

Resources of herbaceous plant in Taejon Area, Korea

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ABSTRACT

This study was to estimate and complete the flora of herbaceous plants found in Mt. Kyeryong National Park, Mt. Bomoon, and Mt. Shikjang in Taejon Korea. This research was conducted from April 1995 to August 1998. Herbaceous vascular plants were composed of 76 families, 336 genera, 574 species, 4 subspecies, 105 varieties and 9 forms, totaling 691 taxa. The useful resource plants were categorized as edible plants (45.4%), medical plants (31.1%), pasture plants (28.7%), ornamental plants (16.4%) and industrial plants (1.6%).

Key words : Herbaceous vascular plants, flora, Taejon

INTRODUCTION

The reduction of natural resource caused by population increase is one of the world's greatest problems. Therefore, it is important that research for the protection and conservation of natural resources must be done. To set bounds for useful resources is very difficult. Plant uses are enormous. Hence, it is imperative to explore plants' utilization as a resource. In this study vascular plants were investigated for such purpose.

To date, the flora of some mountains in Taejon are still subject of many researchers. However, utilization as a natural resource being the focus of research is neglected. The purpose of our study was to examine and present the composition of plants which are of social, agricultural, aesthetic and economic importance and

provide an information for conservation and foster of resource plants in Taejon.

STUDY AREAS

1. Location

Taejon locates in 36° 10' 50" -36° 29' 47" N, 127° 14' 54" -127° 38' 21" E, and the area is 537.13 km². It is surrounded by the following municipalities Okchon, Boeun, Kongju, Yonki, Nhonsan and Kumsan in the central region of South Korea

2. Climates

The annual temperature average at Taejon was 12.6 °C, 35.6 °C as maximum and 14.2 °C as Minimum in 1996. The range of a thermometer was 49.8 °C (Table 1). Annual precipitation average from 1991 to 1996 was 1,170.9 mm (Table 2).

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Table 1. Monthly mean temperature and precipitation (1996).

	1	2	3	4	5	6	7	8	9	10	11	12	Average
Temperature (°C)	-1.6	-1.2	4.8	10.2	18.0	22.1	25.2	26.1	20.5	13.7	6.7	1.1	12.1
Precipitation (mm)	32.7	4.4	138.0	49.8	62.9	411.4	257.7	114.4	11.4	90.8	77.1	28.6	106.6

Table 2. Climate summary of Taejon (1991-1996).

	Temperature (°C)			Precipitation (mm)	Relative humidity	
	Average	Max. of Average	Min. of Average		Average	Min.
1991	12.6	18.2	7.6	1182.1	68.0	9.0
1992	12.8	18.5	7.9	1036.9	70.0	9.0
1993	12.3	17.8	7.5	1533.1	72.0	15.0
1994	13.8	19.7	8.7	857.9	66.0	13.0
1995	12.3	18.4	7.0	1136.2	68.0	20.0
1996	12.1	18.0	7.2	1279.2	68.0	18.0
Means	12.6	18.4	7.6	1170.9	68.6	14.0

METHODS

The field survey of resource plants composition was conducted from April 1995 to August 1998. Surveyed regions were the forests of Mt. Kyeryong National Park, Mt. Bomoon and Mt. Shikjang in their order of priority. Voucher specimen and published papers (Lee and Lee, 1979; Kim *et al.*, 1995; Lee *et al.*, 1995) were also examined for this purpose.

The plant that was not natural was marked '(c)' in their scientific name. The classification and scientific name were based according to Lee (1980). Korean endemic plants (Lee, 1984), rare and endangered plants (Lee, 1981; Ministry of Environment, 1994) and usage of each plant (Kim, 1995; Yoon, 1995; Kim, 1996; Lee, 1996a; Lee, 1996b; Tae, 1998) were examined.

RESULTS AND DISCUSSIONS

1. Composition of resource plants

Herbaceous vascular plants identified in the study sites 691 taxa with 76 families 336 genera 574 species 3 subspecies 105 varieties and 9 forms (Table 3). Such data represented 16.9% of Korean vascular plants of which 4,191 taxa were identified (Nakai, 1951). However, it was found out that almost of these taxa were distributed at Mt. Kyeryong National Park. The forests of Mt. Bomoon and Mt. Shikjang were greatly affected by human intervention specifically the establishment of parks.

The herbaceous flora of Taejon consisted of 11 families Pteridophyta with 22 genera 44 taxa; and 65 families Angiospermae with 314 genera 647 taxa,

Table 3. The abridged list of the plants in Taejon area.

Taxa	Families	Genera	Species	Varieties	Forms	Subspecies	Total
Pteridophyta	11	22	41	3	-	-	44
Angiospermae	65	314	533	102	9	3	647
Monocotyledons	16	97	158	33	3	-	194
Dicotyledons	49	217	375	69	6	3	453
Total	76	336	574	105	9	3	691

respectively (Table 3).

2. Composition of plants for each use

The usefulness of plants was classified as edible 314 taxa (45.4%), medical 215 taxa (31.1%), pasture 198 taxa (28.7%), ornamental 113 taxa (16.4%) and industrial 11 taxa (1.6%) in this study (Table 4). It revealed that plants identified could be grouped in terms of their usefulness such as edible, Medical, Ornamental, and so on. Significant finding showed that 23.0% of plants in Taejon (Table 4) whose value is not yet known. With these data, more plants utilization could be identified in the future.

Table 4. Number of plants for each use in Taejon city (E:edible, M:Medical, O:Ornamental, I:Industrial, P:Pasture, U:Unknown use).

Use	E	P	M	O	I	U
No. of species	314	198	215	113	11	159
%	45.4	28.7	31.1	16.4	1.6	23.0

3. Endemic plants of Korea

Korean endemic plants were 642 species, 40 varieties and 74 formae totally 1,118 taxa of endemic plants identified (Nakai, 1952). Likewise Lee (1984) reported that there are 61 families, 172 genera, 339 species, 46 varieties and 22 forms totally 407 taxa which are endemic. Seven taxa (Table 5) of Korean endemic plants was distributed, such as, *Sasa coreana*, *Carex glabrescens*, *Polygonatum robustum*, *P. lasianthum* var.

Table 5. List of the Korean endemic plants in Taejon area.

Family name	Scientific name
Gramineae	<i>Sasa coreana</i> Nakai
Liliaceae	<i>Polygonatum robustum</i> Nakai <i>P. lasianthum</i> var. <i>coreanum</i> Nakai
Ranunculaceae	<i>Clematis trichotoma</i> Nakai
Scrophulariaceae	<i>Scrophularia koraiensis</i> Nakai
Compositae	<i>Cirsium setidens</i> Nakai

coreanum, *Clematis trichotoma*, *Cirsium setidens* in Taejon.

4. Rare and endangered plants

Ministry of Environment (1994) and Korean Association for Conservation Nature (KACN, 1981) respectively reported that there are 126 and 115 plants, which are rare and endangered.

Eight herbaceous plants of rare and endangered species are distributed in Taejon like as *Polygonatum stenophyllum*, *Iris rossii*, *I. asata* var. *spontanea*, *Gastrodia elata*, *Aristolochia contorta*, *Celtis edulis*, *Pyrola japonica*, *Chrysanthemum zawadskii* (Table 6).

Table 6. List of the rare and endangered plants in Taejon area.

