

TETSUO OHI, TADASHI KAJITA, AND JIN MURATA. 2003. Distinct geographic structure as evidenced by chloroplast DNA haplotypes and ploidy level in Japanese *Aucuba* (Aucubaceae). *American Journal of Botany* 90(11): 1645-1652.

Appendix 1. Sample information for *Aucuba japonica*, their cpDNA haplotypes and ploidy levels.

Sample locality and altitude	Collector <sup>a</sup> & Voucher No.	Haplo type	Ploidy level	Identifi- cation <sup>b</sup>
Aomori Pref., Aomori City; 150 m	OT: A066	B1	4x	<i>borealis</i>
Aomori Pref., Aomori City; 200 m	OT: AAOM	B1	-	<i>borealis</i>
Aomori Pref., Iwasaki Vill.; 150 m	OT: A065	B1	4x	<i>borealis</i>
Aomori Pref., Iwasaki Vill.; 100 m	OT: AIWS	B1	-	<i>borealis</i>
Iwate Pref., Yuta Town; 300 m	OT: A062-1&3	B1	4x	<i>borealis</i>
Iwate Pref., Yuta Town; 300 m	OT: A062-2	B4	4x	<i>borealis</i>
Iwate Pref., Yuta Town; 400 m	OH: AIWT	B4	-	<i>borealis</i>
Akita Pref., Higashi-Yuri Town; 100 m	OT: AHYR	B4	-	<i>borealis</i>
Akita Pref., Takanosu Town; 150 m	OT: A064-1&3	B1	4x	<i>borealis</i>
Akita Pref., Takanosu Town; 150 m	OT: A064-2	B4	4x	<i>borealis</i>
Akita Pref., Takanosu Town; 200 m	OT: ATKS	B1	-	<i>borealis</i>
Akita Pref., Tazawako Town; 200 m	OT: A063-1,2&3	B1	4x	<i>borealis</i>
Akita Pref., Tazawako Town; 100 m	OT: ATZW	B1	-	<i>borealis</i>
Akita Pref., Yuri Town; 100 m	OT: A061-1&2	B1	4x	<i>borealis</i>
Yamagata Pref., Oguni Town; 200 m	OT: A059	B1	4x	<i>borealis</i>
Yamagata Pref., Oguni Town; 200 m	OT: AOGN	B1	-	<i>borealis</i>
Yamagata Pref., Tsuruoka City; 150 m	OT: A060	B1	4x	<i>borealis</i>
Yamagata Pref., Tsuruoka City; 100 m	OT: ATRO	B1	-	<i>borealis</i>
Miyagi Pref., Hanayama Vill.; 150 m	OT: A069	B1	4x	unknown
Miyagi Pref., Hanayama Vill.; 200 m	OT: AHNY	B1	-	unknown
Miyagi Pref., Sendai City; 100 m	OT: A070	B1	4x	unknown
Miyagi Pref., Sendai City; 500 m	KJ&MJ: ASND	B1	-	unknown
Fukushima Pref., Aizutakada Town; 500 m	OT: A057	B1	4x	unknown
Fukushima Pref., Fukushima City; 200 m	KT: 20127	B1	-	unknown
Fukushima Pref., Hongo Town.; 300 m	OT: AAIZ	B1	-	unknown
Fukushima Pref., Nihonmatsu City; 300 m	OT: A071	B1	4x	unknown
Gunma Pref., Kita-Tachibana Vill.; 250 m	OT: A053	Ja	4x	<i>japonica</i>
Gunma Pref., Kita-Tachibana Vill.; 250 m	OT: AAKG	Ja	-	unknown
Tochigi Pref., Imaichi City; 200 m	OT: A072-1&2	Ja	4x	<i>japonica</i>
Tochigi Pref., Imaichi City; 200 m	OT: AIMI	B1	-	unknown
Ibaraki Pref., Daigo Town; 250 m	OT: A086	Ja	4x	<i>japonica</i>
Ibaraki Pref., Suifu Vill.; 200 m	OT: ASIF	Ja	-	unknown
Ibaraki Pref., Mt. Tsukuba; 450 m&700 m	WK: A097-1&2	Ja	4x	<i>japonica</i>
Tokyo Pref., Ome City; 400 m	OT: A092	Ja	4x	<i>japonica</i>
Tokyo Pref., Ome City; 400 m	OT&MJ: AOUM	Ja	-	unknown
Tokyo Pref., Oshima Island; 400 m	IT: A085	Ja	4x	<i>japonica</i>
Tokyo Pref., Miyakejima Island	KH: A088	Ja	4x	<i>japonica</i>
Chiba Pref., Ichihara City; 80 m	OT: AICI	Ja	-	unknown

