HOKKAIDO UNIVERSITY

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DICOTYLEDONEÆ

ARCHICHLAMYDEÆ

SAURURACEÆ

Houttuynia Thunb.

769. Houttuynia cordata Thunb. Fl. Jap. 234, *t. 26*; C. DC. in DC. Prodr. XVI: 1. 238; Miq. Prol. Fl. Jap. 303; Benth. Fl. Hongk. 334; Franch. Pl. David. I. 258; Maxim. in Bull. Soc. Nat. Mosc. (1879) 53; Hook. f., Fl. Brit. Ind. V. 78; Forb. et Hemsl. Ind. Fl. Sin. II. 364; Diels, Fl. C. China, 272; Matsum. et Hayata, Enum. Pl. Formos. 344; Matsum. Ind. Pl. Jap. II: 2. 1; Makino & Nemoto, Fl. Jap. ed. 2, 155; Yamamoto & Tsukamoto, Fl. Hakodate, 14.

NOM. JAP. *Dokudami, Juyaku.*

HAB. *Yezo.* Oshima, Iburi, Shiribeshi, Ishikari.

DISTRIB. Yezo, Honshu, Shikoku, Kyushu, Liukiu, Formosa, China, Tropical Himalaya, Cochin-China and Siam.

CHLORANTHACEÆ

Chloranthus Sw.

770. Chloranthus serratus Roem. et Schl. Sys. Veg. III. 461; Sieb. et Zucc. Fl. Jap. Fam. Nat. II. 232; A. Gray, Bot. Jap. 405; Solms, in DC. Prodr. XV: 1. 475; Miq. Prol. Fl. Jap. 133; Fr. et Sav. Enum. Pl. Jap. I. 444; Forb. et Hemsl. Ind. Fl. Sin. II. 369; Maxim. in Bull. Soc. Nat. Mosc. (1879) 56; Diels, Fl. C. China, 273; Makino, in Tokyo Bot. Mag. XVI. 181; Matsum. Ind. Pl. Jap. II: 2. 3; Tatewaki, Veg. Mt. Apoi, 29; Nakai, Veg. Mt. Apoi, 45; Mak. & Nemoto, Fl. Jap. ed. 2, 159; Yamamoto & Tsukamoto, Fl. Hakodate, 14.

Nigrina serrata Thunb. in Nov. Act. Soc. Sc. Upsal. VII. 142.

NOM. JAP. *Futari-shizuka.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Hidaka, Ishikari.

DISTRIB. Yezo, Honshu, Shikoku, Kyushu and China.

form. **prosperus** Honda in Tokyo Bot. Mag. XLII. 544, 574; Mak. & Nemoto, l. c. 159.

NOM. JAP. *Edauchi-futarishizuka.*

HAB. *Yezo.* Ishikari, in the vicinity of Sapporo (K. MIYABE, June. 1880).

DISTRIB. Yezo, Honshu.

771. Chloranthus japonicus Sieb. in Nov. Act. Nat. Cur. XIV: 2. 681; Solms, in DC. Prodr. XVI: 1. 476; Miq. Prol. Fl. Jap. 293; Fr. et Sav. Enum. Pl. Jap. I. 444; Maxim. in Bull. Soc. Nat. Mosc. (1879) 57; Engl. Vers. Entwicklungsgesch. Pfl.-welt. I. 20; Forb. et Hemsl. Ind. Fl. Sin. III. 368; Korsh. Pl. Amur. 384; Diels, Fl. C. China, 273; Makino, in Tokyo Bot. Mag. XVI. 181; Palib. Consp. Fl. Korea. III. 49; Kom. Fl. Mansh. II. 7; Nakai, Fl. Korea. II. 176; Matsum. Ind. Pl. Jap. II: 2. 3; Tatewaki, Veg. Mt. Apoi, 29, Pl. Teshio Exp. For. I. 12; Mak. & Nemoto, Fl. Jap. ed. 2. 159; Kom. et Klob.-Alis. Key Pl. Far East. Reg. USSR. I. 410, *t. 127.*

Chloranthus mandshuricus Rupr. Dec. Pl. Amur. *t. 2*; Maxim. Prim. Fl. Amur. 463; Rgl. Tent. Fl. Ussuri. 137.

Tricercandra quadrifolia A. Gray, Pl. Jap. 318 et Bot. Jap. 405; Miq. Prol. Fl. Jap. 194.

Tricercandra japonica Nakai, Veg. Mt. Apoi, 45; Yamamoto & Tsukamoto, Fl. Hakodate, 14.

Chloranthus serratus Ohwi, Fl. Shikotan II. 129, (non Roem. et Schl.).

NOM. JAP. *Hitori-shizuka, Mayuhaki-so.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Hidaka, Ishikari, Teshio, Yagishiri Is., Kitami, Rishiri Is., Rebun Is., Kushiro.

Kuriles. Shikotan.

S. Saghalien. Toyohara: Tomiokayama (S. SUGAWARA, 1927).

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Shikoku, Kyushu, Tsushima, Korea, Manchuria and Amur.

SALICACEÆ

(By ARIKA KIMURA)[1)]

Populus Linnaeus

Sect. **Trepidæ** Gombocz in Mathem. Természet. Közl. XXX. 122 (1908) (Monogr. Gen. Populi).

772. Populus Sieboldi Miquel in Ann. Mus. Bot. Lugd.-Bat. III. 29 (1867) excl. plantis ♂ ; Wesmael in DC. Prodr. XVI: 2, 327 (1868), et in Mém. Soc. Sci. Hainaut, III. (1869) (Monogr. Populus, 57); Koehne, Deutsche Dendr. 80 (1893); Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido I. 43, *t. 12* (excl. *f. 1–5*) (1921), ed. 2. 47, *t. 12* (excl. *f. 1–5*), *12 B* (1932).

Populus Sieboldii Miquel apud Hattori & Fujita, Nippon Jumokushi Ryaku in text. ad *t. 37* (1877); Dippel, Handb. Laubholzk. II. 192, *f. 91* (1892); Schneider, Ill. Handb. Laubholzk. I. 17, *f. 3 h–i, 7 k–l* (1904), et in Sarg. Pl. Wils. III. 38 (1916); Dode in Mém. Soc. Hist. Nat. Autun, XVIII. (1905) (Extr. Monogr. Inéd. Populus *32, t. 11, f. 33*); Gombocz in Mathem. Természet. Közl. XXX. 131 (1908) (Monogr. Gen. Populi); Asch. & Graebn. Syn. Mitteleur. Fl. IV. 29 (1908); Rehder, Man. Cult. Trees & Shrubs 86 (1927); Makino & Nemoto, Fl. Jap. ed. 1, 1120 (1925), ed. 2, 160 (1931); Kudo, Nippon Yuyojumoku Bunruigaku ed. 1, 75 (1922), ed. 2, 74 (1930).

Populus tremula var. *villosa* (non Wesmael) Fr. et Sav. Enum. Pl. Jap. I. 463 (1875); Maxim. in Bull. Soc. Nat. Mosc. LIV. 49 (1879); Miyabe in Mem. Boston Soc. Nat. Hist. IV. no. 7, 260 (1890) (Fl. Kurile Isl.); Kawakami, Fig. & Descr. Trees Hokkaido 173, *t. 56* (1902); Shirasawa, Icon. Ess. For. Trees Jap. I. *t. 18, f. 1–10* (1900), text. 41 (1905); Matsum. Nippon Shokubutsumeii 149 (1884), Shokubutsu Mei-I 231 (1895), et Ind. Pl. Jap. II: 2, 7 (1912); Makino & Nemoto, Cat. Jap. Pl. Herb. Nat.

1) Dr. A. Kimura, Assistant Professor of Systematic Botany, Faculty of Science, Tohoku Imperial University, Sendai, and the well known Salicologist of Japan, has most kindly accepted our request to take a part in revising the most difficult and neglected family, Salicaceæ, for which we wish to tender our most hearty thanks.

Hist. Dept. Tokyo Imp. Mus. 309 (1914).

Populus tremula var. *Sieboldi* Kudo, Rep. Veg. North. Saghal. 97 (1924) in nota.

NOM. JAP. *Yamanarashi.*

NOM. AINU. *Nup-kurunni.*

HAB. *Yezo.* Oshima, Koshima, Ishikari, Teshio, Tokachi, Kushiro, Nemuro.

DISTRIB. Yezo, Honshu, Shikoku, Kyushu.

773. Populus Davidiana Dode in Mém. Soc. Hist. Nat. Autun, XVIII. (1905) (Extr. Monogr. Inéd. Populus, 31, *t. 11, f. 31*); Nakai in Bull. Soc. Dendr. France no. 66, 6 (1928), et Fl. Syl. Korea. XVIII. 189, *t. 47, 48.* (1930).

Populus tremula (non Linn.) Rupr. in Mél. Biol. II. 556 (1858); Trautv. in Maxim. Prim. Fl. Amur. 245 (1859); Regel, Tent. Fl. Ussur. 132 (1861); Fr. Schmidt, Reis. Amurl. Sachal. 61, 174 (1868); Franchet in Nouv. Arch. Mus. Paris, sér. 2, VII. 94 (1884) (Pl. David. I. 284); Herder in Act. Hort. Petrop. XI: 2, 460 (1891); Korsch. in Act. Hort. Petrop. XII. 390 (1892) (Fl. Amur.); Burkill in Forbes & Hemsley, Ind. Fl. Sin. II. 537 (1899) pro pte. excl. var.; Komar. in Act. Hort. Petrop. XXII. 14 (1903); Nakai, Fl. Korea. II. 211 (1911).

Populus tremula var. *Davidiana* Schneider in Sarg. Pl. Wils. III. 24 (1916); Nakai, Veg. Diamond Mts. 168 (1918), et in Tokyo Bot. Mag. XXXIII. 198 (1919); Hers in Jour. N. China Branch R. As. Soc. LIII. 113 (1922), et Liste Ess. Lign. Honan 22 (1922); Rehder in Jour. Arn. Arb. IV. 137 (1923), et Man. Cult. Trees & Shrubs 85 (1927); Kudo in Jour. Coll. Agr. Hokkaido Imp. Univ. XII: 1, 29 (1923), et Rep. Veg. North. Saghal. 97 (1924); Ohwi in Act. Phytotax. & Geobot. I. 131 (1932); Komar. & Klob.-Alis. Key Pl. Far East. I. 417, *t. 129, f. 1* (1931).

Populus venusta David, Jour. Trois. Voy. Chin. I. 294 (1875) nomen.

Populus Sieboldii Miq. apud Miyabe & Miyake, Fl. Saghal. 432(1915).

NOM. JAP. *Chosen-yamanarashi; Karafuto-yamanarashi.*

HAB. *Yezo.* Shiribeshi, Iburi, Ishikari, Kushiro, Nemuro.

Kuriles. Kunashiri, Etorofu.

Sachal. austr. Odomari, Mauka, Tomarioro, Ushoro, Toyohara, Shikka.

Sachal. bor. Alexandrowsk, Tim, Tymi, Oha, Pronge-Baikal, Schmidt Penins.

DISTRIB. Yezo, Kuriles, Sachalin, Amur, Ussuri, Manchuria, China bor., Korea.

774. Populus jesoensis Nakai in Tokyo Bot. Mag. XXXIII. 197 (1919), et Fl. Syl. Korea. XVIII. 188, *t. 46* (1930); Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido I. 44 in nota sub *P. Sieboldi* Miquel (1921); Makino & Nemoto, Fl. Jap. ed. 1, 1119 (1925), ed. 2, 160 (1931).

Populus tremula var. *jessoensis* Kudo, Rep. Veg. North. Saghal. 97 (1924), in adnota.

NOM. JAP. *Yezo-yamanarashi.*

HAB. *Yezo.* Teshio: in silvis Kami-nayoro (T. NAKAI, typus in Herb. Univ. Tokyo). Kitami: Abashiri (S. SUGIYAMA). Hidaka: Saru (J. TANAKA).

DISTRIB. Yezo, Korea.

Sect. **Tacamahaca** Spach, Hist. Vég. X. 392 (1841).

775. Populus Maximowiczii A. Henry in Gard. Chron. ser. 3, LIII. 198, *f. 89* (1913), et in Elwes & Henry, Trees Gr. Brit. & Irel. VII. 1838, *t. 410, f. 24* (1913); Schneider in Sarg. Pl. Wils. III. 32 (1916); Nakai, Fl. Paiktusan 62 (1918), Veg. Diamond Mts. 168 (1918), in Bull. Soc. Dendr. France no. 66, 6 (1928), Fl. Syl. Korea. XVIII. 199, *t. 50* (1930), et Veg. Mt. Apoi, 45 (1930); Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido I. 39, *t. 11* (1921); Kudo, Nippon Yuyojumoku Bunruigaku ed. 1, 74 (1922), ed. 2, 72 (1930), in Jour. Coll. Agr. Hokkaido Imp. Univ. XII: 1, 29 (1923), et Rep. Veg. N. Saghal. 97 (1924); Makino & Nemoto, Fl. Jap. ed. 1, 1119 (1925), ed. 2, 160 (1931); Rehder, Man. Cult. Trees & Shrubs, 89 (1927), et in Jour. Arn. Arb. XII, 68 (1931) in nota; Tatewaki, Veg. Akan, 58 (1927), Veg. Mt. Apoi, 30 (1928), List. Pl. Teshio Univ. Exp. For. I. 13 (1928), et Forest-Assoc. & Lign. Fl. Uryu Univ. Exp. For. I. 111 (1932).

Populus suaveolens var. *latifolia* Gombocz in Mathem. Termész. Közl. XXX. 112 (1908) (Mongr. Gen. Populi) p. p.

Populus suaveolens (non Fisch.) Fr. Schmidt, Reis. Amurl. Sachal. 61,

174 (1868); Maxim. in Bull. Soc. Nat. Mosc. LIV. 52 (1879); Matsum. Nippon Shokubutsumeii 149 (1884); Sargent in Gard. & For. VI. 404 (1893), et Forest Fl. Jap. 71 (1894); Hultén, Fl. Kamtch. II. 3 (1928) p. p.; Koidz. Pl. Sachal. Nakahara. 44 (1910); Komar. in Act. Hort. Petrop. XXII. 17 (1903), p. p. et Fl. Penins. Kamtsch. II. 2 (1929) p. p.; Nakai, Fl. Korea. II. 211 (1911); Miyabe & Miyake, Fl. Saghal. 431 (1915).

Populus balsamifera var. *suaveolens* (non Loudon) Matsum. Shokubutsu Mei-I 231 (1895); Burkill in Forbes & Hemsley, Ind. Fl. Sin. II. 536 (1899) p. p.; Shirasawa, Icon. Ess. For. Trees Jap. I. *t. 18, f. 11–24* (1900).

Populus balsamifera var. *swaveolens* Loud. apud Shirasawa, Icon. Ess. For. Trees Jap. I. text. 42 (1905).

Populus Maximowiczii Sarg. apud Komarov, Pl. Aust.-Ussur. 49 (1923).

NOM. JAP. *Doro-yanagi, Doronoki, Watadoro.*

NOM. AINU. *Kurunni, Yaini.*

HAB. *Yezo.* Oshima, Shiribeshi, Okushiri, Iburi, Hidaka, Ishikari, Teshio, Kitami, Tokachi, Kushiro.

Sachal. austr. Odomari, Ushoro, Toyohara, Motodomari, Shikka.

Sachal. bor. Tymi.

DISTRIB. Sachalin, Yezo, Honshu, Korea, Manchuria, Ussuri, Amur, Kamtchatka.

776. Populus Koreana Rehder in Jour. Arn. Arb. III. 226 (1922), Man. Cult. Trees & Shrubs, 89 (1927), et in Mitt. Deutsch. Dendrol. Gesells. XXXVIII. 37 (1927); Nakai in Bull. Soc. Dendr. France no. 66, 6 (1928), et Fl. Syl. Korea. XVIII. 196, *t. 49* (1930).

NOM. JAP. *Chirimendoro.*

HAB. *Yezo.* Shiribeshi: monte Yoichi (H. YANAGISAWA). Iburi: Numanohata et Yubutsu (J. HANZAWA).

Sachal. austr. Shikka: R. Jobboroit & R. Remrem (T. MIYAKE).

DISTRIB. Sachalin, Yezo, Honshu, Korea.

Chosenia Nakai

777. Chosenia bracteosa Nakai, Fl. Syl. Korea. XVIII. 59, *t. III–V* (1930).

Salix macrolepis Turcz.[1] in Bull. Soc. Imp. Nat. Mosc. XXVII. 371 (1854) pro parte! fide Nakai, et Fl. Baic.-Dah. II: 2, 98 (1856) pro parte! fide Nakai; Fr. Schmidt, Reis. Amurl. Sachal. 172 (1868); Trautv. in Act. Hort. Petrop. IX: 1, 181 (1884) (Incr. Fl. Phænogam. Ross. III); Herder in Act. Hort. Petrop. XI: 2, 400 (1891); Wolf in Act. Hort. Petrop. XXI. 178 (1903); Miyabe & Miyake, Fl. Saghal. 425 (1915); Schneider in Sarg. Pl. Wils. III. 102 (1916); Kudo in Jour. Coll. Agr. Hokkaido Imp. Univ. XII: 1, 29 (1923), et Rep. Veg. N. Saghal. 98 (1924); Makino & Nemoto, Fl. Jap. ed. 1, 1126 (1925), ed. 2, 168 (1931); Floderus in Arkiv f. Bot. XX A. no. 6, 58 (1926) (Sal. Fl. Kamtch.), XXV A. no. 10, 12 (1933) (Sal. Penins. Anadyr.); Hultén, Fl. Kamtch. II. 15 (1928), et in Karsten & Schenck, Vegetationsbilder, XXIII. Heft 1–2, *t. 3* (1932); Komar. Voy. en Kamtch. 411, 452 (1912), Pl. Austro-Ussur. 50 (1923), et Fl. Penins. Kamtsch. I. 35, 329, 330 (1927), II. 9 (1929).

Salix bracteosa Turcz. Pl. Exsicc. ex Trautv. et Mey. Fl. Ochot. 77 (1856); Fr. Schmidt, Reis. Amurl. Sachal. 61 (1868).

Salix praecox (non Hoppe) Trautv. in Maxim. Prim. Fl. Amur. 242 (1859).

Salix bracteata Trautv. apud Anders. in DC. Prodr. XVI: 2, 213 (1868) pro syn. *S. macrolepidis*.

Salix pyramidalis Budischtschev, Descr. Silv. guber. Primorsk, 18 (1883) ex Komarov.

Salix acutifolia (non Willd.) Komar. in Act. Hort. Petrop. XXII. 23 (1903); Nakai, Fl. Korea. II. 215 (1911), et Veg. Mt. Waigalbon 68 (1916).

Salix eucalyptoides F. N. Meyer in litt. ex Schneider in Sarg. Pl. Wils. III. 99 (1916).

Salix rorida (non Lackschewitz) Nakai, Veg. Diamond Mts. 169 (1918).

Salix splendida Nakai in Tokyo Bot. Mag. XXXII. 215 (1918).

Salix nobilis Nakai apud Wilson in Jour. Arn. Arb. I. 36 (1919) nom. nud.

Chosenia splendida Nakai in Tokyo Bot. Mag. XXXIV. 67 (1920);

1) Non vidi specimina originalia.

Mori, Enum. Pl. Corea, 107 (1922).

Chosenia eucalyptoides Nakai in Jour. Arn. Arb. V. 72 (1924), in Bull. Soc. Dendr. France no. 66, 5 (1928), et Rep. Veg. Kamikochi, 15, 38 (1928); Makino & Nemoto, Fl. Jap. ed. 2, 159 (1931).

Chosenia macrolepis Komar. in Mél. Bot. Borodine Jubil. 281, *cum fig.* (1927); Komar. & Klob.-Alis. Key Pl. Far East. 418 (1931).

Descr. suppl.—*Amenta* ♀ sub anthesi pendula, post eandem rhachidibus sensim ascendentibus, ovariis laxantibus a rhachide valde divergentibus.

NOM. JAP. *Karafuto-kuroyanagi* (K. Miyabe & T. Miyake l. c.); *Kesho-yanagi* (Nakai in Tokyo Bot. Mag. XXXII. 215); *Yezono-kuroyanagi* (Miyabe in sched.).

NOM. AINU. *Rambara.*

HAB. *Yezo.* Hidaka, Tokachi.

Sachal. austr. Shikka.

Sachal. bor. Alexandrowsk, Tim, Tymi.

DISTRIB. Honshu media, Yezo, Sachalin, Kamtchatka, Anadyr, Ochotsk, Primorskaja, Amur, Jacutia, Korea bor., Manchuria, Transbaicalia.

Toisusu Kimura

778. Toisusu cardiophylla Kimura in Tokyo Bot. Mag. XLII. 288 (1928); Makino & Nemoto, Fl. Jap. ed. 2, 175 (1931).

Salix cardiophylla Trautv. et Mey. Fl. Ochot. 77, *t. 19, 20 a–i,* (1856); Regel & Tiling, Fl. Ajan. 117 (1858); Andersson, Monogr. Salic. 37, *t. 3, f. 25* (1867), et in DC. Prodr. XVI: 2, 207 (1868); Fr. Schmidt, Reis. Amurl. Sachal. 61, 172 (1868); Trautv. in Act. Hort. Petrop. IX: 1, 174 (1884) (Incr. Fl. Phænogam. Ross. III.); Herder in Act. Hort. Petrop. XI: 2, 399 (1891); Wolf in Act. Hort. Petrop. XXI. 177 (1903); Miyabe & Miyake, Fl. Saghal. 424 (1915); Schneider in Sarg. Pl. Wils. III. 103 (1916) pro pte.; Kudo, Rep. Veg. N. Saghal. 98 (1924); Makino & Nemoto, Fl. Jap. ed. 1, 1121 (1925); Shishkin in Bull. Pacif. Sci. Fish. Research Stat. II: 4, 27 (1928) (Land Fl. Shantar Isl.); Komar. & Klob.-Alis. Key Pl. Far East. I. 424 (1931).

NOM. JAP. *Karafuto-ôbayanagi* (Miyabe & Miyake l. c.).

HAB. *Sachal. austr.* Motodomari: sup. fl. Shiruturu (S. SUGAWARA).

Sachal. bor. Alexandrowsk, Adngiwo (FR. SCHMIDT).

DISTRIB. Sachalin, Ochotsk, Ajan, Amur.

779. Toisusu Urbaniana Kimura comb. nov.

Salix subfragilis (non Anders.) Matsum. Shokubutsu Mei-I, 261 (1895).

Salix Urbaniana Seemen in Engler, Bot. Jahrb. XXI. (1896), Beibl. LII. 9 (1895), et Salic. Jap. 24, *t. 1, G–L* (1903); Kawakami, Fig. & Descr. Trees Hokkaido 168, *t. 54* (1902); Tokubuchi in Tokyo Bot. Mag. X. 122 (1896); Lévl. in Bull. Acad. Inter. Géogr. Bot. XIV. 208 (1904), XVI. 151 (1906); Shirasawa, Icon. Ess. For. Trees Jap. II. *t. 10, 1–12* (1908), text. 22 (1910); Matsum. Ind. Pl. Jap. II: 2, 15 (1912); Miyabe & Miyake, Fl. Saghal. 423 (1915); Schneider in Sarg. Pl. Wils. III. 103 (1916); Nakai, Rep. Veg. Kamikochi, 15 (1928), et Rep. Veg. Daisetsuzan Mts. 16 (1930).

Salix cardiophylla Trautv. & Mey. var. *Urbaniana* Kudo, Nippon Yuyo-jumoku Bunruigaku ed. 1, 77 (1922), ed. 2, 76 (1930); Makino & Nemoto, Fl. Jap. ed. 1, 1121 (1925).

Toisusu cardiophylla Kimura var. *Urbaniana* Kimura in Tokyo Bot. Mag. XLII. 289 (1928); Makino & Nemoto, Fl. Jap. ed. 2, 175 (1931).

NOM. JAP. *Ôbayanagi.*

NOM. AINU. *Chipni-susu, Shiu-susu.*

HAB. *Yezo.* Oshima, Iburi, Hidaka, Ishikari, Tokachi.

Kuriles. Kunashiri.

DISTRIB. Kuriles, Yezo, Honshu.

var. **Schneiderii** Kimura comb. nov.

Salix cardiophylla Matsum. Shokubutsu Mei-I, 260 (1895); Tokubuchi in Tokyo Bot. Mag. X. 122 (1896); Shirai in Tokyo Bot. Mag. XVIII. 251, *t. 2* (1904); Lévl. in Bull. Soc. Bot. France LVI. 302 (1909); Koidz. in Tokyo Bot. Mag. XXVII. 97 (1913); Schneider in Sarg. Pl. Wils. III. 103 (1916) pro pte.

Salix Urbaniana Seemen var. *Schneiderii* Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido I. 45, *t. 13,* (1921); Tatewaki, Veg. Akan 58 (1927).

Salix cardiophylla Trautv. & Mey. var. *Schneideri* Kudo, Nippon Yuyo-jumoku Bunruigaku ed. 1, 78 (1922), ed. 2, 77 (1930); Makino & Nemoto,

Fl. Jap. ed. 1, 1121 (1925).

Toisusu cardiophylla Kimura var. *Schneiderii* Kimura in Tokyo Bot. Mag. XLII. 289 (1928).

Toisusu cardiophylla Kimura var. *Schneideri* Kimura apud Makino & Nemoto, Fl. Jap. ed. 2, 175 (1931).

NOM. JAP. *Tokachi-yanagi, Shikayanagi.*

NOM. AINU. *Chipni-susu, Toi-susu.*

HAB. *Yezo.* Iburi, Ishikari, Teshio, Tokachi.

Sachal. austr. Ushoro: secus fl. Isara (S. SUGAWARA, 1933).

DISTRIB. Sachalin, Yezo, Honshu.

Salix Linnaeus

Sect. **Triandræ** Dumortier in Bijdr. Natuurk. Wetensch. I. 58 (1825) (Verh. Geslacht Wilgen, 17).

780. Salix triandra Linn. (ampl.) Sp. Pl. ed. 1, 1016, n. 2 (1753), ed. 2, II. 1442 (1763); Scopoli, Fl. Carniol. ed. 2, 259 (1772); Allioni, Fl. Pedemont. II. 183, n. 1954 (1785); Hoffmann, Hist. Salic. I. 45 *t. 9, 10* (1785), *t. 23 f. 2* (1787); Roth, Tent. Fl. Germ. I. 416 (1788), II. 501 (1793); Pallas, Fl. Ross. I: 2, 78 (1788); Villars, Hist. Pl. Dauph. III. 762, n. 4 (1789); Gmelin, Syst. Nat. II: 1, 72, n. 3 (1791); Vitman, Summa Pl. V. 396 (1791); Poiret in Encycl. Méth. VI. 645 (1804); Smith, Fl. Brit. 1004 (1804), Engl. Fl. IV. 166 (1828); Willdenow, Sp. Pl. IV: 2, 654 (1806), Enum. Pl. Hort. Reg. Bot. Berolin. 1002 (1809), Berlin. Baumz. ed. 2, 423 (1811); La Marck & De Candolle, Syn. Pl. Fl. Gall. 178 (1806), Fl. France ed. 3, III. 285, n. 2074 (1815); Persoon, Syn. Pl. II. 598 (1807); F. G. Dietrig, Vollst. Lexic. Gaertn. & Bot. VIII. 409 (1808); Wade, Salices 6 (1811); Seringe, Essai Monogr. Saul. Suisse 75 (1815); Link, Enum. Pl. Hort. Reg. Bot. Berolin. II. 413 (1822); Sprengel, Syst. Veg. I. 99 (1825); Spenner, Fl. Friburg. II. 271 (1826); W. J. Hooker, Brit. Fl. 415 (1830); Trautvetter in Ledeb. Fl. Alt. IV. 257 (1833); Hartig, Vollst. Naturges. Forstl. Culturpfl. Deutschl. *t. 39* (1851); Petzold & Kirchner, Arbor. Musc. 586 (1864); Wimmer, Salic. Europ. 12 (1866); Andersson in Kongl. Svensk. Vetensk. Akad. Handl. VI: 1, 23

(1867) (Monogr. Salic.), in DC. Prodr. XVI: 2, 202 (1868); Trautv. in Act. Hort. Petrop. V: 1, 103 (1877) (Pl. Sibir. Bor.); Lundström in Scheutz in Kongl. Svensk. Vetensk. Akad. Handl. XXII: 10, 200 (1888) (Pl. Vascul. Jeniseenses); White in Jour. Linn. Soc. Bot. XXVII. 347 (1891) (Rev. Brit. Willows); Herder in Act. Hort. Petrop. XI: 2, 395 (1891); Skårman, Om Salixveget. i Klarelfvens Floddal 10 (1892); Diels in Engler, Bot. Jahrb. XXIX. 276 (1901) (Fl. Central-China); Wolf in Act. Hort. Petrop. XXI. 182 (1903); Beissner, Schelle & Zabel, Handb. Laubholzbenen. 19 (1903); Camus, Classif. Saul. Europ. & Monogr. Saul. France, 90, *t. 5* (1904); Hegi, Ill. Fl. Mitteleur. III: 1, 21, *t. 77, 78* (1909); Moss, Cambridge Brit. Fl. II. 22, *t. 25, 26* (1914); Toepffer, Salic. Bav. 68 (1915), et in Kirchner, Löw, Schröter, Lebensgesch. d. Blütenpfl. Mitteleur. II. 396 (1925); Görz in Fedde, Rep. Sp. Nov. Beih. XIII. 37 (1922) (Norddeutsche Weiden), in Bol. Real. Soc. Españ. Hist. Nat. XXVI. 386 (1926), et in Cavanillesia II. fasc. VII–X. 14 (1929) (Saules de Catalogue).

Salix amygdalina Linn. Sp. Pl. ed. 1, 1016, n. 6 (1753), ed. 2, II. 1443 (1763), Fl. Succ. ed. 2, n. 881 (1755); Allioni, Fl. Pedemont. II. 184 n. 1961 (1785); Villars, Hist. Pl. Dauph. III. 763, n. 5 (1789); Gmelin, Syst. Nat. II: 1, 72, n. 8 (1791); Poiret in Encycl. Méth. VI. 644 (1804); Willd. Sp. Pl. IV: 2, 656 (1806); Pers. Syn. Pl. II. 599 (1807); Wade, Salices 14 (1811); Link, Enum. Pl. Hort. Reg. Bot. Berolin. II. 413 (1822); Wahlenberg, Fl. Suec. 641, n. 1129 (1826), ed. 2, 664, n. 1129 (1833); Dumortier, Fl. Belg. Prodr. 18 (1827); Smith, Engl. Fl. IV. 169 (1828); Koch, De Salic. Europ. Comment. 18 (1828), Syn. Fl. Germ. Helv. 644 (1837), ed. 2, 741 (1845); Host, Salix, *t. 13, 14* (1828), Fl. Austr. II. 634 (1831); Wimmer & Grabowski, Fl. Siles. II. 362 (1829); Hooker, Brit. Fl. 416 (1830); Fries, Novit. Fl. Suec. Mant. I. 42 (1832); Hartig, Vollst. Naturges. Forstl. Culturpfl. Deutschl. 417 (1840); Andersson, Salic. Lapp. 17 (1845); Ledeb. Fl. Ross. III: 2, 600 (1849–51); Trautv. in Maxim. Prim. Fl. Amur. 242 (1859); Regel, Tent. Fl. Ussur. 131 (1861); K. Koch, Dendrol. II: 1, 520 (1872); Dippel, Handb. Laubholzk. II. 223 (1892); Koehne, Deutsche Dendrol. 92 (1893); Buchenau, Fl. Nordw. Tiefeb. 64 (1894); Schneider, Ill. Handb. Laubholzk. I. 30(1904), et in Sarg. Pl. Wils. III. 106 (1916); Seemen in Asch. & Graebn. Syn. Mitteleur. Fl. IV. 74 (1908); Printz, Veget. Sib.-Mong. Front. 191 (1921); Rehder in Jour. Arn.

Arb. IV. 139 (1923).

Salix auriculata Miller, Gard. Dict. ed. 8, n. 9 (1768).

Salix amygdalifolia Gilibert, Exercit. Phytolog. 406 (1792).

Salix Villarsiana Flügge apud Willd. Sp. Pl. IV. 655 (1806); Pers. Syn. Pl. II. 598 (1807).

Salix Hoffmanniana Smith, Engl. Bot. *t. 2620* (1814), Engl. Fl. IV. 168 (1828); Hooker, Brit. Fl. 416 (1830).

Salix incerta Lapeyrouse, Hist. Pl. Pyrén. 594 (1823).

Salix spectabilis Host, Salix, *t. 3, 4* (1828), Fl. Austr. II. 632 (1831).

Salix venusta Host, Salix, *t. 9, 10* (1828), Fl. Austr. II. 633 (1831).

Salix varia Host, Salix, *t. 11, 12* (1828), Fl. Austr. II. 634 (1831).

Salix denudata Bray, sec. Trautv. in Ledeb. Fl. Alt. IV. 258 (1833).

Nestylix amygdalina Rafinesque-Schmaltz, Alsographia Americana I. 15 (1838), sec. Index Kew. II. 309.

Nestylix arborea Rafinesque-Schmaltz, l. c. sec. Index Kew. l. c.

Nestylix Villarsiana Rafinesque-Schmaltz, l. c. sec. Index Kew. l. c.

Grünera amygdaloides Opiz, Seznam Rostlin Květeny Ceské 48 (1852).

Salix amygdalina Koch apud Kerner, Niederösterr. Weiden 192 (1859); Pokorny, Österr. Holzpfl. 78 (1864).

Salix dimorphophylla Gandoger, Fl. Lyon. 205 (1875), Fl. Europ. Terr. Adj. XXI. 80 (1890).

Salix leptostachya Gandoger, Fl. Lyon. 205 (1875), Fl. Europ. Terr. Adj. XXI. 80 (1890).

Salix leucolepis, septorum, Vanheurckiana, sareptana, pernotata, micrandra, villosula, medelpadensis, hispanica, escurialensis, christianiensis, faventina, ulterior, tardifolia, Leucas, rubrinerva, luparia, amblyocarpa, leptalea, iodella, carpathia, mosellana, physolepis, Costaeana, planitierum, laevisquama, longior, trichorachis, Wahlstedtii, eboracensis, Lannesii, longeacuminata, calyptopoda, cyclobasis, trencinensis, Meinshausenii, Latourettii, toletana, indecora, Melgunowii, nebrodensis, brachyphylla, aragonensis, paucidens, probata, galiciensis, viridissima, podocarpa, vermlandica, lusatica, oxyphora, tenuispica, lucroniensis, kalmucensis, serpentina, appretiata, abundans, padoides Gandoger, Fl. Europ. Terr. Adj. XXI. 78–81 (1890).

var. **nipponica** Seemen, Salic. Jap. 27, *t. 2, f. E–J* (1903), in Gilg & Loesener in Engler, Bot. Jahrb. XXXIV. Beibl. LXXV. 27 (1904), et in Aschers. & Graebn. Syn. Mitteleur. Fl. IV. 78 (1908); Shirasawa, in p. 21 text. ad Icon. Ess. For. Trees Jap. II. (1910); Matsum. Ind. Pl. Jap. II: 2, 14 (1912); Siuzev in Trav. Mus. Bot. Acad. Imp. Sci. St. Pétersb. IX. 87 (1912); Makino & Nemoto, Cat. Jap. Pl. Herb. Nat. Hist. Dept. Tokyo Imp. Mus. 310 (1914); Loesener in Beih. Bot. Centralbl. XXXVII. Abt. II. 106 (1919); Komar. & Klob.-Alis. Key Pl. Far East. 424 (1931).

Salix nipponica Fr. et Sav. Enum. Pl. Jap. I. 495 (1875) nom., II: 1, 502(1876); Matsum. Nippon Shokubutsumeii 170(1884), Shokubutsu Mei-I 260 (1895); Toepffer, Salic. Bav. 71 (1915); Nakai in Bull. Soc. Dendr. France no. 66, 9 (1928).

Salix Kinashii Lévl. & Van. in Bull. Soc. Bot. France LII. 141 (1905), et in Bull. Acad. Intern. Géogr. Bot. XVI. 148 (1906).

Salix triandra Lévl. in Bull. Acad. Intern. Géogr. Bot. XVI. 144, 148 (1906).

Salix triandra L. var. *nipponica* Fr. & Sav. apud Shirasawa, Icon. Ess. For. Trees Jap. II. sub *t. 9, f. 11–23* (1908).

Salix hamatidens Lévl. in Bull. Soc. Bot. France LVI. 301 (1909) quoad specim. n. 264 in Herb. Univ. Imp. Kyoto; Schneider in Sarg. Pl. Wils. III. 108 (1916); Rehder in Jour. Arn. Arb. X. 114 (1929), *syn. nov.*

Salix amygdalina Fr. Schmidt, Reis. Amurl. Sachal. 61 (1868); Koidz. in Tokyo Bot. Mag. XXVII. 94 (1913).

Salix amygdalina L. var. *nipponica* Schneider in Sarg. Pl. Wils. III. 106(1916); Rehder in Jour. Arn. Arb. IV. 139(1923), ibid. X. 113(1929); Makino & Nemoto, Fl. Jap. ed. 1, 1120 (1925), ed. 2, 161 (1931).

Salix triandra L. var. *japonica* Seemen, apud Komar. Pl. Austro-Ussur. 49 (1923).

Salix triandra L. var. *discolor* Nakai (non Andersson nec Meyer), Fl. Syl. Korea. XVIII. 87 *t. 11* (1930); Tatewaki, Lign. Fl. Uryu Exp. For. I. 111 (1932), et Pl. Teshio Exp. For. II. 188 (1932).

NOM. JAP. *Tachiyanagi.*

NOM. AINU. *Toi-susu.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Hidaka, Ishikari, Teshio, Kitami, Tokachi, Kushiro, Nemuro.

Sachalin. austr. Shikka: prope Ôtsunaba (T. INOKUMA, n. 2719 ann. 1931).

DISTRIB. Yezo, Sachalin, Honshu, Shikoku, Kyushu, Korea, Ussuri, Manshuria nec non China borealis.

Sect. **Albæ** Borrer in Hooker, Brit. Fl. 418 (1830).

781. Salix jessoensis Seemen, Salic. Jap. 31, *t. 3, f. F–L* (1903); Lévl. & Van. in Bull. Acad. Intern. Géogr. Bot. XIV. 207 (1904), XVI. 146, 147 (1906); Schneider in Sarg. Pl. Wils. III. 110 (1916); Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido, I. 49, *t. 14* (1921); Kudo, Nippon Yuyojumoku Bunruigaku ed. 1, 79 (1922), ed. 2, 78 (1930); Makino & Nemoto, Fl. Jap. ed. 1, 1125 (1925); Rehder, Man. Cult. Trees & Shrubs 105 (1927); Tatewaki, Pl. Teshio Univ. Exp. For. I. 13 (1928).

Salix eriocarpa (non Fr. & Sav.) Kawakami in Tokyo Bot. Mag. X. 50 (1896); Tokubuchi in Tokyo Bot. Mag. X. 122 (1896); Matsum. Ind. Pl. Jap. II: 2, 9 (1912) pro parte.

Salix hondoensis Koidz. in Tokyo Bot. Mag. XXVII. 88 (1913) pro parte, (quoad specimina ex Sapporo); Schneider in Sarg. Pl. Wils. III. 110 (1916) pro parte, (quoad specimen ex Hokkaido).

NOM. JAP. *Shiroyanagi* (Tokubuchi l. c.).

HAB. *Yezo.* Ishikari: Sapporo (Y. TOKUBUCHI, ♂, ♀ 18 Maio 1891, fol. 29 Oct. 1890, *cotypus* in Herb. Hokkaido Imp. Univ., Sapporo), Iburi.

DISTRIB. Yezo, Honshu bor.?

Sect. **Phylicifoliæ** Dumortier, Fl. Belg. Prodr. 12 (1827).

782. Salix Reinii Franchet & Savatier, Enum. Pl. Jap. I. 459 (1875) (nom. nud.); Seemen, Salic. Jap. 41, *t. 6, f. A–E* (1903) (descr.); Lévl. in Bull. Acad. Intern. Géogr. Bot. XIV. 208 (1904), XVI. 143, 146, 147, 148, 151 (1906); Koidz. in Tokyo Bot. Mag. XXVII. 91 (1913); Makino & Nemoto, Cat. Jap. Pl. Herb. Nat. Hist. Dept. Tokyo Imp. Mus. 310 (1914), Fl. Jap. ed. 1, 1128 (1925), ed. 2, 170 (1931); Takeda in Jour. Linn. Soc. Bot. XLII. 485 (1914) (Fl. Shikotan); Schneider in Sarg. Pl. Wils. III. 127 (1916); Nakai, Rep. Veg. Kamikôchi 15 (1928); Tatewaki,

Veg. Mt. Apoi 30 (1928); Ohwi in Act. Phytotax. & Geobot. I. 131 (1932); Takeda, Atlas Alp. Plants 64, *pl. 279,* (1933).

Salix glabra (non Scopoli) Fr. & Sav. Enum. Pl. Jap. II: 1, 503 (1876); Kawakami in Tokyo Bot. Mag. X. 50 (1896), XIV. 107 (1900), XV. 241 (1901); Tokubuchi in Tokyo Bot. Mag. X. 123 (1896); Matsum. Ind. Pl. Jap. II: 2, 10 (1912).

Salix Reinii Franch. et Sav. f. *riishiriensis* Seemen, Salic. Jap. 42 (1903).

Salix daiseniensis Seemen, Salic. Jap. 65 (1903); Matsum. Ind. Pl. Jap. II: 2, 9 (1912) quoad pl. ex ins. Rebunshiri, *syn. nov.*

NOM. JAP. *Mineyanagi, Miyamayanagi.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Hidaka, Ishikari, Kitami, Rishiri, Rebun, Tokachi, Kushiro.

Kuriles. Kunashiri, Shikotan.

DISTRIB. Kuriles, Yezo, Honshu.

783. Salix Hidewoi Koidzumi in Tokyo Bot. Mag. XXXIII. 220 (1919); Makino & Nemoto, Fl. Jap. ed. 1, 1124 (1925), ed. 2, 165 (1931); Nakai, Rep. Veg. Daisetsusan Mts. 6, 45 (1930) (sphalmat. *Salix Hideoi* Koidz.); Okada in Sangaku XXV. 440 (1930).

Salix Reinii Fr. & Sav. var. *yesoensis* Koidz. in sched. Herb. Univ. Imp. Tokyo, et in Tokyo Bot. Mag. XXXIII. 220 (1919) pro syn.

NOM. JAP. *Ezo-miyamayanagi* (Koidzumi l. c.).

HAB. *Yezo.* Ishikari: monte Daisetsuzan (H. KOIDZUMI, NAKAI, KIMURA, TOGASHI). Hidaka: monte Apoi (TSUSHIMA).

Kuriles. Kunashiri (OKADA). Etorofu: monte Moyoro (KENJI MIYABE & G. TANAKA).

DISTRIB. Yezo, Kuriles.

Sect. **Hastatæ** Borrer in Hooker, Brit. Fl. 433 (1830).

Subsect. **Vulpinæ** (Seemen) Kimura comb. nov.

VIII. *Vulpinæ* Seemen, Salic. Jap. 17 (1903).

Sect. *Vulpinæ* Seemen apud Toepffer, Salic. Mitt. no. 4, 187 (1911); Schneider in Sargent, Pl. Wils. III. 130 pro syn. Sect. *Hastatarum* Borrer.

A typo ligno nudo vibicibus validis numerosis instructo, amentis saepe

ferrugineo-pilosis differt.

784. Salix vulpina Andersson in Mem. Am. Acad. Arts Sci. n. ser. VI. 452 (1859) (Gray, Bot. Jap.); Fr. & Sav. Enum. Pl. Jap. I. 461 (1875); Miq. in Ann. Mus. Bot. Lugd.-Bat. III. 29 (1867); Kawakami in Tokyo Bot. Mag. X. 50 (1896); Tokubuchi in Tokyo Bot. Mag. X. 128 (1896); Seemen, Salic. Jap. 37, *t.* 5, *f. F–I*, (1903) excl. syn. p. p.; Lévl. in Bull. Acad. Intern. Géogr. Bot. XIV. 208 (1904), XVI. 144 (1906); Matsum. Ind. Pl. Jap. II: 2, 15 (1912), p. p.; Koidz. in Tokyo Bot. Mag. XXVII. 89, 264 (1913); Schneider in Sarg. Pl. Wils. III. 130 (1916); Makino & Nemoto, Fl. Jap. ed. 1, 1131 (1925) p. p., ed. 2, 173 (1931) p. p.; Rehder in Jour. Arn. Arb. X. 115 (1929); Tatewaki, List Pl. Teshio Univ. Exp. For. II. 188 (1932).

Salix Miquelii, *β. vulpina* Andersson in DC. Prodr. XVI: 2, 256 (1868).

Salix vulpina Andersson var. *β. discolor* Seemen, Salic. Jap. 40 (1903); Matsum. Ind. Pl. Jap. II: 2, 16 (1912); Schneider in Sarg. Pl. Wils. III. 131 (1916); Makino & Nemoto, Fl. Jap. ed. 1, 1131 (1925), ed. 2, 174 (1931).

Salix Shiraii, var. *vulcaniana* Lévl. & Van. in Bull. Acad. Intern. Géogr. Bot. XIV. 209 (1904); Matsum. Ind. Pl. Jap. II: 2, 14 (1912).

Salix ignicoma Lévl. & Van. in Bull. Acad. Intern. Géogr. Bot. XVI. 143 (1906); Matsum. Ind. Pl. Jap. II: 2, 10 (1912).

Salix vulpina Andersson *α typica* Koidzumi in Tokyo Bot. Mag. XXVII. 90 (1913).

Salix Reinii (non Fr. & Sav.) Tatewaki, List Pl. Teshio Univ. Exp. For. I. 13 (1928).

Nom. Jap. *Kitsuneyanagi.*

Hab. *Yezo.* Oshima, Shiribeshi, Ishikari. Teshio: Pankeyama (M. Tatewaki). Rebunshiri (Kudo, Tatewaki). Kitami: monte Shirikoma (Tatewaki).

Kuriles. Shikotan (Kimura), Etorofu (K. Miura).

Distrib. Kuriles, Yezo et Honshu.

var. **coriacea** Koidzumi in Tokyo Bot. Mag. XXVII. 90 (1913);

Schneider in Sarg. Pl. Wils. III. 131 (1916); Makino & Nemoto, Fl. Jap. ed. 2, 174 (1931).

Salix Matsumuraei Schneider in Sarg. Pl. Wils. III. 131 (1916) quoad pl. ex Hakodate.

NOM. JAP. *Terihasaruko,* (in sched. Herb. Univ. Imp. Tokyo.).

HAB. *Yezo.* Oshima (Y. TOKUBUCHI, K. MIYABE, Y. KUDO, CH. SUZAKI). Teshio: Mashike (K. MIYABE).

DISTRIB. Yezo, Honshu bor.

var. **subalpina** Koidzumi in Tokyo Bot. Mag. XXVIII. 285 (1914); Makino & Nemoto, Fl. Jap. ed. 1, 1131 (1925), ed. 2, 174 (1931).

NOM. JAP. *Miyama-kitsuneyanagi.*

HAB. *Yezo.* Kitami: monte Pinneshiri (M. TATEWAKI, 1931); Washiri, ins. Rebunshiri (M. TATEWAKI, 1933).

DISTRIB. Yezo, Honshu.

Sect. **Ovalifoliæ** Rydberg in Bull. New York Bot. Gard. I. 274 (1899) pro pte. sensu emend.

Sect. *Diplodictyæ* Schneider in Sarg. Pl. Wils. III. 136 (1916).

Sect. *Petiolatæ* subg. Floderus in Arkiv f. Bot. XX A. no. 6, 13 (1926).

785. Salix aquilonia Kimura sp. nov.

Salix arctica (non Pallas) Matsum. Shokubutsu Mei-I, 260 (1895), Ind. Pl. Jap. II: 2, 8 (1912) pro pte.; Tokubuchi in Tokyo Bot. Mag. X. 123 (1896); Seemen, Salic. Jap. 79 (1903) pro. pte.; Schneider in Sarg. Pl. Wils. III. 136 (1916) quoad pl. Kuril.; Yabe & Yendo in Tokyo Bot. Mag. XVIII. 178 (1904) (Fl. Shumushu); Koidz. in Tokyo Bot. Mag. XXVII. 97 (1913); Makino & Nemoto, Fl. Jap. ed. 1, 1120 (1925) pro pte., ed. 2, 161 (1931) pro pte.

Salix arctica Pallas var. *kurilensis* Kudo in Jour. Coll. Agr. Hokkaido Imp. Univ. XI: 2, 96 (1922) (Fl. Paramushir), excl. syn. *S. kurilensi* Koidzumi.

