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Data

Plant list during the expedition of Kamchatka in 2007

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Abstract

During the expedition of Kamchatka in July 2007, 4 species of bryophyte and 192 species of vascular plants (including 4 red data plants) were enumerated.

Key words: flora, Kamchatka

Introduction

Flora of Kamchatka was first investigated at the beginning of 20 c. (Hultén, 1968; Komarov, 1927), and recently general flora list was presented (Yakubov and Chernyagina, 2004), in which 1166 species and subspecies were recognized for vascular plants. However, the plants of Kamchatka have not been familier with Japanese botanists, having few chances for organized expedition, and only a few materials are available in herbariums of Japan. Though many of the 'northern' species are already known from other areas, including those from Sakhalin, materials from Kamchatka may help us, for example, in biogeographic studies.

During July 1-18, 2007, I had a chance to attend to the expedition in Kamchatka by Institute of Volcanology (Petropavlovsk-Kamchatsky, Russia), and to collect plant materials on the basis of contract between the Institute and Kyoto University Museum (to which I belonged). As the expedition aimed to study hot springs, some of the plants were collected closely around the hot springs, together with ground temperature data. Specimens in this list are deposited in Kyoto University herbarium (KYO) except those in Red Data Book of Kamchatka (2007) and of Russia (1988).

Localities for collection

Plants were collected mainly at the following localities (these localities are indicated in Fig. 1);

A-1. Petropavlovsk-Kamchatsky; in the meadows or at the roadside in the city (53.55-56N, 158.39-40E).

A-2. Petropavlovsk-Kamchatsky; at the foot or on the slope of Mt. Avacha (alt. ca. 900-1300m) (53.14N, 158.45E).

B. Esso; from the meadows to low mountain (alt. ca.500-900m) (55.55-56N, 158.40-41E).

C-1. Apapel; in the bog along the river Anavgai, partly along the warm streams (56.18.979N, 159.15.047E).

C-2. Apapel; in the meadow on the slopes (56.19.153N, 159.15.229E).

C-3. Apapel; Along the warm stream with hot springs, with more than 30°C ground temperature (56.19.162N, 159.14.610E).

D. Anavgai, in the village and in the woods of roadside (55.59E, 159.03-09N).

E. Dachnoe; at the hot spring of Mt. Mutnovsky, and in the meadow along the way to the hot springs (52.31.828N, 158.11.447E).

List of the specimens

Specimens collected were indicated in Table 1. Names were ordered according to Iwatsuki Z.(2001) for Bryophyta, Iwatsuki K. et al.(1995) for Pteridophyta and to the Engler system for Gymnospermae and Angiospermae (Melichior, 1964). Latin names follow Yakubov and Chernyagina (2004), Yonekura and Kajita (2003) and the International Plant Names Index (2004-2008).