Chiba Pref., Maruyama Town; 200 m	OT: A080	Ja	4x	<i>japonica</i>
Chiba Pref., Tomiyama Town; 300 m	OT: ATMY	Ja	-	unknown
Kanagawa Pref., Matsuda Town; 400 m	OT: A084	Ja	4x	<i>japonica</i>
Kanagawa Pref., Hakone Town; 600 m	OT: AHKN	Ja	-	unknown
Yamanashi Pref., Kajikasawa Town; 350 m	OT: A082	Ja	4x	<i>japonica</i>
Yamanashi Pref., Kushigata Town; 420 m	OT: AKSG	Ja	-	unknown
Niigata Pref., Hirokami Vill.; 350 m	OT: A056	B1	4x	unknown
Niigata Pref., Joetsu City; 550 m	IY: AJET	B3	-	<i>borealis</i>
Niigata Pref., Joetsu City; 520 m	OT: A055	B3	4x	<i>borealis</i>
Niigata Pref., Mikawa Vill.; 250 m	OT: A058	B1	4x	unknown
Niigata Pref., Mikawa Vill.; 100 m	OT: AMKA	B1	-	unknown
Niigata Pref., Nagaoka City; 200 m	OT: ANGO	B1	-	unknown
Niigata Pref., Siosawa Town; 300 m	OT: A054	B1	4x	<i>borealis</i>
Toyama Pref., Fuchu Town; 100 m	OT: A052	B1	4x	<i>borealis</i>
Toyama Pref., Fuchu Town; 100 m	OT: AFCH	B1	-	<i>borealis</i>
Gifu Pref., Gero Town; 500 m	OT: A078	B1	4x	<i>borealis</i>
Gifu Pref., Kuze Vill.; 150 m	OT: A074	B1	4x	unknown
Gifu Pref., Miyakawa Vill.; 750 m	OT: A079-1&2	B1	4x	<i>borealis</i>
Gifu Pref., Sakashita Town; 400 m	OT: A077	B1	4x	unknown
Gifu Pref., Sakashita Town; 500 m	OT: ASKS	B1	-	unknown
Gifu Pref., Tanigumi Vill.; 200 m	OT: ATGM	B1	-	unknown
Nagano Pref., Ina City; 900 m	OT: A076	Ja	4x	<i>japonica</i>
Nagano Pref., Ina City; 800 m	OT: AINA	Ja	-	unknown
Nagano Pref., Kijimadaira Vill.; 800 m	OT: A096-1&2	B4	4x	<i>borealis</i>
Nagano Pref., Otari Vill.; 550 m	OT: A087	B3	4x	<i>borealis</i>
Shizuoka Pref., Amagi-yugashima Town; 400 m	OT: A083	Ja	4x	<i>japonica</i>
Shizuoka Pref., Amagi-yugashima Town; 450 m	OT: AIZU	Ja	-	unknown
Shizuoka Pref., Shizuoka City; 400 m	OT: A081	Ja	4x	<i>japonica</i>
Shizuoka Pref., Shizuoka City; 250 m	OT: ASZO	Ja	-	unknown
Aichi Pref., Shitara Town; 300 m	OT: ASTR	Ja	-	unknown
Aichi Pref., Tsukude Vill.; 450 m	OT: A075	Ja	4x	<i>japonica</i>
Ishikawa Pref., Torigoe Vill.; 200 m	OT: A001	B1	4x	<i>borealis</i>
Ishikawa Pref., Torigoe Vill.; 200 m	OT: ATRG	B1	-	<i>borealis</i>
Ishikawa Pref., Wajima City, Mt. Koshu; 300 m	OT: AWJM	B1	-	<i>borealis</i>
Fukui Pref., Imadate Town; 500 m	OT: A002	B1	4x	<i>borealis</i>
Fukui Pref., Imadate Town; 500 m	OT: AIMD	B1	-	<i>borealis</i>
Fukui Pref., Obama City; 450 m	OT: A003	B1	4x	<i>borealis</i>
Shiga Pref., Taga Town; 400 m	OT: A073	B1	4x	<i>borealis</i>
Shiga Pref., Taga Town; 400 m	OT: ATGA	B1	-	<i>borealis</i>
Mie Pref., Miyakawa Vill.; 200 m	OT: AMYK	B1	-	unknown
Mie Pref., Odai Town; 450 m	OT: A051	B1	4x	unknown
Kyoto Pref., Fukuchiyama City; 200 m	OT: AFKC	B1	-	<i>borealis</i>
Kyoto Pref., Miyama Town; 500 m	OT: AKYO	B1	-	unknown
Kyoto Pref., Oe Town; 500 m	OT: A004-1&2	B1	4x	<i>borealis</i>
Kyoto Pref., Uji-tahara Town; 350 m	OT: AUJT	Ja	-	unknown
Kyoto Pref., Wazuka Town; 400 m	OT: A046-1&2	B1	4x	unknown

