NOTES ON SOME CULTIVATED TREES AND SHRUBS

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THE FOLLOWING new combinations became necessary when, in compiling a Bibliography of cultivated trees and shrubs, it was found that, in a number of cases, older names overlooked or neglected by previous authors existed which called for a change in the nomenclature of certain groups. The numerous new cases of change of category without change of the combination itself, as changes from *varietas* to *forma* or, in general, changes from one subspecific category to another, e. g. *Rhododendron maximum β. album* Pursh to *R. maximum* f. *album* (Pursh) Fernald, will appear with full synonymy in the Bibliography referred to above, as "gradus novus."[1] As these changes of grade which mostly concern garden forms do not need any discussion or explanation and do not change the name itself, their publication prior to the publication in my Bibliography seems unnecessary; it would simply be a repetition of the numerous synonyms.

Taxus baccata L. f. **Dovastoniana** (Leighton), comb. nov.

Taxus baccata "Westfelton Yew" Loudon, Arb. Brit. 4: 2083, *fig. 1990* (1838).

Taxus baccata var. *β. Dovastoniana* Leighton, Fl. Shropshire, 497 (1841).

Taxus baccata var. *β. Dovastoni* Knight & Perry, Syn. Conif. 52 (1850), nom. — Lindley & Gordon in Jour. Hort. Soc. Lond. 5: 227 (1850), nom. — Hort. ex Lawson, List Pl. Fir Tribe, 81 (1851) "var." — Hort. Angl. ex Carrière, Traité Conif. 518 (1855). — Voss, Vilmor. Blumengärt. 1: 1243 (1896) "subsp. *vulgaris* f. *dovastoni*." — Pilger in Engler, Pflanzenreich, IV. 5(Heft 18): 114 (1903); in Mitt. Deutsch. Dendr. Ges. 1916(25): 11 [1917] "f. *Dovastonii*."

Taxus disticha Wenderoth, Pflanz. Bot. Gärt. 1(Conif.): 42 (1851). — Henkel & Hochstetter, Syn. Nadelh. 354 (1865), pro syn.

Taxus Dovastoni Hort., *T. imperialis* Hort., *T. pendula* Hort., *T. horizontalis* Hort., *T. umbraculifera* Hort., *T. baccata horizontalis* Hort. ex Henkel & Hochstetter, l. c. (1865), pro syn.

In almost all publications listing this form, the subspecific epithet has been spelled *"Dovastoni,"* because the first publication of the form has been generally overlooked.

Pinaceae subfam. **Taxodioideae,** comb. nov.

Coniferae ord. 1. *Cupressineae* § 5. *Taxodineae* Endlicher, Syn. Conif. 6 (1847).

[1] For a note on the term "gradus novus," new grade, see this Journal 22: 570, footnote (1941). The term "status novus" was proposed by Bailey (in Gent. Herb. 1: 8) as a new term for a change of rank, to distinguish it from a transfer without change of rank which he proposed to call "translatio nova," new transfer, to be applied to transfers of names without change of rank from one genus to another or, in the case of subspecific names, from one species to another; both kinds of change are usually called "combinatio nova," new combination. The term "gradus novus," new grade, refers to changes of one subspecific grade to another under the same binomial and without change of the subspecific epithet, and therefore without change of the ternary combination itself, as in the example given above.

Coniferae ord. II. *Cunninghamieae* § 3. *Cunninghamieae* Endlicher, op. cit. 80 (1847) exclud. *Dammara*.

Coniferae trib. *Abietineae* subtrib. *Taxodieae* Parlatore in De Candolle, Prodr. 16, 2: 365 (1868).

Coniferae trib. *Taxodieae* Bentham & Hooker f., Gen. Pl. 3: 422 (1880).

Coniferae I. *Pinoideae* 1. *Abietineae* 1c. *Taxodiinae* Eichler in Nat. Pflanzenfam. II. 1: 65, 84 (1889).

Araucariaceae §. *Taxodieae* Engler, Syllab. Vorles. grosse Ausg. 62 (1892).

Taxodiaceae F. W. Neger, Nadelh. 24, 127 (Samml. Göschen, no. 355) (1907).—Pilger in Nat. Pflanzenfam. ed. 2, 13: 342 (1926).

Taxocupressaceae subfam. *Taxodioideae* Vierhapper in Abh. Zool.-Bot. Ges. Wien, 5, 4: 23 (1910).

Pinaceae subfam. *Abietoideae* trib. *Taxodieae* Ascherson & Graebner, Syn. Mitteleur. Fl. ed. 2, 1: 280, 355 (1912).

Pinaceae §. *Taxodieae* Engler, Syllab. Vorles. ed. 9, 122 (1924).

As according to the Rules of Nomenclature (Art. 24) the ending of names of subfamilies is -oideae, Vierhapper's name under *Taxocupressaceae* will be the correct name when this subfamily is transferred to *Pinaceae*, since the citation of the parenthetical author is not necessary. According to the Rules, in a transfer of the name of a division of higher rank than genus, the citation of the parenthetical author is not required (see Art. 49).

Chamaecyparis obtusa f. **Barronii**, nom. nov.

Retinispora tetragona R. Smith, Pl. Fir Tribe, 40 [1874?]. — Barron ex Gordon, Pinet. ed. 2, 429 (1875).

Chamaecyparis thujaeformis [Hort.?] ex R. Smith, l. c. [1874?], pro syn.

Chamaecyparis obtusa var. *tetragona* (Gord.) Hornibrook, Dwarf Conif. 42 (1923), non Rehder (1919).

