Mededeelingen 's Rijks Herbarium Leiden

# No. 56. Personal ideas about the application of the International Rules of Nomenclature, or, as with the Rules themselves, International deliberation?

## II. Some denominations of Dicotyledonous Trees and Shrubs species. With a Retrospection

and a set of Propositions on the Nomenclature-Rules

BY

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## INTRODUCTION.

This second Part has its origin principally in Dr. ALFRED REHDER's "Manual of Cultivated Trees and Shrubs" 1927.

That admirable work contains several revolutionary looking changes of names, which changes partly were already propagated in BAILEY's works of the last years; and I have made a study of those names, beside others. The result is that I cannot in many cases join with REHDER's new-old names and principles. But when I therefore criticise in all those cases REHDER's opinion, the reader must not think thereby that I criticise REHDER's work as a whole. I criticise the names and principles only because I think that these changes and principles are unfavourable with respect to the world's effort to obtain unity of plantnomenclature; and I don't think about criticizing the work as a whole. REHDER's "Manual" is the result of long and arduous work; it is in its relative size the most complete, the sharpest as to the characters, the newest and most usable of all Dendrological works existing. No Dendrologist, even no Botanist, who has to do with Trees and Shrubs, can do without it.

Readers, who wish eventually to obtain corrigenda and addenda to this paper or to the first part of it, are requested to communicate with the writer, who will be moreover thankful for hints and observations.

Eine deutsche Uebersetzung befindet sich in den „Mitteilungen der Deutschen Dendrologischen Gesellschaft", 1927/28.

# I. ADDITIONS TO PART I: SOME DENOMINATIONS OF CONIFER SPECIES.

## 1. To note 2, al. 2 and 3, in the preface:

"SUDWORTH, Dendrologist of the Forest Service, has compiled a new edition of the "Checklist of the Forest Trees of the United States, their Names and Ranges", in 1927. He tells us that the Philadelphia Code is still followed, but that an exception is made with the tautological names, which are rejected. And for other reasons some names, like *Halesia*, which was changed with the Philadelphia Code into *Mohrodendron*, are restored; *Pseudotsuga mucronata* SUDW. has become *Ps.ts. taxifolia* SARG. So unity is again coming nearer.

## 2. To No. 5. *Pinus montana* and *Mugo*.

In Bull. del l'Orto Botanico della R. Universita di Napoli T. IV 1914, L. GRANDE gives a number of corrections in the "Index Kewensis". On p. 184 he gives *Pinus Mugo* TURRA as a name older than *P. montana*. He cites for it "Giornale d'Italia del Grisellini" (Venezia) I 152 (1765); but he does not say anything about TURRA's description, writes only in a note that *Mugo* is a "magnifica.... denominazione, di pura origine italica". And he wishes that every visitor to the habitat of the species will honour the name and see with which variety of *Pinus montana* (of the authors since TURRA) the plant corresponds.

On the authority of this communication SCHINZ et THELLUNG have put the name *Pinus Mugo* in place of *P. montana*, in Vierteljahrschr. der Nat. f. Ges. Zürich LXI 1916, p. 418.

Was TURRA's description sufficient to take his name *P. Mugo* as a valid one? The Instituto Botanico della R. Universita di Firenze kindly informed me that in Giornale d'Italia l.c. the new species is described in this way:

No 214. *Pinus* (*Mugo*) foliis geminis.... *Pinus sylvestris montana altera* BAUH. pin. 49 (this must be 491). My informer adds: „il n'y a pas autre chose; aucun texte explicatif en langue italienne".

So, the differences with *P. silvestris* and *P. Pinea* are not given. Of course we may assume that our *P. montana* is meant; moreover, BAUHIN gives as a synonym of his *Pinus montana altera: Pinus syl. Mugo* MATTH. AD. LOB. TAB. But *Pinus syl. montana* (TAB.) and *Pinus syl. mugo* (GER. ic.) appear as well as synonyms of BAUHIN's *Pinus sylvestris*.

P. S. Dr. BIJHOUWER communicated to me that TURRA mentions SEGUIER Pl. Veron. 1745 II p. 256, where a description is found, which undoubtedly means our *Pinus montana*; SEGUIER's name is an anti-linnaean one.

This has appeared to be right. In SEGUIER l.c. is found:

2. *Pinus silvestris montana altera* C. B. Pin. 491.... In omnibus Baldi montis jugis invenitur haec Pini species pumila, *Mugo* vocata, quae statim a radice in lentos et obsequentes ramos, tametsi crassos, dividitur, parum se extollentes sed longe lateque sese diffundentes; ex quibus incolae ligamina parant ad dolia vincienda.

An other correction of L. GRANDE is *Rhamnus pumilus* TURRA l.c. 1765 in stead of *Rhamnus pumilus* LINN. Mant. I 1767; LINNAEUS himself mentions TURRA in Systema XII 1767.

### 3. To No. 8. *Larix dahurica* and *pendula*.

A new (really old) competing speciesname for *Larix dahurica* is a name, given by RUPRECHT in "Flores Samojedorum cisuralensium" (printed in "Beitrage zur Pflanzenkunde des Russischen Reichs", edited by the Imperial Academy of Science, Petersburg, sec. Tome, 1845).

On p. 56 en 57 RUPRECHT writes [1]):

269. "*Abies Ledebourii* (*Larix sibirica* LEDEB.)...."; "monendum tamen, in Sibiria duas saltem adesse species diversas: nempe *L. sibiricam* LEDEB. et *A. Gmelini*; haec vulgo pro *L. microcarpa* habetur [2]) sed ab americana praecipue squamis strobuli late ovatis, sursum eximie angustatis et apice sinu lato emarginatis differt et v.g. circa Jacutzc atque in Dahurica crescit, cujus specimina, nec *L. sibiricae* LEDEB., in Herb. GMELINI, Floram ejus Sibiricam illustrante, adsunt".

So, RUPRECHT gives the difference of his species with *L. microcarpa*, but not so with *L. sibirica* [3]); and he has looked at specimina of it in GMELIN's herbary.

Prof. FEDTSCHENKO adds that this *Abies Gmelini* without doubt is our *Larix dahurica;* but it appears from his letter that the latest compilers of Russian Flora's keep the name *L. dahurica* TURCZ.

RUPRECHT mentions, beside his *A. Gmelini*, an *A. Kamtschatica*, which "strobilis quidpiam majoribus et configuratione squamarum differre videtur"; the Russian Botanists take it for *L. dahurica;* so, that is again a name for our *L. dahurica!*

REHDER accepts, as PILGER did, in "Additions" to his "Manual" the first name of RUPRECHT, and therefore calls our *L. dahurica: L. Gmelini* PILGER.

[1]) Kindly communicated to me by Prof. BORIS FEDTSCHENKO, Chief-Botanist of the Botanical Garden at Leningrad.

[2]) This is *L. laricina* KOCH (*americana* MICH.).

[3]) The mentioned emarginated bracts of the cone may show the difference.

. In my opinion, deliberation about this new name is desirable. And the oldest valid name of all remains *L. pendula* SAL.

### 4. To No. 12. *Cedrus libani* etc.

p. 33 al. 5. The description of *Larix patula* by SALISBURY l.c. runs as follows: *L. patula*. Strobuli tripollicares, late ovales, squamis margine erectis, truncatis. Bracteae in fructu evanidae. *Pinus Cedrus* L. Etc.

*Pinus effusa* SAL. l.c. has no description.

Both species names are invalid with respect to LINNAEUS' name *Cedrus* and our International Rules.

### 5. To No. 22. *Pseudotsuga Douglasii* and *taxifolia*.

p. 57 last line, halfway, to add: the figure d shows us two petioled leaves; that cannot be an error of the sketcher, as the referent of LAMBERT's work supposes in Annals of Botany vol. I 1805, p. 167. It reminds us of *Tsuga canadensis*. Perhaps the name *taxifolia* has to do with it.

This appears moreover from LAMBERT's more complete description of the species in the third Tome of 1837, where is mentioned that DOUGLAS furnished complete specimens; and the cones are described with "bracteolae lineares, tricuspidatae, cartilagineo-membranaceae, squamis duplo longiores; dentibus acuminatis, intermedio longissimo"; that must be our Douglas Fir.

LAMBERT rejects also with his former description the former name *taxifolia* and "gladly" adopts the name of *P. Douglasii*. From *P. canadensis* "it is now seen to be widely different".

LAMBERT writes that the plate is also completed with the new specimens; but in reality the plate is unchanged.

In my opinion it will be good to put aside the species name *P. taxifolia* as being incorrect and rejected by the author himself, or to put it eventually on a list of "nomina specifica rejicienda"; and to adopt the name *Pseudotsuga Douglasii* as the valid and legal one for our Douglas Fir.

For the name *Pseudotsuga mucronata* SUDW. see addition 1 to Part I.

### 5. Diversa.

p. 6 al. 3, line, 8 and p. 7 al. 3, line 2, 8,9: to change the word legal in valid and valid in legal.

p. 16 No. 4, note 1) line 5 halfway, to add: the text gives 6½ Poll for the cones, that is only 16 cm.

p. 59 No. 23, last line to read: h.b. = colui in horto botanico.

## II. DENOMINATIONS OF SOME DICOTYLEDONOUS TREES AND SHRUBS SPECIES.

### No. 1. *Populus balsamifera, candicans, tacamahaca* and *deltoides*. A cross-exchange of names.

With Figures 1—2.

In the second edition of his "Manual of the Trees of North America" SARGENT called *Populus balsamifera* all at once *P. tacamahaca*, and *P. deltoides: P. balsamifera*. One can also say that SARGENT all at once did not put under the name *P. balsamifera* the plant that we mean by it, but an other, to which we give the name *P. deltoides*. Because of that, SARGENT must give another name to the plant, which before had the name *P. balsamifera;* he, following the Rules of International Nomenclature, chose therefore *tacamahaca*.

We may call this a single cross-exchange of names (a double one is also possible), in this manner:

*P. balsamifera* L. sens. europ. = *P. tacamahaca*.

*P. deltoides* = *P. balsamifera* L. sens. americ.

*Populus balsamifera* L. (LINNAEUS) has thus, according to SARGENT, no terete petioles, and no whitish colour on the underside of the leaf, but the petioles are flattened, and the under side of the leaf is green, as it is known, among others, by *P. canadensis*, *deltoides* and *monilifera*. How has SARGENT arrived at that conclusion? SARGENT could also ask us: how do you come to say that *P. balsamifera* LINNAEUS has terete petioles and that the under side of the leaf is white? Well, you will answer, our *P. balsamifera* is always so represented, as such we know it, and as such we cultivate it; and so has everybody always known it; it stands exactly so described in all Dendrological books, from 1772 (DUROI "die Harbkesche Wilde Baumzucht") to and with BAILEY's "Cyclopedia" of the present time.

In answer to that, SARGENT and also REHDER will say: They have all made a mistake; follow thus my point of view and change the name and representation of *P. balsamifera*. But you cannot accept that in such a manner; *P. balsamifera* cannot change in shape in your thoughts. Well, we must look up how LINNAEUS has described *P. balsamifera*. After DUROI in 1772, perhaps no single botanist has done that; and that is the chief thing.

LINNAEUS described in his great work "Hortus Cliffortianus" in 1737 (when he lived at the Hartekamp near Haarlem, with CLIFFORD) a species poplar, thus:

4. *Populus foliis cordatis, crenatis* (Poplar with heart shaped crenated leaves). Crescit in Carolina Americes juxta aquas. Communicata ab ill. Boerhaavio.

He also added to it, that it was very much like the previous species (our *P. nigra*) but differed in *foliis magis cordatis, obtusis, foliisque balsamo obunctis* (the leaves were salved with balsam); *inter stipulos liquidissimum balsamum maxima in copia datur* (between the stipules one finds a great quantity of moist balsam).

In "Species Plantarum" 1753 LINNAEUS gives under the genus *Populus:*

4. *Populus (balsamifera) foliis subcordatis oblongis crenatis* (with somewhat heartshaped, oblong, crenated leaves).

LINNAEUS gives as synonym his *Populus* nr. 4 in Hort. Cliff.

From these two descriptions we must conclude thus what LINNAEUS was referring to. He had the branch from BOERHAAVE. If we only had that now! It is not in CLIFFORD's Herbarium, which is kept in the British Museum, in London. The descriptions are insufficient to deduce a right opinion; we only know that it is an American species of the type *balsamifera* or *deltoides* (both in the old sense of the term).

We can perhaps advance further through the method of eliminating. LINNAEUS already knew an American species, *P. heterophylla*, which species is now still generally recognized; this species had, just as the European species, *P. nigra, tremula* and *alba*, which he knew, flat petioles and green underside of the leaves. Would LINNAEUS, when he saw in the branch of BOERHAAVE a species with terete petioles and white undersides of the leaves, not have mentioned it in his description? Because of the fact, that he has not done so, we might have the right, by our interpretation of his *P. balsamifera*, to eliminate all species with terete petioles and white undersides of the leaves. And then we arrive at the great probability that this branch of BOERHAAVE, was (in our sense of the term) *P. deltoides, canadensis* or *monilifera*, which he (LINNAEUS) called *P. balsamifera.*

It appears to me, however, that we must not apply this method to declare a name legal; characteristics, which are not mentioned, may not be used to arrive at a definite conclusion.

A final remedy to identify the species of LINNAEUS is to take the synonyms, given by him, as guide. LINNAEUS gives the following:

1. *Populus nigra, folio maximo, gemmis balsamum odoratissimum fundentibus* (very large leaf, buds with balsam). CATESBY Car. I p. 34, t. 34 (Flora of Carolina 1731).

2. *Populus foliis ovatis acutis serratis* GMEL. Sib. I, pag. 52, t. 33 (Flora Sibirica 1747).

We have nothing in the text of 1 and 2 to help us. And the drawings only give a leaf or a branch with leaves. It is a curious thing that a Siberian

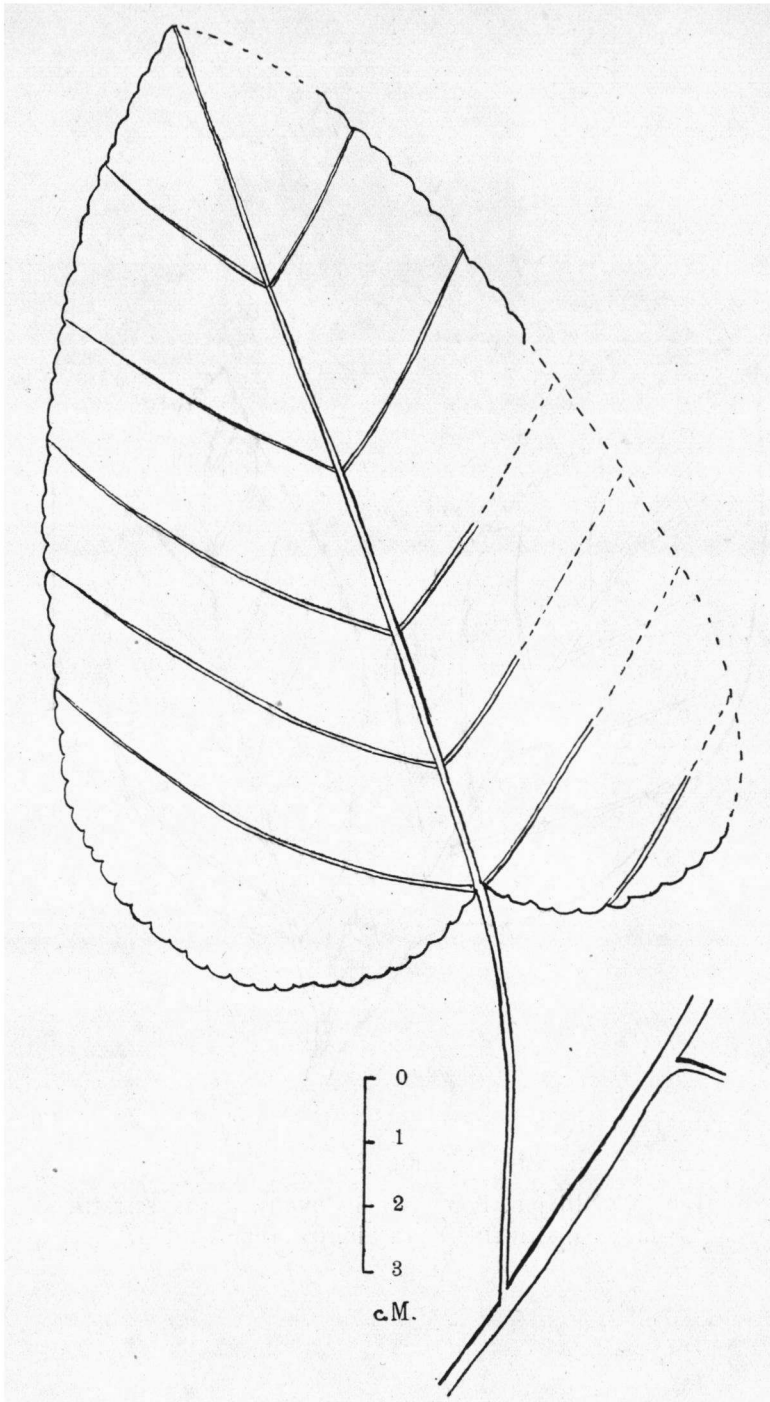


Fig. 1.

T. 34 p.p. Populus nigra folio maximo gemmis Balsamum odoratissimum fundentibus,
in Catesby Nat. Hist. Carol. 1731 I.

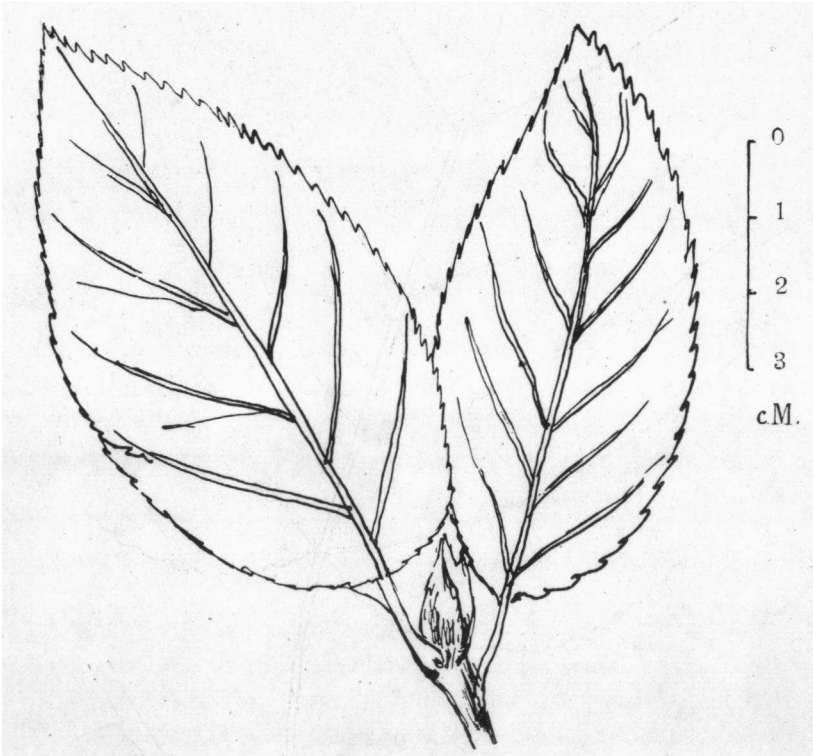


Fig. 2.

Tab. XXXIII p.p. Populus foliis ovatis, acutis, serratis.
in J. G. GMELIN. Flora Sibirica Tomus I 1747.

Poplar is regarded as synonym of an American species. I did not find CATESBY's species identified in any single work. See Fig. 1, 2.

3. *Populus foliis cordatis crenatis basi nudis, petiolis teretibus* (with terete petioles). WACH. Ultr. p. 294 (Horti ultrajectini index).

Terete petioles! From this we could infer that LINNAEUS described really a species with such sort of petioles with his *P. balsamifera*. Then it would appear all the stranger that LINNAEUS did not place this tereteness of the petioles in his diagnosis. (The diagnosis of LINNAEUS is just the same in 1753 as in 1737; v. WACHENDORFF wrote his catalogue in 1747).

Perhaps, the best thing to do is to place *Populus balsamifera* L. aside amongst the uncertain species.

In 1772 DUROI described in "die Harbkesche Wilde Baumzucht" also a *Populus balsamifera;* he wrote nothing about the flatness or roundness of the petioles, but he called the underside of the leaves "Weiszgrün" and he gave as synonym *Populus (Tacamahaca) foliis subcordatis inferne incanis* (underside grey), *superne atroviridibus* (upper-side darkgreen) MILLER.

DUROI described his plants from living specimens; between the time of LINNAEUS and that of DUROI many tree species from N.-America have been imported into the parks of Europe.

We may assume really that DUROI with his *P. balsamifera* meant the species, which we now know as such.

DUROI is of the opinion that it is the same species, which is described by LINNAEUS under this name, and therefore he calls it *P. balsamifera* L. But if we, as SARGENT and REHDER do, regard *P. balsamifera* L. as another species than *P. balsamifera* DUR., or if we say that *P. balsamifera* L. is impossible to place, then the name must be *P. balsamifera* DUR. (REHDER adds after it: non LINN.; we add behind it: an LINN.?).

This would be a fine solution, if it were only possible; but the International Nomenclature Rules have rightly demanded that the oldest name as the legal one be used; well now, MILLER's name *Populus Tacamahaca* is older (from 1759) than DUROI's name; so our Balsam Poplar must be called *P. Tacamahaca* MILL., which REHDER also does.

This would not be so bad if the name *balsamifera* disappeared completely; that it does not do with SARGENT and REHDER; *P. balsamifera* L. remains, in SARGENT's and in REHDER's "Manual"s, in the sense of our *P. deltoides*. But I think, as it appears from the above, there is not sufficient motive for this opinion.

We must protest as much as possible against such unnecessary cross-exchanging of names; and that can only have effect through detailed descriptions of the case, so that every botanist can judge it, and through mutual discussion and voting over it at an International Botanical Congress.

Such exchanges of names, in particular cross-exchanges, ought to be

first published in scientific papers and, only after acceptation of them at a Congress, in Manuals and Cyclopedia's.

In the older dendrological works we mostly find, beside *P. balsamifera* L., a *P. candicans* AIT.

SARGENT has written it in his "Sylva" as *P. balsamifera* var. *candicans*, distinguishing itself by broader cordate and more hairy leaves. In the 1st edition of his "Manual" he does not mention it; in the 2nd (where *P. balsamifera* is called *P. tacamahaca*) SARGENT tells the following: "*Populus candicans* AIT., the Balm of Gilead, of which only the pistillate tree is known, has often been considered a variety of the North-American Balsampoplar. This tree has been long cultivated in the N. E. parts of the country and has sometimes escaped from cultivation and formed groves of considerable extent.... The fact, that only one sex is known, suggests hybrid origin but of obscure and possibly partly of foreign origin."

REHDER calls it in his "Manual" of 1927 again a species, with the above communication abbreviated; also he distinguishes it in the same way as SARGENT.

All this seems to be of no importance nomenclatorically for *Populus balsamifera;* but it becomes of importance by that what ELWES & HENRY write in their "Trees of Great Britain & Ireland"; they regard *P. tacamahaca* MILL. 1768 as a synonym of *P. candicans* AIT. 1789: "MILLER's diagnosis applies plainly to this species, but his detailed description includes also *P. balsamifera*." E. & H. would consequently call *P. candicans: P. tacamahaca*, but do not because it can result in confusion on account of the long description, which includes *P. balsamifera*.

If this opinion of ELWES & HENRY is true, then there is all the more reason not to use, without further discussion, the name *P. tacamahaca* instead of *P. balsamifera* L.; but particularly not when *P. candicans* is regarded as a special species.

WILLDENOW in "Species Plantarum" 1805 and DUROI in "Die Harbkesche Wilde Baumzucht" give MILLER's diagnosis thus: *Populus* (*Tacamahaca*) *foliis subcordatis inferne incanis, superne atroviridibus* (leaves somewhat heart-shaped, underside greyishwhite, upperside darkgreen).

This does not absolutely mean in particular *P. candicans*, rather *P. balsamifera;* and then the reasoning of ELWES & HENRY is wrong!

The reader can thus see for himself how necessary it is to have International botanical discussion in every particular case of nomenclature.

## No. 2. *Salix Elaeagnos*, *rosmarinifolia* and *incana*.

In the older dendrological works of KOCH, KOEHNE and DIPPEL, *Salix Elaeagnos* SCOPOLI 1772 is found, a species with conspicuously narrow and whitish villous leaves. All three give as a synonym *S. incana* SCHRANK 1789. Previous to them, LOUDON had in his works the last mentioned name, but does not give a *S. Elaeagnos*, neither as a species nor as a synonym.

There is moreover a *Salix rosmarinifolia* LINNAEUS 1753; some people identify it with *S. repens* × *viminalis* = *Friesiana* ANDERS. 1867, others with *S. repens* var. *angustifolia* (*S. angustifolia* POIRET in DUHAMEL, I, 1800). LOUDON, KOCH and DIPPEL treat *S. rosmarinifolia* L. as a separate species; on the contrary *S. rosmarinifolia* GOUAN Cat. Hort. Monsp. 1762 is universally kept for *S. incana* SCHRANK.

LINNAEUS described *S. rosmarinifolia* in his Species Plantarum in this way: *S. foliis integerrimis lanceolatis linearibus strictis sessilibus subtus tomentosis*. At the foot: *Folia subtus nitida sericea villosa*. The following synonyms are given: *S. humilis repens angustifolia* LOB., BAUHIN Hist. (cf. for that *angustifolia* above the name of POIRET in DUHAMEL). Hab. "in Europae campis depressis".

SCOPOLI gives the following description of his *S. Elaeagnos* in Flora carniolica 1772: *Filamentum unicum, bifidum, ramis antheriferis. Mas.: amentum inter gemmas foliaceas, squamis subcordatis. Filamentum semibifidum, tres fere lineas longum. Antherae luteae. Foliola ad basin amenti* (3—4). *Nectarium fulvum, apice connivens. Femina: Amentum folio concolor; foliis ad basin* (3—4); *squamis emarginatis oblongis. Nectarium ut in Mare. Germen glabrum, viride. Stylus apice fuscus. Stigmata flavescentia.* Habitat in Montibus nostris, ad scaturigines et rivulos!

Finally SCHRANK's description of his *S. incana*, in Baierische Flora I. 1789, runs so: Die Blätter lancetförmig, oben behaart, unten filzig, am Rande sägezähnig, die Sägezähne mit Drüsen. Graue Weide. Wohnort: H. WEIZENBECK hat sie um München gefunden. Die Blüthe oder Fruchtkätzchen sah ich nicht.

All these descriptions are insufficient for us at present; and in my opinion there is no objection against choosing the oldest name *S. rosmarinifolia* L. for our cultivated plant; this is the most used name in nurseries and catalogues. But there is neither sufficient reason to change the, for a long time by Dendrologists used, name *S. Elaeagnos* SCOP. into *S. incana* SCHRANK [1]); the latter name is found nowadays in the works of the new Dendrologists, such as BAILEY, TAROUCA, SCHNEIDER and REHDER; also

[1]) The only advantage of this change of names is that, by this use of the name *S. incana* SCHRANK 1789, the name *S. candida* FLUEGGE 1803 does not need to be changed into its synonym *S. incana* MICH. 1802.

the Joint Committee in America has taken it over in its "Standardized Plantnames".