Wakayama Pref., Kitayama Vill.; 200 m	OT: A050	B1	4x	unknown
Wakayama Pref., Miyama Vill.; 300 m	OT: A048	B1	4x	unknown
Wakayama Pref., Miyama Vill.; 450 m	OT: AMYM	B1	-	unknown
Wakayama Pref., Oto Vill.; 400 m	OT: A049	B1	4x	unknown
Wakayama Pref., Oto Vill.; 400 m	OT: AOTO	B1	-	unknown
Nara Pref., Totsukawa Vill.; 550 m	OT: ATTK	B1	-	unknown
Osaka Pref., Chihaya-akasaka Vill.; 300 m	OT: A047	B1	4x	<i>japonica</i>
Osaka Pref., Chihaya-akasaka Vill.; 300 m	OT: ACHA	B1	-	unknown
Hyogo Pref., Inagawa Town; 400 m	OT: A045	B1	4x	<i>japonica</i>
Hyogo Pref., Yumesaki Town; 300 m	OT: A044	B1	4x	<i>japonica</i>
Hyogo Pref., Yumesaki Town; 300 m	OT: AYMS	B1	-	unknown
Tottori Pref., Chizu Town; 600 m	OT: A006	B1	4x	<i>borealis</i>
Tottori Pref., Iwami Town; 300 m	OT: A005	B1	4x	<i>borealis</i>
Tottori Pref., Iwami Town; 50 m	OT: AIWM	B1	-	<i>borealis</i>
Tottori Pref., Kofu Town; 700 m	OT: A008-1&2	Ov	4x	unknown
Shimane Pref., Daito Town; 300 m	OT: A009	Ov	2x	<i>ovoidea</i>
Shimane Pref., Daito Town; 120 m	OT: ADTO	Ov	-	unknown
Shimane Pref., Mito Town; 100 m	OT: A012	Ov	2x	<i>ovoidea</i>
Shimane Pref., Mito Town; 250 m	OT: AMTO	Ov	-	unknown
Shimane Pref., Nishinoshima Town; 50 m	OT: A091	Ov	2x	<i>ovoidea</i>
Shimane Pref., Ochi Town; 200 m	OT: A010	Ov	2x	<i>ovoidea</i>
Shimane Pref., Saigo Town; 50 m	OT: A089	Ov	2x	<i>ovoidea</i>
Shimane Pref., Saigo Town; 150 m	OT: A090	Ov	2x	<i>ovoidea</i>
Okayama Pref., Niimi City; 400 m	OT: A043-1&2	Ov	4x	<i>ovoidea</i>
Okayama Pref., Osa Town; 400 m	OT: AOSA	Ov	-	unknown
Okayama Pref., Okayama City; 150 m	OT: AOKY	Ov	-	unknown
Okayama Pref., Sojya City; 200 m	OT: A007	Ov	2x	<i>ovoidea</i>
Hiroshima Pref., Mukohara Town; 400 m	OT: A011	Ov	2x	<i>ovoidea</i>
Hiroshima Pref., Mukohara Town; 300 m	OT: AMKH	Ov	-	unknown
Yamaguchi Pref., Mikawa Town; 200 m	OT: A013	Ov	2x	<i>ovoidea</i>
Yamaguchi Pref., Mikawa Town; 200 m	OT: AMKW	Ov	-	unknown
Yamaguchi Pref., Mine City; 200 m	OT: A014	Ov	2x	<i>ovoidea</i>
Yamaguchi Pref., Mine City; 200 m	OT: AMNE	Ov	-	unknown
Kagawa Pref., Shiratori Town; 250 m	OT: A041	B1	4x	<i>japonica</i>
Kagawa Pref., Shiratori Town; 250 m	OT: ASRT	B1	-	unknown
Tokushima Pref., Kainan Town; 300 m	OT: A039	B1	4x	<i>japonica</i>
Tokushima Pref., Kamiyama Town; 200 m	OT: A040	B2	4x	<i>japonica</i>
Tokushima Pref., Kamiyama Town; 500 m	OT: AKAM	B2	-	<i>japonica</i>
Ehime Pref., Kawauchi Town; 350 m	OT: AKWC	Ov	-	unknown
Ehime Pref., Niihama City; 300 m	OT: A036	Ov	2x	<i>ovoidea</i>
Ehime Pref., Ozu City; 200 m	OT: A031	Ov	2x	<i>ovoidea</i>
Ehime Pref., Ozu City; 450 m	OT: AOOZ	Ov	-	unknown
Kochi Pref., Mihara Vill.; 200 m	OT: A032	Ov	2x	<i>ovoidea</i>
Kochi Pref., Mihara Vill.; 200 m	OT: AMHR	Ov	-	unknown
Kochi Pref., Mt. Yokogura; 300 m	OT: A034	Ov	2x	<i>ovoidea</i>
Kochi Pref., Mt. Yokogura; 300 m	OT: AOCB	Ov	-	unknown