Family name	Scientific name
Liliaceae	<i>Polygonatum stenophyllum</i> Maximowicz
Iridaceae	<i>Iris rossii</i> Bak. <i>I. asata</i> Thunberg var. <i>spontanea</i> (Makino) Nakai
Orchidaceae	<i>Gastrodia elata</i> Bl.
Aristolochiaceae	<i>Aristolochia contorta</i> Bunge
Ulmaceae	<i>Celtis edulis</i> Nakai
Pyrolaceae	<i>Pyrola japonica</i> Koidz.
Compositae	<i>Chrysanthemum zawadskii</i> Herbach

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Appendix. The list of herbaceous natural resource plants in three mounts of Taejon Area. (KY, Mt. Kyeryong; BM, Mt. Bomoon, SJ, Mt. Shikjang; +, present)

NO.	Scientific Name	KY	BM	SJ	Uses
	Phylum Tracheophyta				
	Subphylum Lycopsidea				
	Class Lycopsidea				
	Order Selaginellales				
	Family Selagnellaceae				
1	<i>Selaginella involvens</i> (SW.) Spring	+			U
2	<i>S. rossii</i> (Bak.) Warb.	+			U
3	<i>S. tamariscina</i> (Beauv.) Spring	+			U
	Subphylum Sphenopsida				
	Class Equisetineae				
	Order Equisetales				
	Family Equisetaceae				
4	<i>Equisetum arvense</i> L.	+	+	+	E,P
5	<i>E. pratense</i> Ehrh.	+			E,P
6	<i>E. hyemale</i> L.	+			M,P
7	<i>E. ramosissimum</i> Desf.	+			U
	Subphylum Pteropsida				
	Class Filicineae				
	Order Ophioglossales				
	Family Ophioglossaceae				
8	<i>Botrychium ternatum</i> (Thunb.) Swartz	+			U
	Order Filicales				
	Family Osmundaceae				
9	<i>Osmunda japonica</i> Thunb.	+	+	+	E
	Family Pteridaceae				
10	<i>Dennstaedtia wilfordii</i> (Moore) Christ.	+	+	+	U
11	<i>D. hirsuta</i> (SW.) Mett.	+	+	+	U
12	<i>Pteridium aquilinum</i> var. <i>latiusculum</i> (Desv.) Underw.	+	+	+	E,M
	Family Davalliaceae				
13	<i>Davallia mariesii</i> Moore	+	+		O
	Family Aspidiaceae				
14	<i>Athyrium brevifrons</i> Nakai	+	+		E
15	<i>A. henryi</i> (Bak.) Diels	+			U
16	<i>A. iseanum</i> Ros.	+			U
17	<i>A. niponicum</i> (Mett.) Hance.	+	+	+	E

18	<i>A. pterorachis</i> H. Christ	+			U
19	<i>A. pycnosorum</i> H. Christ	+			U
20	<i>A. Vidalii</i> Fr. et Sav.	+	+		U
21	<i>A. yokoscense</i> (Fr. et Sav.) H. Christ	+	+		E
22	<i>Cyrtomium fortunei</i> J. Smith	+			U
23	<i>Dryopteris bissetiana</i> (Bak.) C. Christ.	+	+	+	U
24	<i>D. chinensis</i> (Bak.) Koidz.	+	+		U
25	<i>D. crassirhizoma</i> Nakai	+	+		M,E
26	<i>D. gymnophylla</i> (Bak.) C. Christ	+	+		U
27	<i>D. lacera</i> (Thunb.) O. Kuntze	+	+		U
28	<i>D. minticola</i> (Mak.) C. Christ.	+			U
29	<i>D. sacrosancta</i> Koidz.	+			U
30	<i>Gymnocarpium dryopteris</i> (L.) Newm.	+			U
31	<i>Lastrea thelypteris</i> (L.) Bory	+			U
32	<i>L. japonica</i> (Bak.) Copel.	+			U
33	<i>Matteuccia struthiopteris</i> (L.) Todaro		+		U
34	<i>Onoclea sensibilis</i> var. <i>interrupta</i> Max.	+	+		U
35	<i>Polystichu tripterion</i> (Kunze) Presl	+	+	+	U
36	<i>Woodsia polystichoides</i> Eaton	+	+		U
37	<i>W. polystichoides</i> var. <i>Nudiuscula</i>	+	+		U
38	<i>W. manchuriensis</i> Hooker	+			U
	Family Aspleniaceae				
39	<i>Asplenium incisum</i> Tunb.	+	+		U
	Family Polypodiaceae				
40	<i>Lepisorus ussuriensis</i> (Regel et Maack.) Ching	+	+	+	U
41	<i>pyrrosia linearifolia</i> (Hook.) Ching	+			U
42	<i>P. petiolosa</i> (Chr. et Bar.) Ching	+			U
	Family Marsileaceae				
43	<i>Marsilea quadrifolia</i> L.	+	+		U
	Family Salviniaceae				
44	<i>Salvinia natans</i> (L.) All.	+	+		U
	Class Angiospermae				
	Subclass Monocotyledoneae				
	Order Helobiales				
	Family Potamogetonaceae				
45	<i>Potamogeton distinctus</i> A. Benn.	+	+		U
	Family Alismataceae				
46	<i>Sagittaria aginashi</i> Makino	+			U
47	<i>S. pygmaea</i> Miquel	+			U
	Order Graminales				
	Family Gramineae				
48	<i>Agropyron tsukushiense</i> var. <i>transiens</i> (Hack.) Ohwi	+	+	+	P
49	<i>Agrostis clavata</i> var. <i>nukabo</i> Ohwi	+	+		P
50	<i>Alopecurus aequalis</i> var. <i>amurensis</i> (Kom.) Ohwi	+	+	+	P
51	<i>Andropogon brevifolius</i> SW.	+	+		P
52	<i>Arthraxon hispidus</i> (Thunb.) Makino	+	+	+	P
53	<i>Arundinella hirta</i> (Thunb.) Koidz.	+	+	+	P
54	<i>Avena fatua</i> L.	+	+		E,P
55	<i>Bromus japonica</i> Thunb.	+	+		P
56	<i>B. remotiflorus</i> (Steud.) Ohwi	+			P
57	<i>Beckmannia syzigachne</i> (Steud.) Fern.	+	+	+	P
58	<i>Calamagrostis epigeios</i> (L.) Roth	+	+		P
59	<i>C. arundinaceae</i>	+	+		P
60	<i>C. epigeios</i> var. <i>densiflora</i> Ledebour	+	+		P
61	<i>Cleistogens hackelii</i> (Honda) Honda	+	+		P
62	<i>Coix lachryma-jobi</i> var. <i>mayuen</i> (Roman) Staf	+	+		E,M,P
63	<i>Cymbopogon tortilis</i> var. <i>goeringii</i> (Steud.) Hand.-Mazz.	+	+	+	P
64	<i>Dactylis glonierata</i> L.	+	+		P
65	<i>Diarrhena japonica</i> (Franch. et Sav.) Franch et Sav.	+	+		P
66	<i>D. fauriei</i> (Hack.) Ohwi	+			P
67	<i>Digitaria sanguinalis</i> (L.) Scop.	+	+	+	P
68	<i>D. violascens</i> Link	+	+	+	P

