) Juss. 푼갈 Donggeom12602	H
Asteraceae 국화과	
301. <i>Ambrosia artemisiifolia</i> L. 돼지풀 Donggeom12569	Th
302. <i>Ambrosia trifida</i> L. 단풍돼지풀 Donggeom12737	Th
303. <i>Artemisia capillaris</i> Thunb. 사철쭉 Donggeom12519	H
304. <i>Artemisia dubia</i> Wall. ex DC. 참쭉 Donggeom12618	H
305. <i>Artemisia feddei</i> H. Lév. & Vaniot 뽕쭉 Donggeom12457	H
306. <i>Artemisia fukudo</i> Makino 큰비쭉 Donggeom12639	Th <sub>(w)</sub>
307. <i>Artemisia japonica</i> Thunb. 제비쭉 Donggeom12545	H
308. <i>Artemisia keiskeana</i> Miq. 맑은대쭉 Donggeom12621	H
309. <i>Artemisia princeps</i> Pamp. 쭉 Donggeom12646	Ch
310. <i>Aster ageratoides</i> Turcz. 까실쭉부쟁이 Donggeom12785	H
311. <i>Aster hispidus</i> Thunb. 갯쭉부쟁이 Donggeom12691	Th <sub>(w)</sub>
312. <i>Aster incisus</i> Fisch. 가새쭉부쟁이 Donggeom12678	Ch
313. <i>Aster pilosus</i> Willd. 미국쭉부쟁이 Donggeom12591	H
314. <i>Aster scaber</i> Thunb. 참취 Donggeom12619	G
315. <i>Aster subulatus</i> var. <i>sandwicensis</i> (A. Gray) A. G. Jones 큰비짜루국화 Donggeom12573	Th
316. <i>Aster tripolium</i> L. 갯개미취 Donggeom12644	Th <sub>(w)</sub>
317. <i>Bidens biternata</i> (Lour.) Merr. & Sherff 털도깨비바늘 Donggeom12409	Th
318. <i>Bidens frondosa</i> L. 미국가막사리 Donggeom12667	Th



## Appendix 1. Continued.

Scientific name/Korean name/Collection number	Life form
319. <i>Bidens tripartita</i> L. 가막사리 Donggeom12742	HH <sub>(Th)</sub>
320. <i>Breea segeta</i> (Bunge) Kitam. 조뱅이 Donggeom12269	H
321. <i>Carduus crispus</i> L. 지느러미영경귀 Donggeom12119	Th <sub>(w)</sub>
322. <i>Carpesium cernuum</i> L. 좁담배풀 Donggeom12553	Th <sub>(w)</sub>
323. <i>Cirsium japonicum</i> Fisch ex DC. 영경귀 Donggeom12237	H
324. <i>Cirsium pendulum</i> Fisch. ex DC. 큰영경귀 Donggeom12528	H
325. <i>Conyza canadensis</i> (L.) Cronquist 망초 Donggeom12468	Th <sub>(w)</sub>
326. <i>Cosmos bipinnatus</i> Cav. 코스모스 (cult) Donggeom12714	Th
327. <i>Cosmos sulphureus</i> Cav. 노랑코스모스 (cult) Donggeom12778	Th
328. <i>Crepidiastrum denticulatum</i> (Houtt.) J. H. Pak & Kawano 이고들빼기 Donggeom12572	Th <sub>(w)</sub>
329. <i>Dendranthema boreale</i> (Makino) Ling ex Kitam. 산국 Donggeom12764	H
330. <i>Dendranthema indicum</i> (L.) Des Moul. 감국 Donggeom12795	H
331. <i>Dendranthema zawadskii</i> var. <i>latilobum</i> (Maxim.) Kitam. 구절초 Donggeom12676	H
332. <i>Eclipta prostrata</i> (L.) L. 환련초 Donggeom12486	Th
333. <i>Erechtites hieracifolia</i> (L.) Raf. ex DC. 붉은서나물 Donggeom12568	Th
334. <i>Erigeron annuus</i> (L.) Pers. 개망초 Donggeom12267	Th <sub>(w)</sub>
335. <i>Erigeron philadelphicus</i> L. 봄망초 Donggeom12381	Th <sub>(w)</sub>
336. <i>Eupatorium japonicum</i> Thunb. 등골나물 Donggeom12340	G
