CII. Species novas in Gardener's Chronicle, 3. ser.,
XLIII (1908) descriptas
compilavit F. Fedde.

71. *Mahonia arguta* Hutchinson, l. c., p. 82.

Folia 5-juga, quam inflorescentia breviora, petiolis sulcatis 17—20 cm longis; foliola lanceolata vel oblongo-lanceolata, subsessilia vel brevissime petiolulata, coriacea, 5—9 cm longa, 1—2 cm lata, spinoso-terminata, integra vel 1—3 spinoso-dentata, utrinque nitida, venis et venulis utrinque conspicuis. Paniculae ad apicem ramorum congestae, suberectae, laxae, 30—40 cm longae, ramulis elongatis 3—4-floris compressis rigidis usque ad 4 cm longis. Bracteae ramorum et pedicellorum ovato-lanceolatae, 2—4 mm longae, acutae. Sepala 3 externa parva, elliptica, 3 mm longa, 3-nervia; 3 intermedia et 3 interna oblongo-elliptica, 6 mm longa, 3 mm lata. Petala 6, oblonga, apice bilobata, 4 mm longa, 3 mm lata. Stamina 6, filamentis 2 mm, antheris 1—5 mm longis, Ovarium oblongum, 2 mm longum. Bacca globosa, 6 mm diametro.

Affinis *M. paniculatae* Oerst. a qua foliolis angustioribus integris vel dentibus spinosis 1—3, minutis, reticulatione utrinque prominente, petalis minoribus recedit.

It now proves to be an undescribed species, closely allied to *Mahonia paniculata* Oerst. The origin of the plant is unknown, but its nearest allies are natives of Central America, where they occur at altitudes of from 8000 to 10000 feet on the slopes of volcanic mountains in Guatemala and Costa Rica.

72. *Pinus Mastersiana* Hayata, l. c., p. 194.

Rami teretes fusci, novelli glabri, cicatricibus perularum et foliorum notati. Folia in fasciculo quinque, aceroso-filiformia, acuta, dorso plana, in sectione triangularia, margine et in carina remote serrulata, 10 cm longa. Strobili erecti, ovato-cylindrici, obtusi, 14 cm longi, 7 cm lati. Bracteae minutissimae. Squamae numerosae, orbiculares v. subrhombeae, acutae, sursum reflexae, basi breviter cuneatae, lignescentes, longitudinaliter rugosae, fuscae, dispermae. Semina obovata 12 mm longa, 9 mm lata, apice leviter apiculata, exalata, compressiuscula. Testa ossea, crassa, fusca, glabra; albumen crassum, oleosum. Embryo cotyledonibus 5, verticillatis.

Formosa: In Monte Morrison, leg. G. Nakahara, 1905.

73. *Pinus morrisonicola* Hayata, l. c., p. 194.

Rami teretes, perularum rudimentis notati, novelli pubescentes. Gemmae ovatae, perulatae, perulis acutis, membranaceis, margine fractis. Folia in fasciculo quinque, fasciculis approximatis, acerosa, rigidula, 6—8 cm longa arcuata sed non torta, apice acuta, dorso plana, facie acute carinata, in sectione triangularia, margine et carina remote serrulata. Strobili erecti, ovato-elliptici, obtusi, squamis circ. 40 compositi 7 cm longi, 3 cm lati squamis ellipticis, basi cuneatis, sursum rotundatis, le-

viter reflexis, 3 cm longis, 1—5 cm latis, coriaceo-crassis, sublignescen-
tibus, concavis, badio-fuscis, dispermis, sed interdum abortu monospermis.
Bracteae brevissimae. Semen ovatum apice obtusum, 10 mm longum,
6 mm latum, testa coriacea pallide ferruginea glabra, ala membranacea,
tenui, cultriformi, 2 cm longa, 8 mm lata.

Formosa: Shohakulin, leg. C. Owatari, 1898.

74. **Tsuga formosana** Hayata, l. c., p. 194.

Ramuli novelli tenues glabri, pallide fuscentes. Gemmae perulatae,
perulis obtusis integris. Folia approximata, distincte petiolata, petiolis
brevibus semiteretibus, parum incurvis, linearia, 16—8 mm longa, 2—
1,5 mm lata apice obtusa vel emarginata, integerrima, glabra, coriacea.
Stobili ovati, 20—23 cm longi, 13 mm lati, squamis circ. 20 imbricatis,
coriaceis, basi truncatis, sursum suborbicularibus, integris, 15 mm longis,
10 mm latis, substriatis, pallide fuscescentibus, bracteis brevissimis, rhom-
boideis, apice brevissime 2-lobatis, irregulariter dentatis. Semina parva,
obovata, 4 mm longa, vel longiora, ala membranacea tenui cultriformi,
pallide ferruginea, 7 mm longa.

