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Resources of woody plant in Taejon Area, Korea

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ABSTRACT

This study was carried out to clarify the distribution of woody resource plants in Mts. Kyeryong, Bomoon and Shikjang in Taejon area, Korea. The woody plants, collected from April 1995 to August 1998, consist of total 347 taxa; 59 families, 141 genera, 275 species, one subspecies, 56 varieties and 15 forms. The useful resource of woody plants were categorized as edible plant(128 taxa), medical plant(117 taxa), ornament plants(107 taxa), timber plants(38 taxa), pasturage(35 taxa) and industrial plant(20 taxa).

Key words : Woody resource plants, flora, Taejon

INTRODUCTION

Like many other developed countries, Korea is suffering from environmental degradation cause by urbanization and industrialization(Nakagoshi and Rim, 1988). Urbanization is one of the big problems not only in developed countries but also developing countries. For much of recorded history, we have viewed the natural environment as a resource to be exploited. However, our attribute toward nature has began to shift profoundly as the negative effects from industrialized economy have become clearer and more catastrophic (Rockwood, 1995). Moreover, 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(Kang et al., 1999). To set bounds for useful resources is very difficult.

Hence, it is imperative to explore plants' utilization as a resource for human life.

The purpose of this study is 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, the sixth largest and urbanized city in Korea.

MATERALS AND METHODS

The study was conducted in Taejon(36° 10' 50"-36° 29' 47" N, 127° 14' 54"-127° 38' 21" E, 537.13km^2), which is encompassed by the following counties and cities Okchon, Boeun, Kongju, Yonki, Nonsan and Kumsan in the central region of South Korea.

The annual average temperature of study area is 12.6,

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35.6 as maximum and 14.2 as Minimum in 1996. The range of a thermometer was 49.8. Annual precipitation average from 1991 to 1996 was 1,170.9 mm(Korea Meteorological Administration, 1998).

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. Bŏmoon 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.

Korean endemic and naturalized plants were marked '(e)' and '(c)' in their scientific name, respectively. The classification and scientific name were based according to Lee(1981). 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 DISCUSSION

1. Composition of resource plants

Woody vascular plants identified in the study 347 taxa with 59 families 141 genera 275 species 1 subspecies 56 varieties and 15 forms(Table 1). Such data represented 8.3% of Korean vascular plants of which 4,191 taxa were identified(Nakai, 1951).

The woody flora of Taejon consisted of 5 families Gymnospermae with 15 genera 23 taxa; and 54 families Angiospermae with 126 genera 324 taxa, respectively(Table 1).

2. Composition of plants for usage

The usefulness of plants was classified as 128(36.9%) edible plants, 117(33.7%) medical plants, 35(10.1%) pasture plants, 107(30.8%) ornamental plants, 38(11.0%) timber plants and 20(1.6%) industrial plants in this study(Table 2). It revealed that plants identified could be grouped in terms of their usefulness such as edible, medical, ornamental plants, and so on. Significant finding showed that 83 taxa(23.9%) of plants in Taejon(Table 2) whose value are not yet known. With these data, more plant utilization could be identified in the future.

3. Remarkable plants in Taejon area

Korean endemic plants were 642 species, 40 varieties and 74 forms totally 1,118 taxa of endemic plants identified(Nakai, 1952). Lee(1984) reported that there are 61 families, 172 genera, 339 species, 46 varieties and 22 forms totally 407 taxa, which are endemic. Twelve taxa of Korean endemic plants was distributed, such as, *Salix hallaisanensis, S. hulteni, Carpinus*

Table 1. The abridged list of the woody plants in Taejon Area.

Taxa	Families	Genera	Species	Varieties	Forms	Subspecies	Total
Gymnospermae	5	15	22	0	1	0	23
Angiospermae	54	126	253	56	14	1	324
Total	59	141	275	56	15	1	347

Table 2. Number of woody plants for each use in Taejon Area.

Use	Edible	Pasture	Medical	Ornamental	Timber	Industrial	Unknown
No. of species	128	35	117	107	38	20	83
%	36.9	10.1	33.7	30.8	11.0	5.8	23.9

coreana, Celtis choseniana, C. edulis, Deutzia coreana, Echinosophora koreensis, Gleditsia japonica var. *koraiensis Vaccinium koreanum, Forsythia koreana* and *Weigela subsessilis* in Taejon.