According to SCHNEIDER, our cultivated plant is *S. incana* SCHR. var. *lavandulifolia* KOEHNE 1899 (syn. *S. linearis* FORB.); this name originates from the Dendrologist KOCH; KOCH takes *S. linearis* FORB. = *S. Elaeagnos* SCOP. (*incana* SCHR.) and writes that in his opinion *S. lavandulaefolia* LAP. is a variety of it. DIPPEL calls it *S. Elaeagnos* var. *linearis* (syn. *S. linearis* FORB.).

At all events it is desirable to distinguish our cultivated plant as a variety *linearis* DIPP. or var. *lavandulifolia*, as SCHNEIDER does, either from *S. incana* SCHR. or from *S. Elaeagnos* SCOP.; then it has a name of its own, independent of the species to which it is brought.

## No. 3. *Quercus digitata, rubra, borealis, ambigua; Prinus, Michauxii* and *montana.*

Again a cross-exchange of names.
A name, which relies upon an incorrect interpretation.
A nomen erraticum.

With Figures 3—11.

*Quercus rubra*, the universally known and cultivated American Oak (sometimes called really *Q. americana*) is called in SARGENT's "Manual" 2nd ed. and in REHDER's "Manual" 1927: *Q. borealis;* whilst *Q. rubra* still appears in these Manuals, but in the sense of *Q. digitata* and *Q. falcata.*

The same cross-exchanging of names thus, as with *Populus balsamifera;* for that reason the treatment can now be shorter; and we at once ask: what did LINNAEUS mean by his *Q. rubra*?

LINNAEUS gave, in his "Species Plantarum", 1st edition, on page 996:

9. *Quercus (rubra) foliis obtuso-sinuatis setaceo-mucronatis* (with obtuse incisions of the lobes of the leaf and with needle-shaped points).

We can at once say that this description is just as unsatisfactory, as that was of *Populus balsamifera*, to find out which species LINNAEUS really meant.

LINNAEUS was acquainted with some M. and S. European species, and with *Q. alba* and *Q. nigra* from America; this last one has a very special leaf-shape; so, because LINNAEUS only distinguished his *Q. rubra* through the leaf characteristics, we may assume that it is in that respect sufficiently distinguishable by his phrase also from *Q. alba.* Seen in that light it is really not very probable that LINNAEUS meant the species, which we call *Q. rubra.*

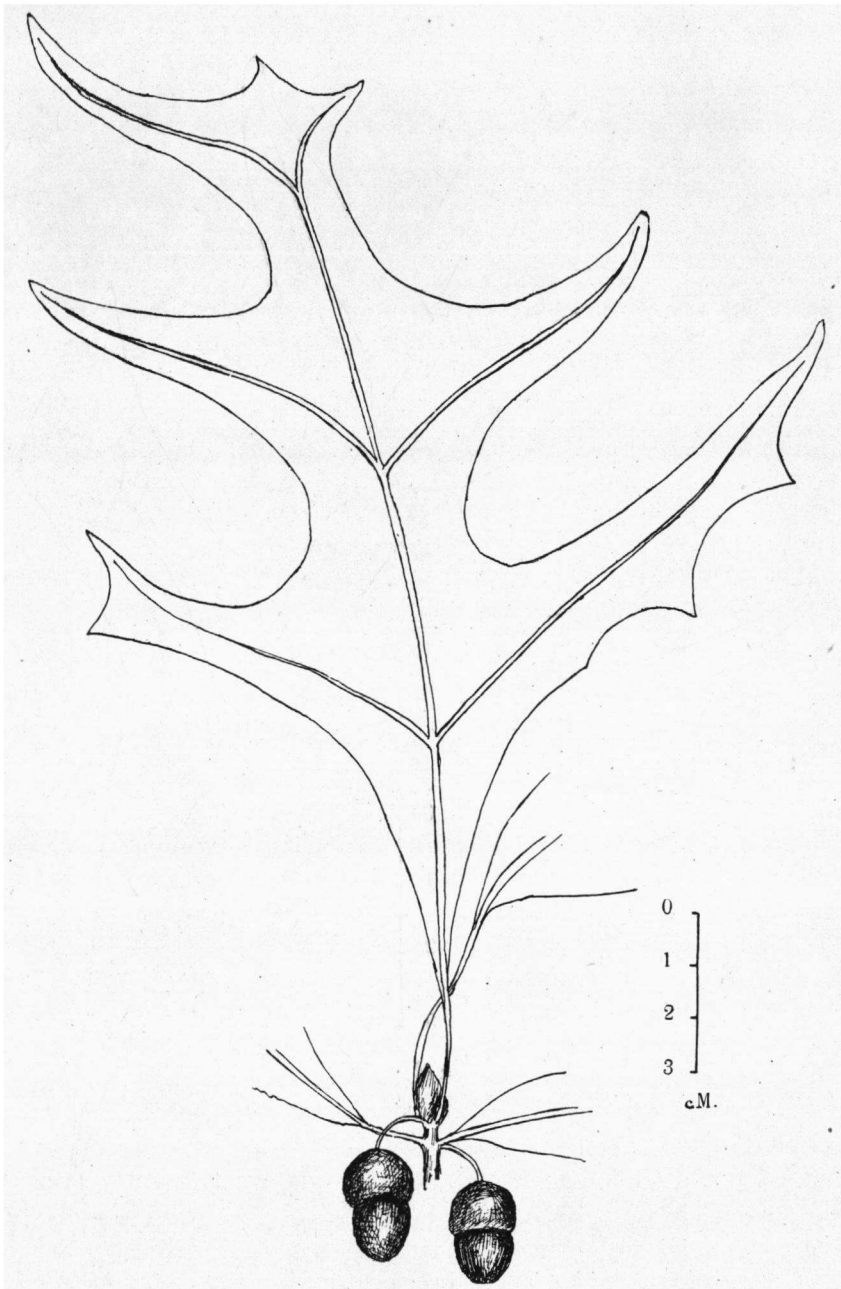


Fig. 3.

T. 23 p.p. Quercus esculi divisura foliis amplioribus aculeatis Pluk. Phyt. t. LIV. in Catesby The Natural History of Carolina, Florida and the Bahama Islands, 1731.

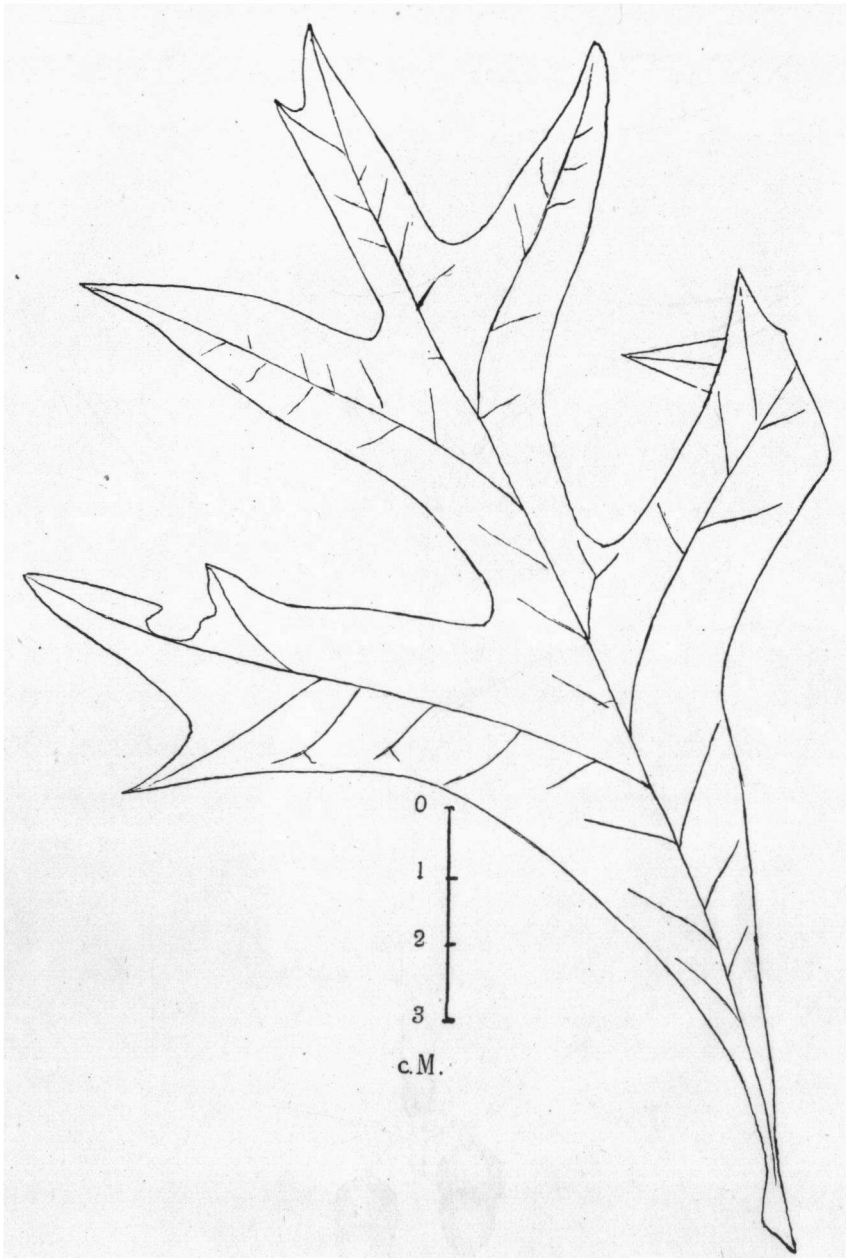


Fig. 4.

Drawing of a leaf of the specimen in Hort. Sloane (Catesby's Florida planten) of *Quercus Esculi divisura* etc. CATESBY, in the British Museum (Natural History).

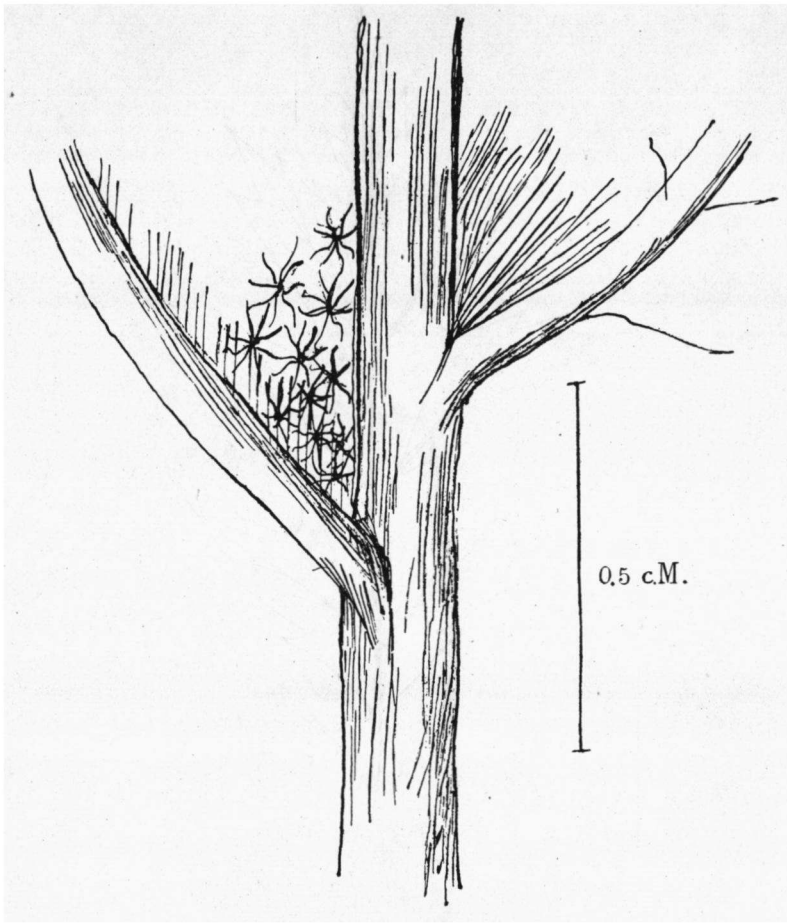


Fig. 5.

Drawing of an axil with beard at the underside of a leaf of the specimen in Hort. Sloane (Catesby's Florida plants) of *Quercus Esculi divisura* etc. CATESBY, in the British Museum (Nat. Hist.).

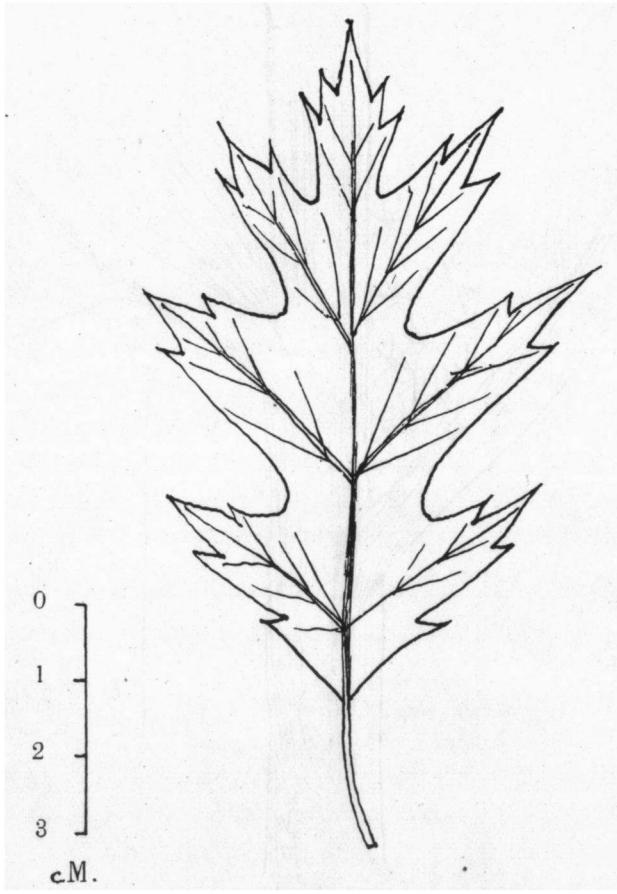


Fig. 6.

T. LIV fig. 4. Quercus esculi divisura foliis amplioribus aculeatis, an Quercus alba virginiana Park.
in Leonardi Plukenetti Phytographia 1691.


Fig. 7.

T. CCCCXX. Quercus digitata Sudw. in Sargent The Silva of North America Vol. VIII 1895.


Fig. 8.

Pl. 20. Quercus catesbaei André Michaux
in F. A. Michaux Histoire des arbres forestiers de l'Amérique septentrionale II
1812. Quercus, foliis brevissime petiolatis, basi angustatis, acutis sub-
palmatolobatis, lobis interdum sub-falcatis: cupula majuscula,
squamis marginalibus introflexis; glande breviovata.

LINNAEUS gave synonym names, as follows: *Quercus esculi divisura, foliis amplioribus aculeatis* PLUK. Alm. p. 309 t. 54 f. 4 (1720), CATESBY Car. I. p. 23 t. 23 (1731). From this diagnosis we obtain nothing; the drawing of PLUKENET gives a leaf, that could be *Q. rubra;* that of CATESBY shows a branch with peculiar leaves and acorns, which really makes one thinks of *Q. digitata;* the leaves have deep, broad incisions, the lobes are rounded off; the acorns are as large as those of *Q. digitata*, much smaller than those of *Q. rubra*. But is this drawing sufficient to fix what *Q. rubra* L. is? Its significance is again decreased by that of PLUKENET. See Fig. 3—7.

Besides, CATESBY's plant is called by MICHAUX *Quercus Catesbaei*, and as such it has ever since been recognized, even by REHDER. SARGENT gives in his "Sylva" vol. VIII this species with CATESBY's phrase and drawing as a synonym, what is conceivable. However, if this is just, then CATESBY's plant cannot be at the same time the type-specimen of *Q. rubra* L.! So this question of *Q. Catesbaei* must be argued out first before there can be taken decision about the character of *Q. rubra* L. See Fig. 8.

We return to LINNAEUS' description of *Q. rubra;* one finds nothing about the hairs on the leaves. *Q. digitata* has permanent hairs on the underside of the leaves; on *Q. rubra* AUCT. the leaves soon become glabrous. From this, one might conclude that LINNAEUS has meant our *Q. rubra;* but this is not sufficient for identification; LINNAEUS may have taken no notice of the hairs of the leaves, just as he may not have taken notice of the terete petioles and white undersides of the leaves of the *Populus balsamifera*.

The authentic specimen of CATESBY, which is included in the Herbary of the British Museum, has, as Mr. TANDY informed me, no acorns; but there are tufts of sterry hairs in the axils of the veins on the underside of the leaves; Mr. TANDY was so kind as to make a drawing of such an axil with beard and to send me moreover a sketch of a whole leaf of CATESBY's plant. See Fig. 4, 5.

Probably LINNAEUS had not seen CATESBY's and PLUKENET's plants, but has built his *Q. rubra* from their drawings; and as these drawings do not show hairs, LINNAEUS was not able to see and to describe them.

So there is reason to assume that *Quercus rubra* L. represents an other species than we have always taken for it. But it would have been better if REHDER had introduced the question in a scientific journal, giving thereby opportunity for studying it and for coming to a conclusion at an International Congress. Perhaps that conclusion would have been to put aside *Quercus rubra* L. as being unsatisfactorily described.

The name, which in that case would come into consideration, is *Quercus rubra* DUROI 1772; DUROI's description is by itself not much better than that of LINNAEUS; but the leaves, which he drew, appear very much like

our *Q. rubra;* and nobody doubts for one moment but that DUROI has seen and described our *Q. rubra.*

If we put aside *Q. rubra* L. as being unsatisfactory and keep the name *Q. digitata*, then we could write *Quercus rubra* DUR. for our common American oak. Here the question rises if a name like *Q. rubra* DUR., which relies upon an error of determination or interpretation, is in itself invalid and thereby in no case can become a legal name. Cf. the remarks about *Pinus inops* BONG., in I no. 6 and *Acanthopanax pentaphyllus* in II no. 23b. [1])

Though, as in the case of *Populus balsamifera* DUR., there is an older name, *Quercus borealis* MICHAUX.

F. A. MICHAUX described namely in 1819, in the English translation "The North American Sylva", a *Quercus borealis.* ELWES & HENRY declare it to be a particular species; and if that is true, it may not be taken, of course, instead of *Q. rubra* DUR. But SCHNEIDER regards *Q. borealis* as a variety of *Q. rubra;* and then is the transference of the name to *Q. rubra* DUR. possible. And naturally all the sooner, if one, so as SARGENT and REHDER do, declares it to be a synonym of *Q. rubra* DUR. First of all therefore the significance of *Q. borealis* MICH. must be settled Internationally. And it would be useful, for obtaining the least changes in names, to take *Q. borealis* as a distinct species; then we obtain only *Q. rubra* DUR. instead of *Q. rubra* L.

But if *Q. rubra* L. is not put aside but acknowledged als signifying the plant, now known as *Q. digitata*, then *Q. rubra* DUR. drops out and we should, if *Q. borealis* is acknowledged as a distinct species, be obliged to give a new name to *Q. rubra* DUR., f.i. *Q. americana;* and that nobody will wish. So conscious deliberation is needed.

There is still a little complication. ELWES & HENRY do not call the species *Quercus borealis* but *Q. ambigua.* MICHAUX described this *Q. ambigua* in 1813; it is really generally admitted to be a synonym with *Q. borealis.* But then the name *ambigua* is older than *borealis;* why do SARGENT and REHDER not put the name *Q. ambigua* instead of *Q. borealis*, so as ELWES & HENRY do? This is because there is another and older *Quercus ambigua* H. B. K. (Pl. Aeq. II 1809), whose name is legal, so that a later discovered *Quercus* species may not have this name. But if, as ELWES & HENRY do, *Q. ambigua* H. B. K. is taken as a synonym of *Q. obtusata* H. B. K. ibid., then the name *ambigua* becomes free for *Q. borealis*! See Fig. 9.

There is an objection against the name *Q. borealis.* J. J. SMITH, who trans-

[1]) SILVA TAROUCA rejects *Q. rubra* L. as well as DUR.; he gives *Q. borealis* and *Q. falcata* (syn. *digitata*; *Q. digitata* is published by MARSHALL as a variety, so the speciesname *Q. falcata* MICH. has the right of priority.

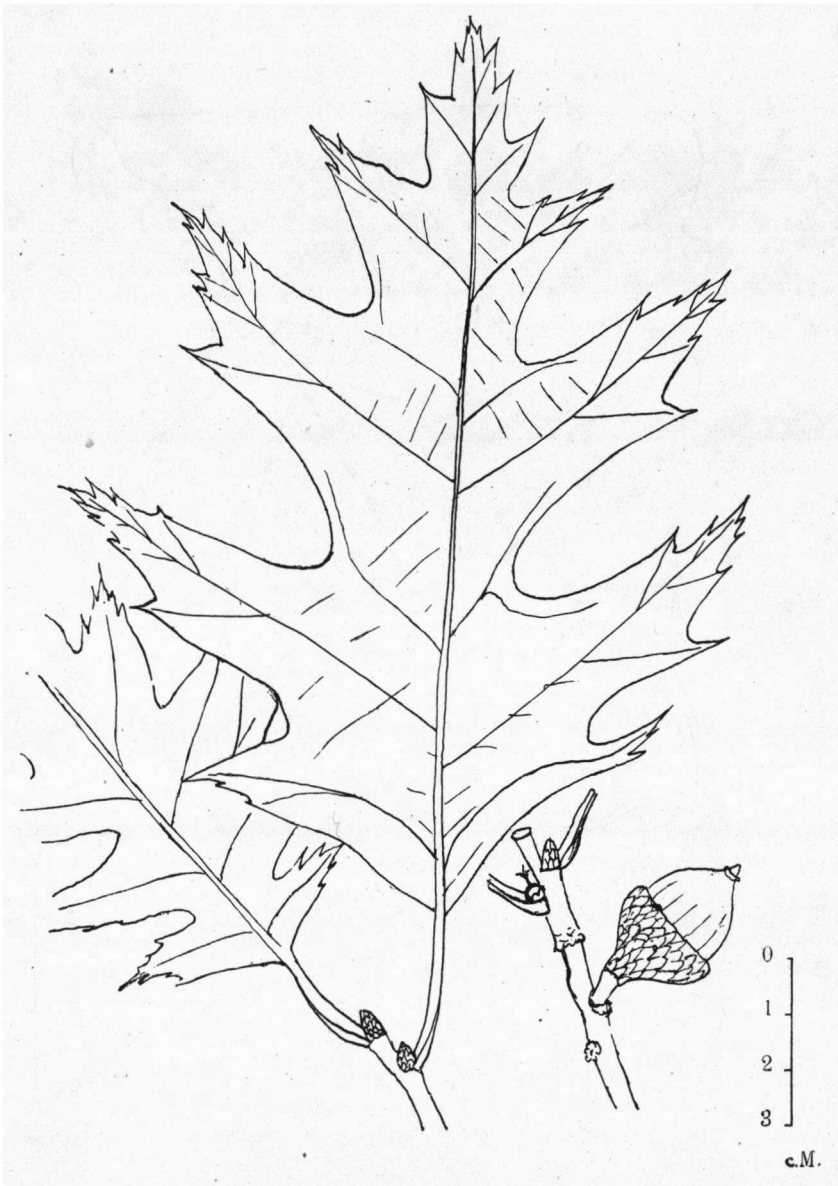


Fig. 9.

Pl. 24. Quercus ambigua ANDRÉ MICHAUX
in F. A. MICHAUX Histoire des arbres forestiers de l'Amérique septentrionale II 1812, Quercus, foliis sinuatis, glabris, sinubus subacutis: cupula subscutellata; glande turgide ovata.

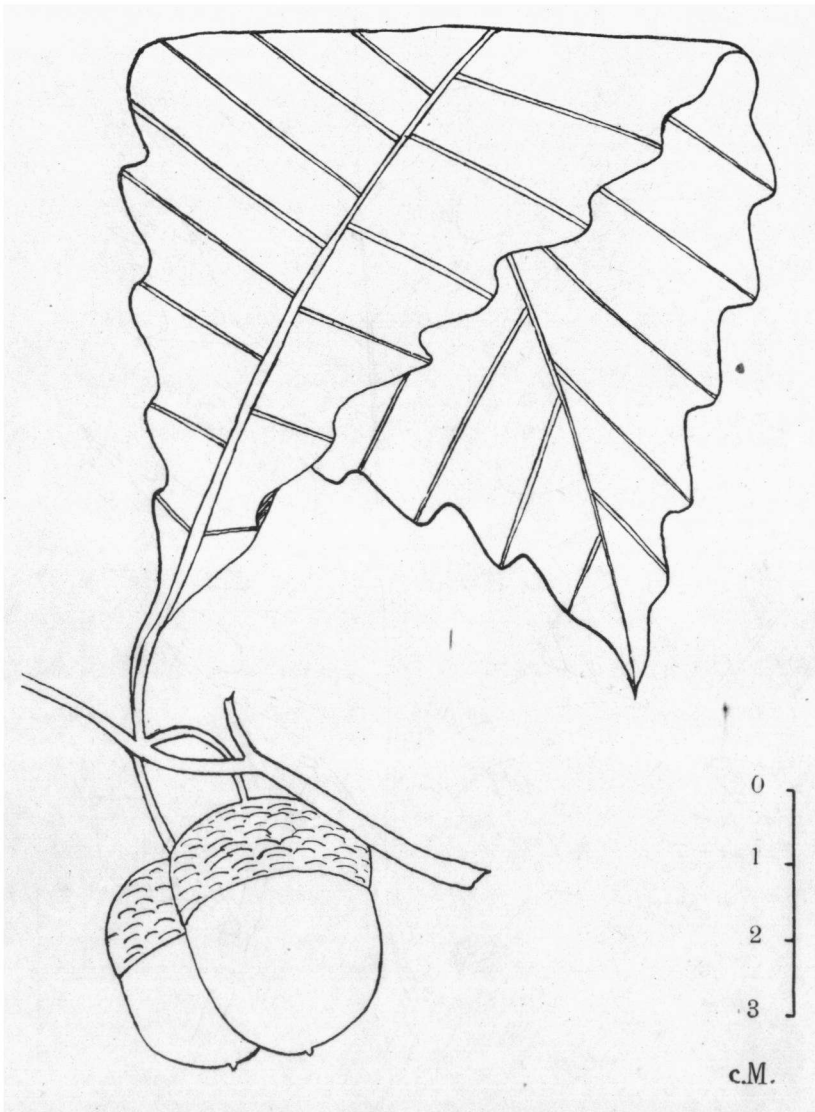


Fig. 10.

T. 18. p.p. Quercus castaneae folio, procera arbor virginiana. Pluk. Alma. in Catesby Nat. Hist. of Carolina etc. I 1731.