69	<i>D. chinensis</i> Hornem	+			P
70	<i>Eragrostis multicaulis</i> Steud.		+		P
71	<i>E. ferruginea</i> (Thunb.) Beauv.	+			P
72	<i>E. cilianensis</i> (All.) Lutati	+	+		P
73	<i>E. poaeoides</i> Beauv.			+	P
74	<i>Eriochloa villosa</i> (Thunb.) Kunth	+	+	+	P
75	<i>Elusine indica</i> (L.) Gaertner	+			P
76	<i>Echinochloa crusgalli</i> (L.) Beauv.	+			E,S
77	<i>E. crusgalii</i> var. <i>frumentacea</i> (Roxb.) Wight	+	+		E,P
78	<i>Festuca ovina</i> L.	+	+	+	P
79	<i>F. parvigluma</i> Steud.	+	+	+	P
80	<i>F. subulata</i> Trun. var. <i>japonica</i> Hack.	+			P
81	<i>Hordeum vulgare</i> L.	+	+		E,P
82	<i>Hemarthria sibirica</i> (Gandog) Ohwi	+	+		P
83	<i>Imperata cylindrica</i> var. <i>roenigii</i> (Retz.) Durand et Schinz	+	+	+	E,M,P
84	<i>Melica onoei</i> Franchet	+	+		P
85	<i>M. scabrosa</i> Trin.	+			P
86	<i>Microstegium vinineum</i> A. Camus	+	+		P
87	<i>Miscanthus sinensis</i> Andersson	+	+	+	P
88	<i>M. sinensis</i> var. <i>purpurascens</i> Rendle	+	+		P
89	<i>M. sacchariflorus</i> Benth	+			P
90	<i>Molina japonica</i> Hack	+			P
91	<i>Muhlenbergia japonica</i> Steud.	+			P
92	<i>M. longistolon</i> Ohwi	+			P
93	<i>Oplismenus undulatifolius</i> (Ard.) Beauv.	+	+	+	P
94	<i>O. undulatifolius</i> for. <i>elongatus</i> Y. Lee	+			P
95	<i>Oryza sativa</i> L. (C)	+	+	+	E,P
96	<i>Panacium bisulcatum</i> Thunb.	+	+		E,P
97	<i>P. thunbergii</i> Kunth.	+			P
98	<i>Pennisetum alopecuroides</i> (L.) Spreng	+	+	+	P
99	<i>Phyllostachys nigra</i> var. <i>henonis</i> Stapf		+		P
100	<i>P. pubescens</i> Mazel	+			P
101	<i>P. bambusoides</i> S. et Z.	+			P
102	<i>Pseudosasa japonica</i> Makino	+			P
103	<i>Poa nemoralis</i> L.	+	+		P
104	<i>P. sphondylodes</i> Trill.	+	+	+	P
105	<i>Phragmites communis</i> Trin.	+	+	+	P
106	<i>P. japonica</i> Steud.	+			P,M
107	<i>Sasa borealis</i> (Hack.) Marino	+			E,M,P
108	<i>S. coreana</i> Nakai			+	P
109	<i>Setaria viridis</i> (L.) Beauv.	+			E,P
110	<i>S. glauca</i> (L.) Beauv.	+	+		E,P
111	<i>S. viridis</i> var. <i>purpurascens</i> Max.	+			P
112	<i>Stipa coreana</i> Nakai	+	+	+	P
113	<i>Spodiopogon cotulifer</i> (Thunb.) Hackel	+	+		P
114	<i>S. sibiricus</i> Trin.	+	+		P
115	<i>Sporobolus japonicus</i> (Steud.) Max.	+			P
116	<i>Trisetum bifidum</i> (Thunb.) Ohwi	+			P
117	<i>Themeda triandra</i> var. <i>japonica</i> Mak.	+	+	+	P
118	<i>Zea mays</i> L. (C)	+	+	+	E,P
119	<i>Zoysia japonica</i> Steud.	+	+	+	O
	Family Cyperaceae				
120	<i>Bullbostylis barbata</i> Kunth.	+			P
121	<i>Carex bostrichostigma</i> Max.	+	+	+	P
122	<i>C. ciliato-marginata</i> Nakai	+	+		P
123	<i>C. dimorpholepis</i> Steud.	+	+		P
124	<i>C. fernaldiana</i> Lev. et Vnt.	+	+		P
125	<i>C. filipes</i> var. <i>oligostachys</i> Kuek.	+	+		P
126	<i>C. glabrescens</i> Ohwi	+	+		P
127	<i>C. humbertiana</i> Ohwi		+		P
128	<i>C. humilis</i> Leyss.	+	+		P
129	<i>C. japonica</i> Thunb.	+	+	+	P

130	<i>C. laevisissima</i> Nakai	+	+	+	P
131	<i>C. lanceolata</i> A. Gray	+			P
132	<i>C. leiorhyncha</i> C. A. Meyer	+	+		P
133	<i>C. mollicula</i> Boott				P
134	<i>C. neurocarpa</i> Max.	+	+		P
135	<i>C. onoei</i> Fr. et Sav.	+			P
136	<i>C. pediformis</i> C. A. Meyer	+			P
137	<i>C. remotiuscula</i> Wahl.	+			P
138	<i>C. siderosticta</i> Hance	+	+	+	P
139	<i>C. thunbergii</i> var. <i>appendiculata</i> (Trautv.) Ohwi			+	P
140	<i>Cyperus amuricus</i> Max.	+	+	+	P
141	<i>C. iria</i> L.	+			P
142	<i>C. difformis</i> L.	+	+	+	P
143	<i>C. flaccidus</i> R. Br.	+			P
144	<i>C. microiria</i> Steud.	+	+	+	P
145	<i>Eleocharis congesta</i> D. Don.	+			P
146	<i>E. mamillata</i> var. <i>cyclpcarpa</i> Kitagawa	+			P
147	<i>Fimbristylis dichotoma</i> Vahl	+	+		P
148	<i>F. miliaceae</i> (L.) Vahl	+			P
149	<i>Kyllingia brevifolia</i> var. <i>leiolepis</i> Hara	+			P
150	<i>Lipocarpa microcrphala</i> (R.Br.) Knuth	+	+		P
151	<i>Rhynchospora faberi</i> C. B. Clarke	+			P
152	<i>Scirpus Komarovii</i> Roshev.	+			P
	Order Arales				
	Family Araceae				
153	<i>Arisaema amurense</i> Max. var. <i>serratum</i> Nakai	+			M
154	<i>A. amurense</i> Max.	+			M
155	<i>A. peninsula</i> for. <i>convolutum</i> Nakai	+			M
156	<i>A. robustum</i> (Engl.) Nakai	+			M
157	<i>A. angustatum</i> var. <i>peninsulae</i> Nakai	+			M
158	<i>Acorus calamus</i> var. <i>angustatus</i> Bess.	+			M
159	<i>Colocasia antiquorum</i> var. <i>esculentum</i> Schot (C)	+	+		E
	Family Lemnaceae				
160	<i>Lemna paucicostata</i> Hegelmier	+	+		M
161	<i>Spirodela polyrrhiza</i> (L.) Schleiden	+	+	+	M
	Order Farinales				
	Family Ericaulaceae				
162	<i>Eriocaulon robustius</i> Makino	+			U
163	<i>E. sikokianum</i> Max.	+			U
	Family Commelinaceae				
164	<i>Aneilema keisak</i> Hassk	+	+	+	U
165	<i>Commelina communis</i> L.	+	+	+	E,M
166	<i>Tradescantia reflexa</i> Rafin	+			U
	Family Pontederiaceae				
167	<i>Eichornia crassipes</i> Solms	+	+		U
168	<i>Monochoria vaganalis</i> var. <i>plantaginea</i> Solms.	+	+		U
	Order Liliales				
	Family Juncaceae				
169	<i>Juncus effusus</i> var. <i>decipiens</i> Buchen.	+	+	+	M
170	<i>Luzula capitata</i> (Miq.) Miq.	+	+	+	U
	Family Liliaceae				
171	<i>Allium monanthum</i> Max.	+	+		E
172	<i>A. cepa</i> L. (C)	+			E
173	<i>A. fistulosum</i> L. (C)	+	+		E,M
174	<i>A. sativum</i> for. <i>pekinense</i> Makino (C)	+	+		E,M,I
175	<i>A. tuberosum</i> Roth (C)	+	+		E,M
176	<i>Asparagus schoberioides</i> Kunth.	+	+	+	E,M
177	<i>A. officinalis</i> L.	+			E
178	<i>A. oligoclons</i> Maximowicz	+			E
179	<i>Convallaria keiskei</i> Miquel	+	+		M
180	<i>Disporum sessile</i> D. Don	+			E
181	<i>D. smilacinum</i> A.Gray.	+	+	+	E,P