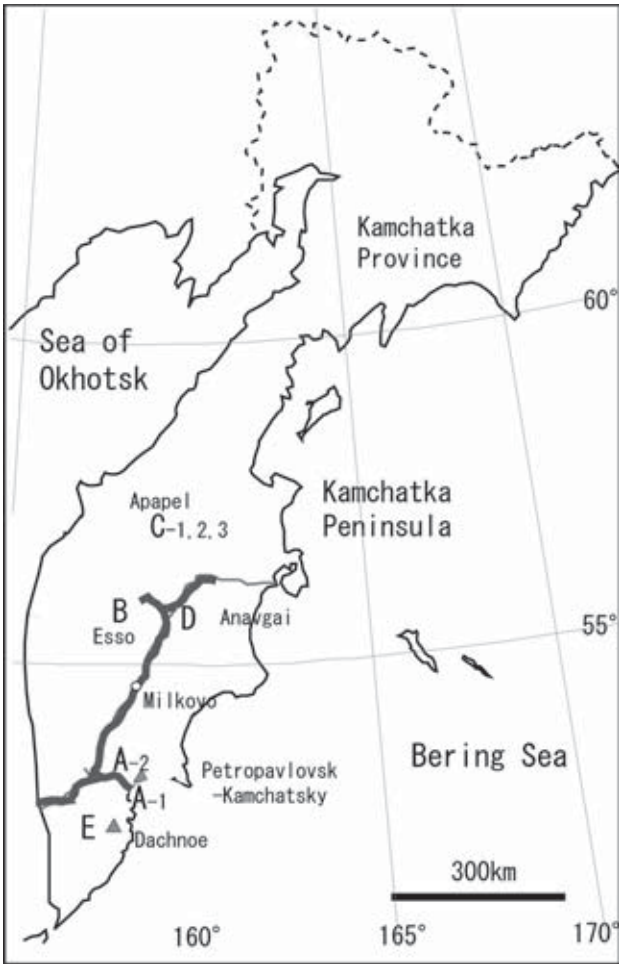

Fig 1. Map of Kamchatka peninsula. A–E indicate the localities for collection. See text in detail.

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Table 1. List of the specimens.

Family / species name	det.[*1]	Jpn. name	Col. No.[*2]	Loc.[*3]	Habitat[*4]	Note
BRYOPHYTA						
Polytrichaceae						
Polytrichum juniperinum Willd. ex Hedw.	A.H.	スギゴケ	**K 0304**	B	grassland	
Ditrichaceae						
Ceratodon purpureus (Hedw.) Brid.	A.H.	ヤノウエノアカゴケ	**K 0305**	C		
Funariaceae						
Funaria hydrometrica Hedw.	A.H.	ヒョウタンゴケ	**K 0306**	D	On the rock along the stream	
Marchantiaceae						
Marchantia polymorpha L.	A.H.	ゼニゴケ	**K 0307**	C	marsh	
PTERIDOPHYTA						
Lycopodiaceae						
Lycopodium complanatum L.	C.O.	アスヒカズラ	**K 0168**	D	in *Betula platyphylla* forest	
Equisetaceae						
Equisetum hyemale L.		トクサ	**K 0021**	A–B	forest edge	
Ophioglossaceae						
Botrychium lunaria (L.) Sw.		ヒメハナワラビ	**K 0092**	B	grassland	
			K 0143	C-1	marsh-grassland	
			K 0165	C-1	grassland	
Dennstaedtiaceae						
Pteridium aquilinum (L.) Kuhn		ー	**K 0149**	C-1	marsh-grassland	
			K 0280	C-3		
Adiantaceae						
Cryptogramma acrostichoides R.Br.	C.O.	ー	**K 0088**	B	On the rock	
Dryopteridaceae						
Dryopteris fragrans (L.) Schott	C.O.	ニオイシダ	**K 0089**	B	On the rock (alt.900m)	
	C.O.		**K 0116**	B	On the rock (alt.900m)	
GYMNOSPERMAE						
Coniferopsida						
Coniferae						
Pinaceae						
Larix cajanderi Mayr		ー	**K 0182**	D	forest	
Pinus pumila (Pall.) Regel		ハイマツ	**K 0121**	B	On the rock (alt.900m)	
Cupressaceae						
Juniperus sibirica Burgsd.		リシリビャクシン	**K 0120**	B	On the rock (alt.900m)	
ANGIOSPERMAE						

Dicotyledoneae						
Archichlamydeae						
Salicales						
Salicaceae						
Chosenia arbutifolia (Pall.) A.K.Skvortsov	Y.V.	ケショウヤナギ	**K 0026**	A－B	riverside	ca. 3m tall
Salix arctica Pall.	Y.V.	－	**K 0250**	E	slope	creeping
S. bebbiana Sarg.	Y.V.	－	**K 0124**	B	in shrub with *Pinus pumila*	
S. udensis Trautv. et Mey.	Y.V.	オノエヤナギ	**K 0019**	A－B		ca. 3m tall
Salix sp.			**K 0071**	B	riverside	
	Y.V.		**K 0027**	A－B		
Fagales						
Betulaceae						
Alnus fruticosa Pall.		－	**K 0119**	B	slope near the summit (ca.900m).	
Urticales						
Urticaceae						
Urtica platyphylla Wedd.		エゾイラクサ	**K 0020**	A－B		
			K 0048	B	In the thermal gully, in mass.	
Polygonales						
Polygonaceae						
Acetosella vulgaris (Koch) Fourr.	C.O.	ヒメスイバ	**K 0188**	D	roadside	Immigrant
Bistorta vivipara (L.) S.F.Gray		ムカゴトラノオ	**K 0069**	B	grassland	
			K 0152	C-2	grassland	
Oxyria digyna (L.) Hill		ジンヨウスイバ	**K 0242**	A-2	rocky slope	
			K 0248	A－E	roadside slope	
Polygonum aviculare L.		ミチヤナギ	**K 0059**	B	marsh side	Immigrant
Rumex aquaticus L.	Y.V.	ヌマダイオウ	**K 0195**	B	roadside	
R. lapponicus (Hiitonen) Czernov	C.O.	タカネスイバ	**K 0142**		marsh-grassland	
R. longifolius DC.	C.O.	ノダイオウ	**K 0047**	B	riverside	Immigrant
Centrospermae						
Caryophyllaceae						
Cerastium beeringianum Cham.	Y.V.	－	**K 0126**	C-1	marsh	
C. holosteoides Fries	Y.V.	－	**K 0060**	B	marsh	Immigrant
Minuartia macrocarpa (Pursh) Ostenf.	Y.V.	－	**K 0209**	A-2	rocky slope (alt. 900m)	
			K 0230	A-2	rocky slope (alt. 900m)	
Moehringia lateriflora (L.) Fenzl		オオヤマフスマ	**K 0011**	A-1	marsh	
			K 0167	C-2	grassland	