337. <i>Eupatorium lindleyanum</i> DC. 골등골나물 Donggeom12607	G
338. <i>Eupatorium makinoi</i> var. <i>oppositifolium</i> (Koidz.) Kawah. & Yahara 별등골나물 Donggeom12476	G
339. <i>Galinsoga ciliata</i> (Rafin.) S. F. Blake 털별꽃아재비 Donggeom12766	Th
340. <i>Helianthus tuberosus</i> L. 뽕단지 (cult) Donggeom12731	G
341. <i>Hemistepta lyrata</i> Bunge 지칭개 Donggeom12184	Th <sub>(w)</sub>
342. <i>Hieracium umbellata</i> L. 조밥나물 Donggeom12744	H
343. <i>Inula salicina</i> var. <i>asiatica</i> Kitam. 버들금불초 Donggeom12502	H
344. <i>Ixeris chinensis</i> ssp. <i>strigosa</i> (H. Lév. & Vaniot) Kitam. 선쭈바귀 Donggeom12338	H
345. <i>Ixeris debilis</i> (Thunb.) A. Gray 벌음쭈바귀 Donggeom12353	H
346. <i>Ixeris dentatum</i> (Thunb.) Tzvelev 쭈바귀 Donggeom12193	H
347. <i>Ixeris polycephala</i> Cass. 벌쭈바귀 Donggeom12353	H
348. <i>Ixeris stolonifera</i> A. Gray 쭈쭈바귀 Donggeom12265	Ch
349. <i>Lactuca indica</i> var. <i>laciniata</i> (Kuntze) H. Hara 왕고들빼기 Donggeom12482	Th
350. <i>Lactuca scariola</i> L. 가시상추 Donggeom12493	H
351. <i>Rudbeckia hirta</i> var. <i>pulcherrima</i> Farw. 원추천인국 (cult) Donggeom12318	G
352. <i>Saussurea maximowiczii</i> Herder 버들분취 Donggeom12565	H
353. <i>Senecio vulgaris</i> L. 개쑥갓 Donggeom12021	Th <sub>(w)</sub>
354. <i>Sigesbeckia glabrescens</i> Makino 진득찰 Donggeom12721	Th
355. <i>Sigesbeckia pubescens</i> Makino 털진득찰 Donggeom12658	Th
356. <i>Solidago virgaurea</i> ssp. <i>asiatica</i> Kitam. ex H. Hara 미역취 Donggeom12645	H
357. <i>Sonchus brachyotus</i> DC. 사데풀 Donggeom12494	H
358. <i>Sonchus oleraceus</i> L. 방가지뚱 Donggeom12640	Th <sub>(w)</sub>
359. <i>Syneilesis palmata</i> (Thunb.) Maxim. 우산나물 Donggeom12583	Th <sub>(v)</sub>
360. <i>Taraxacum coreanum</i> Nakai 흰민들레 Donggeom12035	H
361. <i>Taraxacum officinale</i> F. H. Wigg. 서양민들레 Donggeom12036	H
362. <i>Tephrosia kirilowii</i> (Turcz. ex DC.) Holub 솜방망이 Donggeom12086	H
363. <i>Xanthium canadense</i> Mill. 큰도꼬마리 Donggeom12770	Th
364. <i>Youngia japonica</i> (L.) DC. 뿌리뱅이 Donggeom12096	Th <sub>(w)</sub>
Alismataceae 택사과	
365. <i>Alisma canaliculatum</i> A. Braun & C. D. Bouche 택사 Donggeom12736	HH
366. <i>Sagittaria sagittifolia</i> var. <i>leucopetala</i> Miq. 벼풀 Donggeom12444	HH
Juncaginaceae 지채과	
367. <i>Triglochin maritimum</i> L. 지채 Donggeom12172	HH
Potamogetonaceae 가래과	
368. <i>Potamogeton distinctus</i> A. Benn. 가래 Donggeom12733	HH
Najadaceae 나자스말과	
369. <i>Najas graminea</i> Delile 나자스말 Donggeom12734	HH <sub>(Th)</sub>
Araceae 천남성과	
370. <i>Arisaema heterophyllum</i> Blume 두루미천남성 Donggeom12222	H
Lemnaceae 개구리밥과	
371. <i>Lemna perpusilla</i> Torr. 좁개구리밥 Donggeom12215	HH <sub>(Th)</sub>