Frutex prostratus; ramulis glabris brunneis, annotinis circiter 5 cm longis 2–5 mm crassis, novellis pilis longis tenuibus sparse obsitis cito glabrescentibus. *Gemmæ* glaberrimæ brunnæ. *Cataphylla* ovalia integerrima supra fere glabra subtus glaucina villis adpressis obsita, 1.5–2.8×1.2–

2.2 cm magna, petiolo ad 1.2 cm longo villoso. *Folia adulta* ovalia, rotundata, obovato- vel ovato-rotundata, apice rotundata vel obtusissima, basi late acuta vel breviter acuminata vel rotundata, margine integerrima, solum basi obsoletissime crenato-serrulata, supra viridia lucida primo pubescentia mox glaberrima, subtus vix vel dilute glaucina secus costam sparse villosa demum glaberrima, 4.7–6.5×4.1–5.2 cm magna, 1.1–1.5-plo longiora quam latiora; costa supra impressa glabra, subtus prominente; nervis primariis arcuatis utroque latere 4–7 a costa sub angulis 30°–50° divergentibus, supra impressis infra prominentibus, secundariis infra elevatis inter primarios subirregulariter transversis et cum tertiis pulchre anastomosantibus. *Petioli* 12–31 mm longi supra canaliculati. *Stipulæ* nullæ. *Amenta* ramulos breves terminantia laterales 1.7–4.0 cm longos sparse villosos folia (cataphyllis inclusis) 4–5 gerentes. *Amenta* ♀ (solum deflorata visa) 7 cm longa 1.4 cm crassa, pedunculis 2.4 cm longis, rhachidibus pubescentibus; *bracteolæ* in sicco brunneæ concolores obovato-oblongæ apice rotundatæ 2.5 mm longæ 1.5 mm latæ utrinque villosæ. *Glandula* una ventralis oblonga truncata 1.3 mm longa 0.5 mm lata. *Ovaria* ovato-conica 4 mm longa supra medium (in typo) vel undique tomentosa, breviter stipitata, stylis 1.5 mm longis. *Stigmata* bifida. *Amenta* ♂ 3.5–5.5 cm longa 0.7 cm crassa. *Bracteolæ* oblongo-obovatæ apice rotundatæ circiter 2 mm longæ 1.2 mm latæ utrinque villosæ. *Glandulæ* 2, ventralis oblonga 1.2 mm longa 0.4–0.5 mm lata, dorsalis linearis vel satis minima. *Stamina* 2, filamentis glabris 5 mm longis. *Antheræ* oblique ovales 0.9×0.7 mm magnæ.

NOM. JAP. *Chishima-yanagi*, (Matsumura l. c. a. 1895).

HAB. *Kuriles*. Shimushir (KODAMA, TATEWAKI, TAKAHASHI). Ketoi: Ashizaki (M. TATEWAKI, n. 15601, ♀ *typus* sp. 26. Aug. 1929). Ushishir (M. TATEWAKI). Rashuwa: Sonrakuwan (M. TATEWAKI & K. TAKAHASHI, n. 15258 ♂ *typus*, 8 Aug. 1929). Matsuwa (M. TATEWAKI & Y. TOKUNAGA). Paramushir (Y. KUDO, Y. OKADA). Shumushu (K. YENDO, T. ISHIKAWA). Alaid (H. ITO & G. KOMORI).

DISTRIB. Kuriles, Kamtchatka?

786. Salix kurilensis Koidzumi in Tokyo Bot. Mag. XXXII. 62 (1918); Makino & Nemoto, Fl. Jap. ed. 1, 1125 (1925), ed. 2, 167 (1931); Hultén, Fl. Kamtch. II. 21 (1928).

Salix longipetiolata Floderus in Arkiv f. Bot. XX A. no. 6, 14, *Pl. I. f. 1–2,* (1926) (Sal. Fl. Kamtch.); Hultén, Fl. Kamtch. II. 15 (1928); Komar. Fl. Penins. Kamtsch. II. 6, 28 (1929); Tatewaki in Sapporo-Noringakukaiho, no. 104, 45 (1931), in Jour. Fac. Agr. Hokkaido Imp. Univ. XXIV: 4, 154, 184 (1931) (Prim. Surv. Veget. Midd. Kuriles), ibid. XXIX: 5, 225, 277 (1933) (Phytogeogr. Midd. Kuriles). *syn. nov.*

In typo originali in Herb. Univ. Imp. Tokyoensis asservato, folia adulta nondum evoluta sunt. Flos ♂ vulgo glandulam tatum unam ventralem fert, sed rarius 2 ut in typo ventralem et dorsalem.

NOM. JAP. *Hai-yanagi* (Koidzumi l. c. 63); *Hime-chishimayanagi* (Tatewaki).

HAB. *Kuriles.* Shumushu: sine loco spec. indicato (K. YENDO, *typus* 29 Jun. 1903 in Herb. Univ. Imp. Tokyo); Jogasaki (M. TATEWAKI, n. 17272, ♂, 31 Maio 1930). Shimshir: Nakayama (M. TATEWAKI, n. 11917, 1928). Rashuwa: Nakadomari (M. TATEWAKI & K. TAKAHASHI, n. 14893, 1929).

DISTRIB. Kuriles, Kamtchatka.

787. Salix yezoalpina Koidzumi in Tokyo Bot. Mag. XXX. 332 (1916); Takeda, Atlas Alp. Plants, 65, *pl. 283,* (1933).

Salix cyclophylla Seemen (non Gandoger 1881, nec Rydberg 1899) in Engler, Bot. Jahrb. XXX. (1902), Beibl. LXVII. 41 (1901), Salic. Jap. 69, *t. 16, f. E–F* (1903); Matsum. Ind. Pl. Jap. II: 2, 8 (1912); Lévl. in Bull. Acad. Intern. Géogr. Bot. XIV. 207, 210 (1904), XVI. 147, 150 (1906); Koidz. in Tokyo Bot. Mag. XXX. 81 (1916); Makino & Nemoto, Fl. Jap. ed. 1, 1122 (1925) p. p., ed. 2, 162 (1931) p. p.

Salix arctica Kawakami (non Pallas) in Tokyo Bot. Mag. XIV. 107 (1900).

Salix Nakamurana Koidz. var. *yezoalpina* Kimura in Tokyo Bot. Mag. XLII. 574 (1928) quoad pl. ex Hokkaido.

Salix yesoalpina Koidz. in sched. Herb. Univ. Imp. Tokyo; Nakai, Rep. Veg. Daisetsusan Mts. 45 (1930).

NOM. JAP. *Maruba-yanagi* (Koidzumi 1916); *Yezo-no-takaneyanagi* (Kimura 1928).

HAB. *Yezo.* Iburi: monte Makkarinupuri (I. YAMAMOTO). Ishikari:

monte Daisetsusan (G. KOIDZUMI, K. TOGASHI, K. MIYABE & M. TATEWAKI, M. NAGAI, S. ITO & S. IMAI, A. KIMURA); monte Yubari (G. KOIDZUMI, S. NISHIDA). Kitami: monte Rishiri (S. ISE, A. KIMURA).

var. **stenophylla** Nakai,[1] Rep. Veg. Daisetsusan Mts. 45 (nomen tantum), 62 (descr. jap.) (1930).

Salix Nakamurana Koidz. var. *stenophylla* Kimura in Tokyo Bot. Mag. XLII. 574 (1928) quoad pl. ex Hokkaido.

NOM. JAP. *Hoso-marubayanagi* (Nakai).

HAB. *Yezo.* Ishikari: monte Daisetsusan (T. NAKAI Aug. 1928, *typus* in Herb. Univ. Imp. Tokyo). Kitami: monte Rishiri (A. KIMURA n. 1508, 1400 m. s. m. 6 Aug. 1927).

var. **grandifolia** Nakai,[2] Rep. Veg. Daisetsusan Mts. 45 (nomen tantum), 62 (descr. jap.) (1930).

NOM. JAP. *Oh-marubayanagi* (Nakai).

HAB. *Yezo.* Ishikari: monte Daisetsusan (T. NAKAI Aug. 1928, *typus* in Herb. Univ. Imp. Tokyo).

DISTRIB. SPEC. & VAR. Endemica.

788. Salix hidaka-montana Hara in Jour. Jap. Bot. IX. 512, *f. 1,* (1933).

NOM. JAP. *Hidaka-mineyanagi.*

HAB. *Yezo.* Hidaka: monte Rakko (H. HARA, 1933); monte Porojiri (T. TOKUNAGA & M. SAKAMOTO); monte Pipairo (Y. TOKUNAGA & M. SAKAMOTO); monte Tottabetsu (Y. HOSHINO); monte Bisei (Y. HOSHINO). Tokachi: monte Satsunai (M. TATEWAKI); monte Esaomantottabetsu (M. TATEWAKI).

DISTRIB. Endemica.

789. Salix neo-reticulata Nakai, Rep. Veg. Daisetsusan Mts. 45 (nomen tantum), 62 (descr. jap.) (1930).

A. *S. yezoalpina* Koidzumi, cui affinis, ovariis sericeis foliis supra evidenter lucidis, subtus nervis valdius prominentibus differt. (fide Nakai).

1) Sphalmat. Salix *yesoalpina* Koidzumi var. stenophylla Nakai.
2) Sphalmat. Salix *yesoalpina* Koidzumi var. grandifolia Nakai.

NOM. JAP. *Inu-marubayanagi* (Nakai).

HAB. *Yezo.* Ishikari: Takanegahara, monte Daisetsu (T. NAKAI Aug. 1928, *typus* in Herb. Univ. Imp. Tokyo). Kitami: monte Rishiri (A. KIMURA).

DISTRIB. Endemica.

790. Salix subreniformis Kimura sp. nov.

Salix arctica var. *kurilensis* Kudo in Jour. Coll. Agr. Hokkaido Imp. Univ. XI: 2, 96 (1922) (Fl. Paramushir), quoad specim. n. 5160.

Frutex prostratus, ramulis radicantibus, glabris lævis castaneo- vel purpureo-brunneis, annotinis 4.5–10 cm longis circiter 0.4 cm crassis. *Gemmæ* ovatæ obtusæ glaberrimæ vel sparse puberulentes, ad 1 cm longæ luteæ vel brunneæ. *Folia adulta* iis *Salicis longipetiolatæ* Floderus simillima, reniformi-rotundata vel rotundata, apice retusa vel rotundata vel obtusissima, basi cordata vel subreniformia, margine subintegerrima vel obsolete serrulata, supra viridia glabra impressinervata, subtus dilute glauca, ad costam et nervos villis adpressis obsita, demum glaberrima, 3.6×4, 3.7×5, 4.2×5.5, 5.3×5.6, 5.5×5.2 cm etc. magna; costa supra impressa infra prominente; nervis primariis arcuatis utrinsecus 6–7, a costa sub angulis 40°–60° (basilaribus sæpe latissimis) divergentibus, supra impressis subtus prominentibus; secundariis elevatis inter primarios transversis crebrisque. *Petioli* glabri supra canaliculati, basi dilatati, 1.6–3.6 cm longi, laminis breviores. *Amenta* ♀ (tantum deflorata visa) cylindrica 4–7 (in typo ad 5) cm longa, ad 1.5 cm crassa, rhachidibus pubescentibus, ramulos laterales terminantia gemmiferos folia 2–3 ceteris simillima gerentes basi sæpe villosos 1.0–2.2 cm longos; pedunculis pubescentibus 1.2–1.4 cm longis. Flores ♀ inter fructus remanentes: *bracteolæ* oblongo-ovatæ apice rotundatæ utrinque villosæ 2.8–3.0 mm longæ 1.3–1.5 mm latæ. *Glandula* una ventralis ovata, apice truncata 1.0–1.1 (–1.4) mm longa circiter 0.6 mm lata, basin ovarii attingens vel paullo superans. *Ovaria* longe ovoidea supra medium puberulentia vel sericea, 2–2.3 mm longa; pedicellis glabris 0.6–0.7 mm longis; stylis 2 mm longis. Stigmata bipartita, laciniis lineari-oblongis 0.8–1.0 mm longis.

S. kurilensi Koidzumi (=*S. longipetiolatæ* Floderus) et *S. aquiloniæ* Kimura affinis, sed differt a prima petiolis quam laminis brevioribus, amentis majoribus, stylis longioribus, ovariis partim pubescentibus; etiam a secunda

distinguitur foliis basi cordatis vel subreniformibus.

NOM. JAP. *Jinyo-chishimayanagi*, nov.

HAB. *Kuriles.* Rashuwa: Sonrakuwan (M. TATEWAKI, n. 15256, fr. *typus*, 8 Aug. 1929 in Herb. A. KIMURA). Matsuwa (TATEWAKI & TOKUNAGA). Ushishir (TATEWAKI & TOKUNAGA). Ketoi (TATEWAKI, TAKAHASHI & TOKUNAGA). Shimushir (TATEWAKI & TOKUNAGA).

DISTRIB. Endemica.

var. **psilocarpa** Kimura var. nov.

A typo ovariis glaberrimis differt; ceterum ut in typo.

HAB. *Kuriles.* Shikotan: Matakotanyama (A. KIMURA, n. 865 ♀ *typus*, 17 Aug. 1933 in Herb. Tohoku Univ. Imp.); Shakotanzaki (J. OHWI, n. 350, fr. 29 Jul. 1931).

DISTRIB. Endemica.

791. Salix ketoiensis Kimura sp. nov.

Phenotypice *Salix aquilonia* Kimura × *Salix tontomussirensis* Koïdzumi.

Frutex humilis ut videtur ramulis erecto-patentibus, glabris brunneis, annotinis 5–11 cm longis, 2.5–4.5 mm crassis plerumque rectis. *Cataphylla* elliptica vel obovato-elliptica, apice et basi obtusa, margine integerrima, supra glabra vel partim sericea, subtus glaucina adpresse villosa, breviter petiolata, 12×6, 14×8, 21×10 mm etc. magna. *Folia* novella utrinque sericea; adulta elliptica, obovato-elliptica vel obovata, supra medium latiora, apice obtusa, obtusissima vel late acuta, basi late acuta vel late cuneato-acuta, margine integra vel raro obsolete crenato-serrulata, supra primo sericea demum glabra, subtus dilute glauca pilis longis adpressis rectis sparse (ad costam plus minus dense) dispersa, 3.8×2.5, 5×2.5, 4.6×3, 5.8×3.5 cm etc. magna; costa supra paullo impressa, subtus elevata; nervis primariis supra impressis infra prominentibus utrinsecus 7–9 a costa sub angulis 40°–50° divergentibus. *Petioli* 1.0–1.1 cm longi sparse pubescentes. *Stipulæ* si evolutæ minutæ oblique ovato-lanceolatæ, glanduloso-serrulatæ, 3.5×1.0 mm magnæ. *Amenta* serotina oblongo-cylindrica, ramulos terminantia laterales ad 2 cm longos folia (cataphyllis inclusis) vulgo 5, ad 5 cm longa et 2.5 cm lata gerentes, pedunculis rhachidibusque sericeis. *Amenta* ♀ ad 3.5 cm longa 0.9 cm crassa. *Bracteolæ* elliptico-oblongæ apice obtusissimæ utrinque villosæ 2.3×

1.0 mm magnæ. *Glandula* una ventralis oblonga 1.0 mm longa 0.5 mm lata. *Ovaria* ex ovata basi elongato-conica paucipilosa (in typo) vel tomentosa, 3 mm longa, pedicellis 0.7 vel ultra longis, stylis 1.5 mm longis. *Stigmata* profunde bifida, laciniis linearibus 0.6–0.9 mm longis. *Amenta* ♂ 3 cm longa 1 cm crassa. *Bracteolæ* fere ut in ♀. *Glandula* una ventralis ut in ♀. *Stamina* 2, filamentis liberis 5–7 mm longis, basi paucipilosis vel glabris. *Antheræ* luteæ ovales 0.8×0.7 mm magnæ.

Nom. Jap. *Ketoi-yanagi*, nov.

Hab. *Kuriles.* Ketoi: Kodakigawa (M. Tatewaki, n. 15230, ♀ *typus* sp. 14 Aug. 1929; n. 15236, *typus* ♂ 14 Aug. 1929); Isozaki (M. Tatewaki & K. Takahashi); "near Lake Ketoi" (M. Tatewaki & K. Takahashi).

Distrib. Endemica.

792. Salix cuneata Turczaninow, Pl. exsic. ann. 1835, Fl. Baic.-Dah. II: 2, 122 (1856); Ledeb. Fl. Ross. III. 623 (1849–51); Trautv. et Mey. Fl. Ochot. 82 (1856); Trautv. in Act. Hort. Petrop. V: 1, 109 (1877) (Pl. Sibir. Bor.), ibid. VI: 1, 36 (1879) (Fl. Terr. Tschuktsch.); Floderus in Arkiv f. Bot. XX A, no. 6, 17, *Pl. I. f. 3* (1926) (Sal. Fl. Kamtch.); Komar. Fl. Penins. Kamtsch. I. 331 (1927), II. 27 (1929); Hultén, Fl. Kamtch. II. 10 (1928); Shishkin in Bull. Pacif. Sci. Fish. Research Stat. II: 4, 27 (1928) (Land Fl. Shantar Isl.).

Salix arctica γ leiocarpa Ledeb. Fl. Ross. III. 619 (1849–51).

Salix arctica α nervosa Anders. in DC. Prodr. XVI: 2, 286 (1868).

Salix arctica subvar. *cuneata* Herder in Act. Hort. Petrop. XI: 2, 440 (1891).

Nom. Jap. *Chishima-takaneyanagi*, nov.

Hab. *Kuriles.* Paramushir: Shiriyajiri-dake (Y. Okada ♂ 4 Aug. 1931).

Nova floræ japonensis civis est.

Distrib. Kuriles, Kamtchatka, Terr. Tschuktschorum, Sibiria orientali-asiatica.

Sect. **Herbaceæ** Borrer in Hooker, Brit. Fl. 432 (1830).

793. Salix pauciflora Koidzumi in Tokyo Bot. Mag. XXXII. 61

(1918); Kimura in Tokyo Bot. Mag. XLII. 575 (1928); Nakai, Rep. Veg. Daisetsusan Mts. 6, 45 (1930); Makino & Nemoto, Fl. Jap. ed. 2, 169 (1931).

Ad descriptionem originalem adde:—*Amenta* ♂ serotina globosa ad ellipsoidalia 5–33-flora, ramulos breves laterales terminantia glabros vel albo-sericeos 2.5–12 mm longos plerumque 2- raro 3-foliatos gemmiferosque, sub anthesi 4–10.5 mm longa 3–7 mm crassa, 1.3–1.6-plo longiora quam crassiora, pedunculis sericeis, rhachidibus sericeis vel parce pilosis. *Bracteolæ* obovatæ vel orbiculari-obovatæ apice rotundatæ dimidia superiore rubræ inferiore pallide flavo-virides, vel interdum concolores et flavo-virides, margine superno ciliatæ, extus glabræ vel raro parce pilosæ, intus dimidia superiore vel undique sericeæ, 1.2–2.2 mm longæ 0.8–1.7 mm latæ, margine deorsum subamplectantes. *Glandulæ* 2 ventralis et dorsalis basi sæpe leviter connatæ viridi-luteæ; ventralis ovato-oblonga vel oblonga utrobique sæpe laciniata, apice aut obtusa vel truncata aut bifida vel fere bipartita, 1.0–1.3 mm longa 0.4–0.7 mm lata; dorsalis lineari-oblonga 0.4–0.9 mm longa 0.1–0.2 mm lata interdum 2–3-fida et cum ventrali quasi pseudodiscum plurilobulatum formans. *Stamina* 2, filamentis liberis glabris, rubris vel pallidis, 2.4–4.3 mm longis. Antheræ ovales 0.4–0.7 mm longæ, ante anthesin rubræ, polline exploso nigrescentes vel sordide flavescentes. Pollen luteum. *Amenta* ♀ sub anthesi ovato-globosa vel ellipsoidalia 3–7 mm longa 2–4.5 mm crassa, 4–21 (–28)-flora, in fructu 13–18 mm longa 12–15 mm crassa. *Ovaria* sub anthesi fere 1.8 mm longa 0.6–0.8 mm crassa, in fructu ad 9 mm longa 3.5 mm crassa.—Usque adhuc montis Nutakkukamushupe solum civis est.

var. **typica** nom. nov.

Folia adulta pleraque obovata vel obovato-elliptica vel raro ovata.

Nom. Jap. *Yezomameyanagi* (Koidzumi l. c.).

Hab. *Yezo.* Ishikari: in regione alpina montis Daisetsusan[1] (Kimura, 1927, 1928, 1929, 1931; H. Koidzumi, 1917; S. Ito & S. Imai, 1926).

var. **cyclophylla** Kimura in Tokyo Bot. Mag. XLII. 575 (1928); Nakai, Rep. Veg. Daisetsusan Mts. 45 (1930); Makino & Nemoto, Fl. Jap. ed. 2, 169 (1931).

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1) Etiam ainuane "Nutakkukamushupe" appellatur.

NOM. JAP. *Maruba-yezomameyanagi* (Nakai l. c. 45).

HAB. *Yezo.* Ishikari: in regione alpina montis Daisetsusan (A. KIMURA n. 1826 ♀ *typus* var. 28 Jul. 1927, n. 2070–2072 ♀ Jul. 1928, n. 2084–2085 ♂ Jul. 1928).

var. **stenophylla** Kimura in Tokyo Bot. Mag. XLII. 575 (1928); Nakai, Rep. Veg. Daisetsusan Mts. 45 (1930); Makino & Nemoto, Fl. Jap. ed. 2, 169 (1931).

NOM. JAP. *Nagaba-yezomameyanagi* (Nakai l. c. 45).

HAB. *Yezo.* Ishikari: in regione alpina montis Daisetsusan (A. KIMURA n. 1824 ♀ *typus* var. 26 Jul. 1927).

var. **hebecarpa** Kimura var. nov.

Folia adulta orbicularia apice retusa basi rotundata, margine integerrima raro obsoletissime crenulata minute ciliata, supra glabra satis viridia, subtus pallidiora ad costam adpresse pilosa ceterum glabra, utrinque nitentia, 7–13 mm longa 5–10 mm lata, nervis lateralibus 4–5 arcuato-ascendentibus sursum in apicem folii plus minusve convergentibus. *Amenta* ♀ ramulos breves laterales foliatosque terminantia, sub anthesi ovata 5.5 mm longa 3 mm crassa 4–9-flora, pedunculis rhachidibusque pubescentibus. *Bracteolæ* ovales vel fere orbiculares apice rotundatæ vel truncato-rotundatæ basi pedicellum ovarii plus minusve amplectantes 1.3–1.5 mm longæ 1.0–1.4 mm latæ intus et margine sericeæ extus basi tantum pilosæ. *Glandula* una ventralis oblonga sursum paulatim angustior apice truncata 0.8 mm longa. *Ovaria* viridia ovato-conica 1.6 mm longa 0.6 mm crassa, pilis albis adpressis sericea, stipitibus 0.3 mm longis; stylis 0.3 mm longis. *Stigmata* parva profunde bifida, laciniis erecto-patentibus 0.2–0.3 mm longis.

HAB. *Yezo.* Ishikari: in regione alpina montis Daisetsusan (A. KIMURA n. 1774 ♀ *typus* var. 7 Jul. 1928 in Herb. Kimura; n. 1787 ♀ 10 Jul. 1928).

DISTRIB. SPEC. & VAR. Endemica.

794. Salix pseudopolaris Floderus[1] in Arkiv f. Bot. XX A. no. 6,

1) Descr. specim. ex ins. Paramushir:—*Fruticulus* nanus trunco sordide fusco subterraneo ramoso radicante; ramis radicantibus intra terram serpentibus, unde ramuli tenues glaberrimi foliiferi in sicco atro-brunnei frequenter torulosi ad lucem emergunt. *Gemmæ* ovatæ

8 (1926) (Sal. Fl. Kamtch.); Hultén, Fl. Kamtch. II. 18 (1928); Komar. Fl. Penins. Kamtsch. II. 33 (1929).

Salix polaris Herder in Act. Hort. Petrop. XI: 2, 448 (1891) quoad pl. Kamtsch.; Komar. Voy. en Kamtch. 452 (1912) (fide Hultén).

NOM. JAP. *Chishima-mameyanagi*, nov.

HAB. *Kuriles*. Paramushir: Kujira-wan (Y. OKADA ♂ & ♀ 5 Aug. 1931). Shumushu: Numajiri-gawa (Y. OKADA st. 18 Aug. 1931).

Nova floræ japonensis civis est!

DISTRIB. Kuriles, Kamtchatka, ins. Aleutianenses.

Sect. **Capreæ** Bluff & Fingerhuth, Comp. Fl. Germ. II. 565 (1825) pro pte.

Subsect. **Substriatæ** Görz in Fedde, Rep. Sp. Nov. Reg. Veg. Beih. LII. 140 (1928).

Subsubsect. **Eriocarpæ** Görz l. c. 141.

795. Salix Hultenii Floderus in Arkiv f. Bot. XXA. no. 6, 51

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obtusæ glaberrimæ 3 mm vel ultra longæ. *Folia* adulta obovata vel orbicularia vel elliptica, apice rotunda vel retusa vel emarginata, basi late acuta ad rotundata, margine integerrima, minora 3.5 × 2.5, 4.5 × 2.5, 5.5 × 2.5, 4.5 × 4.0 mm etc., majora 8 × 7, 8.5 × 8.5, 12 × 9, 12 × 7, 14 × 13, 15 × 12, 15 × 9.5 mm etc. magna, supra glabra, subtus pallidiora glabra vel antice villoso-hirsuta, utrinque punctata; costa in sicco supra fere plana infra prominente; nervatione acrodroma, nervis primariis arcuatis in sicco supra fere planis infra prominentibus utrinsecus 3–5 a costa sub angulis 30°–55° divergentibus in apicem folii convergentibus, secundariis flexuosis inter primarios transversis in sicco subtus elevatiusculis. *Petioli* glabri supra concavi infra convexi foliorum minorum perbreves majorum 2.5–3.4 (–4) mm longi. *Amenta* ♀ globoso-ellipsoidalia sub anthesi ad 10 mm longa 7 mm crassa, ramulos breves 2–3-foliolatos terminantia, pedunculis villoso-sericeis ad 4 mm longis. *Bracteolæ* obovatæ vel obovato-orbiculares apice rotundatæ (margine superno interdum subundulato) in sicco brunneæ indistincte 3-nervatæ utrinque (intus laxius) pilis longis villosæ 1.7–2.0 mm longæ 1.2–1.5 mm latæ. *Glandula* una ventralis lineari-oblonga vel ovato-oblonga apice truncata 0.8–1.0 mm longa. *Ovaria* ovoidea apice angustata dense albo-tomentosa vel sparse pubscentia basi interdum plus minusve glabrescentia, breviter stipitata, sub anthesi 2.0–2.5 mm longa circiter 1 mm crassa, stipitibus 0.2–0.3 mm longis paucipilosis, stylis obcompressis 0.7–1.0 mm longis. *Stigmata* linearia fere patentia recurva vel subrecurva, leviter vel profunde bifida, 0.7–1.0 mm longa. *Amenta* fructifera ad 13 mm longa 10 mm crassa, pedunculis ad 5 mm longis. *Capsulæ* purpureo-brunneæ basi glaberrimæ sursum parce pilosæ 5.5 mm longæ, dorsiventraliter 2.5 mm lateraliter 1.7 mm crassæ. *Amenta* ♂ 9 mm longa 6 mm crassa. *Bracteolæ* obovatæ apice rotundatæ in sicco brunneæ utrinque tomentoso-villosæ, 1.4–1.8 mm longæ 0.8–0.9 mm latæ. *Glandula* una ventralis oblonga 0.8–1.0 mm longa. *Stamina* 2, filamentis liberis glabris 4–5 mm longis, antheris orbicularibus fere 0.6 mm longis ac latis basi leviter obliquis.

(1926) (Sal. Fl. Kamtch.); Hultén Fl. Kamtch. II. 14 (1928).

Sahlweide Kittlitz, Denkwürdigkeiten einer Reise nach dem russisch. Amerika, nach Mikronesien u. durch Kamtschatka, II. 233 (1858) (sec. Hultén l. c.).

Salix Caprea orbicularis Andersson, Monogr. Salic. 77 (1867).

Salix caprea β? orbicularis Andersson in DC. Prodr. XVI: 2, 223 (1868).

Salix Caprea Herder in Act. Hort. Petrop. XI: 2, 402 (1891) quoad pl. Kamtsch.; Seemen, Salic. Jap. 33 (1903) quoad pl. Kamtsch.; Komar. Voy. en Kamtch. 40, 194, 247, 452 (1912); Takeda in Jour. Linn. Soc. Bot. XLII. 217 (1914) (Fl. Shikotan); Schneider in Sarg. Pl. Wils. III. 149 (1916) quoad pl. Kamtsch.

Salix Caprea subsp. *Hultenii* Komar. Fl. Penins. Kamtsch. II. 11 (1929).

Salix Hulteni Flod. apud Ohwi in Act. Phytotax. & Geobot. I. 130 (1932) (Fl. Shikotan).

Nom. Jap. *Marubano-bakkoyanagi* (Tatewaki ann. 1931).

Hab. *Yezo.* Nemuro (S. Ito).

Kuriles. Shikotan (T. Kawakami, H. Takeda, K. Miura, M. Tatewaki, A. Kimura).

Sachalin austr. Todomoshiri (T. Miyake). Shikka (H. Ohtani & Y. Imai).

Sachalin bor. Nyiwo (Y. Kudo & M. Tatewaki).

Distrib. Sachalin, Yezo, Kuriles, Kamtchatka.

var. **angustifolia** Kimura var. nov.

Salix Caprea (non Linn.) Tokubuchi in Tokyo Bot. Mag. X. 123 (1896) pro pte. maxima; Miyabe, Fl. Kuril. Isl. 260 (1890); ?Kawakami, Fig. & Descr. Trees Hokkaido 166, *f. 53* (1902); Seemen, Salic. Jap. 33 (1903) pro pte.; Koidzumi, Pl. Sachal. Nakahara. 45 (1910); Matsum. Ind. Pl. Jap. II: 2, 8 (1912) pro pte.; Miyabe & Miyake, Fl. Saghal. 425 (1915); Schneider in Sarg. Pl. Wils. III. 149 (1916) pro pte.; Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido, I. 57, *t. 15* (1921); Kudo, Nippon Yuyojumoku Bunruigaku, ed. 1, 81 (1922) pro pte., in Jour. Coll. Agr. Hokkaido Imp. Univ. XII: 1, 30 (1923); Makino & Nemoto, Fl. Jap. ed. 1, 1121 (1925)

pro pte., ed. 2, 162 (1931) pro pte.

Salix caprea, L. apud Kawakami in Tokyo Bot. Mag. XV. 241 (1901).

Salix Bakko Kimura in Tokyo Bot. Mag. XLII. 570 (1928) quoad pl. ex ins. Riishiri; Kudo, Nippon Yuyojumoku Bunruigaku, ed. 2, 80 (1930) pro pte.; Makino & Nemoto, Fl. Jap. ed. 2, 162 (1931) pro pte.; Ohwi in Act. Phytotax. & Geobot. I. 130 (1932) (Fl. Shikotan).

A typo recedit foliis adultis longioribus, subtus nervis primariis distincte prominentibus (nec "lateral nerves slightly raised").

Ramuli hornotini purpureo-castanei glabri 7.5–10 cm longi; annotini flavo-brunnei infra cicatrices torulosi, ligno nudo vibicibus sparcis instructo. *Gemmæ* ovatæ obtusæ latere angulatæ castaneæ glabræ. *Folia adulta* chartacea superiora ramulorum anguste obovata vel oblongo-elliptica, 12×5, 11.5×5, 9.6×4.3, 7.5×3.4 cm etc. magna fere 2.2–2.4-plo longiora quam latiora, apice breviter acuminato-acuta, basi acuta ad obtusa, margine obsolete crenato-serrata, supra costa excepta glaberrima, impressi-nervata (unde folia rugulosa videntur), subtus glaucina pilis curvulis directione variisque griseo-tomentosa, costa pallida supra plana minutissime pubescente, subtus prominente, nervis primariis utrinsecus 12–15 leviter arcuatis a costa sub angulis 35°–55° divergentibus supra impressis infra prominentibus, nervis secundariis infra elevatis. *Folia inferiora* minora elliptica vel obovata 6.3×3.3, 5.8×2.9, 5.5×3.1 cm etc. magna, ceterum fere ut in superioribus. *Cataphylla* (infima non visa) obovata apice late basi anguste acuta, margine minute serrulata, supra glabra infra pilis rectis adpressis longisque sericea vel villoso-sericea. *Petioli* semiteretes supra pubescentes basin versus canaliculati ad 2.1 cm longi.

Nom. Jap. *Yezo-no-yamanekoyanagi, Yezo-no-bakkoyanagi,* nov.

Nom. Ainu. *Shiu-susu, Meraoma-ni, Tush-ni.*

Hab. *Kamtschatka.* Ad urb. Petropawlowsk (Y. Kobayashi st. *typus* 15 Aug. 1931 in Herb. Univ. Tokyo).

Yezo. Shiribeshi, Iburi, Hidaka, Ishikari, Teshio, Kitami, Rishiri, Rebun, Kushiro, Nemuro.

Kuriles. Kunashiri, Shikotan, Etorofu.

Sachalin austr. Odomari, Mauka, Tomarioro, Ushoro, Toyohara, Motodomari, Shikka.

Sachalin bor. Alexandrowsk, Nyiwo, Oha, Pronge-Baikal, Schmidt

Penins.

DISTRIB. Sachalin, Yezo, Kuriles, Kamtchatka.

796. Salix Bakko Kimura in Tokyo Bot. Mag. XLII. 568 (1928) pro pte.; Kudo, Nippon Yuyojumoku Bunruigaku, ed. 2, 80 (1930) pro pte.; Makino & Nemoto, Fl. Jap. ed. 2, 162 (1931) pro pte.

Salix Caprea (non Linn.) Shirasawa, Icon. Ess. For. Trees Jap. II. *t. 8, f. 12–22* (1908), text. 19 (1910); Seemen, Salic. Jap. 33 (1903) pro pte.; Matsum. Ind. Pl. Jap. II: 2, 8 (1912) pro pte.; Schneider in Sarg. Pl. Wils. III. 149 (1916) pro pte.; Kudo, Nippon Yuyojumoku Bunruigaku, ed. 1, 81 (1922) pro pte.; Makino & Nemoto, Fl. Jap. ed. 1, 1121 (1925) pro pte., ed. 2, 162 (1931) pro pte.

Salix brachystachys (non Bentham) Fr. & Sav. Enum. Pl. Jap. I. 460 (1875) quoad plantam ♀, II: 1, 506 (1879).

Discrepat a praecedente foliis angustioribus, nervis primariis plus minusve flexuosis, ligno nudo vibicibus plurimis consperso.

NOM. JAP. *Yamanekoyanagi, Bakkoyanagi.*

HAB. *Yezo.* Shiribeshi: Takashima (A. KIMURA n. 2062, Aug. 1931). Ishikari: Sapporo (Y. TOKUBUCHI, 1889, 1890); Makomonai (A. KIMURA n. 1439, Jun. 1927).

DISTRIB. Yezo, Honshu.

797. Salix Sugawarana Koidzumi sp. nov. in litt. Kimura descr.

Frutex ramosissimus 4–6 m altus, coma obtusa ad rotundata; trunco valido supra solum in ramos diviso, cortice cinereo-fusco modo *Salicis Bakko* Kimura longitudine irregulariter breviterque rimoso obtecto. Lignum sub cortice sparse vibiciferum. *Ramuli* hornotini adscendentes, aestate flavo-virides ad brunnei, in sicco atro-fuscescentes, pilis cinereis brevibus curvulis et directione sæpe variis nunc dense nunc sparse pubescentes vel velutino-tomentosi, versus insertionem interdum glabrescentes; annotini vulgo glabrescentes torulosi, vetustiores cinerascentes. *Gemmæ* amentiferæ (aestate extrema) ovatæ vel anguste ovatæ, apice obtusæ et planiusculæ, latere biangulatæ, molliter cinereo-pubescentes ad 1 cm longæ. *Folia adulta* chartaceo-coriacea, plerumque elliptica, interdum oblongo- vel ovali-elliptica, apice acuta vel breviter acuminata, basi late acuta vel obtusa, medio latiora,

margine grosse crenato-serrata, serraturis minute mucronulatis irregulariter distantibus, in medio folii circiter 1–3 pro 1 cm, ad apicem folii basimque obsoletis, supra sat viridia paullum lucida, glaberrima vel sub lente parcissime puberulentia, subtus glauca, pilis albis vel ferrugineis mixtis 0.4–1.0 mm longis ex parte majore vel minore nunc dense nunc sparse pubescentia vel glabrescentia vel raro fere omnino glaberrima, 6.5–10.0 cm longa 3.5–4.5 cm lata, plerumque 1.8–2.2-plo longiora quam latiora; costa pallida supra in vivo convexa præter basin glabrata vel per totam longitudinem pulverulento-pubescente, subtus prominente nunc dense nunc laxe pubescente vel fere glabra; nervis primariis arcuatis leviter flexuosis utrinque circiter 10 a costa sub 50°–80° divergentibus supra paullo impressis infra prominentibus, secundariis tenuibus supra paullo impressis infra elevatis, intermediis 0–3 sub angulis sat latioribus divergentibus. *Petioli* supra leviter convexi basi solum concavi pulverulento-pubescentes, subtus convexi etiam pubescentes vel glabrescentes, ad 1.4 cm longi. *Stipulæ* bene evolutæ, semicordatæ, acutæ, denticulatæ, dentibus latere interiore obsoletis, utrinque foliis concolores, parce pubescentes vel glabratæ, 4×2.5, 7×4, 9×5.5 mm etc. magnæ. *Amenta* ♀ (paullo ante anthesin vidi) præcocia densiflora, oblongo-cylindrica apice obtusissima, ad 2 cm longa 0.8 cm crassa, basi subsessilia cataphyllis 5–8 ovato-lanceolatis antice angustato-acutis, margine integris, supra glabris subtus villosissimis, villis marginem superantibus, 7–9 mm longis 2.5–3.5 mm latis suffulta. *Bracteolæ* oblongæ apice obtusæ basi pallidæ ceterum nigrescentes circiter 2.0×0.8 mm magnæ, utrinque villoso-hirsutæ, pilis 1.5–2.0 mm longis. *Glandula* una ventralis ovata apice truncata 0.6×0.4 mm magna. *Ovaria* ex ovata basi elongato-conica albo-sericea, 2.0–2.4 mm longa 0.8 mm crassa; pedicellis gracilibus pilosis circiter 1.5 mm longis; stylis brevissimis ad 0.2 mm longis. *Stigmata* pallida iis *Salicis Bakko* Kimura simillima, bilobata, laciniis erectis circiter 0.4 mm longis. *Amenta fructifera* ad 5.5 cm longa 1.3 cm crassa, pedunculis 1.0 cm vel ultra longis, cataphyllis pedunculorum caducis. *Amenta* ♂ tantum ante anthesin visa, præcocia, subsessilia, basi cataphyllis ut in ♀ suffulta, 1.9 cm longa 1.1 cm crassa. *Bracteolæ* oblongæ vel ellipticæ apice obtusissimæ, colore ut in ♀, utrinque villosæ, circiter 2 mm longæ 0.8–1.1 mm latæ. *Glandula* una ventralis ut in ♀. *Stamina* 2, filamentis liberis glabris ad 3.8 mm longis; *antheris* luteis oblique ovali-ovatis circiter 0.8×0.6 mm magnis.

NOM. JAP. *Susuya-yanagi*, nov.

HAB. *Sachalin austr.* Toyohara: Ikusagawa, prope Toyohara (A. KIMURA n. 2287 st. *typus* spec. 1 Sept. 1933 in Herb. Tohoku Univ. Imp.; S. SUGAWARA n. 1 *typus* fl. ♀ & ♂ 10 Jun. 1930, in Herb. A. Kimura et fr. 2 Jul. 1932).

DISTRIB. Endemica.

var. **ovalifolia** Kimura var. nov.

A typo foliis latioribus ovalibus recedit.—*Folia adulta* ovalia, medio latiora, apice subito acuminata, margine infra apicem concavo, basi margine fere recto vel leviter convexo acuta ad rotundata, 7.4×5.0, 7.5×5.2, 8.5×5.4 cm etc. magna, ceterum fere ut in typo.

NOM. JAP. *Maruba-susuya-yanagi*, nov.

HAB. *Sachalin austr.* Toyohara: Ikusagawa, prope Toyohara (S. SUGAWARA n. 7 st. *typus* 30 Aug. 1932 in Herb. A. Kimura).

DISTRIB. Endemica.

798. Salix taraikensis Kimura sp. nov.

Salix hastata (non Linn.) Miyabe et Miyake, Fl. Saghal. 427 (1915); Kudo in Jour. Coll. Agr. Hokkaido Imp. Univ. XII: 1, 30 (1923), Rep. Veg. North. Saghal. 98 (1924); ?Fr. Schmidt, Reis. Amurl. Sachal. 173 (1868), *syn. nov.*

Salix Starkeana var. *cinerascens* Makino & Nemoto, Fl. Jap. ed. 2, 172 (1931).

Frutex ad 5 m altus coma rotundata breviter ramosissimus, rarius arborescens. Truncus diametro usque 11 cm crassus cortice fusco-griseo longitudine breviter rimoso obtectus. *Ramuli* juveniles vernales sericei, hornotini aestate virides vel rufescentes glaberrimi vel interdum in apicali tantum novella parte sub lente puberuli, ad insertionem sæpe pubescentes vel puberuli, annotini glaberrimi lucidi luteo- vel rufo-brunnei vel purpurascentes; rami fusco- vel griseo-brunnei, vetustiores cinerei. *Lignum nudum* vibicibus ad 8 mm longis sparse conspersum. *Gemmæ* amentiferæ oblongæ vel ovato-oblongæ, apice obtusæ et sæpe planiusculæ, latere biangulatæ, glaberrimæ lucidæ brunneæ 8–11 mm longæ 3–4 mm latæ; foliiferæ amentiferis aequiformes concolores, aequimagnæ vel minores. *Cataphylla* sterilium

ramulorum viridia vel brunneo-viridia, infima sessilia superiora brevissime petiolata, apice acuta vel obtuse acuta, margine integra villoso-sericea, supra glabra nitentia, rarius sericea, subtus undique vel ad costam marginemque sericea vel villoso-sericea, 8.5–18 mm longa, 2–6 mm lata. *Folia novella* aestivatione convoluta, supra adpresse albo-sericea infra præter costam parce sericeam glabra, utrinque mox glabrescentia, apice viridi excepto rubro-brunnea deinde virescentia; *adulta* chartacea, in petiolo usque ad 1.6 cm longo semitereti supra convexiusculo, toto glabro vel tantum supra basi minutissime pubescente, oblanceolato-, obovato- vel subrhomboideo-elliptica vel elliptica rarius lanceolato-ovata, apice acuminata vel acuta, basi anguste vel late acuta, interdum subacuminata, raro obtusa, pleraque supra vel ad medium latissima, supra lucida saturate viridia paulum impressinervata, subtus glauca, utrinque glaberrima, margine crenato- vel denticulato-serrulata, serraturis obtusis vel subargutis interdum plus minusve obsoletis irregulariterque distantibus, 6.6–10.4 cm longa 2.1–3.6 cm lata, 2.5–3.5-plo longiora quam latiora; costa pallida supra fere plana subtus valde prominente utrinque glabra; nervis primariis utrinque 10–13 supra paulum impressis infra prominentibus, leviter vel interdum valde arcuatis ante marginem flexuosis a costa sub angulis 40°–60°(−80°) proficiscentibus; secundariis tenuibus infra elevatis anastomosantibus; intermediis nullis vel 1–3 primariis subparallelis vel angulis latioribus divergentibus. *Folia inferiora* ramulorum superioribus minora margine obsolete vel distincte crenato-serrulata vel integriuscula vel integra. *Stipulæ* interdum nullæ semicordatæ denticulatæ, dentibus sæpe glanduliferis, subtus glaucæ utrinque glabræ, 1.3–6 mm longæ 0.9–3 mm latæ, in ramulis vegetis sat majores. *Amenta* coætanea vel subpræcocia, rhachidibus sericeis; ♀ oblongo-cylindrica, sub anthesi 2–2.7 cm longa 0.7–1.4 cm crassa, pedunculis sericeis 0.7–1.2 cm longis cataphyllis 3–4 (−6) instructis; cataphylla pedunculi forma iis sterilium ramulorum simillima, margine interdum involuta, 8–19 mm longa 2–5.5 mm lata, supra glabra vel pilis brevibus curvulisque pubescentia, subtus aut ad costam marginemque aut raro undique dense vel sparse villoso-sericea. *Bracteolæ* oblongæ apice obtusæ vel obtuse acutæ, antice brunneæ vel nigræ ceterum pallide flavo-virides vel medio interdum rubicundæ, untrinque villosæ, 2.3–2.6 mm longæ 0.8–0.9 mm latæ. *Glandula* una ventralis lutea vel flavo-viridis quadrangulari-ovata apice truncata vel obtusissima, 0.4–0.8(−1.0) mm

longa 0.4–0.6 mm lata. *Ovaria* viridia ex ovata basi elongato-conica dense albo-sericea, sub anthesi 2.3–3.0 mm longa 0.9–1.0 mm crassa; styli glabri flavo-virides 0.5–0.7 mm longi; pedicelli flavo-virides sericei 1.9–2.3 mm longi. *Stigmata* pallide flavo-viridia bilobata, lobis oblongis vel linearioblongis 0.5–0.8 mm longis. *Capsulæ* stramineæ vel stramineo-brunneæ sparse sericeæ maturitate fere 0.9 cm longæ. *Amenta* ♂ ovalia vel oblongo-cylindrica apice rotundata densiflora 2.3–3.8 cm longa 1.8–2.7 cm crassa, pedunculis sericeis ad 0.7 cm longis, cataphyllis ut in ♀ instructis. *Bracteolæ* ut in ♀. *Glandula* una ventralis forma coloreque ut in ♀. *Stamina* 2, filamentis liberis basi pilosulis vel raro fere glabris ad 11 mm longis; antheræ luteæ ovatæ circiter 1 mm longæ 0.9 mm latæ.

NOM. JAP. *Taraikayanagi.*

HAB. *Sachalin austr.* Shikka: Siska (A. KIMURA n. 671 ♀ *typus* spec. in Herb. Kimura fl. 7 Jun. 1927 et fol. 21 Aug. 1927; n. 700 *typus* ♂ fl. 11 Jun. 1927 et fol. 22 Aug. 1927 in Herb. Kimura; K. MIYABE & T. MIYAGI 1906; S. SUGAWARA 1925; OTANI & IMAI 1930); Higashiyama (T. MIYAKE 1906); Taraika (S. SUGAWARA 1927).

Sachalin bor. Tymi: Parukata (Y. KUDO & M. TATEWAKI n. 6447, 1922); Adatuim (Y. OKADA 1923). Pronge-Baikal: Astrakhanovka (Y. KUDO & B. ISHIDA n. 7399, 1923).

Yezo. Kushiro: prope lac. Akan (M. TATEWAKI n. 5041, 1925); monte Meakan (F. KASAI, 1917); Hamanaka (KIMURA n. 2033, 1931); Kiritap (KUDO n. 3126, 1917). Nemuro: prope Attoko (KIMURA n. 833 ♀ fl. 5 Jun. 1931 et fol. 23 Jul. 1931; n. 2012 ♂, 24 Maio 1931); Rubesu (KUDO n. 3224, 1917); inter Bekkai et Shibetsu (KUDO n. 3223, 1917).

DISTRIB. Yezo, Sachalin.

var. **latifolia** Kimura var. nov.

Folia adulta elliptica vel late elliptica 1.5–2.5-plo longiora quam latiora, 5.3–9.2 cm longa, ceterum ut in typo.

NOM. JAP. *Hirohano-taraikayanagi,* nov.

HAB. *Yezo.* Kushiro: Hamanaka (A. KIMURA n. 2005 ♀ fol. *typus* 22 Jul. 1931, in Herb. Kimura et gemm. 22 Maio 1931 et fl. 5 Jun. 1931). Nemuro: Attoko (A. KIMURA n. 837 ♀ fol. 23 Jul. 1931 et fl. 5 Jun. 1931).

Sachalin austr. Shikka: Siska (A. KIMURA n. 668 fol. 21 Aug. 1927).

Toyohara: Nakazawa (S. SUGAWARA, fr. 2 Jul. 1933).

DISTRIB. Yezo, Sachalin.