In 1919 (in Jour. Arnold Arb. 1: 52) I had proposed the ternary combination *C. obtusa* f. *tetragona* for the form with variegated foliage called by Nicholson *C. obtusa tetragona aurea*, adopting *"tetragona"* as the subspecific epithet to avoid coining an entirely new epithet, because *aurea* was preoccupied and no green form seemed to be known in cultivation at that time. In 1923, however, Hornibrook described the green form as *Ch. obtusa* var. *tetragona* (R. Smith), but that name, being invalidated by the earlier homonym of 1919, has to be changed; I propose the name *Ch. obtusa* f. *Barronii* in honor of William Barron of the Elvaston Nursery, who introduced this plant from Japan, as also did Mr. R. Smith of Worcester.

Juglans ailantifolia var. **cordiformis** (Maxim.), comb. nov.

Juglans cordiformis Maximowicz in Bull. Acad. Sci. St. Pétersb. 18: 62 (in Mél. Biol. 8: 63) (1873).

Juglans Sieboldiana var. *cordiformis* (Maxim.) Makino in Bot. Mag. Tokyo, 9: (313) (1895); 15: 94 (1901).

Juglans Allardiana Dode in Bull. Soc. Dendr. France, 1908: 34, *fig.* (1908).

Juglans coarctata Dode in op. cit. 1909: 36, *fig.* (1909).

Juglans Lavallei Dode in op. cit. 1909: 37, *fig.* (1909).

Juglans subcordiformis Dode in op. cit. 1909: 43, *fig.* (1909).

In an article dealing with homonyms (in Jour. Washington Acad. Sci. 23: 132. 1943), Little drew attention to the fact that the name *Juglans Sieboldiana* Maxim. (1873) is antedated by *J. Sieboldiana* Göppert (1855), based on a fossil plant. Therefore, the next oldest name for the species

described by Maximowicz had to be taken up; this is *J. ailantifolia* Carrière in Rev. Hort. 1878: 414, *fig. 85–86* (1878). Carrière, when coining the specific epithet, apparently followed De Candolle in the spelling of the generic name. De Candolle has it as *Ailantus* (in his Prodr. 2: 88. 1825), which probably is more correct than Desfontaines' spelling, because the name is derived from Ailanto, its native name in the Moluccas.

Hamamelis intermedia (*H. japonica* Sieb. & Zucc. × *mollis* Oliver), hybr. nov.

A *Hamamelide japonica* differt ramulis pubescentibus; foliis supra initio sparse stellato-pubescentibus maturis fere glabris, subtus initio satis dense stellato-pubescentibus, demum glabrescentibus; petiolis pubescentibus; petalorum parte inferiore plerumque rubris vel rubescentibus; capsula subglobosa vel late ovoidea ad 1.2 cm. diam., paulo longiora quam lata apice vix attenuata calyce plus quam tertiam partem fructus aequante.

A *H. molli* differt ramulis demum glabrescentibus vel glabris; foliis plerisque obovatis, basin versus plus minusve angustatis, ima basi inaequilateraliter truncatis vel late cuneatis, raro uno latere subcordatis, supra initio pubescentibus demum glabris vel fere glabris, subtus initio stellato-pubescentibus, demum plerumque glabrescentibus, petiolis gracilioribus glabris vel leviter pubescentibus; capsula apice minus distincte quadrangulari.

CULTIVATED SPECIMENS: Arnold Arboretum, no. *1173–28, A. Rehder,* April 6, 1935, *E. J. Palmer,* March & August, 1936; no. *1174–28, E. J. Palmer,* March & June, 1938 and Sept. 1940, *A. Rehder,* June, 1939 and Oct. 1944; no. *726–29* (seed as *H. mollis* from N. Kidder, Milton, Mass.), *E. J. Palmer,* June 10, 1938.

This hybrid was first raised at the Arnold Arboretum in 1929, from seed collected the previous year from a plant of *Hamamelis mollis* received from Veitch and raised from seed sent to Veitch by Maries in 1878, and from a plant of the same species raised from seed collected by Wilson in 1907 and sent to the Arnold Arboretum. None of the seedlings from the plants cultivated at the Arnold Arboretum turned out to be true *H. mollis;* all proved to be intermediate between *H. mollis* and *H. japonica,* of which several varieties were growing in the Arboretum. The hybrid also appeared in some other places, as in the author's garden where the two parent species were standing side by side, and spontaneous seedlings appeared almost every year and always proved to be hybrids. The plants raised showed considerable variation in the amount of pubescence, size and shape of the leaves and the color of the flowers, but they all agreed in being intermediate in various degrees between the two parent species. The most striking difference between these lies in their pubescence, *H. mollis* having the under surface of the leaves covered with a dense stellate tomentum which persists until autumn, while *H. japonica* has the leaves quite glabrous on both sides or pubescent beneath only when young, glabrous and somewhat lustrous light green beneath, or pubescent only at the veins at maturity, lustrous and darker green above and of firmer texture than *H. mollis,* which has leaves of softer texture, coloring a clear yellow, and dropping earlier than those of *H. japonica.* The leaves of *H. mollis* are broad at the oblique base and deeply cordate or sometimes subcordate, while in *H. japonica* they are usually more or less narrowed toward the oblique base

and broadly cuneate to truncate on one side and truncate to subcordate on the other. The flowers are similar in both species, with the petals bright yellow and reddish toward the base in *H. mollis* and bright yellow in *H. japonica* except in var. *flavo-purpurascens* (Mak.) Rehd., which has red or reddish petals, at least below the middle. The capsule in *H. mollis* is densely tomentose, larger and about as broad as high, 10–13 mm. across, with a broad truncate four-cornered apex and with a calyx enclosing the fruit more than $\frac{1}{3}$ to nearly $\frac{1}{2}$. In *H. japonica* the capsule is closely and more thinly pubescent, nearly ovoid, about 8 mm. across and somewhat narrowed toward the less strongly four-cornered apex, and the calyx encloses the capsule about $\frac{1}{3}$ or sometimes more.