Among the rare and endangered species designed by Ministry of Environment(1994) and Korean Association for Conservation Nature(KACN, 1981) respectively reported that there are 126 and 115 plants, *Poncirus trifoliata* were distributed in Taejon area.

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

NO.	Scientific name	KY	BM	SJ	Ues
	Phylum Tracheophyta				
	Class Gymnospermae				
	Subclass Coniferophytae				
	Order Ginkgoales				
	Family Ginkgoaceae				
1	*Ginkgo biloba* L.	+	+	+	E,M,O,T
	Order Coniferales				
	Family Taxaceae				

2	*Cephalotaxus koreana* Nakai	+		+	E
3	*Taxus cuspidata* S. et Z.	+	+		M
4	*Torreya nucifera* S. et Z.	+	+		U
	Family Pinaceae				
5	*Abies holophylla* Max.	+	+		O,T
6	*Cerdus deodera*(Roxb.) Loudon	+	+		T
7	*Larix leptolepis*(S. et Z.) Gordon(C)	+	+	+	T
8	*Picea abies*(L.) Karsten(C)		+		O
9	*Pinus koraiensis* S. et Z.(C)	+	+		E,M,O,T
10	*P. strobus* L.(C)	+	+		U
11	*P. densiflora* S. et Z.	+	+	+	E,M,T
12	*P. densiflora* for. *multicaulis* Uyeki(C)	+			O
13	*P. parviflora* S. et Z.(C)	+			O
14	*P. rigida Miller*(C)	+		+	O,T
15	*P. thunbergii* Parl.(C)			+	O
	Family Taxodiaceae				
16	*Cryptomeria japonica* D. Don(C)	+	+		O
17	*Metasequoia glyptostroboides* Hu et Cheng(C)	+	+		O,T
18	*Taxodium distichum*(L.) Richard(C)	+	+		O
	Family Cupressaceae				
19	*Chamaecyparis pisifera*(S. et Z.) Endl.(C)	+			O
20	*Juniperus chinensis* L.(C)	+	+		O,M
21	*J. procumbens*(Endl.) Miquel(C)	+			O
22	*J. rigida* S. et Z.	+			M,O
23	*Thuja orientalis* L.(C)	+	+	+	O
	Class Angiospermae				
	Subclass Dicotyledoneae				
	Order Salicales				
	Family Salicaceae				
24	*Populus deltoides* Marsh.	+	+	+	U
25	*P. davidiana* dode	+			U
26	*P. tomentiglandulisa* T. Lee		+		T
27	*P. euramericana* Guinier(C)	+	+	+	O
28	*P. nigra* var. *italica*(Muench.) Koehne	+			U
29	*Salix korensis* Anderss.	+	+	+	U
30	*S. babylonica* L.	+	+	+	O
31	*S. graciliglans* Nakai	+		+	U
32	*S. gracilistyla* Miq.	+	+	+	P
33	*S. hallaisanensis* Lev.(E)	+			U
34	*S. hulteni* Floderus(E)	+			O,P
35	*S. nipponica* Franchet et Savatier	+			U
36	*S. pseudo-lesiogyne* Leveille	+		+	O
	Order Myricalis				
	Family Juglandaceae				
37	*Juglans mandshurica* Max.	+			E,T,P
38	*J. sinensis* Dode(C)	+	+		E,M,T
39	*Platycarya strobilacea* S. et Z.	+	+	+	M
	Order Fagales				
	Family Betulaceae				
40	*Alnus hirsuta*(Spach) Rupr.	+	+	+	U
41	*A. firma* S. et Z.	+	+		I
42	*A. japonica* Steudel	+	+	+	U
43	*Betula chinensis* Max.	+			T
44	*B. davurica* Pall.	+			T,M
45	*B. platyphylla* var. *japonica* Hara			+	M,T,I
46	*B. schmidtii* Regel	+			T