799. Salix Tatewakii[1] Kimura sp. nov.

Frutex 1 m altus; *ramuli* hornotini brunneo-virides minutissime pulverulento-pubescentes, annotini brunnei etiam pulverulento-pubescentes vel glabri; rami glabri griseo-brunnei. *Gemmæ* amentiferæ ovatæ obtusæ brunneæ glabræ novo auctumno fere 8 mm longæ 4 mm latæ, foliiferæ minores 3 mm longæ. *Cataphylla* sterilium ramulorum ovalia ad obovata apice obtusissima vel rotundata basi obtusa brevissime petiolata margine integerrima, supra glabra nitentia leviter impressinervata, infra dilute glauca pilis adpressis albis et ferrugineis mixtis villoso-sericea vel sericea, 7×4.5, 12×7, 15×9 mm etc. magna. *Folia adulta* in petiolo 7–13 mm longo supra canaliculato pubescente infra convexo primo pubescente demum glabrescente, obovata supra medium distincte latiora, margine leviter crenata, dentibus sæpe sat obsoletis, apice late acuta vel obtusissima vel breviter acuminato-acuta margine leviter convexa vel rectiuscula vel leviter concava, basi margine paullum convexo acuta vel obtusa, supra viridia lucida rugosa glabra, subtus glaucina pilis albis curvulis tomentosa vel tomentulosa, 4.5–6.5 cm longa 2.8–4.8 cm lata, 1.6–2.0-plo longiora quam latiora; costa supra glabra fere plana infra valde prominente; nervis primariis supra impressis infra prominentibus utrinsecus 14–15 leviter arcuatis a costa sub 50°–70° divergentibus, secundariis prominulis. *Stipulæ* nullæ. *Amenta* ♀ (tantum deflorata visa) coætanea longe cylindrica fere 6 cm longa 1.5 cm crassa, rhachidibus pubescentibus, foliato-pedunculata. Pedunculi ad 1.6 cm longi, pilis albis ferrugineisque sericeo-tomentosi, cataphyllis 4–5 ovalibus vel ellipticis utrinque obtusis brevissime petiolatis integerrimis 7–15 mm longis 5–7 mm latis, ceterum ut in ramulorum sterilium. *Bracteolæ* oblongo-oblanceolatæ supra medium latioræ vel fere oblongæ, sursum acutatæ apice ipso obtuso vel acuto vel raro obtusissimo, deorsum margine cuneatiusculo vel fere parallelo, dimidia superiore parte nigræ inferiore pallide virides, utrinque villosæ fere 3.2 mm longæ 1.2 mm latæ. *Glandula* una ventralis flava ovato-quadrangula apice

1) Amico meo Dr. M. Tatewaki Imperialis Hokkaido Universitatis, investigatori impigro borealisque floræ Japoniæ exploratori, qui multos per annos mecum communicavit specimina perutilia Salicacearum.

truncata 0.6–0.9 mm longa 0.4–0.6 mm lata. *Ovaria* viridia ex ovata basi longe lanceolato-conica, supra basin crassiora, pilis albis minutis rectiusculis vel leviter curvatis adpresse sericea, paullo post anthesin 5–5.8 mm longa, supra basin fere 1 mm crassa; pedicelli graciles sat longi pubescentes apicem bracteolæ paullum superantes vel aequantes fere 3.2 mm longi; styli 0.5–0.6 mm longi obcompressi fere 0.2 mm lati et vix 0.1 mm crassi. *Stigmata* bipartita vel bifida, laciniis 0.4–0.6 mm longis erecto-patentibus. *Amenta* ♂ coætanea oblongo-cylindrica 3.3 cm longa 2.0 cm crassa, densiflora, rhachidibus pubescentibus, pedunculo 0.9 cm longo. Cataphylla pedunculi 4–6 elliptica ad oblonga 1.0–1.3 cm longa 4–5 mm lata, ceterum ut in ♀. *Bracteolæ* ut in ♀. *Glandula* una ventralis ut in ♀. *Stamina* 2, filamentis liberis 6.5–7.5 mm longis basi pilosis; *antheræ* luteæ ovali-ovatæ basi leviter obliquæ fere 1.0 mm longæ 0.8 mm latæ.

Affinis *S. Hultenii* Floderus, sed ex qua bene distinguenda habitu humiliter fruticoso, foliis obovatis laxius tomentosis, nervis infra distinctius visibilibus, amentis longius pedunculatis, cataphyllis minus villosis, ovariis laxius sericeis, stylis longioribus etc.

Nom. Jap. *Choronai-yanagi*, nov.

Hab. *Sachalin austr.* Shikka: in paludosis prope fl. Choronai, in vicino pagi Siska (A. Kimura n. 706 ♀ fl. *typus* sp. 12 Jun. 1927 in Herb. A. Kimura et fol. 22 Aug. 1927; n. 707 ♂ fl. *typus* ♂ 12 Jun. 1927 et fol. 22 Aug. 1927).

Distrib. Endemica.

Sect. **Myrtilloides** Borrer in Loudon, Arb. Brit. III. 1587 (1838).

800. Salix arbutifolia Pallas, Fl. Ross. I: 2, 79 (1788); Georgi, Geogr. Physik. Naturhist. Beschreib. Russ. Reich. III: 5, 1338 (1800); Floderus in Arkiv f. Bot. XXA. no. 6, 44 in nota sub *S. fuscescente* Andersson (1926) (Sal. Fl. Kamtch.), ibid. XXVA. no. 10, 8 (1933) (Sal. Penins. Anadyr.).

Salix myrtilloides (non Linn.) Chamisso in Linnaea VI. 539 (1831) quoad pl. Kamtsch.; Erman, Verzeich. Thier. Pfl. 56, n. 35 (1835); Ledeb. Fl. Ross. III: 2, 613 (1849–1851) quoad pl. Kamtsch.; Anders. in DC. Prodr. XVI: 2, 229 (1868) quoad pl. Kamtsch.

Salix rhamnifolia (non Pall.) Hook. & Arn. in Beechey's Voy. 117, *t. 26* (1841); Ledeb. Fl. Ross. III: 2, 613 (1849–1851) quoad pl. Kamtsch.; Trautv. & Mey. Fl. Ochot. 80 (1856); Anders. Salic. Bor.-Amer. 26 (1858).

Salix ovalifolia (non Trautv.) Ledeb. Fl. Ross. III: 2, 621 (1849–1851) quoad pl. Kamtsch.; Herder in Act. Hort. Petrop. XI: 2, 444 (1891).

Salix Myrsinites (non Linn.) Ledeb. Fl. Ross. III: 2, 620 (1849–1851) quoad pl. Kamtsch.

Salix fuscescens Anders. Monogr. Salic. 97 (1867), et in DC. Prodr. XVI: 2, 230 (1868); Trautv. in Act. Hort. Petrop. V: 1, 105 (1877) (Pl. Sibir. Bor.), ibid. VI: 1, 33 (1879) (Fl. Terr. Tschuktsch.), ibid. IX: 1, 177 (1884) (Incr. Fl. Phænogam. Ross. III.); Kjellman, Vega-Exped. Vetensk. Arbet. I. 552 (1882) (Asiat. Beringss. Kust. Fanerogamfl.); Herder in Act. Hort. Petrop. XI: 2, 408 (1891); F. Kurtz in Engler, Bot. Jahrb. XIX. 473 (1894) (Fl. Tschuktschenhalbins.); Coville in Proc. Wash. Acad. Sci. III. 329 (1901) (Willows of Alaska); Fedtschenko, Fl. Îles Command. 103 (1906); Komar. Voy. en Kamtch. 412 (1912), Fl. Penins. Kamtsch. I. 331 (1927), II. 13 (1929); Schneider in Sarg. Pl. Wils. III. 153 (1916), in Jour. Arn. Arb. II. 83 (1920); Floderus in Arkiv f. Bot. XXA. no. 6, 44 (1926); Shishkin in Bull. Pacif. Sci. Fish. Research Stat. II: 4, 27 (1928) (Land Fl. Shantar Isl.); Hultén, Fl. Kamtch. II. 11 (1928); Komar. & Klob.-Alis. Key Pl. Far East. 425 (1931).

Salix arbuscula (non Linn.) Koidz. in Tokyo Bot. Mag. XXV. 206 (1911) (Pl. Siphon. a Yokoyama 1907 in Alaska etc. collec.), *syn. nov.*

Salix phleobophylla Anders. apud Kudo in Jour. Coll. Agr. Hokkaido Imp. Univ. XI: 2, 96 (1922) (Fl. Paramushir), ibid. XII: 1, 30, pro pte. (1923), Rep. Veg. North. Saghal. 98, pro pte. (1924) japonice; Hultén, Fl. Kamtch. II. 22 (1928), *syn. nov.*

var. **psilocarpa** Kimura var. nov.

Salix fuscescens Andersson var. *typica* Kimura in sched. Herb. Univ. Imp. Hokkaido.

Ovaria una cum pedicellis ab initio glaberrima.—Rarissime occurrere videtur.

HAB. *Sachalin bor.* Nyiwo: Nyiwo, in arenosis litoralibus (Y. KUDO & M. TATEWAKI n. 6477 pro pte. 12 Aug. 1922).

Kuriles. Paramushir: Murakamiwan, in paludosis (Y. KUDO n. 4973

pro pte. 4 Jul. 1920); Kashiwabara, (Y. KUDO ♀ fr. 26 Jul. 1920).

var. **dasycarpa** Kimura comb. nov.

Salix fuscescens Anders. var. *dasycarpa* Trautv. in Act. Hort. Petrop. IX: 2, 481 (1886) (Contr. Fl. Turcomaniæ); Herder in Act. Hort. Petrop. XI: 2, 409 (1891); Schneider in Sarg. Pl. Wils. III. 153 (1916) in nota.

NOM. JAP. *Yachi-mameyanagi,* (KUDO anno 1924).

HAB. *Sachalin austr.* Shikka: Siska (NAGAMATSU ♀ fr. 1930); Hoe (T. ICHIKAWA, ♀ fr. 1929); Jimutaki (K. MIYABE & T. MIYAGI ♀ fr. 1906). Motodomari: Maguntan (S. SUGAWARA ♀ fl. et fr. 1927).

Sachalin bor. Nyiwo: Nyiwo, tundra prope litus (Y. KUDO & M. TATEWAKI n. 6524, ♀ fr. 1922). Chaiwo: Chaiwo, prope litus (KUSANO ♀ fr. 1921). Schmidt Penins.: Piltuk (Y. KUDO & B. ISHIDA n. 7136 st. pro pte. et fr. 1923).

Kuriles. Paramushir: Murakamiwan (KUDO n. 5441 ♀ fr. 1920); Kashiwabarawan (KUDO n. 5492 ♀ fr. 1920); Chitosewan (KUDO n. 4836 ♀ 1920).

DISTRIB. SPEC. Sachalin, Kuriles, Kamtchatka, Sibiria boreali-orientalis, America boreali-occidentalis.

801. Salix paludicola Koidzumi in Tokyo Bot. Mag. XXXIII. 219 (1919); Makino & Nemoto, Fl. Jap. ed. 1, 1127 (1925), ed. 2, 169 (1931); Nakai, Rep. Veg. Daisetsusan Mts. 6, 45 (1930).

Descr. ♂ typ.—*Amenta* ♂ coætanea oblongo-cylindrica densiflora fere 3 cm longa 1.1 cm crassa, pedunculis sericeis vel villoso-sericeis ad 1.2 cm longis folia 2–3 elliptica vel oblongo-elliptica vel oblongo-obovata utrinque obtusa margine integra supra glabra impressi-nervatula subtus glaucina secus costam adpresse sericea 9–15 mm × 4.5–6.5 mm magna gerentibus. *Bracteolæ* ellipticæ vel obovato-ellipticæ apice rotundatæ superne fusco-brunneæ (in sicco) basi flavo-brunneæ (in sicco) utrinque villosæ 1.7–2.0 mm longæ 1.0–1.1 mm latæ. *Glandula* una ventralis oblonga truncata 0.7–0.8 mm longa 0.3 mm lata. *Stamina* 2, filamentis liberis 5 mm longis basi paucipilosis; antheræ fere orbiculares 0.8 mm longæ 0.7 mm latæ, post anthesin nigrescentes (ante eandem rubræ?).

S. arbutifoliæ Pallas maxime affinis, sed ab ea differt pedicellis bre-

vioribus glandulas aequantibus vel paullo superantibus, bracteolis brevioribus.

NOM. JAP. *Miyama-yachi-yanagi.*

HAB. *Yezo.* Prov. Ishikari: monte Chupetsnupuri (Y. YAMADA & SH. AKIYAMA ♂ fl. *typus* et ♀ fl. 30 Jul. 1931 in Herb. A. KIMURA; H KOIDZUMI fr. 1917); in paludosis Takanegahara montium Nutakkukamu-shupe (A. KIMURA n. 2174–2178, ♀ 13 Jul. 1928).

DISTRIB. Endemica.

802. Salix poronaica Kimura sp. nov.

Salix phleobophylla Andersson apud Kudo in Jour. Coll. Agr. Hokkaido Imp. Univ. XII: 1, 30, p. p. quoad specim. n. 6589 (1923) (Contr. Fl. North. Saghal.), Rep. Veg. North. Saghal. 98 p. p. quoad specim. ex Piltuk (1924) (japonice), *syn. nov.*

Frutex 0.45–0.65 (–1.0)m altus; *ramuli* ascendentes hornotini flavo-virides in sicco brunnei teretes rectiusculi, pilis minutissimis sparse vel dense (præsertim superne) pubescentes 5–46 cm longi, annotini castanei vel purpureo-castanei nitentes glabri vel partim minutissime pubescentes; rami cinereo-brunnei, vetustiores cinerei, basi repentes. *Gemmæ* amentiferæ ovatæ apice obtusissimæ ad 9 mm longæ vix 4 mm latæ. *Cataphylla* pedunculorum steriliumque ramulorum late oblonga vel elliptica vel anguste obovata, apice obtusa ad obtusissima, basi obtusissima, obtusa vel acuta, in petiolis 1.3–2.5 mm longis pallide flavo-viridibus, margine integra vel integriuscula interdum angustissime rubro-marginata, supra glabra viridia nitentia leviter impressi-nervatula, subtus dilute glaucina, inferiora ad costam vel per totam fere paginam pilis ferrugineis vel ferrugineis albisque mixtis adpresse villoso-sericea, superiora interdum fere glabra, 8–17 mm longa 3.5–8 mm lata. *Folia adulta* chartacea obovata vel anguste obovata apice late acuta vel acuto- vel subcuspidato-rotundata, supra medium latissima deorsum margine leviter convexo vel fere recto attenuata, ad basin acuta, margine fere integra vel infra medium obsolete serrulata, supra sat viridia vernicoso-nitentia distincte rugosa, subtus dilute glaucina, inferiora vulgo utrinque glabra superiora utrinque pilis albis vel interdum ferrugineis mixtis sericeo-tomentosa, 27×16, 40×22, 47×24, 55×25, 65×32 mm etc. magna, 1.7–2.2-plo longiora quam latiora, inferiora minora iis *S. arbutifoliae* simillima. Costa supra immersa subtus vehementer prominens in foliis superioribus utrinque

tomentosa inferioribus vulgo glabra. Nervi primarii rectiusculi vel leviter arcuati supra immersi infra prominentes utrinsecus 12–18 a costa sub 50°–70° divergentes prope marginem anastomosantes, secundarii supra impressi infra elevati inter primarios pulchre reticulati. *Petioli* ad 9 mm longi minutissime pubescentes supra canaliculati. *Stipulæ* vulgo nullæ raro in ramulis vegetis evolutæ (vidi in n. 1538) semi-cordatæ subtus glaucinæ utrinque tomentosæ 2×1.2 mm magnæ. *Amenta* ♀ coætanea longe cylindrica sub anthesi 2.2–3.5 cm longa 6–9 mm crassa, rhachidibus sericeis, pedunculis sericeo-tomentosis pallide viridibus ad 3 cm longis cataphyllis 4–6 instructis. *Bracteolæ* oblongæ apice obtusæ superne nigræ basi pallide flavo-virides extus villoso-hirsutæ intus superne villoso-hirsutæ basi breviter parce pubescentes 2.2–2.5 mm longæ 0.8–0.9 mm latæ. *Glandula* una ventralis flavo-viridis ovata apice truncata 0.7×0.4 mm magna. *Ovaria* violacea ex ovata basi longe conica 2.7–3.6 mm longa 1.0–1.2 mm crassa, sericeo-pubescentia, stipitibus pubescentibus 1.5–2.0 mm longis, stylis glabris flavo-viridibus 0.4–0.6 mm longis paulo obcompressis. *Stigmata* pallide flava vel rubescentia bifida. *Amenta* ♂ coaetanea cylindrica 2–3 cm longa ad 12 mm crassa, rhachidibus ut in ♀, pedunculis ad 13 mm longis sericeis, cataphyllis fere ut in ♀. *Bracteolæ* ut in ♀. *Glandula* una ventralis flavo-viridis ovato-oblonga apice truncata 1.0×0.4 mm magna. *Stamina* 2, filamentis liberis basi pilosis, 5.5–7.5 mm longis; *antheræ* late ellipticæ fere 0.8 mm longæ post anthesin sæpe fuscescentes, sub anthesi non visæ.

S. arbutifoliæ Pallas affinis sed foliis superioribus majoribus utrinque sericeo-tomentosis luculenter recedit.

NOM. JAP. *O-yachimameyanagi*, nov.

HAB. *Sachalin austr.* Shikka: in paludosis, Siska (A. KIMURA n. 702 ♀ fl. *typus* sp. 12 Jun. 1927 in Herb. Kimura et fol. 22 Aug. 1927; n. 701 ♂ fl. *typus* ♂ 12 Jun. 1927 et fol. 22 Aug. 1927; n. 1538 st. 20 Aug. 1927; H. OTANI & Y. IMAI fr. 1930; K. MIYABE & T. MIYAGI fr. et st. 1906); Tarankotan (T. MIYAKE, st. 1906).

Sachalin bor. Schmidt Penins.: Piltuk (Y. KUDO st. 1923). Nyiwo: prope Nyiwo (KUDO & TATEWAKI n. 6589 st. 1922).

DISTRIB. Endemica.

Sect. **Daphnoideæ** Dumortier, Fl. Belg. Prodr. 12 (1827).

803. Salix Lackschewitziana Toepffer in Österr. Bot. Zeits. LXVI. 402 (1916); Kimura in Sci. Rep. Tohoku Imp. Univ. 4 ser. Biol. VI: 2, 185 (1931) (Contr. Salic. Jap. IV); Tatewaki, Forest-Assoc. & Lign. Fl. Uryu Univ. Exp. For. I. 111 (1932).

Salix coerulescens (non Döll) Turcz. Pl. Exsicc. ann. 1828 ex Ledeb. Fl. Ross. III: 2, 602 (1849–1851) (fide Lackschewitz); Trautv. in Act. Hort. Petrop. IX: 1, 176 (1884) (Incr. Fl. Phænogam. Ross. III.).

Salix acutifolia (non Willd.) Ledeb. Fl. Ross. III: 2, 601 (1849–1851) pro pte.; Turcz. in Bull. Soc. Imp. Nat. Mosc. XXVII. 374 (1854); Fr. & Sav. Enum. Pl. Jap. I. 461 (1875); Herder in Act. Hort. Petrop. XI: 2, 424 (1891) pro pte.

Salix daphnoides (non Villars) Ledeb. Fl. Ross. III: 2, 602 (1849–1851) pro pte.; Anders. in DC. Prodr. XVI: 2, 261 (1868) pro pate.; Kawakami in Tokyo Bot. Mag. X. 50 (1896); Tokubuchi ibid. X. 123 (1896); Herder in Act. Hort. Petrop. XI: 2, 423 (1891) pro pte.; Matsum. Shokubutsu Mei-I 260 (1895); Seemen, Salic. Jap. 49, *t. 9, f. A–E* (1903); Lévl. in Bull. Acad. Intern. Géogr. Bot. XIV. 209 (1904), XVI. 146, 148 (1906); Schneider, Ill. Handb. Laubholzk. I. 44 (1904) pro pte.; Shirasawa, Icon. Ess. For. Trees Jap. II. *t. 10, f. 13–22* (1908), text. 23 (1910); Nakai in Tokyo Bot. Mag. XXVI. 168 (1912), Veg. Diamond Mts. 168 (1918); Matsum. Ind. Pl. Jap. II: 2, 9 (1912); Miyabe & Miyake, Fl. Saghal. 427 (1915).

Salix præcox (non Hoppe) Trautv. & Mey. Fl. Ochot. 78 (1856); Trautv. in Maxim. Prim. Fl. Amur. 242 (1859); Fr. Schmidt, Reis. Amurl. Sachal. 172 (1868).

Salix rorida (non Gandoger) Lackschewitz in Sched. ad Herb. Fl. Ross. VII. 131 (1911); Toepffer, Salic. Mitt. V. 238 (1912); Schneider in Sarg. Pl. Wils. III. 155 (1916); Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido, I. 55, *t. 16* (1921); Kudo in Jour. Coll. Agr. Hokkaido Imp. Univ. XII: 1, 30 (1923), Rep. Veg. North. Saghal. 100 (1924); Komar. Pl. Austro-Ussur. 50 (1923); Makino & Nemoto, Fl. Jap. ed. 1, 1128 (1925), ed. 2, 170 (1931); Nakai in Tokyo Bot. Mag. XXXII. 216 (1918), in Bull. Soc. Dendr. France no. 66, 13 (1928), Fl. Syl. Korea. XVIII. 92, *t. 12* (1930); Komar. & Klob.-Alis. Key Pl. Far East. 424, *t. 129, f. 3e* (1931); Görz in Fedde, Rep. Sp. Nov. XXXII. 387 (1933).

var. **typica** Kimura in Sci. Rep. Tohoku Imp. Univ. 4 ser. Biol. VI: 2, 186 (1931) (Contr. Salic. Jap. IV.).

Salix rorida Lackschewitz l. c. pro parte (specim. ♂ excl.).

Salix rorida Lackschewitz var. *typica* Kimura in litt. ex R. Görz, Sched. ad fasc. I Salicac. Asiat. 15 (1931), in Fedde, Rep. Sp. Nov. XXXII. 119 (1933).

Nom. Jap. *Ezoyanagi.*

Nom. Ainu. *Shiu-susu.*

Hab. *Yezo.* Oshima, Iburi, Hidaka, Ishikari: Makomanai (A. Kimura n. 1910 fl. *typus* ♂ var. 7 Apr. 1930, in Herb. A. Kimura), Tokachi, Kushiro.

Sachalin austr. Odomari, Toyohara, Motodomari, Shikka.

Sachalin bor. Alexandrowsk, Tim.

Distrib. Sachalin, Yezo, Honshu, Korea, Ussuri, Amur.

f. **cordata** (Görz) Kimura nom. nov.

Salix rorida Lacksch. var. *typica* Kimura f. *cordata* Görz, Sched. ad fasc. I. Salicac. Asiat. 15 (1931), in Fedde, Rep. Sp. Nov. XXXII. 119 (1933).

Hab. *Yezo.* Ishikari: Makomanai, prope Sapporo (A. Kimura n. 1924 ♀ *typus*, fl. 14 Apr. 1930 et fol. 5 Jul. 1930 in Herb. Görz).

Distrib. Endemica.

var. **roridæformis** Kimura in Sci. Rep. Tohoku Imp. Univ. 4 ser. Biol. VI: 2, 187 (1931) (Contr. Salic. Jap. IV.).

Salix daphnoides (non Villars) Seemen, Salic. Jap. 49 (pro parte) *t. 9, f. B* (1903).

Salix rorida Lacksch. l. c. pro parte (specim. ♀ excl.).

Salix roridæformis Nakai in Tokyo Bot. Mag. XXXIII. 5 (1919), Rep. Veg. Kamikochi 15, 38 (1928), in Bull Soc. Dendr. France no. 66, 14 (1928), Fl. Syl. Korea. XVIII. 96, *t. 13* (1930).

Salix rorida Lacksch. var. *eglandulosa* Kimura in litt. ex Görz, Sched. ad fasc. I. Salicac. Asiat. 15 in nota sub *S. rorida* Laksch. var. *typica* Kimura (1931).

Hab. *Sachalin austr.* Shikka: Kusunokiyama (K. Ueda n. 1, ♂ fl. 2 Maio 1932; fol. 13 Aug. 1932 in Herb. A. Kimura).

DISTRIB. Sachalin, Honshu media, Korea.

Sect. **Viminales** Bluff & Fingerhuth, Comp. Fl. Germ. II. 562 (1825).

804. Salix yezoensis Kimura in Tokyo Bot. Mag. XLV. 28 (1931), in Sci. Rep. Tohoku Imp. Univ. 4 ser. Biol. VI: 2, 190 (1931) (Contr. Salic. Jap. IV.); Tatewaki, For.-Assoc. & Lign. Fl. Uryu Univ. Exp. For. I. 111 (1932).

Salix viminalis (non Linn.) Tokubuchi in Tokyo Bot. Mag. X. 124 (1896); Seemen, Salic. Jap. 50, *t. 9, F–K* (1903), quoad pl. ex Jesso et Sachalin; Lévl. in Bull. Acad. Intern. Géogr. Bot. XIV. 209 (1904), ibid. XVI. 146, 148, 151, (1906); Matsum. Shokubutsu Mei-I. 261 (1895), Ind. Pl. Jap. II: 2, 15 (1912); Makino & Nemoto, Cat. Jap. Pl. Herb. Nat. Hist. Dept. Tokyo Imp. Mus. 311 (1914); Miyabe & Miyake, Fl. Saghal. 428 (1915).

Salix viminalis L. var. *yezoensis* Schneider in Sarg. Pl. Wils. III. 158 (1916); Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido, I. 58, *t. 17*, (1921); Kudo in Jour. Coll. Agr. Hokkaido Imp. Univ. XII: 1, 30 (1923); Makino & Nemoto, Fl. Jap. ed. 1, 1130 (1925), ed. 2, 173 (1931).

Salix Gmelini Pall. var. *yezoensis* Kimura in litt. ex R. Görz, Sched. ad fasc. I. Salicac. Asiat. 16 (1931), et in Fedde, Rep. Sp. Nov. XXXII. 387 (1933).

NOM. JAP. *Yezono-kinuyanagi,* nov.

NOM. AINU. *Pet-susu, Yayai-susu.*

HAB. *Yezo.* Iburi, Hidaka, Ishikari, Teshio, Kitami, Tokachi, Kushiro, Nemuro.

Sachalin austr. Odomari, Honto, Mauka, Tomarioro, Ushoro, Toyohara, Motodomari, Shikka.

Sachalin bor. Tim, Schmidt Penins.

DISTRIB. Sachalin, Yezo, Honshu media et extremi-septentrionalis.

var. **angustifolia** Kimura in Sci. Rep. Tôhoku Imp. Univ. 4 ser. Biol. VI: 2, 194 (1931) (Contr. Salic. Jap. IV).

NOM. JAP. *Hosoba-kinuyanagi.*

HAB. *Sachalin austr.* Shikka: Siska (KIMURA n. 1541 st. *typus* in Herb. KIMURA, 21 Aug. 1927).

Sachalin bor. Tim: inter Onory & Rikowskoie (KUDO, 1922). Nyiwo: inter Nyiwo & Parukata (KUDO & TATEWAKI n. 6592, 1922).

DISTRIB. Endemica?

var. **abbreviata** Kimura var. nov.

A typo foliis ramulisque abbreviatis recedit.—*Ramuli* hornotini pubescentes; *annotini* badii lucidiusculi glabri 7.5–18 cm longi, basi 1.5–2.5 mm, apice 0.9–1.5 mm crassi. *Folia adulta* lineari-lanceolata sursum attenuato-acuminata, basi acuta vel obtusa, margine integerrima revoluta, supra pilis minutissimis adpressis omnino obsita, subtus pilis rectis 0.3–0.6 mm longis densissimis costa plerumque parallelis sericea, 4–5.8 cm longa 7–10 mm lata; *costa* supra impressa infra prominente; *nervis* primariis utrinque 16–24 a costa sub 50°–60° divergentibus, primo fere rectis dein leviter arcuatis supra impressis infra elevatis. *Petioli* ad 3.5 mm longi supra sulcati utrinque pubescentes. *Folia juvenilia* aestivatione revoluta. *Stipulæ* rarae lineares minutæ 1.6 mm longæ utrinque pubescentes. Flores non vidi.

NOM. JAP. *Chabo-kinuyanagi*, nov.

HAB. *Yezo.* Tokachi: fl. Satsnai (M. TATEWAKI n. 10483 st. *typus* 3 Aug. 1927, in Herb. Hokkaido Univ. Imp.).

DISTRIB. Endemica.

805. Salix sachalinensis Fr. Schmidt in Mém. Acad. Imp. Sci. St. Pétersb. sér. 7, XII: 2, 173 (1868); Trautv. in Act. Hort. Petrop. IX: 1, 185 (1884); Herder ibid. XI: 2, 429 (1891); Tokubuchi in Tokyo Bot. Mag. X. 124 (1896); Seemen, Salic. Jap. 53, *t. 10 G–L* (1903);? Lévl. in Bull. Acad. Intern. Géogr. Bot. XIV. 210 (1904), XVI. 143, 147, 149, 151 (1906); Koidz. Pl. Sachal. Nakahara. 45 (1910); Matsum. Ind. Pl. Jap. II: 2, 13 (1912); Komar. Voy. en Kamtch. 30, 77, 452, 454 (1912), Pl. Austro-Ussur. 50 (1923), Fl. Penins. Kamtsch. I. 35, 329 (1927), II. 20 (1929); Miyabe & Miyake, Fl. Saghal. 429 (1915); Schneider in Sarg. Pl. Wils. III. 158 (1916); Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido, I. 59, *t. 18* (1921); Kudo, Rep. Veg. North. Saghal. 100 (1924) pro pte.; Makino & Nemoto, Fl. Jap. ed. 1, 1129 (1925), ed. 2, 171 (1931); Floderus in Arkiv f. Bot. XXA. no. 6, 40 (1926) (Sal. Fl. Kamtch.); Tatewaki, Veg. Akan 59 (1927), List Pl. Teshio Univ. Exp. For. I. 13 (1928), For.-Assoc.

& Lign. Fl. Uryu Univ. Exp. For. I. 111 (1932); Hulten, Fl. Kamtch. II. 20 (1928); Nakai, Rep. Veg. Daisetsusan Mts. 16 (1930); Ohwi in Act. Phytotax. & Geobot. I. 131 (1932) (Fl. Shikotan).

Salix opaca Anders. apud Seemen, Salic. Jap. 51, *t. 10 A–F* (1903); Fr. Schmidt, Reis. Amurl. Sachal. 172 (1868) pro syn. *Salicis stipularis*; Tokubuchi in Tokyo Bot. Mag. X. 124 (1896); Kawakami in Tokyo Bot. Mag. XIV. 107 (1900);? Lévl. in Bull. Acad. Intern. Géogr. Bot. XIV. 210 (1904), XVI. 143, 147, 149, 152 (1906); Shirasawa, Icon. Ess. For. Trees Jap. II. *t. 9, f. 1–10* (1908), text. 20 (1910); Matsum. Ind. Pl. Jap. II: 2, 12 (1912); Takeda in Jour. Linn. Soc. Bot. XLII. 485 (1914) (Fl. Shikotan); Miyabe & Miyake, Fl. Saghal. 429 (1915); Schneider in Sarg. Pl. Wils. III. 159 (1916); Nakai, Rep. Veg. Kamikôchi 15 (1928); Komar. & Klob.-Alis. Key Pl. Far East. 426 (1931).

Salix nigricans (non Smith) Ledeb. Fl. Ross. III: 2, 609 (1849–1851) quoad pl. Kamtsch. fide Komarov, Fl. Penins. Kamtsch. II. 20 (1929).

Salix stipularis (non Smith) Trautv. in Maxim. Prim. Fl. Amur. 243 (1859); Fr. Schmidt, Reis. Amurl. Sachal. 172 (1868); Miyabe in Mem. Boston Soc. Nat. Hist. IV. no. 7, 260 (1890); Matsum. Shokubutsu Mei-I 261 (1895); Kawakami in Tokyo Bot. Mag. X. 50 (1896); Koidz. Pl. Sachal. Nakahara. 45 (1910), in Tokyo Bot. Mag. XXVII. 94, 264 (1913).

Salix phylicoides Andersson in Svensk. Vetensk. Akad. Öfvers. XV: 3, 123 (1858), pro pte., Salic. Bor.-Americ. 18, (1858), pro pte.

Salix phylicoides Anders. var. *attenuata* Anders. Monogr. Salic. 141 (1867), in DC. Prodr. XVI: 2, 245 (1868); Schneider in Sarg. Pl. Wils. III. 178 (1916).

Salix Pieroti Miq. apud Makino in Tokyo Bot. Mag. IV. 416 (1890).

Salix shikokiana Makino in Tokyo Bot. Mag. VI. 49 (1892).

Salix Pierotii (non Miq.) Matsudaira in Tokyo Bot. Mag. IX. 470 (1895).

Salix viminalis (non Linn.) Komar. in Act. Hort. Petrop. XXII. 32 (1903) pro pte.

Salix Makinoana Seemen in Fedde, Rep. Sp. Nov. I. 173 (1905) quoad specim. ex Aomori, leg. Faurie n. 5761 ex pte. (fide Koidzumi in Tokyo Bot. Mag. XXVII. 264); Matsum. Ind. Pl. Jap. II: 2, 11 (1912); Schneider in Sarg. Pl. Wils. III. 110 (1916); Makino & Nemoto, Fl. Jap. ed. 1, 1126

(1925), ed. 2, 168 (1931). Omnia ex pte.

Salix korsakoviensis Lévl. in Bull. Soc. Bot. France LVI. 302 (1909).

Salix Pilgeriana Seemen in Fedde, Rep. Sp. Nov. VII. 134 (1909); Matsum. Ind. Pl. Jap. II: 2, 12 (1912); Makino & Nemoto, Fl. Jap. ed. 1, 1127 (1925).

Salix stipularis Smith var. *sachalinensis* Koidz. in Tokyo Bot. Mag. XXVII. 94 (1913).

Salix sachalinensis var. *Pilgeriana* Schneider in Sarg. Pl. Wils. III. 159 (1916); Makino & Nemoto, Fl. Jap. ed. 2, 171 (1931).

NOM. JAP. *Onoeyanagi, Yabuyanagi, Nagahayanagi, Karafutoyanagi.*

NOM. AINU. *Shiu-susu, Yayai-susu.*

HAB. *Yezo.* Oshima, Shiribeshi, Okushiri, Iburi, Hidaka, Ishikari, Teshio, Kitami, Rishiri, Rebun, Tokachi, Kushiro, Nemuro.

Kuriles. Kunashiri, Shikotan, Etorofu, Urup, Shimushir, Paramushir.

Sachalin austr. Odomari, Honto, Mauka, Tomarioro, Ushoro, Toyohara, Motodomari, Shikka.

Sachalin bor. Alexandrowsk.

DISTRIB. Sachalin, Yezo, Honshu, Shikoku, Kuriles, Kamtchatka, Anadyr, Amur, Ussuri.

f. **aequitriens** Kimura nom. nov.

Salix aequitriens Seemen in Engler, Bot. Jahrb. XXI. (1896), Beibl. LIII. 52 (1896), Salic. Jap. 70, *t. 15, f. E–G* (1903);? Lévl. in Bull. Acad. Intern. Géogr. Bot. XVI. 143, 149, 150 (1906); Tokubuchi in Tokyo Bot. Mag. X. 124 (1896); Matsum. Ind. Pl. Jap. II: 2, 7 (1912); Schneider in Sarg. Pl. Wils. III. 160 (1916) (in nota); Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido, I. 61 (1921) (in nota); Makino & Nemoto, Fl. Jap. ed. 1, 1120 (1925), ed. 2, 161 (1931).

A typo recedit solummodo pedicellis ovariorum longioribus.

NOM. JAP. *Konagabayanagi,* (Tokubuchi l. c.).

HAB. *Yezo.* Ishikari: Teinemura (Y. TOKUBUCHI n. 27 ♀ fl. *typus,* 11 Maio 1892).

DISTRIB. Endemica?

806. Salix paramushirensis Kudo in Jour. Coll. Agr. Hokkaido Imp.

Univ. XI: 2, 97 (1922) (Fl. Paramushir); Hultén, Fl. Kamtch. II. 16 (1928).

Salix arctica var. *kurilensis* Kudo in Jour. Coll. Agr. Hokkaido Imp. Univ. XI: 2, 96 (1922) (Fl. Paramushir), quoad specim. n. 4985.

?*Salix parallelinervis* Floderus in Arkiv f. Bot. XXA. no. 6, 35 (1926); Hultén, Fl. Kamtch. II. 16 (1928); Komar. Fl. Penins. Kamtsch. II. 14 (1929).

Emend. ad descr. original.—Ovarium *ovatum* (nec *oblongo-obovatum*), pedicellis 0.6–0.8 mm (nec 7–8 mm) longis, stylis 0.8 mm (nec 8 mm) longis.

NOM. JAP. *Chishima-onoeyanagi*, nov.

HAB. *Kuriles*. Paramushir: in pratis, ad rivulos, prope Nodawan (Y. KUDO n. 4865 ♀ & ♂ 26 Jun. 1920); in pratis siccis, prope Murakami-wan (Y. KUDO n. 5005 ♀ & ♂ 6 Jul. 1920; ?M. TATEWAKI n. 17247 ♂ 29 Maio 1930); in pratis siccis, inter Nishikawa & Atenkeshi (Y. KUDO st. 13 Jul. 1920); Ichaniumbets (S. YOKOYAMA st. 8 Sept. 1893).

DISTRIB. Kuriles, Kamtchatka (?).

Sect. **Helix** Dumortier in Bijdr. Natuurk. Wetensch. (1825) (Verh. Geslacht Wilgen, 15).

807. Salix integra Thunberg, Fl. Jap. 24 (1784); Gmelin, Syst. Nat. II: 1, 73 (1791); Vitman, Summa Pl. V. 460 (1791); Poiret, Encycl. Méth. VI. 662 (1804); Willd. Sp. Pl. IV: 2, 628 (1806); Pers. Syn. Pl. II. 601 (1807); Wade, Salices, 226 (1811); Steudel, Nomencl. Bot. ed. 1, 718 (1821), ed. 2, II. 497 (1841); Spreng. Syst. Veg. I. 107 (1825); Sieb. & Zucc. Fl. Jap. Fam. Nat. II. 211 (1846); Juell, Pl. Thunb. 287 (1918); Ch. Tanaka in Bul. Sci. Fakult. Terkult. Kjusû Imp. Univ. I: 4, 193 (Sept. 1925); Koidzumi in Tokyo Bot. Mag. XXXIX. 299 (Dec. 1925); Tatewaki, Veg. Akan 59 (1927); Nakai in Bull. Soc. Dendr. France no. 66, 14 (1928), Fl. Syl. Korea. XVIII. 113 (1930); Makino & Nemoto, Fl. Jap. ed. 2, 166 (1931); Komar. & Klob.-Alis. Key Pl. Far East. 425, *t. 129, f. 3a* (1931).

Salix purpurea (non Linn.) Miq. in Ann. Mus. Bot. Lugd.-Bat. III. 26 (1867), Prol. Fl. Jap. 214 (1867); Fr. & Sav. Enum. Pl. Jap. I. 462

(1875); Seemen, Salic. Jap. 55 (1903) pro parte, (quoad specimen n. 14 ♂).

Salix multinervis Fr. & Sav. Enum. Pl. Jap. II: 1, 504 (1876); Matsum. Nippon Shokubutsumeii, 170 (1884), Cat. Pl. Herb. Coll. Sci. Imp. Univ. 182 (1886); Shirasawa in Bull. Coll. Agr. Tokyo Imp. Univ., II: 5, 271, *t. 7, f. 7* (1895) (Die jap. Laubh. im Winterzustande); Komar. in Act. Hort. Petrop. XXII. 25 (1903), Pl. Austro-Ussur. 50 (1923); Lévl. in Bull. Soc. Bot. France LVI. 288, 300 (1909); Nakai, Fl. Korea. II. 215 (1911), Fl. Paiktusan 63 (1918).

Salix purpurea L. var. *multinervis* Matsum. Shokubutsu Mei-I 261 (1895); Seemen, Salic. Jap. 56, *t. 11, f. F–K* (1903); Shirasawa, Icon. Ess. For. Trees Jap. II. *t. 8, f. 1–11* (1908), text. 17 (1910); Matsum. Ind. Pl. Jap. II: 2, 13 (1912); Makino & Nemoto, Cat. Jap. Pl. Herb. Nat. Hist. Dept. Tokyo Imp. Mus. 310 (1914), Fl. Jap. ed. 1, 1128 (1925).

Salix multinervia Fr. u. Sav. apud Beissner, Schelle & Zabel, Handb. Laubholzbenen. 47 (1903).

Salix Savatieri Camus, Classif. Saul. Europ. & Monogr. Saul. France 326 (1904).

Salix purpurea L. var. *multinervis* Fr. & Sav. apud Lévl. & Van. in Bull. Acad. Intern. Géogr. Bot. XIV. 210 (1904).

Salix purpurea subsp. *amplexicaulis* (non Boissier) Koidz. in Tokyo Bot. Mag. XXVII. 92 (1913).

Salix purpurea subsp. *S. amplexicaulis* (Bory & Chaub.) var. *latifolia* Toepffer, Salic. Bav. 168 (1915), quoad. pl. ex Japonia.

Salix purpurea subsp. *amplexicaulis* var. *multinervis* Schneider in Sarg. Pl. Wils. III. 168 (1916), excl. syn. *S. amplexicaulis* Chaubard.

NOM. JAP. *Inukoriyanagi.*

NOM. AINU. *Urai-susu.*

HAB. *Yezo.* Oshima, Kojima, Shiribeshi, Iburi, Hidaka, Ishikari, Tokachi, Kushiro, Nemuro.

DISTRIB. Yezo, Honshu, Shikoku, Kyushu, Korea, Ussuri.

808. Salix Miyabeana Seemen in Engl. Bot. Jahrb. XXI. Beibl. LIII. 50 (1896), Salic. Jap. 57, *t. 12, f. A–E* (1903); Tokubuchi in Tokyo Bot. Mag. X. 69, 125, *t. 6* (1896);? Lévl. in Bull. Acad. Intern. Géogr. Bot. XIV. 210 (1904), XVI. 144, 145, 152 (1906); Matsum. Ind. Pl. Jap. II:

2, 12 (1912); Koidz. in Tokyo Bot. Mag. XXVII. 264 (1913); Schneider in Sarg. Pl. Wils. III. 166 (1916); Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido, I. 63, *t. 19* (1921); Makino & Nemoto, Fl. Jap. ed. 1, 1126 (1925), ed. 2, 168 (1931); Rehder, Man. Cult. Trees & Shrubs 119 (1927); Kimura in Sci. Rep. Tohoku Imp. Univ. 4 ser. Biol. VI: 2, 188 (1931) (Contr. Salic. Jap. IV.); Tatewaki, List Pl. Teshio Univ. Exp. For. II. 189 (1932).

Salix Makinoana Seemen in Fedde, Rep. Sp. Nov. I. 173 (1905) p. p. (quoad specimina ex Aomori; legit U. Faurie n. 5761 p. p. sec. Koidzumi l. c.).

Salix sapporoensis Lévl. in Bull. Soc. Bot. France, LVI. 302 (1909); Schneider in Sarg. Pl. Wils. III. 166 (1916); Rehder in Jour. Arn. Arb. X. 117 (1929), omnia ex pte. *syn. nov.*

Salix purpurea, subspec. *eupurpurea,* var. *sericea Schneider* in Sarg. Pl. Wils. III. 167 (1916) quoad specim. ex Sapporo, *syn. nov.*

?*Salix Gilgiana* (non Seemen) Schneider in Sarg. Pl. Wils. III. 169 (1916) quoad specimina ex Sapporo, leg. J. Hanzawa.

NOM. JAP. *Yezonokawayanagi* (Tokubuchi l. c.); *Yezo-kawayanagi* (Miyabe & Kudo l. c. 63).

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Ishikari: Sapporo (Y. TOKUBUCHI ♀, ♂ 23 Apr. 1891, *cotypus* in Herb. Univ. Imp. Hokkaido), Teshio (TATEWAKI 1931), Tokachi: Obihiro (KIMURA n. 2050, 1931), Nemuro: Nemuro (KIMURA n. 2009 ♂ 1931 et fol. 1933); Habomai (KIMURA n. 2207 st. 1933).

DISTRIB. Yezo, Honshu borealis (fide Koidzumi).

f. **lepidostachys** (Seemen) Kimura nom. nov.

Salix lepidostachys Seemen in Engl. Bot. Jahrb. XXI. (1896) Beibl. LIII. 51 (1896), Salic. Jap. 58, *t. 12, f. J* (!) (1903); Tokubuchi in Tokyo Bot. Mag. X. 124 (1896); ?Lévl. in Bull. Acad. Intern. Géogr. Bot. XIV. 207, 210 (1904); Matsum. Ind. Pl. Jap. II: 2. 11 (1912); Schneider in Sarg. Pl. Wils. III. 166 (1916) pro pte.; Komar. Pl. Austro-Ussur. 50 (1923); Kimura in Sci. Rep. Tohoku Imp. Univ. 4 ser. Biol. VI: 2, 188 (1931) (Contr. Salic. Jap. IV.); Komar. & Klob.-Alis. Key Pl. Far East. 425 (1931).

A typo differt solummodo stigmatibus profunde bifidis.

NOM. JAP. *Urokoyanagi* (Tokubuchi l. c.).

HAB. *Yezo.* Ishikari: Hiragishimura (Y. TOKUBUCHI n. 31, ♀ *2* Maio 1891 et fol. Oct. 1891, *cotypus* in Herb. Univ. Imp. Hokkaido).

DISTRIB. Endemica.

809. Salix Gilgiana Seemen,[1] Salic. Jap. 59, *t. 13. A–D* (1903); ?Lévl. in Bull. Acad. Intern. Géogr. Bot. XVI. 145 (1906); Schneider in Sarg. Pl. Wils. III. 169 (1916); Rehder, Man. Cult. Trees & Shrubs 121 (1927); Nakai, Fl. Syl. Korea. XVIII. 112 (1930).

Salix purpurea (non Linn.) Matsum. Nippon Shokubutsumeii 170 (1884), Shokubutsu Mei-I, 261 (1895); Shirasawa in Bull. Coll. Agr. Tokyo Imp. Univ. II: 5, 240, *t. 7, f. 11* (1895) (Die jap. Laubh. im Winterzustande), Icon. Ess. For. Trees Jap. II. *t. 7, f. 10–18* (1908), text. 15 (1910); Seemen, Salic. Jap. 55 pro pte., (quoad specimina n. 16 et n. 17 in Herb. Univ. Imp. Tokyo.) *t. 11, f. A, C, E* (1903); ?Kawakami in Tokyo Bot. Mag. X. 50 (1896).

Salix purpurea β. sericea Seemen, Salic. Jap. 56 (1903); Matsum. Ind. Pl. Jap. II: 2, 13 (1912).

Salix Makinoana Seemen in Fedde, Rep. Sp. Nov. I. 173 (1905) pro pte., (quoad specimina e plateis Aomori, legit U. Faurie no. 5769, sec. Koidzumi); Matsum. Ind. Pl. Jap. II: 2, 11 (1912) pro pte.; Schneider in Sarg. Pl. Wils. III. 110 (1916); Makino & Nemoto, Fl. Jap. ed. 1, 1126 (1925) pro pte., ed. 2, 168 (1931) pro pte.; Nakai in Bull. Soc. Dendr. France no. 66, 14 (1928); Rehder in Jour. Arn. Arb. X. 114 (1929).

Salix gymnolepis Lévl. & Van. in Fedde, Rep. Sp. Nov. III. 22 (1906); Matsum. Ind. Pl. Jap. II: 2, 10 (1912); Makino & Nemoto, Fl. Jap. ed. 1, 1124 (1925), ed. 2, 165 (1931).

Salix purpurea L. subsp. *gymnolepis* Koidz. in Tokyo Bot. Mag. XXVII. 267 (1913).

Salix purpurea, subspec. *eupurpurea,* var. *sericea* Koidz. in Tokyo Bot. Mag. XXVII. 92 (1913); Schneider in Sarg. Pl. Wils. III. 167 (1916) ex

1) Vidi per benevolentiam Prof. G. Koidzumi fragmenta speciminum originalium Hilgendorfii (♂ et ♀ 15 Maio 1874; ♀ 23 Apr. 1874) in Herb. Univ. Imp. Kyotensis asservatorum.

pte.

NOM. JAP. *Kawayanagi.*

HAB. *Yezo.* Oshima: Kamiiso (M. TATEWAKI ♀, 1931); Shimakawa, Ohno (I. YAMAMOTO ♀, 1924).

DISTRIB. Yezo, Honshu, Korea.

Sect. **Gracilistylæ** Schneider in Sargent, Pl. Wilson. III. 163 (1916).

810. Salix gracilistyla Miquel in Ann. Mus. Bot. Ludg.-Bat. III. 26 (1867), Prol. Fl. Jap. 214 (1867); K. Koch, Dendrol. II: 1, 504 (1872); Fr. & Sav. Enum. Pl. Jap. I. 461 (1875), et in Gard. Chron. XXII. 292 (1897); Baker & Moore in Jour. Linn. Soc. XVII. 386 (1879) (Contr. Fl. North. China); Matsum. Shokubutsu Mei-I 260 (1895); Tokubuchi in Tokyo Bot. Mag. X. 124 (1896); Kawakami in Tokyo Bot. Mag. X. 50 (1896); Schneider, Ill. Handb. Laubholzk. I. 65, *fig. 26 f, fig. 27 i–k,* (1904), in Sarg. Pl. Wils. III. 164 (1916); Koidz. in Tokyo Bot. Mag. XXVII. 92 (1913); Makino in Tokyo Bot. Mag. XXVIII. 174 (1914); Makino & Nemoto, Cat. Jap. Pl. Herb. Nat. Hist. Dept. Tokyo Imp. Mus. 309 (1914), Fl. Jap. ed. 1, 1123 (1925), ed. 2, 164 (1931); Nakai, Veg. Diamond Mts. 168 (1918), in Bull. Soc. Dendr. France no. 66, 10 (1928), Fl. Syl. Korea. XVIII. 104 *t. 17* (1930); Bean, Trees & Shrubs, ed. 3, II. 482 (1921); Rehder, Man. Cult. Trees & Shrubs 121 (1927); Stape in Curtis's Bot. Mag. CLII: 1, *t. 9122* (1927).