Formosa: In Monte Morrison, leg. S. Nagasawa, 1905.

75. **Juniperus morrisonicola** Hayata, l. c., p. 194.

Rami teretes; ramuli novelli virides trigoni. Folia omnia lanceolata,
apice acerosa, patentiuscula, 3—4 mm longa, 1 mm lata, supra concava,
glauescentia, subtus parum carinata. Flores masculi terminales in ra-
mulis brevissimis, ovoidei, 4 mm longi, 2 mm lati, staminibus 8, squamis
peltatis, suborbicularibus, 1,5 mm in diametro, antherae loculis 3. Flores
foeminei in ramulis brevissimis terminales, basi foliis squamiformibus
bracteisque 6—9 oppositis suffulti, squamis intimis 3, ovatis acutis verti-
cillatis patentibus. Ovulum solitarium terminale a squamis intimis 3
circumdatum, oblongum, apice attenuatum. Galbulus globosus 6 mm
diam. vel paucos longior, in apice vestigiis squamarum intimarum suf-
fultus, siccus nigricans glaber.

Formosa: In Monte Morrison, leg. S. Nagasawa, 1905.

76. **Cunninghamia Konishii** Hayata, l. c., p. 194.

Arbor ramis omnibus teretibus, glabris, foliorum spiraliter confertorum
cicatricibus notatis, gemmis floriferis nudis, depresso-globosis, bracteis
depresso ovatis, brevissime aristato-acutis. Folia ramorum veterorum
spiraliter conferta, adnato-decurrentia, anguste lineari-falcata, incurvo-
erecta, acuta, dorso leviter carinata, ramulorum juvenum ascendentio-
patentia, longiora, anguste lineari-lanceolata, 15 mm longa, 2,5 mm lata,
ad basin oblique torta, apice obtusiuscula, margine sub lente serrulata,
rigida, coriacea, utrinque pagina glaucescentia, stomatibus multiseriatis
instructa, octovum in annum virentia demum exarida sensim soluta.
Strobili maturi ovato-globosi, 20 mm longi, 15 mm lati; squamae rotun-
datae, mucronatae, basi distincte unguiculatae, ungue brevi, lamina dila-
tata, cordata, late depresso-ovata, margine integra, lignescentes, sursum
coriaceae, et marginem versus subundulatae, dorso apice leviter carinatae,
glabrae; bracteae obsoletae, squamulae 3 in basi laminae squamae, distinctae,

fimbriatae crenulatae. Semina 3 ad squamularum basin affixa, reversa, libera, ovato-elliptica, testa coriaceae, duriuscula, ala angusta cincta; embryo ignotus.

Formosa: In Monte Randaisan, Nanto, ad 7000 ped. alt., leg. N. Konishi, 1907.

77. *Chamaecyparis obtusa* Sieb. et Zucc. var. **formosana** Hayata, l. c., p. 194.

Strobili ut typicae, sed multo minores, 8 mm in diametro, seminibus minoribus, cum alis 2 mm in diametro.

Formosa:

78. *Keteleeria formosana* Hayata, l. c., p. 194.

Ramuli dense papilloso-puberuli. Folia laxè inserta, plana, lineari-lanceolata, 30 mm longa vel longiora, 5 mm lata, nervis prominentibus, margine parum deflexa, in utraque facie vernicea, subtus vix pallidiora, apice obtusa (ramuli hornotini aristato-acuta) basi in pedem brevem compressum demum contortum attenuata. Strobili erecti, cylindracei, obtusi, 9 cm longi, 5 cm lati; squamae coriaceae, ovato-rotundatae v. cordatae, superne sensim attenuatae, apice subreflexae, basi breve unguiculatae, extus longitudinaliter striatae, puberulae, margine tenues irregulariter serrulatae; bracteae squamis duplo breviores, spathulatae, membranaceae, dorso fuscae, apice cuspidatae vel trifidae, irregulariter serrulatae, ad medium contractae. Semina pallide fulva basi acuta, cum ala concolore cultriformi, squamis aequilonga. Semen cum ala 27 mm longum.

Formosa: Shinjuki, Shinkocho, leg. N. Konishi, 1902.

79. *Malvastrum hypomadarum* Sprague, l. c., p. 394.

