Preliminary Report on the Flora of Southern Hidaka, Hokkaido (Yezo). X.¹⁾

By

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57. *Aquifoliaceae*.

Ilex L.

310^{(1)*}***Ilex macropoda*** MIQUEL in Ann. Mus. Bot. Lugd.-Bat. III, p. 105 (1867).—TATEW., Veg. Apoi p. 95 (1928).—MIYABE et KUDO, Icon. Essent. For. Tree. Tokk. III, p. 5, tab. 63 (1929).—NAKAI, Veg. Apoi p. 58 (1930). Syn. *Ilex dubia* TREL var. *macropoda* LOESENTER, Monogr. Aquifol. I, p. 487 (1901); in Mitt. Deut. Dendr. Ges. XXVIII, p. 58 (1919).—MATSUMURA, Ind. Pl. Jap. II-2, p. 315 (1912).

Nom. Jap. *Awo-hada*.

Hab. in forests of Mt. Apoi, etc. Fl. Jun.

Dist. Kyushu, Shikoku, Honshu, Yezo and Korea.

311^{(2)*}***Ilex radicans*** NAKAI, Veg. Apoi p. 37 & 58 (1930) nom. seminud. Syn. *Ilex crenata* (non THUNBERG) auct. plur. quoad pl. ex Kuriles, Yezo et Sachalin.

Ilex crenata THUNB. subsp. *radicans* TATEWAKI in Acta Phytotax. et Geobot. II, p. 243 (1933) sine descrip.

Ab *Ilex crenata* cum rhizomatibus semper repentibus, caulibus humilioribus basi arcuato-ascendentibus differt.

Nom. Jap. *Hai-inutsuge* (NAKAI).

Hab. at the top and in forests at the foot of Mt. Apoi. Fl. middle Jul.—early Aug.

Dist. Middle & Northern Honshu, Yezo, S. Kuriles and S. Saghalien.

The size and shape of leaves are variable as in *Ilex crenata*. The largest specimen which I saw in Yezo attained about 1.5 m. high.

312^{(3)*}***Ilex rugosa*** FR. SCHMIDT, Reis. Amur. u. Sachal. p. 122, t. 3, f. 1-7 (1868).—LOESENTER, Monogr. Aquifol. I, p. 420 (1901).—MATSUMURA, Ind. Pl. Jap. II-2, p. 317 (1912).—LOESENTER in Mitt. Deut. Dendr. Ges. XXVIII, p. 50 (1919).—KUDO, Rep. Veg. N. Saghal. p. 176 (1924).—TATEW., Veg. Apoi p.

¹⁾ As regards signs and abbreviations, confer Vol. XLVIII, p. 688 (1934) of this Magazine.

95(1928).—NAKAI, Veg. Apoi p. 58(1930).—KOMAROV et KLOB.-ALISOVA, Key Pl. Far East. Reg. USSR. II, p. 717, t. 215 (1932).

Nom. Jap. *Tsuru-tsuge*.

Hab. in forests of Mt. Apoi, etc. Fl. Jun.

*var. **vegeta** HARA, var. nov.

Syn. *Ilex Fauriei* (non MAKINO) NAKAI, Veg. Apoi p. 29 & 58 (1930).

Caulis ascendens. Folia latiora quam typica, usque ad 4 cm. longa 2.3 cm. lata.

Nom. Jap. *Maruba-tsurutsuge* (nov.).

Hab. in forests at the foot of Mt. Apoi (T. NAKAI—Aug. 1928—type).

Dist. sp. Middle & Northern Honshu, Yezo, Kuriles and Saghalien.

313⁽⁴⁾***Ilex Sugeroki** MAXIMOWICZ in Mém. Acad. Imp. Sci. St.-Pétersb. ser. 7, XXIX-3, p. 22 & 35, t. 1, f. 7 (1881).—MATSUMURA, Ind. Pl. Jap. II-2, p. 318 (1912) pro major. part.—NAKAI, Veg. Apoi p. 58 (1930).

Syn. *Ilex Sugeroki* f. *brevipedunculata* MAXIMOWICZ, l. c. p. 36, t. 1, f. d-e (1881).—LOESENER, Monogr. Aquifol. I, p. 134 (1901); in Mitt.

Deut. Dendr. Ges. XXVIII, p. 12 (1919).

Ilex Sugeroki subsp. *brevipedunculata* MAKINO in Bot. Mag. Tokyo XXVII, p. 78 (1913).—TATEW., Veg. Apoi p. 95 (1928).

Nom. Jap. *Akami-no-inutsuge* (MIYABE).

Hab. in the upper part of Mt. Apoi.