Clematis dioscoreifolia Léveillé & Vaniot in Repert. Sp. Nov. Reg. Veg. 7: 339 (1909). *Clematis paniculata* var. *dioscoreifolia* (Lévl. & Vant.) Rehder in Jour. Arnold Arb. 1: 195 (1920).

Clematis dioscoreifolia Lévl. & Vant. var. **robusta** (Carr.), comb. nov.

Clematis Vitalba "aus Japan" Christmann, Pflanzensyst. 7: 309, *t. 55, fig. 2* (1781).

Clematis crispa sensu Thunberg, Fl. Jap. 239 (1784), non Linnaeus (1753).

Clematis virginica sensu Thunberg, Fl. Jap. 240 (1784), non *C. virginiana* Linnaeus (1762).

Clematis paniculata Thunberg in Trans. Linn. Soc. Lond. 2: 337 (1794). — Rehder & Wilson in Sargent, Pl. Wilson. 1: 331 (1913). — Non J. F. Gmelin (1791) [= *C. indivisa* Willd.]

Clematis Flammula robusta Carrière in Rev. Hort. 1874: 465, *fig. 59* (1874); 1899: 529, *fig. 227* (1899). — Rehder & Wilson, l. c. (1913), pro syn.

Clematis recta π. *paniculata* Kuntze in Verh. Bot. Ver. Brandenb. 26(Abh.): 115 (Monog. Clemat.) (1885).

Clematis recta sensu Finet & Gagnepain in Bull. Soc. Bot. France, 50: 535 (1903); Contrib. Fl. As. Or. 1: 20 (1905); non Linnaeus (1753).

This ornamental vine, much planted for its profuse white flowers appearing in autumn, and until now well known under the name *C. paniculata* Thunb., unfortunately must change its name, since that name is a later homonym of *C. paniculata* J. F. Gmelin in Linnaeus, Syst. Nat. ed. 13, 3,1: 873 (1791). Gmelin's name, based on *C. integrifolia* Forster, Fl. Ins. Austral. Prodr. 42 (1786), non Linnaeus (1753), however, was not taken up by Willdenow, who gave to *C. integrifolia* Forst. the name *C. indivisa* in his Sp. Pl. 2,2: 1291 [1800]. Willdenow probably overlooked Gmelin's name or intentionally omitted it, because he adopted in the same publication Thunberg's *C. paniculata* as a valid name, which will have to replace *C. indivisa* Willdenow of 1800; both names are based on the same species, namely *C. integrifolia* Forster, non Linnaeus, and Gmelin's name has nine years' priority. It seems strange that in none of the New Zealand floras does the name *C. paniculata* Gmel. appear, not even as a synonym, though *C. indivisa* is described as a valid species. When, in 1920, I referred *C. dioscoreifolia* Lévl. & Vant. as a variety to *C. paniculata,* Art. 61 of the Rules (containing the so-called homonym rule) was not yet in force, not having been adopted until 1930 (ed. 3, p. 19).

There seems to be no earlier name to replace *C. paniculata* Thunb., non Gmelin, except *C. dioscoreifolia* Léveillé & Vaniot, representing a plant somewhat different from *C. paniculata* Thunb., but undoubtedly con-

specific. Therefore, it will have to be accepted as the correct name for this species and *C. paniculata* Thunb. treated as a variety, for which the varietal name will be *"robusta,"* described and figured by Carrière in 1874 as *C. Flammula robusta.* Eleven years later Kuntze named this plant *C. recta* π. *paniculata,* which would be preferable as a varietal name, since the plant has been well known for a long time as *C. paniculata* Thunb.; but the latter is, according to Carrière's description, clearly the same plant as *C. Flammula robusta,* overlooked by Kuntze and not mentioned at all in his monograph, but cited as a synonym of *C. paniculata* in Sargent, Pl. Wilson. 1: 331 (1913).

Crataegus ser. **Crus-gallianae,** nom. nov.

Crataegus §. IV. *Crus-galli* Loudon, Arb. Brit. 2: 820 (1838). — Sargent in Rhodora, 3: 19 (1901); Silva N. Am. 1: 32 (1902). — Schneider, Ill. Handb. Laubh. 1: 769, 796 (1906) "sect.". — Rehder, Man. Cult. Trees Shrubs, 368 (1927) "group"; ed. 2, 364 (1940) "ser."

Crataegus . . . Berberifoliae Beadle in Biltmore Bot. Stud. 1: 127 (1902); in Small, Fl. Southeast. U. S. 533 (1903); nom. subnud.

Crataegus "Gruppe" *Crura galli* Zabel in Beissner et al., Handb. Laubh.-Ben. 171 (1903).

The name *Crataegus* §. *Crus-galli* Loudon given to a subdivision of *Crataegus* is contrary to Art. 4 of the Rules of Botanical Nomenclature, since it is ambiguous and may cause error, because the combination does not differ from the binary combination of a species, in this case *C. crus-galli* L., the type of this series. Therefore, the name is herewith changed to an adjective in plural form, which is the recommended form for names of series (see Art. 26 of the Rules of Botanical Nomenclature), to make it conform to the names of the other series of this genus.[2]

Crataegus . . . Berberifoliae, a *nomen subnudum* published without indication of category, as a subdivision different from ser. *Crus-gallianae* does not seem to be sufficiently distinct and is here enumerated as a synonym.

Amelanchier canadensis (L.) Med. var. **micropetala** (Robins.), comb. nov.