			K 0173	D	*Betula platyphylla* forest	
Sagina saginoides (L.) Karst.	C.O.	チシマツメクサ	**K 0114**	B	Between the rocks	
	C.O.		**K 0203**	D		
Silene alba (Mill.) E.H.L.Krause	Y.V.	マツヨイセンノウ	**K 0054**	B	grassland	
	C.O.		**K 0034**	A－B	grassland, in mass	
S. repens Patrin	C.O.	カラフトマンテマ	**K 0101**	B	grassland	
S. vulgaris (Moench) Garcke	Y.V.	シラタマソウ	**K 0035**	A－B	grassland, in mass	Immigrant
Stellaria eschscholtziana Fenzl	Y.V.	－	**K 0233**	A-2	rocky slope (alt. 1300m)	
S. longifolia Muhl.ex Willd.		ナガバツメクサ	**K 0030**	A－B		
S. radians L.		エゾオオヤマハコベ	**K 0080**	B	moist grassland	
Ranunculales						
Ranunculaceae						
Anemone narcissiflora L.		ハクサンイチゲ(広義)	**K 0207**	A	with *Pinus pumila* shrub (alt.900m)	
Atragene ochotensis Pall. (*Clematis alpina* subsp. *ochotensis*)		エゾミヤマハンショウヅル	**K 0086**	B	rocky slope (alt. 900m)	
			K 0157	C－2	grassland	
Batrachium trichophyllum (Chaix) Bosch	C.O.	－	**K 0201**	D	in the stream, in mass	
Clematis fusca Turcz.		クロバナハンショウヅル	**K 0103**	B	grassland	
			K 0146	C－1	marsh-grassland	
			K 0170	D	in *Betula platyphylla* forest	
Delphinium brachycentrum Ledeb.		チシマヒエンソウ	**K 0246**	C-2	grassland	2m tall.
Ranunculus propinquus C.A.Mey.	Y.V.	－	**K 0052**	B		Immigrant (?)
R. repens L.	Y.V.	ハイキンポウゲ	**K 0127**	C－1	marsh-grassland	
Thalictrum contortum L.	Y.V.	－	**K 0141**	C－1	marsh-grassland	
T. minus L.	Y.V.	－	**K 0275**	A-1		
			K 0291	C-3		
T. sparsiflorum Turcz.ex Fisch.et Mey.		ツリフネカラマツ	**K 0104**	B	grassland	
Papaverales						
Papaveraceae						
Papaver microcarpum DC.		－	**K 0235**	A-2	rocky slope (alt. 1300m)	
Cruciferae						
Arabis hirsuta (L.) Scop.	C.O.	ヤマハタザオ	**K 0109**	B	dry slope	