Kawa Janogi Kæmpfer, Amœn. Exot. Politico-Physico-Medic. V. 908 (1712).

Salix alba (non Linn.) Thunb. Fl. Jap. 25 (1784); Juel, Pl. Thunb. 287 (1918).

Ie no Kuro Ianagi. it. *Kawa-Ianagi,* Thunb. Fl. Jap. 25 (1784).

Salix foliis lanceolatis nudis, raro serrulatis Thunberg, Fl. Jap. 369 (1784).

Neko Fana Ianagi, et *Kawa Ianagi* Thunb. Fl. Jap. 369 (1784).

Salix Kawajanagi Sieb. in Verh. Batav. Gen. XII. 24 (1830) p. p.

Kawajanagi Siebold, l. c.

Gawa (vel Kawa) Janogi Miquel in Ann. Mus. Bot. Lugd.-Bat. III. 27 (1867).

Salix Thunbergiana Blume ex Anders. in DC. Prodr. XVI: *2, 271* (1868); Shirasawa in Bull. Coll. Agr. Tokyo Imp. Univ. II: 5, *242, t. 7, f. 12* (1895) (Die jap. Laubh. im Winterzustande), Icon. Ess. For. Trees Jap. II. *t. 7, f. 1–9* (1908), text. 16 (1910); Burkill in Forbes & Hemsley, Ind. Fl. Sin. II. 533 (1899); Palibin in Act. Hort. Petrop. XVIII: 2, 198 (1900); Komar. in Act. Hort. Petrop. XXII. 30 (1903), Pl. Austro-Ussur. 50 (1923); Seemen, Salic. Jap. 61, *t. 14, f. A–E* (1903); Yabe in Tokyo Bot. Mag. XVII. 174 (1903); Beissner, Schelle & Zabel, Handb. Laubholzbenen. 40 (1903), excl. syn.; Lévl. in Bull. Acad. Intern. Géogr. Bot. XIV. 206, 210 (1904), XVI. 145, 148, 151 (1906), in Bull. Soc. Bot. France LVI. 288, 301 (1909); Nakai, Fl. Korea. II. 213 (1911), Veg. Isl. Querpaert 36 (1914), Veg. Chirisan Mts. 28 (1915); Matsum. Ind. Pl. Jap. II: 2, 14 (1912); Komar. & Klob.-Alis. Key Pl. Far East. I. 422, *t. 129, f. 3 b* (1931).

Salix brachystachys (non Bentham) Fr. & Sav. Enum. Pl. Jap. I. 460 (1875) quoad plantam ♂; Matsum. Nippon Shokubutsumeii 169 (1884), Cat. Pl. Herb. Coll. Sci. Imp. Univ. 181 (1886); Shirasawa in Bull. Coll. Agr. Tokyo, II: 5, 239, *t. 7, f. 5* (1895).

Salix cinerea (non Linn.) Komar. in Act. Hort. Petrop. XXII, *22* (1903) pro pte., XXV. 813 (1907).

Salix gracilistylis Miq. apud Beissner, Schelle & Zabel, Handb. Laubholzbenen. 46 (1903).

Salix mutabilis hort. sec. Beissner, Schelle & Zabel, Handb. Laubholzbenen. 46 (1903).

NOM. JAP. *Nekoyanagi.*

HAB. *Yezo.* Shiribeshi, Iburi, Ishikari, Hidaka, Tokachi, Kushiro, Nemuro.

DISTRIB. Yezo, Honshu, Shikoku, Kyushu, Korea, Manshuria, China et Ussuri.

SPECIES SECTIONIS INCERTAE.

811. Salix sendaica Kimura in Sci. Rep. Tohoku Imp. Univ. 4 ser. Biol. VI: 2, 196 (1931) (Contr. Salic. Jap. IV.).

NOM. JAP. *Sendai-yanagi.*

HAB. *Yezo.* Shiribeshi: Takashima (A. KIMURA n. 2026–8 ♀ *27*

Maio 1931; n. 2179 st. 5 Aug. 1931).

DISTRIB. Yezo, Honshu borealis.

812. Salix Koidzumii[1] Kimura sp. nov.

Phenotypice *Salix sachalinensis* Schmidt × *Salix Hultenii* Floderus var. *angustifolia* Kimura.

Arbor habitu ad *S. sachalinensem* Schmidt proxima, circiter 10 m alta, trunco valido cortice cinereo-fusco simili ei *S. sachalinensis* Schmidt obtecto. Lignum sub cortice vibicibus distinctis 3–9 mm longis conspersum. *Gemmæ* amentiferæ ovatæ obtusæ latere biangulatæ brunneæ minute sericeæ (aestate extrema) demum glaberrimæ, circiter 10 mm longæ 4 mm latæ (aestate extrema). *Ramuli* hornotini recti in vivo sordide virides (aestate extrema) in sicco badii, glabri vel partim minutissime pulverulento-puberuli; rami cinereo-virides. Ramuli novelli vernales minute sericei, aestivales laxuis puberuli. *Cataphylla* sterilium ramulorum subsessilia vel brevissime petiolata, elliptica utrinque acuta, margine integerrima, supra glabra subtus villosa, villis marginem superantibus, infima 9×4, 11×6, 12×5 mm etc. magna, secunda et tertia majora. *Folia intermedia* tenuia elliptica vel elliptico-lanceolata medio latiora utrinque aequaliter acuta, margine integra, supra viridia parce et minutissime puberula ad costam pulverulento-pubescentia, subtus glauca pilis adpressis rectisque sericea, 4.5×2.1, 5.2×2.1, 6.8×2.6, 7.5×2.5 cm etc. magna; *juvenilia* aestivatione revoluta utrinque sericea; *adulta* chartaceo-coriacea, lanceolata, sursum sensim angustata, apice ipso anguste acuto vel acuminato, basi margine leviter convexo acuta vel obtusa, infra medium latiora, margine crenato-serrata, dentibus minute mucronulatis medio folii 2–5 mm inter se remotis, infra apicem condensatis, supra sat viridia rugulosa costa pulverulento-pubescente excepta glaberrima, infra glauca pilis minutis 0.5–0.8 mm longis adpressis sericea, 12–14.5 cm longa 2.6–3.2 (–3.9) cm lata, 3.6–5.0-plo longiora quam latiora; costa pallida supra convexa subtus vehementer prominente; *nervis* primariis supra impressis subtus acute prominentibus utroque latere 17–20 leviter arcuatis a costa sub angulis 40°–60° divergentibus, secundariis supra impressis infra elevatis inter primarios transversis; *petiolo* pallido demum rubicundo, supra convexo pulverulento-

1) Cl. Dr. G. Koidzumi, Prof. Bot. Univ. Imp. Kyotensis, uni conditorum salicologiæ Japoniæ et mihi stimulatori semper benignissimo hoc nomen dedico.

pubescente basi dilatato et concavo, subtus glabro, 1.4–2.5 cm longo. *Stipulæ* semicordatæ apice acuminatæ margine dentatæ foliis concolores, supra glabræ vel sub lente puberulæ basi glanduligeræ, subtus pubescentes, 6–8×2.5–5.5 mm magnæ. *Amenta* ♀ (tantum deflorata vidi) cylindrica curvula ad 6.5 cm longa 1.4 cm crassa, rhachidibus sericeis, pedunculis brevibus sericeis 6 mm longis; cataphylla pedunculorum 2–4 elliptica, oblongo-elliptica, elliptico-lanceolata, oblanceolata, apice et basi acuta, margine integra, supra glabra vel basin versus minute sericea, subtus villosa, 8.5–18×3–6 mm, raro ad 3×0.9 cm magna. *Bracteolæ* oblongæ, antice acutæ ad summum obtusæ, utrinque villosæ, basi pallidæ sursum nigrescentes, circiter 2.5 mm longæ 1 mm latæ. *Glandula* una ventralis ovato-rectangularis apice truncata, circiter 0.8 mm longa 0.4–0.5 mm lata. *Ovaria* ex ovata basi longe conica undique sericea 3–4 mm longa 1–1.3 mm crassa, pedicellis sericeis circiter 2 mm longis, stylis glabris 1.0–1.3 mm longis. *Stigmata* parva bilobata, lobis 0.3–0.4 mm longis erectis. *Amenta fructifera* ad 8 cm longa 1.4 cm crassa. *Capsulæ* stramineæ.

NOM. JAP.

HAB. *Sachalin austr.* Toyohara: prope oppid. Toyohara (A. KIMURA & S. SUGAWARA n. *2282* ♀ *typus* 28 Maio 1933 in Herb. A. Kimura; fr. 6 Jul. 1932; fol. 29 Aug. 1933).

DISTRIB. Endemica.

813. Salix Kudoi[1] Kimura sp. nov.

Phenotypice *Salix arbutifolia* Pallas×*Salix sachalinensis* Fr. Schmidt.

Salix hastata (non Linn.) Miyabe & Miyake, Fl. Saghal. 427 (1915) p. p. *syn. nov.*

Salix sibirica (non Pallas) Kudo in Jour. Coll. Agr. Hokkaido Imp. Univ. XII: 1, 30 n. 139 (1923) (Contr. Fl. North. Saghal.), Rep. Veg. North. Saghal. 99 n. 195 (1924) *syn. nov.*

Salix sachalinensis (non Fr. Schmidt) Kudo in Jour. Coll. Agr. Hokkaido Imp. Univ. XII: 1, 30 n. 142 (1923) (Contr. Fl. North. Saghal.) *syn. nov.*

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1) Hanc speciem memoriæ beati Dr. Y. Kudo, Bot. Prof. Taihoku Universitatis Imperialis atque collaboratoris elaborati operis "Flora of Hokkaido and Saghalien" cum veneratione dedicavi.

Frutex. Ramuli hornotini in sicco atro-badii fere glabri 3.5–6.5 cm longi; annotini purpureo-badii vel atro-purpurei, vetustiores cinerascentes. *Folia adulta* superiora ramulorum oblanceolata apice acuta supra medium latiora deorsum subcuneato-angustata ad basin acuta, margine fere integra vel obsoletissime crenato-serrulata, supra lucida sub lente pilis minutis sparse sericea, subtus glaucescentia pilis adpressis costaque parallelis dense vel sparse sericea, 6.3×1.7, 5.8×1.7, 5.0×1.6 cm etc. magna, costa supra plana infra prominente glabra, nervis primariis utroque latere 14–17 leviter arcuatis ascendentibus infra elevatis a costa sub 40°–50° divergentibus, intermediis 0–1–2 brevioribus et primariis subparallelis; inferiora minora. *Petioli* 0.4–0.7 cm longi supra canaliculati sub lente minute puberulentes. *Stipulæ* nullæ. *Cataphylla* oblonga, elliptico-oblonga, ad apicem basimque acuta, brevissime petiolata, supra glabra infra glabra vel ad costam adpresse sericea dilute glaucina, 9×3, 10×3, 12×4, 13×4.5 mm etc. magna. *Amenta* tantum fructifera visa cylindrica 3.0–3.6 cm longa 1.0 cm crassa, rhachidibus sericeis, pedunculis brevibus ad 1.1 cm longis minute pubescentibus et cataphylla 3–4 gerentibus. *Flores* ♀ inter fructus remanentes: *bracteolæ* oblongæ apice obtusæ 1.8 mm longæ 0.6 mm latæ utrinque (intus laxius) sericeæ; *glandula* una ventralis ovata apice truncata 0.8 mm longa; *ovaria* ovato-conica undique sericea fere 2 mm longa, pedicellis sericeis 0.8–1.2 mm longis, stylis glabris 0.6 mm longis. *Stigmata* profunde bifida, laciniis divaricatis oblongis. *Capsulæ* maturitate stramineæ ad 6 mm longæ.

Nom. Jap. *Numa-inuyanagi* (Kudo l. c. 99).

Hab. *Sachalin bor.* Nyiwo: Nyiwo (Y. Kudo fr. 12 Aug. 1922 *typus* in Herb. Tohoku Univ. Imp.); Agui-miss (Y. Kudo & M. Tatewaki n. 6478, 12 Aug. 1922); Wieg-Katanguri (Y. Kudo & M. Tatewaki n. 6560, 15 Aug. 1922).

Sachalin austr. Shikka: fl. Choronai (H. Otani & Y. Imai 7 Aug. 1930); Solenuiya (K. Miyabe & T. Miyagi fr. 26 Jul. 1906).

Distrib. Sachalin, Kamtchatka?

814. Salix nyiwensis Kimura sp. nov.

Salix minutiflora (non Turczaninow) var. *pubescens* (non Wolf) Kudo in Jour. Coll. Agr. Hokkaido Imp. Univ. XII: 1, 30 n. 143 (1923) (Contr. Fl. North. Saghal.), Rep. Veg. North. Saghal. 100 n. 199 (1924) japonice,

syn. nov.

Frutex? *Rami* ascendentes in sicco fusci vel atro-fusci ad 3 mm crassi pilis curvulis minutissimis puberulentes demum glabrescentes; *ramuli* hornotini dense griseo-sericei, annotini ramis concolores sericeo-pubescentes. *Folia adulta* tenuiter chartacea rigidiuscula, elliptica medio latiora, apice margine convexo late acuta, basi obtusissima vel late acuta vel rotunda, margine deflexo integerrima, supra primo adpresse dense sericea deinde pilis laxantibus, denique partim glabrescentia, subtus caesio-glauca primo sericea cito glabrescentia, 1.5–2.7 cm longa 0.9–1.6 cm lata, costa supra plana (in vivo impressa?) infra prominente, nervis primariis utroque latere 6–9 supra planis infra elevatis superioribus a costa sub 40°–50°, basilaribus 50°–70° divergentibus, secundariis tenuissimis infra vix vel paullo elevatis irregularibus. *Petioli* ad 4.5 mm longi supra canaliculati sericeo-pubescentes infra demum glabrescentes. *Cataphylla* elliptica vel oblongo-elliptica, utrinque obtusa vel obtusissima, supra glabra subtus glauca fere glabra vel ad costas pilis longis sericea, 0.4×0.2, 0.6×0.3, 1.1×0.5 cm etc. magna. *Stipulæ* elliptico-oblongæ utrinque glabræ vel pubescentes ad 3.0×1.3 mm magnæ. *Amenta* tantum fructifera visa oblongo-cylindrica ad 3.5 cm longa 1.0 cm crassa, densiflora, rhachidibus sericeis, pedunculis ad 2.5–10 mm longis sericeis cataphyllis 3–4 ad 11×0.5 mm magnis instructis. *Flores* inter fructus remanentes: *bracteolæ* ovales apice obtusissimæ vel rotundæ, circiter 1.0 mm longæ 0.7 mm latæ, dimidia parte superiore fusca, inferiore pallida, utrinque pilis longis villoso-hirsutæ; *glandula* una ventralis ovato-oblonga apice truncata 0.9–1.0 mm longa 0.4 mm lata; *ovaria* ex ovata basi elongato-conica, apice obtusa, 2.3–2.5 mm longa 0.7 mm crassa, cum pedicellis brevibus circiter 0.2 mm longis sericea sed superne glabrescentia, stylis paullo obcompressis 0.7 mm longis. *Stigmata* erecto-patula 0.25–0.35 mm longa bifida, laciniis oblongis.

Primo aspectu foliorum forma et colore *S. Myrtilloide* L. comparanda sed ramulis foliisque sericeis, amentis densifloris, ovariis sericeis brevius pedicellatis et stylis longioribus longe differsa.

NOM. JAP. *Kekoba-yanagi* (Kudo l. c. 101 anno 1924).

HAB. *Sashalin bor.* Nyiwo: Nyiwo, in sylvis (Y. KUDO & M. TATEWAKI n. 6579, fr. *typus*, 15 Aug. 1922 in Herb. Coll. Agr. Hokkaido Imp. Univ.).

DISTRIB. Endemica.

815. Salix orotchonorum Kimura sp. nov.

Salix cinerea (non Linn.) Kudo in Jour. Coll. Agr. Hokkaido Imp. Univ. XII: 1, 30 n. 137 (1923) (Contr. Fl. North. Saghal.), Rep. Veg. North. Saghal. 99 n. 193 (1924) japonice; Makino & Nemoto, Fl. Jap. ed. 1, 1122 (1925); ed. 2, 162 (1931), *syn. nov.*

Affinis *S. xerophilæ* Floderus, sed ab ea e descriptione dignoscitur foliis non oblanceolatis, superioribus semper serratis et stipulis bene evolutis.

Frutex. Ramuli annotini brunnei, epidermide flavo obtecti sub lente minute puberulente breviterque rimuloso demum secedente, 4 mm crassi; hornotini teretes graciles dense griseo-tomentosi pilis ad 1.3 mm longis. *Folia adulta* chartacea rigidiuscula elliptica vel ovato-elliptica medio latiora apice breviter acuminata, basi acuta vel obtusa, in ramulis vegetis obtusissima vel subrotunda, inferiora margine integerrima, superiora crenato-serrata, præsertim in ramulis vegetis grosse dentato-serrata, supra viridia subtus glauca utrinque dense vel sparse tomentuloso-sericea 3.5–6.5 cm longa 1.2–3.3 cm lata; costa supra plana infra prominente utrinque dense tomentosa; nervis primariis pallidis infra prominentibus utrinsecus 7–10 a costa sub angulis 40°–60° divergentibus plerisque ⅓–½ ante marginem dichotomis et nervos externos emittentibus, ramis dichotomis et nervis externis laqueos formantibus et ramulos anastomosantes in marginem emittentibus; intermediis 0–1–2 primariis brevioribus tenuioribusque. *Petioli* 3.5–6 mm longi supra canaliculati villoso-tomentosi. *Cataphylla* oblonga vel lanceolato-oblonga apice acuta, basi acuta vel obtusa, margine integra, utrinque sericea, inferiora subtus adpresse villosa, 1.0–2.3 cm longa 0.4–0.8 cm lata, 2.5–2.9-plo longiora quam latiora. *Stipulæ* semi-cordatæ acutæ margine externo laxe serrulato 4.5×2.5 mm in ramulis vegetis 8.0×4.5 mm magnæ. *Amenta* (tantum fructifera visa) in apice ramulorum sericeorum 2.6 cm longorum folia (inclusis cataphyllis) 8–11 gerentium, 4.7 cm longa 1.1 cm crassa. *Bracteolæ* subulatæ 2.5 mm longæ 0.6 mm latæ intus fere glabræ extus margineque paucipilosæ. *Glandula* una ventralis ovato-rectangularis apice truncata 0.4 mm longa 0.3 mm lata. *Ovaria* sub anthesi nondum visa. *Capsulæ* sericeæ ad 6 mm longæ; pedicellis sericeis 3.2 mm longis; stylis perbrevibus fere 0.15 mm longis. *Stigmata* bilobulata iis *S. Bakko* Kimura

simillima.

NOM. JAP. *Haiiro-yanagi.*

HAB. *Sachalin bor.* Tim: inter Luikoff et Adtymi (Y. KUDO & M. TATEWAKI n. 6319 fr. *typus* in Herb. Coll. Agr. Hokkaido Imp. Univ. 6 Aug. 1922); Rikowskoie–Adotimwo (Y. KUDO 6 Aug. 1922 *cotypus* in Herb. Tohoku Univ. Imp.).

Sachalin austr. Shikka: Handasawa (S. SUGAWARA st. 10 Aug. 1932); Hoe (T. INOKUMA st. 18 Aug. 1931).

DISTRIB. Endemica.

816. Salix pseudo-paludicola Kimura sp. nov.

Phenotypice *Salix paludicola* Koidzumi × *Salix Hidewoi* Koidzumi.

Frutex humilis ramis prostratis brunnescentibus vel cinereo-fuscis glabris; *ramulis* annotinis purpureo-brunneis vel castaneis glabris subnitidis 1.5–6 cm longis. *Folia adulta* rigidiuscula obovata vel late elliptica apice rotundata vel acuto-rotundata basi acuta supra vel ad medium latissima margine integra vel obsolete crenulato-serrulata supra viridia subnitida subtus glauca utrinque glabra 1.9–3.1 cm longa 1.3–1.9 cm lata, costa supra impressa infra prominente, nervis primariis supra impressis infra prominentibus utrinque 8–12 leviter arcuatis, a costa sub 50°–70° divergentibus, secundariis reticulatis infra elevatis. *Petioli* glabri supra canaliculati ad 5.5 mm longi. *Cataphylla* elliptica vel late obovata supra glabra infra glaucina glabra vel rarius ad costam paucipilosa, 7–13 mm longa 4–9 mm lata. *Amenta* ♀ coætanea ramulos breves (0.9–1.9 cm longos) superne sericeos folia 4–5 gerentes terminantia, 2.5–3.3 mm longa 8 mm crassa. *Bracteolæ* oblongæ apice obtusæ vel obtusissimæ 2.5–2.8 mm longæ 1.1–1.2 mm latæ, in sicco antice fusco-brunneæ, basi flavo-brunneæ, utrinque villosæ. *Glandula* una ventralis oblonga 0.8–0.9 mm longa 0.4 mm lata. *Ovaria* ex ovata basi longe conica sericea 2.5–4.0 mm longa 1.1 mm crassa; pedicellis 0.8 mm longis sericeis; stylis glabris paullo obcompressis 0.8–1.2 mm longis. *Stigmata* profunde bifida, laciniis oblongis divaricatis ad 0.35 mm longis.

NOM. JAP. *Oh-miyamayachiyanagi,* nov.

HAB. *Yezo.* Ishikari: Takanegahara, in montibus Nutakkukamushupe (A. KIMURA n. 1797 ♀ fl. *typus* in Herb. Kimura, 13 Jul. 1928).

DISTRIB. Endemica.

817. Salix pulchroides Kimura sp. nov.

Salix anglorum Kudo (non Chamisso) in Jour. Coll. Agr. Hokkaido Imp. Univ. XI: 2, 96 (1922) (Fl. Paramushir), *syn. nov.*

Salix Chamissonis Koidz. (non Anders.) in Tokyo Bot. Mag. XLIV. 109 (1930); Makino & Nemoto, Fl. Jap. ed. 2, 162 (1931), *syn. nov.*

Frutex ramulis prostratis gracilibus, lævis glabris, brunneis lucidiusculis, annotinis 4.5–10 cm longis 1.5–2.5 mm crassis. *Perulæ* gemmarum floriferarum glaberrimæ 8.5–12 mm longæ. *Folia adulta* obovato-elliptica vel obovata, supra medium latiora, apice obtusissima vel rotundiuscula, basi subcuneato-angustata, margine præter apicem integerrimum crenato-serrulata, serraturis 1–2.5 mm distantibus deorsum sæpe obsoletis, utrinque glaberrima subtus dilute glaucina, 3.7–4.5 × 1.9–2.3 cm magna; costa supra fere plana infra elevata; nervis primariis leviter arcuatis utrinsecus 6–7, a costa sub angulis 40°–50° divergentibus, in sicco supra vix infra paullo elevatis; secundariis irregularibus. *Petioli* glabri supra sulcati ad 9 mm longi. *Stipulæ* lanceolatæ obsolete serrulatæ 6.5 × 1.1, 9 × 1.9 mm etc. magnæ. *Amenta* ♂ cylindrica 3.8–4.3 cm longa ad 1.8 cm crassa, rhachidibus pubescentibus, foliato-pedunculata; pedunculis circiter 2 cm longis superne tomentosis basi glabris; foliis pedunculorum 3–4 (cataphyllis inclusis) minoribus ad 3.2 cm longis 1.8 cm latis, petiolatis stipulatisque. *Bracteolæ* oblongo-ellipticæ apice obtusissimæ 2.5–2.6 mm longæ 1.1–1.3 mm latæ, utrinque dense albo-villosæ. *Glandula* una ventralis oblonga apice truncata 0.8 mm longa vix 0.5 mm lata. *Stamina* 2, filamentis liberis tantum basi paucipilosis circiter 8 mm longis; antheræ luteæ 0.6 mm longæ.

S. pulchræ Chamisso sine dubio maxime est affinis, sed amentis foliato-pedunculatis, foliis adultis distincte serrulatis differt. A *S. Chamissonis* Andersson, quam e loco classico vidi, foliis grosse serrulatis apice integerrimis facile distinguitur.

NOM. JAP. *Chishima-iwayanagi*, nov.

HAB. *Kuriles.* Paramushir: Murakamiwan (Y. KUDO n. 4984 ♂, *typus* spec. 4 Jul. 1920, in Herb. Coll. Agr. Hokkaido Imp. Univ.).

DISTRIB. Endemica.

var. **latifolia** Kimura var. nov.

Salix arctica var. *kurilensis* Kudo in Jour. Coll. Agr. Hokkaido Imp. Univ. XI: 2, 96 (1922) (Fl. Paramushir), quoad specim. n. 4890 et n. 4837 pro pte.

A typo foliis latioribus differt. *Folia* obovato-rotundata, apice cuspidato- vel truncato-rotundata vel retusa vel rotundata, basi subcuneato-acuta vel breviter acuminata, supra medium latiora, margine præter apicem integerrimum crenato-serrulata, utrinque glabra, subtus dilute glaucina, 24–33×23–32 mm etc. magna; costa supra fere plana infra elevata; nervis primariis utrinque 6–9 sub angulis 50°–60° divergentibus. *Amenta* ♂ 3.4–4 cm longa ad 2.2 cm crassa. *Flores* ut in typo.

Nom. Jap. *Hiroha-chishima-iwayanagi,* nov.

Hab. *Kuriles.* Paramushir: Murakamiwan (Y. Okada ♂ *typus* var. 11 Jul. 1931); Suribachi (Y. Kudo n. 4890 ♀, 27 VI. 1920 p. p.).

Distrib. Endemica.

818. Salix shikotanica Kimura sp. nov.

Frutex circiter 1 m altus; *ramulis* adscendentibus, hornotinis flavo-viridibus sub lente parcissime puberulentibus nunc brevibus nunc vegetis viminalibusque ad 40 cm longis; annotinis vetustioribusque glaberrimis viridi- vel cinereo-brunneis, in sicco castaneo- vel purpureo-brunneis plus minusve torulosis. Lignum sub cortice sparse vibiciferum. *Cataphylla* ovalia vel elliptica, margine integerrima, brevissime petiolata, supra glabra, subtus apice sericeo excepto glabra, 6.5×5, 8×5.5, 10×6.5 mm etc. magna. *Folia adulta* orbicularia vel ovalia vel obovata, apice rotundata vel breviter plicato-acuta, basi rotundata vel raro late acuta, medio latissima, margine obsolete crenata, crenaturis interdum sat obsoletis, supra viridia lævia et lucida, subtus glauca utrinque glaberrima, 3.4×3.0, 4.2×2.5, 4.8×4.0, 5.5×4.8, 6.5×4.5 cm etc. magna, inferiora et suprema minora; costa pallida supra fere plana vel leviter impressa infra valde prominente, utrinque glabra; nervis primariis utroque latere 10–12 a costa sub angulis 60°–80° divergentibus, primo fere rectis dein arcuato-ascendentibus, supra impressis infra prominentibus vel elevatis; secundariis crebris inter primarios transversis cum tertiis pulchre anastomosantibus supra impressis subtus leviter elevatis; intermediis nullis vel 1–2, raro 3. *Petioli* pallide flavo-virides ad 15 mm longi supra

canaliculati, glabri vel supra tantum sub lente minute puberulentes. *Stipulæ* in ramulis vegetis minutæ fere semilunatæ, apice acutæ, foliis concolores, margine glanduloso-denticulato, externo rotundato, interno fere recto vel leviter concavo, ad 3×2 mm magnæ.

NOM. JAP. *Shikotan-yanagi*, nov.

HAB. *Kuriles*. Shikotan: Shakotan (A. KIMURA n. 867 st. *typus* 18 Aug. 1933, in Herb. Tohoku Univ. Imp.; n. 868, st. 18 Aug. 1933; J. OHWI 1931; S. OHNO 1930).

DISTRIB. Endemica.

819. Salix stoloniferoides Kimura sp. nov.

Salix phleobophylla Andersson apud Kudo, Rep. Veg. North. Saghal. 98 n. 192, quoad specim. ex "inter Ruguli et Oha" (1924), japonice, *syn. nov.*

Frutex ut videtur nanus; *ramis* prostratis flavo-brunneis glabris lucidis gracilibus elongatis; *ramulis* hornotinis in sicco sordide flavescentibus ad 1 mm crassis pilis minutis curvulisque pubescentibus, annotinis flavo-brunneis lucidis glabrescentibus, supra tantum cicatrices puberulentibus. *Gemmæ* parvæ ovatæ obtusæ, latere biangulatæ, sordide flavæ vel brunneæ, minute puberulentes, demum glabrescentes ad 3 mm longæ 1.8 mm latæ. *Folia adulta* coriacea rigida, superiora obovata vel elliptica utrinque (apice vulgo latius) acuta, rarius anguste ovata apice acuta basi obtusa, margine integerrima, supra viridia nitentia non stomatifera, subtus pruinosa, utrinque initio puberulentia cito glabrescentia, 11×5.5, 15×7, 16×7, 17×10, 28×11 mm etc. magna; costa supra impressa subtus prominente; nervis primariis utrinsecus 6–9 arcuatis cheilodromis a costa sub angulis 40°–50° proficiscentibus, secundariis infra inconspicuis. Folia inferiora minora oblongo-elliptica, oblonga, elliptica vel obovata. *Petioli* supra canaliculati sub lente minute pubescentes demum infra glabrescentes ad 3.5 mm longi. *Stipulæ* minutæ ellipticæ vel oblique ovatæ integræ vel obsolete serrulatæ subtus glaucæ puberulentes vel fere glabræ, 1–2 mm longæ 0.4–0.8 mm latæ. *Amenta* fructifera tantum visa 1.5–2.5 cm longa 0.5–0.9 cm crassa, rhachidibus sericeo-pubescentibus, pedunculis ad 7 mm longis foliis parvis 3–4 oblongo-ellipticis ad 11×4.5 mm magnis suffultis. Flores inter fructus remanentes: *bracteolæ* obovatæ apice rotundatæ vel obtusissimæ intus dense extus laxius hirsuto-sericeæ circiter 0.8 mm longæ 0.5–0.6 mm latæ; *glandula*

una ventralis oblonga 0.6–0.7 mm longa; *ovaria* cum pedicellis glaberrima ex ovata basi lanceolato-conica circiter 1.7 mm longa; pedicellis brevibus 0.1–0.2 mm in fructu ad 0.3 mm longis; stylis ad 0.4 mm longis, quam stigmatibus longioribus. *Stigmata* parva bifida vel emarginata. *Capsulæ* circiter 5 mm longæ.

S. stoloniferæ Coville, mihi non nisi e descriptione iconeque notæ, proxima esse videtur sed ramis non stoloniferis, stylis multo brevioribus recedit; etiam a *S. phlebophylla* Andersson, quacum Kudo speciem hanc identicam esse ait, foliis discoloribus, pedicellis glandulis brevioribus facile distinguitur.

NOM. JAP. *Karafuto-haiyanagi,* nov.

HAB. *Sachalin bor.* Oha: inter Pomel et Oha (Y. KUDO *typus,* 31 Aug. 1923 in Herb. Tôhoku Univ. Imp.); inter Ruguli et Oha (Y. KUDO & B. ISHIDA n. 7210 st. *cotypus,* 31 Aug. 1923 in Herb. Coll. Agr. Hokkaido Imp. Univ.).

DISTRIB. Endemica.

820. Salix tontomussirensis Koidzumi in Tokyo Bot. Mag. XXX. 81 (1916); Komatsu in Matsumura, Icon. Pl. Koishikav. IV: 2, 33, *t. 229* (1916); Makino & Nemoto, Fl. Jap. ed. 1, 1130 (1925), ed. 2, 173 (1931); Tatewaki & Kimoto in Act. Phytotax. et Geobot. II. 227, cum fig. (1933) (Florula Kaibato. II).

Salix cyclophylla (non Seemen, Gandoger, nec Rydberg) Miyabe & Miyake, Fl. Saghal. 430 (1915).

NOM. JAP. *Shima-marubayanagi* (Koidzumi l. c.); *Todoshimayanagi* (Komatsu in Makino, Jour. Jap. Bot. II. 48, 49 ann. 1919).

Hab. *Sachalin austr.* Todomoshiri (KOMATSU ♀ fr. *typus* 12 Aug. 1915 in Herb. Univ. Imp. Tokyo; T. MIYAKE fr. proles hyb.? 1906; S. SUGAWARA ♂, 1925; Kimoto ♀ 1931).

DISTRIB. Endemica.

821. Salix phanerodictya[1] Kimura sp. nov.

Frutex prostratus breviter ramosus; *ramulis* hornotinis glabris 1.3–3.3 cm longis folia 6–7 gerentibus, annotinis castaneis glabris lucidiusculis

1) Nomen e graeco φανερός (manifestus) et δικτύον (rete).

curvulis crassiusculis torulosis. *Gemmæ* amentiferæ castaneæ subglobosæ apice obtusissimæ sub lente puberulæ vel fere glabræ, ad 6 mm longæ. *Folia adulta* chartaceo-coriacea rigidiuscula, ovata, ovalia vel obovata, apice plicato-acuta ad obtusissima, basi acuta ad rotundata interdum obliqua et leviter cordata, margine integerrima vel basi tantum obsoletissime crenato-serrulata, supra impressi-nervata glaberrima vel partim pubescentia, subtus glauca glaberrima vel sub lente parcissime puberulentia, 3–5.5 cm longa 2.5–4.2 cm lata, inferiora minora; costa supra impressa infra prominente utrinque glabra; nervis primariis utroque latere 6–8 arcuato-ascendentibus plus minusve ad apicem folii convergentibus, a costa sub angulis 40°–50° divergentibus, supra impressis infra prominentibus, secundariis crebris rectiusculis vel flexuosis inter primarios transversis subtus elevatis quasi modo *S. reticulatæ* L. cum tertiis (in vivo purpureis?) pulchre reticulatis. *Petioli* in adultis foliis superioribus 2–2.5 cm longi glabri supra canaliculati. *Amenta* fructifera tantum visa 3.5–6 cm longa ramulos laterales ad 1.6 cm longos paucifoliatos terminantia; folia ramulorum amentiferorum vulgo 4 ovalia, elliptica, ovata, integerrima, supra fere glabra, infra glabra vel ad costam villosa 1.2–2.2 cm longa 0.8–1.5 cm lata; pedunculi 1.0 cm vel ultra longi albo-sericei; rhachis sericea. Flores ♀ inter fructus remanentes: *bracteolæ* ovato-orbiculares, apice rotundatæ, concolores, in sicco brunneæ, utrinque villosæ 1.5–2.5 × 1.2–2.2 mm magnæ. *Glandula* una ventralis oblongo-ovata ad 1.0 mm longa, basi 0.5 mm lata. *Ovaria* ovato-conica dense albo-tomentosa fere 2 mm longa; stipitibus sericeis ad 0.5 mm longis; stylis obcompressis 0.8–1.5 mm longis apice leviter fissis. *Stigmata* bipartita, laciniis lineari-oblongis divaricatis 0.4–0.5 mm longis.

NOM. JAP. *Shimushir-yanagi*, nov.

HAB. *Kuriles.* Shimushir: prope lac. Midori (M. TATEWAKI & Y. TOKUNAGA n. 11954 fr. *typus* 18 Aug. 1928 in Herb. Hokkaido Univ. Imp.).

DISTRIB. Endemica.

822. Salix rashuwensis Kimura sp. nov.

Frutex humilis ad 0.5 m altus (ex collectore), breviter ramosus; *ramuli* hornotini in sicco brunnei ad 3.4 cm longi glabri, folia 5–8 (cataphyllis inclusis) gerentes, annotini sordide purpureo-brunnei glaberrimi lucidiusculi torulosi 2.4–4.3 cm longi. *Gemmæ* amentiferæ ovatæ crassæ apice obtusæ

castaneæ glaberrimæ ad 10 mm longæ 5 mm latæ. *Folia adulta* rigidiuscula, superiora ovata infra medium latiora, inferiora sæpe late elliptica fere ad medium latiora, apice margine leviter convexo raro fere recto acuta vel obtusa, basi margine convexo rotundata vel obtusa interdum obliqua, margine obsolete crenato-serrata, dentibus 2–7 mm inter se remotis, ad apicem vulgo integra, majora 5–6.5 cm longa 3.2–4.0 cm lata, 1.3–1.5-plo longiora quam latiora, inferiora minora, supra in vivo valde lucida (ex collectore) demum glaberrima, impressi-nervata, subtus dilute glauca glaberrima; costa supra impressa, subtus prominente; nervis primariis supra impressis infra prominentibus, utrinque 4–6 arcuato-ascendentibus, a costa sub angulis 40°–60° divergentibus; secundariis supra in sicco planis (in vivo impressis?) subtus elevatis inter primarios transversis. *Petioli* supra canaliculati glabri in foliis adultis 0.8–1.6 cm longi. *Folia juvenilia* aestivalia supra tantum tomentosa mox autem glabrescentia. *Cataphylla* late elliptica vel ovata margine integra, supra glabra subtus villosa. *Stipulæ* nullæ. *Amenta* ♀ (♂ non visa) ramulos laterales 8–16 mm longos folia ceteris simillima vulgo 4 gerentes terminantia, oblongo-cylindrica, rhachidibus pubescentibus, pedunculis etiam pubescentibus ad 8 mm longis, 2.0–2.6 cm longa 1 cm crassa. *Bracteolæ* oblongæ apice obtusæ vel rotundatæ 3 mm longæ 1.4–1.5 mm latæ, utrinque villoso-hirsutæ. *Glandula* una ventralis ovato-oblonga apice truncata sursum angustata 1.5 mm longa, basi 0.7 mm lata. *Ovaria* longe ovato-conica supra medium tomentosa, 3 mm longa circiter 1.3 mm crassa; pedicellis glabris 0.6 mm longis; stylis obcompressis 1.3–1.4 mm longis. *Stigmata* divaricata circiter 0.9 mm longa, bifida, laciniis oblongis divaricatis 0.4–0.6 mm longis.

NOM. JAP. *Rashuwa-yanagi*, nov.

HAB. *Kuriles*. Rashuwa: "in bogs, Ônuma" (M. TATEWAKI & Y. TAKAHASHI n. 15154 *typus* 5 Aug. 1929 in Herb. Hokkaido Univ. Imp.).

DISTRIB. Endemica.

823. Salix finalis Kimura sp. nov.

Frutex (?) breviter ramulosus; *ramulis* hornotinis gracillimis pulverulento-tomentosis ad 5.5 cm longis, *annotinis* fuscis sub lente sordide pulverulento-pubescentibus ex parte glabrescentibus ad 10 cm longis 1.6 mm crassis. *Gemmæ* amentiferæ ovatæ obtusæ sordide stramineæ pubescentes

latere leviter biangulatæ ad 2.5 mm longæ 1.3 mm latæ. *Cataphylla* oblonga vel lineari-oblonga integerrima brevissime petiolata ad apicem basimque obtusa, supra sub lente minutissime punctato-pubescentia, subtus adpresse dense sericea, 6–10 mm longa 2–2.5 mm lata. *Folia adulta* alterna vel interdum subopposita oblonga vel lineari-oblonga, superne margine convexo acuta, apice ipso obtuso, basi acuta vel obtusa, margine integerrimo non vel leviter revoluto, supra sub lente pilis minutissimis nunc dense nunc sparse obsita, subtus pilis rectis adpressis 0.4–0.6 mm longis costaque parallelis dense sericeo-micantia ad 27 mm longa 7 mm lata; *costa* supra impressa subtus prominente; *nervis* primariis supra planis subtus elevatis utrinque 7–10 a costa sub 30°–40° divergentibus, secundariis vix visibilibus, intermediis nullis vel 1–2 primariis fere parallelis. Folia inferiora sæpe subopposita. *Petioli* ad 3.5 mm longi supra leviter sulcati toto pubescentes. *Stipulæ* nullæ. Flores non vidi.

NOM. JAP. *Sakai-yanagi*, nov.

HAB. *Sachalin austr.* Shikka: Higashiyama, ad lat. bor. c. 50° (T. MIYAKE st. *typus* 28 Aug. 1906 in Herb. Hokkaido Univ. Imp.).

DISTRIB. Endemica.

SPECIES SECUNDUM PLANTAS IN REGIONIBUS NOSTRIS COLLECTAS DESCRIPTÆ SED DUBIÆ

824. Salix ampherista Schneider in Sarg. Pl. Wils. III. 175 (1916).

HAB. *Yezo.* Oshima: "Hakodate, June 1, 1904, U. FAURIE (No. 5758 *type*; ♀ ; sub. nom. *S. daisenensis* Seemen)" ex Schneider.

825. Salix subfragilis Andersson in Mem. Am. Acad. Arts Sci. n. ser. VI. 450 (1859) (Gray, Bot. Jap.); Fr. & Sav. Enum. Pl. Jap. II: 1, 502 (1879); Seemen, Salic. Jap. 74 (1903); Schneider in Sarg. Pl. Wils. III. 179 (1916).

HAB. *Yezo.* Oshima: Hakodate (S. W. WILLIAMS & J. MORROW ♀ *type*, ex Andersson).

MYRICACEÆ

Myrica L.

826. Myrica tomentosa Aschers. et Graebn. Syn. Mitteleurop. Fl. IV. 353; Komar. Fl. Penins. Kamts. II. 36; Komar. et Klob.-Alis. Key Pl. Far East. Reg. USSR. I. 427, *t. 130*.

Myrica Gale (non L.) Maxim. Prim. Fl. Amur. 259; Fr. Schm. Fl. Amg.-Burej. 62, et Fl. Sachal. 175; Kom. Fl. Mansh. II. 14.

Myrica Gale var. *tomentosa* C. DC. Prodr. XVI: 2. 148; Shirasawa in Tokyo Bot. Mag. IX. 384; Koidz. Pl. Sachal. 46; Matsum. Ind. Pl. Jap. II: 2. 6; Miyabe & Miyake, Fl. Saghal. 411; Kudo, Contr. Fl. N. Saghal. 30, et Rep. Veg. N. Saghal. 101; Hult. Fl. Kamtch. II. 22; Mak. & Nemoto, Fl. Jap. ed. 2. 176; Yamamoto & Tsukamoto, Fl. Hakodate, 17.

Nom. Jap. *Yachi-yanagi, Yezo-yamamomo.*

Hab. *Yezo.* Oshima, Iburi, Ishikari, Kitami, Tokachi, Kushiro, Nemuro.

Kuriles. Kunashiri, Etorofu.

S. Saghalien. Odomari, Tomarioro, Toyohara, Shikka.

N. Saghalien. Alexandrowsk, Tymi, Nyiwo, Chaiwo, Pronge-Baikal, Oha, Schmidt-Penins.

Distrib. Saghalin, S. Kuriles, Yezo, Honshu, Manchuria, Amur, Kamtchatka and Sitcha.

JUGLANDACEÆ

Juglans L.

827. Juglans Sieboldiana Maxim. in Bull. Acad. Petersb. XVIII. 61, et in Mél. Biol. VIII. 633; Fr. et Sav. Enum. Pl. Jap. I. 453; Kawakami, Fig. and Descrip. Hokkaido Trees 120, *f. 36*; C. K. Schn. Ill. Handb. Laubholzk. I. 91, *f. 47, d–i* et II. 875, *f. 547, a–a*^{3}; Shirasawa, Icon. Ess. For. Trees Jap. II. 15, *t. 5, f. 16–29*; Matsum. Ind. Pl. Jap. II: 2. 4; Dode, in Bull. Soc. Dendr. de France. Ne 88 (1909) 31; Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido I. 65, *t. 20*; Rehder, Manual, 129; Tatewaki, Veg. Akan 59, Veg. Mt. Apoi 30, Teshio Exp. Forest I. 13; Mak. & Nem. Fl.

Jap. ed. 2. 177; Yamam. et Tsuk. Fl. Hakodate 17.

NOM. JAP. *Onigurumi, Okurumi.*

NOM. AINU. *Neshiko.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Hidaka, Ishikari, Teshio, Kushiro.

DISTRIB. Yezo, Honshu, Shikoku and Kyushu.

var. **sachalinensis** Miyabe et Kudo, Icon. Ess. For. Trees Hokkaido, I. 67, in nota.

Juglans Sieboldiana C. K. Schn. Handb. Laubholzk. I. 91, quoad pl. Sachalin; Miyabe & Miyake, Fl. Saghal. 52, (non Maxim.)

Juglans sachalinensis Komatsu, in Matsum. Icon. Pl. Koishikav. II. 111, *pl. 140.*

NOM. JAP. *Karafuto-onigurumi.*

HAB. *Yezo.* Teshio.

S. Saghalien. Toyohara.

DISTRIB. Endemic.

The size of the nut of the Saghalin variety is smaller, measuring 2.4–3.0 cm in length and 1.85–2.2 cm in width. They are generally ovate-orbicular and acute at the apex, and the rugoseness is shallower and less conspicuous. The distribution and shape of the lacunæ in the cross section of the nut are essentially the same as in the case of the typical species.

Pterocarya Kunth

828. Pterocarya rhoifolia Sieb. et Zucc. Fl. Jap. Fam. Nat. n. 123; Miq. Prol. Fl. Jap. 267; Maxim. in Mél. Biol. VIII. 637; Fr. et Sav. Enum. Pl. Jap. I. 454; Kawakami, Fig. and Descrip. Hokkaido Trees, 123, *f. 37*; C. K. Schn. Handb. Laubholzk. I. 94; Shirasawa, Icon. Ess. For. Trees Jap. I. 52, *t. 16*; Matsum. Ind. Pl. Jap. II: 2. 5; Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido I. 69, *t. 21*; Rehd. Manual, 126; Mak. & Nem. Fl. Jap. ed. 2. 178; Yamam. & Tsukam. Fl. Hakodate, 17.

Pterocarya sorbifolia Sieb. et Zucc. l. c.

NOM. JAP. *Sawagurumi, Kawagurumi, Yashi.*

HAB. *Yezo.* Oshima.

DISTRIB. Yezo, Honshu and Kyushu.

BETULACEÆ

Carpinus L.

829. Carpinus erosa Bl. in Mus. Bot. Lugd. Bat. I. 308; Koidz. in Tok. Bot. Mag. XL. 340; Tatew. Veg. Akan, 59, et Veg. Mt. Apoi, 30; Nakai, Veg. Daisetsusan Mts. 16, et Veg. Mt. Apoi, 46; Mak. & Nem. Fl. Jap. ed. 2. 186; Yamam. & Tsukam. Fl. Hakodate, 17.

Carpinus cordata Bl. in Mus. Bot. Lugd. Bat. I. 309; Rgl. Tent. Fl. Ussuri. 130; Fr. et Sav. Enum. Pl. Jap. I. 452; Maxim. in Mél. Biol. XI. 312; Sarg. in Gard. & For. VI. 364, VIII. 294, *f. 41*, For. Fl. Jap. 65, et Silva N. Am. IX. 41; Diels, Fl. C. China, 279; Kawakami, Fig. & Descrip. Hokkaido Trees 140, *f. 44*; Kom. Fl. Mansh. II. 62; C. K. Schn. Handb. Laubholzk. I. 137, *f. 75 a, f. 80 k-q*, et in Sarg. Pl. Wils. II. 434; Winkl. in Engl. Pfl.-reich. IV: 61, 26, *f. 7, 8*; Henry, in Elwes & Henry, Trees Gr. Brit. Irel. III. 589, *t. 201, f. 2*; Shirasawa, Icon. Ess. For. Trees Jap. I. 75, *t. 24, f. 18–32*; Nakai, Fl. Korea. II. 205, in Tokyo Bot. Mag. XXIX. 38, et Fl. Sylv. Korea. II. 16, *pl. 7*; Matsum. Ind. Pl. Jap. II: 2. 20; Rehd. in Bail. Stand. Cycl. Hort. II. 673, et Manual, 150; Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido I. 71, *t. 22*; Kom & Klob.-Alis. Key Pl. Far East. I. 432, *t. 132*.

NOM. JAP. *Sawashiba, Sawamaki, Sawashide, Kuchiguro.*

NOM. AINU. *Paseni.*

HAB. *Yezo.* Oshima, Shiribeshi, Okushiri, Iburi, Hidaka, Ishikari, Teshio, Tokachi, Kushiro, Nemuro.

DISTRIB. Yezo, Honshu, Shikoku, Kyushu, Korea, Manchuria, Ussuri and China.

830. Carpinus laxiflora Bl. in Mus. Bot. Lugd. Bat. I. 309; Miq. in Ann. Mus. Bot. Lugd. Bat. I, 121, et Prol. Fl. Jap. 358; Fr. et Sav. Enum. Pl. Jap. I. 451; Maxim. in Mél. Biol. XI. 315; Sarg. in Gard. & For. VI. 364, For. Fl. Jap. 64, et Silva N. Am. IX. 41; Kawakami, Fig. and Descrip. Hokkaido Trees 143, *t. 45*; C. K. Schn. Handb. Laubholzk. I. 138, *f. 76, i*, II. 894, *f. 558c, 559f–g*, et in Sarg. Pl. Wilson. II. 438; Winkl. in Engl. Pfl.-reich. IV: 61. 33, *f. 10k*; Nakai, Fl. Korea. II. 205, in Tokyo Bot. Mag.