## Appendix 1. Continued.

Scientific name/Korean name/Collection number	Life form
372. <i>Spirodela polyrhiza</i> (L.) Schleid. 개구리밥 Donggeom12216	HH <sub>(Th)</sub>
Commelinaceae 닭의장풀과	
373. <i>Commelina communis</i> L. 닭의장풀 Donggeom12391	Th
374. <i>Murdannia keisak</i> (Hassk.) Hand.-Mazz. 사마귀풀 Donggeom12632	HH
Juncaceae 골풀과	
375. <i>Juncus alatus</i> Franch. & Sav. 날개골풀 Donggeom12351	HH
376. <i>Juncus effusus</i> var. <i>decipiens</i> Buchenau 골풀 Donggeom12186	HH
377. <i>Juncus papillosus</i> Franch. & Sav. 청비너골풀 Donggeom12436	HH
378. <i>Juncus setchuensis</i> var. <i>effusoides</i> Buchenau 푸른갯골풀 Donggeom12285	HH
379. <i>Juncus tenuis</i> Willd. 길골풀 Donggeom12364	H
380. <i>Luzula capitata</i> (Miq.) Miq. ex Kom. 평의밥 Donggeom12025	H
Cyperaceae 사초과	
381. <i>Bulbostylis densa</i> (Wall.) Hand.-Mazz. 꽃하늘지기 Donggeom12505	Th
382. <i>Carex aphanolepis</i> Franch. & Sav. 골사초 Donggeom12174	H
383. <i>Carex biwensis</i> Franch. 솔잎사초 Donggeom12125	H
384. <i>Carex bostrichostigma</i> Maxim. 길뚝사초 Donggeom12262	H
385. <i>Carex breviculmis</i> R. Br. 청사초 Donggeom12065	G
386. <i>Carex dickinsii</i> Franch. & Sav. 도깨비사초 Donggeom12354	H
387. <i>Carex dimorpholepis</i> Steud. 이삭사초 Donggeom12188	H
388. <i>Carex forficula</i> Franch. & Sav. 산뚝사초 Donggeom12126	H
389. <i>Carex gibba</i> Wahlenb. 나도별사초 Donggeom12258	H
390. <i>Carex humilis</i> var. <i>nana</i> (H. Lév. & Vaniot) Ohwi 가는잎그늘사초 Donggeom12015	H
391. <i>Carex japonica</i> Thunb. 개찌버리사초 Donggeom12074	H
392. <i>Carex leiorhyncha</i> C. A. Mey. 산쟁이사초 Donggeom12105	H
393. <i>Carex leucochlora</i> Bunge 이삼사초 Donggeom12054	H
394. <i>Carex maximowiczii</i> Miq. 왕비늘사초 Donggeom12194	H
395. <i>Carex miyabei</i> Franch. 용단사초 Donggeom12219	H
396. <i>Carex nervata</i> Franch. & Sav. 양지사초 Donggeom12055	H
397. <i>Carex neurocarpa</i> Maxim. 썩이사초 Donggeom12248	H
398. <i>Carex polyschoena</i> H. Lév. & Vaniot 가지청사초 Donggeom12040	H
399. <i>Carex pumila</i> Thunb. 줌보리사초 Donggeom12152	H
400. <i>Carex scabrifolia</i> Steud. 천일사초 Donggeom12069	H
401. <i>Carex siderosticta</i> Hance 대사초 Donggeom12046	H
402. <i>Cyperus amuricus</i> Maxim. 방동산이 Donggeom12412	Th
403. <i>Cyperus difformis</i> L. 알방동산이 Donggeom12442	HH
404. <i>Cyperus globosus</i> Forssk. 드렁방동산이 Donggeom12616	Th
405. <i>Cyperus hakonensis</i> Franch. & Sav. 병아리방동산이 Donggeom12586	Th
406. <i>Cyperus iria</i> L. 참방동산이 Donggeom12485	Th
407. <i>Cyperus microiria</i> Steud. 금방동산이 Donggeom12769	Th
408. <i>Cyperus nipponicus</i> Franch. & Sav. 푸른방동산이 Donggeom12609	Th
409. <i>Cyperus orthostachyus</i> Franch. & Sav. 쇠방동산이 Donggeom12629	HH
410. <i>Cyperus polystachyos</i> Rottb. 중방동산이 Donggeom12555	Th