A. stelleri DC.(syn. *A. hirsuta* (L.) Scop. ssp. *stelleri* (DC.) Hultén)		ハマハタザオ	**K 0154**	C−2	dry slope	
	Y.V.		**K 0279**	C−3		
Barbarea orthoceras Ledeb.	Y.V.	ヤマガラシ	**K 0004**	A−1	roadside	
Cardamine regeliana Miq.	Y.V.	オオバタネツケバナ	**K 0024**	A−B		
	Y.V.		**K 0257**	E	riverside	
Cardaminopsis lyrata (L.) Hiit.	C.O.	−	**K 0063**	B	marsh	
			K 0129	D	marsh−grassland	
	Y.V.		**K 0107**	B	dry slope	
			K 0220	A−2		
Draba nemorosa L.		イヌナズナ	**K 0108**	B	dry slope	Immigrant (?)
			K 0128	C−1	marsh−grassland	
Draba sp.			**K 0110**	B	dry slope	
			K 0226	A−2		
Christolea parryoides (Cham.) N.Busch		−	**K 0223**	A−2	rocky slope (alt. 1300m)	
Erysimum hieracifolium L.	Y.V.	−	**K 0072**	B	dry slope	
Parrya nudicaulis (L.) Regel		グンジソウ	**K 0231**	A−2	rocky slope (alt. 900m)	
Rosales						
Crassulaceae						
Rhodiola integrifolia Raf.	Y.V.	ムラサキイワベンケイ	**K 0244**	A−2	dry slope	
Sedum camtschaticum Fisch.		−	**K 0042**	D	dry slope	
			K 0074	B	dry grassland	
S. telephium L.var. *purpureum* L.		ムラサキベンケイソウ	**K 0184**	C−3	by fumarole of hot spring	
Saxifragaceae						
Parnassia palustris L.		ウメバチソウ	**K 0131**	C−1	marsh−grassland	
			K 0290	C−3	riverside	
Saxifraga cherlerioides D.Don	C.O.	−	**K 0040**	D	rocky criff	
	C.O.		**K 0091**	B	rocky slope	
			K 0202	D		
S. funstonii (Small) Fedde	C.O.	−	**K 0041**	D	rocky criff	
			K 0151	C−3	on the rock	
S. nelsoniana D.Don	C.O.	−	**K 0043**	B	riverside	
			K 0247	E	roadside slope	
			K 0258	E	riverside	

S. purpurascens Kom.		—	**K 0228**	A–2	rocky slope	
Rosaceae						
Alchemilla subcrenata Buss.		—	**K 0002**	A–1	roadside in the city	Immigrant
Aruncus dioicus (Walter) Fernald var. *kamtschaticus* (Maxim.) H.Hara		ヤマブキショウマ	**K 0277**	A–1	roadside meadow	0.5m tall
Crataegus chlorosarca Maxim.	Y.V.	クロミサンザシ	**K 0187**	D	roadside	tree, 3–4m
Dryas punctata Juz.		—	**K 0218**	A–2	rocky slope (alt. 900m)	
Geum aleppicum Jacq.	Y.V.	オオダイコンソウ	**K 0033**	A—B	roadside	Immigrant
	Y.V.		**K 0186**	D	roadside	Immigrant
	Y.V.		**K 0288**	C–3		
			K 0083	B	thermal pool side	
			K 0302	C–3	riverside	
Potentilla arenosa (Turcz.) Juz.	Y.V.	—	**K 0084**	B	rocky slope (alt. 800m)	
P. bifurca L.	C.O.	クサキンロバイ	**K 0097**	B	rocky slope (alt. 800m)	
P. fruticosa L.		キンロバイ	**K 0122**	B	In *Pinus pumila* shrub	1m shrub
	Y.V.		**K 0196**	B	forest edge, alt.500m	
P. norvegica L.		エゾノミツモトソウ	**K 0185**	D	roadside	Immigrant
P. stolonifera Lehm.ex Ledeb.		ツルキジムシロ	**K 0001**	A–1	dry meadow	
			K 0022	A—B	roadside	
			K 0283	C–3	around hot springs	
P. vulcanicola Juz.	C.O.	—	**K 0212**	A–2	rocky slope (alt. 900m)	
Rosa acicularis Lindl.		オオタカネバラ	**K 0029**	A—B	grassland	
Rubus arcticus L.		チシマイチゴ	**K 0008**	A–1	marsh	
Sanguisorba officinalis L.		ワレモコウ	**K 0023**	A—B		
			K 0232	A–2	rocky meadow	
Sorbaria sorbifolia (L.) A. Braun	Y.V.	ホザキナナカマド	**K 0169**	D	forest edge	
Spiraea beauverdiana C.K.Schneid.		エゾノマルバシモツケ	**K 0044**	B	riverside	
			K 0053	B		
			K 0265	E	around hot springs	
S. salicifolia L.	C.O.	ホザキシモツケ	**K 0197**	B	grassland	
			K 0301	C–3	around hot springs	
Leguminosae						
Astragalus alpinus L.		—	**K 0099**	B	dry meadow	