47	*Carpinus cordata* Bl.	+	+	+	O
48	*C. coreana* Nakai(E)	+			U
49	*C. laxiflora* Bl.	+	+	+	O
50	C. *tschonoskii* Max.	+			U
51	*Corylus heterophylla* Fisch.	+			E,M,P
52	*C. heterophylla* var. *thunbergii* Bl.	+	+		E,M,P
53	*C. sieboldiana* Bl.	+		+	E,M
54	*C. sieboldiana* var. *mandshurica*(Max.) C. K. Schneid	+	+	+	E,M
	Order Fagales				
	Family Fagaceae				
55	*Castanea bungeana* Bl.	+			E,M
56	*C. crenata* S. et Z.(C)	+	+	+	E,M,T
57	*C. crenata* var. *kusakuri* Nakai	+			E
58	*Quercus acutissima* Carruth.	+	+	+	E,M
59	*Q. aliena* Bl.	+	+	+	E,T
60	*Q. aliena* var. *acuteserrata* for. *calvescens* Rehder	+			E,T
61	*Q. aliena* var. *acuteserrata* Max.	+			E,T
62	*Q. aliena* var. *pellucida* Bl.	+			E,T
63	*Q. dentata* Thunb.	+	+	+	E,M,T
64	*Q. mc-cormickii* Carruthers	+			E,T
65	*Q. mongolica* Fisch.	+	+	+	E,T,P
66	*Q. serrata* Thunb.	+		+	E,T,P,M
67	*Q. variabilis* Bl.	+		+	E,T,I,M
68	*Q. x alieno-serratoides* T. Lee	+			E
69	*Q. x dentato-serratoides* T. Lee	+			E
70	*Q. x grosseserrata* Bl.	+	+		E
71	*Q. x mccormickii* Carruthers		+	+	E
72	*Q. x urticaefolia* Bl.	+			E,T
	Order Urticales				
	Family Ulmaceae				
73	*Celtis sinensis* Pers.	+	+	+	E
74	*C. edulis* Nakai(E)	+			E
75	*C. jessoensis* Koidz.	+			U
76	*C. choseniana* Nakai(E)	+			E
77	*Hemiptelea davidii* Planch.	+	+	+	E,M,I
78	*Ulmus davidiana* var. *japonica* Nakai	+	+	+	E,M,T,F
79	*U. davidiana* for. *suberosa* Nakai	+			E,M,T,F
80	*U. parvifolia* var. *coreana* Uyeki	+			E,M,T,F
81	*Zelkova serrata* Makino	+	+	+	U
	Family Moraceae				
82	*Broussonetia kaziniki* Siebold	+	+		I
83	*B. papyrifera*(L.) L' Heritier	+			U
84	*Cudrania tricuspidata* Bureau	+			E
85	*Morus alba* L.	+	+		E,M,P
86	*Morus bombycis* Koidz.	+		+	E,M,P
87	*M. bombycis* for. *kase* Uyeki	+			E,M,P
	Family Urticaceae				
88	*Boehmeria spicata* Thunb.	+	+	+	E,F
	Order Santalales				
	Family Loranthaceae				
89	*Viscum album* var. *coloratum*(Kom.) Ohwi	+			M
	Family Santalaceae				
90	*Thesium chinense* Turcz	+			M
	Order Aristolochiales				
	Family Aristolochiaceae				
91	*Aristolochia contorta* Bunge	+		+	M