411. <i>Cyperus sanguinolentus</i> Vahl 방동산이대가리 Donggeom12700	HH
412. <i>Eleocharis congesta</i> var. <i>japonica</i> (Miq.) T. Koyama 바늘골 Donggeom12352	HH
413. <i>Eleocharis kamschatica</i> (C. A. Mey.) Kom. 올방개아재비 Donggeom12088	HH
414. <i>Fimbristylis autumnalis</i> (L.) Roem. & Schult. 애기하늘지기 Donggeom12636	Th
415. <i>Fimbristylis miliacea</i> (L.) Vahl 바람하늘지기 Donggeom12585	HH
416. <i>Kyllinga brevifolia</i> Rottb. 가지파대가리 Donggeom12597	HH
417. <i>Scirpus juncooides</i> Roxb. 올챙이고랭이 Donggeom12358	HH
418. <i>Scirpus maritimus</i> L. 매자기 Donggeom12218	HH
419. <i>Scirpus planiculmis</i> F. Schmidt 새섬매자기 Donggeom12102	HH
420. <i>Scirpus tabernaemontani</i> C. C. Gmel. 큰고랭이 Donggeom12199	HH
421. <i>Scirpus triquetter</i> L. 세모고랭이 Donggeom12743	HH
422. <i>Scirpus wichurai</i> var. <i>asiaticus</i> (Beetle) T. Koyama ex Ohwi 방울고랭이 Donggeom12434	HH
Poaceae 화분과	
423. <i>Agropyron ciliare</i> (Trin.) Franch. 속털개밀 Donggeom12112	Th <sub>(w)</sub>
424. <i>Agropyron tsukushiense</i> var. <i>transiens</i> (Hack.) Ohwi 개밀 Donggeom12111	Th <sub>(w)</sub>
425. <i>Agrostis alba</i> L. 흰겨이삭 Donggeom12329	H
426. <i>Agrostis clavata</i> var. <i>nukabo</i> Ohwi 겨이삭 Donggeom12228	Th <sub>(w)</sub>

## Appendix 1. Continued.

Scientific name/Korean name/Collection number	Life form
427. <i>Alopecurus aequalis</i> Sobol. 뚝새풀 Donggeom12070	Th <sub>(w)</sub>
428. <i>Arthraxon hispidus</i> (Thunb.) Makino 조개풀 Donggeom12634	Th
429. <i>Arundinella hirta</i> (Thunb.) Tanaka 새 Donggeom12681	H
430. <i>Arundinella hirta</i> var. <i>ciliata</i> (Thunb.) Koidz. 털새 Donggeom12473	H
431. <i>Bromus japonicus</i> Thunb. 참새귀리 Donggeom12113	Th
432. <i>Calamagrostis arundinacea</i> (L.) Roth 실새풀 Donggeom12674	G
433. <i>Calamagrostis epigeios</i> (L.) Roth 산조풀 Donggeom12281	G
434. <i>Cleistogenes hackelii</i> (Honda) Honda 대새풀 Donggeom12550	H
435. <i>Cymbopogon tortilis</i> ssp. <i>goeringii</i> (Steud.) T. Koyama 개솔새 Donggeom12601	H
436. <i>Dactylis glomerata</i> L. 오리새 Donggeom12118	H
437. <i>Digitaria sanguinalis</i> (L.) Scop. 바랭이 Donggeom12750	Th
438. <i>Digitaria violascens</i> Link 민바랭이 Donggeom12623	Th
439. <i>Echinochloa crusgalli</i> (L.) P. Beauv. 돌피 Donggeom12327	HH
440. <i>Echinochloa crusgalli</i> var. <i>oryzicola</i> (Vasinger) Ohwi 물피 Donggeom12483	HH
441. <i>Eleusine indica</i> (L.) Gaertn. 왕바랭이 Donggeom12438	Th
442. <i>Elymus dahuricus</i> Turcz. ex Griseb. 갯보리 Donggeom12275	H
443. <i>Elymus repens</i> (L.) Gould 구주개밀 Donggeom12276	H
444. <i>Elymus repens</i> f. <i>aristatum</i> Holmb. 까락구주개밀 Donggeom12321	Th
445. <i>Eragrostis ferruginea</i> (Thunb.) P. Beauv. 그렁 Donggeom12446	H
446. <i>Eragrostis multicaulis</i> Steud. 비노리 Donggeom12326	Th