XXIX. 39, et Sylv. Korea. II. 21, *pl. 2*; Shirasawa, Icon. Ess. For. Trees Jap. I. 78, *pl. 25, f. 15–30*; Matsum. Ind. Pl. Jap. II: 2. 21; Rehder, in Bailey, Stand. Cycl. Hort. II. 673, Manual, 149; Miyabe & Kudo, Mater. Fl. Hokkaido n. 30, in Trans. Sapporo Nat. Hist. Soc. V. 146, et Ess. For. Trees Hokkaido. I. 75, *pl. 23*; Tatew. Veg. Mt. Apoi, 30; Nakai, Veg. Mt. Apoi, 46; Mak. et Nem. Fl. Jap. ed. 2. 187; Yamam. & Tsukam. Fl. Hakodate, 17.

Distegocarpus laxiflora Sieb. et Zucc. Fl. Jap. Fam. Nat. II. 104; DC. Prodr. XVI: 2. 128.

NOM. JAP. *Akashide, Soronoki, Koshide.*

HAB. *Yezo.* Oshima, Iburi, Hidaka, Tokachi, Kushiro.

DISTRIB. Yezo, Honshu, Shikoku, Kyushu, Korea and China.

Ostrya SCOP.

831. Ostrya japonica Sarg. in Gard. & For. VI. 383, *f. 58*, et For. Fl. Jap. 66, *t. 22*; Kawakami, Fig. & Descrip. Hokkaido Trees, 146, *f. 46*; Shirasawa, Icon. Ess. For. Trees Jap. I. 80, *t. 25, f. 1–14*; Henry, in Elwes and Henry, Trees Gr. Brit. & Irel. III. 544, *t. 201, f. 10*; Nakai, in Tokyo Bot. Mag. XXIX. 37, et Fl. Sylv. Korea. II. 14, *pl. 6*; C. K. Schn. in Sarg. Pl. Wilson. II. 424; Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido I. 79, *t. 24*; Tatew. Veg. Mt. Apoi, 30; Nakai, Veg. Mt. Apoi, 46; Mak. & Nem. Fl. Jap. ed. 2, 189.

Ostrya virginiana Maxim. in Mél. Biol. XI. 317, (non Willd.)

Ostrya virginiana Willd. var. *japonica* Sarg. in Gard. & For. VI. 383, pro syn. et For. Fl. Jap. 66, pro syn.

Ostrya Ostrya Karst. var. *japonica* C. K. Schn. Handb. Laubholzk. I. 142, *f. 76r.*

Ostrya italica Scop. subsp. *virginiana* Winkl. in Engl. Pfl.-reich. IV: 61. 22, quoad pl. jap. sin.

Ostrya italica Scop. var. *virginiana* Matsum. Ind. Pl. Jap. II: 2. 22.

Ostrya japonica Sarg. var. *homochæta* Honda, in Tok. Bot. Mag. XLVII. 433, 481.

NOM. JAP. *Asada.*

NOM. AINU. *Seikabara.*

HAB. *Yezo.* Oshima, Iburi, Hidaka, Ishikari, Kitami, Kushiro.

DISTRIB. Yezo, Honshu, Shikoku, Kyushu, Korea and Central China.

Recently Dr. M. Honda proposed to divide the present species into two forms. The first form which has glandular hairs on young branches and petioles intermixed with erect tomentose hairs, is considered as the type of *Ostrya japonica* Sargent. The second form which is entirely or nearly devoid of glandular hairs, is treated as var. *homochæta* Honda. Among numerous specimens in our Herbarium, the sterile branches show generally the character of var. *homochæta,* while the fertile branches are always provided more or less with glandular hairs. Moreover the leaves on the fertile branches are often cordate at the base. There is a third form in which the young sterile branches are thickly covered with adpressed rather coarse hairs.

The species is so variable in the nature of the hairs on the young branches and in the shape and serration of the leaves as it is not necessary to recognize the varieties in the species.

Corylus L.

832. Corylus heterophylla Fisch. in Schtschagl. Anz. d. Entdeck. in d. Phys. Chem. u. Technol. VIII. 3; Besser, in Beibl. zur Flora I. (1834) *24*; Rupr. in *Mél.* Biol. II. 553; Bl. in Ann. Mus. Bot. Lugd. Bat. I. 309; Maxim. Prim. Fl. Amur. 241, et in Mél. Biol. XII. 317; Rgl. Tent. Fl. Ussur. 129; DC. Prodr. XVI: 2. 130; Herder, in Act. Hort. Petrop. X. *362*; Palib. Consp. Fl. Korea. II. 49; Dippel, Handb. Laubholzk. II. 129; Forb. et Hemsl. Ind. Fl. Sin. II. 504; Koehne, Deutsch. Dendr. (1893) 117; Korsh. Pl. Amur. 387; Franch. Pl. David. I, 278; Kom. Fl. Mansh. II. 65; Winkl. in Engl. Pfl.-reich. IV: 61. 48, *f. 14, B*; C. K. Schn. Handb. Laubholzk. I. 145, *f. 83*; Koidz. in Tok. Bot. Mag. XXVII. 143; Nakai, Fl. Sylv. Korea. II. 9, *t. 1*; Mak. & Nem. Fl. Jap. ed. 2. 188; Kom. et Klob.-Alis. Key Pl. Far East. I. 437, *t. 131.*

var. **yezoensis** Koidz. in Tokyo Bot. Mag. XXVII. 143; Mak. & Nem. l. c. 188.

Corylus yezoensis Nakai, Fl. Sylv. Korea. II. 9, in nota.

NOM. JAP. *Yezo-hashibami.*

HAB. *Yezo.* Shiribeshi, Ishikari.

DISTRIB. Endemic.

833. Corylus Sieboldiana Bl. in Ann. Mus. Bot. Lugd. Bat. I. 310; C. K. Schn. Handb. Laubholzk. I. 150, *f. 83, n,* et in Sarg. Pl. Wilson. II. 452; Nakai, in Tokyo Bot. Mag. XXIX. 36, Fl. Sylv. Korea. II. 12, *pl. 4,* et Veg. Daisetsusan Mts. 17; Tatew. Pl. Uryu Exp. Forest. I. 112.

Corylus heterophylla var. *Sieboldiana* A. DC. Prodr. XVI: 2, 130.

Corylus rostrata Maxim. Rhamn. As. Or. 10, in adnota; Fr. et Sav. Enum. Pl. Jap. I. 452, (non Ait.).

Corylus rostrata var. *Sieboldiana* Maxim. in Mél. Biol. XI. 319; Winkl. in Engl. Pfl.-reich. IV: 61. 52, *f. 16B*; Matsum. Ind. Pl. Jap. II: 2. 21; Mak. & Nem. Fl. Jap. ed. 2. 189.

NOM. JAP. *Tsunohashibami.*

HAB. *Yezo.* Oshima, Ishikari, Teshio.

DISTRIB. Yezo, Honshu, Shikoku, Kyushu, Korea.

834. Corylus mandshurica Maxim. in Rupr. in Bull. Acad. Sc. St. Petersb. XV. 137, et in Mél. Biol. II. 431; Maxim. Prim. Fl. Amur. 241; Dippel, Handb. Laubholzk. II. 135; Kom. Fl. Mansh. II. 63; C. K. Schn. Handb. Laubholzk. I. 150, *f. 83, 87*; Nakai, Fl. Korea. II. 206, in Tokyo Bot. Mag. XXIX. 36, et Fl. Sylv. Korea. II. 11, *t. 3*; Kom. et Klob.-Alis. Key. Pl. Far East. I. 437, *t. 132.*

Corylus rostrata var. *mandshurica* Rgl. in Mél. Biol. II. 488, et Tent. Fl. Ussuri. 129; A. DC. Prodr. XVI: 2. 133; Fr. et Sav. Enum. Pl. Jap. I: 2. 452; Maxim. in Mél. Biol. XI. 319; Franch. Pl. David. I. 278; Korsh. Pl. Amur. 388; Winkl. in Engl. Pfl.-reich. IV: 61. 52, *f. 14, E*; Matsum. Ind. Pl. Jap. II: 2. 22; Mak. & Nem. Fl. Jap. ed. 2. 188.

Corylus Sieboldiana var. *mandshurica* Schneid. in Sarg. Pl. Wils. II. 454; Rehd. in Jour. Arn. Arb. IV. 153, et Manual 155.

NOM. JAP. *Oba-tsunohashibami, Ōtsunohashibami.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Ishikari.

DISTRIB. Yezo, Honshu, Korea, Amur, Ussuri, Manchuria, and China.

835. Corylus brevirostris Miyabe, nom. nov.

Corylus Sieboldiana var. *brevirostris* Schneid. in Sarg. Pl. Wils. II. 453; Nakai, in Tokyo Bot. Mag. XXXIII. 46; Tatewaki, Pl. Teshio Univ.

Exp. For. II. 189; Yamam. & Tsukam. Fl. Hakodate 18.

NOM. JAP. *Tokkuri-hashibami, Yezo-tsunohashibami.*

HAB. *Yezo.* Oshima, Shiribeshi: between Otaru & Furubira (S. SUGIYAMA, fr. Aug. 1884), Iburi: Mt. Kombu (I. YAMAMOTO, fr. 9 Aug. 1925), Ishikari: Mt. Tengu (I. YAMAMOTO, fr. 15 Aug. 1931), Teshio: Otoineppu (S. NINOUYE, fr. 14 Sept. 1905), Univ. Exper. Forest (M. TATEWAKI, fr. 12 Jul. 1928, fr. 5 Oct. 1931, fr. 19 May 1933).

DISTRIB. Yezo, Honshu and Korea.

Betula L.

836. Betula Maximowicziana Rgl. in DC. Prodr. XVI: 2. 180; Fr. et Sav. Enum. Pl. Jap. I. 456; Shirai in Tokyo Bot. Mag. VIII. 321, *t. 6, f. 36–38*; Sargent, Silva N. Am. IX. 48, et For. Fl. Jap. 62; Kawakami, Fig. & Descrip. Hokkaido Trees 129, *f. 39*; Matsum. Ind. Pl. Jap. II: 2. 20; Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido I. 83, *pl. 25*; Rehd. Manual, 135; Tatew. Pl. Akan 59, Veg. Mt. Apoi 30, Pl. Teshio Exp. For. I. 14, & Pl. Uryu Exp. For. I. 112; Nakai, Veg. Daisetsusan Mts. 16, & Veg. Mt. Apoi 46; Mak. & Nem. Fl. Jap. ed. 2. 184.

Betula Maximowiczii Rgl. in Bull. Soc. Nat. Mosc. XXXVIII: 2. 418, et Bemerk. über Gatt. Betula u. Alnus 31, *t. 6, f. 1–8*; Miq. Prol. Fl. Jap. 358; C. K. Schn. Handb. Laubholzk. I. 97, *f. 53, 54*; Winkl. in Engl. Pfl.-reich. IV: 61. 89; Henry, in Elwes & Henry, Trees Gr. Brit. Irel. IV. 976, *t. 269, f. 6*, non Rupr.

Betula candelæ Koidz. in Tokyo Bot. Mag. XXVII. 147.

NOM. JAP. *Saihada-kamba, Udai-kamba, Ma-kaba.*

NOM. AINU. *Shiitat.*

HAB. *Yezo.* Oshima, Shiribeshi, Okushiri, Iburi, Hidaka, Ishikari, Teshio, Kushiro.

Kuriles. Kunashiri.

DISTRIB. Kuriles, Yezo and Honshu.

837. Betula Ermani Cham. in Linnæa VI. 537, *t. 6, f. D, a–e*; Ledeb. Fl. Ross. III. 653; Trautv. in Maxim. Prim. Fl. Amur. 252; Rgl. Monogr. Betulac. 62, *t. 6, f. 35, 37, 38, t. 12, f. 13–28*, (excl. var. *γ*), et Bemerk. Gatt.

Betula u. Alnus 27, et in DC. Prodr. XVI: 2. 176; Fr. Schm. Fl. Sachal. 174; Miyabe, Fl. Kuril. 233; Dippel, Handb. Laubholzk. II. 187, *f. 89*; Shirai, in Tokyo Bot. Mag. VIII. 321, *t. 6, f. 7–8*; Sarg. Silva N. Am. IX. 48; Kawakami, Fig. and Descrip. Hokkaido Trees, 131, *f. 40*; Kom. Fl. Mansh. II. 49; C. K. Schn. Laubholzk. I. 102, *f. 53, f–g, f. 54, l–l²*; Koidz. Pl. Sachal. 48, et in Tokyo Bot. Mag. XXVII. 147; Nakai, Fl. Korea. II. 201, in Tokyo Bot. Mag. XXIX. 43, et Fl. Sylv. Korea. II. 31, *pl. 17*; Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido, I. 87, *t. 26*; Komatsu, in Matsum. Icon. Koishikav. II. 109, *pl. 139*; Kudo, Contr. Fl. N. Saghal. 31, et Rep. Veg. N. Saghal. 103; Hult. Fl. Kamtch. II. 25; Kom. Fl. Pen. Kamtsch. II. 38; Tatew. Pl. Akan, 60, et Veg. Mt. Apoi 31, et Pl. Teshio Exp. Forest, I. 14; Mak. & Nem. Fl. Jap. ed. 2. 182; Ohwi, Fl. Shikotan II. 130; Tatew. Phytog. Middle Kuriles, 195, 225, 247, 277.

var. **genuina** Regel, Monogr. Betulac. 64, *t. 2, f. 13–28*; C. K. Schn. in Sarg. Pl. Wils. II. 470; Mak. & Nem. Fl. Jap. ed. 2. 183 (excl. syn.).

Betula Ermani var. *typica* Regel, Bemerk. Gatt. Betula u. Alnus 28, et in DC. Prodr. XVI: 2, 176.

Betula Ermani var. *genuina* H. Winkl. in Engl. Pfl.-reich. IV: 61. 66; Matsum. Ind. Pl. Jap. II: 2. 19; Takeda, Fl. Shikotan 484; Miyabe & Miyake, Fl. Saghal. 413, pro parte.

Betula Ermani var. *acutifolia* H. Winkl. l. c.; Matsum. l. c.; Takeda, l. c.; Miyabe & Miyake, l. c. 414.

Betula Ermani var. *communis* Koidz. in Tokyo Bôt. Mag. XXVII. 149.

Betula Ermani f. *genuina* Kom. Fl. Penins. Kamt. II. 39.

Betula Ermani var. *commutata* Nakai, Veg. Daisetsusan Mts. 16, 46, et Veg. Mt. Apoi 46; Yamamoto & Tsukamoto, Fl. Hakodate, 19.

Nom. Jap. *Yezo-no-dakekamba, Dosu-gampi, Soshi-kamba.*

Nom. Ainu. *Kamuitat.*

Hab. *Yezo.* Oshima, Shiribeshi, Iburi, Hidaka, Ishikari, Rebun, Rishiri, Tokachi, Kushiro, Nemuro.

Kuriles. Kunashiri, Shikotan, Etorofu, Urup, Shimushir, Ketoi, Rashuwa.

S. Saghalien. Odomari, Tomarioro, Ushoro, Toyohara, Motodomari, Shikka.

N. Saghalien. Alexandrowsk, Oha, Schmidt-Penins.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Korea, Amur, Manchuria, Eastern Siberia to Kamtchatka.

var. **parvifolia** Koidz. in Tokyo Bot. Mag. XXVII. 148; Tatew. Veg. Akan, 60, et Teshio Exp. Forest, II. 189.

?*Betula Saitoana* Nakai, in Fedde, Repert. XIII. 249, in Tokyo Bot. Mag. XXIX. 43, et Fl. Sylv. Korea. II. 32, *pl. 18.*

Betula Ermani, var. *genuina,* subvar. *Saitoana* Schn. in Sarg. Pl. Wils. II. 470, p. p.; Makino & Nemoto, Fl. Jap. ed. 2. 183.

Betula Ermani, form. *subalpina* Kom. Fl. Pen. Kamt. II. 39.

?*Betula Niijimai* Nakai, Veg. Mt. Apoi, 34, 46.

NOM. JAP. *Koba-no-dakekamba, Koha-dakekamba.*

HAB. *Yezo.* Shiribeshi, Hidaka, Ishikari, Teshio, Yagishiri, Rishiri, Rebun, Kushiro, Nemuro.

Kuriles. Ketoi.

S. Saghalien. Todomoshiri, Odomari.

DISTRIB. Saghalien, Yezo, Kuriles, Kamtchatka and Korea (?).

var. **subcordata** Koidz. in Tokyo Bot. Mag. XXVII. 148; Schn. in Sarg. Pl. Wils. II. 471; Tatew. Veg. Akan, 60; Makino & Nemoto, Fl. Jap. ed. 2, 183.

Betula Bhojpattra, var. *subcordata* Regel, Bemerk. Gatt. Betula u. Alnus, 29, et in DC. Prodr. XVI: 2, 177; Fr. et Sav. Enum. Pl. Jap. I. 406.

Betula Ermani, var. *nipponica* Maxim. in Mél. Biol. XII. 923; Shirasawa, Ic. Ess. For. Jap. II. *t. 14, f. 16–23*; Nakai, Veg. Daisetsu Mts. 16; Takéda, Atlas Alp. Plants, 63, *pl. 278.*

Betula Ermani, var. *genuina* Winkler, in Engl. Pfl.-reich. IV: 61, 66, p. p.

Betula Vulcani Lévl. in Bull. Soc. Bot. France, LI. 423.

Betula sachalinensis Koidz. in Tokyo Bot. Mag. XXVII. 148.

Betula Ermani, var. *subcordata,* form. *nipponica* Koidz. l. c. 149.

NOM. JAP. *Dake-kamba, Aka-kamba, Karafuto-dakekamba.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Hidaka, Ishikari, Teshio,

Kitami, Rishiri, Rebun, Nemuro.

Kuriles. Kunashiri, Shikotan, Etorofu, Urup, Ketoi.

S. Saghalien. Todomoshiri, Odomari, Honto, Mauka, Tomarioro, Toyohara, Motodomari, Shikka.

DISTRIB. Saghalien, Kuriles, Yezo and Honshu.

var. **incisa** Koidz. in Tokyo Bot. Mag. XXVII. 148.

Betula incisa Koidz. l. c. (562), et apud Komatsu, in Matsum. Icon. Pl. Koishik. III. 119, *pl. 205*; Makino & Nemoto, Fl. Jap. ed. 2, 183.

NOM. JAP. *Kireha-dakekamba.*

HAB. *Yezo.* Shiribeshi: Mt. Yoichi (H. YANAGISAWA, fr. 31 July 1915).

Kuriles. Shimushir: Broughton Bay (TATEWAKI & TAKAHASHI, fr. 27 Aug. 1929). Ketoi: Shimizugawa (TATEWAKI & TAKAHASHI, n. 15617 fr. 15 Aug. 1929). Rashuwa: near Onuma (TATEWAKI & TAKAHASHI, n. 15130, fr. 5 Aug. 1929).

S. Saghalien. Todomoshiri: Mt. Dainan (T. MIYAKE 1906; KIMOTO, MURAYAMA & TAKEE, 1931), Tomarizawa (T. MIYAKE, 1906). Toyohara: Mt. Susuya (T. MIYAKE, 1907; S. SUGAWARA, 1930).

DISTRIB. Saghalien, Yezo, Kuriles and Honshu.

var. **lanata** Regel, Monogr. Betulac. 64, et Bemerk. Gatt. Betula u. Alnus, 28, et in DC. Prodr. XVI: 2, 177.

Betula Ermani Trautv. et Mey. Fl. Ochot. 83; Rgl. et Til. Fl. Ajan. 119; Trautv. in Maxim. Prim. Fl. Amur. 252, ex Regel.

NOM. JAP. *Shirage-dakekamba.*

HAB. *N. Saghalien.* Tymi: Kanmenskoe—Dainialkoa (KUDO & TATEWAKI, n. 6671, fr. 25 Aug. 1922). Schmidt Penins.: Pil-wo (KUDO & ISHIDA, n. 7089, 25 Aug. 1923).

DISTRIB. N. Saghalien, N. Manchuria, Ajan and Ochotsk.

var. **corticosa** Nakai, Veg. Daisetsu Mts. 12, 16, 45; Tatewaki, Pl. Uryu Experim. For. I. 113.

NOM. JAP. *Atsukawa-kamba, Oni-kamba.*

HAB. *Yezo.* Ishikari: Moshiri, Uryu Univ. Exp. Forest (M. TATE-

WAKI, fr. 15 Oct. 1931).

S. Saghalien. Toyohara (S. OTAGIRI, fr. 1 Sept. 1931).

DISTRIB. Saghalien and Yezo.

Bark of the trunk thick, peeling in irregular scales; branches slender, drooping, more or less glandular in the youngest portion; leaves ovate-deltoid or ovate, truncate, rounded or broad-cuneate at the base, long acuminate, simply or doubly serrate-dentate, teeth acuminate, resino-punctate on the undersurface, slightly appressed-hairy on the midrib and veins; the middle-lobe of the bract linear-spatulate, the lateral lobes spatulate, ascending; the wing about one-half the width of the nutlet.

838. **Betula Tauschii** Koidz. Fl. Symb. Or.-As. 35; Tatew. Pl. Uryu Exp. For. I. 112, et Pl. Teshio Exp. For. II. 189.

Betula japonica Sieb. Syn. Pl. Oec. Jap. 25, nom. nud.; Sieb. et Zucc. Fl. Jap. Fam. Nat. I. 105, nom. nud.; Winkl. in Engl. Pfl.-reich. IV: 61. 78; Miyabe & Miyake, Fl. Saghal. 416; Nakai, in Tokyo Bot. Mag. XXIX. 40; C. K. Schn. in Sarg. Pl. Wilson. II. 485; Rehd. Manual, 140; Miyabe & Kudo, Ess. For. Trees Hokkaido, I. 91, *t. 27*; Kudo, Contr. Fl. N. Saghal. 31, et Rep. Veg. N. Saghal. 103; Tatew. Veg. Mt. Apoi, 31, Veg. Akan, 59, et Pl. Teshio Exp. For. I. 14, (non Thunb.).

Betula alba Sarg. For. Fl. Jap. 61; Koidz. Pl. Sachal. 48, (non L.).

Betula alba, var. *typica* Trautv. in Maxim. Prim. Fl. Amur. 249; Fr. Schm. Fl. Sachal. 174.

Betula alba, var. *vulgaris* Shirai, in Tokyo Bot. Mag. VIII. 319, *t. 6, f. 33–35*; Shirasawa, Icon. Ess. For. Trees Jap. II. 33, *t. 11, f. 19–37*; (non Regel).

Betula alba, ssp. *latifolia,* var. *Tauschii* Regel, Bemerk. Gatt. Betula u. Alnus, 12, *t. 7, f. 11–14,* et in DC. Prodr. XVI: 2, 165; Herder, in Act. Hort. Petrop. XII. 51; Miyabe, Fl. Kuril. 359.

Betula alba, var. *japonica* Miq. in Ann. Mus. Lugd.-Bat. II. 136, et Prol. Fl. Jap. 68.

Betula alba, var. *Tauschii* Shirai, in Tokyo Bot. Mag. VIII. 319; Burkill, in Journ. Linn. Soc. XXVI. 497.

Betula pendula, var. *japonica* Rehd. in Bailey, Cycl. Am. Hort. I. 159.

Betula latifolia Komar. Fl. Mansh. II. 38; Nakai, Veg. Mt. Apoi, 46;

Makino & Nemoto, Fl. Jap. ed. 2. 183, (non Tausch).

Betula latifolia, var. *Tauschii* Makino et Nemoto, Fl. Jap. ed. 2, 184.

Betula japonica, var. *Tauschii* Winkl. in Engl. Pfl.-reich. IV: 61, 78; Shirai, in Tokyo Bot. Mag. XIX. (116); Matsum. Ind. Pl. Jap. II: 2, 19; Nakai, Fl. Kor. II. 202.

Betula verrucosa, var. *japonica* Henry, in Elwes & Henry, Trees Gr. Brit. & Irel. IV. 967.

Betula pendula, var. *Tauschii* Rehd. in Bailey, Stand. Cycl. Hort. I. 498.

NOM. JAP. *Shirakamba, Oba-shirakamba, Gampi.*

NOM. AINU. *Pet-tat, Kii-tat, Kapat-tat.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Hidaka, Ishikari, Teshio, Kitami, Tokachi, Kushiro, Nemuro.

Kuriles. Etorofu.

S. Saghalien. Odomari, Ushoro, Toyohara, Shikka.

N. Saghalien. Tymi, Pronge-Baikal.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Korea, Manchuria, China, Dahuria and Siberia.

form. **laciniata** Miyabe et Tatewaki, form. nov.

Ramuli novelii dense glandulosi. Folia deltoideo-ovata basi truncato-rotundata vel cuneata inciso-laciniata acuminata subtus resinoso-punctata et in venarum axillis barbata.

NOM. JAP. *Kireha-shirakamba.*

HAB. *S. Saghalien.* Shikka: Keton, (H. KÔNO, 1932).

DISTRIB. Endemic.

var. **kamtschatica** Koidz. Fl. Symb. Or.-As. 35.

Betula alba, ssp. *latifolia,* var. *kamtschatica* Regel, Bemerk. Gatt. Betula u. Alnus, 13, *t. 7, f. 16–20,* et in DC. Prodr. XVI: 2, 165.

Betula pendula, var. *japonica,* form. *typica* Schneid. Ill. Handb. Laubholzk. I. 113, *f. 62, q*^{2}.

Betula japonica, var. *camtschatica* Winkl. in Engl. Pfl.-reich. IV: 61, 79; Shirai, in Tokyo Bot. Mag. XIX. (166); Schneid. in Sarg. Pl. Wilson. II. 486; Komar. Fl. Pen. Kamtsch. II. 41; Rehd. Manual, 140.

Betula platyphylla Hult. Fl. Kamtchat. II. 32, (non Sukatchev).
Betula Tauschii, var. *Unoi* Tatew. Pl. Uryu Exp. For. I. 112.
Betula latifolia, var. *camtschatica* Makino et Nemoto, Fl. Jap. ed. 2, 184.
NOM. JAP. *Yezo-no-shirakamba, Sakura-kamba.*
HAB. *Yezo.* Shiribeshi, Iburi, Ishikari, Teshio, Nemuro.
Kuriles. Kunashiri, Etorofu.
S. Saghalien. Odomari, Toyohara, Shikka.
DISTRIB. Saghalien, Kuriles, Yezo, Honshu and Kamtschatka.

var. **pluricostata** Koidz. Fl. Sym. Or.-As. 35.
Betula japonica, var. *pluricostata* Winkl. in Engl. Pfl.-reich. IV: 61, 79; Shirai, in Tokyo Bot. Mag. XIX. (166); Matsum. Ind. Pl. Jap. 11: 2, 19; Yamamoto & Tsukamoto, Fl. Hakodate, 18.
Betula latifolia, var. *pluricostata* Makino et Nemoto, Fl. Jap. ed. 2. 184.
NOM. JAP. *Yezo-no-ōshirakamba.*
HAB. *Yezo.* Oshima: Hakodate (F. C. Greatrex, 1917), Akagawa valley (F. C. Greatrex, 1917). Ishikari: Kamikawa (H. Koidzumi, 1911).
DISTRIB. Endemic.

var. **avatschensis** Miyabe et Kudo, var. nov.
Betula avatschensis Komar. in Fedde, Repert. XIII. 166, et Fl. Pen. Kamtschat. II. 43; Schneid. in Sarg. Pl. Wilson. II. 488.
Betula davurica Kudo, Rep. Veg. N. Saghal. 102, (non Pall.).
Betula platyphylla×*Betula Ermani*, Hult. Fl. Kamtchat. II. 33.
NOM. JAP. *Okuchi-shirakamba.*
HAB. *N. Saghalien.* Tymi: Kamionory-Onory, (KUDO & TATEWAKI, n. 6224, fr. 1 Aug. 1922). Pronge-Baikal: by Baikal Bay (KUDO & ISHIDA, n. 7429, fr. 5 Sept. 1923).
DISTRIB. N. Saghalien and Kamtchatka.

839. Betula mandshurica Nakai, in Tokyo Bot. Mag. XXIX. 42, et Fl. Sylv. Korea. II. 27, *pl. 14*; Komar. et Klob.-Alis. Key Pl. Far East. I. 432, *t. 131, f. 1.*
Betula alba, ssp. *mandshurica* Regel, Bemerk. Gatt. Betula u. Alnus, 12, *t. 7, f. 15*, et in DC. Prodr. XVI: 2, 165.

Betula japonica, var. *mandshurica* Winkl. in Engl. Pfl.-reich. IV: 61, 78; Nakai, Fl. Kor. II. 202; Miyabe & Miyake, Fl. Saghal. 416; Schneid. in Sarg. Pl. Wils. II. 461; Rehd. Manual, 140; Kudo, in Saghal. Exp. For. Kyushu Imp. Univ. I. 60.

Betula japonica, var. *sachalinensis* Koidz. in Tokyo Bot. Mag. XXVII. (563), Komatsu, in Matsum. Icon. Pl. Koishik. II. 39, *pl. 104*.

Betula latifolia, var. *mandshuirca* Nakai, Veg. Kamikochi, 38; Makino & Nemoto, Fl. Jap. ed. 2, 184.

Betula latifolia, var. *sachalinensis* Makino et Nemoto, Fl. Jap. ed. 2, 184.

NOM. JAP. *Karafuto-shirakamba, Hosomi-shirakamba, Kobano-shirakamba, Manshu-shirakamba.*

HAB. *Yezo.* Ishikari, Nemuro.

S. Saghalien. Odomari, Mauka, Toyohara.

DISTRIB. Saghalien, Yezo, Honshu, Korea and Manchuria.

840. Betula exilis Sukatch. in Trav. Mus. Bot. Acad. Petrop. VIII. 213; Hult. Fl. Kamtchat. II. 28; Komar. Fl. Pen. Kamtsch. II. 44.

Betula nana Ledeb. Fl. Alt. IV. 246, excl. syn.; Fedtsch. Fl. Îl. Comm. 105; Schneid. in Sarg. Pl. Wilson. II. 480; Kudo, in Oesterreich. Bot. Zeitschr. LXXVI. 310.

Betula nana L. *β. sibirica* Ledeb. Fl. Ross. III. 645; Rgl. Monogr. Betul. 43, *t. 9, f. 9–12, 14–18*; Trautv. et Mey. Fl. Ochot. 85; Fr. Schm. Fl. Sachal. 175.

Betula rotundifolia Spach, in Ann. Sc. Nat. sér. 2, XV. 194.

Betula glandulosa var. *rotundifolia* Rgl. in Bull. Soc. Nat. Mosc. XXXVIII: 2. 408, et in DC. Prodr. XVI: 2. 172; Herder, in Act. Hort. Petrop. XII. 64.

Betula glandulosa Winkl. in Engl. Pfl.-reich. IV: 61. 73, quoad pl. asiat.; Miyabe & Miyake, Fl. Saghal. 415; Miyabe & Kudo, Mater. Fl. Hokkaido n. 78, in Trans. Sapporo Nat. Hist. Soc. VI. 166; Koidz. in Matsum. Icon. Koishikav. I. 49, *pl. 25*.

Betula glandulosa var. *sibirica* Schneid. in Sarg. Pl. Wilson. II. 481; Kudo, Fl. Paramushir, 97, et Rep. Veg. N. Saghal. 101.

NOM. JAP. *Hime-kamba.*

HAB. *Kuriles.* Paramushir, Shumushu.

S. Saghalien. Shikka, Toyohara.

N. Saghalien. Alexandrowsk, Tim, Oha.

DISTRIB. Saghalien, N. Kuriles, Kamtchatka, Chukch-Penins., Siberia, Commander Isl. and Arctic America.

841. Betula Middendorffii Trautv. et Mey. Fl. Ochot. 84, *t. 21*; Maxim. Prim. Fl. Amur. 265; Rgl. Monogr. Betulac. 40, et in DC. Prodr. XVI: 2. 170; Fr. Schm. Fl. Amg.-Burej. 62 et Fl. Sachal. 174; Dippel, Handb. Laubholzk. II. 169; Herd. in Act. Hort. Petrop. XII. 60; Koehne, Deutsch. Dendr. 111; Kom. Fl. Mansh. II. 53; C. K. Schn. Handb. Laubholzk. I. 105, et in Sarg. Pl. Wilson. II. 481; Winkl. in Engl. Pfl.-reich. IV: 61. 87; Miyabe & Miyake, Fl. Saghal. 415; Kudo, Contr. Fl. N. Saghal. 31, et Rep. Veg. N. Saghal. 102; Komar. Fl. Penins. Kamt. II. 46; Kom. & Klob.-Alis. Key Pl. Far East. I. 431; Mak. & Nem. Fl. Jap. ed. 2. 185.

Betula rotundifolia Rgl. et. Til. Fl. Ajan. 118, (non Spach).

Betula exilis×*Ermani* Hult. Fl. Kamtch. II. 29.

Betula exilis×*Ermani*×*platyphylla* Hult. l. c. 31.

NOM. JAP. *Horonai-kamba.*

HAB. *S. Saghalien.* Shikka, Toyohara.

N. Saghalien. Alexandrowsk, Tim, Tymi, Nyiwo, Chaiwo, Pronge-Baikal, Oha, Schmidt-Penins.

DISTRIB. Saghalien, Kamtchatka, Ochotsk, Ajan, Amur and Manchuria.

842. Betula apoiensis Nakai, Veg. Mt. Apoi, 33, 46.

NOM. JAP. *Apoi-kamba.*

HAB. *Yezo.* Hidaka, at the summit of Mt. Apoi, growing in the rocky crevices (NAKAI, 1928).

DISTRIB. Endemic.

According to Prof. Nakai, this shrubby birch is most closely related to *Betula fruticosa* Pall., from which it is distinguished by the cordate base of the leaf and the wider wings of the seed.

843. Betula Miyoshii Nakai, Veg. Mt. Apoi, 34, 46, *photo. 15.*

Betula fruticosa Nakai, apud Tatew. Veg. Mt. Apoi, 31, (non Pall.).

NOM. JAP. *Marumi-kamba.*

HAB. *Yezo.* Hidaka, at the summit of Mt. Apoi, growing in the rocky crevices (NAKAI, 1928; M. TSUSHIMA & I. YAMAMOTO, 1924).

According to Prof. Nakai, the present shrubby birch is also most closely related to *Betula fruticosa,* from which it is said to be distinguished by the wider nuts and wings, the shape of the leaves being exactly the same.

Alnus Gaertn.

844. Alnus japonica Sieb. et Zucc. Fl. Jap. Fam. Nat. II. 106; Rgl. Monogr. Betulac. 85, *t. 15, f. 22–27*; Miq. Prol. Fl. Jap. 69; Dippel, Handb. Laubholzk. II. 153, *f. 74*; Sarg. Gard. & For. II. 344, *f. 53*, et For. Fl. Jap. 63, *t. 20*; Kawakami, Fig. & Descrip. Hokkaido Trees 133, *f. 41*; Kom. Fl. Mansh. II, 60; C. K. Schn. Handb. Laubholzk. I. 126. *f. 67. 69*, et in Sarg. Pl. Wilson. II. 493; Winkl. in Engl. Pfl.-reich. IV: 61. 114, excl. var. *formosana*; Henry, in Elwes & Henry, Trees Gr. Brit. & Irel. IV. 95, *t. 268, f. 12*; Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 428; Shirasawa, Icon. Ess. For. Trees Jap. I, 62, *t. 19, f. 18–32*; Matsum. Ind. Pl. Jap. II: 2. 18; Nakai, Fl. Korea II. 204, in Tokyo Bot. Mag. XXIX. 46, et Fl. Sylv. Korea. II, 38, *pl. 23*; Mak. & Nem. Fl. Jap. ed. 2. 181.

Alnus maritima, var. *japonica* Rgl. Bemerk. Gatt. Betula u. Alnus, 14, et in DC. Prodr. XVI: 2. 186; Fr. et Sav. Enum. Pl. Jap. I. 457; Palib. Consp. Fl. Korea. II. 48; Matsum. Rev. Alni Spec. Jap. 7.

var. **genuina** Call. in Fedde, Repert. X. 228; C. K. Schn. Handb. Lanbholzk. II. 890; Nakai, in Tokyo Bot. Mag. XXIX. 48.

NOM. JAP. *Hannoki, Harinoki.*

HAB. *Yezo.* Ishikari: Sapporo (K. Miyabe, 1884), Horomui (Tokubuchi, 1887). Iburi: Yubutsu (J. HANZAWA, 1899), Tomakomai (J. HANZAWA, 1899).

DISTRIB. Yezo, Honshu, Shikoku, Kyushu, Korea and Manchuria.

var. **arguta** Call. in Fedde, Repert. X. 228; C. K. Schn. Handb. Laubholzk. II. 890, *f. 5501* et in Sarg. Pl. Wilson. II. 494; Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido I. 95, *t. 28*; Tatew. Veg. Akan, 60, Veg. Mt. Apoi 31, et Pl. Teshio Exp. For. I. 14; Nakai, Veg. Mt. Apoi 45; Makino & Nemoto, Fl. Jap. ed. 2. 181.

Alnus maritima, var. *arguta* Rgl. Bemerk. Gatt. Betula u. Alnus 14, et in DC. Prodr. XVI: 2. 186; Fr. et Sav. Enum. Pl. Jap. I. 458.

NOM. JAP. *Yezo-hannoki, Yachi-han, Yachiba-hannoki.*

NOM. AINU. *Nitat-kene, Saru-kene.*

HAB. *Yezo.* Oshima, Iburi, Hidaka, Ishikari, Teshio, Kitami, Rebun.

DISTRIB. Yezo, Honshu, Korea and Ussuri.

845. Alnus Mayri Callier, apud C. K. Schn. Handb. Lanbholzk. I. 126, et in Sarg. Pl. Wils. II. 494; Nakai, Veg. Mt. Apoi, 45.

NOM. JAP. *Kushiro-hiroha-hannoki, Usuge-hiroha-hannoki.*

HAB. *Yezo.* Kushiro (H. MAYR). Nemuro: Bekkai (K. MIYABE, 1894). Hidaka: Samani (Y. TOKUBUCHI, 1892), Mt. Apoi (T. NAKAI, 1928).

DISTRIB. Endemic.

846. Alnus borealis Koidz. in Tok. Bot. Mag. XXVII. 145; Makino & Nemoto, Fl. Jap. ed. 2. 180; Tatew. Pl. Uryu Exper. For. I. 113.

? *Alnus japonica*, var. *koreana* Callier, in Fedde, Repert, X. 229; C. K. Schn. Handb. Lanbholzk. II. 890, *f. 555 m*, et in Sarg. Pl. Wils. II. 494; Nakai, in Tok. Bot. Mag. XXIX. 46.

Alnus borealis, var. *koreana* Nakai, in Tok. Bot. Mag. XXXIII. 44.

Alnus Mayri, var. *glabrescens* Nakai, Veg. Mt. Apoi, 45.

NOM. JAP. *Hiroha-kehannoki, Hiroha-hannoki.*

HAB. *Yezo.* Ishikari: Shimofurano (T. INOKUMA, n. 5514, 5518, 1930), Moshiri & Moshiriunnai, Uryu Exp. Forest (M. TATEWAKI, 1931). Hidaka.

DISTRIB. Yezo, Honshu and Korea.

847. Alnus hirsuta Turcz. Cat. Pl. Baic. Dah. n. 1064, nom. nud.; Rupr. in Bull. Phys. Mat. Acad. Sc. St. Petersb. XV. 376; Kom. Fl. Mansh. II. 54; C. K. Schn. Handb. Laubholzk. I. 133, *f. 68*, et in Sarg. Pl. Wilson. II. 496; Rehd. in Bailey Stand. Cycl. Hort. I. 253; Miyabe & Miyake, Fl. Saghal. 419; Kudo, Contr. Fl. N. Saghal. 31, et Rep. Veg. N. Saghal. 103; Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido. I. 99, *t. 29*; Hult. Fl. Kamtch. II. 38; Komar. Fl. Pen. Kamtsch. II. 51; Tatew. Veg. Akan 60,

Veg. Mt. Apoi 31, et Pl. Teshio Exp. For. I. 14; Nakai, Veg. Mt. Apoi 45; Ohwi, Fl. Shikotan II. 130; Kom. & Kleb.-Alis. Key Pl. Far East. I. 428.

Alnus incana Willd. var. *hirsuta* Spach, in Ann. Sc. Nat. sér. 2, XV. 207; Ledeb. Fl. Ross. III. 656; Trautv. et Mey. Fl. Ochot. 86; Maxim. in Mél. Biol. II. 435; Trautv. in Maxim. Prim. Fl. Amur. 258; Rgl. Monogr. Betulac. 97, *t. XVII. f. 1–2,* et in DC. Prodr. XVI: 2. 189; Fr. Schm. Fl. Sachal. 175; Miyabe, Fl. Kuril. 259; Dippel, Handb. Laubholzk. II. 164; Matsum. Rev. Alni Spec. Jap. 12, et Ind. Pl. Jap. II: 2. 17; Winkl. in Engl. Pfl.-reich. IV: 61. 123; Koidz. Pl. Sachal. 49; Nakai, Fl. Korea. II. 204; Shirasawa, Icon. Ess. For. Trees Jap. II. 42, *t. 13, f. 1–12.*

Alnus incana Kawakami, Fig. & Descrip. Hokkaido Trees, 136, *f. 42,* (non Willd.).

Alnus tinctoria Sarg. Gard. & For. X. 472, *f. 59*; Callier, in Fedde, Repert. X. 233; Nakai, Veg. Daisetsusan Mts. 16; Makino & Nemoto, Fl. Jap. ed. 2, 181; Kom. & Kleb.-Alis. Key Pl. Far East. I. 428.

Alnus tinctoria, var. *typica* Callier, l. c.

Alnus sibirica Fisch. var. *hirsuta* Koidz. in Tokyo Bot. Mag. XXVII. 144; Nakai, ibidem XXIX. 46, et Sylv. Korea. II. 40.

Nom. Jap. *Keyamahannoki, Yezo-yamahannoki.*

Nom. Ainu. *Kene.*

Hab. *Yezo.* Oshima, Shiribeshi, Iburi, Hidaka, Ishikari, Teshio, Rebun, Rishiri, Kitami, Kushiro, Nemuro.

Kuriles. Kunashiri, Shikotan, Etorofu.

S. Saghalien. Todomoshiri, Odomari, Honto, Mauka, Tomarioro, Ushoro, Toyohara, Motodomari, Shikka.

N. Saghalien. Alexandrowsk, Tim, Tymi, Oha.

Distrib. Saghalien, Kuriles, Yezo, Honshu, Korea, Manchuria, Ussuri, Amur, Siberia and Kamtchatka.

var. **sibirica** Schneid. in Sarg. Pl. Wilson. II. 498; Kudo, Rep. Veg. N. Saghal. 104; Tatewaki, Veg. Mt. Apoi, 31.

Alnus sibirica Fisch. ex Turcz. Cat. Pl. Baic. Dah. n. 1063, nom. nud.; Kom. Fl. Mansh. II. 57; Nakai, in Tokyo Bot. Mag. XXIX. 46, et Fl. Sylv. Korea. II. 29, *pl. 24,* et Veg. Mt. Apoi, 45.

Alnus incana var. *sibirica* Spach, in Ann. Sc. Nat. sér. 2, XV. 207;

Ledeb. Fl. Ross. III. 656; Turcz. Fl. Baical.-Dah. II. 133; Trautv. et Mey. Fl. Ochot. 86; Rgl. Monogr. Betulac. 98, et Bemerk. Gatt. Betula u. Alnus 46, et in DC. Prodr. XVI: 2. 189; Dippel, Handb. Laubholzk. II. 164; Matsum. Rev. Alni Spec. Jap. 12, et Ind. Pl. Jap. II: 2. 18; Winkl. in Engl. Pfl.-reich. IV: 61. 122; Nakai, Fl. Korea. II. 204.

Alnus incana var. *glauca* Rgl. Monogr. Betulac. 98 et Bemerk. Gatt. Betula u. Alnus 46, et in DC. Prodr. XVI: 2. 189; Fr. et Sav. Enum. Pl. Jap. I. 458; Palib. Consp. Fl. Korea. II. 48; Shirasawa, Icon. Ess. For. Trees Jap. I. 46, *pl. 19, f. 1–17.*

Alnus incana, var. *glauca* Ait. Hort. Kew. ed. 2, 259; Matsum. Rev. Alni Sp. Jap. 10; Takeda, Fl. Shikotan, 485.

Alnus tinctoria Kom. Fl. Mansh. II. 56; Call. apud Schneid. Handb. Laubholzk. I. 134, *f. 68, h–h*^{2}, *72 l,* et in Fedde, Repert. X. 233; Rehder, in Bailey, Stand. Cycl. Hort. I. 253; Nakai, in Tokyo Bot. Mag. XXIX. 47, (non Sargent).

Alnus incana var. *tinctoria* Winkl. in Engl. Pfl.-reich. IV: 61. 123; Matsum. Ind. Pl. Jap. II: 2, 17.

Alnus tinctoria, var. *typica* Call. in Fedde, Repert. X. 233, et in Schneider, Ill. Handb. Laubh. II. 891.

Alnus tinctoria, var. *obtusiloba* Call. l. c.

Alnus tinctoria, var. *glabra* Call. l. c.; Makino & Nemoto, Fl. Jap. ed. 2, 181.

Alnus tinctoria, var. *glabrescens* Call.; Nakai, Veg. Mt. Apoi, 45.

Alnus sibirica, var. *tinctoria* Koidz. in Tokyo Bot. Mag. XXVII. 145.

Alnus hirsuta, var. *glabra* Yamamoto et Tsukamoto, Fl. Hakodate, 19.

Nom. Jap. *Yama-hannoki, Yama-harinoki.*

Hab. *Yezo.* Oshima, Iburi, Hidaka, Ishikari.

S. Saghalien. Tomarioro, Ushoro, Motodomari, Shikka.

N. Saghalien. Alexandrowsk, Tim, Schmidt-Penins.

Distrib. Saghalien, Yezo, Honshu, Shikoku, Korea, Manchuria, Ussuri, Amur and Siberia.

var. **microphylla** Tatewaki, Pl. Teshio Experim. Forest, II. 189; Yamamoto & Tsuk. Fl. Hakodate, 19.

Alnus tinctoria, var. *microphylla* Nakai, in Tokyo Bot. Mag. XLII. 17,

et Rep. Veg. Kamikochi, 38.

NOM. JAP. *Kobano-keyama-hannoki, Tanigawa-hannoki.*

HAB. *Yezo.* Oshima, Tokachi: R. Satsunai (M. TATEWAKI, fr. July 2, 1927), Teshio: Toikambetsu (TATEWAKI, ster. June 3, 1928).

DISTRIB. Yezo and Honshu.

form. **glabrescens** Tatewaki, forma nova.

Folia subtus glabrescentia.

NOM. JAP. *Kobano-yamahannoki.*

HAB. *Yezo.* Hidaka: Saruru, (Y. TOKUBUCHI, ster. Aug. 13, 1892). Teshio: Nakaminedaira (M. TATEWAKI, ster. VII. 10, 1931).

DISTRIB. Endemic.

848. Alnus Maximowiczii Call. apud Schneid. Handb. Laubholzk. I. 122, *f. 66 k, f. 67 i,* et in Sarg. Pl. Wilson. II. 505; Miyabe & Miyake, Fl. Saghal. 417; Kudo, Fl. Paramushir, 98, Contr. Fl. N. Saghal. 31, et Rep. Veg. N. Saghal. 105; Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido, I. 103, *t. 30*; Nakai, in Tokyo Bot. Mag. XXXIII. 45, Veg. Mt. Daisetsu, 16, 45, et Veg. Mt. Apoi, 45; Tatewaki, Pl. Isl. Alaid 11, Veg. Akan 60, Veg. Mt. Apoi 31, et Pl. Teshio Exp. For. I. 14; Komar. et Klob.-Alis. Key Pl. Far East. I. 428.

Alnus viridis DC. var. *sibirica* Rgl. Bemerk. Gatt. Betula u. Alnus 35, et in DC. Prodr. XVI: 2. 182, quoad pl. jap.; Fr. et Sav. Enum. Pl. Jap. I. 456; Miyabe, Fl. Kuril. 259; Kawakami, Fig. & Descrip. Hokkaido Trees 138, *f. 43*; Matsum. Rev. Alni Spec. Jap. 1; Yabe et Yendo, in Tokyo Bot. Mag. XVIII. (178); Shirasawa, Icon. Ess. For. Trees Jap. II. 41, *pl. 14, f. 8–15.*

Alnaster fruticosus Fr. Schm. Fl. Sachal. 175 (non Ledeb.).

Alnus Alnobetula Hartig *β. fruticosa* Winkl. in Engl. Pfl.-reich. IV: 61, 106, p. p.; Koidz. Pl. Sachal. 48; Matsum. Ind. Pl. Jap. II: 2, 16; Okada, in Sangaku, XXV. 440; Makino & Nemoto, Fl. Jap. ed. 2, 179.