Dist. Honshu, Yezo and S. Kuriles.

58. *Celastraceae*.

Celastrus L.

314⁽¹⁾***Celastrus strigillosus** NAKAI in Bot. Mag. Tokyo XL, p. 492 (1926); Veg. Apoi p. 58 (1930).

Syn. *Celastrus articulatus* (non THUNB.) TATEW., Veg. Apoi p. 95 (1928).

Nom. Jap. *Oni-tsuru-umemodoki* (NAKAI).

Hab. in the lower part of Mt. Apoi, etc. Fl. Jun.

Dist. Honshu, Yezo and Saghalien.

Evonymus L.

315⁽²⁾***Evonymus alatus** SIEBOLD, Synop. Pl. Oecon. Jap. p. 49 (1830).—T. ITÔ in Bot. Mag. Tokyo XIV, p. 167 (1900).

Syn. *Celastrus alatus* THUNBERG, Fl. Jap. p. 98 (1784).

var. **apterus** REGEL, Tent. Fl. Ussur. p. 41, t. 7. f. 2-3 (1861).

Syn. *Euonymus alata* γ. *pubescens* MAXIMOWICZ in Bull. Acad. Imp. Sci. St.-Pétersb. XXVII, p. 454 (1881) pro parte.—MATSUMURA, Ind. Pl.

Jap. II-2, p. 320 (1912).—MIYABE et MIYAKE, Fl. Saghal. p. 92

(1915).

Euonymus striata MAKINO var. *pubescens* MAKINO in Bot. Mag. Tokyo XXV, p. 230 (1911).

Euonymus striata LOESN. var. *hirta* KOIDZUMI in Bot. Mag. Tokyo XXXIX, p. 11 (1925).

Nom. Jap. *Ke-komayumi* (MAKINO 1911).

Hab. in the upper part of Mt. Horoman, Sanushibe (Samani), etc.

var. **pilosus** (KOIDZUMI) HARA, comb. nov.

Syn. *Euonymus alata* γ. *pubescens* MAXIMOWICZ, l. c. pro parte.

Euonymus striata LOESN. subsp. *alata* KOIDZ. var. *pilosa* KOIDZ., l. c. (1925).

Nom. Jap. *Ke-nishikigi* (KOIDZUMI 1925).

Hab. near Horoman and along Nikanbetsu R.

The specimens of our district have narrowly winged branches and leaves pubescent along underside veins.

*var. **subtriflorus** FRANCHET et SAVATIER, Enum. Pl. Jap. II, p. 311 (1876) (*subtriflora*).

Syn. *Celastrus striatus* THUNBERG, Fl. Jap. p. 98 (1784).

Euonymus subtriflorus BLUME, Bijdr. Fl. Nederl. Ind. 17, p. 1147 (1826).

Euonymus alata var. *subtriflora* MAXIMOWICZ in Bull. Acad. Imp. Sci. St.-Petersb. XXVII, p. 454 (1881).

Euonymus striata LOESNER in ENGL., Bot. Jahrb. XXX, p. 463 (1902) excl. specim.—KOIDZUMI in Bot. Mag. Tokyo XXXIX, p. 10 (1925).

Euonymus alatus SIEB. var. *striatus* MAKINO in Bot. Mag. Tokyo XXI, p. 138 (1907).—MATSUMURA, l. c. (1912).—TATEW., Veg. Apoi p. 96 (1928).—NAKAI, Veg. Apoi p. 58 (1930).

Euonymus striata LOESN. var. *subtriflora* SCHNEIDER, Ill. Handb. Laubholz. II, p. 172 (1907).

Euonymus striata MAKINO in Bot. Mag. Tokyo XXV, p. 229 (1911).

Nom. Jap. *Ko-mayumi*.

Hab. in Mt. Apoi (rare), Mt. Horoman, Mt. Ruchishi, etc. Fl. Jun.

Dist. sp. Kyushu, Shikoku, Honshu, Yezo, Kuriles, Saghalien, Korea, China, Manchuria, Ussuri and Amur.

316⁽³⁾* **Euonymus macropterus** RUPRECHT in Bull. Phys. Math. Acad. St.-Petersb. XV, p. 359 (1857).—MATSUMURA, Ind. Pl. Jap. II-2, p. 322 (1912).—FEDTSCHENKO, Fl. Aziat. Ross. V, p. 25, f. 11 (1914).—KUDO, Rep. Veg. N. Saghal. p. 176 (1924).—TATEW., Veg. Apoi p. 96 (1928).—NAKAI, Veg. Apoi p. 59 (1930).

Nom. Jap. *Hiroha-no-tsuribana*.