	Order Ranales				
	Family Ranunculaceae				
92	*Clematis koreana* Kom.	+			E
93	*C. apiifolia* A. P. DC.	+	+	+	E,M
94	*C. brachyura* Max.	+	+		E,M
95	*C. fusca* var. *violacea* Max.	+			U
96	*C. heraclaefolia* DC.	+			M
97	*C. heraclaefolia* var. *davidiana* Hemsley	+			M
98	*C. mandshurica* Rupr.	+	+	+	E,M
99	*C. terniflora* DC.		+	+	E,M
100	*C. trichotoma* Nakai	+	+	+	E
101	*Cimicifuga heracleifolia* Kom.	+			M
102	*C. davurica* Max.	+			M
103	*Paeonia japonica* Miyabe et Takeda	+			M
104	*P. obovata* Max.	+			M
105	*P. suffruticosa* Anders(C)	+			O
	Family Lardizabalaceae				
106	*Akebia quinata* Decaisne	+	+	+	E,M,I
107	*A. quinata* var. *polyphylla* Nakai	+			E,M
	Family Menispermaceae				
108	*Cocculus trilobus* DC.	+	+	+	M
109	*Menispermum dahuricum* DC.	+	+	+	M
	Family Magnoliaceae				
110	*Liliodendron tulipfera* L.(C)	+	+		O,M
111	*Magnolia sieboldii* K. Koch.	+		+	O,P
112	*M. denuata* Desrousseux(C)	+	+		O
113	*M. Kobus* DC.(C)	+	+	+	O
114	*M. obovata* Thunb.(C)	+		+	O
115	*M. liliflora* Desrousseux(C)	+			O
116	*Schizandra chinensis* Baill.(C)	+			E,M
	Family Lauraceae				
117	*Lindera obtusiloba* Bl.	+	+	+	E,M,O,I
118	*L. obtusiloba* for. *villosum* Nakai	+	+	+	M
119	*L. erythrocarpa* Max.	+		+	T
120	*L. glauca* Blume	+	+	+	U
	Order Rosales				
	Family Saxifragaceae				
121	*Deutzia parviflora* Bunge	+	+		O
122	*D. glabrata* Kom.	+		+	O
123	*D. coreana* Lev.(E)	+		+	O
124	*Hydrangea serrata* for. *acuminata*(S. et Z.) Wils.	+	+	+	O
125	*H. macrophylla* for. *otaksa*(S. et Z.) Wilson	+	+		O
126	*Philadelphus schrenckii* Rupr.	+	+	+	E,O,P
127	*P. tenuifolius* Rupr. et Max.	+			E
128	*Ribes fasciculatum* var. chinensis Max.	+		+	U
	Family Platanaceae				
129	*Platanus occidentalis* L.(C)		+	+	O
130	*P. orientalis* L.(C)			+	O
	Family Eucommiaceae				
131	*Eucommia ulmoides* Oliver	+			M
	Family Rosaceae				
132	*Chaenomeles lagenaria*(Loisel) Koidz.	+	+		M,O
133	*C. sinensis Schneider*(C)	+	+		E,M,O
134	*Kerria japonica* A.P.DC. Candolle	+	+		O
135	*K. japonica* for. *plena* Schneid.	+			O
136	*Malus sieboldii*(Regel) Rehder		+		U

137	*M. baccata* Borkh.	+		+	E,M,O
138	*Pourthiaea villosa* var. *laevis*(DC.) T. Lee		+	+	U
139	*Prunus salicina* Lindl.	+	+	+	E
140	*P. armeniaca* var. *ansu* Max.(C)	+			E,M
141	*P. davuduana* Fr.	+			E
142	*P. glandulosa* for. *albiplena* Koehne	+			U
143	*P. glandulosa* Thunb.	+	+		U
144	*P. leveilleana* Koehne		+	+	E,M,O
145	*P. mandshurica* var. *glabra* Nakai	+			U
146	*P. mime* S. et Z.(C)	+	+		E,M
147	*P. persica*(L.) Batsch.(C)		+		E,M,O
148	*P. serrulata* var. *sontagiae* Nakai	+	+		O
149	*P. serrulata* var. *spontanea*(Max.) Wils.(C)	+	+		E,M
150	*P. tomentosa* Thunb.	+	+	+	E
151	*P. yedoensis* Matsumura(C)	+			E,O
152	*Pyrus pyrifolia*(Burm.) Nakai	+	+		E
153	*P. ussuriensis* Max.		+		E
154	*P. calleryana* var. *fauriei*(Schneid.) Rehder	+			U
155	*Rhodotypos scandens*(Thunb.) Makino	+			U
156	*Rosa multiflira* Thunb.	+	+	+	E,M,P
157	*R. multiflora* var. *platyphylla* Thory(C)	+	+		O
158	*R. davurica* Pall.	+			O
159	*R. maximowicziana* Regel	+			U
160	*R. rugosa* Thunb.	+			M,O
161	*R. rugosa* var. *kamtschatica* Regel	+			M
162	*R. wichuriana* Crep.	+			U
163	*R. xanthina* Lindley	+			O
164	*Rubus crataegifolius* Bunge.	+	+		E,M
165	*R. corchorifolius* L. fil.	+			E
166	*R. coreanum* for. *concolor*(Nakai) T. Lee	+			E
167	*R. coreanus* Miq.	+		+	E,M
168	*R. idaeus* var. *microphyllus* Turcz.	+	+	+	E
169	*R. oldhamii* Miq.	+			E,M
170	*R. parvifolius* L.	+	+	+	E
171	*R. phaenicolasius* Max.	+			E
172	*R. phoenicolasius* Max.	+			E
173	*Sorbus alnifolia*(S. et Z.) K. Koch.	+	+	+	E
174	*S. alnifolia* var. *lobulata* Nakai	+			E
175	*S. alnifolia* var. *macrophylla*(Nakai) T. Lee	+			U
176	*Spiraea prunifolia* var. *simpliciflora* Nakai	+	+	+	E,M,O
177	*S. fritschiana* Schneid.	+			E,M,O
178	*S. salicifolia* L.		+	+	E,M,O
179	*Stephanandra incisa* Zabel.	+	+	+	U
	Family Leguminosae				
180	*Albizzia julibrissin* Durazz.	+	+	+	M,O
181	*Amorpha fruticosa* L.		+	+	P,I
182	*Caragana sinica*(Buchoz) Rehder	+	+		U
183	*Cercis chinensis* Bunge.	+	+		M,T,O
184	*Gleditsia japonica* var. *koraiensis*(Nakai) Nakai(E)				
185	*Desmodium oxyphyllum* Dc.		+	+	E,M,P
186	*D. oldhami* Oliver	+			E,M,P
187	*D. racemosum* var. *villosum*(Matsumura) Ohwi				
188	*Echinosophora koreensis* Nakai(E)		+		O
189	*Indigofera kirilowii* Max.		+		O
190	*Lespedeza thunbergii* var. *intermedia*(Nakai) T. Lee(E)	+	+	+	P,O
191	*L. bicolir* Turcz.		+	+	O,P