Amelanchier oblongifolia var. *micropetala* Robinson in Rhodora, 10: 33 (1908).

Amelanchier Botryapium var. *micropetala* (Robins.) Farwell in Rep. Michigan Acad. Sci. 17: 176 (1915).

Fernald, in Rhodora 43: 566 (1941), has shown that the type of *Amelanchier canadensis* (L.) Med. is the plant generally called *Amelanchier oblongifolia* Roemer, while *A. canadensis* of Sargent and most American authors will have to bear the name *A. arborea* (Michx.) Fernald (in op. cit. 563). This makes necessary the transfer proposed above.

Zanthoxylum L. subgen. **Thylax** (Raf.), comb. nov.

Fagara Duhamel, Traité Arb. Arbust. 1: 229, *t. 97* (1755).

Zanthoxylum Linnaeus, Syst. Nat. ed. 10, 2: 1290 (1759), p. p. quoad *Fagara* Duhamel; non Linnaeus (1753).

Thylax Rafinesque, Med. Bot. 2: 114 (1830).

Zanthoxylum sect. *Zanthoxylum* G. Don, Gen. Hist. Dichlam. Pl. 1: 801 (1831), non *Zanthoxylum* L. (1753), p. p.

[2] See also my proposal (in Jour. Arnold Arb. 20: 269. 1939) concerning a change of Art. 26 for the 7th Botanical Congress in Stockholm planned for 1940.

Mioptrila Rafinesque, Am. Man. Mulberry, 37 (1839).

Zanthoxylum a. *Euzanthoxylum* Endlicher, Gen. Pl. 1146 (1840). — Schneider, Ill. Handb. Laubh. 2: 118 (1907). — Non *Zanthoxylum* L. (1753).

Xanthoxylum Engler in Nat. Pflanzenfam. III. 4: 115 (1896). — Graebner in Ascherson & Graebner, Syn. Mitteleur. Fl. 7: 237 (1914). — Non *Zanthoxylum* L. (1753).

The oldest name, *Fagara* Duhamel (not listed in Index Kewensis), cannot be taken up as a subgeneric name for this subgenus, since it has been already used for another subdivision of the genus, namely *Z.* sect. *Fagara* G. Don, Gen. Hist. Dichlam. Pl. 1: 802 (1831), based on *Fagara* Linnaeus, Syst. Nat. ed. 10, 2: 897 (1759). The next oldest generic name available for this group is *Thylax* Rafinesque, with the species *T. fraxineum* Raf. (= *Z. americanum* Mill.), which is here proposed as the name for the subgenus typified by *Z. americanum* Mill. The subgeneric names sect. *Zanthoxylum* G. Don (1831) and *Z.* a. *Euzanthoxylum* Endlicher (1840) cannot be used for this subgenus, since they would imply that these groups are based on the type of the genus, which is not the case, since the type species is undoubtedly *Z. Clava-herculis* L. *Zanthoxylum* Linnaeus, Sp. Pl. 270 (1753) contains only two species: 1. *Z. Clava-herculis* and 2. *Z. trifoliatum* (= *Acanthopanax trifoliatus* (L.) Merr.) Therefore *Z. Clava-herculis* must be considered the type of the genus, though in 1759, Linnaeus (Syst. Nat. ed. 10, 2: 1290) cites, besides Hortus Cliffortianus 487 and Catesby Car. 1, p. 26, *t.26,* also *Fagara* Duhamel of 1754, which represents *Z. americanum* Mill. In his Genera Plantarum ed. 5, 130 (1754), Linnaeus describes *Zanthoxylum* as having no corolla, although in Hortus Cliffortianus he states that it has a small 5-parted perianth and a pentapetalous corolla with 5 ovate-oblong petals; also the figure of Catesby shows distinctly a double perianth and *Z. trifoliatum* has a double perianth.

In 1759 (Syst. Nat. ed. 10, 2: 897, 1290) Linnaeus recognizes two genera, *Fagara* and *Zanthoxylum,* chiefly distinguished by the number of stamens, four in the former, five in the latter genus, by bisexual or polygamous flowers and double perianth in *Fagara* and by dioecious flowers and simple perianth in *Zanthoxylum,* but the character of the perianth does not hold, since all the species enumerated have a double perianth and the number of stamens varies from three to eight. The species taken by all later authors as typical of *Zanthoxylum,* namely *Z. americanum* Mill. (*Z. fraxineum* Willd.), was only imperfectly known to Linnaeus and not recognized as a species, but only cited in synonymy as *Fagara* Duham., which according to Duhamel's figure represents without doubt the species later described as *Z. americanum* Mill. For the subgenus to which *Z. Clava-herculis* L. belongs, the correct name will be *Z.* subgen. *Fagara* (L.) Schneider (*Z.* sect. *Fagara* G. Don), based on *Fagara* Linnaeus (1759). If, however, the two subgenera are considered different genera, *Zanthoxylum* will be the generic name for *Z.* subgen. *Fagara* (L.) Schneid., and for *Z.* subgen. *Thylax* the generic name will be *Fagara* Duham. (1754). This just reverses Engler's arrangement and would create confusion which could only be avoided by

conserving *Fagara,* which is by far the larger group in the sense of Linnaeus (1759) as amplified by Engler [1896], and accepting *Thylax* Raf. as the name for the genus typified by *Z. americanum* Mill., or by conserving both names in the sense of Engler. The two genera are close and none of the characters are strong enough for generic separation, so it seems preferable to consider them subgenera or sections of one genus, as done by most authors.

Rhododendron glaucophyllum, nom. nov.