Hab. in Mt. Apoi, Mt. Horoman, etc. Fl. Jun.

Dist. Honshu, Yezo, Kuriles, Saghalien, Korea, Manchuria and Amur.

317⁽⁴⁾** **Evonymus oxyphyllus** MIQUEL in Ann. Mus. Bot. Lugd.-Bat. II, p. 86 (1865).—MATSUMURA, Ind. Pl. Jap. II-2, p. 322 (1912).—KOIDZUMI in MATSUMURA, Icon. Pl. Koisik. I, p. 77, pl. 39 (1912).—PRAIN in CURTIS, Bot. Mag. t. 8639 (1915).—MIYABE et KUDO, Icon. Essent. For. Tree. Hokk. III, p. 7, tab. 64 (1929).

Syn. *Euonymus yesoensis* KOIDZUMI, Fl. Symb. Or.-Asia. p. 13 (1930).

Nom. Jap. *Tsuribana*.

Hab. at the foot of Mt. Apoi (the Horoman side), Mt. Ruchishi, etc. Fl. Jun.

Dist. Kyushu, Shikoku, Honshu, Yezo, Kuriles and Korea.

318⁽⁵⁾* **Evonymus planipes** KOEHNE in Mitt. Deut. Dendr. Ges. XVI, p. 62, f. 1. A (1906).—SCHNEIDER, Ill. Handb. Laubholz. II, p. 176 (1907).—TATEW., Veg. Apoi p. 96 (1928).—NAKAI, Veg. Apoi p. 59 (1930).

Syn. *Euonymus latifolius* SCOP. var. *planipes* KOEHNE in Gartenfl. LIII, p. 29, f. 12 (1904).

Euonymus oxyphylla MIQ. var. *Kuenbergii* HONDA in Bot. Mag. Tokyo XLVII, p. 297 (1933).

Nom. Jap. *Ô-tsuribana*, *Nikkô-tsuribana* (HONDA).

Hab. in the lower part of Mt. Apoi and along Horoman R.

Dist. Honshu, Yezo, Kuriles, Korea and Manchuria.

319⁽⁶⁾ **Evonymus radicans** SIEBOLD ex MIQUEL in Ann. Mus. Bot. Lugd.-Bat. II, p. 86 (1865) pro syn.; III, p. 202, no. 127 (1867); Prol. Fl. Jap. p. 366 & p. 376 (1866-67).—FRANCHET et SAVATIER, Enum. Pl. Jap. I, p. 79 (1874).—MAXIMOWICZ in Bull. Acad. Imp. Sci. St.-Petersb. XXVII, p. 441 (1881).—REIDER in SARGENT, Trees and Shrubs I, p. 129 (1903).

Syn. *Euonymus japonicus* THUNB. var. *radicans* MIQUEL in Ann. Mus. Bot. Lugd.-Bat. II, p. 86 (1865).—NAKAI, Fl. Korea. I, p. 123 (1909).—MATSUMURA, Ind. Pl. Jap. II-2, p. 321 (1912).

Nom. Jap. *Tsuru-masaki*.

Hab. Saruru.

var. **vegetus REIDER in SARGENT, l. c. pl. LXV (1903).

Nom. Jap. *Maruba-tsurumasaki* (nov.).

Hab. at the foot of Mt. Apoi.

Dist. sp. Liukiu, Kyushu, Shikoku, Honshu, Yezo and Korea.

320⁽⁷⁾* **Evonymus Sieboldianus** BLUME, Bijdr. Fl. Nederl. Ind. 17, p. 1147 (1826).

var. **megaphyllus** HARA, var. nov.

Syn. *Euonymus yedoensis* (non KOEHNE) NAKAI, Veg. Apoi p. 22 & 59 (1930).

Ab var. *yedoensis* HARA (*E. yedoensis* KOEHNE 1904) ramis brunneo-ochraceis differt.

Nom. Jap. *Yezo-ôba-mayumi* (nov.).

Hab. at the foot of Mt. Apoi. Fl. Jun.

Dist. sp. Kyushu, Shikoku, Honshu, Yezo, Saghalien, Korea, China and Manchuria.

This plant is exceedingly variable in all respects, and the characteristics by which KOEHNE distinguished several species do not serve in the field. The size and shape of leaves, the hairiness on their underside veins, the length of the filaments and the colour of the arillus change by individuals. The character whether the arillus has an open aperture or not is also inconstant even on the same tree. So, to my mind, *Evonymus Sieboldianus* BLUME, *E. Vidalii* FRANCH. et SAV., *E. yedoensis* KOEHNE, *E. hians* KOEHNE and *E. semiexserta* KOEHNE should be regarded as different forms of a single species.