Kochi Pref., Otoyo Town; 250 m	OT: A037-1&2	Ov	4x	<i>japonica</i>
Kochi Pref., Otoyo Town; 250 m	OT: AOTY	Ov	-	unknown
Kochi Pref., Yusuhara Town; 300 m	OT: A033	Ov	2x	<i>ovoidea</i>
Kochi Pref., Yusuhara Town; 300 m	OT: AYSH	Ov	-	unknown
Fukuoka Pref., Mt. Kumotori; 300 m	OT: Ap001	Ov	2x	<i>ovoidea</i>
Fukuoka Pref., Mt. Shyaku-dake; 300 m	OT: AKKS	Ov	-	unknown
Fukuoka Pref., Tsuyasaki Town; 20 m	MM: ATYS	Ov	-	unknown
Saga Pref., Mt. Kurokami; 300 m	OT: A015	Ov	2x	<i>ovoidea</i>
Saga Pref., Mt. Kurokami; 300 m	OT: AYMU	Ov	-	unknown
Saga Pref., Mt. Tara-dake; 500 m	OT: A016	Ov	2x	<i>ovoidea</i>
Saga Pref., Mt. Tara-dake; 450 m	OT: ATRA	Ov	-	unknown
Nagasaki Pref., Chijiwa Town; 400 m	OT: ACJW	Ov	-	unknown
Nagasaki Pref., Chijiwa Town; 500 m	OT: A017	Ov	2x	<i>ovoidea</i>
Nagasaki Pref., Tsushima Island; 100 m	SK: ATSM	Ov	-	unknown
Nagasaki Pref., Tsushima Island	SETS: TSM	Ov	2x	<i>ovoidea</i>
Kumamoto Pref., Itsuki Vill.; 400 m	OT: AITK	Ja	-	unknown
Kumamoto Pref., Izumi Vill.; 650 m	OT: Ap046	Ja	2x	<i>ovoidea</i>
Kumamoto Pref., Kahoku Town; 400 m	OT: A019	Ov	2x	<i>ovoidea</i>
Kumamoto Pref., Mt. Hachiho-gadake; 600 m	OT: AKKK	Ov	-	unknown
Kumamoto Pref., Mt. Shiraga-dake; 400 m	OT: A021	Ov	2x	<i>ovoidea</i>
Kumamoto Pref., Mt. Shiraga-dake; 600 m	OT: AKMM	Ov	-	unknown
Oita Pref., Kusu Town; 450 m	OT: AKSU	Ja	-	unknown
Oita Pref., Kusu Town; 450 m	OT: A030	Ja	2x	<i>ovoidea</i>
Oita Pref., Ono Town; 350 m	OT: A00N	Ja	-	unknown
Oita Pref., Notsuhara Vill.; 400 m	OT: A028	Ja	2x	<i>ovoidea</i>
Oita Pref., Ota Vill.; 450 m	OT: A029	Ov	2x	<i>ovoidea</i>
Oita Pref., Ota Vill.; 450 m	OT: AOOT	Ja	-	unknown
Miyazaki Pref., Hinokage Town; 300 m	OT: A027	Ja	2x	<i>ovoidea</i>
Miyazaki Pref., Kijo Town; 300 m	OT: A026	Ja	2x	<i>ovoidea</i>
Miyazaki Pref., Kijo Town; 200 m	OT: AKJO	Ja	-	unknown
Miyazaki Pref., Kitakata Town; 400 m	OT: AKTK	Ja	-	unknown
Miyazaki Pref., Mt. Wanizuka; 300 m	OT: A025	Ja	2x	<i>ovoidea</i>
Miyazaki Pref., Mt. Wanizuka; 550 m	OT: ATNO	Ov	-	unknown
Kagoshima Pref., Amamioshima Island	BG: 2000-140	Ov	2x	<i>ovoidea</i>
Kagoshima Pref., Amamioshima Island; 500 m	FT: TOK056	Ov	-	unknown
Kagoshima Pref., Amamioshima Island; 300 m	OT: A095	Ov	2x	<i>ovoidea</i>
Kagoshima Pref., Izumi City; 200 m	OT: AIDM	Ja	-	unknown
Kagoshima Pref., Kanoya City; 250 m	OT: A024	Ja	2x	<i>ovoidea</i>
Kagoshima Pref., Kanoya City; 250 m	OT: AKNY	Ja	-	unknown
Kagoshima Pref., Mt. Choya; 300 m	OT: Ap039	Ov	2x	<i>ovoidea</i>
Kagoshima Pref., Mt. Kurata; 200 m	SK: AMKR	Ov	-	unknown
Kagoshima Pref., Okuchi City; 200 m	OT: A022	Ja	2x	<i>ovoidea</i>
Kagoshima Pref., Tokunoshima Island; 350 m	OT: A094-1&2	Ov	2x	<i>ovoidea</i>
Kagoshima Pref., Yakushima Island	BG: 83-216	Ja	2x	<i>ovoidea</i>
Kagoshima Pref., Yakushima Island	KJ: AYAK	Ja	-	unknown
Okinawa Pref., Mt. Katsu-u	BG: 2000-139	Ov	2x	<i>ovoidea</i>