192	*L. cyrtobotrya* Miq.	+	+	+	O,F
193	*L. daurica* Schindler	+			P
194	*L. maximowiczii* Schneid.	+	+	+	O,P
195	*L. robusta* Nakai	+			O,P
196	*L. tomentosa* Siebold	+	+		O,P
197	*L. x tomentella* Nakai	+			O,P
198	*Maackia amurensis* Rupr. et Max.	+			U
199	*Pueraria thunbergiana* Benth.	+	+	+	E,M,P
200	*Robina pseudoacacia* L.	+		+	T,P
201	*Sophora japonica* Lin.	+	+		M,O
202	*S. flavescens* Aiton	+	+		M
203	*Wistaria floribunda* A. P. DC.(C)	+	+	+	O,P
	Order Geraniales				
	Family Rutaceae				
204	*Dictamnus dasycarpus* Turcz.	+	+	+	M
205	*Evodia daniellii* Hemsley	+			E,M,I
206	*Poncirus trifoliata* Rafinesque	+	+		E,O,I
207	*Zanthoxylem piperium* A. P. DC.	+	+	+	E,M
208	*Z. schinifolium* S. et Z.	+	+	+	E,M
	Family Simaroubaceae				
209	*Ailanthus altissima* Swingle	+			U
210	*Picrasma quassioides*(D. Don) Benn.	+	+	+	M,F
	Family Meliaceae				
211	*Cedrela sinensis* Juss	+			E,M
	Family Euphorbiaceae				
212	*Euphorbia sieboldiana* Morr. et Decne.	+			M
213	*E. humifusa* Willd.	+	+	+	U
214	*E. supina* Rafinesque	+	+	+	U
215	*Mallotus japonicus* Muell.-Arg.	+			U
216	*Sapium japonicum* Pax et Hoffman	+			I
217	*Securinega suffruticosa* Rehder.	+	+	+	U
	Family Buxaceae				
218	*Buxus microphylla* var. *koreana* Nakai(C)	+	+	+	O,M,T
	Order Sapindales				
	Family Anacardiaceae				
219	*Rhus chinensis* Mill.	+	+		E,M,R
220	*R. trichocarpa* Miq.	+	+	+	M
221	*R. verniciflula* Stokes	+	+	+	E,M,I
222	*R. sylvestris* Miq.	+			E,M,I
223	*R. succedanea* L.	+			E,M,I
	Family Aqufoliaceae				
224	*Ilex macropoda* Miquel	+		+	U
	Family Celastraceae				
225	*Celastrus orbiculatus* Thunb.	+	+	+	E,O,R
226	*C. flagellaris* Rupr.	+	+	+	U
227	*Enonyumus alatus*(Thunb.) Sieb.	+	+	+	E,M,P,I
228	*E. alatus* for. *ciliato-dentatus* Hiyama.	+		+	E
229	*E. japonicus* Thunb.	+	+	+	O
230	*E. macropterus* Rupr.	+			U
231	*E. oxyphyllus* Miquel	+		+	M,P
232	*E. sachalinensis*(Fr.Schm) Max.	+	+		U
233	*E. sieboldiana* Bl.	+		+	U
234	*Tripterygium regelii* Sprague et Takeda	+			U
	Family Staphyleaceae				
235	*Staphylea bumalda* Dc.	+	+	+	E
	Family Aceraceae				