321⁽⁸⁾ **Evonymus tricarpos** KOIDZUMI in MATSUMURA, Icon. Pl. Koisik. III, p. 77, pl. 184 (1916) (*tricarpa*).

Syn. *Evonymus sachalinensis* MAXIM. var. *tricarpa* KUDO in Rep. Exper.

For. Kyushu Imp. Univ. I, p. 76 (1931).

Nom. Jap. *Murasaki-tsuribana* (MATSUMURA 1886), *Kuro-tsuribana* (KOIDZ. 1916).

Hab. in the upper part of Mt. Rakko.

Dist. Middle & Northern Honshu, Yezo and Saghalien.

This species is conspicuous in the field by having the leaves whose nerves are strikingly impressed on the upper surface.

59. *Staphyleaceae*.

Staphylea L.

322^{(1)*} **Staphylea Bumalda** A. P. de CANDOLLE, Prodr. II, p. 2 (1825).—TATEW., Veg. Apoi p. 96 (1928).—NAKAI in Bot. Mag. Tokyo XLIV, p. 17 (1930).

Syn. *Bumalda trifolia* THUNBERG, Nova Gen. Pl. II, p. 63 (1783); Fl. Jap. p. 114 (1784).

Staphylea Bumalda SIEBOLD et ZUCCARINI ex MIQUEL in Ann. Mus. Bot. Lugd.-Bat. III, p. 93 (1867).—MATSUMURA, Ind. Pl. Jap. II-2, p. 324 (1912).—NAKAI, Veg. Apoi p. 59 (1930).

Nom. Jap. *Mitsuba-utsugi*.

Hab. at the foot of Mt. Apoi. Fl. Jun.

Dist. Kyushu, Shikoku, Honshu, Yezo, Korea, Manchuria and China.

60. *Aceraceae*.

Acer L.

323^{(1)*} ***Acer amoenum*** CARRIÈRE in Rev. Hort. XXXIX, p. 280 (1867).—NAKAI in Bot. Mag. Tokyo XLVI, p. 610 (1932).

Syn. *Acer palmata* subsp. *septemlobum* KOIDZUMI, Rev. Acer. Jap. (in Journ. Coll. Sci. Imp. Univ. Tokyo XXXII-1) p. 46, t. XXVII (1911) excl. syn. nonnul.

Acer euseptemlobum KOIDZUMI in Bot. Mag. Tokyo XXXIX, p. 306 (1925).

Acer sanguineum var. *euseptemlobum* KOIDZUMI in Bot. Mag. Tokyo XLIII, p. 382 (1929).

Acer sanguineum var. *amoenum* KOIDZUMI in Acta Phytotax. et Geobot. III, p. 148 (1934).

Nom. Jap. *Ô-momiji*.

Hab. in Mt. Apoi, etc.; common.

Dist. Honshu and Yezo.

The mode of serration is variable and some show an intermediate form between this species and *A. ornatum*.

324^{(2)**} ***Acer cissifolium*** C. KOCH in Ann. Mus. Bot. Lugd.-Bat. I, p. 252 (1864).—KOIDZUMI, Rev. Acer. Jap. p. 26, tab. XV (1911).—MATSUMURA, Ind. Pl. Jap. II-2, p. 326 (1912).—MIYABE et KUDO, Icon Essent. For. Tree. Hokk. III, p. 19, tab. 70 (1930).

Syn. *Negundo cissifolium* SIEBOLD et ZUCCARINI in Abhandl. math.-phys. Kl. Akad. Wiss. Muenchen IV-2, p. 159 (1845).

Nom. Jap. *Mitsude-kaede*.

Hab. along Horoman R., Samani, Mt. Ruchishi, etc.

Dist. Kyushu, Shikoku, Honshu and Yezo.

325^{(3)*} ***Acer japonicum*** THUNBERG, Fl. Jap. p. 161 (1784).—KOIDZUMI, Rev. Acer. Jap. p. 39, tab. XXIV (1911).—MATSUMURA, Ind. Pl. Jap. II-2, p. 327 (1912).—TATEW., Veg. Apoi p. 96 (1928).—NAKAI, Veg. Apoi p. 59 (1930).—MIYABE et KUDO, Icon. Essent. For. Tree. Hokk. III, p. 15, tab. 68 (1930).

f. ***typicum*** GRAF. v. SCHWERIN in Gartenfl. XLII, p. 708 (1893).—PAX in ENGLER, Pfl.-reich IV-163, Heft 8, p. 24 (1902) pro var.

Nom. Jap. *Hauchiwa-kaede*.

Hab. in Mt. Apoi, Shoya, etc.; common. Fl. late May–Jun.