182	<i>D. viridescens</i> (Max.) Nakai	+			E,P
183	<i>Hemerocallis fulva</i> L.	+	+		E,M
184	<i>H. lilioasphodelus</i> L.	+			E,M
185	<i>H. minor</i> Miller	+			E,M
186	<i>Hosta longipes</i> Nakai	+			E
187	<i>H. plantaginea</i> Aschers.	+			U
188	<i>Lilium tsungtauense</i> Gilg.	+			E,M
189	<i>L. amabile</i> Palibin.	+	+	+	O,M
190	<i>L. concolor</i> var. <i>partheneion</i> Baker	+	+		M
191	<i>L. tigrinum</i> Ker-Grwl.	+	+		E,M,O
192	<i>L. distichum</i> Nakai	+			E
193	<i>Liriope platyphylla</i> Wang et Tang	+			E,M
194	<i>L. spicata</i> Lour.	+	+		M
195	<i>Paris verticillata</i> Bieberst	+			E,M
196	<i>Polygonatum lasianthum</i> var. <i>coreanum</i> Nakai	+			E,M
197	<i>P. humile</i> Fisher	+			E,M
198	<i>P. inflatum</i> Kom.	+	+		E,M
199	<i>P. involucratum</i> Maximowicz	+			E,M
200	<i>P. odoratum</i> (Mill.) Druce var. <i>pluriflorum</i> Ohwi	+	+	+	E,M
201	<i>P. stenophyllum</i> Maximowicz	+			E,M
202	<i>P. robustum</i> Nakai	+			E,M
203	<i>Scilla scilloides</i> (Lind.) Druce.	+	+	+	E,M
204	<i>Similacina japonica</i> A. Gray	+	+		E
205	<i>Smilax china</i> L.	+	+		E
206	<i>S. china</i> var. <i>innermis</i> Nakai	+			E
207	<i>S. nipponica</i> Miq.	+	+	+	E,P
208	<i>S. riparia</i> var. <i>ussuriensis</i> Hara et T. Koyama		+		E,P
209	<i>S. sieboldii</i> Miq.	+	+		E,P
210	<i>S. sieboldii</i> var. <i>inermis</i> Nakai	+	+		E,P
211	<i>Tricyrtis dilatata</i> Nakai	+			E
212	<i>Tulipa edulis</i> Baker	+			U
213	<i>Veratrum maaackii</i> var. <i>japonicum</i> T. Shimizu	+	+	+	M
	Family Amarylidaceae				
214	<i>Lycoris squamigera</i> Max.	+	+		O
215	<i>Narcissus tazetta</i> L. var. <i>chinensis</i> Roemer	+			O
	Family Dioscoreaceae				
216	<i>Dioscorea batatas</i> Decne.	+	+	+	E,M
217	<i>D. bulbifera</i> L.	+	+		E,M
218	<i>D. japonica</i> Thunberg	+	+	+	E,M
219	<i>D. nipponica</i> Makino	+	+		E,M
220	<i>D. quinqueloba</i> Thunb.	+	+		E,M
221	<i>D. tenuipes</i> Franchet et Savatier	+	+		E,M
	Family Iridaceae				
222	<i>Belamcanda chinensis</i> (L.) DC.	+			M
223	<i>Gladiolus gandavensis</i> Van Houtt	+			O
224	<i>Iris ansata</i> var. <i>spontanea</i> (Makino) Nakai	+	+		O
225	<i>I. nertschinskia</i> Lodd.	+	+	+	O
226	<i>I. pallassii</i> Fischer var. <i>chinensis</i> Fischer	+			O
227	<i>I. pseudoacorus</i> L.	+	+		O
228	<i>I. rossii</i> Bak.	+	+	+	O
229	<i>I. savatieri</i> Nakai	+			O
	Order Scitaminales				
	Family Zingiberaceae				
230	<i>Zingiber mioga</i> (Thunb.) Rosc.	+			E
	Order Orchidales				
	Family Orchidaceae				
231	<i>Amitostigma gracilis</i> (Bl.) Schlecht.	+			U
232	<i>Cephalanthera erecta</i> (Thunberg) Lindley	+			U
233	<i>Cymbidium goeringii</i> Reichb. fil.	+			U
234	<i>Cypripedium macranthum</i> SW.	+			U
235	<i>Gastrodia elata</i> Bl.	+			M
236	<i>Goodyera repens</i> (L.) R. Br.	+			U

237	<i>Liparis krameri</i> Franchet & Savatier	+			U
238	<i>L. makinoana</i> Schlechter	+	+		U
239	<i>L. japonica</i> Max.	+			U
240	<i>Sprianthes sinensis</i> (Pers.) Ames.	+	+	+	U
Subclass Dicotyledoneae					
Order Urticales					
Family Canabinaceae					
241	<i>Cannabis sativa</i> L.	+			M,I
242	<i>Humulus japonicus</i> S. et Z.	+	+	+	E,M,P
Family Urticaceae					
243	<i>Achudenia japonica</i> Max.	+	+		U
244	<i>Boehmeria platanifolia</i> Fr. et Sav.	+			U
245	<i>B. sieboldiana</i> Bl.	+			U
246	<i>B. tricuspis</i> Makino	+	+	+	E
247	<i>Pilea mongolica</i> Weddel	+			P
248	<i>P. peplodes</i> Hooker et Arnott	+			U
249	<i>Urtica thunbergiana</i> S. et Z.	+	+		M
Order Aristolochiales					
Family Aristolochiaceae					
250	<i>Asarum sieboldii</i> Miq.	+	+		M
Order Polygonales					
Family Polygonaceae					
251	<i>Aconogonum polymorphum</i> (Ledeb.) T. Lee	+			E
252	<i>Bilderdykia dumetora</i> (L.) Dum.	+			U
253	<i>Fagopyrum esculentum</i> Moench	+	+		E,M
254	<i>Persicaria blumei</i> Gross et Nakai	+	+	+	M
255	<i>P. cochinchinensis</i> Kitagawa	+			U
256	<i>P. conspicua</i> Nakai	+			M
257	<i>P. debilis</i> (Meisn.) Gross	+	+		U
258	<i>P. fauriei</i> (Lev. et Vni.) Nakai	+			U
259	<i>P. filiforme</i> Nakai	+	+	+	U
260	<i>P. hastato-sagittata</i> Nakai	+			P
261	<i>P. hydropiper</i> (L.) Spach	+	+	+	E
262	<i>P. japonica</i> (Meisn.) H. Gross	+	+	+	U
263	<i>P. lapathifolia</i> S. F. Gray	+			U
264	<i>P. nepalensis</i> Miyabe et Kudo	+			P
265	<i>P. perfoliata</i> H. Gross	+	+	+	E,M
266	<i>P. posumbu</i> var. <i>laxiflora</i> (Meisn.) Hara	+			U
267	<i>P. senticosa</i> Gross	+	+	+	E,P
268	<i>P. sieboldii</i> Ohwi	+	+		P
269	<i>P. thunbergii</i> H. Gross	+	+	+	M,P
270	<i>P. tinctoria</i> Gross	+	+		I
271	<i>P. vulgaris</i> Webb et Moq.	+			U
272	<i>Polygonum aviculare</i> L.	+	+	+	E,M
273	<i>Reynoutria elliptica</i> (Koidz.) Migo	+			M
274	<i>Rumex acetosa</i> L.	+	+	+	E,M
275	<i>R. acetocella</i> L.	+	+	+	E
276	<i>R. crispus</i> L.	+	+	+	E,M,P
277	<i>R. japonicus</i> Houltt.	+			E
278	<i>Rheum undulatum</i> L.	+			M
Order Centrospermales					
Family Chenopodiaceae					
279	<i>Chenopodium glaucum</i> L.	+	+		U
280	<i>C. album</i> var. <i>centrorubrum</i> Makino	+	+	+	E,P
281	<i>C. ficifolium</i> Smith	+	+		E
282	<i>C. hybridum</i> L.	+			E
283	<i>C. virgatum</i> Thunb.	+			E
284	<i>Kochia scoparia</i> Schrad.	+	+	+	E,M
285	<i>Spinacia oleracea</i> L. (C)	+	+		E
Family Amaranthaceae					
286	<i>Achyranthes japonica</i> (Miq.) Nakai	+	+	+	E,M
287	<i>Amaranthus mangostanus</i> L.	+	+	+	E,M