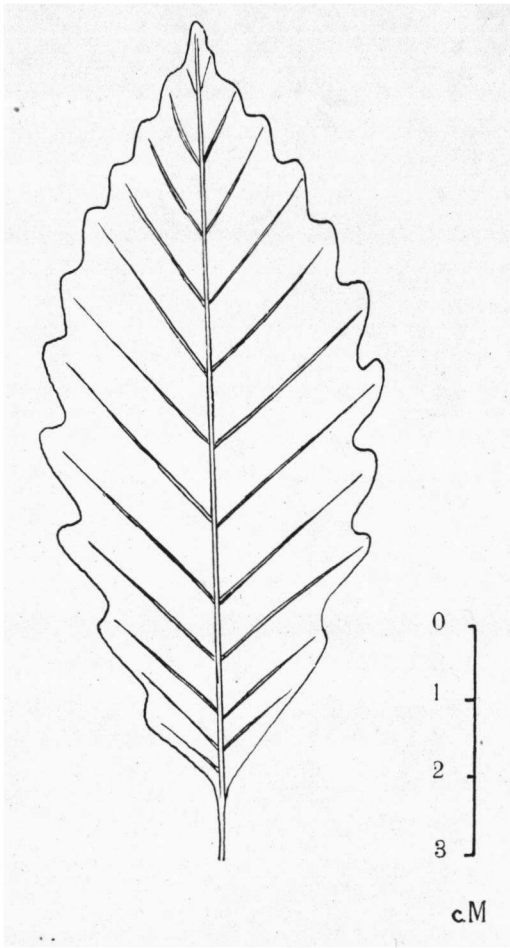


Fig. 11.

T. LIV fig. 3. Quercus virginiana Castaneae folio, nostra Ray Hist. append. in Plukenet Phytographia 1691.

lated in 1819 MICHAUX's work of 1812, put indeed this name at the head of the chapter "Grey Oak", but he gives nearly literally the English translation of MICHAUX's description of his (MICHAUX's) *Q. ambigua;* the first alinea finishes in this way: "It is called by the inhabitants Grey Oak, but it has been confounded by botanists with the Red Oak, to which it bears a close analogy in its foliage, as it does to the Scarlet Oak in its fruit: on this resemblance I have founded the latin specific name *ambigua*" (I is MICHAUX fil.). And the drawing too is an exact copy of *Q. ambigua* MICHX f. 1812; beneath is written: Grey Oak, *Quercus ambigua.*

Even the species name (in the sense of LINNAEUS) is quite the same as that of *Q. ambigua* MICHX f. 1812; it runs: "*Q. foliis sinuatis, glabris, sinubus subacutis; cupulā subscutellatā; glande turgide ovata*".

How did it occur to J. J. SMITH to put the name *borealis*? J. J. SMITH does not give any explanation of his heading name *borealis;* it is a nomen erraticum. When we nevertheless acknowledge it as a valid name and as the legal one for *Quercus rubra* DUR. e.a. (non L.) and for *Q. ambigua* MICHX fil. (non H. B. K.), then the name must be read: *Quercus borealis* J. J. SMITH in MICHX fil.

The changing of *Q. rubra* DUR. into *Q. borealis* MICH. would, no more as the changing of *P. balsamifera* DUR. into *P. tacamahaca* MILL., not be so bad, if *Quercus rubra* L. did not continue to exist; but just as *Populus balsamifera* L., so also *Quercus rubra* does remain with REHDER's opinion and execution of that opinion; he places, as we have seen, *Q. rubra* L. in his "Manual" in the sense of *Q. digitata* SÜDW. and *Q. falcata* MICH. Through that we have again an inconvenient cross-exchanging of names. And in answer to this, we can say the same, which I wrote respecting *Populus balsamifera.*

Another cross-exchange of names in the genus *Quercus* is found in SARGENT's "Manual" 2nd Ed. and in REHDER's "Manual" of 1927: *Q. Prinus* L. is identified with *Q. Michauxii* NUTT., while *Q. Prinus* L., in the common opinion of European botanists, is called *Q. montana* WILLD.

LINNAEUS describes his *Q. Prinus* (Sp. Pl. 1753 II p. 995) in this manner:

7. Quercus Prinus. *Q. foliis obovatis utrinque acuminatis sinuato-serratis; denticulis rotundatis uniformibus.* As synonyms LINNAEUS gives *Q. castaneae foliis* etc. CATESBY Car. I. p. 18 t. 18 en PLUK. Alm. 309 t. 54 fig. 3. "Habitat in America boreali". So, nothing is said of hairs or whitish underside of the leaves. See Fig. 10, 11.

WILLDENOW describes in Sp. Pl. Ed. IV 1805 this same *Q. Prinus* L.; moreover *Q. montana* n.sp., in this way: *Q. foliis obovatis acutis subtus albo-tomentosis grosse dentatis,* etc. Habitat in Virg., Car., in montibus altis. He adds: A *Q. Prino* diversa, cui simillima, foliis subtus tomento tenui

albo obductis, cum in *Q. Prino* folia semper utrinque viridia sint. Differt porro fructu duplo minore. Etc.

DIPPEL takes *Q. montana* WILLD. as var. *tomentosa* of *Q. Prinus* L.; and he has *Q. Michauxii* NUTT. as a synonym of *Q. bicolor* WILLD. KOEHNE mentions neither *Q. montana* nor *Q. Michauxii*. SCHNEIDER takes *Q. Prinus* L. and *Q. montana* WILLD. as synonyms and calls the underside of the leaves "± grünlich", in contrast to *Q. Michauxii* with white or grey underside; this conforms to SARGENT in "Sylva". REHDER describes the underside of the leaf of *Q. montana* as greenish too and that of *Q. Prinus* L. incl. *Q. Michauxii* NUTT. as greyish tomentose.

DIPPEL's opinion seems to be the best one; that of SCHNEIDER is very approximate to it. I cannot see that there is sufficient reason for SARGENT's and REHDER's cross-exchange of names. The question must be taken in study.

## No. 4. *Alnus glutinosa, vulgaris* and *rotundifolia*. A valid name in an invalid paper.

Before 1753 LINNAEUS took *Alnus* as a separate genus, but in that period had not yet introduced trivial (our species-) names. In 1753 he put *Alnus* under the genus *Betula* with the species *Betula Alnus*.

*Betula Alnus* is described by LINNAEUS in two varieties, namely *α glutinosa* and *β incana* (Spec. Plant. 1753). Later, in 1759 ("Systema" Ed. X) he made the first variety to a species *Betula glutinosa;* so the name *glutinosa* as species-name is confined to the year 1759. GAERTNER put the species in 1791 again in a separate genus *Alnus;* thereby we write *Alnus glutinosa* GAERTN.

Here and there, so in REHDER's "Manual" of 1927, the name *A. vulgaris* HILL is given as a synonym of *Alnus glutinosa*. HILL describes this species in his „British Herbal etc." of 1756; his description runs as follows (information from Mr. TANDY in the British Museum): "*Alnus vulgaris*. It is naturally a shrub of treegrowth. The bark is glossy and purplish. The leaves are large, roundish and clammy; and the cones are brown. It is common by waters. C. BAUHIN calls it *Alnus rotundifolia glutinosa viridis*." In this description we recognize our common Alder; and the synonym of BAUHIN is also given by LINNAEUS to his *Betula Alnus α glutinosa*.

Hence, the name of HILL is furnished with a satisfactory description and it is the oldest one; so our common Alder must be called *Alnus vulgaris* HILL. FERNALD and GRAY give it this name in their "New Manual" of 1908. The objection, made against it, that in "British Herbal" no trivial names are used, will not hold, because the name *Alnus vulgaris* satisfies the Rules of 1905 and HILL's work is published after 1753.

International deliberation is needed to settle the question, that is to keep *Alnus vulgaris* HILL as the legal name or to put it on a list of "nomina specifica rejicienda" in favour of the name *A. glutinosa* GAERTN. And it will be wise to treat this question on principle.

A later name than those of HILL and LINNAEUS, is *Alnus rotundifolia* MILLER Abridg. Gard. Dict. 1771 (not in Gard Dict. 1768, where *Alnus* stands under *Betula*, but where the species concerned are forgotten). HAYCK uses in his Flora of Steyermark (1908) MILLER's name; but it is non-legal.

## No. 5a. *Betula alba*, *pendula*, *verrucosa* and *pubescens*. Division of a species.

Nowadays, the name *B. pendula* is much used by the botanists for the species, to which belong the most varieties, which appear in the nurseries. This name has the disadvantage that it also as variety name is used and thus, when not expressed exactly, there can arise confusion, far worse than with e.g. the name *aureum*, which also, so well for species as for varieties, is used; so *Ribes aureum* and *R. nigrum* var. *aureum;* here the variety appears at least in another species than that which is called *aureum*. With the Birch, the whole species is called *pendula*, and we also have weeping-forms, which by that speciesname cannot any more be called var. *pendula;* though, we shall continue speaking of "Betula pendula", therewith meaning not the whole species but only the overhanging varieties. So long as the whole species is named *alba*, then there is no possibility of confusion; *B. pendula* is then the shortened expression for *B. alba* var. *pendula*.

Is the name *Betula pendula* necessary? that is to say, is it really the legal name following the International Rules of Botanical Nomenclature?

LINNAEUS gave *Betula (alba) foliis ovatis acuminatis serratis* (with oval, acuminated, serrated leaves).

DUROI in "die Harbkesche Wilde Baumzucht" of 1772, repeated this diagnosis and added nothing to it.

Next this species appear only *B. nana* and some American species, beside the Alder.

LINNAEUS and DUROI have taken together our two ordinary birch species in their *B. alba*.

ROTH in "Tentamen Florae germanicae" T. I. 1788, gave two species: 1st *B. alba foliis ovato-acuminatis, inciso-serratis, scabris* (with rough hairs), *ramis erectis striatis* (with risen-up, stiff branches) and 2nd *B. pendula, foliis ovato-acuminatis, inciso-serratis, glabris* (bald) *ramis flaccidis pendulis* (with weak hanging branches).

Here we recognize our two ordinary birch-species. ROTH represented

*B. alba* L. synonym to his own *B. alba;* he regarded thus *B. pendula* as entirely new.

EHRHART gave other names to the two species in his "Beiträge" VI 1791, namely *B. pubescens* and *B. verrucosa. B. pubescens* is described as such: *Ramuli pubescens* (twigs with soft hairs). *Strobuli cylindracei, pedunculati, squamarum lobis inaequalibus.*

The description of *B. verrucosa* runs: *Ramuli verrucosi* (twigs full of warts). *Folia deltoidea, subacuminata, duplicato-serrata, nuda* (leaves bald). *Strobuli cylindracei, pedunculati, squamarum lobis inaequalibus.*

He does not give the names of LINNAEUS, DUROI or ROTH as synonyms thereby; though, it is generally accepted that *Betula verrucosa* EHRH. conceals *B. pendula* ROTH, and that *B. pubescens* EHRH. is the same as *B. alba* ROTH. Then ROTH's names are indisputably the oldest; ROTH's name *B. alba* has the advantage that it represents *Betula alba* p.p. of LINNAEUS, that this name thereby continues existing, which is in agreement with the International Rules of Nomenclature (Cf. *Tilia europaea* in No. 10); but it had the disadvantage that it is much used for that, which *pendula* or *verrucosa* should be named; the later name *B. pubescens* of EHRHART is not ambiguous.

REHDER used in his "Manual" of 1927, just as BAILEY in his "Cyclopedia" [1]) *B. pubescens* EHRH.; the American Joint Committee has chosen *B. alba* in her "Standardized Plantnames"; and so do SILVA TAROUCA and SCHNEIDER in "Unsere Freiland Laubgehölze".

Concerning the other species, *Betula pendula* ROTH is universally honoured, although this name can give confusion through the varieties, and although the name *verrucosa* of EHRHART is much more characteristic and does not come into conflict with any varieties. Though, ROTH's name is really the legal one.

Also in this case is, consequently, International discussion necessary; will *B. alba* L. or *B. pubescens* ROTH be stated as the legal name? And will the legal name *B. pendula* ROTH be qualified as such or put on a list of "nomina rejicienda" in favour of the name *B. verrucosa* EHRH.?

To *Betula alba* (*pubescens*) belongs var. *urticifolia*, to *B. pendula* (*verrucosa*) all other remaining varieties, as var. *purpurea*, var. *laciniata*, var. *fastigiata*, var. *tristis*, var. *Youngii*, etc. (the last two are pendulous forms).

## No. 5b. *Corylus rostrata* and *cornuta.*

*Corylus rostrata* AITON in Hortus Kewensis III 1789, is universally

[1]) REHDER has treated most of the Dendrological articles, BAILEY himself only a few; but these are still other co-operators. Therefore I have cited in most cases BAILEY, as being the editor.

acknowledged as a species; LOUDON, KOCH, DIPPEL, SCHNEIDER and TAROUCA add to it *C. cornuta* HORT. as a synonym. The Index Kewensis gives: *C. cornuta* DUR. ex STEUD.; STEUDEL too takes *C. cornuta* DUR. HORT. for identic with *C. rostrata* AIT.; but in DUROI's „Die Harbkesche Wilde Baumzucht" the species is not mentioned.

Though, MARSHALL has already treated *C. cornuta* in his „Arbustum americanum" 1785; and on account of that REHDER has placed in his "Manual" of 1927 this name in the place of *C. rostrata* AIT., this becoming a synonym.

It is a curious thing that all Dendrologists before REHDER neglected MARSHALL's authorship; perhaps that is on account of the description. The full title of MARSHALL's work runs: "Arbustum americanum, the american grove or an alphabetical catalogue of forest trees and shrubs, natives of the american United States"; in the German translation the title is: "Beschreibung der wildwachsenden Bäume, etc."; so there is spoken of "descriptions"; according to the English title you can expect names with or without descriptions.

Dr. BIJHOUWER, who was temporary in the Arnold Arboretum, kindly communicated to me, how MARSHALL mentions his *Corylus cornuta*. It runs thus on p. 37: *Corylus cornuta*. Dwarf Filbert, or Cuckold-nut. This kind much resembles the other (*C. americana*), except in size, seldom growing above three or four feet high; and also having its nuts single upon the branches, and their husks or seedvessels smaller and lengthened into a point or horn, and closely embracing the nuts.

We cannot admire this description, but it is really sufficient to distinguish the species from the other species, known at that period, of which MARSHALL only mentions *C. americana*.

REHDER regards MARSHALL as the author of this species too; KOEHNE gives MILLER as such, LOUDON: MICHAUX FIL. („Arbres for." II 1810; but no *Corylus* species is found there); while KOCH, DIPPEL and SCHNEIDER take WALTER („Flora caroliniana" 1788) as the author of *C. americana*. This authorship depends on the appreciation of the descriptions; that of MARSHALL does not take into account the European-Asiatic species, and that of WALTER is in every respect very meagre; they run as follows:

MARSHALL, Arbustum Americanum (1785), p. 37: "*Corylus americana*. American Hazelnut. This grows very common in a rich, loose, moist, soil; spreading far by its roots, and rising at first with a simple, erect stem, which, as it grows old, is divided into a few irregular branches, cloathed with oval, pointed leaves, sawed on their edges. The Male katkins are produced at the ends of the branches, and the Female parts a little beneath them, often many together, at other times singly; and succeeded by seed-

vessels, roundish at the base, but lengthened out into a leafy, fringed expansion, parted at the extremity; each containing one nut".

WALTER, Flora Caroliniana (1788), p. 236: "*Corylus americana* nuce basi magis derasa, stipulis lato-subulatis, obliquis subincisis, foliis cordato-ovatis acuminatis duplicato-serratis."

The fact, that all Dendrologists, before REHDER, neglect MARSHALL's authorship of *Corylus cornuta* and *C. americana* is the more surprising be-because with several other species his authorship is universally accepted; we know f.i. from him: *Juglans Pecan, J. alba acuminata* and *minima, Aesculus octandra, Gleditschia aquatica, Prunus americana, Nyssa sylvatica, Viburnum alnifolium.*

International treatment of MARSHALL's *Corylus* species is desirable.

No. 6. *Ulmus campestris, foliacea, nitens* and *procera; U. pedunculata* and *laevis.*
Again a divided species.
An ephemeral name.

LINNAEUS gives *Ulmus campestris* beside *U. americana* and *U. pumila;* he does not even divide her into varieties. On the contrary, MILLER distinguishes in 1768 *U. campestris, U. scabra, U. glabra* and *U. minor.* SOLANDER in AITON "Hortus Kewensis" I 1789, unites them again in *U. campestris* but has the varieties α *vulgaris*, β *stricta*, γ *latifolia* (syn. *U. scabra* MILL.), δ *glabra* (syn. *U. glabra* MILL.), ε *fungosa;* his first mentioned variety is the principal one, the species properly said.

*Ulmus scabra* has since been separated from *U. campestris;* the remaining varieties of SOLANDER are generally classed together as *U. campestris.* Some botanists, as SCHNEIDER in „Laubholzkunde" Part I, call *U. campestris: U. glabra* MILL., because the species *U. campestris* L. is too wide and causes confusion by its difference from *U. campestris* MILL. Though, this change of name does not quite conform to the Rules of Nomenclature of 1905.

Moreover, the name *glabra* is found to belong rather to *U. scabra;* for HUDSON described in "Flora Anglica" Ed. I. 1762 our *U. scabra* by the name *U. glabra* in this manner (information from the British Museum): 2. *Ulmus foliis oblongo-ovatis duplicato-serratis basi inaequalibus, cortice glabro.... glabra*, with the synonym *U. folio latissimo scabro* GERARDE Hist. pl. 1481 (1633), which by SOLANDER, in AITON Hort. Kew. I, p. 319, is identified as *U. scabra* MILL.

*U. glabra* HUDS. is therefore older than *U. glabra* MILL. and must be maintained in the older sense, in stead of *U. scabra* MILL., that is also of later date.

Though, HUDSON has probably in his *U. glabra*, beside our *U. scabra*, moreover included part of *U. campestris* AUCT. (*U. glabra* MILL.); for he gives, after the already mentioned synonym *U. folio latissimo scabro* GERARDE Hist. pl. 1481 (1633) further a *β U. folio glabro* GERARDE l.c., which belongs, according to SCHNEIDER ("Laubholzkunde" I. Nachtrag 1906), with the aid of RAY's Hist. Pl. 1688, II. p. 1425/7, to our *U. campestris* AUCT.. LEY in Journ. of Bot. 1910, p. 65, 130 joins in this, for he adds (fide SCHNEIDER) as well to *U. scabra* as to *U. glabra* the synonym *U. glabra* HUDS. p.p.

SOLANDER in AIT. Hort. Kew. also joins with SCHNEIDER; he gives under his *U. campestris δ glabra* the synonyms *U. glabra* MILL. and *U. folio glabro* GER., RAJ. (RAY) and HUDS. Flor. Angl., while HUDSON's other synonym of his *U. glabra* is identified by SOLANDER with *U. scabra* MILL. (see above).

SCHNEIDER is thereby persuaded that MILLER's names *U. glabra* and *U. scabra* may be maintained. ("Laubh." I. Nachtr.). But that is not quite certain, beause HUDSON, beside his *U. glabra*, distinguishes our *U. campestris*, in this way (information from the Kew Gardens): 1. *Ulmus campestris. Ulmus foliis ovatis duplicato-serratis basi inaequalibus.* Sp.pl. 225. The following synonym is given: *U. vulgatissima folio lato scabro* GERARDE; and the var. *β U. minor folio angusto scabro* GERARDE. The first synonym is SOLANDER's type variety of his *U. campestris;* and the *β* variety is SOLANDER's *β* var., so our *U. campestris* too.

Conclusion: HUDSON has with his *U. glabra* principally described our *U. scabra*. But in the 2nd Ed. of his Flora (1778) he again drops his *U. glabra* and leaves only *U. campestris*. So, *U. glabra* HUDS. had only an ephemeral existence (like *Cedrus effusa* SAL., see "Personal Ideas etc." I no. 12).

Concerning this double question (*Ulmus glabra* and *U. scabra*) International deliberation is again needed.

There is still an *Ulmus foliacea* GILIBERT of 1792. This species is mentioned, beside *U. campestris* and *U. minor*, in BAILEY's Cyclopedia. SCHNEIDER, who treated the *Ulmaceae* in SARGENT's "Plantae Wilsonianae", gives also *U. foliacea*, but he identifies it with (as synonym) *U. campestris;* thereby the name *U. campestris* has disappeared. In his "Laubholzkunde" SCHNEIDER has only *U. glabra* (*campestris*) with *U. nitens* as a synonym and *minor* as a variety's form. In the "Nachtrag" he changes the speciesname into *U. campestris* (*glabra*), with the varieties *laevis* (syn. *U. nitens*) and *minor*.

A synonym of *U. foliacea* GIL. is *U. nitens* MÖNCH [1]); SCHNEIDER thinks

[1]) *Ulmus campestris* var. *laevis* SPACH 1841 is, according to ELWES and HENRY and to REHDER, synonym of this *U. nitens* MÖNCH. There is also *U. campestris* var. *laevis* SCHMIDT 1868, which, according to E. and H., is synonymous to *U. japonica* SARG. and to *U. campestris* var. *japonica* REHDER and BAILEY.

*U. foliacea* better described than *U. nitens;* moreover *U. nitens* MÖNCH dates from 1794, that is later than *U. foliacea* GIL. Though, ELWES & HENRY ("The Trees of Great Britain and Ireland") prefer the name *nitens* with the remark that GILIBERT's description of *U. foliacea* is very imperfect. Probably both species are not very accurately described and it should be advisable to put them aside!

REHDER proceeds in his "Manual" of 1927 still further in giving unused names concerning *Ulmus campestris;* he divides it into *U. foliacea* GIL. (syn. *U. nitens* MÖNCH, *U. glabra* MILL.), *U. procera* SAL. (syn. *U. campestris* MILL.), and *U. minor* MILL.

This SALISBURY gives in "Prodromus Stirpium in Horto ad Chapel Allerton vigentium", London 1796, p. 391 (information from Mr. TANDY in the British Museum): „*Ulmus campestris* α SOLAND. in AIT. Hort. Kew. I. p. 319.... *Procera*". It is with this *U. procera* SAL. that REHDER identifies all varieties of *U. campestris* AUCT. except those, which (after REHDER) belong to *U. foliacea.* If there is enough reason for this, the name *procera* has really right of existence.

SALISBURY divides *U. campestris* into three species, namely:

*U. campestris* α SOL. in AIT. Hort. Kew. I. p. 319..... *procera.*
„ „ β „ „ „ „ „ I. p. 319..... *angustifolia.*
„ „ γ „ „ „ „ „ I. p. 319..... *latifolia.*

If these three species constitute the whole *U. campestris*, then *U. foliacea* (GIL.) REHDER (or *U. nitens* MÖNCH) must be equal to *U. angustifolia* + *U. latifolia* of SALISBURY. But the names of GILIBERT and MÖNCH are older (resp. 1792 and 1794) than those of SALISBURY (1796); therefore they are dropped out by REHDER resp. ELWES & HENRY.

It is very desirable that the grouping of the different forms of *U. campestris* AUCT. and their denominations will be taken in International deliberation and that an agreement will be arrived at. And it is to be hoped that the name *U. campestris* L. s.s. will be maintained; methinks that this is conforming to the International Rules of nomenclature (Cf. *Tilia europaea* in No. 10).

The species *Ulmus laevis* PALLAS 1784 has nothing to do with the above mentioned variety *laevis;* it is a synonym of *U. pedunculata* FOUGEROUX 1784. In their synopsis of 1911 ASCHERSON and GRAEBNER write *U. laevis* first and so does REHDER. ELWES and HENRY write *U. pedunculata*, just as most botanists do. Yet the minority are right; the "Mémoire sur une nouvelle espèce d'Orme par M. FOUGEROUX DE BOURDAROY, présenté le 1er Sept. 1784", is published in "Histoire de l'Acad. royale des Sc. Paris, année 1784, avec les Mémoires etc. tirés des Registres de cette académie, 1787." And in a note at the end of his paper FOUGEROUX has added:

"Depuis la lecture de ce Mémoire, M. PALLAS a publié la primière partie des plantes de la Russie; il y annonce que *l'Ulmus pedunculata* est l'Orme le plus commun en Russie, et le nomme *Ulmus laevis*...." So the name of PALLAS is published before that of FOUGEROUX; it is a pity because of the good description and illustration in FOUGEROUX's paper.

## No. 7. *Mahonia* and *Odostemon; M. japonica* and *bealii; M. Aquifolium* and *repens; Odostemon Aquifolium* and *nutkanus*. A particular case of nomenclature and an orthographical question. The Index Kewensis.

In his "Nomenclator botanicus" part II[1] p. 478, PFEIFFER says: *Odostemon* RAF. (1817 Americ. Monthly Mag., p. 191) 1819 Journ. Phys. LXXXIX, p. 259: nov. gen. ex typo Berberidis aquifolii et nervosae propositum = *Mahonia* NUTTALL.

The name *Mahonia* NUTTALL dates from 1818 in Gen. americ. I, p. 211. Why does PFEIFFER give this name precedence to the older name *Odostemon?* This is connected with the fact, that PFEIFFER gives with *Odostemon*, beside the quotation of 1817, another quotation of 1819, that is after NUTTALL's introducing the name *Mahonia*.

According to the "Standardized Plantnames" *Odostemon* is the correct name according to the Philadelphia Code.

The name *Odostemon* was put in 1910 on the list of "nomina rejicienda"; nevertheless it is printed in the Index Kewensis Suppl. IV 1913 as a legal one with i.a. the species *aquifolium*, *nervosus* and *nutkanus*, all RYDBERG's 1906. For the rest I did not find the name anywhere.

Dr. BIJHOUWER was kind enough to inform me regarding these subjects from the amply provided library of the Arnold Arboretum in America.

In Journal de Phys. etc. LXXXIX 1819 on p. 259 RAFINESQUE wrote: "Les *Berberis aquifolium* et *B. nervosa*, PURSH, forment le genre *Odostemon* RAF. M. M. 1817. *Nuttall* a changé mal à propos ce bon nom en 1818 en *Mahonia*, le dédiant à un jardinier qui ne méritait pas cet honneur. *Odostemon* doit prévaloir.

In his "Sylva" vol VII p. 86, SARGENT tells us that BERNARD MAC MAHON was a well-connected, wealthy Irishman, who emigrated on account of a political reason to America, where he made friends with Americans of high standing. In 1809 he began a nursery; while the "American Gardener's Calendar", published by him in 1806, was continued for several editions and is still "one of the most comprehensive and useful books of its class."

What do we read in the Monthly Magazine of 1817? Nothing!, Dr. BIJ-

HOUWER writes. But in 1818 (file II, February) we find a discussion by RAFINESQUE of PURSH's "Flora Americae septentrionalis", to which he (RAFINESQUE) adds on p. 265: "250 *Berberis Aquifolium*[1]) and *B. nervosa* must form a genus quite different from *Berberis*, to which RAFINESQUE has given the name of *Odostemon* in Florula Missurica." And in the fourth volume of the "Magazine" (Jan. 1819) he writes in a discussion of NUTTALL's "Genera of N.-Am. plants", on p. 192: "56 *Mahonia* NUTTALL is our *Odostemon*, a previous and better name. The gardener MAC MAHON did not deserve the dedication of a genus."

So the matter rests on RAFINESQUE's Florula Missurica; and this has never been published according to Dr. BIJHOUWER's information! And the reference to it in the Monthly Magazine of Febr. 1818 can not be regarded as a valid publication of the name *Odostemon*, even though the name *Odostemon* with two already-known species is mentioned. (Rules Art. 38).

NUTTALL's "Genera" are apparently issued after February 1818; otherwise RAFINESQUE would have mentioned NUTTALL's name *Mahonia* in the February number of the M. M. According to this is the date 3 April 1818, on which the patent for the publication of NUTTALL's "Genera" is given to the editor. But in contrast with this, RAFINESQUE mentions in the January number of the M. M. NUTTALL's name *Maclura* as a synonym of his (RAFINESQUE's) name *Ioxylon* Must we conclude from this that he possessed NUTTALL's "Genera" already in January?