Alnus fruticosa Hult. Fl. Kamtch. II. 34; Ohwi, Fl. Shikotan II. 130; Tatewaki, Pl. Uryu Exp. For. I. 113, et Phytog. Middle Kuriles, 195, 225, 248, 266, 277 & 295, (non Rupr.).

Alnus fruticosa, var. *kamtschatica* Kom. Fl. Pen. Kamtsch. II. 47.

NOM. JAP. *Miyama-hannoki.*

NOM. AINU. *Horokeu-kene, Kamui-kene.*

HAB. *Yezo.* Oshima, Shiribeshi, Okushiri, Iburi, Hidaka, Ishikari, Teshio, Kitami, Rishiri, Rebun, Tokachi, Kushiro, Nemuro.

Kuriles. Kunashiri, Shikotan, Etorofu, Urup, Shimushir, Ketoi, Rashuwa, Matsuwa, Shashikotan, Harumukotan, Onnekotan, Paramushir, Shumushu, Alaid.

S. Saghalien. Todomoshiri, Odomari, Honto, Mauka, Ushoro, Toyohara, Motodomari, Shikka.

N. Saghalien. Alexandrowsk, Pronge-Baical, Oha, Schmidt-Penins.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, N. Korea, Manchuria and Kamtchatka.

849. Alnus fruticosa Rupr. Beitr. Pfl. Russ. Reich, II. 53; Callier, in Schneid. Ill. Handb. Laubh. I. 121; Komar. Fl. Mansh. II. 58; Rehd. Manual, 145.

var. **sachalinensis** Koidz. in Tok. Bot. Mag. XXVII. 144; Miyabe & Miyake, Fl. Saghal. 418.

Alnus Alnobetula, var. *fruticosa*, subv. *sachalinensis* Mak. & Nem. Fl. Jap. ed. 2. 180.

NOM. JAP. *Karafuto-miyamahannoki.*

HAB. *S. Saghalien.* Shikka: Shikka (MIYABE & MIYAGI, and MIYAKE, 1906; H. OTANI & Y. IMAI, 1930), Tarankotan (MIYAKE, 1906), Unetonnai (MIYABE & MIYAGI, 1906).

N. Saghalien. Nyiwo (KUDO & TATEWAKI, 1922). Oha: Urdlet (KUDO & ISHIDA, 1923). Schmidt Penins.: Musjv (KUDO & ISHIDA, 1923).

DISTRIB. Endemic.

850. Alnus sinuata Rydberg in Bull. Torr. Club, XXIV. 190.

Alnus viridis, var. *sinuata* Regel in DC. Prodr, XXVI: 2. 183.

var. **kamtschatica** Call. apud Schneid. Ill. Handb. Laubholzk. I. 804.

Alnus sitchensis Sarg. var. *kamtschatica* Call. apud Schneid. Ill. Handb. Laubholzk. I. 123.

Alnus Maximowiczii var. *yesoensis* Koidz. in sched. in Herb. Tokyo Imp. Univ.

NOM. JAP. *Yezo-miyamahannoki.*

HAB. *Yezo.* Hidaka: Mt. Apoi (TATEWAKI, 1927). Ishikari: Tokachidake (H. YANAGISAWA, 1912), Mt. Tengu (H. OTANI, 1931).

Kuriles. Paramushir: Uririzaki (S. YOKOYAMA, 1893), Suribachi, Nodawan, Murakamiwan (Y. KUDO, 1920).

DISTRIB. Yezo, Kuriles and Kamtchatka.

851. Alnus pendula Matsum. Rev. Alni Sp. Jap. 6, *t. 3*; C. K. Schn. Handb. Laubholzk. I. 804, et in Sarg. Pl. Wilson. II. 507; Rehder, in Bailey, Stand. Cycl. Hort. I. 252, et Manual 144; Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido I. 105, *t. 31*; Tatewaki, Pl. Teshio Exper. For. I. 14, et Pl. Uryu Exper. For. I. 114; Yamamoto & Tsukamoto, Fl. Hakodate 20.

Alnus firma Sieb. et Zucc. var. *multinervis* Rgl. Bemerk. Gatt. Betula u. Alnus 36, et in DC. Prodr. XVI: 2. 183; Fr. et Sav. Enum. Pl. Jap. I. 457; Winkl. in Engl. Pfl.-reich. IV: 61. 104; Matsum. Ind. Pl. Jap. II: 2. 18; Henry, in Elwes and Henry, Trees Gr. Brit. & Irel. IV. 952; Shirasawa, Icon. Ess. For. Trees Jap. II. 39, *t. 12, f. 21–37*; Makino & Nem. Fl. Jap. ed. 2. 180.

Alnus multinervis Call. apud C. K. Schn. Handb. Laubholzk. I. 123, *f. 66 o, 67 d–d²*, incl. varr. *typica* et *nikoensis* Call.

Alnus firma Sieb. et Zucc. subsp. *hirtella* C. K. Schn. in Sarg. Pl. Wilson. II. 506, quoad pl. Yezo lect.

NOM. JAP. *Hime-yashabushi, Shiba.*

HAB. *Yezo.* Oshima, Shiribeshi, Ishikari, Teshio, Kitami.

DISTRIB. Yezo and Honshu.

FAGACEÆ

Fagus L.

852. Fagus crenata Bl. in Mus. Bot. Lugd. Batav. I. 307; Koidz. in Tok. Bot. Mag. XL. 342; Mak. & Nem. Fl. Jap. ed. 2. 192; Yamamoto & Tsuk. Fl. Hakodate 20.

Fagus ferruginea Sieb. Syn. Pl. Oecon. 25, (non Ait.).

Fagus Sieboldii Endl. Gen. Pl. Suppl. 4. 29 nom. nud.; A. DC. Prodr. XVI: 2. 119; Miq. Prol. Fl. Jap. 358; Fr. et Sav. Enum. Pl. Jap. I. 451;

C. K. Schn. Handb. Laubholzk. I. 152; Miyabe & Kudo, Ess. For. Trees Hokkaido II. 1, *t. 32*; Rehd. Manual, 158.

Fagus sylvatica γ. asiatica A. DC. Prodr. XVI: 2. 119, quoad pl. Hakodate lect.; Maxim. in Mél. Biol. XII. 543; Kawakami, Fig. & Descrip. Hokkaido Trees 163, *f. 52*; Matsum. Ind. Pl. Jap. II: 2. 23.

Fagus sylvatica δ. Sieboldi Maxim. in Mél. Biol. XII. 543; Matsum. Ind. Pl. Jap. II: 2. 23.

Fagus sylvatica var. *Sieboldiana* Shirasawa, Icon. Ess. For. Trees Jap. I. 105, *t. 35, f. 14–26.*

Nom. Jap. *Bunanoki, Shirobuna, Sobanoki.*

Nom. Ainu. *Pirani.*

Hab. *Yezo.* Oshima, Shiribeshi, Okushiri, Iburi.

Distrib. Yezo, Honshu and Kyushu.

Castanea Adans.

853. Castanea crenata Sieb. et Zucc. Fl. Jap. Fam. Nat. n. 789; Dippel, Handb. Laubholzk. II. 56, *f. 23*; Rehder, in Sarg. Pl. Wilson. III. 197, et Manual 160; Miyabe & Kudo, Ess. For. Trees Hokkaido, II. 3, *t. 33*; Koidz. in Tokyo Bot. Mag. XXX. 99, XL. 338; Makino & Nem. Fl. Jap. ed. 2. 190.

Fagus Castanea Thunb. Fl. Jap. 195, (non L.).

Castanea vesca β. pubinervis Hassk. Catal. Pl. Hort. Bot. Bogor. (1844) 73, nom. nud.; Sieb. et Zucc. Fl. Jap. Fam. Nat. II. 224.

Castanea stricta Sieb. et Zucc. Fl. Jap. Fam. Nat. II. 225.

Castanea japonica Bl. in Mus. Bot. Lugd. Bat. I. 284; A. Gray, Bot. Jap. 319.

Castanea japonica Bl. var. *crenata* Bl. in Mus. Bot. Lugd. Bat. I. 285.

Castanea japonica Bl. var. *stricta* Bl. in Mus. Bot. Lugd. Bat. I. 286.

Castanea vulgaris Lam. var. *japonica* A. DC. Prodr. XVI: 2. 115; Fr. et Sav. Enum. Pl. Jap. I. 450, II. 501; Shirasawa, Icon. Ess. For. Trees Jap. I. 103, *t. 34, f. 14–25.*

Castanea Castanea Karst. var. *pubinervis* Sarg. Sylva N. Am. IX. 9.

Castanea sativa Mill. var. *japonica* T. Ito, in Tokyo Bot. Mag. XIV. 18.

Castanea sativa Mill. var. *pubinervis* Makino, in Tokyo Bot. Mag.

XXIII. 12.

Castanea pubinervis Schneid. Handb. Laubholzk. I. 158; Miyabe & Kudo, Mater. Fl. Hokkaido n. 31, in Trans. Sapporo Nat. Hist. Soc. V. 146.

NOM. JAP. *Kuri.*

NOM. AINU. *Yamni.*

HAB. *Yezo.* Oshima, Shiribeshi, Okushiri, Iburi, Hidaka, Ishikari.

DISTRIB. Yezo, Honshu, Shikoku and Kyushu.

Quercus L.

854. Quercus serrata Thunb. Fl. Jap. 176; Willd. Sp. Pl. IV: 1, 431; Pers. Syn. II. 568; Koidz. in Tok. Bot. Mag. XXXIX. 313; Nakai, ibidem XL. 165, et Veg. Mt. Apoi, 18; Rehder, Manual 857 et in Journ. Arn. Arb. X. 120; Makino & Nemoto, Fl. Jap. ed. 2, 202.

Quercus glandulifera Bl. in Mus. Bot. Lugd. Bat. I. 295; Miq. Prol. Fl. Jap. 358; A. DC. Prodr. XVI: 2. 40; Fr. et Sav. Enum. Pl. Jap. I. 447; Franch. Pl. David. I. 274; Sarg. in Gard. & For. VI. 358, et For. Fl. Jap. 68; Palib. Consp. Fl. Korea. II. 51; Shirai, in Tokyo Bot. Mag. IX. 410, *t. 7, f. 1*; Kawakami, Fig. & Descrip. Hokkaido Trees 150, *f. 50*; C. K. Schn. Handb. Laubholzk. I. 208; Nakai, Fl. Korea. II. 207, in Tokyo Bot. Mag. XXIX. 59, et Fl. Sylv. Korea. III. 25; Shirasawa, Icon. Ess. For. Trees Jap. I, 81 *t. 26, f. 13–24*; Matsum. Ind. Pl. Jap. II: 2. 27; Koidz. in Tokyo Bot. Mag. XXVI. 163; Rehd. & Wilson, in Sarg. Pl. Wilson. III. 212; Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido II. 13, *t. 37*; Rehd. Manual, 182.

Quercus canescens Bl. l. c.: A. DC. Prodr. XVI: 2. 15; Shirai, in Tokyo Bot. Mag. IX. 411, *t. 7, f. 2.*

Quercus urticæfolia Bl. l. c. 296; DC. l. c.; Fr. et Sav. l. c.; Matsum. l. c. 30.

Quercus canescens Bl. var. *urticæfolia* Miq. in Ann. Mus. Bot. Lugd. Bat. I. 105.

NOM. JAP. *Konara, Ishinara.*

NOM. AINU. *Chikap-peroni.*

HAB. *Yezo.* Oshima, Iburi, Hidaka, Ishikari.

DISTRIB. Yezo, Honshu, Shikoku, Kyushu, Korea and China.

855. Quercus crispula Bl. in Mus. Bot. Lugd. Bat. I. 298; Miq. in Ann. Mus. Lugd. Bat. I. 104; Fr. et Sav. Enum. Pl. Jap. I. 446; Sarg. in Gard. & For. VI. 285, et For. Fl. Jap. 67; Shirai, in Tokyo Bot. Mag. IX. 410, *t. 7, f. 5*; Kawakami, Fig. & Descrip. Hokkaido Trees 152, *f. 48*; Matsum. Ind. Pl. Jap. II: 2. 26; Koidz. in Tokyo Bot. Mag. XXVI. 164; Miyabe & Kudo, Ic. Ess. For. Trees Hokkaido II. 9, *t. 36*; Tatewaki, Veg. Akan 60, Veg. Mt. Apoi, 31, Pl. Teshio Exper. For. I. 14, et Pl. Uryu Exp. For. I. 114; Nakai, Veg. Mt. Daisetsu 17, et Veg. Mt. Apoi 46; Mak. & Nem. Fl. Jap. ed. 2. 198.

Quercus grosseserrata Bl. in Mus. Bot. Lugd. Bat. I. 306; A. DC. Prodr. XVI.: 2. 16; Miyabe, Fl. Kuril. 259; Sarg. in Gar. & For. VI. 385, et For. Fl. Jap. 67; Shirai, in Tokyo Bot. Mag. IX. 410, *t. 7, f. 4*; Kawakami, l. c. 155, *f. 49*; Koidz. Pl. Sachal. 46; C. K. Schn. Handb. Laubholzk. I. 209; Matsum. Ind. Pl. Jap. II: *2. 27*; Miyabe & Miyake, Fl. Saghal. 421.

Quercus crispula β. *grosseserrata* Miq. l. c.; Fr. et Sav. l. c.

Quercus mongolica var. *grosseserrata* Rehd. et Wils. in Sarg. Pl. Wilson. III. 231; Rehd. Manual 182.

Quercus crispula var. *sachalinensis* Koidz. in Tokyo Bot. Mag. XXVI. 164, p. p.

NOM. JAP. *Mizu-nara, Oh-nara.*

NOM. AINU. *Shi-peroni.*

HAB. *Yezo.* Oshima, Shiribeshi, Okushiri, Iburi, Hidaka, Ishikari, Teshio, Kitami, Rebun, Rishiri, Tokachi, Kushiro, Nemuro.

Kuriles. Kunashiri, Etorofu.

S. Saghalien. Odomari, Honto, Mauka, Tomarioro, Ushoro.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu and Kyushu.

856. Quercus mongolica Fisch. apud Turcz. in Bull. Soc. Nat. Mosc. I. 101; Ledeb. Fl. Ross. III. 589; Maxim. Prim. Fl. Amur. 241; Regel, Tent. Fl. Ussuri. 130, et in DC. Prodr. XVI: 2. 14; Fr. Schm. Fl. Sachal. 171; Korsh. Pl. Amur. 388; Skan, in Jour. Linn. Soc. Bot. XXVI. 519; Kom. Fl. Mansh. II. 68; Schneid. Ill. Handb. Laubholzk. I. 209; Nakai, Fl. Korea. II. 208, et in Tokyo Bot. Mag. XXIX. 57, et Fl. Sylv. Korea. III. 23; Koidz. in Tokyo Bot. Mag. XXVI. 165; Miyabe & Miyake, Fl. Saghal. 420, *t. 11, f. 3*; Rehd. & Wils. in Sarg. Pl. Wils. II. 230; Kudo, Rep. Veg.

N. Saghal. 105; Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido, II. 7, *t. 35*; Rehd. Manual 182, et in Journ. Arn. Arb. X. 120; Mak. & Nem. Fl. Jap. ed. 2. 200; Komar. & Klob.-Alis. Key Pl. Far East. I. 437, *t. 133*.

Quercus sessiliflora var. *mongolica* Franch. Pl. David. I. 273.

Quercus crispula var. *sachalinensis* Koidz. in Tokyo Bot. Mag. XXVI. 164, p. p.

NOM. JAP. *Karafuto-gashiwa, Mōko-gashiwa, Mongoli-nara.*

NOM. AINU. *Tunni.*

HAB. *Yezo.* Kitami, Rebun, Nemuro, Kushiro, Iburi, Ishikari.

Kuriles. Kunashiri, Etorofu.

S. Saghalien. Odomari, Mauka, Tomarioro, Ushoro, Toyohara.

N. Saghalien. Alexandrowsk.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Korea, Manchuria, Amur, Ussuri and Mongolia.

857. Quercus dentata Thunb. Fl. Jap. 177, et Icon. Pl. Jap. pt. 5, *t. 6*; Bl. in Mus. Bot. Lugd. Bat. I. 297; A. DC. Prodr. XVI: 2. 13; Fr. et Sav. Enum. Pl. Jap. I. 445; Franch. Pl. David. I. 82; Sarg. in Gard. & For. VI. 385, *f. 59*, et For. Fl. Jap. 67, *t. 23*; Shirai, in Tokyo Bot. Mag. IX. 407, *t. 7, f. 9*; Kawakami, Fig. & Descrip. Hokkaido Trees 149, *f. 47*; Kom. Fl. Mansh. II. 76; Matsum. et Hayata, Enum. Pl. Formos. 393; Schneid. Ill. Handb. Laubholzk. I. 209, *f. 133*; Shirasawa, Icon. For. Trees Jap. I. 85, *t. 27, f. 1–25*; Koidzumi, in Tokyo Bot. Mag. XXVI. 161; Nakai, Fl. Korea. II. 209, in Tokyo Bot. Mag. XXIX. 60 et Fl. Sylv. Korea. III. 32, et Veg. Mt. Apoi 46; Rehd. & Wilson, in Sarg. Pl. Wilson. III. 211; Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido II. 5, *t. 34*; Tatewaki, Veg. Mts. Apoi 31; Komar. & Klob.-Alis. Key Pl. Far East. I. 437, *t. 133*; Rehd. Manual, 182; Mak. & Nem. Fl. Jap. ed. 2. 198.

Quercus obovata Bunge, Enum. Pl. China Bor. 62.

Quercus dentata β. *Wrightii* A. DC. Prodr. XVI: 2. 13; Shirai in Tokyo Bot. Mag. IX. 408, *t. 7, f. 6*; Matsum. in Tokyo Bot. Mag. IV. 7, et Ind. Pl. Jap. II: 2. 26.

Quercus dentata var. *grandifolia* Koidz. in Tokyo Bot. Mag. XXVI. 161.

Quercus yunnanensis Franch. in Jour. de Bot. XII. 146.

NOM. JAP. *Kashiwa.*

NOM. AINU. *Komni, Shi-komni.*

HAB. *Yezo.* Oshima, Koshima, Shiribeshi, Iburi, Hidaka, Ishikari, Kitami, Nemuro.

Kuriles. Kunashiri.

DISTRIB. Yezo, Honshu, Kyushu, Formosa, Korea, Manchuria, China and Eastern Mongolia.

ULMACEÆ

Ulmus L.

858. Ulmus propinqua Koidz. in Tokyo Bot. Mag. XLIV. 95; Inokuma, Trees Chichibu Forest, 33; Tatew. Pl. Uryu Exp. For. I. 114, et Pl. Teshio Exp. For. II. 189; Yamamoto & Tsukam. Fl. Hakodate 21.

Ulmus glabra Maxim. et Rupr. in Bull. Phys.-Math. Acad. Sci. St. Pétersb. XV. 138, et in Mél. Biol. II. 434, (non Miller).

Ulmus campestris var. *laevis* Trautv. in Maxim. Prim. Fl. Amur. 247; Fr. Schm. Fl. Sachal. 174; Maxim. in Mél. Biol. IX. 23; Fr. et Sav. Enum. Pl. Jap. I. 431; Matsum. Ind. Pl. Jap. II: 2. 33; Shirasawa, Icon. Ess. For. Trees Jap. II. 46, *t. 15, f. 10–21,* (nec Planch. non Spach).

Ulmus campestris var. *major* Trautv. in Maxim. Prim. Fl. Amur. 248; Maxim. in Mél. Biol. IX. 23; Fr. et Sav. Enum. Pl. Jap. I. 431; Matsum. Ind. Pl. Jap. II: 2. 32, (nec Planch. non Walpers).

Ulmus campestris α. vulgaris Rgl. Tent. Fl. Ussuri. 133; Maxim. in Mél. Biol. IX. 22; Fr. et Sav. Enum. Pl. Jap. I. 430; Korsh. Pl. Amur. 386, excl. form. *pumila*; Matsum. Ind. Pl. Jap. II: 2. 32; Shirasawa, Icon. Ess. For. Trees Jap. II. 48, *t. 15, f. 15,* (nec Planch. non Spach).

Ulmus campestris Miyabe, Fl. Kuril. 258; Sarg. in Gard. & For. VI. 323, *f. 50,* et For. Fl. Jap. 57, *t. 18*; Kom. Fl. Mansh. II. 82; Nakai, Fl. Korea. II. 190, (nec L. non Sm.).

Ulmus campestris var. *japonica* Rehd. in Bailey, Cyclop. IV. 1882; Miyabe & Miyake, Fl. Saghal. 403.

Ulmus japonica Sarg. Trees & Shrubs II. 1, *t. 101*; Schneid. Ill. Handb. Laubholzk. II. 902; Henry, in Elwes & Henry Trees Gr. Brit. Irel. VII.

1923, *t. 441, f. 4*; Rehd. & Wilson, in Sarg. Pl. Wilson. III. 258; Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido II. 15, *t. 38*; Bean, Trees & Shrubs Brit. Isl. II. 675; Nakai, Veg. Diamond Mts. 170, Veg. Kamikochi, 16, et Veg. Mt. Apoi, 46; Kudo, Nippon Yuyo Jumoku Bunruigaku 160, *f. 31*; Makino & Nem. Fl. Jap. ed. 2. 208.

Ulmus Davidiana, var. *japonica* Nakai, Fl. Sylv. Korea. XIX. 26, *t. 9.*

Ulmus japonica, var. *levigata* Kudo, Contrib. Fl. N. Saghal. 31, et Rep. Veg. N. Saghal. 105, (non C. K. Schn.).

NOM. JAP. *Haru-nire, Akadamo.*

NOM. AINU. *Chikisani.*

HAB. *Yezo.* Oshima, Iburi, Hidaka, Ishikari, Teshio, Tokachi, Nemuro.

Kuriles. Kunashiri.

S. Saghalien. Odomari, Ushoro, Toyohara.

N. Saghalien. Alexandrowsk, Tim.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Shikoku, Kyushu, Korea, Manchuria, China, Amur and Ussuri.

var. **laevigata** Miyabe, comb. nov.

Ulmus japonica, var. *levigata* C. K. Schn. in Sargent Pl. Wils. III. 260; Mak. & Nem. Fl. Jap. ed. 2. 208.

Ulmus Davidiana, var. *laevigata* Nakai, Fl. Sylv. Korea. XIX. 30.

NOM. JAP. *Teriba-akadamo.*

HAB. *S. Saghalien.* Ushoro, Toyohara.

DISTRIB. Saghalien, Korea, Amur and Manchuria.

var. **suberosa** Miyabe, comb. nov.

Ulmus suberosa Maack et Rupr. in Bull. Phys.-Math. Acad. Sci. St.-Pétersb. XV. 375, et in Mél. Biol. II. 557, (non Mœnch.).

Ulmus campestris, var. *major,* form. *suberosa* Miq. Prol. Fl. Jap. 253.

Ulmus campestris, β. suberosa Rgl. Tent. Fl. Ussur. 134; Korsh. Pl. Amur. 387; Nakai, Fl. Korea. II. 191, (non Wahlbg.).

Ulmus campestris, var. *major* Miyabe et Miyake, Fl. Saghal. 463, (non Walp.).

Ulmus Davidiana, var. *japonica,* form. *suberosa* Nakai, Fl. Sylv. Korea.

XIX. 29, *t. 10.*

NOM. JAP. *Kobu-nire.*

HAB. *Yezo.* Oshima, Hidaka, Ishikari, Teshio, Tokachi, Kushiro.

Kuriles. Kunajiri.

S. Saghalien. Odomari, Toyohara.

N. Saghalien. Tim.

DISTRIB. Saghalien, S. Kuriles, Yezo, Korea, Manchuria, Ussuri- and Amur-Regions.

859. Ulmus laciniata Mayr, Fremdl. Wald- u. Parkb. 523, *f. 243*, p. p.; Schneid. in Sarg. Pl. Wils. III. 255; Kudo, Rep. Veg. N. Saghal. 106; Miyabe & Kudo, Icon. Ess. For. Trees Hokkaido II. 17, *t. 39*; Tatewaki, Veg. Akan Region 61, Pl. Teshio Exp. For. I. 15, et Veg. Mt. Apoi 32; Rehd. Manual 186; Nakai, Veg. Daisetsuzan Mts. 17, 46, Veg. Mt. Apoi 46, et Fl. Sylv. Korea. XIX. 16, *t. 2, 3*; Makino & Nemoto, Fl. Jap. ed. 2, 208.

Ulmus major, var. *heterophylla* Maxim. et Rupr. in Bull. Phys.-Math. Acad. Sci. St.-Pétersb. XV. 139, et in Mél. Biol. II. 434.

Ulmus montana Maack et Rupr. in Bull. Phys.-Math. Acad. Sci. St.-Pétersb. XV. 376, et in Mél. Biol. II. 557; Maxim. in Bull. Acad. Sci. St.-Pétersb. XXVII. 291, et in Mél. Biol. IX. 25; Planch. in DC. Prodr. XVII. 159, p. p.; Fr. et Sav. Enum. Pl. Jap. I. 431; Matsum. Ind. Pl. Jap. II: 2. 33; Komar. Fl. Mansh. II. 88, (non Stokes).

Ulmus montana, var. *laciniata* Trautv. in Maxim. Prim. Fl. Amur. 246; Fr. Schm. Fl. Sachal. 174; Miq. Prol. Fl. Jap. 253; Kawakami, Fig. & Descrip. Hokkaido Trees 114, *f. 34*; Shirasawa, Icon. Ess. For. Trees Jap. II. 48, *t. 15, f. 1–9*; Matsum. Ind. Pl. Jap. II: 2. 33; Henry, in Elwes & Henry, Trees Gr. Brit. & Irel. VII. 1865; Miyabe & Miyake, Fl. Saghal. 404.

NOM. JAP. *Ohyo, Ohyodamo.*

NOM. AINU. *Atni.*

HAB. *Yezo.* Oshima, Shiribeshi, Okushiri, Iburi, Hidaka, Ishikari, Teshio, Kitami, Rishiri, Rebun, Tokachi, Kushiro.

Kuriles. Kunashiri.

S. Saghalien. Mauka, Ushoro, Toyohara, Shikka.

N. Saghalien. Alexandrowsk.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Kyushu, Korea, Amur, Ussuri, Manchuria and China.

Celtis L.

860. Celtis jessoensis Koidz. in Tokyo Bot. Mag. XXVII. 183; Schneid. in Sarg. Pl. Wils. III. 281; Rehd. Manual 195; Nakai in Chosen Sanrin Kwaiho, no. 59, *21, pl. 2, fig. f. f. f., pl. 3, fig. f.,* et Fl. Sylv. Korea. XIX. 56, *t. 18.*

Celtis Bungeana Nakai in Tokyo Bot. Mag. XXIII. (45), Fl. Korea. II. 192, p. p., et in Matsum., Icon. Pl. Koish. I. 3, *t. 2, f. 1*; Matsum. Ind. Pl. Jap. II: 2, 31; Nakai, Veg. Isl. Quelp. 38, in Tokyo Bot. Mag. XXVIII. (4), *f. 1c,* et Veg. Chirisan Mts. *29,* (non Blume).

Celtis aphananthoides Koidz. in Tokyo Bot. Mag. XXVII. (563); Nakai, ibidem XXVIII. 266, *f. 1a*; Makino & Nemoto, Fl. Jap. ed. 1. 1087.

Celtis Bungeana, var. *jessoensis* Kudo, Nippon Yuyo Jumoku Bunrui-gaku 166, *f. 34*; Mak. & Nem. Fl. Jap. ed. 2. 206.

Celtis Bungeana, var. *jessoensis* Miyabe et Kudo, Ic. Ess. For. Trees Hokkaido II. 19, *t. 40.*

NOM. JAP. *Yezo-enoki, Oku-enoki, Okushiri-enoki.*

HAB. *Yezo.* Oshima, Shiribeshi, Okushiri, Ishikari.

DISTRIB. Yezo, Honshu, Shikoku, Kyushu and Korea.

MORACEÆ

Morus L.

861. Morus bombycis Koidz. in Tokyo Bot. Mag. XXIX. 313, XXXI. 36, in Bull. Imp. Sericult. 210, *t. 6, f. 1–2, t. 7, f. 1,* et in Bull. Imp. Seric. Exper. St. Jap. II. 10; Miyabe & Kudo, Ic. Ess. For. Trees Hokkaido. II. 23, *t. 41*; Tatewaki, Pl. Teshio Exp. For. I. 15, et Veg. Mt. Apoi 32; Makino & Nemoto, Fl. Jap. ed. 2. 219; Nakai, Fl. Sylv. Korea. XIX. 98, *t. 29A,* & *30*; Ohwi, Fl. Shikotan II. 129.

Morus alba Thunb. Fl. Jap. 71; Schneider in Sarg. Pl. Wils. III. 294,

quoad pl. in Kakkumi Pass. lect., (non L.).

Morus indica Thunb. Fl. Jap. 76; Miquel, Prol. Fl. Jap. 130.

Morus japonica Sieb. in Verh. Bat. Genoot. XII. 27, nom. nud.; Sieb. et Zucc. in Abh. Muench. Akad. IV: 3, 219, nom. nud.; Bailey, Stand. Cycl. Hort. IV. 2070.

Morus stylosa Seringe, Descrip. Mur. 225, excl. vars. 2 & 3.

Morus alba var. *stylosa* Bureau, in DC. Prodr. XVII. 243, p. p.; Fr. et Sav. Enum. Pl. Jap. I. 432; Kawakami, in Tokyo Bot. Mag. XIV. 108, et Fig. & Descrip. Hokkaido Trees 117, *f. 35*; Shirasawa, Icon. Ess. For. Trees Jap. II. 49, *t. 16, f. 1–11*; Matsum. Ind. Pl. Jap. II: 2. 40; Miyabe & Miyake, Fl. Saghal. 407; Nakai, Veg. Isl. Quelp. 39, et Veg. Mt. Chirisan 30.

Morus alba var. *indica* Fr. et Sav. Enum. Pl. Jap. I. 433.

Morus longistyla Diels in Notes R. B. G. Edinb. XXV. 293, (non Seringe).

? *Morus inusitata* Lévl. in Fedde, Repert. XIII. 265.

Morus acidosa Schneid. in Sarg. Pl. Wils. III. 297, p. p.; Rehder, Manual 197, (non Griffith).

NOM. JAP. *Yamaguwa.*

NOM. AINU. *Teshimani, Turep-ni, Topembe.*

HAB. *Yezo.* Oshima, Shiribeshi, Okushiri, Iburi, Hidaka, Ishikari, Teshio, Rebun, Rishiri, Kitami, Kushiro, Nemuro.

Kuriles. Kunashiri, Shikotan.

S. Saghalien. Todomoshiri, Mauka.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Shikoku, Kyushu, Korea and China.

var. **maritima** Koidz. in Bull. Imp. Seric. Exper. St. II: 1, 13; Nakai, Veg. Mt. Apoi, 19, 46, et Fl. Sylv. Korea. XIX. 101, *t. 31.*

NOM. JAP. *Hama-guwa.*

HAB. *Yezo.* Oshima, Shiribeshi, Okushiri, Iburi, Hidaka, Ishikari, Rishiri.

DISTRIB. Yezo, Honshu and Korea.

Humulus L.

862. Humulus Lupulus L. Sp. Pl. ed. 1, 1028; Ledeb. Fl. Ross. III. 635; A. DC. Prodr. XVI.: 1. 29; Hook. f. Fl. Brit. Ind. V. 487; Britt. & Br. Ill. Fl. I. 530; Forb. et Hemsl. Ind. Fl. Sin. II. 453; Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 596; Kom. Fl. Mansh. I. 93; Hegi, Ill. Fl. III. 130, *t. 87, f. 3*; Printz, Veg. Sib. Mong. Front. 200; Kom. & Klob.-Alis. Key Pl. Far East. I. 445.

var. **cordifolius** Maxim. apud Fr. et Sav. Enum. Pl. Jap. II. 489; Matsum. Ind. Pl. Jap. II: 2. 40; Tatewaki, Veg. Akan, 61, et Pl. Teshio Exp. Forest, 15; Makino & Nemoto, Fl. Jap. ed. 2. 218.

Humulus cordifolius Miq. Prol. Fl. Jap. 65; Fr. et Sav. Enum. Pl. Jap. I. 429; A. DC. Prodr. XVI: 1. 30.

NOM. JAP. *Karahanaso.*

HAB. *Yezo.* Oshima, Okushiri, Shiribeshi, Iburi, Hidaka, Ishikari, Teshio, Kushiro.

DISTRIB. *var.* Yezo and Honshu. *sp.* China, Siberia, Asia Minor, Central Asia, Caucasus, Europe and North America.

863. Humulus japonicus Sieb. et Zucc. Fl. Jap. Fam. Nat. II. 213; A. DC. Prodr. XVI: 1. 29; Maxim. Prim. Fl. Amur. 246, 477; Rgl. Tent. Fl. Ussuri. 132; Miq. Prol. Fl. Jap. 65; Fr. et Sav. Enum. Pl. Jap. I. 429; Franch. Pl. David. 269; Herd. in Act. Hort. Petrop. XII. 37; Forb. et Hemsl. Ind. Fl. Sin. II. 453; Kom. Fl. Mansh. II. 92; Matsum. et Hayata, Enum. Pl. Formos. 372; Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 598; Matsum. Ind. Pl. Jap. II: 2. 40; Nakai, Fl. Korea. II. 194; Mak. & Nem. Fl. Jap. ed. 2. 217; Kom. & Klob.-Alis. Key Pl. Far East. I. 445, *t. 136*; Yamam. & Tsukam. Fl. Hakodate 21.

NOM. JAP. *Kanamugura.*

HAB. *Yezo.* Oshima, Shiribeshi, Okushiri.

DISTRIB. Yezo, Honshu, Kyushu, Formosa, Korea, Manchuria and China.

URTICACEÆ

Urtica L.

864. Urtica urens L. Sp. Pl. ed. 1. 984; Wedd. Monogr. 58, et in DC. Prodr. XVI: 2. 40; Ledeb. Fl. Ross. III. 636; Maxim. in Mél. Biol. IX. 618; Britt. & Br. Ill. Fl. I. 532; Forb. et Hemsl. Ind. Fl. Sin. III. 472; Kom. Fl. Mansh. II. 94; Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 603; Hegi, Ill. Fl. III. 141; *t. 88, f. 3*; Printz, Veg. Sib. Mong. Front. 200; Kudo, Contr. Fl. N. Saghal. 32, et Rep. Veg. N. Saghal. 107; Kom. & Klob.-Alis. Key Pl. Far East. I. 446.

NOM. JAP. *Kobano-irakusa.*

HAB. *N. Saghalien.* Tymi: Adtymi (Y. KUDO & M. TATEWAKI, n. 6687, Aug. 21, 1922).

DISTRIB. Saghalien, Manchuria, China, Siberia, Caucasus, Europe and North Africa and naturalized in North and South America.

865. Urtica angustifolia Fisch. ex Hornem., Suppl. Hort. Bot. Hafn. 107; Turcz. Fl. Baic. Dah. II. 290; Miq. Prol. Jap. 294; Kom. Fl. Mansh. II. 95; Hult. Fl. Kamtch. II. 40; Kom. Fl. Pen. Kamtsch. II. 54; Kom. & Klob.-Alis. Key Pl. Far East. I. 446, *t. 137.*

Urtica dioica var. *angustifolia* Ledeb. Fl. Alt. IV. 241, et Fl. Ross. III. 637; Wedd. Monogr. 78, et in DC. Prodr. XVI: 1. 52; Trautv. et Mey. Fl. Ochot. 83; Maxim. Prim. Fl. Amur. 246, et in Mél. Biol. IX. 619; Rgl. Tent. Fl. Ussuri. 133; Fr. et Sav. Enum. Pl. Jap. I. 437; Franch. Pl. David. 271; Korsh. Pl. Amur. 287; Diels, Fl. C. China 301; Forb. et Hemsl. Ind. Fl. Sin. II. 472; Matsum. Ind. Pl. Jap. II: 2. 47; Printz, Veg. Sib. Mong. Front. 201; Mak. & Nem. Fl. Jap. ed. 2. 236.

Utrica dioica Fr. Schm. Fl. Amg.-Burej. 62, (non L.).

NOM. JAP. *Hosoba-irakusa.*

HAB. *Yezo.* Ishikari, Rebun, Hidaka, Kushiro, Nemuro.

S. Saghalien. Shikka, Toyohara.

N. Saghalien. Alexandrowsk.

DISTRIB. Saghalien, Yezo, Honshu, Shikoku, Kyushu, Korea, Amur, Maritime Province, Manchuria, China, Siberia to N. Kamtchatka.

866. Urtica Takedana Ohwi in Phytotax. et Geobot. I. (1932), 129, excl. syn. *Urtica platyphylla* Wedd.; Tatewaki & Kimoto, ibid. II. 229.

Urtica platyphylla Takeda in Tokyo Bot. Mag. XXV. 24, & in Journ. Linn. Soc. Bot. XLII. 484; Miyabe & Miyake, Fl. Saghal. 408; Kudo, Contr. Fl. N. Saghal. 31, & Rep. Veg. N. Saghal. 107; Tatewaki, Pl. Teshio Exp. For. I. 15, & Veg. Mt. Apoi 32; Nakai, Veg. Daisetsuzan Mts. 17, & Veg. Mt. Apoi 47; Makino & Nemoto, Fl. Jap. ed. 2. 236, (nec Buch.-Hamilt. non Weddell).

Urtica dioica, var. *platyphylla* Maxim. in Mél. Biol. IX. 620, p. p.; Fr. et Sav. Enum. Pl. Jap. II. 491; Miyabe, Fl. Kuril. 258; Matsum. Ind. Pl. Jap. II: 2, 47; Koidz. Pl. Sachal. 47, (non Wedd.).

Urtica dioica Fr. Schm. Fl. Sachal. 174, (non Linn.).

NOM. JAP. *Oba-irakusa, Yezo-irakusa.*

NOM. AINU. *Mose, Iririp, Ikara-hai.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Hidaka, Ishikari, Teshio, Kitami, Rebun, Tokachi, Kushiro, Nemuro.

Kuriles. Kunashiri, Shikotan, Etorofu.

S. Saghalien. Todomoshiri, Odomari, Mauka, Tomarioro, Ushoro, Toyohara, Motodomari, Shikka.

N. Saghalien. Alexandrowsk, Tim, Pronge-Baikal, Oha, Schmidt-Penins.

DISTRIB. Saghalien, S. Kuriles, Yezo and Honshu.

var. **platyphylla** Miyabe, comb. nova.

Urtica platyphylla Wedd. Monogr. 86; Kudo, Fl. Paramushir, 98; Hult. Fl. Kamtch. II. 40; Kom. Fl. Penins. Kamtsch. II. 53; Tatewaki, Pl. Isl. Alaid, 11, & Phytogeogr. M. Kuriles, 195, 295.

Urtica dioica L. var. *platyphylla* Wedd. in DC. Prodr. XVI: 1, 51; Yabe et Yendo, in Tokyo Bot. Mag. XVIII. (178).

NOM. JAP. *Marubano-obairakusa, Chishima-irakusa.*

HAB. *Middle and North Kuriles.* Urup: Tokotan (TATEWAKI, n. 10126, 1927). Shimushir: Broughton Bay (TATEWAKI, n. 11574, 1928). Ketoi: Minamiura (TATEWAKI, n. 15762, 1929). Ushishir: Minamijima (TATEWAKI & TAKAHASHI, n. 15857, 1929). Rashuwa: Mikasa (TATEWAKI & TOKUNAGA, 1928). Matsuwa: Yamatowan (TATEWAKI & TOKUNAGA, n.

12269, 1928). Paramushir: Tomarizaki (Y. KUDO, n. 5701, 1920). Shumushu, (CAPT. GUNJI, 1898). Alaid: Minami-ura (H. ITO & G. KOMORI, 1926).

DISTRIB. Middle and North Kuriles and Kamtchatka.

867. Urtica laetevirens Maxim. in Bull. Acad. St. Pétersb. XXII. 396, et in Mél. Biol. XI. 620; Fr. et Sav. Enum. Pl. Jap. II. 491; Forb. et Hemsl. Ind. Fl. Sin. II. 472; Kom. Fl. Mansh. II. 96; Matsum. Ind. Pl. Jap. II: 2. 47; Nakai, Fl. Korea. II. 196; Mak. & Nem. Fl. Jap. ed. 2. 236.

NOM. JAP. *Kobano-irakusa.*

HAB. *Yezo.* Oshima, Shiribeshi, Okushiri, Iburi, Ishikari, Teshio.

DISTRIB. Yezo, Honshu, Korea, Manchuria and China.

Sceptrocnide Maxim.

868. Sceptrocnide macrostachya Maxim. in Mél. Biol. IX. 626; Fr. et Sav. Enum. Pl. Jap. II. 492; Diels, Fl. C. China, 302; Matsum. Ind. Pl. Jap. II: 2. 47; Miyabe & Kudo, Mater. Fl. Hokkaido, n. 79, in Trans. Sapporo Nat. Hist. Soc. VI. 167; Mak. & Nem. Fl. Jap. ed. 2. 236; Yamam. & Tsukam. Fl. Hakodate 22.

Laportea grossedentata Nakai in Tokyo Bot. Mag. XLI. 515, (non C. H. Wright); Yamam. & Tsukam. Fl. Hakodate 22.

NOM. JAP. *Miyama-irakusa, Oba-mukago-irakusa.*

HAB. *Yezo.* Oshima.

DISTRIB. Yezo, Honshu and China.

Laportea Gaudich.

869. Laportea bulbifera Wedd. Monogr. 139, et in DC. Prodr. XVI: 1. 82; Maxim. in Mél. Biol. IX. 622; Fr. et Sav. Enum. Pl. Jap. I. 437; Diels, Fl. C. China, 302; Kom. Fl. Mansh. I. 97; Matsum. Ind. Pl. Jap. II: 2. 44; Nakai, Fl. Korea. II. 195; Tatewaki, Veg. Akan 61, et Veg. Mt. Apoi 32; Nakai, Veg. Daisetsuzan Mts. 46, et Veg. Mt. Apoi 47; Mak. & Nem. Fl. Jap. ed. 2. 227.

Urtica bulbifera Sieb. et Zucc. Fl. Jap. Fam. Nat. II. 214.

Fleurya bulbifera Bl. in Miq. Prol. Fl. Jap. 296.

NOM. JAP. *Mukago-irakusa.*

NOM. AINU. *Kapai.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Hidaka, Ishikari, Teshio, Kitami, Tokachi.

DISTRIB. Yezo, Honshu, Shikoku, Kyushu, Korea, Manchuria and China.

Pilea Lindl.

870. Pilea viridissima Makino, in Tokyo Bot. Mag. XXIII. 87; Tatewaki, Veg. Akan 61; Nakai, Veg. Mt. Apoi 47; Mak. & Nem. Fl. Jap. ed. 2. 235.

Pilea pumila Maxim. in Mél. Biol. IX. 631; Fr. et Sav. Enum. Pl. Jap. II. 492; Makino, in Tokyo Bot. Mag. X. (364); Matsum. Ind. Pl. Jap. II: 2. 45, (non A. Gray.).

NOM. JAP. *Ao-mizu.*

NOM. AINU. *Minji.*

HAB. *Yezo.* Oshima, Shiribeshi, Okushiri, Iburi, Hidaka, Ishikari, Kushiro.

DISTRIB. Yezo, Honshu and Kyushu.

Elatostemma Forst.

871. Elatostemma laetevirens Makino in Journ. Jap. Bot. II. 18; Makino & Nemoto, Fl. Jap. ed. 2. 226.

Elatostemma sessile, var. *cuspidatum* Maxim. in Mél. Biol. IX. 634; Fr. et Sav. Enum. Pl. Jap. II. 495, (non Weddell).

Elatostemma umbellatum, var. *majus* Matsum. Ind. Pl. Jap. II: 2, 44, (non Maxim.) quoad pl. Yezo.

Elatostemma sessile, var. *cuspidatum* Tatewaki, Pl. Teshio Exp. Forest. I: 15, (non Makino).

Elatostemma nipponica Yamamoto & Tsukamoto, Fl. Hakodate 22, (non Makino).

NOM. JAP. *Yama-tokihokori.*

NOM. AINU. *Minji.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Ishikari, Teshio.
DISTRIB. Yezo, Honshu and Kyushu.

872. Elatostemma umbellatus Bl. in Mus. Bot. Lugd. Bat. II. 2, *t. 19*; Fr. et Sav. Enum. Pl. Jap. I. 438, II. 493; Maxim. in Mél. Biol. IX. 636; Matsum. Ind. Pl. Jap. II: 2. 44.

Elatostemma japonicum Wedd. Monogr. 315; Miq. Prol. Fl. Jap. 296, et in Ann. Mus. Bot. Lugd. Bat. III. 132.

Procris umbellata Sieb. et Zucc. Fl. Jap. Fam. Nat. II. 217.

Pellionia umbellata Wedd. in DC. Prodr. XVI: 1. 167.

NOM. JAP. *Hime-uwabamiso.*

HAB. *Yezo.* Without locality (ex Siebold).

DISTRIB. Yezo, Honshu, Shikoku, Kyushu, Korea and China.

var. **majus** Maxim. in Mél. Biol. IX. 637 (1876); Matsum. Ind. Pl. Jap. II: 2. 44.

Elatostemma involucratum Fr. et Sav. Enum. Jap. I. 439 (1875) nom. nud., II. 495 (1879); Makino, in Tokyo Bot. Mag. XVIII. (114).

Elatostemma umbellatum Bl. var. *involucratum* Makino in Iinuma & Makino, Somoku-Dzusetsu, ed. 3. IV.: XX. 1282, *pl. 15, 16*; Mak. & Nem. Fl. Jap. ed. 2. 226.

NOM. JAP. *Uwabamiso, Mukagomizu.*

HAB. *Yezo.* Ishikari: Mt. Tengu (B. ISHIDA).

DISTRIB. Yezo, Honshu, Shikoku and Kyushu.

Boehmeria Jacq.

873. Boehmeria Splitgerbera Koidz. in Tokyo Bot. Mag. XL. 345; Yamam. & Tsukam. Fl. Hakodate, 23; Makino & Nemoto, Fl. Jap. ed. 2. 224.

Splitgerbera japonica Miq. Commet. Phytograph. III. 134, *t. 14, f. a–k.*

Urtica bifida Sieb. Kruidk. Naamlijst, 38.

Boehmeria biloba Wedd. in Ann. Sc. Nat. sér. 4, I. 199, et in DC. Prodr. XVI: 1. 208; Miq. Prol. Fl. Jap. 296; Fr. et Sav. Enum. Pl. Jap. I. 441; Engl. Entwicklungsgesch. Pfl.-welt I. 20; Matsum. Ind. Pl. Jap. II: 2. 41.

NOM. JAP. *Raseitaso, Birodoso, Birodo-karamushi.*

HAB. *Yezo.* Oshima, Iburi.

DISTRIB. Yezo and Honshu.

874. Boehmeria japonica Miq. in Ann. Mus. Bot. Lugd. Bat. III. 131, et Prol. Fl. Jap. 295; Maxim. in Mél. Biol. IX. 642; Mak. & Nem. Fl. Jap. ed. 2. 223.

Urtica japonica L. fil. Supplem. 418.

Acalypha japonica Houtt. Hist. Nat. II. 291, *t. 72, f. 2.*

Urtica macrophylla Thunb. Fl. Jap. 70.

Boehmeria macrophylla Sieb. et Zucc. in Abh. Math. Phys. Kl. Baier. Ak. IV: 3, 215.

Boehmeria longispica Steud. in Bot. Zeit. XXXIII. 260; Bl. in Ann. Mus. Bot. Lugd. Bat. II. 221; Fr. et Sav. Enum. Pl. Jap. I. 440.

Boehmeria grandifolia Wedd. in Ann. Sc. Nat. Sér. 4. I. 199; Matsum. Ind. Pl. Jap. II: 2. 41.

Boehmeria platyphylla var. *japonica* Wedd. in DC. Prodr. XVI: 1. 213.

Boehmeria platyphylla var. *macrophylla* Wedd. l. c.

NOM. JAP. *Yabumao.*

HAB. *Yezo.* Oshima.

DISTRIB. Yezo, Honshu, Shikoku and Kyushu.

875. Boehmeria tricuspis Makino, in Tokyo Bot. Mag. XXVI. 387; Tatewaki, Veg. Akan, 61, et Pl. Teshio Exp. Forest. I. 15; Mak. & Nem. Fl. Jap. ed. 2. 224; Yamam. & Tsuk. Fl. Hakodate 23.

Boehmeria japonica var. *tricuspis* Hance, in Seem. Jour. Bot. (1874) 261; Maxim. in Mél. Biol. IX. 642.

Boehmeria longispica β. tricuspis Fr. et Sav. Enum. Pl. Jap. II. 497.

Boehmeria platanifolia var. *tricuspis* Matsum. Ind. Pl. Jap. II: 2. 42.

NOM. JAP. *Akaso.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Ishikari, Teshio, Kitami, Tokachi, Kushiro.

DISTRIB. Yezo, Honshu and North China.