			K 0132	C−1	marsh−grassland	
Lathyrus japonicus Willd.		ハマエンドウ	**K 0003**	A−1	roadside meadow	
L. pilosus Cham.	C.O.	エゾノレンリソウ	**K 0031**	A−B	grassland	
Oxytropis kamtschatica Hultén	Y.V.	−	**K 0252**	E	riverside	
O. pumilio (Pall.) Ledeb.	C.O.	−	**K 0215**	A−2	rocky slope	
O. revoluta Ledeb.	Y.V.	オカダゲンゲ	**K 0251**	E	riverside	
Geraniales						
Geraniaceae						
Geranium erianthum DC.		チシマフウロ	**K 0274**	A−1	grassland, in mass	
			K 0282	C−3	around hot springs	
Violales						
Violaceae						
Viola crassa Makino		タカネスミレ	**K 0210**	A−2	rocky slope	
V. epipsiloides A et D. Löve	Y.V.	タニマスミレ	**K 0256**	E	marsh−grassland	
			K 0160	C−2	pondside	
V. langsdorfii Fisch.ex Ging.		−	**K 0006**	A−1	marsh	
V. sacchalinensis H.Boiss.	C.O.	アイヌタチツボスミレ	**K 0007**	A−1	marsh	
	Y.V.		**K 0287**	C−3	around hot springs	sterile
Myrtiflorae						
Onagraceae						
Epilobium glandulosum Lehm.	C.O.	−	**K 0081**	B	riverside	
			K 0159	C−2	grassland	
Epilobium sp.			**K 0177**	D	riverside	
			K 0273	E	around hot springs	
Umbelliflorae						
Umbelliferae						
Anthriscus sylvestris (L.) Hoffm.		シャク	**K 0018**	A−B	grassland	
			K 0194	B	grassland	
Bupleurum triradiatum Adams ex Hoffm.		−	**K 0236**	A−2		
Sympetalae						
Ericales						
Pyrolaceae						
Moneses uniflora (L.) A. Gray		イチゲイチヤクソウ	**K 0211**	A−2	rocky slope (alt. 900m)	
Orthilia secunda (L.) House		コイチヤクソウ	**K 0175**	D	in *Betula platyphylla* forest	
Pyrola incarnata (DC.) Freyn		ベニバナイチヤクソウ	**K 0036**	A−B	in *Larix/Abies* forest	
			K 0077	B	slope in forest	
			K 0190	B	in forest	
Pyrola sp.			**K 0172**	D	in *Betula platyphylla* forest	