As to the species, *Mahonia japonica*, as it usually occurs in gardens, has appeared to be *M. Bealii* CARR. Fl. d. Serr. X 1854 (*Berberis*—FORT. Gard. Chron. 1850), whilst the real *M. japonica* DEC. is rare. In his "Laubholzkunde" SCHNEIDER still has *M. Bealii* as var. of *M. japonica;* the leaves of the variety are rounder, the terminal leaf is larger.

In Bull. Torr. Bot. Club 1906 *Mahonia Aquifolium*[1]) is called *Odostemon aquifolium*[1]) by the American RYDBERG, by the side of an *O. nutkanus*. In his "Manual" REHDER gives *O. nutkanus* RYDB. as a synonym of *Mahonia Aquifolium;* but *O. aquifolium* RYDB. is identified by him with *Mahonia repens*.

Owing to the incorrect mentioning of the year, namely 1817 behind *Odostemon* RAF. (see above), the author of the Index Kewensis 4th suppl.

[1]) PURSH in Fl. Am. Sept. I 219 1814 writes *Berberis* **Aquifolium**; but there is no question of an old generic name; therefore we do better to write *Berberis* **aquifolia**.

*Aquifolium* is only an old generic name (of TOURNEFORT, SCOP. etc.) in connection with the genus *Ilex*; therefore we write *Ilex* **Aquifolium** L.

In the same way we must write *Achillea* **Millefolium**, but *Spiraea* **millefolia** (*Millefolium* TOURNEF., KOCH, etc.).

has probably chosen this name instead of *Mahonia* and taken RYDBERG's publication as a base of the specific names.

In that 4th suppl. RYDBERG's names are given as legal names, though the same species are given under *Berberis* in the first volume, likewise as legal names. In this way the Index Kewensis does not give certainty either, that its readers give the same names to the same plants. And if REHDER is right, those, who adopt RYDBERG's names, give sub *O. aquifolium* RYDB. a plant or seeds different from those used by persons, who keep the old names and write *M. aquifolium* NUTT. on their labels, catalogues, etc.!

I should like to take this opportunity to ask, whether in Herbaria and Botanical Gardens, in catalogues of seeds, etc., the names, which are based on the Index Kewensis, are corrected every now and then and altered if necessary, when a new supplement of the Index Kewensis is issued? This may be the case in the Herbaria and Botanical Gardens which permit themselves the luxury of buying two copies of the Index and Supplements and work them into one copy, in doing which, the changes of names, which occur, appear of itself; but as to the others it is very doubtful; it would take up a great deal of time. Besides, it may be said of both groups, that the Index Kewensis was chosen as a base, **nòt** because it gives the best names (that is not even possible), but because it is, or rather was, an invariable base. So it would be quite comprehensible, if Herbaria etc. neglected all changes of names and maintained the name first published. If changes are adopted, there is no end to it; then our desire should be that all names were corrected, be it after a subjective standard. That general correction however is an impossibility; the Index would be drowned in a sea of difficulties; again again altered names would have to be changed again, and the Index would lose the only value it has at this moment for many Institutes, viz. its being invariable, be it inclusive of many erroneous names.

Cf. also No. 25, 26 (*Azalea*-species).

No. 8. *Magnolia denudata, purpurea, discolor, obovata* and *liliflora; M. precia, Yulan, conspicua* and *denudata; M. hypoleuca* and *obovata*.
A cross-exchange of names.

We are accustomed to call *Magnolia purpurea* or *discolor* of the nurseries officially *M. denudata; M. Yulan* or *conspicua* of the nurseries: *M. precia;* besides, both practical men and botanists know a *M. hypoleuca* with bowl-shaped, cream coloured flowers and with very large leaves.

In his "Cyclopedia" BAILEY started calling *Magnolia precia* (*Yulan, conspicua*) : *M. denudata*, and *Magnolia denudata* (*purpurea, discolor, obovata*) : *M. liliflora*. The Joint Committee does not go so far in the "Standard-

ized Plantnames"; it has *Magnolia liliflora* in BAILEY's sense, but by its side *M. conspicua* in the European sense. REHDER on the other hand in his "Manual" of 1927 goes farther than BAILEY; he has *Magnolia liliflora* and *M. denudata* both in BAILEY's sense; and by their side *M. obovata* instead of *M. hypoleuca*.

We have therefore not only three species getting an other name; but two existing names getting a different meaning; that is the alarming thing; every cross-exchange of names causes confusion. An American, who abides by REHDER, gives the name *Magnolia denudata* to the plant which is *M. precia* (*Yulan*) according to an European botanist or grower; and he gives the name *M. obovata* to the plant which the European calls *M. hypoleuca*. If an European grower wishes to offer *M. denudata* (*obovata*) to such an American, he should use the name *M. liliflora*.

We shall now consider whether those changes of names are justified; and for that purpose we turn again to the original descriptions.

In his "Encyclopédie Méthodique" vol. III 1789, LAMARCK describes *Magnolia denudata* and *M. liliflora* for the first time. In his "Histoire des Arbres et arbrisseaux etc." of 1809 DESFONTAINES adds *M. Yulan*, which is adopted by LAMARCK in the supplement of his "Encyclopédie" (1813).

Of LAMARCK's descriptions of the three species I give the essential points: *Magnolia denudata* is an "arbrisseau" with "fleurs rouges"; a calyx is not mentioned. In the supplement he writes that this is the same plant, which by VENTENAT in his splendid work "Jardin de la Malmaison" 1802/3 was called *M. discolor* (with i.a. *M. denudata* LAM. as a synonym), by CURTIS in Bot. Mag. XI 1797 sub No. 390: *M. purpurea* and by WILLDENOW and THUNBERG: *M. obovata*. The coloured illustrations of VENTENAT and of CURTIS undeniably give our *M. denudata* (*purpurea*, etc.) in the European sense; besides, in both cases the flower is described as having a trisepalous calyx and a tripetalous corolla.

The same species was also described by SALISBURY in "The Paradisus londinensis" 1806 under the name *Magnolia gracilis*. As synonyms are mentioned *M. tomentosa* THUNB. in Linn. Transact. T. 2 (1794) p. 365 [1]), *M. glauca* THUNB. Fl. jap. and KAEMPFER's name *Kobus*. Though SALISBURY writes: "a distinct species from *M. purpurea* of our Gardens", yet the description corresponds with our *M. purpurea*, the main point being the statement: "leaves not so broad" (viz. in comparison with *M. purpurea*), "calyx 3-phyllus.... Petals 6, pale purple with their outside exceedingly dark, but the colour gradually vanishing on both sides till the inside at last is almost white". In the coloured plate the petals are rather narrow. 1¼—1½: 5 cms., wine-coloured, inside pink; green calyx. KOEHNE and

[1]) *M. tomentosa* THUNB. is p.p. = *M. Kobus* DC, p.p. = *Edgeworthia chrysantha* LINDL.

SCHNEIDER regard it as a synonym of *M. denudata* (*obovata* etc.), REHDER in his "Manual" of 1927 as a variety of his *M. liliflora* (our *denudata*) on account of the narrower leaves and smaller dark purple flowers.

*Magnolia liliflora* is likewise described as "arbrisseau", but with „fleurs blanches", which "paraissent beaucoup plus grandes que dans le *M. denudata*"; here too a calyx is not mentioned.

So, *M. denudata* LAM. certainly is our s.c. *Magnolia purpurea* or *discolor*.

In the second edition of DUHAMEL's "Traité des arbres et arbustes etc." (1801—'19), in the second volume (1804), by the side of *M. discolor* (with coloured flowering branch), a *M. precia* has been described vegetatively (i.a. height 30—40 feet); it is added that by that time the species had not yet flowered in France. But it was already known among missionaries of China under the name *Yulan;* and CORREA DA SERRA had given it the name *precia*, because the flowers appear before the foliage (cf. VENTENAT "Jard. de Malm.", in a note with No. 24). This *M. precia* CORREA or DUH. is doubtlessly the same plant as *M. liliflora* LAM.

In the supplement of the "Encyclopédie" 1813, LAMARCK mentions *Magnolia Yulan* DESF. (*M. precia* DUH.); „son tronc est droit [1]); hauteur 30 à 36 pieds". "Les fleurs ont la blancheur du Lis. Corolle de 5 à 6 pétales, entourés d'un calice à 4 folioles concaves". "Cette belle espèce se rapproche du *M. denudata*".

This description is a mixture of *M. precia* and *M. denudata* in the European sense; the white flowers and the form of a tree indicate *M. precia*, the calyx *M. denudata*.

The name *Magnolia Yulan* DESF. therefore is at any rate rejectable; but the name *M. liliflora* is older and therefore more legal than *M. precia*. A fourth name, *M. conspicua* SAL. (Parad. London 1806) is not to be considered until the names *liliflora* and *precia* are deemed unsatisfactory; its description is excellent, i.a. "calyx nullus" (no calyx);.... "petalis 9, 3 exterioribus vix minoribus" (petals 9, the outer 3 scarcely smaller than the inner 6).... "petals.... white". With coloured illustration.

So, *M. liliflora* LAM. is the legal name for our *M. Yulan* (*conspicua*, *precia*).

Next we have *Magnolia obovata*. THUNBERG was the first to describe it in Transact. Linn. Soc. Lond. 2. 1794, p. 336; he describes it thus (fide WILLDENOW in Sp.pl. 1805): *M.* (*obovata*) *foliis obovatis subtus parallelo-nervis reticulatis;* this does not bring us any further. The longer description runs: *Folia.. palmaria usque pedalia* (leaves a decimeter to a foot long). That is our *Magnolia hypoleuca*, which therefore must really bear the name *M. obovata*, for the name *M. hypoleuca* is more recent (originating with

[1]) DESFONTAINES also writes „caule arboreo" (tree-shaped).

SIEBOLD and ZUCCARINI). In his "Species plantarum" of 1805 WILLDENOW started interpreting THUNBERG's species wrongly and identifying it with *M. purpurea* CURTIS; that is the reason why he calls it "Rothe Magnolia". CURTIS' diagnosis runs: *M. (purpurea) floribus hexapetalis, petalis extus purpureis;* from the six petals it follows that this is the species which moreover possesses 3 sepals.

Our conclusion therefore is, that *M. precia* (*Yulan, conspicua*) should be called: *M. liliflora* LAM.; but that the name *M. denudata* may be maintained in the sense of our *M. discolor, purpurea*. Besides, *M. hypoleuca* should, alas, be called *M. obovata* THUNB. (non WILLD. nec aut seq.).

On this subject International deliberation is also desired; we are no slaves to our Rules of Nomenclature and we can banish our names to a list of speciesnames to be rejected. But such a deviation of the Rules may only be sanctioned by the botanists jointly. And on the interpretation of *M. denudata* LAM., about which I do not agree with REHDER, International deliberation and agreement are likewise required.

## No. 9. *Stuartia* and *Stewartia*.

*Stewartia* is a name of LINNAEUS in the year 1741, given in honour of Mr. STEWART, one of his "Promotores Botanices"; in his Species Plantarum 1753 he describes *Stewartia Malacodendron* (genus *Malachodendron* MITCHELL 1748); CATESBY (Car. III 13) gave in 1743 the name *Stuartia* instead of *Stewartia* [1]).

CAVANILLES in 1788 divided it into two genera, *Stewartia* and *Malachodendron;* ENDLICHER made in 1840 two sections of them, with the genusname in common of *Stuartia;* and LINDLEY keeps that name in his "Vegetable Kingdom" of 1847. LOUDON, KÓCH, DIPPEL all have *Stuartia*.

Then, in 1895, SZYSZYLOWICZ in ENGLER u. PRANTL "Die Natürlichen Pflanzenfamilien", again calls the genus *Stewartia;* since then we find it also in BAILEY, SCHNEIDER and REHDER's works. *Stewartia* is the correct name; but *Stuartia* is still much used, f.i. in TAROUCA's "Laubgehölze"; so it will be good to fix the name *Stewartia* at an International Congress.

## No. 10. *Tilia europaea* and *platyphyllos; Tilia americana* and *glabra*. Does a name remain valid, when a species is divided? When is an old description sufficient?

LINNAEUS knew in 1737 (Hortus Cliffortianus) only one species, that of N.-Europe, which was called by him *Tilia;* a speciesname (phrase) was in

[1]) The family-name is written STEWART, STEUART and STUART.

such a case not needed; and trivial (our species) names were not yet invented. In 1753 LINNAEUS knew, beside the European species, one from America; he called them with the, in that year introduced, trivial names, *T. europaea* and *T. americana*.

With *T. europaea* he understood first of all our large-leaved Lime (*T. platyphyllos* SCOP.), with the synonym *T. femina folio majore* BAUH., but moreover, as var. *γ Tilia femina folio minore* BAUH., our small-leaved Lime (*T. cordata* MILL.).

The phrase (Linnean speciesname) of *T. europaea* L. runs: *Tilia floribus nectariis destitutis* (*Tilia* with flowers without honey petals).

This description is sufficient for the time and the rules of LINNAEUS; so we ought to keep the name of *T. europaea* as valid, though the species by that description nowadays cannot be distinguished from the other *Tilia* species without honey petals. Cf. Introductory case in *P. I.* I. no. 1, *Pinus halepensis*.

And even, when the species is divided into more, the name *T. europaea* remains legal for a part of the original species, conforming to art. 45 and 47 of the International Rules of Nomenclature.

Art. 45 runs: When a genus is divided into two or more genera, the name must be kept and given to one of the principal divisions....

Art. 47 runs: When a species.... is divided into two or more groups of the same nature, if one of the two forms was distinguished or described earlier than the other, the name is retained for that form.

Though these articles are not perfect, they indicate in a sufficient manner that, when a group is divided, the name must remain for part of it. In our case the principal part of *T. europaea* L., the part too, which LINNAEUS put ahead, is our large-leaved Lime species, as is shown by the above mentioned synonym and variety.

MILLER, in Dict. 1768, divides *T. europaea* L. into two species, i.e. *T. europaea* s.s. and *T. cordata*. With *T. cordata* he means our small-leaved Lime, for he gives as a synonym BAUHIN's *T. femina folio minore*, and mentions, according to ELWES & HENRY in „the Trees of Great Britain and Ireland", that the species grows wild in several parts of England. So his *T. europaea* means our large-leaved Lime. DUROI repeated MILLER's names in his "Harbkesche Wilde Baumzucht".

The maintainance of the name *europaea* for part of the original *T. europaea* L., is according to art. 47 of our present International Rules of Nomenclature. But in 1772 *Scopoli* gave, in his „Flora carniolica" ed. 2, the names *T. ulmifolia* and *T. platyphyllos*. Later on EHRHART proposed the names *parvifolia* and *grandifolia*. Finally VENTENAT [1]) called them *T. microphylla*

[1]) In Monographie du genre Tilleul par le citoyen VENTENAT, lu le 11 névrose An 8 (1799); printed in Mém. de l'Inst. nat. des Sc. et Arts, Cl. des sc. Math. et Phys., T. IV

and *T. platyphyllos*. VENTENAT writes that LINNAEUS' names *T. europaea* and *T. americana* must be dropped: "comme il existe plusieurs espèces distinctes soit en Europe, soit en Amérique, il est évident que les noms d'*europaea* et d'*americana* ne peuvent pas être conservés, puisqu'ils donnent lieu de supposer que les autres espèces ne sont point originaires de l'Europe ou de l'Amérique".

This motive may be right in itself, nobody has ever acted according to it; according to our present Rules even a speciesname is valid though it expresses an incorrect land of origin (f.i. *Azalea indica*).

Though, the name *T. europaea* is generally substituted by the name *T. platyphyllos* SCOPOLI, probably to avoid confusion, which however is not at all necessary.

If one wishes to maintain this name legally, LINNAEUS' name must be put on a list of "nomina specifica rejicienda".

The phrase of LINNAEUS' *Tilia americana* runs: *Tilia floribus nectariis instructis* KALM (*Tilia* with flowers supplied with honeypetals). The species is further determinated by the synonyms *Tilia foliis majoribus mucronatis* GRON. (*Tilia* with large leaves) and *Tilia amplissimis glabris foliis, nostrati similis* PLUK. (*Tilia* with very large and glabrous leaves).

*Tilia americana* was not divided, but VENTENAT l.c. re-baptized it in *T. glabra* for the above mentioned reason; and this name is now taken up by REHDER in his Manual of 1927.

REHDER joins with SARGENT (in Bot. Gaz. 66, 1918, p. 424) that LINNAEUS' species is too little distinguishable; with *T. americana* L. other American species might be meant, following SARGENT.

LINNAEUS gives as authors with his speciesname (phrase) and his synonyms: KALM, GRONOVIUS and PLUKENET. KALM had travelled in America and GRONOVIUS had described the plants collected there by CLAYTON. Now SARGENT writes that it is very improbable that KALM found and described the northern glabrous Lime; in the country, which he visited, other species (now known as *T. neglecta* and *T. heterophylla*) were more common; and the species is not known to grow at all in CLAYTON's region.

Unfortunately there is no specimen of *T. americana* in LINNAEUS' herbary, and so the question remains unsettled. But VENTENAT, who gives the name *glabra* and whose *T. glabra* is acknowledged by SARGENT and REHDER as to be doubtless the northern glabrous Lime, identified his *T. glabra* with LINNAEUS' *T. americana;* and NUTTALL, DECANDOLLE, HOOKER etc. only took the name from VENTENAT; priority was not yet much taken into

An. XI (1802). According to SARGENT, there is a Spanish translation with the title "Monografia del genero Tilo, in Vol. II of "Anales de Historia Natural", (1800). So this contains the oldest description.

consideration in that period. Later authors have nearly all or altogether the name *T. americana* as being the oldest one. And it is my opinion that we must, for sake of unity, stick as long as possible to the oldest name in every case; as soon as we deviate from it, we get in the swamp of personal ideas, and unity is risked.

LINNAEUS' speciesname (phrase) is sufficient to distinguish it from the only other then known species; more was not needed nor may be expected. Moreover LINNAEUS' synonyms indicate clearly the northern glabrous Lime. There cannot arise misunderstanding with his name. So the name *Tilia americana* may be maintained. But an International Congress of Nomenclature must decide about it.

## No. 11*a*. *Ailanthus glandulosa*, *Cacodendron* and *altissima*. An uncertain species.

*Ailanthus* [1]) *glandulosa* DESF. (in Mém. Par. 1786 (1789) p. 265 t. 8.) has an older generic name, viz. PONGELION, and two older specific names, viz. *Cacodendron* and *altissima;* properly speaking it should have quite a different name from the one we are used to. But the generic name PONGELION (originating with ADANSON in 1763) was placed on the list of names to be rejected by the International Botanic Congress of Vienna. How do matters stand with respect to those two older specific names? [2])

In 1783 (Hann. Mag.) and 1786 (Beitr. III) EHRHART described a *Rhus Cacodendron;* it was and is taken for our *Ailanthus glandulosa;* in their Fl. Adv. Montpellier (Mém. Soc. Sci. Nat. Cherb. vol. 38, 1912) SCHINZ and THELLUNG call it *A. Cacodendron* for that reason. But EHRHART does not describe flowers and does not mention glands on the leaflets; the identification is therefore uncertain.

In 1768 MILLER described a *Toxicodendron altissimum;* by BEISSNER and in the "Index Kewensis" it is taken for *Rhus succedanea* L.; this *Rh. succedanea* is closely related to *Rh. Vernix*.

In DESFONTAINE's time the tree, which he called *Ailanthus glandulosa*, was reckoned to belong to *Rhus succedanea* L.

In "Mémoires de mathématique et de physique tirés des registres de l'Académie royale des sciences (bound together with "Histoire de l'A.r.d.sc.), which were printed in 1789 but belong to l'Année 1786 of the Académie, DESFONTAINES writes a paper, titled "Un nouveau genre d'arbre. *Ailanthus glandulosa*, l'Ailanthe glanduleux. Here we read:

„Le nouvel arbre...., nous le possédons depuis longtemps dans nos

[1]) This name is derived from the native name Ailantho (fide KOCH).

[2]) A more recent, therefore certainly illegal, name is: *Ailanthus Pongelion* GMEL. 1796 (Syst. Veget. I p. 726).

jardins. Il avait été pris, jusqu'à ce jour, par la plupart des botanistes pour le *Rhus succedanea* L..... par ce qu'on n'en avait pas encore observé la fructification...." Next, DESFONTAINES gives a detailed description of the whole plant, in which we read i.a.: „folioles.... on voit latéralement, vers leur base, quelques dents obtuses, glanduleuses en dessous;...." An illustration of a flowering branch and flower-details distinctly represents our Tree of Heaven.

In other works than the above-mentioned I did not find MILLER's species (*T. altissimum*) mentioned, though other *Toxicodendron* species of MILLER are mentioned in them. SWINGLE suddenly puts forward the identification *Toxicodendron altissimum* MILLER = *Ailanthus glandulosa* DESF. (see Wash. Ac. Sc. VI 1926, p. 490); and accordingly he calls it *Ailanthus altissima* n.c. REHDER adopts that name in his "Manual" of 1927.

At my request the Director of the Kew Gardens kindly forwarded MILLER's description to me; it runs as follows: "10. *Toxicodendron* (*altissimum*) *foliis pinnatis sessilibus, lobis acuminatis*. The tallest poison-tree with winged leaves, whose lobes are pointed, and fit close to the foot-stalks. Fasi no Ki. Arbor Vernicifera spuria, sylvestris angustifolia. Kaempf. Amoen. 794. The spurious Vernice tree with narrow leaves.... The tenth sort came from China. This grows to a large size, sending out many branches on every side, which are garnished with very long winged leaves, each leaf having fourteen or fifteen pair of lobes, which fit close to the midrib; as this has not produced flowers in England, so we are at a loss where to place it, but it is hardy enough to live in the open air in winter. This propagates fast enough by the many suckers sent out from the roots". (MILLER. Gard. Dict. Ed. VIII. 1768).

So it is described as a poison-tree; and also for the rest I cannot find any cause to identify it with *Ailanthus glandulosa* either. Here again, with regard to the name of this species, International deliberation is required.

No. 11*b*. *Vitis Coignetiae* and *Kaempferi*.
An uncertain species.
An ephemeral name.

An other uncértain name, in a lesser degree, is *Vitis Labrusca* THUNBERG in Fl. Jap. 1784 (non LINN.), and in connection with it the name *V. Kaempferi* KOCH in Hort. Dendr. 1853; this Hortus Dendrologicus gives a list of bare names; and KOCH puts only THUNBERG's species name as a synonym under his *V. Kaempferi*. Beside that species he has *V. Labrusca* L. and *V. ficifolia β Thunbergii* (*V. Thunbergii* S. u. Z. 1830 [1])).

[1]) SIEBOLD and ZUCCARINI themselves write in Abh. Bayr. Ak. Wiss. IV 2 1846, p. 198, that *V. ficifolia* BUNGE is a form of their *V. Thunbergii*, distinguished by less parted leaves.

THUNBERG's description of his *V. Labrusca* runs: *foliis cordatis subtrilobis dentatis subtus ferrugineo tomentosis*. Now, in Journal of the Arnold Arboretum VII 1926 p. 31, REHDER writes that THUNBERG's species only can be *V. Coignetiae* PULLIARD in PLANCHON 1883 or *V. Thunbergii* S. u. Z. 1830; the folia subtriloba and subtus ferrugineo-tomentosa apply more to *V. Coignetiae;* and KOCH himself thinks, as seen above, *V. Thunbergii* to be an other species than his *V. Kaempferi*. So, REHDER puts *V. Kaempferi* KOCH = *V. Coignetiae* PULL. and gives to this species KOCH's older name.

In my opinion this is premature, KOCH's speciesname relying only upon THUNBERG's description; and the fact that KOCH in his Dendrology, T. I. 1869, does not mention his own *V. Kaempferi* nor THUNBERG's *V. Labrusca*, may be the more reason not to identify *V. Kaempferi* KOCH with a later described species, but to keep it as a separated, uncertain one.

## No. 11*c*. *Ceanothus azureus* and *coeruleus*.

DESFONTAINES gives in „Tableau de l'école de bot. du Muséum d'Hist. Nat." 1804 only names; in 1809, in „Hist. des Arbres et Arbrisseaux...." the same names with short diagnoses are given. Thereupon, in the 2nd edition of the above mentioned „Tableau", the new name *Ceanothus azureus* is found without any description; and in the third edition („Cat. Plant. Hort. Regii Paris") of 1829, to the name *C. azureus* is added the habitat Mexico and a reference to DECANDOLLE's Prodromus; in Prodr. II 1825 *C. azureus* is mentioned with the author's name DESF. and with a short description; meanwhile the species was also published in KER's Bot. Reg., IV 1818.

Independently from this *C. azureus*, LAGASCA described in „Genera et Species plantarum quae aut novae sunt aut nondum recte cognoscuntur" (published as Appendix to his „Elenchus...." and separately), in 1818 a *Ceanothus coeruleus*, which is treated by LOUDON and DIPPEL as a synonym of *C. azureus* DESF.. KOCH, KOEHNE, SCHNEIDER and TAROUCA do not mention the species. BAILEY too retains *C. azureus*.

The description of LAGASCA runs as follows: *Ceanothus caeruleus, foliis oblongis subcordatis serratis, subtus tomentosis, racemis compositis pedunculatis*. Habitat in Nova Hispania. Semina missit D. SESSÉ.

The identity of the two species taken as granted, REHDER has rightly put in the first place the name *C. coeruleus* LAG., with the name *C. azureus* DESF. as a synonym.

## No. 12. *Lespedeza formosa*, *Sieboldii* and *racemosa*, *Desmodium penduliflorum*. *Exochorda grandiflora* and *racemosa*.

Are names, which rely on a wrong identification or which have descriptions, that contain errors, invalid, so that they cannot eventually become legal names?

What to do with uncertain species?

*Lespedeza formosa* KOEHNE and REHDER (*L. Sieboldii* MIQ., *L. racemosa* DIPP., *Desmodium formosum* VOGEL, *D. penduliflorum* OUD.) has flower-clusters which are 8—20 cms long according to REHDER; SCHNEIDER writes the same of his *L. Sieboldii;* MIQUEL, the author of this specific name in Ann. Mus. L. B. III, p. 47, describes the clusters as "longi" (long), DECANDOLLE in his "Prodromus" as "longissimi" (very long). The clusters are much longer than the leaves, in the axils of which they stand; in "Neerlands Plantentuin" II 1866 plate II, OUDEMANS represents them with 2—3 times the lenght of the leaf.

According to the original description, *Lespedeza viatorum* CHAMP. (in HOOKER, Kew Journal IV 1852, p. 47) on the other hand has flower-clusters which are 1—2 inches (i.e. 2½—5 cms) long, sometimes longer, whilst the leaves are 1½—2½ inches. Clusters and leaves therefore are of about equal length; CHAMPION writes: *racemis folia aequantibus longioribusve* (with clusters, which are equally or longer than the leaves); considering the given measures, this greater length can never amount to much.

Finally, according to the author VOGEL (in Nov. Act. Nat. Cur. XIX Suppl. I 1843, p. 29), *Desmodium formosum* is provided with clusters, which are longer than the leaves (*racemis.... folio longioribus*). But the petiole is given as being somewhat longer than an inch, the terminal leaflet up to an inch; accordingly, the whole lenght of the leaf is about two inches or 5 cms; while we find "racemi ¾—1½ inch longi", i.e. 2—4 cms long. The greater length of the clusters compared with the leaves is at variance with those measures and so will certainly never be much.