Okinawa Pref., Mt. Katsu-u; 400 m	OT&KJ: 093-1&2	Ov	2x	<i>ovoidea</i>
TAIWAN, Taipei Shih, Mt. Taitun	BG: 2000-143	Ov	2x	<i>ovoidea</i>
TAIWAN, Taipei Shih, Mt. Taitun; 850 m	OT: TW009&010	Ov	2x	<i>ovoidea</i>
KOREA, Ullundo Island	PJ: KU01&02&03	Ov	2x	<i>ovoidea</i>

<sup>a</sup> Abbreviations of collectors and sources: OT = Ohi, T.; KJ = Kajita, T.; MJ = Murata, J.; OH = Ohashi, H.; KT = Kurosawa, T.; IY = Iokawa, Y.; KH = Kudo, H.; MM = Mishima, M.; FT = Fujita, T.; SK = Senni, K.; PJ = Park, J.-H.; IT = Ideno, T.; WK = Watanabe, K.; BG = Botanical Gardens, the University of Tokyo; SETS = Setsunan University.

<sup>b</sup> Varieties were identified based on the criteria of Hara (1989) and Noshiro (1999), morphology and ploidy levels. All diploids were *A. japonica* var. *ovoidea*. Tetraploid varieties were *A. japonica* var. *japonica* and var. *borealis*, distinguished by morphological characters. Individuals we were unable to identify because of intermediate forms and lack of ploidy data were treated as “unknown” .