288	<i>A. deflexus</i> L.	+			E
289	<i>A. lividus</i> L.	+			E,M
290	<i>A. retroflexus</i> L.	+			E
291	<i>A. spinosus</i> L.	+			U
292	<i>A. viridis</i> L.	+			U
293	<i>Celosia cristata</i> L. (C)	+	+	+	O
294	<i>Gomphrena globosa</i> L.	+			O
	Family Nyctaginaceae				
295	<i>Mirabilis japala</i> L.	+	+		O,M
296	Family Phytolaccaceae				
297	<i>Phytolacca esculenta</i> V. Houtte	+	+	+	E,M
298	<i>P. americana</i> L.	+	+		I
	Family Aizoaceae				
299	<i>Mollugo pentaphylla</i> L.	+	+		U
	Family Portulacaceae				
300	<i>Portulaca oleracea</i> L.	+	+	+	E,M,P
301	<i>P. grandiflora</i> Hooker (C)	+	+	+	O
	Family Caryophyllaceae				
301	<i>Arenaria serpyllifolia</i> L.	+	+	+	E
302	<i>Cerastium holosteoides</i> var. <i>hallaisanense</i> Mizushima	+	+	+	E
303	<i>Cucubalus baccifer</i> var. <i>japonicus</i> Miq.	+			U
304	<i>Dianthus sinensis</i> L.	+	+	+	O,M
305	<i>D. superbus</i> L. var. <i>longicalycina</i> Max.	+			O,M
306	<i>Lychnis wilfordii</i> Max.	+			U
307	<i>Melandryum firmum</i> (S. et Z.) Rohrb.	+	+		M,E,P
308	<i>M. firmum</i> for. <i>pubescens</i> Ohwi	+			U
309	<i>M. seoulensis</i> Nakai	+			E,M
310	<i>Pseudostellaria heterophylla</i> (Miq.) Pax	+	+	+	E,M
311	<i>P. palibiniana</i> (Takeda) Ohwi	+	+		E
312	<i>Sagina japonica</i> Ohwi	+	+		M
313	<i>Stellaria aquatica</i> Scop.	+	+	+	E,M
314	<i>S. alsine</i> var. <i>undulata</i> Ohwi	+	+	+	E
315	<i>S. media</i> Villers	+	+	+	M
316	<i>Silene repens</i> Pers.	+			U
	Order Ranales				
	Family Ranunculaceae				
317	<i>Aconitum pseudo-laeve</i> var. <i>erectum</i> Nakai	+			M
318	<i>A. ciliare</i> DC.	+			M
319	<i>A. jaluense</i> Komar.	+			M
320	<i>A. uchiyamai</i> Nakai	+			M
321	<i>Adonis amurensis</i> var. <i>parviflora</i> Nakai	+			O,M
322	<i>Anemone raddeana</i> Regel	+			U
323	<i>Cimicifuga heracleifolia</i> Kom.	+			M
324	<i>C. davurica</i> Max.	+			M
325	<i>Puylsatilla koreana</i> Nakai	+	+		M
326	<i>Ranunculus japonicus</i> Thunb.	+	+	+	U
327	<i>R. franchetii</i> De Boissieu	+	+		E,M
328	<i>R. chinensis</i> Bunge	+	+		U
329	<i>R. quelpaertensis</i> (Lev.) Nakai	+			U
330	<i>R. tachiroei</i> Fr. et Sav.	+			M
331	<i>R. sceleratus</i> L.	+	+		U
332	<i>Thalictrum filamentosum</i> Max.	+	+	+	E
333	<i>T. aquliegifolium</i> L.	+	+	+	E,M
334	<i>T. actaeifolium</i> S. et Z.	+	+		E
335	<i>T. minus</i> var. <i>hypoleucum</i> (S. et Z.) Miquel	+			E
336	<i>T. uchiyamai</i> Nakai	+			E
	Order Papaverales				
	Family Papaveraceae				
337	<i>Chelidonium majus</i> var. <i>asiaticum</i> (Hara) Ohwi	+	+	+	M
338	Family Fumariaceae				
339	<i>Dicentra spectabilis</i> L.	+			M,O
340	<i>Corydalis turtshaninovii</i> Bess.	+	+		M

341	<i>C. ochotensis</i> Turcz.	+	+	+	P
342	<i>C. speciosa</i> Max.	+	+	+	P
343	<i>C. turtschaninovii</i> var. <i>linearis</i> (Regel) Nakai	+	+		M
Family Cruciferae					
344	<i>Arabis grabra</i> Bornhardi	+	+	+	E
345	<i>A. nipponica</i> De Boissieu	+	+		E
346	<i>Barbarea orthoceras</i> Ledeb.	+	+		E
347	<i>Berteroella maximowiczii</i> O. E. Schulz.	+	+	+	E
348	<i>Brassica campestris</i> subsp. <i>napus</i> var. <i>pekinensis</i> Mak. (C)	+	+	+	E
349	<i>B. campestris</i> subsp. <i>napus</i> var. <i>nippo-oleifera</i> Makino (C)	+	+		E
350	<i>Cardamine impatiens</i> L.	+	+		E
351	<i>C. amaraeformis</i> Nakai	+	+		E
352	<i>C. flexuosa</i> With.	+	+	+	E
353	<i>C. flexuosa</i> var. <i>fallax</i> O. E. Schulz	+			E
354	<i>C. scutata</i> Thunb.	+			E
355	<i>C. leucantha</i> O. E. Schulz	+	+	+	E
356	<i>C. lyrata</i> Bunge	+	+	+	E
357	<i>Capsella bursa-pastoris</i> (L.) Medicus	+	+	+	E
358	<i>Descurainia sophia</i> (L.) Prantl.		+		E
359	<i>Dontostemon dentatus</i> (Bunge) Ledeb.	+	+		E
360	<i>Draba nemorosa</i> var. <i>hebecarpa</i> Lindb.	+	+	+	E
361	<i>Lepidium apetalum</i> Willd.	+	+	+	E,M
362	<i>Rorippa indica</i> (L.) Hiern.	+	+		E
363	<i>R. islandica</i> (Oed.) Borb.		+		U
364	<i>Raphanus sativus</i> var. <i>hortensis</i> for. <i>acanthiformis</i> Makino (C)	+	+	+	E,M
365	<i>Thalspi arvense</i> L.	+	+	+	E
Order Rosales					
Family Crassulaceae					
366	<i>Orostachys japonicus</i> Berger	+			M
367	<i>O. sikino</i> (Makino) Ohwi	+			U
368	<i>Sedum verticillatum</i> L.	+			U
369	<i>S. aizoon</i> L.	+			E
370	<i>S. aizoon</i> var. <i>heterodontum</i> Nakai	+			U
371	<i>S. bilbiferum</i> Makino	+	+		U
372	<i>S. erythrostichum</i> Miq.	+			E,M,P
373	<i>S. japonicum</i> Sieb.	+			U
374	<i>S. kantschaticum</i> Fisch.	+	+	+	E
375	<i>S. polystichides</i> Hemsl.	+			O
376	<i>S. sarmentosum</i> Bunge	+	+	+	E
Family Saxifragaceae					
377	<i>Astilbe chinensis</i> var. <i>davidii</i> Fr.	+	+	+	M,P
378	<i>Chrysplenium grayanum</i> Max.	+	+	+	U
379	<i>C. ramosum</i> Max.	+			U
380	<i>Parnassia palustris</i> L.		+		U
381	<i>Saxifraga fortunei</i> var. <i>glabrescens</i> Nakai	+			E
Family Rosaceae					
382	<i>Agrimonia pilosa</i> Ledeb.	+	+	+	E,M,P
383	<i>A. coreana</i> Nakai	+	+	+	E,M
384	<i>Duchesnea chrysantha</i> (Zoll. et Morr.) Miq.	+	+	+	E
385	<i>Fragaria ananassa</i> Duchesne (C)	+			E
386	<i>Geum japonicum</i> Thunb.	+	+	+	E
387	<i>G. aleppicum</i> Jacq.	+	+	+	E,P
388	<i>Potentilla chinense</i> Seringe	+	+	+	E,M,P
389	<i>P. centigrana</i> Max.	+			E
390	<i>P. dickinsii</i> Fr. et Sav.	+	+	+	U
391	<i>P. dickinsii</i> var. <i>brevisetata</i> Nakai	+			U
392	<i>P. discolor</i> Bunge	+			E
393	<i>P. fragarioides</i> var. <i>major</i> Max.	+			E,M
394	<i>P. freyniana</i> Bornmuller	+	+		E,P
395	<i>P. fruticosa</i> L.	+			U
396	<i>P. kleiniana</i> Wight et Arnott.	+			E
397	<i>P. paradoxa</i> Nutt.	+	+	+	U