Ericaceae						
Cassiope lycopodioides (Pall.) D.Don		イワヒゲ	**K 0214**	A−2	on the rocks (alt. 1300m)	
Ledum palustre L.		ー	**K 0037**	A−B	in *Larix/Abies* forest	0.3m tall
			K 0090	B	rocky hill summit	
Loiseleuria procumbens (L.) Desv.		ミネズオウ	**K 0217**	A−2	rocky slope (alt.900m)	
Phyllodoce caerulea (L.) Bab.		エゾノツガザクラ	**K 0206**	A−2	rocky slope (alt.900m)	
Rhododendron aureum Georgi		キバナシャクナゲ	**K 0239**	A−2	with *Pinus pumila* shrub (alt.900m)	1m tall
R. camtschaticum Pall.		エゾツツジ	**K 0240**	A−2	rocky slope (alt.900m)	
Vaccinium vitis-idaea L.		コケモモ	**K 0123**	B	with *Pinus pumila* shrub (alt.900m)	
Primulales						
Primulaceae						
Androsace chamejasme Wulfen		ー	**K 0219**	A−2	rocky slope (alt.900m)	
A. septentrionalis L.		ハリコザクラ	**K 0070**	B	grassland	
			K 0133	D	grassland	
			K 0284	C−3		
			K 0076	B	dry slope	
			K 0112	B	grassland	
Primula cuneifolia Ledeb.	Y.V.	エゾコザクラ	**K 0253**	E	marsh−grassland	
Trientalis europaea L.		ツマトリソウ	**K 0010**	A−1	pondside	
Gentianales						
Rubiaceae						
Galium ruthenicum Willd.	C.O.	エゾキヌタソウ	**K 0038**	A−B	in *Larix/Abies* forest	
	C.O.		**K 0100**	B	grassland	
			K 0156	D	forest edge	
Galium verum L.	C.O.	カワラマツバ	**K 0073**	B	dry slope	
Tubiflorae						
Boraginaceae						
Eritrichium sericeum (Lehm.) A.DC.	Y.V.	ー	**K 0227**	A−2	rocky slope (alt. 900m)	
Lappula deflexa (Wahlenb.) Garcke	Y.V.	イワムラサキ	**K 0049**	B	dry grassland	
Myosotis cespitosa K.F.Schultz	Y.V.	ー	**K 0066**	B	marsh	
M. suoveolens Waldst.et Kit.	Y.V.	ー	**K 0137**	C−1	marsh−grassland	
Labiatae						
Mentha arvensis L.			**K 0183**	D	In stream, in mass	
Scrophulariaceae						

Pedicularis chamissonis Stev.		エゾヨツバシオガマ	**K 0138**	C–1	marsh–grassland	
P. resupinata L.		シベリアシオガマ	**K 0094**	B	grassland	
			K 0135	C–1	marsh–grassland	
			K 0153	C–2	grassland	
			K 0162	C–2	grassland	
			K 0193	B	grassland	
P. verticillata L.		タカネシオガマ	**K 0224**	A–2	rocky slope (alt.1200m)	
			K 0237	A–2		
Penstemon frutescens Lamb. [*Pennellianthus frutescens* (Lambert) Crosswhite]		イワブクロ	**K 0241**	A–2	rocky slope (alt. 900m)	
Veronica americana Schwein.ex Benth.		エゾノカワヂシャ	**K 0148**	C–1	marsh–grassland	
			K 0161	C–2	marsh	
V. glandiflora Gaerth.	Y.V.	ー	**K 0213**	A–2	dry slope	
V. humifusa Dicks.	C.O.	テングクワガタ	**K 0136**	C–1	marsh–grassland	
Globulariaceae						
Lagotis glauca Gaertn.		ウルップソウ	**K 0208**	A–2	rocky slope (alt. 900m)	
			K 0261	E	riverside slope	
Plantaginales						
Plantaginaceae						
Plantago asiatica L.		オオバコ	**K 0286**	C–3	by fumarole, with 38–50℃ ground	
Dipsacales						
Caprifoliaceae						
Linnaea borealis L.		リンネソウ	**K 0174**	D	in *Betula platyphylla* forest	
Lonicera chamissoi Bunge ex P.Kir.		チシマヒョウタンボク	**K 0087**	B		shrub 0.5m; fr. red
Sambucus kamtschatica E.L.Wolf		エゾニワトコ	**K 0176**	D		tree 5m
Campanulatae						
Campanulaceae						
Campanula lasiocarpa Cham.		イワギキョウ	**K 0234**	A–2	rocky slope (alt. 900m)	
Compositae						
Artemisia arctica Less.	Y.V.	サマニヨモギ	**K 0254**	E	grassland	
A. bolealis Pall.	C.O.	ー	**K 0098**	B	rocky slope	
A. glomerata Ledeb.		ハハコヨモギ	**K 0216**	A–2	rocky slope	
A. opulenta Pamp.	C.O.	エゾオオヨモギ	**K 0292**	C–3	by fumarole, with 40–50℃ ground	
Aster sibiricus L.	Y.V.	タカスギク	**K 0204**	D		
Cacalia hastata L.		ウラゲヨブスマソウ	**K 0189**	B	grassland	
Cirsium setosum (Willd.) Bess.	Y.V.	エゾノキツネアザミ	**K 0276**	A–1	grassland	Immigrant