Frutex vix 1 m altus, ramis gracilibus densiuscule stellato-pubescentibus. Stipulae patentes, oblique lanceolatae, 3—5 mm longae, ciliatae. Petioli circiter 6 mm longi. Folia trilobata, 2,5—4 cm longa et subaequilata, basi conspicue cuneata, utrinque pilis simplicibus et stellatis parce molliter pubescentia, nervis supra impressis subtus prominentibus, lobis oblongis vel in basin angustatis, medio quam lateralibus majore, dentato-serratis praesertim superne, dentibus inferioribus patulis vel leviter retro curvatis. Pedunculi 1—3-flori, ei axillarum superiorum plus minus contracti, inferiorum usque ad 1—3 cm longi, omnes ut pedicelli calycesque extra stellato-pubescentes. Ramuli accessorii 1 vel 2 ex iisdem axillis orti, 4—7 cm longi, foliati, 2—5-flori. Pedicelli 1,3—2 cm longi, 3 mm infra apices articulati. Bracteae spathulato-lineares, 6—8 mm longae, 1 mm latae, longe ciliatae, extra puberulae, intra glabrae. Calyx intus minute appresse pubescens; tubus 3 mm longus, circiter 20-nervius; lobi ovati, acuminati, 6 mm longi, trinervii vel indistincte quinquenervii, ciliati, nervis lateralibus in tubum separatim currentibus. Corolla 2,5—4 cm diametro; petala oblique obovata, retusa, alba circa basin purpureo-maculata, inferne dense ciliata, intus inferne stellato-pubescentia vel puberula. Columna staminea tota 1 cm supra inversionem petalorum producta, medio dense stellato-hirsuta. Carpella apice longe stellato-

hirsuta, ceterum glabra; stylus 1,5 mm supra basin articulatus, ramis purpureis.

Planta capensis, per saeculum in hortis anglicis culta, loco natali exacto incognito.

Affinis *M. divaricato* Gray et Harv., a quo foliis serratis nec crenatis, carpellis apice tantum stellato-hirsutis ceterum calois differt.

CIII. Neue Arten aus: A. v. Hayek, Flora von Steiermark.

Band I, Heft 7 (1909), pp. 481—560.

56. **Cardamine Clusiana** (Rchb.) v. Hayek, l. c., p. 491.

Dentaria Clusiana Rchb., Fl. Germ. exc., 677 (1832). — *Dentaria digitata* Lam., Encycl. meth., II, 267 (1786); Koch, Syn., ed. 2, 48 (1843); Maly, Fl. Steierm., 195 (1868). — *Cardamine digitata* O. E. Schulz in Englers bot. Jahrb., XXXII, 373 (1903), nicht Richardson in Franklin, Journ. App., VII, 743 (26) [1823]. — *Dentaria pentaphyllos* β . u. γ . L., Sp. pl., ed. 1, 654 (1753). — *Dentaria pentaphyllos* Scop., Fl. Carn., ed. 2, II, 20 (1772).

57. $\times$ **Draba ficta** Camus in Journ. de Bot., 1898, p. 169 (nom. nud.); v. Wettstein apud v. Hayek, l. c., p. 512 (descr.).

Draba aizoides $\times$ *Sauteri* Wettst. in Herbar Halacsy und in Hayek, Fl. Steierm., I, 512 (1909). — Perennis, dense vel laxe caespitosa, caudiculos elongatos rosulas ferentes emittens. Caulis erectus, 2—3 cm altus, glaber. Folia rosulam densam componentia, obverse lanceolata, acutiuscula, basin versus sensim attenuata, setoso-ciliata. Petala late obovata, 5—6 mm longa, flava. Stamina petalis multo breviora. Siliculae late ellipticae, 4—5 mm longa et 2 mm lata, utrinque breviter acuminatae, stylo 0,5—1 mm longo, pedunculis circiter aequilongis erecto-patentes. — Unterscheidet sich von *Draba aizoides* durch die kurzen Staubblätter, die breiteren, kürzer bespitzten Schötchen, den kurzen Griffel und die gegen die Spitze etwas verbreiterten Blätter, von *Draba Sauteri*, der der Bastard viel näher steht, durch die schmäleren, verlängerten Blätter, schmalere Schötchen und etwas grössere Blüten. — Steiermark: Unter den Stammeltern auf dem Hochschwab (Wettstein!).

58. *Draba aizoides* L. var. β . **hispidula** v. Hayek, l. c., p. 513.

Draba Beckeri Hayek in Öst. bot. Zeitschr., LI (1901), 300, nicht A. Kerner. — Schötchen besonders am Rande mit einzelnen steifen anliegenden Börstchen besetzt. — Steiermark: Hier und da, besonders in tieferen Lagen, meist unter der kahlfrüchtigen Form. Auf dem Lantsch (Wettstein!), der Kребenze bei St. Lambrecht (Strobl); auf dem Donatiberge bei Rohitsch (Alexander!).

59. $\times$ **Draba Sturii** (*D. fladnitzensis* $\times$ *tomentosa*) Strobl in v. Hayek, l. c., p. 517.