398	<i>Sanguisorba officinalis</i> L.	+	+	+	E,M
399	<i>S. hakusanensis</i> Makino	+			M
	Family Leguminosae				
400	<i>Aeschynomene indica</i> L.	+	+	+	U
401	<i>Amphicarpaea edgeworthii</i> var. <i>trisperma</i> Ohwi	+	+		E,P
402	<i>Astragalus membranaceus</i> Bunge	+			M,O
403	<i>A. sinicus</i> L.	+	+	+	O
404	<i>Cassia mimosoides</i> var. <i>nomame</i> Makino	+	+	+	E,M,P
405	<i>Glycine soja</i> S. et Z.	+	+		E
406	<i>G. max.</i> Merrill	+			E
407	<i>Kummerowia striata</i> (Thunb.) Schindl.	+	+		P
408	<i>Lathyrus davidii</i> Hance	+	+		E,M
409	<i>Lespedeza cuneata</i> G. Don.	+	+	+	P
410	<i>Phaseolus angularis</i> Wight	+			E,M
411	<i>P. angularis</i> for. <i>nipponensis</i> (Ohwi) Kitam.	+			U
412	<i>P. radiatus</i> L.	+			E,M
413	<i>Rhynchosia volubilis</i> Lour.	+			M
414	<i>Trifolium repens</i> L.	+	+	+	P
415	<i>T. pratense</i> L.	+	+	+	P
416	<i>Vicia amoena</i> Fisch.	+	+	+	E,P
417	<i>V. bungei</i> Ohwi	+			U
418	<i>V. cracca</i> var. <i>vulgaris</i> Audin	+			E
419	<i>V. nipponica</i> Matsumura	+			E
420	<i>V. venosa</i> var. <i>baicalensis</i> Max.	+			U
421	<i>V. venosa</i> var. <i>cuspidata</i> Max.	+	+		E
422	<i>V. unijuga</i> A. Br.	+	+		E,P
423	<i>V. pseudo-orobus</i> Fischer et Meyer	+	+		U
424	<i>Vigna sinensis</i> King (C)	+			E
	Order Geraniales				
	Family Geraniaceae				
425	<i>Geranium krameri</i> Franchet et Savatier	+			M
426	<i>G. sibiricum</i> L.	+			M
427	<i>G. nepalense</i> subsp. <i>thunbergii</i> (S. et Z.) Hara.	+	+	+	M,P
	Family Oxalidaceae				
428	<i>Oxalis corniculata</i> L.	+	+	+	E
429	<i>O. obtriangulata</i> Maximowicz	+			E,M
	Family Euphorbiaceae				
430	<i>Acalypha australis</i> L.	+	+	+	E
431	<i>Ricinus communis</i> L.	+	+		M,I
	Order Sapindales				
	Family Balsaminaceae				
432	<i>Impatiens balsamina</i> L.	+	+		O
433	<i>I. textori</i> Miq.	+	+	+	M
434	<i>I. noli-tangere</i> L.	+	+		P
	Order Malvales				
	Family Malvaceae				
435	<i>Abutilon avicennae</i> Gaertn	+			U
436	<i>Althaea rosea</i> Cavanilles (C)	+			M,O
437	<i>Malva verticillata</i> L. (C)	+	+		E,M
	Order Parietales				
	Family Hypericaceae				
438	<i>Hypericum ascyron</i> L.	+	+	+	E,M,O
439	<i>H. ascyron</i> var. <i>longistylum</i> Maximowicz	+			E,M
440	<i>H. erectum</i> Thunb.	+	+	+	E,M,P
441	<i>H. erectum</i> var. <i>caespitosum</i> Mak.	+			E,M
442	<i>H. japonicum</i> Thunb.		+		E,M
443	<i>H. laxum</i> (Bl.) Koidz.		+		E,M
	Family Violaceae				
444	<i>Viola dissecta</i> var. <i>chaerophylloides</i> (Regel) Makino	+	+		U
445	<i>V. acuminata</i> Ledeb.	+	+	+	E
446	<i>V. albida</i> Palibin.	+	+		M
447	<i>V. blandaeformis</i> Nakai	+			U

448	<i>V. collina</i> Bess.	+			U
449	<i>V. diamantica</i> Nakai	+			U
450	<i>V. grypoceras</i> A. Gray	+			U
451	<i>V. japonica</i> Langsd	+			U
452	<i>V. kamibayashii</i> Nakai		+		U
453	<i>V. keiskei</i> Miquel	+			E
454	<i>V. lactiflora</i> Nakai				U
455	<i>V. mandshurica</i> W. Becker.	+	+	+	E,M,P
456	<i>V. orientalis</i> W.Becker.	+			U
457	<i>V. rossi</i> Hemsley	+	+		E,M,P
458	<i>V. selkirkii</i> Pursh.	+	+		U
459	<i>V. variegata</i> Fisch.	+			O,E
460	<i>V. variegata</i> var. <i>chinensis</i> Bunge ex Regel	+			U
461	<i>V. verecunda</i> A. Gray	+			E,P
462	<i>V. yedoensis</i> Makino	+	+		U
	Order Myrtales				
	Family Onagraceae				
463	<i>Circaea Mollis</i> S. et Z.	+	+		U
464	<i>Epilobium pyrriholophum</i> Fr. et Sav.	+	+	+	M
465	<i>Ludwigia prostrata</i> Roxburgh	+	+		U
466	<i>Oenothera odorata</i> Jacq.	+	+	+	O,P
	Family Halorrhagaceae				
467	<i>Myriophyllum verticillatum</i> L.	+			U
	Order Umbellales				
	Family Umbelliferae				
468	<i>Angelica cartilagino-marginata</i> (Max. et Yabe) Nakai	+	+		U
469	<i>A. anomala</i> Lallemand.	+	+	+	U
470	<i>A. dahurica</i> (Fischer) Bentham et Hooker	+	+		M
471	<i>A. decursiva</i> (Miq.) Fr. et Sav.	+	+	+	E
472	<i>A. gigas</i> Nakai	+	+		E,M
473	<i>Anthriscus sylvestris</i> Hoffm.	+	+		M
474	<i>Bupleurum falcatum</i> L.	+			U
475	<i>Hydrocotyle ramiflora</i> Maximowicz	+			U
476	<i>H. maritima</i> Honda	+			M
477	<i>Heracleum mollendorffi</i> Hance	+			E
478	<i>Cryptotaenia japonica</i> Hasskarl	+			E
479	<i>Caucalis scabra</i> (DC.) Makino		+		U
480	<i>Daucus carota</i> var. <i>sativa</i> DC.	+	+		E
481	<i>Osmorhiza zristata</i> (Thunb.) Makino et Yabe.	+	+		U
482	<i>Oenanthe stolonifera</i> (Roxburgh) DC.		+		E,P
483	<i>Ostericum melanotilingia</i> (H. D. Boiss) Kitagawa	+	+		E
484	<i>O. sieboldii</i> (Miq.) Nakai	+			E
485	<i>O. grosseserrata</i> (Max.) Kitagawa				U
486	<i>Peucedanum terebinthaceum</i> Fischer	+	+		E,M
487	<i>P. deltoideum</i> Makino	+			E
488	<i>Pimpinella koreana</i> Nakai	+			E
489	<i>Pimpinella biachycarpa</i> (Kom.) Nakai	+			E
490	<i>Sium ninsi</i> L.	+			E
491	<i>Sanicula chinensis</i> Bunge	+			E,M
492	<i>Siler divaricatum</i> Benth. et Hook.	+			U
493	<i>Sanicula chinensis</i> Bunge.	+			E,M
494	<i>Torilis japonica</i> (Houtt.) Dc.	+			E,M
	Order Ericales				
	Family Pyrolaceae				
495	<i>Pyrola japonica</i> Koidz.	+	+		M
	Order Primulales				
	Family Primulaceae				
496	<i>Androsace umbellata</i> (Lour.) Merrill	+	+	+	U
497	<i>Lysimachia barystachys</i> Bunge	+	+	+	E
498	<i>L. clethroides</i> Duby	+	+	+	E
499	<i>L. vulgaris</i> var. <i>davurica</i> (Led.) R. Knuth	+	+		U
	Order Gentiales				