Erigeron thunbergii A.Gray subsp.*glabratus* (A.Gray) H.Hara		ミヤマアズマギク	**K 0158**	C-2	meadow on slope	
			K 0238	A-2		
Gnaphalium uliginosum L.	C.O.	ヒメチチコグサ	**K 0268**	E	by fumarole	
Picris kamtschatica Ledeb.	C.O.	カンチコウゾリナ	**K 0285**	C-3	around hot springs	
			K 0095	B	meadow on slope	
Solidago spilaeifolia Fisch.ex Herd.	C.O.	ー	**K 0096**	B	meadow on slope	
			K 0171	D	in Betula platyphylla forest	
			K 0260	E	riverside slope	
Monocotyledoneae						
Helobiae						
Juncaginaceae						
Triglochin palustris L.		ホソバノシバナ	**K 0062**	B	marsh	
			K 0144	C-1	marsh-grassland	
			K 0178	D	riverside	
Liliiflorae						
Liliaceae						
Allium schoenoprasum L.		ー	**K 0105**	B	meadow on slope	
			K 0150	C-1	marsh-grassland	
			K 0281	C-3		
A. victorialis L. subsp. *platyphyllum* Hultén (*A. ochotense* Prokh.)		ギョウジャニンニク	**K 0147**	C-1	marsh-grassland	
			K 0163	C-2	grassland	
Fritillaria camtshatcensis (L.) Ker Gawl.		クロユリ	**K 0012**	A-1	roadside slope	
			K 0200	B	riverside	
			K 0278	E	riverside	
			K 0046	B	riverside	
			K 0156	C-2	grassland	
Lilium pensylvanicum Ker Gawl.		エゾスカシユリ	ー	D	forest edge	Red Data plant
Lloydia serotina (L.) Reichenb.		チシマアマナ	**K 0245**	A-2	rocky slope	
Maianthemum dilatatum (A.W.Wood) A.Nels.et J.F.Macbr.		マイヅルソウ	**K 0005**	A-1	pondside, in forest	
Veratrum oxysepalum Turcz.		バイケイソウ	**K 0134**	C-1	marsh-grassland	
Iridaceae						
Iris setosa Pall.ex Link		ヒオウギアヤメ	**K 0085**	B	grassland slope	
			K 0125	C-1	marsh-grassland	
Juncales						
Juncaceae						

Juncus alpinoarticulatus Chaix	Y.V.	ー	**K 0130**	C−1	marsh−grassland	
J. beringensis Buchenau	Y.V.	ミヤマイ	**K 0262**	E	marsh−grassland	
J. bufonius L.	C.O.	ヒメコウガイゼキショウ	**K 0067**	B	around hot springs	
	Y.V.		**K 0180**	D	riverside	
	Y.V.		**K 0269**	E	around hot springs	
J. filiformis L.	C.O.	エゾホソイ	**K 0266**	E	around hot springs	
Luzula multiflora (Ehrh.ex Retz.) Lej.	Y.V.	ヤマスズメノヒエ	**K 0221**	A−2		
L. pallescens Sw.	Y.V.	ー	**K 0057**	B		
	Y.V.	ー	**K 0115**	B	grassland slope	
L. parviflora (Ehrh.) Desv. [*L. piperi* (Cov.) Jones]	Y.V.	ー	**K 0263**	E	marsh−grassland	
L. rufescens Fisch.ex E.Mey var. *macrocarpa* Buchenau	Y.V.	ー	**K 0111**	B	grassland slope	
Graminales						
Gramineae						
Agrostis scabra Willd.	C.O.	エゾヌカボ	**K 0270**	E	around hot springs	
	Y.V.		**K 0271**	E	around hot springs	
Alopecurus aequalis Sobol.		スズメノテッポウ	**K 0181**	D	pondside	
Beckmannia syzigachne (Steud.) Fern.		ミノゴメ	**K 0061**	B	around hot springs	
			K 0082	B	in river water	
Calamagrostis purpurea (Trin.) Trin.	C.O.	ー	**K 0267**	E	by fumarol	
Deschampsia flexuosa (L.) Nees.	Y.V.	コメススキ	**K 0289**	C−3	by fumarol	
Festuca altaica Trin.	Y.V.	ー	**K 0079**	B	slope in forest	
	Y.V.		**K 0113**	B	grassland	
Festuca rubra L.		オオウシノケグサ	**K 0293**	C−3	by fumarole with 39−47℃ ground	
Hierochloe odorata (L.) Beauv.	Y.V.	セイヨウコウボウ	**K 0051**	B	grassland	
Melica nutans L.		コメガヤ	**K 0093**	B	grassland slope	
Phalaris arundinacea L.	Y.V.	クサヨシ	**K 0205**			
Phragmites australis (Cav.) Trin. ex Steud.		ヨシ	**K 0294**		by hot spring	
Poa annua L.	Y.V.	スズメノカタビラ	**K 0028**	A−B	roadside	Immigrant
	Y.V.		**K 0303**	B	pondside	Immigrant
P. glauca Vahl	Y.V.	タカネタチイチゴツナギ	**K 0025**	A−B		
	Y.V.		**K 0118**	B	rocky slope	
P. malacantha Kom.	Y.V.	ムラサキソモソモ	**K 0222**	A−2		
	Y.V.		**K 0225**	A−2		