447. <i>Eriochloa villosa</i> (Thunb.) Kunth 나도개피 Donggeom12481	H
448. <i>Eulalia speciosa</i> (Debeaux) Kuntze 개역새 Donggeom12598	H
449. <i>Festuca arundinacea</i> Schreb. 큰김의털 Donggeom12148	H
450. <i>Festuca ovina</i> L. 김의털 Donggeom12175	H
451. <i>Hemarthria compressa</i> var. <i>japonica</i> Hack. 쇠치기풀 Donggeom12400	H
452. <i>Hierochloa odorata</i> (L.) P. Beauv. 향모 Donggeom12028	G
453. <i>Imperata cylindrica</i> var. <i>koenigii</i> (Retz.) Benth. ex Pilg. 띪 Donggeom12198	G
454. <i>Isachne globosa</i> (Thunb.) Kuntze 기장대풀 Donggeom12739	H
455. <i>Ischaemum crassipes</i> (Steud.) Thell. 쇠보리 Donggeom12415	H
456. <i>Leersia oryzoides</i> (L.) Sw. 좁겨풀 Donggeom12735 Donggeom12735	HH
457. <i>Melica onoei</i> Franch. & Sav. 쌀새 Donggeom12620	H
458. <i>Microstegium vimineum</i> var. <i>imberbe</i> (Ness ex Steud.) Honda 큰듬성이삭새 Donggeom12614	Th
459. <i>Miscanthus sinensis</i> Andersson 억새 Donggeom12518	H
460. <i>Moliniopsis japonica</i> (Hack.) Hayata 진퍼리새 Donggeom12698	HH
461. <i>Muhlenbergia japonica</i> Steud. 쥐꼬리새 Donggeom12625	H
462. <i>Oplismenus undulatifolius</i> (Ard.) Roem. & Schult. 주름조개풀 Donggeom12427	H
463. <i>Panicum bisulcatum</i> Thunb. 개기장 Donggeom12627	Th
464. <i>Panicum dichotomiflorum</i> Michx. 미국개기장 Donggeom12534	Th
465. <i>Paspalum thunbergii</i> Kunth ex Steud 참새피 Donggeom12574	H
466. <i>Pennisetum alopecuroides</i> (L.) Spreng. 수크렁 Donggeom12464	H
467. <i>Phacelurus latifolius</i> (Steud.) Ohwi 모새달 Donggeom12363	H
468. <i>Phalaris arundinacea</i> L. 갈풀 Donggeom12227	HH
469. <i>Phragmites communis</i> Trin. 갈대 Donggeom12495	HH
470. <i>Phragmites japonica</i> Steud. 달뿌리풀 Donggeom12699	HH
471. <i>Poa acroleuca</i> Steud. 실포아풀 Donggeom12110	Th
472. <i>Poa annua</i> L. 새포아풀 Donggeom12133	Th <sub>(w)</sub>
473. <i>Poa pratensis</i> L. 왕포아풀 Donggeom12116	H
474. <i>Poa sphondylodes</i> Trin. 포아풀 Donggeom12309	H
475. <i>Puccinellia nipponica</i> Ohwi 갯꾸러미풀 Donggeom12155	H
476. <i>Sacciolepis indica</i> (L.) Chase 좁물뚝새 Donggeom12571	HH <sub>(Th)</sub>
477. <i>Schizachyrium brevifolium</i> (Sw.) Nees & Büse 쇠풀 Donggeom12592	Th
478. <i>Setaria glauca</i> (L.) P. Beauv. 금강아지풀 Donggeom12484	Th
479. <i>Setaria viridis</i> (L.) P. Beauv. 강아지풀 Donggeom12304	Th
480. <i>Sorghum bicolor</i> (L.) Moench 수수 (cult) Donggeom12805	Th
481. <i>Spodipogon cotulifer</i> (Thunb.) Hack. 기름새 Donggeom12615	H
482. <i>Spodipogon sibiricus</i> Trin. 큰기름새 Donggeom12498	H
483. <i>Sporobolus japonicus</i> (Steud.) Maxim. & Rendle 나도잔디 Donggeom12796	Th
484. <i>Themeda triandra</i> ssp. <i>japonica</i> (Willd.) T. Koyama 솔새 Donggeom12474	H
485. <i>Trisetum bifidum</i> (Thunb.) Ohwi 잠자리피 Donggeom12181	H