236	*Acer buergerianum* Miquel	+	+	+	O
237	*A. ginnala* Max.	+	+	+	O,I
238	*A. mono* Max.	+	+	+	O,M,P
239	*A. mono* var. *savatieri* Nakai	+			O,M,P
240	*A. palmatum* subsp. *matsumurae* Koidz.	+			O
241	A. *palmatum* Thunberg	+			O
242	*A. palmatum* var. *pilosum* Nakai	+			O
243	*A. pseudo-sieboldianum*(Paxton) Kom.	+	+	+	O
244	*A. pseudo-sieboldianum* var. *koreanum* Nakai	+		+	O
245	*A. saccharinum* L.	+	+	+	O
246	*A. saccharum* Marshall	+			O,I
	Family Sabiaceae				
247	*Meliosma oldhami* Max.	+			U
	Order Rhamnales				
	Family Rhamaceae				
248	*Hovenia duleis* Thunb.	+			E,M
249	*Rhamnus davurica* Pall.	+			M
250	*R. koraiensis* Schneid.	+			U
251	*R. frangulioides* Weberbauer	+			U
252	*Zyzyphus jujuba* var. *hoonensis* T. Lee(C)	+	+		E,M
253	*Z. jujuba* var. *inermis* Rehder(C)	+		+	E,M
	Family Vitaceae				
254	*Ampelopsis brevipedunculata* var. *heterophylla*(Thunb.) Hara			+	U
255	*A. brevipedunculata* var. *heterophylla* for. citrulloides Rehder		+		U
256	*A. numulifolia* var. *incisa* Nakai	+		+	U
257	*Cayratia japonica*(Thunb.) Gagnepaim	+			M
258	*Parthenocissus tricuspidata*(S. et Z.) Planch.	+	+	+	O
259	*Vitis amurensis* Rupr.	+	+	+	E,M
260	*V. coignetial* Pulliat	+	+	+	E,M
261	*V. flexuosa* Thunb.	+	+	+	E,M
262	*V. thunbergii* var. *sinuata*(Regel) Rehder	+		+	E
263	*V. vinifera* L.	+	+	+	E
	Order Malvales				
	Family Tiliaceae				
264	*Tilia mandshurica* Rupr. et Max.			+	T,P
265	*T. amurensis* Rupr.	+			T,P
266	*T. miqueliana* Max.	+			U
267	*Grewia biloba* var. *parviflora*(Bunge) Hand.-Maz.	+			E
	Family Malvaceae				
268	*Hibiscus syriacus* L.(C)	+	+	+	O
	Family Sterculiaceae				
269	*Corchropsis tomentosa*(Thunb.) Makino	+	+		U
270	*Firmiana simplex* Wight	+	+		E,I
	Order Parietales				
	Family Actinidiaceae				
271	*Actinidia polygama*(S. et Z.) Max.	+			E,M,O
272	*A. kolomikta*(Max. et Rupr.) Mak.	+	+	+	E
273	*A. arguta* Planch.	+	+	+	E,M
	Family Theaceae				
274	*Camellia japonica* L.	+			O
275	*Eurya japonica* Thunberg	+			I
	Order Umbellales				
	Family Araliaceae				
276	*Aralia elata* Seem.	+	+	+	E,M
277	*A. continentalis* Kitagawa		+		E,M
278	*Kalopanax pietus*(Thunb.) Nakai	+	+		E,M