Rhododendron glaucum Hooker f., Rhodod. Sikkim-Himal. 18, *t. 17* (1851). — Hutchinson in Rhodod. Soc., Rhodod. Sp. 300, *fig.* (1930). — Non Sweet (1830).

Rhododendron glaucum Hooker, being invalidated by the earlier homonym of *R. glaucum* (Lam.) Sweet, Hort. Brit. ed. 2, 344 (1830), has to receive a new name, since no other is available.

Rhododendron flavum [Hoffmanns.] G. Don, Gen. Hist. Dichlam. Pl. 3: 847 (1834). — Kuznetzov, Fl. Cauc. Crit. 4, 1: 31, 488 [1901, 1906]. — Non Pallas (1776), nom.

Azalea pontica Linnaeus, Sp. Pl. 150 (1753), non *R. ponticum* L. (1753).

Azalea arborea Linnaeus ex Linnaeus, Sp. Pl. ed. 2, 2: 1669 (1764), pro syn.

Azalea flava Hoffmannsegg, Verz. Pflanzenkult. Nachtr. 2: 62 (1826).

Anthodendron ponticum Reichenbach in Mössler, Handb. Gewächsk. ed. 2, 1: 308 (1827).

Rhododendron luteum Sweet, Hort. Brit. ed. 2, 343 (1830). — Wilson in Wilson & Rehder, Monog. Azalea, 103 (1921), non *Azalea lutea* Linnaeus (1753).

Rhododendron flavum var. *coronarium* Sweet, Brit. Flow. Gard. ser. 2, 4: *t. 331* (1836).

Rhododendron ponticum Schreber ex De Candolle, Prodr. 7, 2: 718 (1839), pro syn.; non Linnaeus (1762).

Azalea pontica α. *flava* De Candolle, l. c. (1839).

Anthodendron flavum Reichenbach ex K. Koch, Dendr. 2, 2: 184 (1872), pro syn.

Although this is not a new combination, it is enumerated here with complete synonymy to show that *R. flavum* is the correct name for the species usually called *R. luteum.* By Schneider (Ill. Handb. Laubh. 2: 500. 1911) the name *R. luteum* was applied to *R. calendulaceum* (Michx.) Torr., but that combination is invalidated by the older homonym of Sweet.

Rhododendron flammeum (Michx.) Sargent in Rhodod. Soc. Notes, 1, 3 (1917): 120 [1918].

?*Azalea flammea* Bartram, Travels N. & S. Carol. 323, 327 (1791), nom. subnud.

Azalea nudiflora α. *coccinea* Aiton, Hort. Kew. 1: 202 (1789). — Curtis in Bot. Mag. 5: *t. 180* (1792).

Azalea coccinea Curtis, l. c. (1792), pro syn. — Michaux, Jour. ed. C. S. Sargent in Proc. Am. Phil. Soc. 26: 9 (1889), nom.

Azalea fulva Michaux in Jour. Hist. Nat. 1: 410 (1792), nom. — Rehder in Jour. Arnold Arb. 4: 6 (1923), pro syn.

Azalea calendulacea α. *flammea* Michaux, Fl. Bor.-Am. 1: 151 (1803). — Pursh, Fl. Am. Sept. 1: 152 (1814).

Azalea speciosa Willdenow, Berlin. Baumz. ed. 2, 49 (1811). — Guimpel, Otto & Hayne, Abb. Fremd. Holzart. 1: 37, *t. 31* (1825).

Azalea periclymenoides α. *coccinea* Pursh, Fl. Am. Sept. 1: 152 (1814).

Azalea nudiflora sensu Loiseleur, Herb. Gén. Amat. 4: 213, *t.* (1820), non Linnaeus (1762).

Azalea calendulacea var. a. Elliot, Sketch Bot. S. Carol. 1: 239 (1821), p. p.
Azalea coccinea major Loddiges, Bot. Cab. 7: *t. 624* (1822).
Azalea speciosa α. *major* Sweet, Hort. Brit. 265 (1826).
?*Azalea nudiflora* var. *thyrsiflora* Gowen ex Lindley in Bot. Reg. 16: *t. 1367* (1830).
Rhododendron speciosum Sweet, Hort. Brit. ed. 2, 343 (1830), p. p., quoad "α. *major*." — G. Don, Gen. Hist. Dichlam. Pl. 3: 848 (1834). — Rehder in Wilson & Rehder, Monog. Azal. 131 (1921). — Non Salisbury (1796).
Rhododendron nudiflorum ζ. *coccineum* Sweet, l. c. (1830). — G. Don, op. cit. 847 (1834).
Azalea speciosa α. *coccinea* De Candolle, Prodr. 7, 2: 717 (1839).
Azalea calendulacea sensu Darby, Bot. S. Stat. 422 (1855), p. p. ; non Michaux (1803).
Rhododendron calendulaceum sensu Chapman, Fl. S. U. S. 265 (1860), p. p. ; non Torrey (1824).
Rhododendron calendulaceum f. *speciosum* Voss, Vilmor. Blumengärt. 1: 588 (1894).

Like the preceding species, this does not represent a new combination. It is enumerated here with complete synonymy to show that *R. flammeum* is its correct name; it is not listed in Index Kewensis. The species has been known for a long time as *R. speciosum* (Willd.) Sweet, but has been confused particularly with the red-flowered form of *R. calendulaceum* (Michx.) Torrey, from which it differs chiefly in the shape and pubescence of the corolla-tube; also the geographical distribution of the two species is different, *R. calendulaceum* being a plant of the Appalachian Mountains region from Pennsylvania to northern Georgia, while *R. flammeum* is found in the coastal plain region from central Georgia to South Carolina. Unfortunately, the name *R. speciosum* (Willd.) Sweet (*Azalea speciosa* Willd.), under which this species has been known for some time, is a later homonym of *R. speciosum* Salisb., which, although it is only a renaming of *R. ponticum* L. and therefore illegitimate, invalidates the later *R. speciosum* Sweet according to Art. 61 of ed. 3 of the Rules of Botanical Nomenclature adopted in 1930. For further details concerning this species, see my remarks in Wilson & Rehder, Monograph of Azaleas, 131–134 (1921).

