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참당귀(*Angelica gigas* Nakai) 자생지의 식생 구조 및 환경 특성 분석

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Analysis of Vegetation Structure and Environment Characteristics in native *Angelica gigas* Nakai

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Objectives

The objective of this study was to offer a scientific information for gene conservation and development of *Angelica gigas* through analysis of distribution and habitats characteristics.

Materials and Methods

From June 2007 to July 2008, 2 m × 2 m quadrat was established in five survey areas: Jeombongsan, Bangtaesan, Odaesan, Gyebangsan, Jirisan and record a dominants and coverage. The community character and classify community was analyzed with phytosociological method and species ordination was analyzed by DCCA(detrended canonical correspondence analysis).

Results

1. According to the geographic location, the vertical distribution of native *Angelica gigas* was different patten. Native *Angelica gigas* ranged altitude 700~800m in Jeombongsan and Bangtaesan, 800~900m in Odaesan, Gyebangsan and above of 1300m in Jirisan. As a result, ditribution of native *Angelica gigas* was high mountain area of middle northern part, the altitude influences to the advancement of *Angelica gigas* community.

2. The vegetation of native *Angelica gigas* was classified into *Parasencio auriculata* var. *kamtschatical* dominant population, *Pseudostellaria palibiniana* dominant population, *Isodon excisus* dominant population and typical community. *Astilbe rubra was found out m*ost of quadrat(Table 1). The coverage of herb layer were 82%, 94%, 88% and 85% in the each dominant population, and number of appearance species was 22~23. The average altitude of *Parasencio auriculata* var. *kamtschatical* dominant population was highest with 1290m.

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Table 1. Vegetation table of Angelica gigas population.

A : *Parasencio auriculata* var. *kamtschatical* dominant population
B : *Pseudostellaria palibiniana* dominant population
C : *Isodon excisus* dominant population
D : Typical of dominant population

releve number	8	18	20	3	1	15	6	4	14	2	13	19	7	9	17	12	10	5	11	16
Altitude(m)	1217	1561	1315	1066	810	879	1316	883	933	916	979	1475	1291	727	806	797	710	869	786	944
Diretion(°)	350	290	295	170	226	115	115	360	165	25	115	310	154	135	257	130	142	215	192	255
Slpoe dgree(°)	32	45	35	25	3	2	38	3	3	18	3	15	22	28	15	2	5	2	34	12
High of upper tree lyaer(m)	14	18	17	20	14	15	16	16	18	18	16	18	12	12	16	10	17	18	14	18
Coverage of upper tree lyaer(T1)	95	90	98	90	95	90	95	50	95	85	90	90	85	80	85	90	98	98	80	90
Coverage of lower tree layer(T2)	40	25	40	20	10	2	20	30	15	20	80	0	30	40	35	10	20	25	10	50
Coverage of shrub(S)	35	10	25	2	2	30	10	2	40	2	60	5	5	5	3	2	5	7	10	0
Coverage of herb(H)	98	90	55	85	98	90	95	95	95	95	95	85	98	80	95	80	90	85	90	75
Number of species	23	26	18	23	29	23	17	20	31	21	29	19	23	24	22	22	27	24	20	19
Community type	A				B								C				D			
Angelica gigas H	2B	3	2A	2B	2B	2B	4	2A	2A	2B	2A	2B	2B	3	4	2B	5	4	4	4
Astilbe rubra H	2A	2A	2A	2A	2A	.	2A	.	2A	3	2B	2A	2A	2A	R	2A	2A	.	.	.
Parasenecio auriculata var. *kamtschatica* H	2A	2A	2A	2A	.	.	+	.	.	+	.	.	.	.	.	+	+	.	.	.
Cardamine amaraeformis H	.	2A	2A	.	.	.	.	.	.	.	+	.	.	.	.	.	+	+	.	.
Pseudostellaria palibiniana H	.	.	.	+	4	2B	2B	2A	2A	1	1	.	.	.	.	.	.	.	.	.
Meehania urticifolia H	.	.	.	1	.	3	3	2B	+	+	2A	.	.	.	.	.	.	.	+	.
Pimpinella brachycarpa H	.	2B	.	.	+	+	1	.	.	+	2A	2B	.	.	.	.	.	.	.	+
Isodon excisus H	2A	.	.	+	1	.	1	.	.	.	.	.	3	2A	2A	+	+	.	.	.
Impatiens textori H	.	.	.	+	.	.	.	+	.	.	.	.	2A	2A	.	2B	.	.	.	.

3. Native *Angelica gigas* was influenced by environment and according to the species ordination analysis, direction is a potent influence better than altitude and slope.

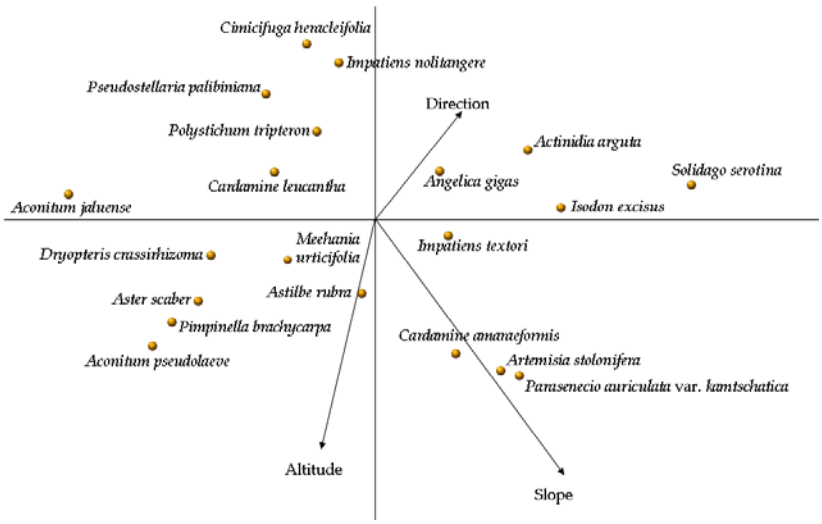

Fig. 1. The species ordination by vegetation data of the native *Angelica gigas.*

Conclusions

The distribution of native *Angelica gigas* an influence in altitude and direction. The vegetation of native *Angelica gigas* was classified into *Parasencio auriculata* var. *kamtschatical* dominant population, *Pseudostellaria palibiniana* dominant population, *Isodon excisus* dominant population and typical community.