279	*Oplopanax elatus*(Non Decne.) Seem.	+			M
	Family Ericaceae				
280	*Rhododendron mucronulatum* Turcz.	+	+		E,O
281	*R. mucronulatum* var. *ciliatum* Nakai	+			E,O
282	*R. mucronulatum* var. *latifolium* Nakai	+			E,O
283	*R. yedoense* var. *poukhanense*(Lev.)Nakai	+			O
284	*R. schlippenbachii* Max.	+	+		O
285	*Vaccinium oldhami* Miq.	+			E
286	*V. koreanum* Nakai(E)	+	+		E,M,O
	Order Ebenales				
	Family Ebenaceaea				
287	*Diospyros kaia* var. *domestica* Makino(C)	+	+	+	E,M
288	*D. lotus* L.	+	+	+	E,M
	Family Symplocaceae				
289	*Symplocos chinensis* for. *pilosa*(Nakai) Ohwi	+	+	+	U
	Family Styracaceae				
290	*Styrax obassia* S. et Z.	+		+	O,P
291	*S. japonica* S. et Z.	+	+	+	U
	Order Myrtales				
	Family Lythraceae				
292	*Lagerstroemia indica* L.(C)	+	+	+	O
293	*Lythrum anceps*(Koehne) Makino	+			O,M
294	*L. salicaria* L.		+		U
295	*Rotala indica*(Wild.) Koehne		+		U
296	*R. mexicana* Cham. et Schltdl		+		U
	Family Alangiaceae				
297	*Alangium platanifolium* var. *macrophyllum* Wanger	+			E
298	*A. platanifolium* for. *veoutinum* T. Lee	+			E
	Family Elaeagnaceae				
299	*Elaeagnus umbellata* Thunb.	+	+	+	E
300	*E. umbellata* var. *coreana* Lev.	+			U
	Family Cornaceae				
301	*Cornus controversa* Hemsl.	+	+	+	O
302	*C. kousa* Buerg	+		+	E
303	*C. macrophylla* Wall.	+			U
304	*C. officinalis* S. et Z.	+	+		E,M,O
305	*C. walteri* Wangerin	+		+	U
	Order Gentiales				
	Family Oleaceae				
306	*Fraxinus mandshurica* Rupr.	+			T,P
307	*F. rhynchopylla* Hance	+	+	+	M
308	*F. sieboldiana* Bl.	+	+	+	U
309	*Ligustrum obtusifolium* S. et Z.	+	+		O
310	*Forsythia koreana* Nakai(E)	+	+	+	M,O
311	*Syringa reticulata* var. *mandshurica*(Max.) Hara	+			U
312	*S. wolfi* Schneid.	+			U
313	*S. velutina* var. *kambibayashii*(Nakai) T. Lee	+			U
314	*S. velutina* var. *venosa*(Nakai) T. Lee	+			U
315	*Ligustrum ibota* var. *glabrum* Nakai	+			U
	Family Verbenaceae				
316	*Callicarpa dichotoma* Raeuschel	+	+		U
317	*C. japonica* Raeusch.	+	+	+	U
318	*Caryopteris divaricata*(S. et Z.) Max.	+			M
319	*Clerodendron trichotomum* Thunb.	+		+	E,M,O
320	*C. trichotomum* var. *ferrugineum* Nakai	+			E,M,O
	Family Solanaceae				

321	*Lycium chinense* Miller	+	+	+	E,M
	Family Scrophulariaceae				
322	*Paulownia coreana* Uyeki	+	+	+	T
323	*P. tomentosa* Steudel	+			T
	Family Bignoniaceae				
324	*Campsis grandiflora*(Thunb.) K. Schumann(C)	+	+		O
	Order Rubiales				
	Family Caprifoliaceae				
325	*Lonicera japonica* Thunb.	+	+	+	M
326	*L. harai* Makino	+			U
327	*L. japonica* var. *repens*(Sieb.) Rehder	+	+	+	U
328	*L. maackii* Maximowicz	+			U
329	*L. praeflorens* Batalin	+			O
330	*L. ruprechtiana* Regel	+			U
331	*L. vidalii* Fr. et Sav.	+			U
332	*Sambucus sieboldiana* var. *miqlii*(Nakai) Hara	+		+	E,M
333	*S. willansii* var. *coreana* Nakai	+	+		U
334	*S. latipinna* Nakai	+			U
335	*Viburnum burejaeticum* Regel et Herd.			+	U
336	*V. cariesii* Hemsley	+	+		O
337	*V. dialatum* Thunb.	+		+	U
338	*V. erosum* Thunb.	+		+	U
339	*V. erosum* var. *taquetii*(Lev.) Rehder	+			U
340	*V. pubinerve* for. lutescens Nakai		+		U
341	*V. sargentii* for. *sterile*(Makino) Hara	+			U
342	*V. sargentii* Koehne	+	+		O
343	*V. wrightii* Miq.	+			U
344	*Weigela florida*(Bunge) A. Dc.	+	+	+	O,P
345	*W. subsessilis* L.H. Bailey(E)	+	+	+	O
346	*W. hortensis*(S. et Z.) K. Koch			+	U
347	*W. praecox*(Lemoine) L. H. Bailey	+		+	U
		318	172	147	