Judging from this character, there is, therefore, much to be said in favour of SCHNEIDER's conception that *Desmodium formosum* VOGEL = *Lespedeza viatorum* CHAMP. and not = *L. Sieboldii* MIQ. Then the name *L. Sieboldii* is the legal one for our plant, and *Lespedeza viatorum* obtains the species-name *formosa!*

A third conception is the one in SARGENT's „Plantae Wilsonianae"; here *Lespedeza viatorum* CHAMP. is placed as a synonym of our *Lespedeza formosa*.* Then *Desmodium formosum*, even though it belongs to *Lespedeza viatorum*, of course becomes likewise a synonym of our *Lespedeza* and *formosa* again becomes the oldest i.e. legal name.

*) Read: *Sieboldii* in stead of *formosa*.

This is another question, which cannot be simply decided with the International Rules of Nomenclature; it should be examined thoroughly, and next the legal name should be decided by a majority of votes. Otherwise there will never be unity.

But it seems to me that such questions could be avoided if we keep a species like *Desmodium formosum* VOGEL, which is identified by some botanists with *Lespedeza viatorum* CHAMP., by others with *L. Sieboldii* MIQ. and which appears thereby to be possessed of uncertainty, if we keep such a species officially (for general use) as a separate one and do not fix it as a synonym to another species. Then the name can cause no trouble in the nomenclature of other species; and every botanist can take the species as he likes.

Another exemple is the following: REHDER has taken the name *Exochorda racemosa* REHD. in place of *E. grandiflora* LINDL. 1858, relying thereby on the synonym *Amelanchier racemosa* LINDL. Bot. Reg. 1847. But SCHNEIDER thinks that species of LINDLEY unsufficiently described for identifying it; so he puts the name aside; only it would have been better if he had not at the same time put the name as a synonym to *E. grandiflora*.

A third example of this kind is *Picea Jezoënsis* S. & Z. in I, no. 12.

But we return to *Lespedeza*. There is still the name *Lespedeza racemosa* DIPP. 1893 for our plant; the speciesname relies on that of *Desmodium racemosum* SIEBOLD and ZUCCARINI in Bayr. Acad. Wiss., Math. Physik. Cl. Bd. 4, 3e Abt. 1846; these authors took their plant for *Desmodium racemosum* DEC. 1825, which is real *Desmodium* and still exists under that name, or for an allied species. If SIEBOLD and ZUCCARINI had been correct in their identification, then the name *racemosum* would have nothing to do with our *Lespedeza Sieboldii*. But they were mistaken; and thereby S. & Z.'s name is the oldest one for our *L. Sieboldii*, but not valid, because as a new species (what the plant was in reality) the name *Desmodium racemosum* was illegal beside the already existing name *Desmodium racemosum* of DECANDOLLE; moreover S. & Z. did not give a sufficient description [1]). Had they given one, that pointed doubtless to our *Lespedeza Sieboldii*, and had DECANDOLLE's name appeared to be a synonym of an older and valid name for his (DECANDOLLE's) plant, then *racemosus* would have been the oldest and also valid speciesname for our *L. Sieboldii;* cf. the case of *Pinus inops — contorta* in Part I. p. 18, no. 6, where it is shown that *Pinus inops* BONG. is the legal name for *P. contorta* LOUD., though BONGARD's name originates in a wrong

[1]) „Specimina nostra recedunt (deviate from) *Desmodium racemosum* DEC. foliolis subtus pilis s. setulis adpressis obsitis, floribus in apice ramorum paniculatim racemosis, calycibus hirtis. An distincta Species?"

determination or interpretation. REHDER of the Arnold Arboretum takes that name of BONGARD as invalid because of that wrong identification; but there is no article in the International Rules of Nomenclature, that forbids making a wrong determination or interpretation [1]) and that rejects a name only because it relies upon an error of this kind. And in my opinion it will be wise to keep this so; REHDER's principle would have consequences of uncertainty and confusion. If an erroneous identification has led to a name which is undesirable (as it may be the case with the mentioned *Pinus inops* BONG.) then such name can always be put on a list of nomina rejicienda.

Another example of wrong interpretation is to be found in Part I. no. 17 *Picea rubra* etc.

The question, if a name is invalid when it relies upon a wrong identification, may be amplified by the case that a mistake is made in the description of a species; how far does the name become invalid by such mistakes? The species *Schoutenia ovata* KORTH. offers an example; the common name is Walikoekoen; it was described in 1839, but the description was printed in 1848 (Ned. Kruidk. Arch.); the synonymous name *Actinophora fragrans* WALL. 1829 is a nomen nudum; but in 1852 a description is given to it by BROWN in HORSFIELD "Plantae javanicae rariores". So, *Schoutenia ovata* KORTH. seems to be the legal name. But some botanists contest it because KORTHALS gave some characters in his description, which do not fit our Walikoekoen. However, the descriptions as a whole designates the Walikoekoen; and authentic material of KORTHALS confirms it. Now then, do such errors give reason enough to reject a name? I think not; moreover, it would cause much difficulty in nomenclature. Let the botanists as a rule have the right to make mistakes; if it in any case goes too far, though the species can be recognized, the name can always be put on a list of nomina rejicienda by a majority of votes at an International Congress. But is must not depend upon personal ideas. Cf. my article "Le nom du Walikoekoen etc." in Meded. van 's Rijks Herbarium Leiden, no. 48 and 49, 1923.

## No. 13. *Halimodendrum* [2]) *Halodendrum* [2]) and *argenteum*. A cryptic tautological name.

In the Dendrological works up to and including SCHNEIDER's we find *Halimodendrum argenteum* FISCH. in DEC. Prodr. 1825; but Graf VON TAROUCA and also REHDER in his "Manual" calls it *Halimodendrum Halodendrum* Voss.

[1]) The determination has to do with the plant in question, the interpretation with the described species, which comes into consideration with the determination. The identification is the result of the interpretation and the determination.

[2]) The ending *on* everywhere I have changed into *um*.

The species was described by LAMARCK in 1783 as *Caragana argentea*, but previously, in 1781, as *Robinia Halodendrum* by LINNAEUS f.

DECANDOLLE called the genus in a manuscript *Halodendrum;* if that name had been printed, it would not be valid now as a specific name.

Next DECANDOLLE changed the name into *Halimodendrum*, on account of *Halodendron* PET. THOUARS (which afterwards appeared to be *Avicennia* L.).

*Halimodendrum Halodendrum* is literally not a tautological name, but essentially it is.

## No. 14 *Cytisus albus*, *Linkii*, *multiflorus* and *leucanthus*. The right of priority of a combination of a generic and a specific name in comparison with that of the speciesname in itself.

In all the Dendrological works, from LOUDON's "Arboretum et Fruticetum" to REHDER's "Manual", the same two white-flowered *Cytisus* species are mentioned, but with different names. KOCH has the particular names *Spartocytisus albus* KOCH and *Cytisus austriacus* var. *albus* KOCH; KOEHNE has *C. Linkii* JANKA and *C. albus* HACQ.; LOUDON, DIPPEL, TAROUCA and SCHNEIDER give *C. albus* LK and *C. leucanthus* W. et K., REHDER calls them *C. multiflorus* SW. and *C. albus* HACQ. Who is or are right?

The synonym names, belonging to both species and universally recognized as such, are:

*Cytisus albus* LK with *Genista alba* LAM. 1786, *Spartium multiflorum* AIT. 1789, *Genista multiflora* DUH. 1804, *Cytisus albus* LK 1822, *C. multiflorus* SW. 1827, *Genista multiflora* SPACH. 1845, *Spartocytisus albus* KOCH 1869.

*Cytisus albus* HACQ. 1790 with *C. leucanthus* W. et K. in WILLD. 1800 and *C. austriacus* var. *albus* KOCH 1869.

So the oldest name of both groups together is *Genista alba* LAM. 1786, thereby *albus* first of all the legal name for the species concerned; and *Genista alba* belongs to *Cytisus albus* LINK. So *C. albus* LK is the legal name for this species.

The oldest name for the other species is *C. albus* HACQ.; but this name is, according to *C. albus* LK, invalid and cannot be the legal name. The next and legal name is *C. leucanthus* W. et K.

So LOUDON, DIPPEL, TAROUCA and SCHNEIDER seem to have the correct names.

Though, we might take the homonym name *C. albus* as one which causes confusion and therefore exclude it as being invalid. Then the legal name of *C. albus* LK (*Genista*—LAM.) becomes *C. multiflorus* SW. (*Spartium*—AIT.). Beside it *C. leucanthus* W. et K. remains unchanged. BAILEY in his "Cyclopedia", the "American Joint-Committee", and SILVA TAROUCA

in Ed. 1923, have acted in this manner. But this is a precarious deed; confusion with *C. albus* is not necessary if the author's name is mentioned. And if we reject the name *C. albus* for that reason, all suchlike homonym names ought to be rejected too; i.a. *Acer saccharinum* and *Cornus alba*, both with the two author's names LINNAEUS and WANGENHEIM.

REHDER defends the name *Cytisus albus* HACQ. beside *C. multiflorus* SW. in this manner: *albus* in *Genista alba* LAM. 1786 is the oldest speciesname independent of a generic name, that comes into consideration, and it belongs to *C. albus* LK; but the combination *Cytisus albus* HACQ. 1790 is older than the combination *C. albus* LK 1822, therefore *Cytisus albus* HACQ. has a right of priority and *C. albus* LK must receive the following name *C. multiflorus* SW.

So International deliberation is not only required for the names of the two *Cytisus* species themselves but moreover for the question of principle if a combination of generic and species name has a right of priority, praevalent over that of the speciesname separated. With this principle relative priority prevails over absolute priority, and that is against the spirit of our Rules. But with that principle stability of names is better secured. One can never know if an old species $\alpha$, named A.a, will in future be brought into an other genus B and identified with a later-published species $\beta$ of that genus, named B.b.; then that older species name B a, being honoured as legal, will be able to eventually push away the homonym name B a of an already existing species $\gamma$ in the genus B.

See also *Rhododendrum japonicum* in II no. 25 and *Acanthopanax pentaphyllus* in no. 23b.

## No. 15. *Chimonanthus* and *Meratia*.

In Sp.pl. 2nd ed. 1762 LINNAEUS describes *Calycanthus praecox* and *floridus*. LINDLEY represents a *Chimonanthus fragrans* in Bot. Reg. 6, 1820, t. 451; already in Bot. Reg. 5, 1819, he represented the new genus *Chimonanthus* with a diagnosis and with the species *fragrans*, by the side of *Calycanthus fertilis*, which was represented on t. 404.

The difference between the two species *fragrans* and *praecox* was not acknowledged by the dendrologists; and from that time the names *Calycanthus* or *Chimonanthus praecox* were used.

But in the year 1818 in "Herbier général des amateurs" III t. 173, LOISELEUR had given a good description and drawing of the species with the generic name *Meratia* (fide REHDER); and though 1819 is mentioned in the title, according to REHDER the part containing No. 173 *Meratia* was published before July 1818 (monthly number of July 25, 1818; copied from the „Bibliographie de France" 1818); while *Chimonanthus* was published

by LINDLEY after Oct. 1818; for that date is mentioned on plate 404.

That is the reason why we find the plant in SARGENT's "Plantae Wilsonianae" and in REHDER's "Manual" as *Meratia praecox* REHD. and WILS. n.c. BAILEY too has the name in his Cyclopedia; in SCHNEIDER and TAROUCA we still find *Chimonanthus*.

The difficulty is of course avoided by classing the species with *Calycanthus*, as was decided by the N. D. V. (Dendrological Society of the Netherlands).

## No. 16. *Elaeagnus longipes*, *edulis* and *multiflora*.

*Elaeagnus longipes* A. GRAY 1859 and *E. edulis* SIEB. apud MAY in Rev. Hort. 1876, are fairly generally considered to be the same species; if so, the valid and legal name is *E. longipes* A. GRAY.

Naturally DECANDOLLE does not mention these species in his "Prodomus" XIII, 1856. But under "species minus notae" (less well-known species) he gives *Elaeagnus multiflora* THUNBERG. THUNBERG described that *E. multiflora* in his "Flora japonica" of 1784, on p. 66, thus: *E. inermis foliis obovatis obtusis, floribus axillaribus aggregatis, pedunculis flore longioribus*. The long description runs i.a.: Rami et ramuli (branches and twigs) alterni, rari, teretes, fusco-ferruginei (rusty-brown), patentes, punctato-scabri (punctate scabrous). Folia e singula gemma plura, alterna, petiolata, obovata, obtusa, integra, erecta; supra seminuda, punctis squamosis argenteis, subtus tota squamosa-argentea (leaves at the upper surface half glabrous, for the rest with silvery scales, i.e. with scattered silvery scales; at the under surface quite covered with silvery scales).... inaequalia, subpollicaria (length half an inch). Petioli....; Flores....; Pedunculi.... argentei....; Calyx....

Beside this species *E. crispa*, *umbellata*, *glabra*, *macrophylla* and *pungens* are also described.

In this description our *Elaeagnus longipes* may be recognized; then *E. multiflora* is the oldest name. BAILEY has it in his "Cyclopedia"; the "Joint Committee" rejects it; REHDER corroborates it in his "Manual" of 1927, and mentions the var. *crispa*, which had already before been added as a variety to *E. longipes*.

But it will be good to fix this, or the reverse, Internationally.

## No. 17. *Hydrangea opuloides* and *macrophylla*.
### An uncertain species.

In his "Manual" of 1927, REHDER calls the well-known *Hydrangea opuloides* (syn. *H. Hortensis* or *Hortensia*): *H. macrophylla* DEC.

In his "Prodromus" vol. IV 1830, DECANDOLLE described a *Hydrangea Hortensia* with i.a. the synonymous name *Hortensia opuloides* LAMARCK, and a *H. macrophylla* with the synyonmous name *Viburnum macrophyllum* THUNBERG Fl. Jap. 1784.

Now, in the first place it is quite possible that, just as *Viburnum serratum* THUNB. is universally called *Hydrangea serrata* [1]), his *Viburnum macrophyllum* was likewise a *Hydrangea*. That species of THUNBERG is not found in a single dendrological work, which is a striking fact; and both in the Index Kewensis and in JUEL's exposition of THUNBERG's plant-names, *Viburnum macrophyllum* is recognized as a separate species.

THUNBERG's descriptions runs:

*Viburnum macrophyllum. V. foliis obovatis acuminatis dentatis glabris.* Tota planta glabra. Caulis teres, uti et rami. Folia opposita, petiolata, obovata, acuminata, dentata, nervosa, glabra, subtus pallidiora, palmam lata et paulo longiora. Petiolus folio triplo brevior. Umbella terminalis, composita, floribus radiantibus.

And in DECANDOLLE we read:

„*Hortensia* primo a Commers. Peantia dicta in honorem Dae Hortense Lepeaute." Then follows: „Species Japonicae minus notae:

13. *H. macrophylla, ramulis pilosiusculis, foliis obovatis acuminatis argute dentatis utrinque pilosiusculis, umbella terminali composita radiante.* In Japonia. *Viburnum macrophyllum* THUNB. Flor. jap. 125 (v.s. in h. DELESSERT). 14. *H. serrata.... Viburnum* — THUNB."

REHDER not only assumes, as does DECANDOLLE, that *Viburnum macrophyllum* is not a *Viburnum*, but a *Hydrangea*, but moreover that it is identical with *Hydrangea opuloides*. This relies probably on WILSON's mentioning in the Journal of the Arnold Arboretum IV 1923, that the specimens in THUNBERG's Herbarium of his *Viburnum macrophyllum* are our *Hydrangea opuloïdes*. But there is no photo nor description of that Herbary specimen for verification.

It appears to me that this should be further examined, discussed and settled at an International Congress.

[1]) *Viburnum serratum* THUNB. was called by DECANDOLLE *Hydrangea serrata*; REHDER has this species in his "Manual" and adds even some varieties to it, which formerly were put by him under *H. opuloides*; hereby those varieties are coupled with an uncertain species. In my opinion SCHNEIDER is more correct in putting *H. serrata* as separate species without varieties, so excluding confusion and changing of names. SCHNEIDER mentions that he looked upon the Japanese specimens of *H. serrata* in the Herbary of the State in Leyden, and that in his opinion it is a culture form of *H. opuloides*, nearly like var. *angustata*.

## No. 18. *Rhodotypus kerrioïdes*, *tetrapetala* and *scandens*. Again an uncertain species.

MAKINO gave to our *Rhodotypus kerrioïdes* S. & Z. (also called *Rh. tetrapetala*) the name *Rh. scandens*, and REHDER adopts that name in his "Manual" of 1927; BAILEY and the "Joint Committee" reject it; and it does not occur in "Plantae Wilsonianae" II, p. 300, where *Rhodotypus kerrioïdes* is given.

The name *Rh. tetrapetala* also originates with MAKINO (Bot. Mag. Tokyo XVII 1903) and is based upon *Kerria tetrapetala* SIEBOLD 1830 (Verh. Bat. Gen. XII p. 69), which name is however a "nomen nudum" (name without description), so not valid.

The name *scandens* originates with THUNBERG; in the "Transactions of the Linnean Society" II, 1794, p. 355, he described a *Corchorus scandens* thus: foliis (leaves) ovatis setaceo-serratis oppositis (opposite), caule ramisque flexuoso-scandentibus.

*Caulis* (stalk) *teres*, *scandens* (climbing), *ramosus*. *Rami* (branches) *oppositi* (opposite), *similes*, *divaricati*. *Folia opposita*, *brevissima petiolata*, *basi rotundata*, *ovata*, *acuminata*, *serrata serraturis setigeris* (with bristle-pointed serrate teeth), *pollicaria*. *Flos* (flower) *in ramulis terminalis* (terminal), *solitarius* (single), *flavus* (yellow).

So there is a proper description with this name. Our *Rhodotypus*, as an exception with the *Rosaceae*, has opposite branch- and leaf-position; the leaf-margin is acuminate, serrate and the flowers are solitary and terminal; all this corresponds. But our *Rhodotypus* is no climbing plant and has white flowers. Besides, *Corchorus* is a genus with pentamerous flowers, whereas *Rhodotypus* is tetramerous.

I think, there is sufficient reason to reject this name for our *Rhodotypus kerrioïdes* S. & Z.

## No. 19a. *Prunus Amygdalus* and *communis*. An insipid principle and insipid names. Nomen est omen.

In 1753 LINNAEUS described *Amygdalus communis*, by the side of *A. Persica* and *A. nana;* so *communis* is the oldest specific name; and in the works of this century the species has universally been called *Prunus communis* ARCANGELI (Comp. Fl. Ital. 1882, p. 209), instead of *P. Amygdalus* STOKES 1812. Consequently HUDSON's name *P. communis* in 1778 for one of the *Eu-Prunus* species (according to SCHNEIDER: *P. domestica*) must also be rejected.

The name *communis* was characteristic in connection with the genusname *Amygdalus*, but is not so with the generic name *Prunus; Prunus Amyg-*

*dalus* is a far better and a characteristic name. Perhaps a majority will wish to have this name put on a list of nomina specifica conservanda. And probably there are more such names in the field of systematic Botany. "Nomen est nomen" is an insipid principle, unworthy of *Homo sapiens*, and which causes insipid names. It is wise that no particular Botanist may change a name; but a Congress of all Botanists together may! Nomen est omen; we must invent the best names possible.

Such a list of nomina rejicienda should also contain ephemeric names like *Rhododendrum luteum* SWEET, renounced by SWEET himself and causing the name *Rh. luteum* to be impossible for *Azalea lutea* L. as a *Rhododendrum*. Other examples are *Ulmus glabra* HUDS., *Vitis Kaempferi* KOCH, *Halesia carolina* L. (resp. in No. 6, 11*b*, 28) and *Cedrus effusa* SAL. (in I No. 12).

Insipid names of another kind are *Abies Picea*, *Picea Abies* (cf. I no.23*a*) and *Rhododendrum Azaleodendrum* (*Azaleodendrum* is a genus-hybridname for those who take *Rhododendrum* and *Azalea* separated). Further the subtautological names *Larix laricina* (cf. I no. 7) and *Halimodendrum Halodendrum* (cf. II no. 13).

A third category is formed by names like *Abies concolor* var. *lasiocarpa* beside the synonymous name *Abies Lowiana* and the separate species *Abies lasiocarpa* (*subalpina*); a result from the compromise with regard to the "Kew Rule"; cf. I no. 27.

This remnant of the "Kew Rule" in Art. 49 of the International Rules ought to be recalled, and the recommendation 29 to be put in the place of it as a Rule.

A fourth kind is shown f.i. by the genera names *Eusideroxylon* T. et B., beside *Sideroxylon* L.; *Pseudotsuga* beside *Tsuga*; *Englerastrum*, *Englerella*, *Englerodaphne* beside *Engleria*.

A fifth kind may be represented by the names *Berberis Poiretii* SCHN. (*B. sinensis* DEC. 1824) and *B. sinensis* POIR. 1808 (syn. *B. spathulata* SCHRAD. 1838, *B. Guimpelii* KOCH 1854). POIRET has erroneously taken that his *Berberis* habitated in China; in reality its habitation is Asia minor and Kaukasus; on the contrary *B. Poiretii* grows in China. Therefore it would be wise to put the legal names on an Index of nomina specifica rejicienda and to choose the synonym names, which are also used by the practical men and in gardens.

A sixth kind are native names like (Pinus) *Chichihuana* and *Ayacahuite*, (Azalea) *Yodogawa*, (Prunus) *hatazakura*; arbitrary names like *Quisqualis*; double names like *Sebastiano-Schaueria*, *Bisgoeppertia*, (*Amarantus*) *Jansen-Wachterianus*.

A seventh group are speciesnames like *hybridus* in the cases that the plant is no hybrid.

And an eighth one comprehends speciesnames, which consist of an other

speciesname with the suffix *oides* or *oideus;* f.i. *Panicum capillare* L., *P. capillareoides* VASEY. These names are nomina botanicoidea (cf. LINNAEUS "Critica botanica" no. 226).

Finally, there are insipid species names like *dubius* (e.g. *Robinia dubia* FOUC.) and *hortulanus* (e.g. *Prunus hortulanus* BAIL.).

Botanical Nomenclature of plants ought not to be kakistocratic, not even democratic (that means here partly kakistocratic) but to be aristocratic. Intelligence and good taste ought to prevail. Scientia amabilis!

Nomen est omen. The names speak for or against the botanists. As the names, so the botanists.

## No. 19b. *Prunus Pissardii* or *Pissartii*; *Celastrus orbiculata* or *articulata*. Questions of orthography.

REHDER in America, Voss in Germany write against the custom of using *P. Pissartii*.

The species was introduced by CARRIÈRE in Rev. Hort. 1881 as *P. Pissardi*; in his publication CARRIÈRE mentions in a footnote that, in the year before, a new species of *Rosa* was called by him erroneously *Rosa Pissarti* because he had taken the name of the person concerned as PISSART, while the name had appeared to be PISSARD; so the species must be called *Rosa Pissardi*.

REHDER, who takes principally and in conform to art. 57 of the Int. Rules the names so as they were written by the original authors, must therefore have written *Prunus Pissardi* and *Rosa Pissarti*; but he writes *Rosa Pissardii* CARR. (as a synonym of *R. moschata*) and *Pr. cerasifera* var. *Pissartii* BAILEY [1]) with the synonym *P. Pissardii* CARR. So REHDER does not follow here his own principle, neither does he give a well corrected orthography.

In my opinion we must not take the orthography according to that of the original authors; the consequence of it is that in one genus REHDER has a species *sinensis* (e.g. *Gleditsia sinensis*), in another *chinensis* (e.g. *Acer chinensis*); that he writes *Zanthoxylum* beside *Xylosteum*, *Liriodendron* but *Zanthoxylum*, *Acer Wilsoni* beside *A. Lobelii*, *Pinus sylvestris* but *Genista silvestris;* we find in his "Manual" *Gleditsia* (the name is GLEDITSCH, so it must be *Gleditschia*); but in stead of the originally so written name *Wisteria* (denominated after Prof. WISTAR in America), REHDER uses the corrected name *Wistaria;* in stead of *Pernettia* (GAUD. 1825): *Pernettya* (GAUD. 1826); in the place of *Buddleja* L.: *Buddleia* (SPRENGER 1818 writes rightly: *Buddlea*). REHDER writes *Weigela* and *Diervilla* (in stead of *Weigelia* and *Diervillea*), *Aukuba* instead of *Aucuba*, *Pyrus* in the place of *Pirus*.

[1]) BAILEY calls it in the second edition of his "Cyclopedia" *Pissardii*.

etc. All that is according to REHDER's principle and to art. 57 of the Rules. REHDER follows nevertheless the Recommendation X of the International Nomenclature in putting a capital letter at the head of a speciesname, when this name once was a genusname, independent from the original manner of writing; he writes *Acer* **p***seudoplatanus* and *A.* **p***latanoides* against LINNAEUS' *Acer* **P***seudoplatanus* and **P***latanoides;* and many suchlike names.

*Pinus* **P***inaster* and *P.* **L***aricio* again conform to REHDER's principle and to Art. 57, but not to Rec. X; they are introduced with **P.** resp. **L.** though they are no old genus names [1]). And the writing of *Pinus* **s***trobus* and *Sorbus* **A***ucuparia* by REHDER is contrary as well to the original manner of writing as to the Recommendation X of 1905; *Strobus* is an old genusname, not so *aucuparia;* and LINNAEUS wrote *Pinus* **S***trobus* and *Sorbus* **a***ucuparia. Aucuparia* was before LINNAEUS (even before BAUHIN) and for LINNAEUS a speciesname; in and after LINNAEUS' time it was used by some botanists as a genusname; but that does not make it an "old genusname"; such a one must have begun as genusname. Most of the Dendrologists write, in agreement with this, *Sorbus* **a***ucuparia.*

It would probably be wise to begin all speciesnames, which originate from generic names, with a small letter because it is not so easy, as it seems to be, to know if a name is an old genus name.

REHDER's principle and art. 57 cause a chaotic orthography; nobody can keep in his memory all those arbitrary looking spellings; and in alphabetical lists it gives trouble.

On the contrary, if names are always written orthographically correct, after the names of the persons concerned, after the rules of the Latin and Greek and after the Rules or Recommendations of Nomenclature (somewhat emendated), then there is a firm ground as basis; every one can know how every name must be written. If, for example, all the names ending into **on** (Greek) are spelt in Latin... **um** (f.i. *Rhododendr***um**) and only the names ending into **oon** (Greek).... **on** in Latin (f.i. *Erigero***n**), then there is uniformity, every one knows how it must be and he knows then also that all plantnames in **on** are masculin, all names in **um** neuter.

In the same manner we could systematically translate the Greek ending **ous** and **oos** into **os**, the ending **os** into **us.** In this matter I agree with HÖFKER (Mitt. der D.D.G. 1927 p. 336).

If it is in some cases impossible to find out what is the correct spelling, (cf. REHDER in Mitt. der D.D.G. 1927 p. 335), then an International Congress may choose one of all those, which occur; that is a better way than leaving it to personal ideas, which differ one from another. F.i. *Heleocharis* or *Eleocharis.*

[1]) It may be that REHDER writes *Laricio* because he gives the name as a synonym.