## Appendix 1. Continued.

Scientific name/Korean name/Collection number	Life form
486. <i>Zizania caduciflora</i> (Turcz. ex Trin.) Hand.-Mazz. 줄 Donggeom12697	HH
487. <i>Zoysia japonica</i> Steud. 잔디 (cult) Donggeom12331	H
488. <i>Zoysia sinica</i> Hance 갯잔디 Donggeom12173	H
Typhaceae 부들과	
489. <i>Typha angustifolia</i> L. 애기부들 Donggeom12346	HH
490. <i>Typha orientalis</i> C. Presl. 부들 Donggeom12294	HH
Pontederiaceae 물옥잠과	
491. <i>Monochoria korsakowii</i> Regel & Maack 물옥잠 Donggeom12440	HH <sub>(Th)</sub>
492. <i>Monochoria vaginalis</i> var. <i>plantaginea</i> (Roxb.) Solms 물달개비 Donggeom12740	HH <sub>(Th)</sub>
Liliaceae 백합과	
493. <i>Allium macrostemon</i> Bunge 산달래 Donggeom12221	G
494. <i>Allium sacculiferum</i> Maxim. 참산부추 Donggeom12420	G
495. <i>Disporum smilacinum</i> A. Gray 애기나리 Donggeom12090	G
496. <i>Hemerocallis dumortieri</i> Morr. 각시원추리 Donggeom12367	G
497. <i>Lilium lancifolium</i> Thunb. 참나리 Donggeom12385	G
498. <i>Polygonatum grandicaule</i> Y. S. Kim, B. U. Oh & C. G. Jang 선동굴레 Donggeom12395	G
499. <i>Polygonatum infundiflorum</i> Y. S. Kim, B. U. Oh & C. G. Jang 늦동굴레 Donggeom12129	G
500. <i>Polygonatum odoratum</i> var. <i>pluriflorum</i> (Miq.) Ohwi 동굴레 Donggeom12104	G
501. <i>Scilla scilloides</i> (Lindl.) Druce 무릇 Donggeom12396	G
Iridaceae 붓꽃과	
502. <i>Iris lactea</i> var. <i>chinensis</i> (Fisch.) Koidz. 타래붓꽃 Donggeom12164	G
503. <i>Iris rossii</i> Baker 각시붓꽃 Donggeom12048	G
504. <i>Iris sanguinea</i> Donn ex Hornem. 붓꽃 Donggeom12206	G
Similaceae 청미래덩굴과	
505. <i>Smilax china</i> L. 청미래덩굴 Donggeom12077	N
506. <i>Smilax nipponica</i> Miq. 선밀나물 Donggeom12087	G
507. <i>Smilax sieboldii</i> var. <i>inermis</i> Nakai 민청가시덩굴 Donggeom12209	N
Dioscoreaceae 마과	
508. <i>Dioscorea oppositifolia</i> L. 마 Donggeom12407	G
Orchidaceae 난초과	
509. <i>Amitostigma gracile</i> (Blume) Schltr. 병아리난초 Donggeom12497	G
510. <i>Cephalanthera longibracteata</i> Blume 은대난초 Donggeom12257	H
511. <i>Liparis kumokiri</i> F. Maek. 옥잠난초 Donggeom12383	Ch
512. <i>Spiranthes sinensis</i> (Pers.) Ames 타래난초 Donggeom12432	G