Syringa laciniata Miller, Gard. Dict. ed. 8, *S.* no. 3 (1768). — Duroi, Harbk. Baumzucht, 2: 447 (1772). — K. C. Gmelin, Fl. Badens. 1: 14 (1805).
Syringa persica β. Linnaeus, Sp. Pl. 9 (1753).
Syringa persica 4. *laciniata* Weston, Bot. Univ. 1: 289 (1770). — Aiton, Hort. Kew. 1: 15 (1789) "γ". — Voss, Vilmor. Blumengärt. 1: 653 [1895], as forma. — McKelvey, Lilac, 450, *t. 140–147* (1928), var. — Rehder, Man. Cult. Trees Shrubs, ed. 2, 782 (1940), var.
Syringa capitata S. G. Gmelin, Reise Russl. 3: 304, *t. 32, fig. 1* (1774).
Lilac persica β. Lamarck, Encycl. Méth. Bot. 3: 513 [1791].
Lilac Persica laciniata Dumont de Courset, Bot. Cult. 1: 709 (1802), as synon. — Mirbel in Duhamel, Traité Arb. Arbust. éd. augm. [Nouv. Duhamel], 2: 208 [1804].
Liliacum laciniata Rénault, Fl. Dépt. Orne, 100 (1804).
Siringa persica laciniata Thiriart, Cat. Pl. Arb. Jard. Bot. Cologne, sér. 3: 1 (1806), *Syringa* in indice.
Syringa persica γ. *pteridifolia* Bosse, Handb. Blumengärt. ed. 2, 3: 461 (1842). — Lingelsheim in Engler, Pflanzenreich, IV. 243(Heft 72): 91 (1920) "α. *typica* f. *pt.*", nom.
Syringa persica var. *pinnata* Jacques in Ann. Fl. Pomone, sér. 2, 1: 274, *t.* (1843). — Lingelsheim, l. c. (1920) "var. *typica* f. *p.*", nom.

For numerous citations of additional literature and pre-Linnaean as well as additional horticultural synonyms not cited here, see McKelvey, Lilac, 450–452 (1928).

Syringa persica [*S. afghanica* × *laciniata*] Linnaeus, Sp. Pl. 9 (1753), exclud. β. — Miller, Gard. Dict., ed. 8, *S.* no. 2 (1768). — Lingelsheim in Engler, Pflanzenreich, IV. 243(Heft 72): 90 (1920). — McKelvey, Lilac, 433 (1928).

Syringa persica α. Linnaeus, Sp. Pl. 9 (1753).

Syringa persica 3. *coerulea* Weston, Bot. Univ. 1: 289 (1770).

Lilac persica et *L. persica* α. Lamarck, Encycl. Méth. Bot. 3: 513 [1791].

Lilac minor Moench, Meth. Pl. 431 (1794).

Syringa angustifolia Salisbury, Prodr. Stirp. Chap. Allert. 14 (1796).

Lilac persica ligustrina Mirbel in Duhamel, Traité Arb. Arbust. éd. augm. 2: 207 [1804].

Syringa persica α. *integrifolia* Vahl, Enum. Pl. 1: 38 (1805).

Syringa persica var. *typica* Schneider, Ill. Handb. Laubh. 2: 775, *fig. 485k-n, 486n-q* (1911). — Lingelsheim in Engler, Pflanzenreich, IV. 243(Heft 72): 90 (1920), p. p.

For numerous citations of additional literature and pre-Linnaean as well as additional horticultural literature not cited here, see McKelvey, Lilac, 433–436 (1928).

When Dr. Sax showed me the manuscript of his paper on "Lilac species hybrids," published in this number of the Journal, my attention was again drawn to the fact that *S. persica* is highly or completely sterile and that it never had been found wild in any country. Already Schneider in 1903 (in Wien. Ill. Gartenzeit. 28: 90), discussing the origin of *S. persica,* voices the opinion that it might be a hybrid of his *S. afghanica,* first described in the paper cited, and suggests that the other parent might be a cross of *S. vulgaris.* The spontaneous occurrence of *S. persica* var. *laciniata* in northwestern China was not known at that time, and Schneider (in his Ill. Handb. Laubh. 2: 775. 1911) states that the latter is possibly a variety of *S. afghanica* originated in cultivation. In regard to the origin and the greatly varying opinion about the valuation of *S. persica* and related forms, Mrs. McKelvey gives ample and detailed accounts in her monumental work "The Lilac" on pages 428–431, 436–445 and 452–459. As there can hardly be any doubt that the group generally called *S. persica* is a heterogeneous concept consisting of two different elements, a spontaneous species and a hybrid originated in cultivation, it cannot be maintained as a taxonomic unit, but should be separated as done above into the spontaneous species *S. laciniata* Mill. and the hybrid *S. persica* L. The hybrid apparently originated in Persia, whence *S. laciniata* had been introduced from northwestern China and *S. afghanica* from Afghanistan, although there is no actual proof, as far as I know, that *S. afghanica* had been in cultivation in Persia. *Syringa laciniata* seems to have a much wider distribution in cultivation; besides a specimen from Persian gardens there are in this herbarium specimens from gardens in Honan and Chile and a fragment from a specimen collected in Kashmir (*Srinuggur 5200*), grown as a hedge plant. In Honan it has apparently hybridized with *S. oblata* Lindl., for a specimen from a garden in Chengchow (*Hers 196,* April 24, 1921) is