876. Boehmeria paraspicata Nakai, Rep. Veg. Mt. Apoi, 19, 47.

Boehmeria tricuspis Tatewaki, Veg. Mt. Apoi, 32, (non Makino).

NOM. JAP. *Kusa-koakaso.*

HAB. *Yezo.* Hidaka, Tokachi, Ishikari.

DISTRIB. Yezo, Honshu, Shikoku and Korea.

SANTALACEÆ

Thesium L.

877. Thesium longifolium Turcz. in Bull. Soc. Imp. Nat. Mosc. XI. 100, XXV: 2. 469, et Fl. Baik. II. 78; Ledeb. Fl. Ross. III. 541; A. DC. Prodr. XIV. 646; Maxim. Prim. Fl. Amur. 236; Kom. Fl. Mansh. II. 109; Nakai, Veg. Mt. Apoi 35; Kom. & Klob.-Alis. Key Pl. Far East. I. 453; Tatewaki & Kimoto, Fl. Kaibato, II. 229.

Thesium repens Fr. Schm. Fl. Sachal. 170; Takeda, Fl. Shikotan 486; Miyabe & Miyake, Fl. Saghal. 401; Miyabe & Kudo, in Trans. Sapporo Nat. Hist. Soc. VI. 4; Kudo, Rep. Veg. N. Saghal. 107; Tatewaki, Veg. Mt. Apoi 32; Mak. & Nem. Fl. Jap. ed. 2. 240; Ohwi, Fl. Shikotan II. 129, (non Ledeb.).

NOM. JAP. *Nagaba-kanabikiso, Kamayariso.*

HAB. *Yezo.* Hidaka, Ishikari: Mt. Tengu (I. YAMAMOTO, 1931), Rebun.

Kuriles. Kunashiri, Shikotan.

S. Saghalien. Todomoshiri, Odomari, Tomarioro, Ushoro, Motodomari, Shikka.

N. Saghalien. Alexandrowsk.

DISTRIB. Saghalien, S. Kuriles, Yezo, Korea, Manchuria, Amur, Mongolia and Siberia.

878. Thesium chinense Turcz. in Bull. Nat. Moscov. VII. 157; A. DC. Prodr. XIV. 649; Miq. Prol. Fl. Jap. 269; Fr. et Sav. Enum. Pl. Jap. I. 407; Diels, Fl. C. China 306; Palib. Consp. Fl. Korea. II. 41; Forb. et Hemsl. Ind. Fl. Sin. II. 408; Kom. Fl. Mansh. II. 108; Hayata, Mater. Fl. Formosa 261; Matsum. Ind. Pl. Jap. II: 2. 50; Nakai, Fl. Korea. II. 181; Tatew. Veg. Akan 61; Mak. & Nem. Fl. Jap. ed. 2. 240; Kom. & Klob.-Alis. Key Pl. Far East. I. 453, *t. 138.*

Thesium decurrens Bl. ex DC. Prodr. XIV. 652; Miq. Prol. Fl. Jap.

296; Fr. et Sav. Enum. Pl. Jap. I. 407.

NOM. JAP. *Kanabikiso.*

HAB. *Yezo.* Oshima, Iburi, Hidaka, Ishikari.

DISTRIB. Yezo, Honshu, Kyushu, Liukiu, Formosa, Korea, Manchuria and China.

LORANTHACEÆ

Viscum L.

879. Viscum coloratum Nakai, Rep. Veg. Dagelet Isl. 17; Mori, Enum. Pl. Corea, 128; Yamamoto, Suppl. Icon. Pl. Formos. III. 20; Kudo et Masamune, Gen. Pl. Formos. I. 45; Yamam. & Tsukam. Fl. Hakodate, 23.

Viscum album Thunb. Fl. Jap. 63; Maxim. Prim. Fl. Amur. 134, et in Mél. Biol. IX. 615; Miq. Prol. Fl. Jap. 297; Regel, Tent. Fl. Ussuri. 74; Korsh. Pl. Amur. 344; Fr. et Sav. Enum. Pl. Jap. I. 406; Kom. Fl. Mansh. II. 106; Matsum. Ind. Pl. Jap. II: 2, 49, (non Linn.).

Viscum album, subsp. *coloratum* Kom. Fl. Mansh. II. 107.

var. **lutescens** (Makino), Miyabe, comb. nov.

Viscum album, var. *lutescens* Makino, in Tokyo Bot. Mag. XXV. 17.

Viscum album, subsp. *coloratum* Kom. var. *lutescens* (Mak.) Kom. et Klob.-Alis. Key Pl. Far East. I. 454, *t. 139.*

Viscum album, var. *typicum* Makino in Tokyo Bot. Mag. XVIII. 67.

NOM. JAP. *Yadorigi, Hoya, Tobizuta.*

NOM. AINU. *Ni-haru.*

HAB. *Yezo.* Oshima, Okushiri, Iburi, Ishikari, Teshio.

var. **rubro-aurantiacum** (Makino), Miyabe, comb nov.

Viscum album, var. *rubro-aurantiacum* Makino, in Tokyo Bot. Mag. XVIII. 67, XXVI. 17; Matsum. Ind. Pl. Jap. II: 2, 49; Takeda, in Tokyo Bot. Mag. XXV. 21; Mak. & Nem. Fl. Jap. ed. 2. 243.

Viscum album, subsp. *coloratum* Kom. var. *rubro-auranticum* (Mak.) Kom. et Klob.-Alis. Key. Pl. Far East. I. 454.

NOM. JAP. *Akamino-yadorigi.*

HAB. *Yezo.* Ishikari.

DISTRIB. Yezo, Honshu, Kyushu, Formosa, Korea, Manchuria, Ussuri, Amur and China.

ARISTROCHIACEÆ

Asarum L.

880. Asarum Sieboldi Miq. Prol. Fl. Jap. 66; Fr. Schm. Fl. Sachal. 171; Maxim. in Mél. Biol. VIII. 397; Fr. et Sav. Enum. Pl. Jap. I. 417; Forb. et Hemsl. Ind. Fl. Sin. II. 360; Palib. Consp. Fl. Korea. II. 39; Kom. Fl. Mansh. II. 110; Matsum. Ind. Pl. Jap. II: 2. 53; Nakai, Fl. Korea. II. 175; Miyabe & Miyake, Fl. Saghal. 399; Kudo, Contr. Fl. N. Saghal. 32, et Rep. Veg. N. Saghal. 108; Tatew. Veg. Mt. Apoi 33, et Pl. Teshio Exp. Forest. I. 16; Nakai, Veg. Mt. Apoi 47; Ohwi, Fl. Shikotan II. 129; Mak. & Nem. Fl. Jap. ed. 2. 250; Tatew. & Kimoto, Fl. Kaibato, II. 229.

Asarum heterotropoides Fr. Schm. Fl. Sachal. 171; Herd. in Act. Hort. Petrop. XI. 349.

NOM. JAP. *Usuba-saishin.*

NOM. AINU. *Kisarabeot.*

HAB. *Yezo.* Oshima, Shiribeshi, Hidaka, Ishikari, Teshio, Kitami, Tokachi.

Kuriles. Shikotan, Etorofu.

S. Saghalien. Todomoshiri, Odomari, Honto, Mauka, Toyohara, Motodomari, Shikka.

N. Saghalien. Alexandrowsk, Tim, Tymi.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Kyushu, Korea, Manchuria and China.

POLYGONACEÆ

Rumex L.

881. Rumex aquaticus L. Sp. Pl. ed. 1, 336; Ledeb. Fl. Alt. II. 60 et Fl. Ross. III. 508; Meisn. in DC. Prodr. XIV. 42; Forb. et Hemsl. Ind. Fl. Sin. II. 355; Kom. Fl. Mansh. II. 117; Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 734; Hult. Fl. Kamtch. II. 44; Kom. Fl. Pen. Kamtsch.

II. 60; Nakai in Tokyo Bot. Mag. XLII. 18; Mak. & Nem. Fl. Jap. ed. 2, 267; Ohwi, Fl. Shikotan, II. 128.

NOM. JAP. *Numa-daiwo.*

HAB. *Yezo.* Oshima, Ishikari.

Kuriles. Shikotan.

S. Saghalien. Odomari, Motodomari.

DISTRIB. Kuriles, Yezo, Honshu, Manchuria, China, Amur, Kamtchatka, Siberia, Europe and North America.

882. Rumex domesticus Hartm. Skand. Fl. ed. 1, 148; Spr. Syst. Veg. II. 161; Ledeb. Fl. Alt. II. 60, et Fl. Ross. III. 506; Fr. Schm. Fl. Sachal. 167; Herd. Pl. Radd. Apet. II. 191; Makino, in Tokyo Bot. Mag. XV. 126; Nakai, Polyg. Korea. 25, et Fl. Korea. II. 174, et in Tokyo Bot. Mag. XXIII. (454); Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 725; Miyabe & Miyake, Fl. Saghal. 396; Kudo, Contr. Fl. N. Saghal. 32, et Rep. Veg. N. Saghal. 108; Hult. Fl. Kamtch. II. 46; Kom. Fl. Pen. Kamtsch. II. 61; Tatew. Veg. Akan, 62, et Pl. Teshio Exp. Forest, 16; Mak. & Nem. Fl. Jap. ed. 2. 267; Yamam. & Tsuk. Fl. Hakodate 24.

Rumex aquaticus L. var. *japonicus* Fr. et Sav. Enum. Pl. Jap. II. 470, (non Meisn.).

Rumex aquaticus Herd. l. c. 189, p. p.; Makino, in Tokyo Bot. Mag. X. 108, (non L.)

NOM. JAP. *No-daiwo.*

NOM. AINU. *Shunapa.*

HAB. *Yezo.* Oshima, Hidaka, Ishikari, Kitami, Kushiro.

Kuriles. Etorofu.

S. Saghalien. Odomari, Honto, Mauka, Tomarioro, Ushoro, Toyohara.

N. Saghalien. Alexandrowsk, Tim, Tymi.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Korea, Manchuria, Amur, Ussuri, Kamtchatka, Siberia, Caucasus, Europe and North America.

883. Rumex Gmelini Turcz. Cat. Pl. Baic. Dah. n. 986; Ledeb. Fl. Ross. III. 508; Trautv. et Mey. Fl. Ochot. 74; Fr. Schm. Fl. Sachal. 167; Miyabe & Miyake, Fl. Saghal. 397; Nakai, in Tokyo Bot. Mag. XXXIII. 47, et Veg. Daisetsuzan Mts. 64; Koidz. in Tokyo Bot. Mag. XXXIII. 222;

Kudo, Rep. Veg. N. Saghal. 109; Mak. & Nem. Fl. Jap. ed. 2. 267; Ohwi, Fl. Shikotan II. 128; Tatew. Phytog. Middle Kuriles 195; Takeda, Atlas Alp. Plants, 63, *pl. 276*.

Rumex aquaticus Kudo, Contrib. Fl. N. Saghal. 32, et Rep. Veg. N. Saghal. 108; Tatew. Veg. Akan. 61 (non L.).

NOM. JAP. *Karafuto-nodaiwo, Maruba-gishigishi.*

HAB. *Yezo.* Ishikari, Kushiro.

Kuriles. Shikotan, Etorofu, Urup.

S. Saghalien. Shikka.

N. Saghalien. Alexandrowsk, Nyiwo, Tymi, Oha.

DISTRIB. Saghalien, Kuriles, Yezo, Korea, Ochotsk, Dahuria and Baikal.

884. Rumex arcticus Trautv. in Middendr. Sibir. Reise, I: 2. 29; Ledeb. Fl. Ross. III. 506; Meisn. in DC. Prodr. XIV. 43; Kjellm. Phanerog. Fl. Asia Vega Exped. 360; F. Kurtz, in Engl. Bot. Jahrb. XIX. 472; Kudo, Fl. Paramushir 99; Printz, Veg. Sib. Mong. Front. 207; Hult. Fl. Kamtch. II. 45; Kom. Fl. Pen. Kamtsch. II. 58.

Rumex kamtschadalus Kom. in Fedde Repert. XIII. 166, et Fl. Pen. Kamtsch. II. 59.

Rumex japonicus Yabe et Yendo in Tokyo Bot. Mag. XVIII. (179), (non Meisn.).

Rumex crispus var. *japonicus* Matsum. Ind. Pl. Jap. II: 2. 65, (non Makino), quoad pl. Kuril.

NOM. JAP. *Kita-gishigishi.*

HAB. *Kuriles.* Paramushir, Shumushu.

DISTRIB. N. Kuriles, Kamtchatka, and arctic Siberia and Europe.

885. Rumex Daiwoo Makino in Tokyo Bot. Mag. XV. 124; Nakai in Tok. Bot. Mag. XXIII. (454), et Veg. Daisetsuzan Mts. 17; Makino in Iinuma, Somoku Dzusetsu ed. 3. II: 7. 527, *pl. 27*; Mak. & Nem. Fl. Jap. ed. 2. 267.

Lapathum Daiwoo Sieb. Syn. Pl. Oec. Jap. 19.

Rumex Madaio Makino in Tokyo Bot. Mag. X. 107.

NOM. JAP. *Madaiwo.*

HAB. *Yezo.* Ishikari, at Sounkyo (ex Nakai).

DISTRIB. Yezo, Honshu and Shikoku.

886. Rumex japonicus Meissn. in Ann. Mus. Bot. Lugd. Bat. II. 56; Fr. et Sav. Enum. Pl. Jap. I. 392; Yabe & Yendo, in Tok. Bot. Mag. XVIII. (179); Nakai, in Tok. Bot. Mag. XXIII. (454); Makino, in Iinuma, Somoku-Dzusetsu, ed. 3. II: 7. 525, *t. 26*; Mak. & Nem. Fl. Jap. ed. 2. 268.

Rumex crispus var. *japonicus* Makino in Tok. Bot. Mag. VIII. 174; Hult. Fl. Kamtch. II. 46; Kom. Fl. Pen. Kamt. II. 62; Ohwi, Fl. Shikotan II. 128; Tatewaki, Phytog. M. Kuriles, 195, 295.

Rumex Regeli Fr. Schm. Fl. Sachal. 167.

Rumex stenophyllus var. *sachalinensis* Regel, Ind. Sem. Hort. Petrop. (1864) 21.

Rumex Patientia Koidz. Pl. Sachal. 52, (non L.).

Rumex odontocarpus var. *japonicus* Nakai, Veg. Mt. Apoi 8, 47.

Rumex crispus Miyabe et Miyake Fl. Saghal. 395; Kudo, Rep. Veg. N. Saghal. 109, (non L.).

NOM. JAP. *Gishi-gishi, Ō-gishigishi.*

HAB. *Yezo.* Oshima, Shiribeshi, Okushiri, Hidaka, Ishikari, Rebun, Kitami.

Kuriles. Urup, Matsuwa, Shumushu.

S. Saghalien. Odomari, Mauka, Ushoro, Toyohara.

N. Saghalien. Alexandrowsk, Tim.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Shikoku, Kyushu, Korea and Kamtchatka.

887. Rumex crispus L. Sp. Pl. ed. 1, 335; Meisn. in DC. Prodr. XIV. 44; Ledeb. Fl. Ross. III. 505; Benth. Fl. Hongk. 286; Fr. et Sav. Enum. Pl. Jap. I. 392; Herd. Pl. Radd. Apet. II. 193; Britt. & Br. Ill. Fl. I. 550; Diels, Fl. C. China 310; Makino, in Tokyo Bot. Mag. V. 330, et VIII. (175); Kom. Fl. Mansh. II. 116; Matsum. et Hayata, Enum. Pl. Formos. 342; Nakai, in Tokyo Bot. Mag. XXIII. (455); Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 722; Matsum. Ind. Pl. Jap. II: 2. 65; Makino & Nemoto, Fl. Jap. ed. 2. 267; Yamam. & Tsuk. Fl. Hakodate 24.

NOM. JAP. *Nagaba-gishigishi.*

HAB. *Yezo.* Oshima, Ishikari, Rebun.

Kuriles. Kunashiri.

S. Saghalien. Odomari, Motodomari, Shikka.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Formosa, Korea, Manchuria, China, Siberia, Europe, N. Africa, and North and South America.

888. Rumex Hydrolapathum Huds. Fl. Angl. ed. 2. 154; Meisn. in DC. Prodr. XIV. 47; Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 728; Nakai in T. B. M. XLII. 18; Mak. & Nem. Fl. Jap. ed. 2. 268; Ohwi, Fl. Shikotan II. 128.

NOM. JAP. *Mizo-daiwo.*

HAB. *Kuriles.* Shikotan (ex Ohwi).

DISTRIB. Kuriles, Honshu and Europe.

889. Rumex obtusifolius L. Sp. Pl. ed. 1. 335.

ssp. **agrestis** Danser in Nederl. Kruidk. Arch. (1925) 424, et in Bull. Jard. Buitenz. sér. 3. VIII. 129; Rechinger in Beich. Bot. Centralbl. XLIX. Abt. II. 45, *t. 2, f. 16.*

Rumex obtusifolius L. *β. agrestis* Fr. Novit. Fl. Suec. ed. 2. 99.

Rumex obtusifolius Nakai in Tok. Bot. Mag. XXIII. (457); Miyabe & Miyake, Fl. Saghal. 394; Kudo in Rep. Saghal. Exp. For. Kyushu Imp. Univ. I. 62; Mak. & Nem. Fl. Jap. ed. 2. 268; Ohwi, Fl. Shikotan II. 128.

NOM. JAP. *Yezono-gishigishi, Hiroha-gishigishi.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Ishikari.

Kuriles. Shikotan.

S. Saghalien. Mauka, Shikka.

DISTRIB. Europe and naturalized in Saghalien, S. Kuriles, Yezo, Honshu, Asiatic Continent, North and South America, Africa and Java.

890. Rumex maritimus L. Sp. Pl. ed. 1. 335; Ledeb. Fl. Ross. III. 500; Meisn. in DC. Prodr. XIV. 59; Maxim. Prim. Fl. Amur. 228; Fr. Schm. Fl. Sachal. 168; Rgl. Tent. Fl. Ussuri. 123; Herd. Pl. Radd. Apet. II. 198; Korsh. Pl. Amur. 381; Hook. f. Fl. Brit. Ind. V. 59; Forb. et Hemsl. Ind. Fl. Sin. II. 357; Diels, Fl. C. China 311; Kom. Fl. Mansh. II. 114; Makino, in Tokyo Bot. Mag. XIX. 67; Matsum. et Hayata, Enum. Pl.

Formos. 343; Nakai, Polyg. Korea. 25, et in Tokyo Bot. Mag. XXIII. (456), et Fl. Korea. II. 174; Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 702; Miyabe & Miyake, Fl. Saghal. 395; Kudo, Rep. Veg. N. Saghal. 110; Hult. Fl. Kamt. II. 47; Kom. & Klob.-Alis. Key Pl. Far East. I. 459, *t. 140*; Mak. & Nem. Fl. Jap. ed. 2. 268; Ohwi, Fl. Shikotan II. 128; Kudo et Masamune, Gen. Pl. Formos. I. 50.

Rumex chinensis Campd. Monog. Rum. 63, 75; Meisn. in DC. Prodr. XIV. 60.

Rumex amurensis Fr. Schm. in Maxim. Prim. Fl. Amur. 228.

Rumex palustris Fr. Schm. in Maxim. Prim. Fl. Amur. 228; Rgl. Tent. Fl. Ussuri. 123; Koidz. Pl. Sachal. 51, (non Sm.).

Rumex persicarioides Maxim. Prim. Fl. Amur. 476, (non L.).

Rumex dentatus Nakai, Polyg. Korea. 25.

NOM. JAP. *Hama-gishigishi, Kogane-gishigishi.*

HAB. *Yezo.* Kitami, Nemuro.

Kuriles. Shikotan.

S. Saghalien. Odomari, Honto, Mauka, Tomarioro, Toyohara, Motodomari, Shikka.

N. Saghalien. Pronge-Baikal.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Formosa, Korea, China, Manchuria, Siberia, India, Caucasus, Europe, North and South America.

891. Rumex Acetosella L. Sp. Pl. ed. 1, 338; Ledeb. Fl. Ross. III. 511; Meisn. in DC. Prodr. XIV. 63; Miq. Prol. Fl. Jap. 369; Maxim. Prim. Fl. Amur. 229; Rgl. Tent. Fl. Ussuri. 124; Fr. Schm. Fl. Sachal. (ed. ross.) 183; Fr. et Sav. Enum. Pl. Jap. I. 393; Hook. f. Fl. Brit. Ind. V. 61; Herd. Pl. Radd. Apet. II. 201; Britt. & Br. Ill. Fl. I. 547; Korsh. Pl. Amur. 381; Forb. et Hemsl. Ind. Fl. Sin. II. 355; Kom. Fl. Mansh. II. 113; Nakai, Polyg. Korea. 26, et in Tokyo Bot. Mag. XXIII. (458); Koidz. Pl. Sachal. 52; Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 782; Matsum. Ind. Pl. Jap. II: 2. 65; Takeda, Fl. Shikotan 484; Miyabe & Miyake, Fl. Saghal. 398; Kudo, Fl. Paramushir 99, et Rep. Veg. N. Saghal. 110, p. p.; Hult. Fl. Kamtch. II. 44; Kom. Fl. Pen. Kamtsch. II. 56; Tatew. Veg. Akan 62, et Phytog. M. Kuriles 225; Mak. & Nem. Fl. Jap. ed. 2. 266; Kom. & Klob.-Alis. Key Pl. Far East. I. 459, *t. 140*; Ohwi, Fl. Shikotan II.

128.

NOM. JAP. *Hime-suiba.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Ishikari, Rebun.

Kuriles. Kunashiri, Shikotan, Etorofu, Shimushir, Paramushir.

S. Saghalien. Todomoshiri, Odomari, Tomarioro, Ushoro, Toyohara, Motodomari, Shikka.

N. Saghalien. Pronge-Baikal.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Korea, Manchuria, China, Amur, Dahuria, Kamtchatka, Siberia, Himalaya, Caucausus, Europe, Africa, Australia and America.

var. **subspathulata** Trautv. in Ledeb. Fl. Ross. III. 512; Herd. Pl. Radd. Apet. II. 203; Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 785.

Rumex Acetosella Kudo, Contr. Fl. N. Saghal. 32, et Rep. Veg. N. Saghal. 110, p. p.

HAB. *Kuriles.* Without locality ex Herder.

S. Saghalien. Toyohara.

N. Saghalien. Alexandrowsk, Tim.

DISTRIB. Saghalien, Kuriles, Arctic Siberia and Europe.

892. Rumex graminifolius Lamb. in Trans. Linn. Soc. X. 264, *t. 10*; Ledeb. Fl. Ross. III. 512; Meisn. in DC. Prodr. XIV. 64; Miyabe, Fl. Kuril. 258; Hult. Fl. Kamtch. II. 47.

Rumex Acetosella L. var. *graminifolius* Shrenck, Reise durch d. Tundr. d. Samoj. II. 159; Herder, Pl. Radd. Apet. II. 204.

HAB. *Kuriles.* Without locality ex Pallas.

N. Saghalien. Alexandrowsk, ex Herder.

DISTRIB. Saghalien, Kuriles, Kamtchatka, Bering, Tschuchland, Northern Siberia and Europe.

893. Rumex Acetosa L. Sp. Pl. ed. 1, 337; Meisn. in DC. Prodr. XIV. 64; Ledeb. Fl. Ross. III. 510; Trautv. et Mey. Fl. Ochot. 74; Rgl. et Til. Fl. Ajan. 116; Maxim. Prim. Fl. Amur. 229; Fr. et Sav. Enum. Pl. Jap. I. 393; Hook. f. Fl. Brit. Ind. V. 60; Korsh. Pl. Amur. 381; Britt. & Br. Ill. Fl. I. 548; Miyabe, Fl. Kuril. 258; Forb. et Hemsl. Ind. Fl. Sin.

II. 355; Herd. Pl. Radd. Apet. II. 205; Palib. Consp. Fl. Korea. II. 38; Matsum. et Hayata, Enum. Pl. Formos. 342; Yabe, in Tokyo Bot. Mag. XVII. 19; Kom. Fl. Mansh. II. 113; Nakai, Polyg. Korea. 26, et in Tokyo Bot. Mag. XXIII. (458) et Fl. Korea. II. 174; Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 776; Hegi, Ill. Fl. Mittel-Europ. III. 180, *t. 92, f. 1*; Matsum. Ind. Pl. Jap. II: 2. 64; Miyabe & Miyake, Fl. Saghal. 397; Kudo, Rep. Veg. N. Saghal. 110; Kom. Fl. Pen. Kamt. II. 57; Mak. & Nem. Fl. Jap. ed. 2. 266.

NOM. JAP. *Suiba, Sukampo.*

HAB. *Yezo.* Oshima, Shiribeshi, Hidaka, Ishikari.

Kuriles. Kunashiri, Etorofu.

N. Saghalien. Schmidt-Penins.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Kyushu, Liukiu, Formosa, Korea, Manchuria, China, Himalaya, Siberia, Ochotsk, Ajan, Kamtchatka, Europe and America.

var. **alpina** Hartm. Handb. Skand. Fl. ed. 1. 146; Hult. Fl. Kamtch. II. 43; Tatew. Phytog. M. Kuriles 195, 225, 248, 266, 277; Tatew. & Kimoto, Fl. Kaibato, II. 230.

NOM. JAP. *Chishima-suiba.*

HAB. *Kuriles.* Urup, Shimushir, Ketoi, Ushishir, Rashuwa.

S. Saghalien. Todomoshiri.

DISTRIB. Saghalien, Kuriles, Kamtchatka to Scandinavia.

894. Rumex arifolius All. Fl. Pedem. II. 204; Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 773; Hegi, Ill. Fl. Mittel-Eur. III. 181, *t. 92, f. 2.*

Rumex montanus Desf. Tabl. ed. 2. 48; Meisn. in DC. Prodr. XIV. 65; Nakai, Veg. Daisetsuzan Mts. 46; Honda, Veg. Hakubazan 2; Takeda, Atlas Alp. Plants, 63, *pl. 276.*

NOM. JAP. *Takane-suiba.*

HAB. *Yezo.* Ishikari, Hidaka, Tokachi.

Kuriles. Etorofu.

DISTRIB. Yezo, Kuriles, Honshu, Siberia and Europe.

Oxyria Hill

895. Oxyria digyna Hill, Hort. Kew. 158; Kjellm. Vega Exped. 361; Hook. f. Fl. Brit. Ind. V. 58; Britt. & Br. Ill. Fl. I. 533; F. Kurtz, in Engl. Bot. Jahrb. XIX. 472; Yabe, in Tokyo Bot. Mag. XVII. 19; Yabe et Yendo, ibidem XVIII. (179); Matsum. Ind. Pl. Jap. II: 2. 54; Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 790; Takeda, Fl. Shikotan 484; Kudo, Fl. Paramushir 100; Hult. Fl. Kamtch. II. 49; Kom. Fl. Pen. Kamtsch. II. 62; Tatewaki, Pl. Alaid Isl. 12, et Phytog. M. Kuriles, 195, 225, 248, 266, 277, 295; Nakai, Veg. Daisetsuzan Mts. 46; Mak. & Nem. Fl. Jap. ed. 2. 251; Ohwi, Fl. Shikotan II. 128; Kudo in Rep. Saghal. Exp. Forest, Kyushu Imp. Univ. I. 61.

Oxyria reniformis Hook. Scot. 111, et Fl. Bor. Am. II. 129; Cham. et Schl. in Linnaea III. 58; Ledeb. Fl. Ross. III. 498; Hook. et Arn. in Beechey's Voy. 129; Bong. Vég. de Sitcha 161; Matsudaira, in Tok. Bot. Mag. IX. 469.

NOM. JAP. *Jinyo-suiba, Maruba-gishigishi.*

HAB. *Yezo.* Rishiri. Ishikari.

Kuriles. Shikotan, Urup, Shimushir, Ketoi, Ushishir, Rashuwa, Matsuwa, Paramushir, Shumushu, Alaid.

S. Saghalien. Shikka.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Korea, Kamtchatka, Tchuktchland, Ajan, Dahuria, Siberia, Himalaya, Asia Minor, Caucasus, Europe, Nowaja Zemlia, Greenland and North America.

Koenigia L.

896. Koenigia islandica L. Mant. I. 35; Cham. et Schl. in Linnaea, III. 36; Ledeb. Fl. Alt. I. 124, et Fl. Ross. III. 535; Meisn. in DC. Prodr. XIV. 83; Hook. Fl. Bor. Am. II. 129; F. Kurtz, in Engl. Bot. Jahrb. XIX. 473; Dammer, in Engl. u. Pr. Nat. Pfl.-fam. III: 1. 9, *f. 2*; Yabe et Yendo, in Tokyo Bot. Mag. XVIII. (179); Matsum. Ind. Pl. Jap. II: 2. 54; Kudo, Fl. Paramushir 99; Printz, Veg. Sib. Mong. Front. 202; Hult. Fl. Kamtch. II. 42; Kom. Fl. Pen. Kamtsch. II. 71; Samuels. Pl. Sinenses XX. 4;

Steward, Polyg. East Asia 15, *pl. I. E, pl. II. 1, 2*; Mak. & Nem. Fl. Jap. ed. 2. 251.

Macounastrum islandicum Small, in Britt. & Br. Ill. Fl. I. 542.

NOM. JAP. *Chishima-michiyanagi.*

HAB. *Kuriles.* Paramushir, Shumushu.

DISTRIB. Kuriles, Kamtchatka, China, Sikkim, arctic and subarctic regions of Europe, Asia and America.

Fagopyrum Tourn.

897. Fagopyrum esculentum Moench. Meth. 290; Ledeb. Fl. Ross. III. 517; Meisn. in DC. Prodr. XIV. 143; Matsum. Ind. Pl. Jap. II: 1. 53; Miyabe & Miyake, Fl. Saghal. 393.

Polygonum Fagopyrum L. Sp. Pl. 364; Steward, Polygon. East. Asia 116.

Fagopyrum vulgare Hill, Brit. Herb. 480; Ohki in Tok. Bot. Mag. XL. 49; Mak. & Nem. Fl. Jap. ed. 2. 251.

NOM. JAP. *Soba.*

HAB. Escaped from cultivation. *Yezo.* Oshima, Shiribeshi, Iburi, Ishikari.

S. Saghalien. Odomari.

DISTRIB. From Saghalien to Formosa, Korea, Manchuria, China, Mongolia, Siberia to India.

898. Fagopyrum tataricum Gaertn. Fruct. et Sem. II. 182, *t. 119, f. 6*; Ledeb. Fl. Ross. III. 517; Meisn. in DC. Prodr. XIV. 144.

Polygonum tataricum L. Sp. Pl. 364; Steward, l. c. 114.

var. **suffruticosum** (Fr. Schm.) Miyabe, var. nov.

Fagopyrum suffructicosum Fr. Schm. Fl. Sachal. 170.

Polygonum suffruticosum Komar. in Act. Hort. Petrop. XXII. 145, 776; Steward, l. c. 114.

Fagopyrum tataricum Miyabe et Miyake, Fl. Saghal. 393, (non Gaertn.).

NOM. JAP. *Karafuto-nigasoba.*

HAB. *S. Saghalien.* Ushoro, Toyohara.

DISTRIB. *var.* Endemic. *sp.* Siberia, China, Tibet, Himalaya and Europe.

Polygonum L.

899. Polygonum aviculare L. Sp. Pl. ed. 1, 362; Thunb. Fl. Jap. 166; A. Gray, Pl. Jap. 317; Ledeb. Fl. Ross. III. 531; Maxim. Prim. Fl. Amur. 229, 476; Meisn. in DC. Prodr. XIV. 97; Rgl. Tent. Fl. Ussuri. 127; Miq. Prol. Fl. Jap. 299; Fr. et Sav. Enum. Pl. Jap. I. 394; Miyabe, Fl. Kuril. 257; Palib. Consp. Fl. Korea. II. 34; Forb. et Hemsl. Ind. Fl. Sin. II. 334; Kom. Fl. Mansh. II. 118; Nakai, Polyg. Korea. 3, et Fl. Korea. II. 166, et in Tokyo Bot. Mag. XXIII. (378); Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 846; Matsum. Ind. Pl. Jap. II: 2. 55; Takeda Fl. Shikotan 483; Miyabe & Miyake, Fl. Saghal. 383; Kudo, Contr. Fl. N. Saghal. 32, et Rep. Veg. N. Saghal. 111; Steward, Polygon. E. Asia, 20; Hult. Fl. Kamtch. II. 51; Kom. Fl. Pen. Kamt. II. 69; Mak. & Nem. Fl. Jap. ed. 2. 252; Ohwi, Fl. Shikotan II. 126.

Polygonum gymnopus Fr. et Sav. Enum. Pl. Jap. II. 472.

NOM. JAP. *Niwa-yanagi, Michi-yanagi.*

HAB. *Yezo.* Oshima, Shiribeshi, Hidaka, Ishikari, Rishiri, Rebun, Kitami, Kushiro.

Kuriles. Kunashiri, Shikotan, Etorofu.

S. Saghalien. Todomoshiri, Odomari, Toyohara, Shikka.

N. Saghalien. Tymi.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Kyushu, Korea, Manchuria, Amur, Ussuri, Siberia, China, Himalaya, Tibet, Caucasus, Europe, Africa, America and Australia.

var. **vegetum** Ledeb. Fl. Ross. III. 532; Meisn. in DC. Prodr. XIV. 97; Steward, Polyg. E. Asia 31; Nakai in Rigakukai XXIV: 4, 5, et Veg. Mt. Apoi 47; Mak. & Nem. Fl. Jap. ed. 2. 252.

Polygonum Fauriei Lévl. et Vant. ex Lévl. in Bull. Soc. Bot. Fr. LI. 423.

NOM. JAP. *Ōmichi-yanagi, Ōniwa-yanagi.*

HAB. *Yezo.* Oshima, Okushiri, Ishikari, Rebun, Hidaka.

S. Saghalien. Todomoshiri, Motodomari, Shikka.

DISTRIB. Saghalien, Yezo, Honshu, Shikoku, Kyushu, Korea, Manchuria, China, Siberia, Afghanistan and N. America.

900. Polygonum littorale Link, in Schrad. Journ. I. 54; Meisn. in DC. Prodr. XIV. 98; Herd. Pl. Radd. Apet. II. 222; Britt. & Br. Ill. Fl. I. 562; Kom. Fl. Mansh. II. 119.

Polygonum aviculare γ. littorale Koch Syn. ed. 1. 618; Aschers. u. Graebn. Syn. Mitteleur. Fl. IV. 859; Robins. & Fern. Gray's N. Manual ed. 7. 359, *f. 710 b.*

var. **buxifolium** Meisn. in DC. Prodr. XIV. 98; Maxim. Prim. Fl. Amur. 230; Fr. Schm. Fl. Sachal. 167; Kom. Fl. Mansh. II. 120; Nakai, Polyg. Korea. 3, et Fl. Korea. II. 166, et in Rigakukai XXIV. 293; Koidz. Pl. Sachal. 50; Miyabe & Miyake, Fl. Saghal. 384; Kudo, Rep. Veg. N. Saghal. 111; Mak. & Nem. Fl. Jap. ed. 2. 258.

NOM. JAP. *Hama-michiyanagi, Iso-yanagi.*

HAB. *Yezo.* Shiribeshi, Kitami.

S. Saghalien. Odomari, Mauka, Toyohara, Shikka.

N. Saghalien. Alexandrowsk, Pronge-Baikal.

DISTRIB. *var.* Yezo, Saghalien, Korea, Manchuria, Amur, Sitcha; *sp.* Siberia, Europe and North America.

901. Polygonum polyneuron Fr. et Sav. Enum. Pl. Jap. II. 471; Nakai, in Tokyo Bot. Mag. XXIII. (380), et in Rigakukai XXIV: 4, 5; Gross, in Bull. Géogr. Bot. XXIII. 13; Steward, Polygon. E. Asia, 19; Mak. & Nem. Fl. Jap. ed. 2. 261.

Polygonum maritimum Fr. et Sav. Enum. Pl. Jap. I. 395, (non L.).

NOM. JAP. *Nagaba-hamayanagi.*

HAB. *Yezo.* Kitami, Nemuro.

DISTRIB. Yezo and Honshu.

902. Polygonum Bellardi All. Fl. Pedem. II. 205; Ledeb. Fl. Ross. III. 530; Meisn. in DC. Prodr. XIV. 98; Steward, Polyg. E. Asia, 19.

Polygonum Bellardi var. *diffusum* Nakai in Rigakukai XXIV: 4, 5, (non Meisner).

NOM. JAP. *Yezo-michiyanagi.*

HAB. *Yezo.* Ishikari.

DISTRIB. Yezo, Honshu, Korea, China, Siberia, Central Asia, Afghanistan and Europe.

Reynoutria Houttuyn

903. Reynoutria sachalinensis Nakai, Veg. Dagelet Isl. 18, in Rigakukai XXIV: 4, 5, Veg. Daisetsuzan Mts. 17, et Veg. Mt. Apoi, 47; Mori, Enum. Pl. Corea 135; Yamam. & Tsuk. Fl. Hakodate 25.

Polygonum sachalinense Fr. Schm. in Maxim. Prim. Fl. Amur. 233, et Fl. Sachal. 169; Rgl. Gartenfl. 68, *t. 429*; Fr. et Sav. Enum. Pl. Jap. II. 477; Nakai, in Tokyo Bot. Mag. XXIII. (384); Matsum. Ind. Pl. Jap. II: 2. 61; Miyabe & Miyake, Fl. Saghal. 391; Steward, Polygon. E. Asia 97; Tatew. Veg. Akan Reg. 63, et Veg. Mt. Apoi 33; Ohwi, Fl. Shikotan II. 127; Mak. & Nem. Fl. Jap. ed. 2. 262.

Pleuropterus sachalinensis Moldenke in Bull. Torr. Bot. Club XL. 57.

NOM. JAP. *Oh-itadori, Dongui.*

NOM. AINU. *Ikokuttara, Ikokut.*

HAB. *Yezo.* Oshima, Okushiri, Shiribeshi, Iburi, Hidaka, Ishikari, Teshio, Rishiri, Rebun, Tokachi, Kushiro.

Kuriles. Kunashiri, Shikotan, Etorofu.

S. Saghalien. Odomari, Mauka, Toyohara.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu and Korea.

var. **intermedia** (Tatewaki), Tatewaki.

Polygonum sachalinense var. *intermedium* Tatewaki in Research Rep. Exp. For. Hokkaido Imp. Univ. VII. (1932) 190.

NOM. JAP. *Yezo-itadori.*

HAB. *Yezo.* Teshio, at Otoineppu, (Tatewaki).

DISTRIB. Endemic.

The stem is much branching. The upper leaves are truncate or shallowly cordate at the base and not glaucescent on the undersurface. The present variety is considered to show an intermediate character between *Reynoutria sachalinensis* Nakai and *R. japonica* Houtt.

Reynoutria japonica Houtt. (*Polygonum cuspidatum* Sieb. et Zucc.)

was recorded by Franchet and Savatier in Enum. Plant. Jap. I. 402 as having been collected by Maximowicz in the vicinity of Hakodate. The subsequent search did not testify the statement. The species must be excluded from the flora of our region.

Bilderdykia Dumortier

904. Bilderdykia Convolvulus Dumort. Fl. Belg. Prodr. 18; Nakai, in Rigakukai XXIV. 294; Yamam. & Tsuk. Fl. Hakodate 25.

Polygonum Convolvulus L. Sp. Pl. ed. 1, 364; Meisn. in DC. Prodr. XIV. 135; Ledeb. Fl. Ross. III. 528; Trautv. et Mey. Fl. Ochot. 75; Rgl. et Til. Fl. Ajan. 116; Maxim. Prim. Fl. Amur. 231; Hook. f. Fl. Brit. Ind. V. 53; Fr. et Sav. Enum. Pl. Jap. I. 402; Britt. & Br. Ill. Fl. I. 565; Kom. Fl. Mansh. II. 137; Nakai, Fl. Korea. II. 175; Matsum. Ind. Pl. Jap. II: 2. 56; Miyabe & Miyake, Fl. Saghal. 390; Aschers. u. Graebn. Syn. Mitteleurop. Fl. I. 870; Kudo, Rep. Veg. N. Saghal. 116; Hult. Fl. Kamtch. II. 53; Steward, Polygon. E. Asia 93; Kom. Fl. Pen. Kamt. II. 68; Samuels. Pl. Sin. XX. 10; Tatew. Veg. Akan Reg. 63; Ohwi, Fl. Shikotan II. 126; Mak. & Nem. Fl. Jap. ed. 2. 254.

Fagopyrum Convolvulus H. Gross in Bull. Géog. Bot. XXIII. 21.

Tiniaria convolvula Nakai ex Mori, Enum. Pl. Corea. 136.

Nom. Jap. *Soba-kazura.*

Hab. *Yezo.* Oshima, Ishikari, Rebun, Kushiro.

Kuriles. Shikotan.

S. Saghalien. Odomari, Mauka, Tomarioro, Ushoro, Toyohara, Motodomari, Shikka.

N. Saghalien. Tim, Pronge-Baikal.

Distrib. Saghalien, S. Kuriles, Yezo, Honshu, Shikoku, Kyushu, Korea, Manchuria, Amur, Ussuri, Dahuria, Kamtchatka, Siberia, Himalaya, Tibet, China, Afghanistan, Caucasus, Europe and North America.

905. Bilderdykia dumetora Dumort. Fl. Belg. Prodr. 18; Nakai, in Rigakukai XXIV. 294.

Polygonum dumetorum L. Sp. Pl. ed. 1. 521; Ledeb. Fl. Alt. II. 82, et Fl. Ross. III. 528; Meisn. in DC. Prodr. XIV. 135; Maxim. Prim. Fl. Amur. 231; Rgl. Tent. Fl. Ussuri. 125; Fr. Schm. Fl. Amg.-Burej. 60, et

Fl. Sachal. 169; Hook. f. Fl. Brit. Ind. V. 54; Forb. et Hemsl. Ind. Fl. Sin. II. 339; Britt. & Br. Ill. Fl. I. 566; Kom. Fl. Mansh. II. 137; Nakai, in Tokyo Bot. Mag. XXI. (267), XXIII. (382), Polyg. Korea. 23, et Fl. Korea. II. 173; Matsum. Ind. Pl. Jap. II: 2. 57; Miyabe & Miyake, Fl. Saghal. 390; Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 871; Steward, Polyg. E. Asia 94; Ohwi, Fl. Shikotan II. 127; Mak. & Nem. Fl. Jap. ed. 2. 254.

Fagopyrum dumetorum Schreb. Spicil. Fl. Lips. 42; H. Gross in Bull. Géogr. Bot. XXIII. 22.

Tiniaria dumetora Opitz, Seznam. 98; Nakai in Mori, Enum. Pl. Cor. 136.

NOM. JAP. *Tsuru-itadori.*

HAB. *Yezo.* Oshima, Ishikari, Kitami, Rishiri, Rebun.

Kuriles. Shikotan.

S. Saghalien. Odomari.

DISTRIB. Saghalien, S. Kuriles, Yezo, Honshu, Korea, Manchuria, Amur, Ussuri, Siberia, China, India, Europe and North America.

906. Bilderdykia scandens Nakai, in Rigakukai XXIV. 295.

var. **dentato-alata** Nakai, l. c.

Polygonum dentato-alatum Fr. Schm. in Maxim. Prim. Pl. Amur. 232.

Polygonum scandens L. var. *dentato-alatum* Maxim. in Fr. et Sav. Enum. Pl. Jap. II. 476; Franch. Pl. David. 256; Palib. Consp. Fl. Korea. II. 37; Nakai, in Tokyo Bot. Mag. XXI. (256), XXIII. (82), et Polyg. Korea. 23, et Fl. Korea. II. 172; Matsum. Ind. Pl. Jap. II: 2. 62; Takeda, in Tokyo Bot. Mag. XXIV. 175; Steward, Polygon. E. Asia 94; Mak. & Nem. Fl. Jap. ed. 2. 263.

Fagopyrum scandens H. Gross var. *dentato-alatum* H. Gross in Bull. Géogr. Bot. XXIII. 23.

Tiniaria scandens Nakai var. *dentato-alata* Nakai in Mori, Enum. Pl. Corea 137.

NOM. JAP. *Oh-tsuruitadori.*

HAB. *Yezo.* Oshima, Ishikari.

DISTRIB. Yezo, Honshu, Korea, China, Manchuria, Amur and Ussuri.

Bistorta Tournefort

907. Bistorta vulgaris Hill, British Herball, 488; H. Gross, in Bull. Géogr. Bot. XXIII. 16; Nakai, in Rigakukai XXIV. 295.

Polygonum Bistorta L. Sp. Pl. ed. 1, 360; Thunb. Fl. Jap. 163; Ledeb. Fl. Ross. III. 518; Meisn. in DC. Prodr. XIV. 125; Miq. Prol. Fl. Jap. 300; Maxim. Prim. Fl. Amur. 231; Fr. et Sav. Enum. Pl. Jap. I. 397; Forb. et Hemsl. Ind. Fl. Sin. II. 334; Kom. Fl. Mansh. II. 127; Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 801; Nakai, Polyg. Korea. 13, Fl. Korea. II. 168; Steward, Polygon. E. Asia, 35; Hult. Fl. Kamtch. II. 52; Mak. & Nem. Fl. Jap. ed. 2. 253.

var. **nitens** Nakai, in Rigakukai XXIV. 295, et Veg. Daisetsuzan Mts. 46, 63; Takeda, Atlas Alp. Plants, 61, *pl. 267*.

Polygonum Bistorta var. *nitens* Fisch. et Meyer, Ind. Sem. Hort. Petrop. V. 40; Ledeb. Fl. Ross. III. 519.

Polygonum bistorta, ssp. *nitens* Aschers. et Graebn. Syn. Mitteleurop. Fl. IV. 803.

Bistorta vulgaris var. *ovata* Nakai, in Rigakukai XXIV. 295.

NOM. JAP. *Yezo-ibuki-toranoo.*

HAB. *Yezo.* Ishikari, (Mt. Yubari, Mt. Tengu and Mt. Daisetsu).

DISTRIB. Yezo, Honshu, Siberia and Europe.

var. **pacifica** (v. Petrov) Miyabe, comb. nov.

Polygonum pacificum v. Petrov ex Kom. in Act. Hort. Petrop. XXXIX. 55; Kom. et Klob.-Alis. Key Pl. Far East. I. 463.

Polygonum Bistorta var. *vulgare* Fr. Schm.(?) Fl. Sachal. 168; Miyabe & Miyake, Fl. Saghal. 387; Kudo, Rep. Veg. N. Saghal. 113, (non Meisn.).

NOM. JAP. *Amime-ibukitoranoo.*

HAB. *Yezo.* Rishiri, Rebun.

S. Saghalien. Todomoshiri, Motodomari, Shikka.

N. Saghalien. Alexandrowsk.

DISTRIB. Yezo, Saghalien, Maritime Province and Manchuria.

var. **ussuriensis** (Rgl.) Miyabe, comb. nov.

Polygonum Bistorta, var. *ussuriense* Regel, Tent. Fl. Ussur. 124;

Herder, Pl. Radd. Apetal. II. 250.

Polygonum ussuriense v. Petrov; Kom. & Klob.-Alis. Key Pl. Far East. I. 464, *t. 141.*

form. **tomentosa** (Kom.) Miyabe, comb. nov.

Polygonum ussuriense var. *tomentosum* Kom.; Kom. & Klob.-Alis. l. c.

NOM. JAP. *Urage-ibukitoranoo.*

HAB. *Yezo.* Ishikari, Mt. Yubari (S. Nishida).

DISTRIB. Yezo, Ussuri and Manchuria. *sp.* Japan from Saghalien to Kyushu, Korea, Manchuria, China, Mongolia, Maritime Prov., Kamtchatka, Siberia, Europe and North America.

908. Bistorta vivipara S. F. Gray, Nat. Arr. Brit. Pl. II. 268; Nakai, in Mori, Enum. Pl. Corea. 130, in Rigakukai XXIV. 300, in Tok. Bot. Mag. XLII. 18, et Veg. Mt. Daisetsu Mts. 46.

Bistorta vivipara Greene, ex H. Gross in Bull. Géogr. Bot. XXIII. 16.

Polygonum viviparum L. Sp. Pl. ed. 1, 360; Ledeb. Fl. Ross. III. 519; Meisn. in DC. Prodr. XIV. 124; Trautv. et Mey. Fl. Ochot. 75; Rgl. et Til. Fl. Ajan. 116; Fr. Schm. Fl. Amg.-Burej. 60; Miyabe, Fl. Kuril. 257; Hook. f. Fl. Brit. Ind. V. 31; Forb. et Hemsl. Ind. Fl. Sin. II. 352; Yabe et Yendo, in Tokyo Bot. Mag. XVIII. (179); Kom. Fl. Mansh. II. 127; Nakai, in Tokyo Bot. Mag. XXIII. (411), Polyg. Korea. 13, et Fl. Korea. II. 169; Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 804; Matsum. Ind. Pl. Jap. II: 2. 64; Takeda, Fl. Shikotan 483; Miyabe & Miyake, Fl. Saghal. 387; Kudo, Rep. Veg. N. Saghal. 114; Steward, Polygon. E. Asia, 33; Hult. Fl. Kamtch. II. 55; Kom. Fl. Pen. Kamt. II. 64; Tatew. Pl. Isl. Alaid, 12, et Phytogr. M. Kuril. 195, 226, 248, 266, 277, 295; Mak. & Nem. Fl. Jap. ed. 2. 265; Ohwi, Fl. Shikotan II. 127.