			K 0249	E	grassland	
P. pratensis L.	Y.V.	ナガハグサ	**K 0050**	B		Immigrant (?)
	Y.V.		**K 0032**	A−B		
Puccinellia kamtschatica Holmb.	Y.V.	−	**K 0068**	B	marsh	
	Y.V.		**K 0179**	D	riverside	
Cyperales						
Cyperaceae						
Carex canescens L.		ハクサンスゲ	**K 0045**	B	riverside	
C. jacutica V.Krecz	O.J.	−	**K 0145**	C−1	marsh−grassland	
C. longerostrata C.A.Mey.		ヒエスゲ	**K 0064**	B	grassland, in mass	
C. mesophila Holm.	O.J.	−	**K 0229**	A−2		
C. obtusata Liljebl.		−	**K 0102**	B	grassland slope	
			K 0106	B	grassland slope	
C. pallida C.A.Meyer	O.J.	ウスイロスゲ	**K 0055**	B	grassland	
	O.J.		**K 0117**	B	grassland slope	
C. pediformis C.A.Mey.	O.J.	−	**K 0078**	B	forest slope	
C. riishirensis Franch.	O.J.	リシリスゲ	**K 0164**	C−2	marsh	
	O.J.		**K 0255**	E	marsh−grassland	
	O.J.		**K 0259**	E	marsh−grassland	
C. rostrata Stokes		カラフトカサスゲ	**K 0058**	B	marsh−grassland	
			K 0166	C−2	marsh−grassland	
C. vaginata Tausch.	O.J.	サヤスゲ	**K 0009**	A−1	pondside	
C. vanheurckii Müll.Arg.		ヌイオスゲ	**K 0039**	A−B	in forest	
Carex sp.			**K 0056**	B	grassland	Fruits unriped
Eleochalis kamtschatica (C.A.Mey.) Kom.		−	**K 0272**	E	by fumarole, with 31−57°C ground	
			K 0065	B	marsh	
Fimbristylis ochotensis (Meinsh.) Kom.			**−**	E	by fumarole, with 46−71°C ground	Red Data plant
Microspermae						
Orchidaceae						
Cypripedium macranthon Sw.		アツモリソウ（広義）	**−**	C−2	grassland	Red Data plant
Cypripedium yatabeanum Makino		キバナノアツモリソウ	**−**	C−2	grassland	Red Data plant
Dactylorhiza aristata (Fisch.ex Lindl.) Soó		ハクサンチドリ	**K 0140**	C−1	marsh−grassland	
Platanthera convallariifolia Fisch.ex Lindl.	Y.V.	シロウマチドリ	**K 0139**	C−1	marsh−grassland	fl. white

*1: abbreviations indicate followings: A.H.=Akiyama, Hiroyuki; C.O.=Chernyagina, Olga; O.J.= Oda, Jiro; Y.V.=Yakubov, Valentin.
*2: As Red Data plants were not collected, collection number for them are shown by "−".
*3: Localities' numbers are corresponded to those in "Localities for collection" and to those, indicated in the map of Fig. 1.
*4: Ground temperatures were measured by electric thermometer at the depth of 10cm from the ground surface.

福田知子：カムチャツカ調査（2007 年）で採集された植物リスト
2007 年 7 月のカムチャツカ植物調査により、コケ植物 4 種と維管束植物 192 種を確認した。

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