unmistakably intermediate between *S. oblata* and *S. laciniata*. This specimen has the large inflorescence and flowers with the stamens inserted much below the mouth as in *S. oblata* and leaves predominantly similar to those of *S. oblata*, only smaller and narrower and on one branch partly trifoliolate with acute oblong to elliptic leaflets, suggestive of those of *S. laciniata*. This specimen is also mentioned by Mrs. McKelvey under *S. chinensis* (Lilac, p. 404), but the insertion of the anthers shows clearly that it has nothing to do with *S. chinensis* or *S. vulgaris*. There is no evidence that *S. vulgaris* was cultivated in China or in Persia. It was introduced from southeastern Europe to western European gardens by way of Constantinople and was probably not known in Asiatic gardens before the twentieth century.

Since the account of the subdivision of *Syringa* in 1928 in McKelvey, The Lilac, p. 11, I have made some slight changes in the evaluation of the groups and added a new series. The incompatability, as shown by Sax (see p. 80 of this issue), of the species of subser. *Euvulgares* and those of subser. *Pubescentes* has led me to elevate the latter to the rank of series. The new series, *Pinnatifoliae*, proposed in 1922, is closely related to the ser. *Vulgares* and hybridizes with species of that series, but on account of such obvious morphological characters as pinnate leaves and the presence on the flowering branches of a terminal bud developing into a leafy shoot, it seems preferable to maintain it as a series.

With these changes the subdivisions of *Syringa* will be as follows:

Subgen. I. EUSYRINGA K. Koch, Dendr. 2, 1:265 (1872). — Knoblauch in Nat. Pflanzenfam. IV. 2: 8 [1892] "sect." — Rehder in McKelvey, Lilac, 11 (1928) "sect."

Ser. 1. VILLOSAE Rehder in McKelvey, l. c. (1928). — Rehder, Man. Cult. Trees Shrubs, 777 (1940).

Syringa subgen. *Eusyringa* sect. *Villosae* Schneider in Repert. Sp. Nov. Reg. Veg. 9: 80 (1910) "sect.", nom. subnud.; Ill. Handb. Laubh. 2: 778 (1911) "sect." — Lingelsheim in Engler, Pflanzenreich, IV. 243(Heft 72): 75 (1920) "subsect."

Ser. 2. PUBESCENTES Lingelsheim in op. cit. 87 (1920) "subsect. *Vulgares* ser. *P.*"

Syringa subgen. *Eusyringa* sect. *Vulgares* subsect. *Pubescentes* Schneider in Repert. Sp. Nov. Reg. Veg. 9: 80 (1910), nom. subnud.; Ill. Handb. Laubh. 2: 772 (1911). — Rehder in McKelvey, Lilac, 11 (1928) "sect. *Eusyringa* ser. *Vulgares* subser. *Pubescentes*."

Ser. 3. VULGARES Rehder in McKelvey, Lilac, 11 (1928) "sect *E.* ser. *V.*", exclud. subser. *Pubescentes*.

Syringa subgen. *Eusyringa* sect. *Vulgares* subsect. *Euvulgares* Schneider in Repert. Sp. Nov. Reg. Veg. 9: 79 (1910), nom. subnud.; Ill. Handb. Laubh. 2: 772 (1911). — Lingelsheim in Engler, Pflanzenreich, IV. 243(Heft 72): 87 (1920) "sect. *Eusyringa* subsect. *Vulgares* ser. *Euvulgares*."

Ser. 4. PINNATIFOLIAE Rehder in Jour. Arnold Arb. 20: 427 (1939).

Subgen. II. LIGUSTRINA (Rupr.) K. Koch, Dendr. 2, 1: 271 (1872).

Syringa sect. *Ligustrina* Ruprecht in Bull. Phys. Math. Acad. Sci. St. Pétersb. 15: 371 (in Mél. Biol. 2: 551) (1857). — Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. 9: 193 (Prim. Fl. Amur.) (1859). — Lingelsheim in Engler, Pflanzenreich, IV. 243(Heft 72): 92 (1920). — Rehder in McKelvey, Lilac, 12 (1928).

Ligustrina (Rupr.) Ruprecht in Beitr. Pflanzenk. Russ. Reich. 11: 55 (1859). — Maximowicz in Bull. Acad. Sci. St. Pétersb. 20: 432 (in Mél. Biol. 9: 395; Diagn. Pl. Nov. Jap. Mandsh. dec. XIX) (1875).

Syringa oblata Lindl. var. **dilatata** (Nakai) Rehd. f. **pendula,** f. nova.

A *S. oblata* var. *dilatata* differt ramis ramulisque pendulis saepe leviter flexuosis.

CULTIVATED SPECIMENS in Herb. Arnold Arb.: Hort. Mrs. Daniel C. Hunt, Haverhill, Mass., *D. Wyman,* Oct. 12, 1938 (with photograph showing the habit) and May 23, 1940 (flowering branch); Arnold Arb. no. *291–40* (cutting from the original plant), *A. Rehder,* Oct. 2, 1944.

The photograph of the plant in the garden of Mrs. Hunt shows a shrub of globose outline with spreading pendulous branches often more or less wavy and about 1.5 m. tall at the time; the plant in the Arnold Arboretum is of similar shape but smaller. The original plant was obtained by Mrs. Hunt about 1926 from the Kelsey Nurseries in Boxford, Mass., where it must have been raised from seed sent by E. H. Wilson from Korea in 1917 to the Arnold Arboretum as *Syringa* spec., the first introduction of *S. oblata* var. *dilatata* into cultivation. The plant obtained by Mrs. Hunt was apparently the only one showing a pendulous habit; none of the plants raised at the Arboretum from Wilson's seed showed any variation in habit.