	Family Loganiaceae				
500	<i>Mitrasaceae pygmaea</i> R. Br.		+		U
	Family Gentianaceae				
501	<i>Gentiana squarrosa</i> Ledeb.		+	+	U
502	<i>G. zollingeri</i> Fawc.		+	+	U
503	<i>G. scabra</i> var. <i>buergeri</i> (Miq.) Max.		+	+	M,P
	Family Asclepiadaceae				
504	<i>Metaplexis japonica</i> (Thunb.) Makino		+	+	E,M,P,I
505	<i>Cynanchum paniculatum</i> Kitagawa		+	+	M
506	<i>C. wilfordii</i> (Maximowicz) Hemsley		+		M
	Order Tubiflorales				
	Family Convolvulaceae				
507	<i>Calystegia japonica</i> (Thunb.) Choisy.		+	+	E,P
508	<i>C. hederacea</i> Wallich		+		E,M
509	<i>Cuscuta japonica</i> Choisy		+	+	M
510	<i>C. australis</i> R. Brown		+		U
511	<i>Ipomoea batatas</i> Lam (C)		+	+	E,M,I,P
512	<i>Pharbitis nil</i> Choisy (C)		+	+	O,M
	Family Borraginaceae				
513	<i>Lithospermum erythrorhizon</i> Siebold & Zuccarini		+		M
514	<i>Trigonotis nakaii</i> Hara		+	+	U
515	<i>T. icumae</i> Makino		+		E
516	<i>T. peduncularis</i> Bentham		+	+	E,M
	Family Labiatae				
517	<i>Agastache rosgosa</i> (Fisch. et Meyer) O. Kuntze		+		E,M
518	<i>Ajuga decumbens</i> Thunb.		+		M
519	<i>A. multiflora</i> Bunge		+	+	M
520	<i>Amethystea caerulea</i> L.		+		U
521	<i>Clinopodium chinense</i> var. <i>parviflorum</i> (Kudo) Hara		+	+	E
522	<i>C. sachalinense</i> (Fr. Schm.) Koidzumi		+		U
523	<i>Elscholtzia splendens</i> Nakai		+	+	M
524	<i>E. parrini</i> (Lepeckin) Giiroke			+	M
525	<i>Isodon inflexus</i> var. <i>macrophyllus</i> Nakai		+		E
526	<i>I. inflexus</i> (Thunb.) Kudo		+	+	E
527	<i>I. japonicus</i> (Burmam) Hara		+	+	E
528	<i>Leonurus sibiricus</i> L.		+	+	M
529	<i>L. macranthus</i> L.		+		E
530	<i>Lamium album</i> var. <i>barbatum</i> (S. et Z.) Fr. et Sav.		+	+	E,M
531	<i>L. amplexicaule</i> L.		+	+	E,M
532	<i>Lycopus ramosissimus</i> var. <i>japonicus</i> Kitamura		+	+	E,M
533	<i>Meehania urticifolia</i> (Miq.) Makino		+	+	E,P
534	<i>Mosla punctulata</i> (Gmel.) Nakai		+	+	E,M
535	<i>M. dianthera</i> Maximowicz		+	+	E,M
536	<i>Nepata cataria</i> L.		+	+	M
537	<i>Perrilla frutescens</i> var. <i>japonica</i> Hara		+	+	E
538	<i>P. frutescens</i> var. <i>crispa</i> Decne		+	+	M
539	<i>Prunella vulgaris</i> var. <i>lilacina</i> Nakai		+	+	E,M
540	<i>P. chanroenica</i> for. <i>glomerifolia</i> Chung		+		U
541	<i>P. sikokiana</i> Nakai		+		U
542	<i>Scutellaria pekinensis</i> var. <i>transitra</i> Hara		+	+	U
543	<i>S. indica</i> L.		+	+	M
544	<i>S. dentata</i> var. <i>alpina</i> Nakai		+		U
545	<i>S. dependens</i> Maximowicz		+		U
546	<i>Satureia corena</i> var. <i>pallescens</i> Nakai		+		E
547	<i>Teucrium japonicum</i> Houttuy		+		U
	Family Solanaceae				
548	<i>Capsium annuum</i> L. (C)		+	+	E
549	<i>Datura stramonium</i> L.			+	E
550	<i>Physalis alkakengi</i> var. <i>franchetti</i> Hort		+		E,M
551	<i>Solanum japonense</i> Nakai		+		U
552	<i>S. melougense</i> L. (C)		+	+	E
553	<i>S. tuberosum</i> L. (C)		+	+	E

554	<i>S. nigrum</i> L.	+	+		E,M
	Family Scrophulariaceae				
555	<i>Lindernia procumbens</i> (Krock.) Philcox				U
556	<i>Mazus japonicus</i> (Thunberg) O. Kuntze		+		E
557	<i>M. miquelii</i> Makino	+	+		U
558	<i>Melampyrum roseum</i> Max.	+	+	+	U
559	<i>M. roseum</i> var. <i>ovalifolium</i> Nakai	+			U
560	<i>Mimulus nepalensis</i> var. <i>japonica</i> Miquel	+			U
561	<i>Scrophularia koraiensis</i> Nakai	+			M
562	<i>Phtheirospermum japonicum</i> (Thunberg) Kanitz	+			U
563	<i>Veronica didyna</i> var. <i>lilacina</i> (Hara) Yamazaki	+			U
564	<i>V. linariaefolia</i> Ollas	+			U
565	<i>V. rotunda</i> var. <i>subintegra</i> (Nakai) Yamazaki	+			U
566	<i>Veronicastrum sibirica</i> (L.) Pennell	+			E,M
	Family Acanthaceae				
567	<i>Justicia procumbens</i> L.	+	+		U
	Family Pedaliaceae				
568	<i>Sesamum indicum</i> L. (C)	+	+		E
	Family Phrymaceae				
569	<i>Phryma leptostachya</i> var. <i>asiatica</i> Hara	+	+	+	M
	Order Plantaginales				
	Family Plantaginaceae				
570	<i>Plantago asiatica</i> L.	+	+	+	E,M,P
	Order Rubiales				
	Family Rubiaceae				
571	<i>Asperula maximowiczii</i> Komarov	+			U
572	<i>Galium verum</i> var. <i>asiaticum</i> Nakai	+	+	+	E,P
573	<i>G. spurium</i> L.	+	+	+	E
574	<i>G. kinuta</i> Nakai et Hara	+			U
575	<i>G. dahuricum</i> var. <i>leiocarpum</i> Nakai	+			U
576	<i>G. trachyspermum</i> A. Gray	+			U
577	<i>G. pogonanthum</i> Fr. et Sav.		+		U
578	<i>Paederia scandens</i> (Lour.) Merrill	+			U
579	<i>P. scandens</i> var. <i>velutina</i> Nakai	+			U
580	<i>Rubia akane</i> Nakai	+	+		E,M,I,P
581	<i>R. cordifolia</i> var. <i>pratensis</i> Max.	+	+		E,M,I,P
582	<i>R. chinensis</i> var. <i>glabrescens</i> Kitagawa	+			E,M,I,P
	Family Valerianaceae				
583	<i>Patrinia scabiosaefolia</i> Fisch	+	+	+	E,M
584	<i>P. villosa</i> (Thunb.) Juss.	+	+	+	E
585	<i>Valeriana fauriei</i> Briq.	+	+		E,M,I
	Order Cucurbitales				
	Family Cucurbitaceae				
586	<i>Citrullus vulgaris</i> Schard (C)	+	+		E
587	<i>Cucumis melo</i> L. (C)	+			E,P
588	<i>C. sativus</i> L. (C)	+	+		E,M
589	<i>Cucurbita moschata</i> var. <i>toonas</i> Makino (C)	+	+	+	E
590	<i>Trichosanthes kirilowi</i> Max.	+			E,M
591	<i>Lagenaria leucantha</i> Rusby (C)	+	+	+	E
	Order Campanulales				
	Family Campanulaceae				
592	<i>Adenophora remotiflora</i> (S. et Z.) Miq.	+	+		E,M
593	<i>A. triphylla</i> var. <i>japonica</i> Hara	+	+	+	E,M
594	<i>A. divaricata</i> var. <i>manshurica</i> Kitagawa	+			E,M
595	<i>Codonopsis lanceolata</i> (S. et Z.) Trautv.	+	+	+	E,M,P
596	<i>Platycodon grandiflorum</i> (Jacq.) A. Dc.	+	+		E,M,O
597	<i>P. grandiflorum</i> for. <i>albiflorum</i> Hara	+	+		E,M,O
	Family Lobeliaceae				
598	<i>Lobelia chinensis</i> Lour	+			U
	Family Compositae				
599	<i>Adenocaulon himalaicum</i> Edgew	+			E
600	<i>Ainsliaea acerifolia</i> Sch.-Bip.	+	+		E