Then we must write also *Prunus Pissardii* and *Rosa Pissardii*.[1])

P. S. The name *Celastrus orbiculata* THUNB. ("Flora japonica", 1784) is changed by REHDER in his "Manual" of 1927 into *C. articulata* THUNB. Now, THUNBERG writes on p. XIII in the chapter "Florula japonica": *Celastrus orbiculata;* on p. 97, where the description is given, the name *C. articulata*, written in margine, relies probably on an error. So thought DIPPEL in 1893 and so think nowadays SCHNEIDER and TAROUCA; and they put that name aside. I cannot but agree with them. We may take it as a typographical error (Art. 57). But it will be good that at an International Congress the question will be settled.

See for another orthographical question in a note of no. 7 (*Mahonia* etc.).

## No. 20. *Malus Toringo* and *Sieboldii; M. rivularis, fusca* and *diversifolia*. An insufficiently described species.

The well-known *Malus* (*Sorbus*) *Toringo* SIEBOLD (Cat. rais. 4. 1856) has appeared to be a "nomen nudum", name without description; DE VRIESE does not give it either in his "Tuinbouwflora" III, p. 368 t. 17, 1857; he only refers to SIEBOLD Cat. rais.

REGEL was the first to describe the species in Latin as *Pyrus Sieboldii* in "Index Seminum Hort. Petropol." 1858, p. 51; later also in "Gartenflora" VIII, 1859, p. 82, in German, beginning thus: Ein halbhoher Strauch aus Japan, der durch SIEBOLD als *Sorbus Toringo* vertheilt ward und wahrscheinlich in Deutschland im freien Lande aushalten wird. Derselbe ist mit der auf Sitka heimischen *P. rivularis* DOUGL. zunächst verwandt. Of the leaves he says i.a., that they are oval-lanceolate, decurrent in the petiole, and entire to 3-lobed or even pinnately-lobed. The pedicel is pubescent and the number of styles (quite free and densely haired at the foot) is usually 4 (contrasted with *P. rivularis* with the leaves oval and rounded at the foot; pedicels glabrous; and as a rule 3, half-cohering and entirely glabrous styles).

In BAILEY we therefore rightly find the name *Pyrus Sieboldii* REGEL, in REHDER the name *Malus Sieboldii* n.c.; SCHNEIDER and ELWES & HENRY still have *M. Toringo*. TAROUCA follows REHDER.

In SCHNEIDER, TAROUCA, BAILEY and REHDER *Malus rivularis* is called *M.* (resp. *P.*) *fusca*, since it was found that RAFINESQUE described it as *Pyrus fusca*, in the beginning of the 19th century, while DOUGLAS' name *rivularis* in HOOKER Fl. bor. am. dates from 1840; ELWES & HENRY still have *P. rivularis*.

RAFINESQUE described his *Pyris fusca* in the following manner, in

[1] Prof. HÖFKER imforms me that KOEHNE in Mitt. D. D. G. 1917 p. 66 mentions that the head gardener of the Shah of Persia was named PISSARD, so that the name in both cases must be *Pissardii*. But who is right, CARRIÈRE or KOEHNE?

"Medical Flora or Manual of North America" vol. II 1830:" *P. fusca* RAF. (Oregon Crabapple) has brown acid pulpy fruits, wood very hard, used for wedges". That is all! [1]) Me thinks, this is not a sufficient description, and the name becomes a nomen nudum; ELWES and HENRY are right in keeping the name *P. rivularis* (DOUGL). HOOKER's *P. rivularis* is described quite satisfactorily.

An International Congress may judge about it; and it would be recommendable to judge at the same time about RAFINESQUE himself, who introduced so many incompletely described species!

If his species *Pyrus fusca* is honoured, it will be wise not to identify it with another species, which is well described, in our case with *P. rivularis* HOOK., because this species would then obtain a name of uncertain value. And in the same manner also RAFINESQUE's remaining species, i.a. *Abies heterophylla* and *A. falcata*, *Picea sitchensis*, *Tsuga Mertensiana* etc. (cf. I, no. 20), should be put aside.

G. SUDWORTH mentions in "Check list of the Forest Trees of the United States etc.", that BRITTON and SHAFER (in "North Am. Trees", 1908) put the name *M. diversifolia* ROEMER (*Pyrus* BONG.) in the place of *M. rivularis*. BONGARD described the species in Mém. Ac. Pet., Ser. VI. 2, 1833, so in the same year in which DOUGLAS described his *Pyrus rivularis*.

BONGARD's description is excellent; and the identification with *Malus rivularis* is universally accepted. The article on the vegetation of the isle Sitka, in which the description is included, was read in the Academy of Petersburg the 4th of May 1831; but it was only printed in the Mémoires of the Academy of 1833.

SUDWORTH correctly writes that, so long as it is not proved that BONGARD's description was published before that of DOUGLAS, there is no good reason for the change of name.

## No. 21. *Chaenomeles japonica* and *lagenaria; Ch. Maulei* and *japonica;* a cross-exchange of names.

The well-known *Pirus japonica* THUNB. or *Cydonia japonica* PERS. is universally called *Chaenomeles japonica* LINDL. by the botanists; beside this species there is another, *Ch. Maulei* SCHN., which was formerly likewise estimated as belonging to *Pirus* resp. *Cydonia*. *Ch. japonica* attains a much greater height and has smooth twigs, whereas those of *Ch. Maulei* are warty; the leaves are serrate in *Ch. japonica*, crenate in *Ch. Maulei*. The flowers and fruits of the former species are bigger than those of the latter; the flowers of *Ch. Maulei* are more orange-red than those of *Ch. japonica*.

[1]) And SUDWORTH, in Checklist of the Forest Trees of the United States, declares that this not fits *Malus rivularis*.

THUNBERG was the first to record our *Chaenomeles japonica* in his "Flora japonica" of 1784 (under the generic name *Pirus*); MASTERS was the first to record *Ch. Maulei* in Gardens Chron. of 1874 (also under the generic name *Pirus*), in this way: *Pyrus Maulei* MAST. *fruticosa.... foliis.... crenatis* (crenate).... *petalis rubro-aurantiacis* (petals reddish-orange).... *obtusis*. Messrs. MAULE of Bristol had forwarded the plant to MASTERS.

Besides, there is a variety *alpina* of *Ch. Maulei*, introduced by MAXIMOWICZ in 1874 as *P. japonica* var. alpina. This name *alpina* being older than the name *Maulei*, KOEHNE in his "Dendrologie" of 1893 called the whole species *C. alpina* n.c.; at that time a variety-name had equal rights with a specific name.

All this is very plain; but in BAILEY's "Cyclopedia" we suddenly meet with the name *Chaenomeles lagenaria* instead of *Ch. japonica*, while *Ch. Maulei* is called *Ch. japonica;* so here again we find a cross-exchange of names. The "Joint Committee", which in its "Standardized plantnames" does not adopt the generic name *Chaenomeles* but keeps *Cydonia*, does agree to the new specific names; so we find there *Cydonia lagenaria* and *C. japonica* (our *Maulei*). Of course REHDER also has BAILEY's names in his "Manual" of 1927.

This change of name was not started by BAILEY, resp. REHDER; for the author's name of the combination *Chaenomeles lagenaria* is KOIDZUMI in "Bot. Mag." Tokyo XXIII, 1909, p. 173. MAKINO had referred to it in the previous file.

On what is it based? In the second edition of DUHAMEL's "Traité des arbres et arbustes...." T. VI, 1815, p. 255, there are described *Cydonia sinensis* and *Cydonia Lagenaria*. The description of *C. Lagenaria* runs: *C. caule fructicoso, spinoso; foliis ovato-oblongis, glabris, serratis; floribus subcorymbosis, fructibus lagenariaeformibus*. As synonyms the names *Cydonia japonica* PERS. and *Pyrus japonica* THUNB. are subjoined; we are further referred to CURTIS Bot. Mag. vol. 8 t. 692. Behind the Latin description we find: "Ce Coignassier est un petit arbrisseau.... rameaux assez menus, recouverts d'une écorce brunâtre, chargées d'un duvet court, surtout pendant leur jeunesse...."

The illustration gives a branch with leaf and flower; the branch is covered with a velvety layer. LOISELEUR is given as the author of this *C. Lagenaria*. The hairiness of the twigs indicates our *Ch. Maulei;* but the species is generally kept for our *Ch. japonica* (in the old sense) and consequently the name *lagenaria* receives consideration for this species. Certainly not, the reader will say, for it is much more recent than THUNBERG's name. That is true; but BAILEY and REHDER take *Pirus japonica* THUNB. for our *Ch. Maulei*! and in that case the name *lagenaria* really takes the place of our so-called *Ch.* (*P.*, *C.*) *japonica*. The name might be saved by *Cydonia japonica* PER-

SOON "Synopsis" 1802; PERSOON gives THUNBERG's short diagnosis without the word *crenatis*, but alas without putting *serratis* in its place. Therefore PERSOON's species cannot but be identified with THUNBERG's; and his specific name stands and falls with it.

But are BAILEY and REHDER right? THUNBERG describes his *Pyrus japonica* thus: *P. foliis cuneatis crenatis* (crenate) *glabris, floribus solitariis.* That is no good to us. But his longer description runs: *suffrutex, vel arbuscula et interdum arbor* (sometimes arboraceous), *tota glabra* (in all parts glabrous). *Rami et ramuli alterni, flexuosi.... laeves* (smooth), *cinerei, erecti. Folia.... obtusa, interdum marginata* (obtuse sometimes emarginate) *serrata.... glabra.... pollicaria. Flores.... corolla.... purpureo-incarnata.... laciniae ovatae, obtusissimae* (petals purple incarnadine, oval, very obtuse).

The absolutely naked twigs and the tree-like appearance indicate our *Ch.* (*P. C.*) *japonica* and not *Maulei;* likewise the serrate leaves of the long description.

The obtuse, sometimes emarginate leaves on the other hand remind us of *Ch. Maulei;* and in the short description the leaves are designated crenate as *Maulei* does. The colour of the flowers and the shape of the petals however are as with *Ch. japonica* [1]).

Therefore I consider the exchange of names incorrect and superfluous.

But it stands to reason that the persons thinking differently, will also have their reasons. Well, those various conceptions, should be contrasted and considered well; next, it should be decided and Internationally fixed which are the legal names.

Propagating a personal conception, which is at special variance with the customary conception, directly in works destined for the public, is wrong; this brings about a fatal confusion. The name *Chaenomeles* (*Pirus, Cydonia*) *japonica* has an uncertain meaning in future.

Finally it should be added that the *Cydonia sinensis*, incidentally above mentioned, was made by SCHNEIDER in his "Laubholzkunde" into a separate genus *Pseudocydonia*, with the species *P. sinensis.* REHDER has kept it under *Chaenomeles.*

## No. 22. *Crataegus Carrierei, Lavallei* and *berberifolia.* An insufficiently known species.

We are used to a *Crataegus Carrierei*, sometimes identified with *C. Crus-galli* L. var. *berberifolia;* it is usually taken for a hybrid between *C. Crus-galli* and *C. punctata.* In his "Manual" of 1927 REHDER calls it *C. Lavallei* HERINCQ.

[1]) There also exists a hybrid with mixed characters in various forms.

SARGENT gives *C. Carrierei* and *C. Lavallei* as synonyms of *C. Crusgalli*. He has a var. *berberifolia*, called *C. berberifolia* by TORREY & GRAY. SCHNEIDER distinguishes this var. *berberifolia* SARG. from var. *berberifolia* HORT., which latter would be *C. Carrierei*.

*Crataegus Lavallei* is described and illustrated in LAVALLÉE "Arboretum et Fruticetum Segrezianum" 1885. LAVALLÉE communicates that the species is of unknown origin; it had been cultivated in the arboretum since 1867 and flowered for the first time in 1874.

LAVALLÉE writes: "*C. Lavallei* T. HERINCQ Mss"; which means, that HERINCQ wrote a description which was not printed, so that LAVALLÉE is the legal author. As synonyms LAVALLÉE mentions the names *C. olivaeformis* HORT., *C. fructu rubro* HORT.; so, under those names it appeared in the gardens. CARRIÈRE also knew the plant, when he described his *Crataegus Carrierei* in the "Revue horticole" of 1883, p. 108; for he imparts to us that his species had already been critisized; it was considered identical with *C. Lavallei*. *C. Carrierei* had already been cultivated before the official description, just as *C. Lavallei;* the Director of the Nurseries of the Museum of Nat. History VAUVEL had baptized it *Carrierei*.

Unless REHDER can produce a valid description of *C. Lavallei*, dated before 1883, *C. Carrierei* is the older name. To the name *Lavallei* it may moreover be objected that *C. Lavallei* is insufficiently known and perhaps a separate species. CARRIÈRE himself declares that the differences with *C. Lavallei* are very slight; he sets great value on VAUVEL's experience that the birds never eat the fruit of *C. Lavallei*, whereas they are exceedingly fond of those of *C. Carrierei*.

CARRIÈRE moreover communicates that his species originated as a seedling of *C. mexicana*. According to REHDER *C. mexicana* is a synonym of *C. pubescens* STEUD.; and therefore REHDER considers *C. Lavallei* (syn. *Carrierei*) as a hybrid between *C. Crusgalli* and *C. pubescens* (instead of *C. punctata*, see above). This *C. pubescens* STEUD. however should not be confused with *C. (Mespilus) pubescens* WENDL., which, according to KOEHNE and SARGENT, is a synonym of *C. mollis* SCHEELE.

## No. 23*a*. *Aralia sinensis*, *mandshurica* and *elata*.

In 1753 LINNAEUS described *Aralia chinensis* and *A. spinosa;* then MIQUEL (in Comm. phytogr. 1840): *Dimorphanthus elatus;* next MAXIMOWICZ and RUPRECHT (in Mém. Sav. étr. Acad. St. Petersb. IX "Prima Flor. Amur." 1859): *Dimorphanthus mandshuricus;* and finally SIEBOLD and ZUCCARINI (Abh. Akad. München IV 2 "Fl. jap. Fam. nat." 1845): *Aralia canescens*.

SEEMANN (in Journ. Bot. VI 1868) calls *Dimorphanthus mandshuricus* and *elatus: Aralia mandshurica* and *elata;* and SARGENT mentioned them in "Silva of N. America" V. 1893 as *Aralia spinosa* L. var. *chinensis* and *elata*, but in 1916 ("Plantae Wilsonianae") as *Aralia chinensis* L. with syn. *Dimorphanthus mandshuricus* MAXIM. and with the var. *glabrescens* (syn. *Dimorphanthus elatus* MIQ.). FRANCHET & SAVATIER (in En. pl. Jap. I, 1875) introduced *Aralia canescens* as a variety to *Aralia spinosa* L., by the side of a var. *glabrescens*.

In his "Dendrologie" of 1893 KOEHNE distinguishes *Aralia spinosa* L. and *Aralia chinensis* L. with *β canescens*, beside *Dimorphanthus mandshurica* MAXIM. (non HORT., this = *A. chinensis* L.).

SCHNEIDER, in his "Laubholzkunde" of 1913, describes *Aralia chinensis* L. with var. *mandshurica* REHD. and var. *glabrescens* SCHN. (syn. *A. canescens* S. & Z.). TAROUCA mentions in his "Freiland Laubgehölze" only *Aralia spinosa* L. and *A. chinensis* with var. *mandshurica*.

BAILEY (Cyclopedia) and the "Joint Committee" (Standardized plant-names) have SCHNEIDER's conception.

Finally in his "Manual" of 1927 REHDER again puts forward *Dimorphanthus elatus* MIQUEL. He regards it (just as SEEMANN did) as a separate species of *Aralia*, by the side of *A. chinensis* L. and *A. spinosa* L., but he moreover identifies it with *Dimorphanthus mandshuricus*, in consequence of which the unknown specific name *elatus* takes the place of the familiar name *mandshuricus*, thus: *Aralia elata* SEEM. (syn. *Dimorphanthus mandshuricus* MAXIM.). The variety *canescens* is now also added to this *Aralia elata;* he does not mention a variety *glabrescens*.

In cases like these, where there exist but slight differences between the plants and there prevails a difference of opinion among the botanists with regard to them, it seems to me that we had better first discuss the re-introduction of an old specific name (in our case *elatus*) instead of a familiar name (in our case *mandshuricus*) in scientific papers and wait till an International decision has been taken, before publishing it in a manual for general use.

### No. 23*b*. *Acanthopanax pentaphyllus* and *Sieboldianus*.

A name based on an erroneous identification.

The priority of a combination of a generic and a specific name over that of the species name in itself.

THUNBERG has described in his "Flora japonica 1784" an *Aralia pentaphylla;* and SIEBOLD & ZUCCARINI took in 1846 another plant for this *Aralia pentaphylla;* so there is, beside *A. pentaphylla* TH., an *A. pentaphylla* S. & Z. non TH. MARSHALL brought this species in 1881 to the genus

*Acanthopanax* [1]); thereby we have *Acanthopanax pentaphyllus* MARSH.; you find this name in SCHNEIDER's "Laubholzkunde". But REHDER writes in "Journ. of the Arnold Arb." VII 1926, p. 243: "MARSHALL based his *A. pentaphyllus* on *Aralia pentaphylla* S. & Z. which is a non-valid name, being an erroneous identification of *A. pentaphylla* TH.; MARSHALL's combination therefore cannot be considered valid and his name must be replaced by the next oldest valid name, which is *A. Sieboldianus* MAK." (MAKINO in "Bot. Mag." Tokyo XII 10, 1898).

Here again is the question if a name, which is based upon an erroneous identification of a species is non-valid; REHDER thinks so, SCHNEIDER thinks not. *Aralia pentaphylla* TH. 1784 is elsewhere not mentioned by REHDER in his Manual; if it exists, with that name, beside *A. pentaphylla* S. & Z. 1846 and if it is an *Acanthopanax* species too, then of course *Acanthopanax pentaphyllus* MARSH., in the sense of *Aralia pentaphylla* S. & Z., would be illegal. But SCHNEIDER takes *A. pentaphylla* TH. as a synonym of *Acanthopanax spinosus* SEEM. 1868; and another synonym is *Panax spinosus* L. fil. Suppl. 1781 [2]). Thereby SCHNEIDER calls *Aralia pentaphylla* TH.: *Acanthopanax spinosus* SEEM. and then *Aralia pentaphylla* TH. does not make the names *Aralia pentaphylla* S. & Z. and *Acanthopanax pentaphyllus* invalid. But he, who does not agree with this synonymy and still takes *Aralia pentaphylla* THUNB. for a separate *Acanthopanax*-species, has to do with the question, treated in no. 14 (*Cytisus albus* etc.), if the combination *Acanthopanax pentaphyllus* MARSH. 1881 (in the sense of *Aralia pentaphylla* S. & Z. 1846) has priority over the same combination with the new sense of *Aralia pentaphylla* THUNB. 1784, though the species name of THUNBERG in itself is older than that of SIEBOLD & ZUCCARINI.

How can we obtain unity of nomenclature without International deliberation and conclusion about all personal ideas and all names, depending upon them?

## No. 24. *Nyssa aquatica, silvatica, uniflora* and *multiflora*. A species divided into two.

*Nyssa aquatica* L. is divided in 1787 by WANGENHEIM (Beitr. Nordamerik. Holzarten) into *N. uniflora* and *N. multiflora;* but two years previously MARSHALL ("Arbust. Americ." 1785) had introduced and described his *N. silvatica*, which later appeared to be = *N. multiflora* WGH. and has right of priority over it; so the two new species are called *N. silvatica*

[1]) SIEBOLD and ZUCCARINI already write at the end of their description of *Aralia pentaphylla*: „An distincti generis?"

[2]) So do REHDER and WILSON in Journal Arn. Arb. VIII 1927; the only difference is that they take MIQUEL for the author of *Acanthopanax spinosus.*

MARSH. and *N. uniflora* WGH.; SCHNEIDER gives them in his "Laubholzkunde".

REHDER is his "Manual" keeps *Nyssa aquatica* L. s.s.; and so before him KOCH in 1869, KOEHNE, DIPPEL and SARGENT in 1893, ELWES & HENRY in 1908. They keep *N. aquatica* L. s.s. in the sense of *N. uniflora* WGH., because MARSHALL's *N. silvatica* has the sense of WANGENHEIM's *N. multiflora*.

KOCH has *N. aquatica* L. and *N. multiflora* WGH., the others have *N. silvatica* MARSH.: beside *N. aquatica* L. LOUDON gives *N. biflora* MICH. (*N. aquatica* L.) and *N. villosa* MICH. (*N. multiflora* WGH.).

If, as SCHNEIDER does, LINNAEUS' name is put aside, then the two names of WANGENHEIM (*uniflora* and *multiflora*) should better fit together then one of them (*uniflora*) with MARSHALL's *silvatica;* but to obtain them legally, the name *N. silvatica* MARSH. must be put on a list of nomina specifica rejicienda.

On the contrary, if, as REHDER does and the older Dendrologists did, *N. aquatica* L. is kept s.s. (which is in my opinion according to the Rules of 1905), the two names *silvatica* and *aquatica* belong legally together.

But if *N. aquatica* L. is treated so, the same is to be done with *Betula alba* L. s.s. (cf. No. 5), *Ulmus campestris* L. s.s. (cf. No. 6) and *Tilia europaea* L. s.s. (cf. No. 10).

SCHNEIDER gives a good example with the first and second of them; but why not the same with the third one and with *Nyssa aquatica* L.? And why does REHDER keep *N. aquatica* L. s.s. and not *Betula alba* L. s.s., etc?

Unity in principles and in the application of the principles is needed.

With *Nyssa aquatica* there is also the question if a nomen nudum of LINNAEUS is a valid name or not; see No. 28 *Halesia carolina*.

*Nyssa aquatica* is not so much a nomen nudum as is *Halesia carolina*. LINNAEUS gives in "Species Plantarum" 1753 p. 1058: *aquatica* (in margine) NYSSA, without artname (our diagnosis). But he gives a synonym "*Nyssa foliis integerrimis*" of himself in Hort. Cliff. 462; Hortus Cliffortianus was published in 1737 and there are no trivial (our art) names in it.

Beside this synonym LINNAEUS gives synonym phrases (unmethodical diagnoses) from GRONOVIUS and CATESBY.

All these synonym phrases and diagnoses may perhaps be treated as sufficient description for *Nyssa aquatica*. But, if so, it must be agreed about at an International Congress.

No. 25. *Azalea* (*Rhododendrum*) *mollis* (*e*) and *japonica* (*um*), *A.* (*Rh.*) *sinensis* (*e*) and *mollis* (*e*);
the right of priority of a combination of a generic and a specific name in comparison with that of the speciesname in itself.
The Index Kewensis.

*Azalea mollis* should be called *A. japonica; A. sinensis: A. mollis.* Though this is a cross-exchange of names, it is not so bad as it superficially appears. *A. japonica* is a name which characteristically indicates the habitat of our so called *A. mollis;* and the so called *A. sinensis* is hardly ever cultivated, so that the more correct name *A. mollis* has little or no opportunity of causing confusion. The fact is that the plant, which BLUME described in 1829 as *Azalea mollis*, is our so called *A. sinensis* [1]); the species has a splendid orange-red corolla, of a much more intense colour than the so called *A. mollis-sinensis* varieties [2]); the petals are of a denser consistency and a different shape from those of the so called *A. mollis;* the leaves are villous. But it is not hardly, at most a green-house plant; on account of this it disappeared from culture and was subplanted by our "*A. mollis*", which was mixed up with it for a long time (KOCH, KOEHNE, DIPPEL). The real *A. mollis* (so called *A. sinensis*) still continues to exist in the "*mollis-sinensis*" varieties. *As Rhododendrum* it should be called *Rh. molle* G. DON. (non S.u.Z. nec MIQ.).

If *A. mollis* is the oldest and legal name of the Chinese species, which we have wrongly called *A. sinensis*, the name *A. mollis* can of course not be kept for the Japanese species discovered later; of this not the oldest [3]), but the oldest properly described, i.e. legal name is: *japonica*, given it by ASA GRAY. (cf. "Gartenflora" 57th file 1908, p. 505—517, with coloured plate; and "Mitt. der Deutschen Dendr. Ges.", No. 33, 1923, p. 20—23 [4])).

[1]) It was first of all called *Azalea sinensis* by LODDIGES in 1824, but without description, so that the name is not valid. SWEET called it *Rhododendrum chinense* in 1829; but BLUME's name *A. mollis* is three years older, therefore legal. His description runs: *Azalea ramulis pilosis, foliis oblongo-lanceolatis acutis basi augustatis ciliatis infra mollissimis; floribus fasciculatis, calyce brevissimo, corol ae tubo externe sericeo-tomentoso.* The *folia infra mollissima* are typifying. The name *sinensis* has however stuck with botanists and practical men, first for the real *Azalea sinensis* LODD. (*A. mollis* BL.), next for the real *A. mollis* AUCT. non BL.

[2]) The „Anthony Koster" most approaches *A. sinensis.*

[3]) The oldest name *Rhododendrum molle* S. u. Z. is a "nomen nudum" (name without description); and *Rhododendrum molle* MIQ., with a description, is from 1864, therefore more recent than *A. japonica* GRAY.

[4]) To read in „Gartenflora, l.c. on p. 509, 3rd l.f.b. (from beneath): *specimens* instead of *species*; on p. 516, 3rd. 1: *als Azalea* instead of *Azalea*; and instead of point 5 with the note: Da Azalea sinensis LODD. und Rhododendron molle S. u Z. nomina nuda sind,

As *Rhododendrum* it should be called *Rh. japonicum* SUR. (But see the note at the end).

At present these *Azalea*-names are generally applied; the "Joint-Committee" in America has likewise adopted them in its "Standardized Plant-names".

As to this *Azalea*-question it is remarkable to notice how the Index Kewensis indicates and designates the names.

This Index Kewensis was and is a useful institution, because it gives nearly all the names, which are published. In the beginning the compilers thought that they could take the correct names as primary names, and so it happened; but the scientific value of those primary names is small; at first it was a subjective choice between synonymous names, and the choice was not based upon adequate International Rules. The starting point of genera names was uncertain, 1735 or later; with the species names the English "Kew Rule" was followed. Later they had to restrict themselves to simply adopting new-published names and, if a species had already been recorded under a different name, to give the new name as a synonym, though it were the better name, which certainly in many cases cannot be judged easily and in any case only subjectively. The Index was not critisized on account of the incorrect or generally rejected primary names; it especially served for Herbaria, Botanical gardens and the like to have an invariable list of names. So corrections must rather be considered wrong; nor could they be made complete either. Nevertheless in the latest supplements such corrections have been made; if, what is probable, some institutions adopt them, others do not, this is another source of confusion. Moreover these corrections are not always right, which makes the confusion greater again. An instance is provided by the *Azalea*-species *mollis* and *sinensis;* at the same time an instance of errors of a different nature in the oldest volumes of the Index Kewensis. Here we read:

*Azalea mollis* BL. = Rhododendron molle.
*Azalea sinensis* LODD. = Rhododendron sinense.
Rhododendron molle G. DON. China.
Rhododendron sinense SWEET. Japan.

At the time of these old volumes the two species were generally (i.a.

sind die wissenschaftlich richtigen Namen: Azalea mollis BL. (Rhod. molle G. DON) und Azalea japonica A. GRAY (Rhod. japonicum n.c.).

On p. 517 the first mentioned dried specimen of MAXIMOWICZ belongs to the State Herbary in Dahlem (Berlin), the following and the last mentioned two dried specimens to the Herbary of the Kew Gardens.