Lavandula officinalis L. f. **alba** (Gingins-Lass.), comb. nov.

Lavandula vera β. alba De Gingins-Lassaraz, Hist. Nat. Lavandes, 147 (1826).

Lavandula Spica β. alba Sweet, Hort. Brit. 316 (1827), nom. subnud.; non Weston (1770).

Lavandula officinalis f. *albiflora* Rehder in Jour. Arnold Arb. 20: 428 (1939).

When in 1939 (l.c.) I published the new name *Lavandula officinalis* f. *albiflora,* because *L. Spica β. alba* Sweet is invalidated by the earlier homonym of Weston, which represents a form of a different species, namely *L. latifolia* DC., I did not know of the publication by Gingins-Lassaraz in 1826 of *L. vera β. alba* containing the subspecific epithet *alba* in a validly published combination, one year earlier than the invalid *L. Spica β. alba.*

Viburnum plicatum Thunb. f. **tomentosum** (Thunb.), grad. nov.

Viburnum tomentosum Thunberg, Fl. Jap. 123 (1784). — Rehder in Sargent, Trees Shrubs, 2: 108 (1908); Man. Cult. Trees Shrubs, ed. 2, 835 (1940). — Non Lamarck (1778), nec Rafinesque (1808), nec Hance (1870).

Viburnum plicatum sensu Miquel in Ann. Mus. Bot. Lugd.-Bat. 2: 266 (Prol. Fl. Jap. 154) (1866), non Thunberg (1794).

Viburnum plicatum γ. tomentosum Miquel, l. c. (1866).

Viburnum tomentosum f. *typicum* Zabel in Beissner et al., Handb. Laubh.-Ben. 441 (1903).

As *Viburnum tomentosum* Thunb. is invalidated by the earlier homonym *V. tomentosum* Lam. (1778), the next oldest valid binomial has to be taken up, in this case *V. plicatum* Thunberg in Trans. Linn. Soc. Lond. 2: 332 (1794), which represents the double-flowered form of the species named by Thunberg ten years earlier *V. tomentosum.* Thus a teratological garden form becomes the nomenclatural type of *V. plicatum,* to which all the names of the double-flowered form are referable as synonyms except *V. plicatum* f. *rotundifolium,* which is best considered a distinct form, while the phylogenetic type represented by *V. tomentosum* becomes a form of *V. plicatum.*

Similar cases occur in the genus *Rosa,* where in several instances the double-flowered form was known and named earlier than the wild single-flowered phylogenetic or biological type.

Viburnum plicatum f. **rotundifolium** (Rehd.), comb. nov.
Viburnum tomentosum var. *rotundifolium* Hort. ex Rehder in Bailey, Cycl. Am. Hort. [4]: 1925 (1902); in Sargent, Trees & Shrubs, 2: 108 (1908) "f."

This form differs from the type of *V. plicatum* only in the broader leaves and in the flowers appearing about two weeks earlier.

Viburnum plicatum f. **Mariesii** (Veitch), comb. nov.
Viburnum tomentosum Mariesii Veitch in Jour. Hort. Soc. Lond. 27: 860, *fig. 195* (1902) "var." *sub fig.*

This form differs from *V. plicatum* f. *tomentosum* only in the larger cymes and larger flowers.

Viburnum plicatum var. **lanceatum** (Rehd.), comb. nov.
Viburnum tomentosum var. *lanceatum* Rehder in Sargent, Trees & Shrubs, 2: 109 (1908).

This variety is similar to *V. plicatum* var. *parvifolium* Miquel, but differs chiefly in the narrower, more gradually acuminate leaves, lanceolate on the shoots and more densely stellate-pubescent beneath.

Gramineae subfam. **Bambusoideae**, comb. nov.
Gramina . . . Bambusacea Kunth in Mém. Mus. Hist. Nat. Paris, 2: 75 (1815).
Gramineae IX. *Bambusinae* Agardh. Aphor. Bot. 153 (1817).
Gramineae sect. *Bracteaeflorae* Link, Handb. Erkenn. Gew. 1: 95 (1829).
Gramineae 10. *Bambuseae* Kunth ex Lindley, Introd. Nat. Syst. Bot. 304 (1830). — Hackel in Nat. Pflanzenfam. II. 2: 89 (1887) "*Gramineae* trib. *B.*"
Bambusaceae Link, Hort. Berol. 2: 308 (1833). — Nakai, Fl. Sylv. Kor. 20: 11 (1933).
Gramineae subtrib. *Bambusaceae* Endlicher, Gen. Pl. 102 [1836]. — Steudel, Syn. Pl. Glum. 1: 329 (1855) "trib."
Gramineae trib. *Festucaceae* subtrib. *Bambuseae* Meissner, Pl. Vasc. Gen. 1: 425; 2: 325 (1843).
Graminaceae D. *Festucinae* d. *Bambuseae* Horaninov, Char. Ess. Fam. Reg. Veg. 35 (1847).
Gramina subfam. *Bambusoideae* Ascherson & Graebner, Syn. Mitteleur. Fl. 2, 1: 769 (1902).

As *Gramineae* is a *nomen conservandum* with an alternative name ending in "aceae," the family name used by Ascherson & Graebner in combination with the subfam. *Bambusoideae* cannot be accepted and the new combination proposed above becomes necessary, if this subdivision of the family is considered a subfamily. In regard to the citation of the parenthetical author, see note under Pinaceae subfam. Taxodioideae (p. 68).

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