Dist. sp. Honshu and Yezo.

Forma *macrophyllum* GRAF v. SCHWERIN and f. *angustilobum* KOIDZUMI also occur in our district.

var. **stenolobum HARA, var. nov.

Folia 5–9 cm. longa 6–11 cm. lata, ad medium palmati-lobata basi aperte cordata subtus in axillis nervorum albo-barbata, lobis 7–9 oblongis vel lanceolatis longe acuminatis inaequaliter duplicato-serratis mediis 2.5–5 cm. longis 1–2 cm. latis. Samarae loculi 5 mm. longi primo dense albo-lanuginosi; alae oblongae 1.5 cm. longae angulo obtuso divergentes primo albo-pubescentes.

Nom. Jap. *Momiji-hauchiwa* (nov.).

Hab. at the foot of Mt. Apoi (H. HARA–Jul. 8, 1933; no. 3147–type).

326⁽⁴⁾****Acer kobakoense** NAKAI in Bot. Mag. Tokyo XLV, p. 123 (1931).

Syn. *Acer japonicum* THUNB. var. *kobakoense* HARA, mss.

Nom. Jap. *Kobako-hauchiwa* (NAKAI).

Hab. in Mt. Apoi, rare.

Endemic in Yezo.

This is nearest to *A. japonicum*, but differs from it by the almost simple big serration of the leaves.

327⁽⁵⁾***Acer Mayrii** GRAF v. SCHWERIN in Mitt. Deut. Dendr. Ges. X p. 58 (1901).–PAX in ENGLER, Pfl.-reich IV–163, Heft 8, p. 76 (1902).–MAYR, Frendl. Wald- u. Parkb. p. 440, f. 161 (1906).–SCHNEIDER, Ill. Handb. Laubholzk. II, p. 225, f. 150 a. g (1907).–TAKEDA in Bot. Mag. Tokyo XXV, p. 26 (1911).–TATEW., Veg. Apoi p. 96 (1928).–MIYABE et KUDO, Icon. Ess. For. Tree. Hokk. III, p. 23, tab. 72 (1930).

Syn. *Acer pictum* var. *typicum* subvar. *Mayrii* KOIDZUMI, Rev. Acer. Jap. p. 63 (1911) pro parte.

?*Acer prictum* var. *Mayrii* KOIDZUMI, Fl. Symb. Or.-Asia. p. 54 (1930).–NAKAI, Veg. Apoi p. 59 (1930).

Nom. Jap. *Aka-itaya*, *Akame-itaya*, *Beni-itaya*.

Hab. along Horoman R., Saruru-sandô, etc.

Dist. Northern Honshu and Yezo (northwards to prov. Kitami).

This maple differs from *Acer mono* by having more smooth bark, less hard wood, less branched and always glabrous branches, larger and broader leaves which are reddish when young, larger flowers, and larger samarae with often connivent wings.

328⁽⁶⁾ **Acer Miyabei** MAXIMOWICZ in Bull. Acad. Imp. Sci. St.-Pétersb.

XXXII, p. 485 (1888).—SARGENT, For. Fl. Jap. p. 29, pl. IX (1894).—KODZUMI, Rev. Acer. Jap. p. 57, tab. XXXI (1911).—MATSUMURA, Ind. Pl. Jap. II-2, p. 328 (1912).—MIYABE et KUDO, Icon. Essent. For. Tree. Hokk. III, p. 25, t. 73 (1930).

Nom. Jap. *Kurobi-itaya*.

Hab. near Samani, rare.

Dist. Honshu and Yezo.

(To be continued.)

Contributio ad Cognitionem Floræ Manshuricæ. IX.

auctore

Masao Kitagawa.

With 3 Text-figures.

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134) ***Primula hallaisanensis* NAKAI** sp. nov. in sched. Herb. Imp. Univ. Tokyo.

Fig. 10. *Primula hallaisanensis* NAKAI.

Primula jesoana (non MIQUEL) NAKAI, Rep. Veg. Isl. Quelp. p. 72 (1914); MORI, Enum. Pl. Cor. p. 283 (1922) pro parte, quoad pl. ex Quelp.

Rhizoma breve radices fibrosas fuscas numerosas dense emittens. Folia omnia radicalia longe petiolata; lamina orbiculato-reniformis apice obtusissima basi profundissime imbricato-cordata rarissime aperte cordata grossissime 7-dentato-lobata lobis brevibus latissime deltoideis lobulatis lobulis deltoideis—latissime deltoideis denticulatis dentibus omnibus apice mucronulatis crasse herbacea subpalmatim 7-nervata supra viridis im-