To interchange in the Mitt. der D. D. G. l.c. on p. 20 2nd. and 3rd. lines f.b. that what stands between brackets behind „Azalea chinensis" and behind "A. mollis".

in the Dendrological works of KOCH, DIPPEL and KOEHNE) taken for one species. My investigation (see "Gartenflora" 57. Jahrg. 1908) showed, that there were certainly two, which was first applied in SCHNEIDER's "Laubholzkunde". It is therefore remarkable that they were also distinguished in the Index Kewensis. But *Azalea mollis* BL. is not = *Rhododendron molle* but = *Rh. sinense; Rh. sinense* SW. grows not in Japan but in China. And *Rh. molle* G. DON is identical with *Rh. sinense* SWEET.

Further we find:

*Azalea japonica* A. GRAY,

in italics, i.e. as a synonym, but without reference to the primary name, which is to be regretted in our case; it is the correct name for the so called *Azalea mollis* (*Rhod. molle* S. u. Z., MIQ. non G. DON.).

Finally we find:

*Hymenanthes japonica* BL. = Rhododendron Metternichii.

Rhododendron Metternichii S. u. Z.

In Suppl. IV a so called correction is made; there we find:

Rhododendron japonicum SCHN.: Hymenanthes japonica.

(the name behind the: indicates the previous name (in Tome I), which now must become a synonym) [1]).

This correction is wrong in two ways; *Rhod. Metternichii* should keep its name; and *Rhod. japonicum* is the correct name for *Rhod. molle*. In his "Laubholzkunde", volume II, SCHNEIDER actually alters *Rhod. Metternichii* into *Rhod. japonicum;* but at the back of the book, under "Nachtrag", the alteration is withdrawn as incorrect and *Rh. japonicum* SUR. is admitted to be the correct name for *Rhod. molle* MIQ. Cf. also No. 26, the last two alinea's.

It is a question if SCHNEIDER is right with this improvement. *Hymenanthes japonica* BL. 1826 is generally taken as a *Rhododendrum*, and the speciesname *japonica* is older than SIEBOLD's name *Metternichii* in Fl. jap. I. 1835 and of course older then my combination *Rh. japonicum* from 1908 for *Azalea japonica* ASA GRAY 1857. But if *Rh. japonicum* SCHN. is the correct name for *Rh. Metternichii* S. u. Z., while *Rh. molle* G. DON 1834 (*Azalea mollis* BL. 1826) is the legal name for *Azalea sinensis* LODD. 1824 (*Rh. sinense* SWEET 1829), then there must be a new name made for our *Azalea mollis* HORT. (*Rhod. molle* MIQ. 1864) as a *Rhododendrum*! That name could be *Rh. japoniense*.

SCHNEIDER's idea can be defended in the same manner as REHDER does with the name *Cytisus albus* HACQ. (see no. 14): the combination *Rhododen-*

[1]) "Nomina antea usitata sub nomina nunc utenda recitata sunt" (Monendum in Suppl. IV).

*drum japonicum* SUR. 1908 is the first combination of this generic and species name, so its right of priority prevails over that of the separate species-name *japonica* in the older combination *Hymenanthes japonica* 1826.

If this is rejected on principle, and if one likes to keep the name *Rhododendrum japonicum* for our so-called *Azalea mollis* AUCT., then the name *Rhododendrum japonicum* SCHN. must be put on a list of nomina specifica rejicienda.

A question like this must not be treated incidently with regard to a special case, but on principle.

See *Cytisus albus* (no. 14), the last alinea.

No. 26. *Azalea* (*Rhododendrum*), *lutea* (*um*), *nudiflora* (*um*), *calendulacea*(*um*), *rubra* (*um*) and *occidentalis* (*e*).
Again the Index Kewensis.
A name based upon an erroneous determination.
An ephemeral name.

In "The Arboretum, etc." (Communications of the Dutch Agricultural Academy, Vol. 3, 1910) I gave i.a. the name *Rhododendrum luteum* n.c. [1]) (*Azalea lutea* L. 1753). It is true, LINNAEUS altered the name in 1763 into *Azalea nudiflora*, but we have taken 1753 as starting-point of the nomenclature and therefore have to be "plus royaliste que le roi".

However, in the opinion of BRITTON and other American botanists *Azalea lutea* L. 1753 is not = *A. nudiflora* L. 1763, but = *A. calendulacea* MICH. 1803 (*Rhododendrum calendulaceum* TORR. 1824). SCHNEIDER adopts this conception in his "Laubholzkunde"; his *Rhododendrum luteum* n.c. therefore is the plant known to us as *Azalea calendulacea*. Of course he maintains the species *Rh. nudiflorum* by the side of his *Rh. luteum*. Accordingly, my *Rhododendrum luteum* n.c. and SCHNEIDER's *Rh. luteum* n.c. are two different plants. It stands to reason that at length only one of the two may bear that name, viz. the one which represents *Azalea lutea* L.

I do not know what BRITTON's and SCHNEIDER's conception is based upon; the description and synonyms, which LINNAEUS gives with his *Azalea lutea* 1753, are identical with those given with his *A. nudiflora* 1763.

My above statement that *Rhododendrum luteum* is a new combination, was not quite correct. For there also exists a *Rhododendrum luteum* SWEET of 1830. One would deem a priori that this must be the same plant as *Azalea lutea* L.; but it might also be a new species; for SWEET had the right to use the name *luteum* for such a species in the genus *Rhododendrum*, though that specific name already existed in the genus *Azalea*.

[1]) "n.c. „nova combinatio", i.e. that the combination of the existing generic name *Rhododendrum* with the familiar specific name *luteum* was made here for the first time.

We need not treat of the consequences of those two possibilities for our designation of *Azalea nudiflora* and *A. calendulacea*, for *Rh. luteum* SWEET refers to our *Azalea pontica* L. The Director of the Kew Garden informed me that SWEET's "Hortus Britannicus" ed. 2. 1830, p. 343 runs as follows: *Rhododendrum* No. 31 *luteum*, yellow. Turkey 1793. 5. 6. Hardy Shrub. Bot. Mag. t. 433. *Azalea pontica* B. M.

It is a peculiar fact that in the third edition of the "Hortus Britannicus" 1839, SWEET adopts D. DON's name *Rhododendrum flavum* (1834) for the species, whilst, though *Azalea pontica* B. M. is mentioned as a synonym, the name *Rh. luteum* of SWEET himself is left out altogether. Meanwhile, according to the Rules of 1905, SWEET's casually given name *Rhododendrum luteum* has a legal right; and instead of *Rhododendrum flavum* D. DON, *Rh. luteum* SWEET should be written, which is acknowledged by SCHNEIDER in the "Nachtrag" of his "Laubholzkunde" and applied by REHDER in his "Manual" of 1927, also by SILVA TAROUCA in his "Laubgehölze" 1923.

In my opinion an ephemeral name like that of SWEET should be put on a list of nomina specifica rejicienda.

It might be thought strange that *Azalea pontica* L. as *Rhododendrum* species got the names *luteum* and *flavum* and not *ponticum*. But the name *ponticum* is represented in the genus *Rhododendrum* by *Rh. ponticum* L.

It stands to reason that *Rhododendrum luteum* n.c. of SCHNEIDER and myself for *Azalea nudiflora* or *A. calendulacea* respectively is rejected now; both of us write again: *Rhododendrum nudiflorum* TORR. and *Rh. calendulaceum*.

But regarded as *Azalea*'s one of the two must bear the name *lutea;* for *Rhododendrum luteum* Sw. is called as *Azalea: A. pontica* L.; the specific name *lutea* therefore is free and is due to that one of the species *nudiflora* and *calendulacea*, which is deemed synonymous with *A. lutea* L., as has been expounded in the beginning.

A third conception is possible by the side of *Azalea lutea* L. = *A. nudiflora* L. (according to the writer) and *A. lutea* L. = *A. calendulacea* MICH. (according to BRITTON and SCHNEIDER); namely REHDER's, who considers *A. lutea* L. = *A. nudiflora* L. + *A. calendulacea* MICH.; expressed differently: *A. nudiflora* L. = *A. lutea* L. p.p. (partly) and *A. calendulacea* MICH. = *A. lutea* L. p.p.

This conception may be variously explained; it may be accepted for instance that it involves the rejection of *Azalea lutea* L.; in this case *Azalea nudiflora* L. and *A. calendulacea* MICH. both continue to exist. But, in my opinion, in that third conception, according to the Rules of 1905, the name *Azalea lutea* L. 1753 should be kept for the part published first, viz. *Azalea nudiflora* L. 1763 (*A. calendulacea* MICH. dates from 1803); and then my conception *A. lutea* L. = *A. nudiflora* L. is again

in force and BRITTON and SCHNEIDER's conception must be rejected.

There is a complication: *Azalea calendulacea* MICH. 1803 was already described in 1798 by the Leyden curator MEERBURG in his "Plantarum selectarum icones pictae" and represented in colour under the name *Azalea rubra*.

If therefore *Azalea lutea* L. = *A. nudiflora* L., as I think is the case, and nòt = *A. calendulacea* MICH. (as BRITTON and SCHNEIDER think), *Azalea calendulacea* should be called: *Azalea rubra* MEERB. respectively *Rhododendrum rubrum* n.c. If however *Azalea lutea* L. = *Azalea calendulacea* MICH., it should be called: *Azalea lutea* L. respectively *Rhododendum rubrum* n.c. On the designation of *Azalea nudiflora* the case is of no influence.

MEERBURG describes *Azalea rubra*, "*foliis ovatis lanceolatis, corollis pilosis, staminibus longissimis*" (with oblong oval leaves, hairy corolla and very long stamens); and he draws them too. The very long stamens are an important character; I deem the character of the hairy corolla and the colour of the flowers of much less value; in the drawing that colour approximates *Azalea nudiflora*'s, for which REHDER takes it.

Beside this *Azalea rubra* MEERB. there exists an *Azalea aurantiaca* DIETR., older than *A. calendulacea* MICH., but more recent than *A. rubra* MEERB.; I shall not implicate this species in the case. But an other event can not be left out; in 1841 *Azalea occidentalis* TORR. 1857 was called *Azalea calendulacea* (*Rhododendrum calendulaceum*) by HOOKER and ARNOTT in their account of a botanical journey, because they thought they had to deal with *Azalea calendulacea* MICH. And as this latter name is rejected for *A. rubra* MEERB., it is free for *A. occidentalis* TORR. Accordingly *A. occidentalis* TORR. should be called *A.* (*Rh.*) *calendulacea* (*um*) HOOK. et ARN. [1])

In the "Mitteilungen der Deutschen Dendrologischen Gesellschaft" No. 33, 1923 we find a schematical exposition of the above conceptions.

In the first two volumes, the Index Kewensis gives the names *Rhododendrum luteum* SWEET, *Rh. ponticum* L. and *Rh. calendulaceum*; *Rh. flavum* G. DON and *Azalea pontica* L. are identified with *Rh. ponticum* L., which is wrong. Next in Suppl. V we find:

*Rhododendrum luteum* SCHN.: *Rh. calendulaceum*,

i.e., that instead of the second name the first should be placed (cf. note 1 on p. 53). *Rh. luteum* Sw. however is not withdrawn. And the compiler has overlooked the fact that in the same volume of his "Laubholzkunde", SCHNEIDER withdraws his change of names and puts the name *Rh. luteum*

[1]) As the name *Azalea calendulacea* HOOK. & ARN. was based on an error, there is the question if such a name is valid. *Cf. Pinus inops* BONGARD in I, no. 6, *Acanthopanax pentaphyllus* MARSH. in II, no. 23*b*.

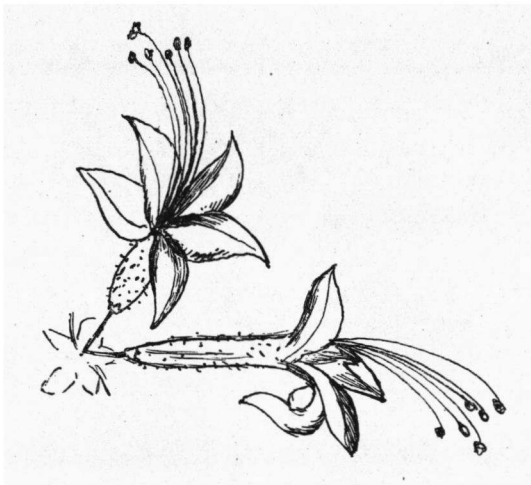

Fig. 12.

Tab. 8 p.p. Azalea Rubra, NICOLAAS MEERBURG, Plantarum Selectarum icones pictae, 1798.

Sw. instead of *Rh. flavum* G. DON, which species according to the Index is still the same as *Rh. ponticum* L.

How can the Index Kewensis be in this way a firm base for names in Herbaria, seed-catalogues, etc? Cf. also no. 7.

## No. 27. *Symplocos crataegoides* and *paniculata*. *Akebia lobata* and *trifoliata*. Two uncertain species.

*Symplocos crataegoides* BUCH. (Ham.[1]) ex D. Don Fl. Nep. 1825, has obtained from MAKINO (cf. in no. 18 *Rhodotypus kerrioides* etc.) the name *S. paniculata;* BAILEY, SCHNEIDER, TAROUCA and REHDER follow him.

MAKINO's name relies upon *Prunus paniculata* THUNB. Fl. Jap. 1784, which he (MAKINO) identifies with *Symplocos crataegoides*.

THUNBERG's description of his *Prunus paniculata* runs:

*P. paniculata floribus paniculatis patulis, foliis ovatis.* Caulis arboreus, totus glaber. Rami et ramuli alterni, erecti. Folia sparsa, petiolata, ovata, acuta, serrata, venosa, glabra, inaequalia, pollicaria, bipollicaria et ultra. Petioli erecti, lineam longi. Flores paniculati, albi. Panicula ampla, patentissima. Differt a *P. Mahaleb*, cui quodam modo similis: 1. panicula florum longe maiori et patentissima, 2. floribus minoribus, 3. foliis magis oblongis, inferne attenuatis acuteque serratis.

As MIQUEL writes in "Ann. Mus. bot." III 102 1867, this description does not come into conflict with *Symplocos crataegoides;* and therefore he adds it as a synonym to his species, which he calls *S. paniculata* ("Synonymum Thunbergianum huc retuli, cum in diagnosi nihil repugnet"); and as MIQUEL took *S. crataegoides* BUCH. for a different plant (MIQUEL gives "*Symplocos paniculata* MIQ., non WALLICH quae *S. crataegoides* DON", and he treats this species separately), so he could give the name *paniculata* without consequences for the name *crataegoides*. But nowadays we take *S. crataegoides* DON = *S. paniculata* MIQ.; and I ask, is there reason enough to put the name *crataegoides* behind *paniculata* only because THUNBERG's description of his *Prunus paniculata* does not come into conflict with *S. crataegoides*? We may take for granted that THUNBERG, calling the plant a *Prunus*, had good reason for that; and then we have no reason to identify it with a *Symplocos*.

In the same manner KOIDZUMI l.c. (cf. no. 21) has interpreted *Clematis trifoliata* THUNB. as an *Akebia* and identified it with *Akebia lobata* DCNE.

[1]) Cf. about this name I. no. 29 *Abies spectabilis.*

Thereby REHDER calls in his "Manual" of 1927 that species: *Akebia trifoliata* KOIDZ.

THUNBERG's description of his *Clematis trifoliata* in "Transact. Linn. Soc." II 1794 p. 337 runs in this way: "foliis *oppositis*[1]) ternatis glabris: foliolis ovatis repando-dentatis, caule scandente.

Scandens foliis ternatis Fl. Jap."

In "Flora Japonica" 1784 THUNBERG described the species (in the group of „plantae obscurae") with "folia *alterna*[1]), petiolata, ternata, patentissima. Foliola ovata, obtusa, emarginata, sinuata, inaequilatera, glabra, subtus pallida, unguicularia. Petiolus communis sesquipollicaris, partialis semiunguicularis, omnes capillares, glabri.

It is remarkable that THUNBERG adds: „Adeo similis Ophioglosso scandenti ut idem dixissem nisi gemmis instructa fuisset foliaceis". *Ophioglossum scandens* L. is nowadays called *Lygodium scandens* Sw. and has no likeness at all to *Akebia lobata*.

But THUNBERG's description of the leaves in 1784 doubtless resembles those of *Akebia lobata;* the description of 1794 is much shorter and is weakened by the folia opposita instead of alterna. THUNBERG had no flowers nor fruits, so he could not fix any genus- or family character.

DECAISNE recognized in 1839 his *Akebia quinata* in THUNBERG's *Rajania*[2]) *quinata* Fl. Jap.; but DECAISNE does not mention THUNBERG's *Clematis trifoliata;* and THUNBERG himself did not put that plant of his beside his *Rajania quinata*, although the leaves had so much likeness.

Therefore it seems to me that further study is necessary before changing a well-described name of DECAISNE into an insufficiently described name of THUNBERG.

But here again and again International deliberation and conclusion are needed.

## No. 28. *Halesia tetraptera* and *carolina*. A name, rejected by LINNAEUS, again adopted. A nomen nudum taken as valid.

The Dendrological works of LOUDON, KOCH, KOEHNE and DIPPEL contain, all of them, the species *Halesia tetraptera* beside *H. diptera*, with the author's name LINNAEUS. LINNAEUS gives this species in the second edition of his "Species Plantarum" 1763. Afterwards it was discovered that LINNAEUS already in his "Systema Naturae" X (1759) had given a

[1]) The italics are mine.

[2]) *Rajania* L. is a genus in the family Dioscoreaceae. *R. hexaphylla* TH. has appeared to be a *Stauntonia*. The flowers of *R. quinata* TH. are described in this way: floribus umbellatis, axillaribus.

*Halesia carolina;* and, though LINNAEUS in none of his later works reminds us of this name, neither as a synonym, it is apparently the same plant as *H. tetraptera;* for LINNAEUS mentions in both cases the same literature, i.e. CATESBY Car. II, p. 50 t. 50.

This *Halesia carolina* L. is, with regard to our Rules, a nomen nudum! LINNAEUS gives l.c., T. II, p. 1040:

*carolina.* A. HALESIA. *Ellisii; Catesb. car.* I *t.* 64.

A. means that it is the first and in the case of *Halesia* the only species in the genus, which is not given in LINNAEUS Sp. Pl. 1753. *Ellisii* means Domini *Ellisii* = from Mr. ELLIS. ELLIS has proposed the genus and its name.

When we take (rightly in my opinion) names like *Cedrus libani* TREW. (cf. I, No. 12) or *Alnus vulgaris* HILL. (cf. II, No. 5) as valid names because they conform to our Rules though they are made without the intention of having a Linnaean name, then we might regard the name *Halesia carolina* L. invalid because the name, being without description, does **not** conform to our Rules, though LINNAEUS of course meant to give a Linnaean name. But LINNAEUS named that, which we call the diagnosis, speciesname; and our species name was taken by him as trivial name, useful but not of much consequence. The species name (our diagnosis) was to distinguish the species from all other known species in the same genus; it should contain not more nor less than exactly necessary for that purpose.

So, if there was only one species known, a species name (diagnosis) was not needed. *Halesia carolina*, *Paeonia officinalis* and many other names of LINNAEUS' are without such a species name (diagnosis). I think we must take them as valid; but it will be good to treat the question at an International Congress. If it is accepted in a favourable manner, then the name *carolina*, being older than *tetraptera*, is the legal one. [1])

As to the author's name LINNAEUS is that for the genus. ELLIS wrote in a letter, dating 20 Nov. 1760, to PH. CART. WEBB, which is printed in Phil

[1]) Amongst the hardy ligneous plants such nomina nuda of LINNAEUS in Sp.Pl. 1753, Syst. 1759 and Sp. Pl. 1763, are: *Liriodendron Tulipifera, Stewartia Malacodendron, Buxus sempervirens, Calycanthus floridus, Amorpha fruticosa, Hamamelis virginiana, Hydrangea arborescens, Nyssa aquatica, Rhodora canadensis, Ledum palustre, Halesia carolina* and *Linnaea borealis.*

*Nyssa aquatica* and *Linnaea borealis* have as a synonym a diagnosis (Linnaean speciesname) ex „Hortus Cliffortianus", *Ledum palustre* ex "Flora suecica", *Linnaea borealis* still one from "Flora lapponica"; several of them have synonym phrases (unmethodical diagnoses) from works of other botanists than LINNAEUS; *Nyssa aquatica* has two of CATESBY, which are more or less similar to LINNAEUS' speciesnames (methodical diagnoses); those of others (with *Liriod. Tul., Buxus semp., Amorpha frut.* and *Hamam. virg.*) are not so good or of no value. So, a division might be made between nomina nuda with sufficient and without sufficient synonym descriptions.

Transact. LI, year 1760 (publ. 1761) under the title "An account of the plants *Halesia* and *Gardenia*": "The intent of this letter is to lay before you the characters of two new genera of plants, which I shall take the liberty to call after our worthy friends Dr. STEPHAN HALES.... and Dr. ALEX GARDEN.... About two years ago, I received from Governor ELLIS of Georgia another species of this tree (*Halesia*), which was sent him by Mr. DE BRAHME, from Auguda in Georgia.... The fruit of this kind has two wings...." But, though ELLIS has published his name in 1761 and probably has proposed it to LINNAEUS in 1759, LINNAEUS is the official author of the genus name.

About his *Gardenia* ELLIS writes that he laid the plant and name before his friend Prof. LINNAEUS and that LINNAEUS adopted it. With *Halesia* there is no such mentioning.

As the genus name *Halesia*, so the species name *carolina* belongs to LINNAEUS. About the two other names LINNAEUS himself mentions in Sp. Pl. II 1763, that ELLIS described the two species (*tetraptera* and *diptera*) in Phil. Transact. Roy. Soc. vol. 51, p. 931 (1761); so ELLIS is the correct author's name of both. According to all this we find in the Dendrological works of SCHNEIDER and REHDER, and also in BAILEY's "Cyclopedia", the names *Halesia carolina* L. and *diptera* ELL. [1]).

But the Joint Committee in America has in its "Standardized Plantnames" retained the name *H. tetraptera*. That is not necessary pure conservatism, but may have a deeper cause. Well, LINNAEUS himself has changed the name *carolina* into *tetraptera*; the first name was characteristic in 1759, when there was only one species known, but no more so in 1763, when another species in the same country was discovered. Moreover the number of fruitwings appeared to be a significant character to distinguish both species; no wonder that LINNAEUS in 1763 took the names *tetraptera* and *diptera* from ELLIS. Now, is there no reason to retain that name *tetraptera* of LINNAEUS in a system of nomenclature, built upon LINNAEUS' work, instead of adopting an ephemeral name, rejected by LINNAEUS? For such a deed in the spirit of LINNAEUS it is only needed that the name *H. carolina* will be put on a list of "nomina specifica rejicienda" by an International Congress.

## No. 29. *Ligustrum ibota*, *ciliatum* and *obtusifolium*.

SCHNEIDER, REHDER and the older Dendrologists agree in taking *Ligustrum obtusifolium* SIEBOLD and ZUCCARINI (in Abh. Akad. München IV prt. 3, p. 168, 1846) = *L. ibota* SIEBOLD (in Verh. Batav. Gen. XII, p. 35,

[1]) ELLIS, like LINNAEUS in 1763, does not mention in 1761 the earlier name *carolina*.

1830) and *L. ibota* S. & Z. non SIEB., l. c., 1846 [1]) = *L. ciliatum* BLUME, ex Herb. SIEB. [2]) in Mus. Bot. L. B. I, p. 312, 1850; so we take that for granted.

In accordance with the years of introduction, SCHNEIDER gives in his "Laubholzkunde" the names *L. ibota* SIEB. with the synonym *L. obtusifolium* S. & Z. and *L. ciliatum* SIEB. (i.e. BLUME) with the synonymous name *L. ibota* S. & Z. And BAILEY has the same names in his Cyclopedia.

With the principle of REHDER, with which I do not agree, that a name, based upon a erroneous identification, is not valid (see *Acanthopanax pentaphyllus* MARSH. in No. 23b), both names of SIEBOLD and ZUCCARINI seem to be doomed, because *L. ibota* S. & Z. bases upon an erroneous identification (with *L. ibota* SIEB.) and *L. obtusifolium* S. & Z. upon an erroneous interpretation (of the same *L. ibota* SIEB.). So, with that principle, there seems to be the more reason to choose SCHNEIDER's names.

Nevertheless REHDER has in his "Manual" of 1927 the names *L. ibota* S. & Z. (with the synonymous name *L. ciliatum* S.) and *L. obtusifolium* S. & Z. (with the synonym *L. ibota* S.). What may be the reason for it? *Ligustrum ibota* SIEBOLD has appeared to be a nomen nudum! [3]) Then the names of SIEBOLD and ZUCCARINI are legally speaking, not based on an erroneous identification or interpretation; and, according to the years of introduction, REHDER's names are the correct ones; they are also found in the older Dendrological works of KOCH, KOEHNE and DIPPEL.

## No. 30. *Symphoricarpus racemosus* and *albus*.

REHDER gives in BAILEY's Cyclopedia and in his own "Manual" of 1927 the name *Symphoricarpus albus* BLAKE to our wellknown *Symphoricarpus racemosus* MICH. REHDER's speciesname relies on *Vaccinium album* L. 1753, which is identified by him with *S. racemosus* MICH. 1863; and then *albus* is of course the oldest speciesname.

LINNAEUS' description of his *Vaccinium album* runs:

*Vaccinium pedunculis simplicibus, foliis integerrimis, ovatis, subtus tomentosis.* Frutex. Flores duo vel tres ad apices ramorum pedunculis aggregatis brevissimis nudis.

*V. album* L. is found with the same description, as LINNAEUS had in PERSOON's "Synopsis" 1802. LOUDON too gives it in his "Encyclopedia of plants" 1829 and 1855, with the communication: flowers white, flowering

[1]) SIEBOLD and ZUCCARINI give „*Ligustrum ibota* SIEB." with a long description of their own.

[2]) Mus. Bot. L. B. I 312: No. 721 *Ligustrum ciliatum* (Herb. SIEB.), with description.

[3]) l.c.: „CXI Ligustrum. L. ibota SIEB., Ibota Japon (v.v.h.b.)"; (v.v. = vivam vidi; h.b. = vidi in horto botanico).

„Vivit in hoc frutice insectum,...."

May—June, shrub of 2 feet. Now, our *Symphoricarpus racemosus* has pink coloured flowers, flowering in June—July and becoming about 1½ M. high; so the identification with *V. album* L. is not probable.

PERSOON and LOUDON give, beside *Vaccinium* L., a *Symphoricarpus* resp. *Symphoria racemosa;* LOUDON adds: flowers pink coloured, flowering July—Sept., Shrub of 4 f. This is our *S. racemosa.*

DECANDOLLE takes in his "Prodromus" *Vaccinium album* L. = *Xylosteum ciliatum* PURSH, and he has a *V. album* LAM. under *V. corymbosum* L.

According to REHDER (communication from Dr. BIJHOUWER), *Vaccinium album* L. was a variety of our *Symphoricarpus racemosa,* lower than the species, with fewer flowers and with the underside of the leaves tomentous (probably this is the variety *pauciflorus*).

In my opinion the identification of *Vaccinium album* L. with our *Symphoricarpus racemosus* MICH. is not yet certain enough to justify a change of name.

This again is a case of personal ideas, leading to different names, and which requires International deliberation and decision for unity, especially in books etc. for general use.