NOM. JAP. *Mukago-toranoo, Komochi-toranoo.*

HAB. *Yezo.* Shiribeshi, Hidaka, Ishikari, Rishiri, Rebun, Kitami, Tokachi, Kushiro, Nemuro.

Kuriles. Kunashiri, Shikotan, Etorofu, Urup, Chirihoi, Shimushir, Ketoi, Ushishir, Rashuwa, Matsuwa, Paramushir, Shumushu, Alaid.

S. Saghalien. Todomoshiri, Motodomari, Shikka.

N. Saghalien. Schmidt-Penins.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Korea, Manchuria, Amur,

Kamtchatka, Siberia, Mongolia, China, Himalaya, Cancasus, Europe and North America.

Tovara Adanson

909. Tovara filiformis Nakai, in Rigakukai XXIV. 296, et Veg. Mt. Apoi 47; Yamam. & Tsukam. Fl. Hakodate 25.

Polygonum filiforme Thunb. Fl. Jap. 163; Willd. Sp. Pl. II. 444; Meisn. in DC. Prodr. XIV. 112; Fr. et Sav. Enum. Pl. Jap. I. 396, II. 478; Franch. Pl. David. I. 254.

Polygonum virginianum var. *filiforme* Nakai in Tok. Bot. Mag. XXIII. (380), et Fl. Korea. II. 169.

Persicaria filiformis Nakai, Fl. Quelpaert Is. 41; Mori, Enum. Pl. Corea. 131.

Tovara virginiana Rafin. var. *filiformis* Steward, Polyg. E. Asia 14, *pl. I. A*; Kudo & Masamune, Gen. Pl. Form. I. 54.

Polygonum virginianum Hook. f. Fl. Brit. Ind. V. 31; Forb. et Hemsl. Ind. Fl. Sin. II. 352; Nakai, Polyg. Korea. 14; Matsum. Ind. Pl. Jap. II: 2. 63; Tatew. Veg. Akan Reg. 62, (non L.).

Nom. Jap. *Midzuhiki.*

Nom. Ainu. *Karabe.*

Hab. *Yezo.* Oshima, Shiribeshi, Iburi, Hidaka, Ishikari, Kitami, Kushiro.

Distrib. Yezo, Honshu, Shikoku, Kyushu, Liukiu, Formosa, Korea, Manchuria, China, Himalaya.

Pleuropteropyrum H. Gross

910. Pleuropteropyrum Weyrichii H. Gross, in Bull. Géogr. Bot. XXIII. 9; Koidz. in Tok. Bot. Mag. XXX. 77; Nakai, in Rigakukai XXIV. 296, et Veg. Daisetsu Mts. 46.

Polygonum Weyrichii Fr. Schm. in Maxim. Prim. Fl. Amur. 234, et Fl. Sachal. 169; Fr. et Sav. Enum. Pl. Jap. I. 402, II. 477; Maxim. in Mél. Biol. IX. 617; Herd. Pl. Radd. Apet. II. 261; Nakai, in Tokyo Bot. Mag. XXIII. (413); Miyabe & Miyake, Fl. Saghal. 391; Kudo, Contr. Fl. N.

Saghal. 33, et Rep. Veg. N. Saghal. 115; Tatew. Veg. Akan Reg. 63; Hult. Fl. Kamtch. II. 248; Steward, Polyg. E. Asia 103; Mak. & Nem. Fl. Jap. ed. 2. 265.

NOM. JAP. *Urajiro-itadori, Urajiro-tade.*

NOM. AINU. *Kuttara-amam.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Ishikari, Rishiri, Tokachi, Kushiro, Nemuro.

Kuriles. Kunashiri.

S. Saghalien. Odomari, Tomarioro, Ushoro, Toyohara, Motodomari, Shikka.

N. Saghalien. Alexandrowsk.

DISTRIB. Saghalien, Kuriles, Yezo and Honshu.

var. **alpicolum** Koidz. in Tok. Bot. Mag. XXX. 77; Honda, Veg. Mt. Shirouma 2.

Polygonum Weyrichii Kudo, Contrib. Fl. N. Saghal. 33, p. p., et Rep. Veg. N. Saghal. 115, p. p., (non Fr. Schm.).

NOM. JAP. *Takane-urajiro-itadori.*

HAB. *Yezo.* Ishikari, Tokachi.

N. Saghalien. Tymi, Tim.

DISTRIB. Saghalien, Yezo and Honshu.

911. Pleuropteropyrum Savatieri (Nakai) Koidz. ex Nakai, in Rigakukai XXIV. 296.

Polygonum Weyrichii Fr. Schm. var. *alpinum* Maxim. in Fr. et Sav. Enum. Pl. Jap. I. 402, II. 477; Maxim. in Mél. Biol. IX. 617; Herd. Pl. Radd. Apet. II. 261; Miyabe, Fl. Kuril. 257; Takeda, Fl. Shikotan 483; Matsum. Ind. Pl. Jap. II: 2. 64; Steward, Polyg. E. Asia, 103; Ohwi, Fl. Shikotan II. 127; Tatew. Phytog. M. Kuriles 196, 226, 248, 277; Takeda, Atlas Alp. Plts. 61, *pl. 271.*

Polygonum paniculatum Meisn. apud Miq. Ann. Mus. Bot. Lugd. Bat. II. 64; Fr. et Sav. Enum. Pl. Jap. I. 402; Maxim. in Bull. Acad. Petersb. XXII. (1877) 234.

Polygonum Savatieri Nakai, in Tokyo Bot. Mag. XXIII. (414); Mak. & Nem. Fl. Jap. ed. 2. 263.

Pleuropteropyrum Weyrichii H. Gross, var. *alpinum* H. Gross, in Bull. Géogr. Bot. XXIII. 9.

Pleuropteropyrum alpinum Koidz. in Tok. Bot. Mag. XXX. 78.

Pleuropteropyrum alpinum var. *chokaense* Koidz. l. c.

NOM. JAP. *Iwatade, Ontade, Miyama-itadori.*

HAB. *Kuriles.* Kunashiri, Shikotan, Etorofu, Urup, Shimushir, Ketoi, Rashuwa.

DISTRIB. Kuriles and Honshu.

912. Pleuropteropyrum japonicum Nakai, in Rigakukai XXIV. 296, et Veg. Mt. Apoi 47; Takeda, Atlas Alp. Plants, 62, *pl. 273.*

Polygonum polymorphum var. *japonicum* Maxim. in Mél. Biol. IX. 618; Fr. et Sav. Enum. Pl. Jap. II. 477.

Polygonum polymorphum var. *undulatum* Maxim. in litt.; Mak. et Nem. Fl. Jap. ed. 2. 261; Tatew. Veg. Mt. Apoi 33, (non Meisn.).

Polygonum alpinum var. *japonicum* Matsum. Ind. Pl. Jap. II: 2. 54, (non Ledeb.).

Polygonum alpinum var. *undulatum* Matsum. l. c.

Polygonum divaricatum var. *glabrum* Fr. et Sav. Enum. Pl. Jap. II. 477; Mak. et Nem. Fl. Jap. ed. 2. 254, (non Meisn.).

Persicaria alpina var. *undulata* H. Gross in Bull. Géogr. Bot. XXIII. 32.

Polygonum undulatum var. *japonicum* Maxim. ex Kom. et Klob.-Alis. Key Pl. Far East. I. 464.

NOM. JAP. *Kobano-iwatade, Oyamasoba, Yezo-tade.*

HAB. *Yezo.* Hidaka.

DISTRIB. Yezo, Honshu, Korea and Maritime Province.

913. Pleuropteropyrum ajanense Nakai, Veg. Mt. Daisetsuzan Mts. 46, 63.

Polygonum polymorphum Ledeb. var. *ajanense* Rgl. et Til. Fl. Ajan. 116; Takeda, in Tok. Bot. Mag. XXIV. 175, et Fl. Shikotan 484; Miyabe et Miyake, Fl. Saghal. 392; Ohwi, Fl. Shikotan II. 127.

var. **divaricatum** (Fr. Schm.) Miyabe, comb. nov.

Polygonum polymorphum var. *divaricatum* Fr. Schm. Fl. Sachal. 169.

Polygonum polymorphum, var. *ajanense*, form. *divaricatum* Kudo, Contrib. Fl. N. Saghal. 34, et Rep. Veg. N. Saghal. 116.

Polygonum polymorphum, var. *ajanense*, form. *pubescens* Takeda, in Tok. Bot. Mag. XXIV. 176; Mak. & Nem. Fl. Jap. ed. 2. 261; Kudo, in Rep. Saghal. Exp. For. Kyushu Imp. Univ. I. 62.

Pleuropteropyrum ajanense Nakai forma *pubescens* Takeda, Atlas Alp. Plants, 62.

NOM. JAP. *Karafuto-ontade, Hime-iwatade.*

HAB. *Yezo.* Rishiri.

N. Saghalien. Alexandrowsk, Nyiwo, Chaiwo, Pronge-Baikal.

DISTRIB. Endemic.

var. **pilosum** (Takeda) Miyabe, comb. nov.

Polygonum polymorphum, var. *ajanense*, form. *pilosum* Takeda, l. c. 176; Mak. & Nem. l. c. 261.

Pleuropteropyrum ajanense Nakai forma *pilosum* Takeda, Atlas Alp. Plants, 62.

NOM. JAP. *Hosoba-ontade.*

HAB. *Yezo.* Iburi (Mt. Makkarinupuri); Hidaka: Mt. Porojiri (Y. TOKUNAGA & M. SAKAMOTO); Rebun (TATEWAKI).

S. Saghalien. Shikka.

DISTRIB. Endemic.

var. **glabrescens** (Takeda) Miyabe, comb. nov.

Polygonum polymorphum, var. *ajanense*, form. *glabrescens* Takeda, l. c. 176; Mak. & Nem. l. c. 261.

Pleuropteropyrum ajanense Nakai, Veg. Daisetsuzan Mts. 63.

Polygonum polymorphum var. *ajanense* Regel et Til. Fl. Ajan. 116; Takeda, l. c. 484; Ohwi, l. c. 127.

Pleuropteropyrum ajanense Nakai forma *glabrescens* Takeda Atlas Alp. Plants, 62, *pl. 272.*

NOM. JAP. *Chishima-himeiwatade.*

HAB. *Yezo.* Ishikari (Daisetsu Mts. and Yubari Mts.). Hidaka (Mt. Porojiri).

Kuriles. Shikotan, Etorofu.

S. Saghalien. Motodomari (Mt. Tosso and Mt. Kashipo).

DISTRIB. Endemic.

914. Pleuropteropyrum Pawlowskianum Glehn, in Act. Hort. Petrop. IV: 1, 77; Hult. Fl. Kamtch. II. 54.

Polygonum alpinum var. *frigidum* Cham. in Linnæa VI. 591.

Polygonum frigidum Kudo, Contr. Fl. N. Saghal. 33, et Rep. Veg. N. Saghal. 116.

Polygonum polymorphum, var. *ajanense*, form. *glaberrimum* Takeda, in Tok. Bot. Mag. XXIV. 176; Tatew. Veg. Akan Reg. 63; Mak. & Nem. Fl. Jap. ed. 2. 261.

Pleuropteropyrum ajanense Nakai, form. *glaberrimum* Takeda, Atlas Alp. Plts. 62.

NOM. JAP. *Ko-iwatade, Kyokuchi-himetade.*

HAB. *Yezo.* Kushiro (Mt. Meakan).

N. Saghalien. Nyiwo,, Chaiwo.

DISTRIB. Yezo, Saghalien, N. E. Siberia to Kamtchatka.

Persicaria Tournefort

915. Persicaria nepalensis (Meisn.) Miyabe, com. nov.

Polygonum nepalense Meisn. Monogr. 84, *t. 7, f. 2*, et in DC. Prodr. XIV. 128; Fr. et Sav. Enum. Pl. Jap. I. 398; Franch. Pl. David. I. 255; Danser, in Bull. Jard. Bot. Buit. 3. VIII. 201; Samuels. in Handel-Mazz. Symb. Sin. VII. 180, et Pl. Sin. XX. 8; Steward, Polyg. E. Asia. 74; Kudo et Masamune, Gen. Pl. Form. I. 52.

Polygonum alatum Hamilt. ex D. Don, Prodr. Fl. Nep. 72, in syn.; Hook. f. Fl. Brit. Ind. V. 41; Forb. et Hemsl. Ind. Fl. Sin. II. 332; Kom. Fl. Mansh. II. 128; Matsum. Ind. Pl. Jap. II: 2. 54.

Polygonum alatum, var. *nepalense* Hook. f. l. c. 42; Nakai, Polyg. Korea. 19, et Fl. Korea. II. 172; Mak. & Nem. Fl. Jap. ed. 2. 252.

Polygonum alatum var. *adenothrix* Tatewaki, Veg. Akan Reg. 63, (non Nakai).

Persicaria alata Nakai, Fl. Quelpært Is. 40, in Rigakukai XXIV. 298, Veg. Daisetsu Mts. 17, et Veg. Mt. Apoi 47.

NOM. JAP. *Tanisoba, Sobatade, Akazura.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Hidaka, Ishikari, Kushiro.

S. Saghalien. Honto: Soni (SUGAWARA) . Toyohara: Toyonan (SUGAWARA).

DISTRIB. Saghalien, Yezo, Honshu, Kyushu, Formosa, Korea, Manchuria, China, British India, East Indies, Philippines, Afghanistan and Abyssinia.

916. Persicaria perfoliata H. Gross in Loesen. in Beih. Centralb. XXXVII: 2. 113; Mori, Enum. Pl. Cor. 133.

Polygonum perfoliatum L. Sp. Pl. ed. 2. 521; Thunb. Fl. Jap. 168; Sieb. et Zucc. Fl. Jap. Fam. Nat. II. 208; Meisn. in DC. Prodr. XIV. 132; Benth. Fl. Hongk. 30; Rgl. Tent. Fl. Ussuri. 126; Fr. et Sav. Enum. Pl. Jap. I. 401; Franch. Pl. David. I. 255; Hook. f. Fl. Brit. Ind. V. 46; Korsh. Pl. Amur. 383; Forb. et Hemsl. Ind. Fl. Sin. II. 344; Diels, Fl. C. China 314; Palib. Consp. Fl. Korea. II. 35; Kom. Fl. Mansh. II. 135; Matsum. et Hayata, Enum. Pl. Formos. 338; Nakai, Polyg. Korea. 18, et Fl. Korea. II. 171, et in Tokyo Bot. Mag. XXIII. (423) Matsum. Ind. Pl. Jap. II: 2. 60; Steward, Polygon. E. Asia, 81; Tatew. Veg. Akan Reg. 63; Mak. & Nem. Fl. Jap. ed. 2. 260.

Chylocalyx perfoliatus Hassk. in Flora XXV. 2. Beibl. 20; Maxim. Fl. Amur. 236; Miq. Prol. Fl. Jap. 300.

Persicaria perfoliata Nakai, in Rigakukai XXIV. 299; Yamam. & Tsukam. Fl. Hakodate 26.

NOM. JAP. *Ishimikawa.*

NOM. AINU. *Ungerekina.*

HAB. *Yezo.* Oshima, Okushiri, Shiribeshi, Iburi, Ishikari, Kitami, Rishiri, Rebun.

S. Saghalien. Odomari, Toyohara.

DISTRIB. Saghalien, Yezo, Honshu, Kyushu, Formosa, Korea, Ussuri, Amur, Manchuria, China, Indo-China, Philippines, East India and British India.

917. Persicaria Truellum (Koidz.) Honda in Inui & Honda, List. Pl. Itsukushima 11; Yamam. & Tsukam. Fl. Hakodate 26.

Truellum japonicum Houtt. Naturl. Hist. Pl. VIII: IV. 427, *t. 48,*

f. 1.

Chylocalyx senticosus Meisn. in Ann. Mus. Bot. Lugd. Bat. II. 65; Miq. Prol. Fl. Jap. 300.

Polygonum senticosum Fr. et Sav. Enum. Pl. Jap. I. 401, II. 480; Forb. et Hemsl. Ind. Fl. Sin. II. 349; Diels, Fl. C. China 314; Palib. Consp. Fl. Korea. II. 37; Kom. Fl. Mansh. II. 136; Matsum. et Hayata, Enum. Pl. Formos. 340; Nakai, Polyg. Korea. 18, et Fl. Korea. II. 171, et in Tokyo Bot. Mag. XXIII. 417; Matsum. Ind. Pl. Jap. II: 2. 62; Steward, Polygon. E. Asia, 82; Mak. & Nem. Fl. Jap. ed. 2. 263; Kudo & Masamune, Gen. Pl. Form. I. 55.

Persicaria senticosa Nakai, Veg. Quelpært Is. 41, in Rigakukai XXIV. 299; Mori, Enum. Pl. Cor. 133; Ohki in Tok. Bot. Mag. XL. 54.

Persicaria senticosa H. Gross, in Lœsen, in Beih. Centralbl. XXXVII. Pt. 2. 113.

Polygonum Truellum Koidz. in Tok. Bot. Mag. XL. 334.

NOM. JAP. *Mamakono-shirinugui.*

HAB. *Yezo.* Oshima, Shiribeshi.

DISTRIB. Yezo, Honshu, Kyushu, Liukiu, Formosa, Korea, China and Manchuria.

918. Persicaria Thunbergii Nakai, Veg. Quelp. Is. 41 et in Rigakukai XXIV. 300; Mori, Enum. Pl. Cor. 153; Ohki, in Tok. Bot. Mag. XL. 56; Yamam. & Tsuk. Fl. Hakodate 26.

Polygonum arifolium Thunb. Fl. Jap. 168, (non Linn.).

Polygonum Thunbergii Sieb. et Zucc. Fl. Jap. Fam. Nat. II. 208; Meisn. in DC. Prodr. XIV. 132; Maxim. Prim. Fl. Amur. 476; Miq. Prol. Fl. Jap. 300; Fr. et Sav. Enum. Pl. Jap. I. 400, II. 475; Palib. Consp. Fl. Korea. II. 37; Diels, Fl. C. China, 314; Forb. et Hemsl. Ind. Fl. Sin. II. 351; Matsum. et Hayata, Enum. Pl. Formos. 341; Nakai, Polyg. Korea. 17, et Fl. Korea. II. 171, et in Tokyo Bot. Mag. XXIII. (418); Koidz. Pl. Sachal. 51; Matsum. Ind. Pl. Jap. II: 2. 63; Miyabe & Miyake, Fl. Saghal. 389; Kudo, Contr. N. Saghal. 33, et Rep. Veg. N. Saghal. 114; Steward, Polygon. E. Asia, 83; Hult. Fl. Kamtch. II. 55; Kom. Fl. Pen. Kamtsch. II. 67; Tatew. Veg. Akan Reg. 63; Nakai, Veg. Mt. Apoi 47; Ohwi, Fl. Shikotan II. 127; Mak. & Nem. Fl. Jap. ed. 2. 264.

Tracaulon Thunbergii Greene, Leafl. I. 12.

Persicaria Thunbergii H. Gross in Loesen. in Beih. Centralb. XXXVII. Pt. 2. 114.

var. **typica** (Fr. et Sav.) Miyabe, comb. nov. (non Ohki).

Polygonum Thunbergii var. *α typicum* Fr. et Sav. Enum. Pl. Jap. II. 475; Mak. & Nem. l. c. 264.

NOM. JAP. *Mizosoba, Tasoba.*

NOM. AINU. *Ungerekina.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Hidaka, Ishikari, Teshio, Rebun, Kitami, Kushiro.

Kuriles. Kunashiri, Shikotan.

S. Saghalien. Odomari, Toyohara, Motodomari, Shikka.

N. Saghalien. Alexandrowsk.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Kyushu, Formosa, Korea, Manchuria, China and Kamtchatka.

var. **hastato-triloba** (Meisn.) Miyabe, comb. nov.

Polygonum hastato-trilobum Meisn. in Miq. in Ann. Mus. Bot. Lugd. Bat. II. 62.

Polygonum Thunbergii var. *hastato-trilobum* Maxim. ex Fr. et Sav. Enum. Pl. Jap. II. 475; Nakai, Polyg. Korea. 17, Fl. Korea. II. 171 et in Tokyo Bot. Mag. XXIII. (410); Matsum. l. c. 63; Miyabe & Miyake, l. c. 389; Kudo, Rep. Veg. N. Saghal. 114; Steward, l. c. 84; Tatew. Veg. Akan Reg. 63, et Pl. Teshio Exp. For. I. 16; Kom. & Klob.-Alis. Key Pl. Far East. I. 473.

Polygonum pteropus Hance in Jour. Bot. 1869, 167.

Tracaulon hastato-trilobum Greene, Leafl. I. 22.

Polygonum Thunbergii var. *stoloniferum* Makino in Tok. Bot. Mag. XXIV. 74; Mak. & Nem. Fl. Jap. ed. 2. 264, (non *Polygonum stoloniferum* Fr. Schm.).

NOM. JAP. *Oh-mizosoba.*

HAB. *Yezo.* Oshima, Iburi, Ishikari, Teshio, Kitami, Kushiro.

Kuriles. Kunashiri, Etorofu.

S. Saghalien. Odomari, Ushoro, Toyohara.

N. Saghalien. Alexandrowsk.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Shikoku, Kyushu, Formosa, Korea and China.

var. **stolonifera** (Fr. Schm.) Miyabe, comb. nov.

Polygonum stoloniferum Fr. Schm. Fl. Sachal. 168; Kudo, Contr. Fl. N. Saghal. 33, et Rep. Veg. N. Saghal. 114.

Polygonum Thunbergii var. *stoloniferum* Maxim. apud Herder, Pl. Radd. Apet. II. 254.

NOM. JAP. *Hime-mizosoba.*

HAB. *Yezo.* Kushiro.

S. Saghalien. Odomari, Toyohara.

N. Saghalien. Tim.

form. **radicans** (Fr. et Sav.) Miyabe, comb. nov.

Polygonum Thunbergii var. *radicans* Fr. et Sav. Enum. Pl. Jap. II. 475; Hult. Fl. Kamtch. II. 55; Kom. Fl. Pen. Kamtsch. II. 67.

Polygonum Thunbergii f. *radicans* Nakai, in Tok. Bot. Mag. XXIII. (418).

Polygonum Thunbergii var. *typicum* f. *radicans* Makino, in Tok. Bot. Mag. XXIV. 74; Mak. & Nem. Fl. Jap. ed. 2. 264.

NOM. JAP. *Maruba-hime-mizosoba.*

HAB. *Yezo.* Ishikari, Kushiro.

S. Saghailen. Toyohara, Motodomari.

N. Saghalien. Tim.

DISTRIB. Saghalien, Yezo, Honshu and Kamtchatka.

var. **coreana** Nakai, Rep. Veg. Daisetsuzan Mts. 12, 17.

Polygonum Thunbergii var. *coreana* Lévl. in Fedde, Report. VIII. 171.

NOM. JAP. *Hikage-mizosoba.*

HAB. *Yezo.* Ishikari, in Sounkyo (ex Nakai).

DISTRIB. Yezo and Korea.

919. Persicaria nipponensis Nakai, Fl. Quelp. Is. 41, et in Rigaku-kai XXIV. 299; Mori, Enum. Pl. Cor. 133; Ohki, in Tok. Bot. Mag. XL. 53.

Polygonum hastato-sagittatum β. latifolium Mak. in Tok. Bot. Mag.

XVII. 123.

Polygonum nipponense Mak. in Tok. Bot. Mag. XXIII. 89; Nakai, in Tok. Bot. Mag. XXIII. (421); Mak. & Nem. Fl. Jap. ed. 2. 259.

NOM. JAP. *Yanonegusa.*

HAB. *Yezo.* Oshima, Iburi, Hidaka.

DISTRIB. Yezo, Honshu, Shikoku, Kyushu and Korea.

920. Persicaria aestiva Ohki, in Tok. Bot. Mag. XL. 55; Nakai, in Rigakukai XXIV. 299.

Polygonum sagittatum var. *aestivum* Makino, in Tok. Bot. Mag. VI. (49); Koidz. Fl. Symb. Or.-Asiat. 13.

Polygonum sagittatum α. sibiricum Makino, in Tok. Bot. Mag. XVII. 149; Nakai in Tok. Bot. Mag. XXIII. (422); Matsum. Ind. Pl. Jap. II: 2. 61; Mak. & Nem. Fl. Jap. ed. 2. 263, (non Meisn.).

NOM. JAP. *Unagitsukami, Unagizuru.*

HAB. *Yezo.* Shiribeshi.

DISTRIB. Yezo, Honshu, Shikoku and Kyushu.

921. Persicaria sagittata H. Gross in Loesen. in Beih. Centralb. XXXVII. Pt. 2. 113; Mori, Enum. Pl. Cor. 133.

Polygonum sagittatum L. Sp. Pl. ed. 1, 363; Thunb. Fl. Jap. p. 167; Meisn. in DC. Prodr. XIV. 132; Ledeb. Fl. Ross. III. 529; Maxim. Prim. Fl. Amur. 231; Rgl. Tent. Fl. Ussuri. 126; Hook. f. Fl. Brit. Ind. V. 47; Korsh. Pl. Amur. 383; Franch. Pl. David. I. 26; Diels, Fl. C. China 314; Palib. Consp. Fl. Korea. II. 36; Kom. Fl. Mansh. II. 131; Matsum. et Hayata, Enum. Pl. Formos. 340; Nakai, Polyg. Korea. 15; Steward, Polygon. E. Asia, 87; Mak. & Nem. Fl. Jap. ed. 2. 262; Ohwi, Fl. Shikotan II. 127.

var. **Sieboldii** Nakai, Veg. Quelp. Is. 41.

Polygonum sagittatum Thunb. Fl. Jap. 167, p. p.; Fr. et Sav. Enum. II. 476, (non Linn.).

Polygonum Sieboldi Meisn. in DC. Prodr. XIV. 133, et in Ann. Mus. Bot. Lugd. Bat. II. 63; Miq. Prol. Fl. Jap. 300; Maxim. in Mél. Biol. IX. 617; Fr. et Sav. Enum. I. 400; Nakai in Tok. Bot. Mag. XXIII. (422).

Polygonum sagittatum var. *Sieboldii* Maxim. ex Komar. Fl. Mansh. II.

132; Mak. in Tok. Bot. Mag. XXII. 150; Nakai, in Jour. Coll. Sci. Tokyo XXXI. 170, et Veg. Diam. Mts. 171; Kom. & Klob.-Alis. Key Pl. Far East. I. 474.

Polygonum sagittatum var. *americanum* f. *Sieboldi* Mak. in Tok. Bot. Mag. XVII. 150; Mak. & Nem. Fl. Jap. ed. 2. 262.

Tracaulon Sieboldii Greene, Leafl. I. 22.

Persicaria Sieboldi Ohki in Tok. Bot. Mag. XL. 54; Nakai in Rigaku-kai XXIV. 299.

NOM. JAP. *Akino-unagitsukami.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Ishikari, Kushiro, Nemuro.

Kuriles. Shikotan.

DISTRIB. Kuriles, Yezo, Honshu, Shikoku, Kyushu, Korea and Manchuria.

var. **sibirica** (Meins.) Miyabe, comb. nov.

Polygonum sagittatum L. var. *sibiricum* Meisn. in DC. Prodr. XIV. 132; Herd. Pl. Radd. Apet. II. 254; Makino, in Tokyo Bot. Mag. XVII. 149; Kom. Fl. Mansh. II. 132; Nakai, Polyg. Korea. 16, Fl. Korea. II. 169, et in Tokyo Bot. Mag. XXIII. (422); Matsum. Ind. Pl. Jap. II: 2. 61; Miyabe & Miyake, Fl. Saghal. 388; Kudo, Contr. Fl. N. Saghal. 33, et Rep. Veg. N. Saghal. 115; Mak. & Nem. Fl. Jap. ed. 2. 263.

Tracaulon sibiricum Greene, Leafl. I. 22.

NOM. JAP. *Karafuto-unagitsukami.*

HAB. *Yezo.* Oshima, Iburi, Hidaka, Ishikari.

S. Saghalien. Odomari, Toyohara, Ushoro.

N. Saghalien. Tim.

DISTRIB. Saghalien, Yezo, Manchuria and Korea.

var. **americana** (Meisn.) Miyabe, comb. nov.

Polygonum sagittatum var. *americanum* Meisn. in DC. Prodr. XIV. 132; Herd. l. c. 255; Miyabe & Miyake, l. c. 388.

Persicaria americana Ohki, l. c. 55.

NOM. JAP. *Yezono-unagitsukami.*

HAB. *Yezo.* Iburi, Tokachi, Kushiro.

S. Saghalien. Toyohara.

DISTRIB. Saghalien, Yezo, N. Honshu and N. America. *sp.* Saghalien to Formosa, Korea, Manchuria, Amur, Ussuri, Mongolia, China, British India, Siberia and N. America.

A form, which is here treated as var. *americana* (Meisn.) has the characters of the American *Persicaria sagittata.* The leaves are lanceolate-sagittate or oblong-sagittate, obtuse or acute at the apex, slightly rough on the margin, and sparsely adpressed-hairy on the upper surface. The petioles have recurved prickles in three rows.

922. Persicaria amphibia S. F. Gray, Nat. Arr. Br. Pl. II. 268; Nakai, in Rigakukai XXIV. 300; Mori, Enum. Pl. Cor. 131; Yamam. & Tsuk. Fl. Hakodate, 27.

Polygonum amphibium L. Sp. Pl. ed. 1, 361; Meisn. in DC. Prodr. XIV. 115; Ledeb. Fl. Ross. III. 520; Fr. Schm. Fl. Sachal. 168; Hook. f. Fl. Brit. Ind. V. 34; Maxim. Prim. Fl. Amur. 476; Rgl. Tent. Fl. Ussuri. 124; Miyabe, Fl. Kuril. 257; Kawakami, in Tokyo Bot. Mag. XII. (224); Korsh. Pl. Amur. 381; Britt. & Br. Ill. Fl. I. 555; Kom. Fl. Mansh. II. 123; Aschers. u. Graebn. Syn. Mitteleurop. Fl. IV. 808; Makino, in Tokyo Bot. Mag. XIX. (112); Forb. et Hemsl. Ind. Fl. Sin. II. 333; Koidz. Pl. Sachal. 50; Matsum. Ind. Pl. Jap. II: 2. 55; Miyabe & Miyake, Fl. Saghal. 385; Steward, Polygon. E. Asia, 42; Hult. Fl. Kamtch. II. 50; Kom. Fl. Pen. Kamtsch. II. 66; Mak. & Nem. Fl. Jap. ed. 2. 252.

Polygonum amphibium var. *amurense* Korsh. l. c.; Kom. & Klob.-Alis. Key Pl. Far East. I. 467, *t. 142.*

Persicaria amurensis Nieuwland in Am. Midl. Nat. II. 183.

NOM. JAP. *Yezo-no-midzutade.*

HAB. *Yezo.* Oshima, Iburi, Kitami, Rebun, Kushiro, Nemuro.

Kuriles. Kunashiri, Etorofu, Shumushu.

S. Saghalien. Odomari, Tomarioro, Shikka.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Manchuria, China, Kamtchatka, Siberia, Himalaya, Caucasus, Europe and N. America.

923. Persicaria lapathifolia S. F. Gray, Nar. Arr. Br. Pl. II. 270; Mori, Enum. Pl. Cor. 132; Nakai, in Rigakukai XXIV. 300.

Polygonum lapathifolium L. Sp. Pl. ed. 1, 360; Ledeb. Fl. Alt. II.

83, et Fl. Ross. III. 521; Meisn. in DC. Prodr. XIV. 119; Maxim. Prim. Fl. Amur. 231; Rgl. Tent. Fl. Ussuri. 124; Fr. Schm. Fl. Sachal. 168; Fr. et Sav. Enum. Pl. Jap. I. 397, II. 475; Hook. f. Fl. Brit. Ind. V. 35; Diels, Fl. C. China 312; Korsh. Pl. Amur. 382; Britt. & Br. Ill. Fl. I. 557; Kom. Fl. Mansh. II. 124; Nakai, in Tokyo Bot. Mag. XXIII. (388); Matsum. Ind. Pl. Jap. II: 2. 59; Koidz. Pl. Sachal. 59; Takeda, Fl. Shikotan 483; Miyabe & Miyake, Fl. Saghal. 386; Steward, Polygon. E. Asia, 44, p. p.; Ohwi, Fl. Shikotan II. 127; Kudo & Masam. Gen. Pl. Formos. I. 52; Mak. & Nem. Fl. Jap. ed. 2. 257.

NOM. JAP. *Sanae-tade, Shiro-inutade.*

HAB. *Yezo.* Ishikari, Teshio, Kushiro.

Kuriles. Kunashiri, Shikotan.

S. Saghalien. Tomarioro, Toyohara, Motodomari, Shikka.

DISTRIB. Saghalien, S. Kuriles, Yezo, Honshu, Kyushu, Formosa, Korea, Manchuria, Mongolia, China, British India, Indo-China, Siberia, Europe and America.

var. **salicifolia** (Sibth.) Miyabe, comb. nov.

Polygonum lapathifolium, var. *salicifolium* Sibth. Fl. Oxon. 129; Fernald, in Rhodora XXIII. 259; Steward, Polyg. E. Asia, 46.

Polygonum incanum Willd. Enum. Pl. Berol. 429, (non F. W. Schmidt).

Persicaria salicifolia S. F. Gray, Nat. Arr. Brit. Pl. II. 270.

Polygonum lapathifolium var. *incanum* Ledeb. Fl. Ross. III. 521; Maxim. Prim. Fl. Amur. 231; Fr. et Sav. Enum. Pl. Jap. I. 397; Makino, in Tokyo Bot. Mag. IV. 452; Nakai, in Tokyo Bot. Mag. XXIII.(389); Matsum. Ind. Pl. Jap. II: 2. 59; Miyabe & Miyake, Fl. Saghal. 387; Kudo, Contr. Fl. N. Saghal. 32, et Rep. Veg. N. Saghal. 112; Tatew. Veg. Akan Reg. 62; Mak. & Nem. Fl. Jap. ed. 2. 257.

Polygonium nodosum, β. incanum Ledeb. Fl. Ross. III. 521.

Polygonum tomentosum, var. *incanum* Robins. et Fern. in Gray, Man. ed. 7. 360, (non Gurke).

Polygonum nodosum, f. *salicifolium* Moss, Cambr. Brit. Fl. II. 117.

Polygonum lapathifolium, var. *maximum* Kudo, Contrib. Fl. N. Saghal. 32, Rep. Veg. N. Saghal. 113, et Rep. Saghal. Exp. For., Kyushu Univ. I.

62, (non Regel).

NOM. JAP. *Urajiro-sanaetade, Kedate, Yezo-inutade.*

HAB. *Yezo.* Ishikari, Teshio, Kitami, Rishiri, Rebun.

Kuriles. Kunashiri, Etorofu.

S. Saghalien. Tomarioro, Ushoro, Toyohara, Motodomari, Shikka.

N. Saghalien. Alexandrowsk, Tymi, Schmidt-Penins.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Kyushu, Formosa, Amur, Ussuri, Siberia, China, Indo-China, Java, Brit. India, Caucasus, Europe and N. America.

924. Persicaria glandulosa Nakai et Ohki, in Tok. Bot. Mag. XL. 52.

Polygonum nodosum Pers. Syn. Pl. I. 440, p. p.; Meisn. in DC. Prodr. XIV. 118, p. p.; Ledeb. Fl. Ross. III. 521; Maxim. Prim. Fl. Amur. 230; Fr. Schm. Fl. Sachal. 168; Miq. Prol. Fl. Jap. 300; Fr. et Sav. Enum. Pl. Jap. I. 397, II. 474; Palib. Consp. Fl. Korea. II. 35; Diels, Fl. C. China 312; Forb. et Hemsl. Ind. Fl. Sin. II. 343; Matsum. et Hayata, Enum. Pl. Formos. 337; Nakai, Polyg. Korea. 8, Fl. Korea. II. 167, et in Tokyo Bot. Mag. XXIII. (391); Miyabe & Miyake, Fl. Saghal. 386; Kudo, Contr. Fl. N. Saghal. 32, et Rep. Veg. N. Saghal. 113; Hult. Fl. Kamtch. II. 54; Kom. Fl. Pen. Kamtsch. II. 67; Tatew. Veg. Akan Reg. 62, et Phytog. M. Kuril. 195; Kom. & Klob.-Alis. Key Pl. Far East. I. 468, *t. 143*; Mak. & Nem. Fl. Jap. ed. 2. 259.

Polygonum glandulosum R. Br. Prodr. Fl. Nov. Holl. 419; Meisn. Monogr. Polyg. 70; Kudo, Rep. Saghal. Exp. For., Kyushu Univ. I. 62.

Polygonum lapathifolium Ait. var. *nodosum* Hook. f. Fl. Brit. Ind. V. 35; Matsum. Ind. Pl. Jap. II: 2. 59.

Persicaria nodosa Opiz, Seznam, 72; Mori, Enum. Pl. Cor. 133.

Polygonum Komarovii Lévl. in Fedde, Repert. VIII. 171.

Persicaria glandulosa Nakai in Rigakukai XXIV. 300.

NOM. JAP. *Ōinutade.*

HAB. *Yezo.* Oshima, Shiribeshi, Okushiri, Iburi, Ishikari, Teshio, Tokachi, Kushiro.

Kuriles. Kunashiri.

S. Saghalien. Odomari, Mauka, Tomarioro, Ushoro, Toyohara, Moto-

domari.

N. Saghalien. Tymi.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Shikoku, Kyushu, Liukiu, Formosa, Korea, China, Brit. India, Siberia, Caucasus, Europe and North America.

925. Persicaria viscosa H. Gross ex Nakai Fl. Quelp. Isl. 42; Mori, Enum. Pl. Cor. 134.

Polygonum viscosum Hamilt. in D. Don, Prodr. Nepal. 71; Meisn. in DC. Prodr. XIV. 102; Benth. Fl. Hongk. 287; Fr. et Sav. Enum. Pl. Jap. I. 394; Hook. f. Fl. Brit. Ind. V. 36; Forb. et Hemsl. Ind. Fl. Sin. II. 352; Diels, Fl. C. China, 312; Kom. Fl. Manch. II. 120; Matsum. et Hayata, Enum. Pl. Formos. 342; Nakai, Polyg. Korea. 10, et Fl. Korea. II. 167; Matsum. Ind. Pl. Jap. II: 2. 64; Kudo, Rep. Veg. N. Saghal. 112; Steward, Polygon. E. Asia, 48; Kom. & Klob.-Alis. Key Pl. Far East. I. 467.

Polygonum viscosum var. *vernicosum* Meisn. in DC. Prodr. XVI. 102; Mak. & Nem. Fl. Jap. ed. 2. 265.

Persicaria viscosa Nakai, in Rigakukai XXIV. 300.

NOM. JAP. *Nioi-tade.*

HAB. *N. Saghalien.* Pronge-Baikal.

DISTRIB. N. Saghalien, Honshu, Kyushu, Formosa, Korea, Manchuria, China and British India.

926. Persicaria Makinoi Nakai, in Veg. Quelp. Isl. 41; Mori, Enum. Pl. Cor. 132; Nakai, in Rigakukai XXIV. 300, et Veg. Daisetsu Mts. 17; Yamam. & Tsukam. Fl. Hakodate 27; Mak. & Nem. Fl. Jap. ed. 2. 258.

Polygonum viscoferum Makino, var. *robustum* Makino, in Tok. Bot. Mag. XVIII. 116; Nakai, Polyg. Korea. 10, et Fl. Korea. II. 167; Matsum. Ind. Pl. Jap. II: 2. 64.

Polygonum caespitosum, var. *seminudum* Fr. et Sav. Enum. Pl. Jap. I. 395; Nakai, in Tok. Bot. Mag. XXIII. (386), (non Meisn.).

NOM. JAP. *O-nebaritade.*

HAB. *Yezo.* Oshima, Okushiri, Shiribeshi, Iburi, Hidaka, Ishikari, Teshio, Rishiri.

DISTRIB. Yezo, Honshu, Shikoku, Kyushu and Korea.

927. Persicaria viscofera Nakai in sched. Herb. Imp. Univ. Tokyo, ex Mori, Enum. Pl. Cor. 134; Nakai, in Rigakukai XXIV. 300, et in Tok. Bot. Mag. XLIV. 519.

var. **typica** Nakai in Tok. Bot. Mag. XLIV. 519.

Polygonum caespitosum Fr. et Sav. Enum. Pl. Jap. I. 395; Nakai, in Tok. Bot. Mag. XXIII. (385), (non Bl.).

Polygonum viscoferum Makino, in Tok. Bot. Mag. XVII. 115; Nakai, Polyg. Korea. 9, et Fl. Korea. II. 167; Matsum. Ind. Pl. Jap. II: 2. 63; Tatew. Veg. Akan Reg. 62; Kom. & Klob.-Alis. Key Pl. Far East. I. 464; Mak. & Nem. Fl. Jap. ed. 2. 265.

NOM. JAP. *Edauchi-nebaritade, Nebaritade.*

HAB. *Yezo.* Hidaka, Ishikari, Kushiro (?)

DISTRIB. Yezo, Honshu, Shikoku, Kyushu and Korea.

var. **viridescens** Nakai, l. c. 520.

NOM. JAP. *Ao-edauchi-nebaritade.*

HAB. *Yezo.* Ishikari: Jozankei, (K. SHIMAMURA, 1929).

DISTRIB. Yezo and Honshu.

928. Persicaria sterilis Nakai et Ohki in Ohki, Tok. Bot. Mag. XL. 51.

Polygonum Donii, var. *firmum* Meisn. in Wallich, Pl. Asiat. rar. III. 58, p. p.

Polygonum Posumbu, var. *firmum* Meisn. in DC. Prodr. XIV. 106, p. p.

Polygonum japonicum, var. *micranthum* Nakai in Tok. Bot. Mag. XII. (64).

Polygonum sterile Nakai in Tok. Bot. Mag. XXIII. (390); Mak. & Nem. Fl. Jap. ed. 2. 263.

Polygonum sterile, var. *brevistylum* Nakai, l. c.; Mak. & Nem. l. c.

Persicaria sterilis Nakai, in Rigakukai XXIV. 300; Yamam. & Tsuk. Fl. Hakodate 27.

NOM. JAP. *Hime-sakuratade, Ko-sakuratade.*

HAB. *Yezo.* Oshima, Hidaka.

DISTRIB. Yezo, Honshu, Shikoku, Kyushu, Linkiu, China and East India.

929. Persicaria Hydropiper Spach, Hist. Nat. Veg. X. 536; Nakai, in Rigakukai XXIV. 300; Ohki, in Tok. Bot. Mag. XL. 50.

Polygonum Hydropiper L. Sp. Pl. ed. 2. 517; Ledeb. Fl. Alt. II. 84, et Fl. Ross. III. 523; Meisn. in DC. Prodr. XIV. 109; Maxim. Prim. Fl. Amur. 230; Rgl. Tent. Fl. Ussuri. 125; Fr. Schm. Fl. Amg.-Bur. 59; Fr. et Sav. Enum. Pl. Jap. I. 396; Benth. Fl. Hongk. 288; Hook. f. Fl. Brit. Ind. V. 39; Franch. Pl. David. 254; Korsh. Pl. Amur. 382; Forb. et Hemsl. Ind. Fl. Sin. II. 340; Britt. & Br. Ill. Fl. I. 560; Diels, Fl. C. China 312; Palib. Consp. Fl. Korea. II. 34; Kom. Fl. Mansh. II. 122; Matsum. et Hayata, Enum. Pl. Formos. 335; Nakai, Polyg. Korea. 7; Koidz. Pl. Sachal. 51; Aschers u. Graebn. Syn. Mitteleurop. Fl. IV. 825; Steward, Polyg. E. Asia 58; Mak. & Nem. Fl. Jap. ed. 2. 256.

Persicaria Hydropiper Opiz, Sernam 72; Nakai, Veg. Isl. Quelp. 41; Mori, Enum. Pl. Cor. 132.

var. **vulgaris** Ohki, l. c. 50.

Polygonum Hydropiper, var. *vulgare* Meisn. in DC. Prodr. XIV. 109, et in Miq. Ann. Mus. Bot. Lugd. Bat. II. 58; Makino, in Tokyo Bot. Mag. XVII. 147; Nakai, Polyg. Korea. 7, et Fl. Korea. II. 167 et in Tokyo Bot. Mag. XXIII. (395); Miyabe & Miyake, Fl. Saghal. 384; Tatew. Veg. Akan Reg. 62; Mak. & Nem., l. c. 256.

NOM. JAP. *Yanagitade, Kawatade.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Hidaka, Ishikari, Kushiro, Nemuro.

S. Saghalien. Odomari.

DISTRIB. Saghalien, Yezo, Honshu, Shikoku, Kyushu, Liukiu, Formosa, Korea, Manchuria, China, Siam, Philippines, Java, Brit. India, Afghanistan, Siberia, Caucasus, Europe, North Africa, North America and Australia.

930. Persicaria trigonocarpa Nakai in Rigakukai XXIV. 300, et in Tok. Bot. Mag. XLV. 115, 154.

Polygonum serrulatum Meisn. in DC. Prodr. XIV. 110, p. p., (non Legasca).

Polygonum Donii Courchet in Lecomte, Fl. Ind. China. V. 28 p. p., (non Meisn.).

Polygonum minus Huds. var. *trigonocarpum* Makino in Tok. Bot. Mag. XXVIII. 111; Mak. & Nem. Fl. Jap. ed. 2. 258.

Polygonum excurrens Steward, Polyg. E. Asia 65, *pl. III.*

NOM. JAP. *Hosoba-inutade.*

HAB. *Yezo.* Shiribeshi, Ishikari.

DISTRIB. Yezo, Honshu, Formosa, Korea, Amur, China and Himalaya.

931. Persicaria Blumei Nakai, Veg. Quelp. Isl. 40, Veg. Dagelet Isl. 18, et in Rigakukai XXIV. 300; Ohki, in Tok. Bot. Mag. XL. 50; Mori, Enum. Pl. Cor. 131; Yamam. & Tsuk. Fl. Hakodate 27.

Polygonum Blumei Meisn. in Ann. Mus. Bot. Lugd. Bat. II. 57; Miq. Prol. Fl. Jap. 299; Fr. et Sav. Enum. Pl. Jap. I. 395, II. 473; Forb. et Hemsl. Ind. Fl. Sin. II. 334; Nakai, Polyg. Korea. 11; Matsum. Ind. Pl. Jap. II: 2. 55; Tatew. Veg. Akan Reg. 62; Kom. & Klob.-Alis. Key Pl. Far East. I. 467; Ohwi, Fl. Shikotan II. 126; Mak. & Nem. Fl. Jap. ed. 2. 253.

Polygonum Posumbu var. *Blumei* Herd. Pl. Radd. Apet. II. 223; Nakai, Fl. Korea. II. 168, et in Tokyo Bot. Mag. XXIII. (394).

Polygonum caespitosum var. *longisetum* Steward, Polyg. E. Asia, 67; Kudo & Masam. Gen. Pl. Form. I. 51.

Polygonum Yokusaianum Takeda, Fl. Shikotan 483, (non Makino).

NOM. JAP. *Inu-tade, Akanomama.*

HAB. *Yezo.* Oshima, Shiribeshi, Okushiri, Iburi, Hidaka, Ishikari, Teshio, Rishiri, Rebun, Kushiro, Nemuro.

Kuriles. Shikotan, Kunashiri.

Saghalien. Tilesius in herb. Stephan, ex Herder.

DISTRIB. Saghalien, Kuriles, Yezo, Honshu, Kyushu, Liukiu, Formosa, Korea, Manchuria and China.

932. Persicaria Yokusaiana Nakai in Rigakukai XXIV. 300; Yamam. & Tsuk. Fl. Hakodate 28.

Polygonum Posumbu Fr. et Sav. Enum. Pl. Jap. I. 394, II. 473; Matsum. Ind. Pl. Jap. II: 2. 61; Nakai, in Tok. Bot. Mag. XXIII. (393), (non Hamilt.).

Polygonum caespitosum var. *laxiflorum* Meisn. in Ann. Mus. Bot. Lugd.

Bat. II. 57.; Fr. et Sav. Enum. I. 395.

Polygonum laxiflorum Makino, in Tok. Bot. Mag. XXV. 14, (nec Pall. non Weihe).

Polygonum Yokusaianum Makino, in Tok. Bot. Mag. XXVIII. 116; Mak. & Nem. Fl. Jap. ed. 2. 266; Tatew. Pl. Teshio Exp. For. II. 189.

Persicaria Posumbu, var. *tenera* Ohki, in Tok. Bot. Mag. XL. 52.

NOM. JAP. *Nagabo-hanatade, Hanatade.*

HAB. *Yezo.* Oshima, Shiribeshi, Iburi, Hidaka, Ishikari, Teshio, Kushiro.

DISTRIB. Yezo, Honshu, Shikoku, Kyushu, Formosa and Korea.