601	<i>Ambrosia artemisiifolia</i> var. <i>elatior</i> Descuourtils	+	+		U
602	<i>Arctium lappa</i> L. (C)	+			E,M
603	<i>Artemisia apiacea</i> Hance	+	+		E,M
604	<i>A. agryi</i> Lev. et V.	+	+		E
605	<i>A. annua</i> L.	+			M
606	<i>A. capillaris</i> Thunb.	+	+		E,M,P
607	<i>A. feddei</i> Lev. et Vnt.	+	+	+	E,P
608	<i>A. iwayomogi</i> Kitamura	+	+		M,P
609	<i>A. japonica</i> Thunb.	+	+	+	E,P
610	<i>A. keiskeana</i> Miquel	+	+	+	E,M,P
611	<i>A. koidzumii</i> Nakai	+			P
612	<i>A. montana</i> Pampan.	+	+	+	E,M,P
613	<i>A. princeps</i> var. <i>orientalis</i> (Pampan.) Hara	+	+	+	E,M,P
614	<i>A. stolonifera</i> (Max.) Kom.	+	+		E,P
615	<i>A. sylvatica</i> Maxmowicz	+	+		P
616	<i>Aster Yomena</i> Makin	+	+		E
617	<i>A. ageratoides</i> Turcz.	+	+		E,P
618	<i>A. ciliolus</i> Kitamura	+	+	+	E,P
619	<i>A. fastigiatus</i> Fisch.	+			E
620	<i>A. koreansis</i> Nakai	+			E,P
621	<i>A. pinnatifidus</i> (Masumura) Makino	+	+		E,P
622	<i>A. scaber</i> Thunb.	+	+	+	E,M,P
623	<i>Atractylodes japonica</i> Koidz.	+	+	+	E,M
624	<i>Bidens bipinnata</i> L.	+	+		E,M
625	<i>B. biternata</i> (Loureiro) Merrill et Sherff	+	+	+	U
626	<i>B. parviflora</i> Willdenow	+	+		E,M
627	<i>B. tripartita</i> L.	+			E,M
628	<i>Carpesium abrotanoides</i> L.	+	+		E,M
629	<i>Centipeda minima</i> (L.) AL. Braun et Acherson.	+	+		M
630	<i>Cephalonoplos segetus</i> (Bunge) Kitamura	+	+	+	E,M
631	<i>Chrysanthemum boreale</i> Makino (C)	+	+		E,M
632	<i>C. morifolium</i> Ramatuelle	+	+		O
633	<i>C. zawadskii</i> var. <i>latilobum</i> Kitam.	+	+	+	M,O
634	<i>C. zawadskii</i> Herbich	+	+		M,O
635	<i>Callistephus chinensis</i> (L.) Nees (C)	+	+		O
636	<i>Cirsium japonicum</i> var. <i>ussuriense</i> Kitamura	+	+	+	E,M,P
637	<i>C. pedunculum</i> Fisher DC.	+			E
638	<i>C. setidens</i> Nakai	+	+		E
639	<i>Cosmos bipinnatus</i> Cav. (C)	+	+		O
640	<i>Dahlia pinnata</i> Cav. (C)	+	+		O
641	<i>Erigeron annuus</i> (L.) Pers	+	+	+	E,P
642	<i>E. bonariensis</i> L.	+	+		P
643	<i>E. canadensis</i> L.	+	+	+	E,P
644	<i>Eupatorium chinense</i> var. <i>simplicifolium</i> Kitamura	+	+		E
645	<i>E. fortunei</i> Turcz	+			E
646	<i>E. lindleyanum</i> DC.	+	+		E,M
647	<i>Eclipta prostrata</i> L.				M
648	<i>Erechitites hieracifolia</i> Raf.	+			E
649	<i>Helianthus annuus</i> L. (C)	+	+	+	E
650	<i>H. tuberosus</i> L.	+			E,O,P
651	<i>Hemistepta lyrata</i> Bunge	+	+	+	E
652	<i>Hieracium umbellatum</i> L.	+	+		E
653	<i>Holeleion maximowiczii</i> Kitamura	+			E
654	<i>Indula britannica</i> var. <i>chinensis</i> Regel	+	+	+	E,M
655	<i>Ixeris dentata</i> (Thunb.) Nakai	+	+		E,M,P
656	<i>I. chinensis</i> var. <i>strigosa</i> (Lev. et Vnt.) Ohwi	+	+		E
657	<i>I. dentata</i> var. <i>albiflora</i> Nakai	+			E
658	<i>I. stolonifera</i> A. Gray	+			E
659	<i>Lactuca indica</i> var. <i>laciniata</i> (O. Kunze) Hara	+	+	+	E,M,P
660	<i>L. indica</i> var. <i>laciniata</i> for. <i>indivisa</i> Hara	+	+		E,P
661	<i>L. roddeana</i> Max.	+	+	+	E,P
662	<i>L. sativa</i> L. (C)	+	+	+	E

663	<i>L. triangulata</i> Max.	+			E,P
664	<i>Leibnitzia anandria</i> (L.) Nakai	+	+	+	E
665	<i>Petasites japonicus</i> (S. et Z.) Max.	+	+	+	E,M,P
666	<i>Picris hieracioides</i> var. <i>glabrescens</i> Ohwi	+	+		E
667	<i>P. japonica</i> Thunb.	+			E,P
668	<i>Prenanthes ochroleuca</i> (Max.) Hemsl.	+			E
669	<i>Rhapontica unifora</i> Dc.	+	+		E,M
670	<i>Rudbeckia bicolor</i> Nutt.	+			O
671	<i>Saussurea grandifolia</i> Max.	+			E,P
672	<i>S. gracilis</i> Maximowicz	+	+	+	E,P
673	<i>Senecio integrifolius</i> var. <i>spathulatus</i> (Miq.) Hara	+	+	+	E,M
674	<i>Siegesbeckia glabrescens</i> Makino	+	+	+	M
675	<i>S. pubescens</i> Makino	+	+		M
676	<i>Solidago virga-aurea</i> var. <i>asiatica</i> Nakai	+	+	+	E,M
677	<i>Sonchus oleraceus</i> L.	+			E
678	<i>S. asper</i> (L.) Garsault	+			E
679	<i>Syneilesis palmata</i> (Thunb.) Max.	+	+		E
680	<i>Synurus deltoides</i> (Ait.) Nakai	+	+		E,P
681	<i>S. maximowiczii</i> Herd	+	+		E,P
682	<i>Taraxacum mongolicum</i> H. Dahlst	+	+	+	E,M
683	<i>T. officinale</i> Weber	+	+		E
684	<i>T. ohwianum</i> Kitamura	+	+		E,M
685	<i>T. coreanum</i> Nakai		+		E,M
686	<i>Youngia chelidonifolia</i> Kitamura	+	+		E,P
687	<i>Y. denticulata</i> Kitamura	+	+	+	E,P
688	<i>Y. japonica</i> (L.) DC.	+	+	+	E,P
689	<i>Y. sonchifolia</i> Max.	+	+	+	E,P
690	<i>Xanthium strumarium</i> L.	+	+	+	M
691	<i>Zinnia elegans</i> Jacq. (C)	+	+	+	O
TOTAL		579	408	282	