SILVA TAROUCA and SCHNEIDER have followed REHDER in many instances; in cheir „Freiland Nadelhölzer" 1922 we find: *Pseudolarix amabilis* (*Kaempferi*), *Larix Kaempferi* (*leptolepis*), *Picea jezoënsis* (*ajanensis*) and *bicolor* (*alcockiana*), *Tsuga heterophylla* (*Mertensiana* CARR.) and *Mertensiana* (SARG.; *Pattoniana*), *Abies Lowiana* (*lasiocarpa* MAST.), *Thuja plicata* (*gigantea*) and *Juniperus communis* var. *montana* (*nana*). But they keep *Cedrus libani*, *Picea alba* and *excelsa*, and *Abies subalpina.*

In "Unsere Freiland Laubgehölze" 1923, SILVA TAROUCA and SCHNEIDER have the following names in accordance with REHDER: *Populus tacamahaca* (*balsamifera*) and *balsamifera* (*deltoides*), *Quercus borealis* (*rubra*), *Q. Michauxii* (*Prinus*), *Ulmus glabra* (*scabra*) and *foliacea* (*campestris*), *Mahonia Bealii* (*japonica*), *Maclura pomifera* (*aurantiaca*), *Magnolia liliflora* (*purpurea*) and *denudata* (*Yulan*), *Tilia glabra* (*americana*), *Ailanthus altissima* (*glandulos*).

*Cytisus multiflorus* (*albus* LK), *Lespedeza Sieboldii* (*racemosa*), *Elaeagnus multiflora* (*longipes*), *Exochorda racemosa* (*grandiflora*), *Malus Sieboldii* (*toringo*), *Rhododendrum japonicum* (*molle* AUCT.), *molle* (*sinense* AUCT.), *luteum* (*flavum*), *Halesia carolina* (*tetraptera*), *Symplocos paniculata* (*crataegoides*).

But they have kept the names: *Betula alba* (*pubescens*), *Q. falcata* (*digitata*), *Magnolia hypoleuca* and *glauca*, *Akebia lobata*, *Vitis Coignetiae*, *Celastrus orbiculatus*, *Chaenomeles japonica* and *Maulei*, *Chimonanthus*, *Rho-*

*dotypus kerrioides*, *Hydrangea opuloides*, *Acanthopanax pentaphyllus*, *Aralia chinensis* var. *mandshurica* and *Symphoricarpus racemosa*.

## Retrospection.

In all the above treated cases of disagreement in nomenclature, I have pleaded for International deliberation and agreement for general use.

Of course, notwithstanding an agreement for general use, botanists keep their own ideas, especially when those personal ideas have to do with natural relationship and descendency; and as long as the natural relation and descendency of plants will be imperfectly known, the botanists will disagree on account of them. That difference of personal ideas is partly expressed in different names. We cannot prevent it.

But for practical use, in Handbooks and such like, there may be unity, one idea and one name for every species. To gain that unity, it will be necessary that at an International Congress for each case of name-question, after serious investigation, the idea and the name of a majority are accepted and honoured by the minorities, for general use; in scientific journals etc. those minorities can keep their own personal ideas. Even those general unity-ideas and names cannot be permanent; science proceeds; and as soon as by more insight in the natural relation of plants or in the history of the names, a majority may obtain other ideas which include changing in names, those changes must then be accepted and honoured instead of the former ideas and names. He, who wishes scientific names, which have to do with natural relation and descendency, must take the advantages and the disadvantages of them. Everlasting ideas and names are only possible with an artificial system and with artificial names; nobody, not even a practical man, has ever preferred them.

As to the Nomenclature Rules of 1905, so far as referring to names independent of questions of natural relationship, they can be executed conscientiously or not. If not always applied conscientiously but in some cases with the predisposed aim to save or to reject a name, such a deed will have unpleasant consequences with other names; if conscientiously, a name, which is judged illegal but which is desirable, can always be saved and a name, which is judged legal but is undesirable, can always be rejected, by means of a list of "nomina specifica conservanda et rejicienda".

But it has appeared that the application of the Rules is in many cases, though independent of natural relationship, liable to differences of opinion and thereby of names. All such cases must be treated at an International Congress and there must be decided in one sense or another; unity is needed!

One cause of disagreement points to the question how far old names, like *Betula alba* L., *Ulmus campestris* L., *Tilia europaea* and *Nyssa aquatica*,

which have been divided into more than one species, must be qualified sensu stricto. Methinks, as far as possible such names must be maintained, and that this conforms to the Rules of 1905 (Art. 45, 47). Cf. II, nr. 5*a*, 6, 10, 24).

Another case points to how we must treat names which rely on the misunderstanding of another name, *Quercus rubra*, if really representing the species, which we call *Q. digitata*, was misunderstood by DUROI (cf. no. 3); is therefore *Q. rubra* DUR. an invalid name, which in no case could be a legal one? Is, as REHDER thinks, *Pinus inops* BONGARD an illegal name for *P. contorta*, because he took his plant for *P. inops* SOL.? See Part I, no. 6; cf. also *Pinus americana* GAERTN. in I, no. 17, *Desmodium racemosum* S. & Z. in II, no. 12, *Acanthopanax pentaphyllus* MARSH. in II no. 23b, *Azalea calendulacea* HOOK. & ARN. in II, no. 26 and *Ligustrum ibota* and *obtusifolium* SIEB. & ZUCC. in II, no. 29.

And if one takes a plant for a new species and gives a name to it, is that name invalid if the plant appears to belong to an already known species, and the name of that species appears to be in itself invalid? I think not, but others think the contrary. Methinks that it is safer to treat all such names as valid names, because "errare humanum est" and botanists too are permitted to make mistakes. Moreover, if names, relying on mistakes, are judged invalid, then we must always know with certainty if we have to do with a mistake or not; and that is not always possible. If mistakes do not make a name invalid, such name, if judged undesirable (so perhaps *P. inops* BONG., the legal name for *P. contorta*), can always be put on a list of "nomina specifica rejicienda".

In contrast, we could keep *Quercus rubra* DUR. (and AUCT. after him), though relying on a false identification, to evade a confusing cross-exchange of names, putting aside at the same time *Q. rubra* L.; though identified with *Q. digitata* (cf. I, no. 2). Practical men will probably advocate this and perhaps some botanists too. It would be better at all events than disregarding DUROI's and our mistake and keeping *Q. rubra* L. in DUROI's sense, to which we are accustomed. For that would be, scientifically spoken, a crime; science may not leave mistakes unredressed. Cf. no. 3 (*Quercus rubra* etc.).

Other cases of cross-exchanges of names are found in no. 1 (*Populus balsamifera* etc.), no. 7 (*Magnolia* species) and in no. 25 (*Azalea mollis*).

A third cause of disagreement points to how far we may go with the disqualification of the name of a species, if not sufficiently described.

First, we must always take into consideration that the description must be sufficient for the time that the name and the description were made; we cannot demand that a botanist in the 18th century with a description took into account later-known species; he was bound to LINNAEUS' Rule

that the description (phrase) must distinguish the species from all other known species; so, if there were only one species in a genus, no description (phrase) was needed at all. Thus we have to honour those names with old-fashioned descriptions, and even names like *Paeonia officinalis* L. without description; cf. I no. 1, Introductory case, *Pinus halepensis*, II no. 28.

*Tilia americana* L., for example, satisfies the requirements (cf. no. 10).

But there are cases of old names, which really are described unsatisfactorily, for example by insufficient material or by neglecting LINNAEUS' Rules. RAFINESQUE is a example of an author with many insufficiently described species (cf. I no. 20, II no. 20).

There are in the botanic literature many uncertain species; botanists often try to put them as synonyms to well known species; I think this is not well thought out; it happens sometimes that such a synonym becomes the legal name of a species; and then, with that name, uncertainty has fallen on that species. It is better in my opinion to take all uncertain species as separate species; then they cannot do wrong and any botanist can do with them what he likes. Such uncertain species are often based on incomplete or mixed material. Examples: *Abies Jezoënsis* S. & Z. in I, no. 13 and 14, *Pinus taxifolia* LAMB. in I, no. 22, *Abies falcata* and *heterophylla* RAF. in I, no. 20; *Toxicodendron altissimum* MILL. in II, no. 11a, *Vitis Kaempferi* KOCH in II, no. 11b, *Desmodium formosum* VOGEL and *Amelanchier racemosa* LINDL. in II, no. 12, *Hydrangea macrophylla* DEC. in II, no. 17, *Crataegus Lavallei* (L'HÉR.) CARR. in II, no. 22, *Pyrus fusca* RAF. in II, no. 20, *Prunus paniculata* THB. and *Clematis trifoliata* THB. in II, no. 27, *Viburnum serratum* THB. in II no. 17, *Vaccinium album* L. in II, no. 30.

Then there is the principle of "conditional synonyms", which is not legal but is nevertheless applied by REHDER, cf. I, no. 19 *Picea glauca* etc. and 23a *Abies alba* etc.

In this same number names are treated like *Abies Picea;* I think them to be rejectable, but REHDER thinks not.

Under which conditions do authentic Herbarium specimens make a name with an unsufficient description valid? Cf. no. 12.

Another question is, if plantnames are valid which are in themselves according to the International Rules of Nomenclature but which are published by authors, who did not use trivial (our species) names (cf. *Cedrus libani* in I, no. 12, *Alnus vulgaris* in II, no. 4).

In II, no. 14, 23b and 25 there is the question if the right of priority of a combination of a generic and a specific name prevails over that of the speciesname separated. And beside this we have the question if plantnames of LINNAEUS himself are to be regarded as valid, which are nomina nuda according to our Rules, but which have no description because for LINNAEUS it was not needed, even not permitted, to give a (Linnaean) speciesname (our

diagnosis) to a monotypical genus, as was for example *Halesia*. Cf. II, no. 28.

Ephemeral names are treated in I no. 12 (*Cedrus effusa* SAL.) and in II no. 6 (*Ulmus glabra* HUDS.), no. 11b (*Vitis Kaempferi* KOCH), no. 26 (*Rhododendrum luteum* SW.) and no. 28 (*Halesia carolina* L.).

Finally there are questions of less importance, but which nevertheless should be treated Internationally; e.g. the name *Pinus nigra* is not mentioned in the text of ARNOLD, where he describes it; only at the foot of the illustration is written: *Pinus nigra*? Does that note of interrogation make the name invalid? Cf. I, no. 2a.

Another example is the name *Odostemon* RAF. (in II, no. 7), which is mentioned by RAFINESQUE in a Magazine, with reference to a Florula of his; but that Florula was never printed! Now, is that name valid or not?

A third example is the question if and how far changing of names by the authors themselves, must be honoured (Cf. *Cedrus libanotica* — *libani* LINK in *P. I.* I, no. 12, *Pinus taxifolia* — *Douglasii* LAMBERT in I, no. 22 and *Pinus spectabilis* — *Webbiana* DON in I, no. 29; *Halesia carolina* — *tetraptera* LINNAEUS in II, no. 28). A fourth one is: do serious errors in the description of a species make the name invalid (Cf. *Schoutenia ovata* in II, no. 12)?

For orthographical questions, insipid principles and insipid names, see no. 7 (*Mahonia* etc.), no. 19a (*Prunus communis*) and no. 19b (*Prunus Pissardii* etc.).

For the changing of the author's name of a variety, when the species-name is changed, cf. *Pinus nigra* var. *austriaca* in I, no. 2a.

All the treated questions give rise to personal ideas and thereby to different names for the same plant. Unity will only be reached by International deliberation, as about the Rules themselves, so also about the *application* of the International Rules in all cases of Plant-Nomenclature.

# A set of Propositions on Nomenclature, in regard to the International Rules of 1905/10 [1])

BY

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*To Sect. I Art. 15.*

1. **The priority of a combination of a genus and a species name may prevail over that of the speciesname separated.** For example: *Cytisus albus* HACQ. 1790 non LK 1822, though *Genista alba* LAM. 1786 = *C. albus* LK; cf. *P. I.*, II no 14. *Rhododendrum japonicum* SUR. 1908 non SCHN. 1912, though *Hymenanthes japonica* BL. 1826 = *Rh. japonicum* SCHN.; cf. *P. I.*, II no 25.

2. The principle of **conditional synonyms,** so far accepted, may not have retro-active effect. Example: *Picea canadensis* B. S. P., non *P. glauca* REHD.; cf. *P. I.*, I no 19.

*To Sect. I Art. 20.*

3. There might be made **a list of nomina specifica conservanda et rejicienda,** by means of which undesired names can be put aside and whereby the International Rules could be applied most strictly, without personal prepossession.

Examples: *Pinus inops* BONG. (*P. contorta*), *Abies Picea* KARST. (*A. alba*), etc.; cf. *P. I.*, I no 6, 23*a*, etc. *Alnus vulgaris* HILL (*A. glutinosa*), *Prunus communis* ARCANG. or FRITSCH (*P. Amygdalus*), *Halesia carolina* L. (*H. tetraptera*), etc.; cf. *P. I.*, II no 4, 19*a*, 28, etc. For **insipid names,** of which interchange is desirable, cf. *P. I.*, II no 19*a*. For ephemere names (like *Ulmus glabra* HUDS., *Vitis Kaempferi* KOCH and *Rhododendrum luteum* SW.) cf. *P. I.*, II no 6, 11*b* and 26.

[1]) A number of separate copies is available.

*P. I.* = Personal ideas about the application of the International Rules of Nomenclature, or, as with the Rules themselves, International deliberation? I. Some denominations of Coniferspecies; II. Some denominations of Dicotyledonous Trees and Shrubs. („Meded. 's Rijks Herbarium" Leiden, no. 55, 56, 1928).

4. There might be made **a list of names of species dubiae,** which, so long as their dubiousness continues, are thereby excluded as synonyms from other species, and of course may not be used as legal names of well established species. For examples see Proposition 19.

*To Sect. 3 Art. 26.*

5*a*. **The spelling of names of plants** may take place according to the original names from which the plantnames are derived, and according to the rules of Latin.

Examples: *Gleditschia; silvestris; sinensis;* **X***anthoxylum; Pentastemon; castanifolius*. Greek names ending in **on** and **oon** may be latinized into names ending in **um** and **on.**

Examples: *Rhododendrum*, *Erigeron*. Cf. *P. I.*, II no 19*b*.

5*b*. It would perhaps be wise to begin all speciesnames, which are old generic names, with a small letter, because it is not so easy, as it seems to be, to know if a speciesname is taken from a generic name. Cf. *P. I.*, II no 19*b*.

6. When the names of men and women end in a consonant, there should, for constructing genera and speciesnames from them, always be added resp. **ia** and **ii.** It is no use to have *Engleri* beside *Benthamii*. And **i** resp. **a** cause difference in pronounciation (accent). Example: *Leycesteria*.

*To Sect. 3 Art. 28 and 30.*

7. So-named "Varieties", which are in reality small-species (**„Small-species-varieties"**) and which differ from a species by an indefinite number of characters, might be called **subspecies.** For example *Cornus alba* (*tatarica*) s.sp. *sibirica; Pinus nigra* (*laricio*) s.sp. *austriaca*.

In indices of Handbooks, in Catalogues, Seedlists, etc., all subspecies may be treated as species; f.i. *Cornus alba* s.sp. *sibirica* becomes *C. sibirica* (in conversation nobody says: *C. alba* s.sp. or var. *sibirica*, but simply *C. sibirica*). This abbreviation is the more desirable in the cases where the subspecies furnishes varieties; see under 8.

8. As **Varieties** might be taken the plants, which differ from a species by one or few, at all events a definite number of characters (**„character-varieties"**); they often originate from so-called budvariations, and they are more or less constant by seed. Example: *Cornus alba* s.sp. *sibirica* var. *fol. aur. marg.*, or, abbreviated for catalogues etc.: *C. sibirica* var. *fol. aur. marg.*

In the same manner we have var. *pendulus*, *fastigiatus* (this term in the place of the insipid "*pyramidalis*"), *glaucus*, *albo-plenus*, etc.

It would be not practical to sub-divide in catalogues and suchlike the varieties, f.i. var. *marginatus* subvar. *aureo-marginatus* etc.; var. *purpureus* subvar. *pendulus* etc.. More practical is to write at once var. *aureo-marginatus* etc.; var. *purpureus*(or *eo*)-*pendulus* etc.

Variety names may be united to composite names, f.i.: var. *purpureus*, var. *laciniatus*, var. *pendulus;* var. *purpureus-pendulus*, var. *purpureus-laciniatus*, var. *laciniatus-pendulus;* var. *purpureus-laciniatus-pendulus*. Etc.

9. Each species or variety gives by seed some characters in different grades in the different Individuums; f.i. a blue coloured species or variety will furnish Individuums, which are more or less blue. Often such Individuums are propagated vegetatively for sake of that special grade of a character, and then such **„specimen-varieties"** often get names like speciesnames.

It would be good to distinguish them by the term **Forma** and to give them a trivial (fancy) name; for example *Picea pungens* var. *glauca* f. „*Koster*" (usually called var. *Kosteri* or *Kosteriana*). The trivial name is put between „" in orde to be able to distinguish it from an authorsname; f.i. *P. pungens* var. *glauca* f. "Koster" MASTERS.

It is not necessary to write the f., so long as care is taken that the name of the variety is a good Latin name, that of the form a good trivial word. As to this method of denomination, see Jaarboek Nederl. Dendrol. Ver. (Yearb. Dendr. Soc. of the Netherlands) 1927, p. 140, where a new form *Chamaecyparis Lawsoniana* var. *glauca* f. "*Kooy*" (of Fa. H. DEN OUDEN & SON, Boskoop) is described.

When a species itself shows in one of its individuums a character in a special grade, f.i. an extra blue *Cedrus atlantica* specimen, then that form may be given at once a trivialname behind the speciesname, without the name of a variety. Example: *Betula pendula* f. "*Young*" (*B. alba* var. *pendula* f. *Youngii* of the nurseries).

When the term Forma is used in the above mentioned sense, then it must not be used as s subdivision of a variety.

For **„physiological varieties"** a special denomination ought to be invented by those interested.

Forma's do not require a Latin diagnosis; but it will be wise to urge that they are published in one of the Horticultural periodicals, Internationally indicated for that purpose. And conditions might be arranged for acknowledgment of a Forma.

*To Sect. 3 Art. 31—34.*

10. **Hybrids** between two or more genera or species might be called with
1st, a genusname;
2nd, the name of one of the parent genera resp. species, according to the choice of the author, with the suffix *oides* (for Greek words) or *oideus* (for Latin words); f.i. *Lonicera xylosteoides* TAUSCH (*L. tatarica* × *Xylosteum*).
3rd, a trivial (fancy) name with the title Forma.
4th, the mark × before the whole name.

So as with varieties (see 9) the term Forma indicates an inconstant Individuum, the same term indicates here an inconstant, viz. heterozygotic, hybrid Individuum.

The genusname of generic hybrids may be called like the name *Craetaegomespilus*.

Examples:

× *Crataegomespilus mespiloides* f. "*Dardar*" (usually called × *C. Dardari*) = *Crataegus monogyna* × *Mespilus germanica*, f. "*Dardar*".

*Berberis empetrifolioidea* f. "*Irwin*" (now called × *B. Irwinii* BIJH.) = = *B. empetrifolia* × *B. Darwinii*, f. "*Irwin*".

× *Viburnum rhytidophylloides* f. "*Holland*" = *V. lantana* × *V. rhytidophyllum*, f. "*Holland*" (See for this new hybrid Jaarb. Ned. Dendr. Ver. 1927, p. 143).

The letter f may be dropped if one likes.

As to the publication see Proposition 9, last alinea.

11. If only one of the parents is known, the hybrid may be called after that one; if none of the parents, then only a trivial name might be given, or the term *hybridus* may be used; f.i. × *Diervillea hybrida* f. "*Eva Rathke*".

12. When the denomination sub 10 and 11 is accepted, care ought to be taken,

1st that henceforth no speciesnames are made with the suffix *oides* or *oideus*, especially no such ones, being an other species of the same genus with that suffix; yea, existing names of that kind should be modified in all or at least in definite cases, f.i. by giving them a suffix like *aceus* or *aster;* f.i. *Hydrangea opulaster* instead of *H. opuloïdes*, *Acanthopanax sciadophyllaceus* instead of *A. sciadophylloïdes*. At all events, so far as the names are not modified, the mark × shows the difference between a species and a hybrid name.

2nd that the name *hybridus* is not used henceforth for a species, which is no hybrid; existing names of that kind should be re-baptized.

To eliminate synonymous names of hybrids, caused with this method

by personal ideas about the affinities of genera and species (*Crataegus* and *Mespilus*, *Crataegus* incl. *Mespilus* or *Mespilus* incl. *Crataegus; Cornus sibirica* or *C.alba* var. *sibirica;* etc.) and about the nomenclature (*Ulmus glabra* or *U.scabra;* etc.), the hybrid names must be put under the régime of the list of names, mentioned in Proposition 30.

13. Other methods of hybrid denomination are:

*a.* To use, for the formation of a hybrid name from a species name, instead of the suffix *oides* resp. *oideus* (which, after adjective speciesnames, is grammatically not to be admired) a praefix, made with the word *hybridus;* f.i. × *Berberis hybr(id)empetrifolia* f. „*Irwin*", × *Viburnum hybr(id)orhytidophyllum* f. „*Holland*".

*b.* To give to the first hybrid, found or made between two or more species, a speciesname; and to call all further hybrids between the same group of species by the same name.

*c.* To give to all hybrids between two or more species one name, composed from the participating speciesnames. Such a name exists amongst the practical men, viz. *Azalea mollis-sinensis;* the names are here not abbreviated.

*d.* With method *b* and *c* each hybrid obtains moreover a trivial (fancy) name. For example: *Azalea mollis-sinensis* f. "*Anthony Koster*".

*To Sect. 4 Art. 37* (for Art. 34 cf. Prop. 26, 2nd al.).

14. A **speciesname,** which is in itself valid accordig to the International Rules, but which is **published in a paper, that does not contain on principle Linnean trivial (our species) names,** remains valid. F.i. *Cedrus libani* (or *libanitica*) TREW, *Alnus vulgaris* HILL; cf. *P. I.* resp I no 12, II no 4.

15. **Nomina nuda in the works of Linnaeus** are to be declared valid. F.i. *Halesia carolina* L.; cf. *P. I.*, II no 28.

16. **Names, relying upon erroneous determinations or interpretations,** are thereby no invalid. F.i. *Pinus inops* BONG. (*P. contorta*); *Acanthopanax pentaphylla* MARSH.. Cf. *P. I.*, resp. I no 6, II no 23*b*.

17. **Errors in descriptions,** notwithstanding which the concerned species are sufficiently recognizable, do not make the names invalid. F.i. *Schoutenia ovata* KORTH.; cf. *P. I.*, II no 12.

18. **When the author himself of a name has changed that name** for good reasons, then the second name may be regarded as the legal one. But, just

the same as with other names, they fall under 24. Examples are *Pinus Douglasii* LAMB. (*taxifolia* LAMB.) and *Pinus Webbiana* D. DON (*spectabilis* D. DON), cf. *P. I.*, I, no. 22 and 29; *Rhododendrum flavum* D. DON (*luteum* SW.) and *Halesia tetraptera* L. (*carolina* L.), cf. *P. I.*, II, no 26 and 28.

As soon as a speciesname is fixed by an International Congress, a change by the author must be proposed at a following Congress, in conform to 25.

19. It might be recommended that **names with descriptions, which do not indicate with sufficient certainty a special species of plants,** are not added as synonyms to the names of well described plants, but are kept separated. Bij doing otherwise such dubious names become evidently the legal names. See Prop. 4.

Examples: *Abies Jezoensis* S. & Z., *Tsuga heterophylla* RAF., etc.; cf. *P. I.*, I no 13, 20, etc. *Prunus paniculata* THB., *Pirus fusca* RAF., etc.; cf. *P. I.*, II no 20, 27, etc.

20. In the same manner as the description of a genus must embrace the whole extent of the genus, so **the description of a species** ought to include all subspecies (varieties in the former sense) and not only represent a so-called "typical" subspecies resp. variety.

After the description of the species in toto, special characters of all the subspecies and varieties are to be mentioned. If a description of the species in toto is not desired, then the species name may be given without description, and each of the subspecies resp. varieties with one.

For example, a description, following the name *Pinus nigra* ARN. emend., must give the reader the idea of the whole species, not only that of s.sp. resp. var. *austriaca* (*P. nigra* ARN. in the original sense); by the side of s.sp. *austriaca* its special characters are to be given; etc. Or, *Pinus nigra* ARN. emend. is to be left without description, and the subspecies to be more or less amply described.

In my opinion the first method is the better and more comprehensive one.

In the case that a species or one or more of its subspecies has (have) the propriety of developing bud-variations and suchlike, then this propriety is to be mentioned in general terms in the description of the species resp. subspecies.

*To Sect 5.*

21. **The author's name of a subspecies or variety** remains unaltered when the genus or speciesname or both of them is (are) changed into a synonymous name. F.i.:

*Pinus laricio* POIR. s.sp. *austriaca* ENDL.
„ *nigra* ARN. „ „ ENDL. and not ASCH & GRAEBN.
*Pseudotsuga Douglasii* CARR. var. *Fretsii* BEISSN.
„ *taxifolia* BRITT. „ „ BEISSN. and not REHD.
Cf. *P. I.*, I no 2*a*.

*To Sect. 6 Art. 49.*

22. Art. 49, remnant of the old **Kew Rule,** ought to be repealed; it has served as a good compromise but causes unnecessary nomenclature complications, f.i. *Abies concolor* s.sp. (var.) *lasiocarpa* beside the synonym *Abies Lowiana;* cf. *P. I.*, I no 27. The Recommendation no 29 ought to become a Rule, in harmony with art. 48.

*To Sect. 7 Art. 55*[2].

23. Names like *Halimodendrum Halodendrum* are **essentially tautological names** and as such are to come under this article. Cf. *P. I.*, II no 13.

Moreover, **combinations** of a genus and a speciesname, in case **being two names of genera,** which have been or are **used in different senses,** are to be declared invalid. F.i. *Abies Picea* KARST. and *Picea Abies* LINDL. (cf. *P. I.*, I no 23*a*); *Rhododendrum Azaleodendrum* VILM. et BOISS. fide REHDER (*Azaleodendrum* is a genus name for hybrids between *Rhododendrum* and *Azalea*, these taken as separate genera).

*To Sect. 4.*

24. **The names of all species etc. of plants are to be submitted,** little by little, **for their validity and legality, to an International Congress,** in this way:

*a*. A list is made beforehand of all names, about which there is unanimity.

*b*. From all names, of which the validity and legality are universally accepted but which are nevertheless afflicted with some kind of uncertainty ,this uncertainty is to be expounded beforehand. Examples are *Pinus nigra*? ARNOLD, cf. *P. I.*, I no 2*a*; *Pinus* (*L.*) *austriaca* LOUD., cf. *P. I.*, I no 2*a*.

*c*. From all names, about which there exists difference of opinion, the competing names of the same genus or species are to be put together beforehand, and explanation is to be given of the contradictory personal ideas with regard to the application of the International Rules, on which those different names rely.

Examples: *Mahonia — Odostemon* (cf. *P. I.*, II no 7); *Pinus Pinaster* —

*maritima*, *Cedrus effusa* — *libani* or *libanitica*, *Thyja gigantea* — *plicata*, etc. (Cf. *P. I.*, I no 2, 12, 33, etc.); *Quercus rubra* — *borealis*, *Ulmus campestris* — *foliacea* and *procera*, *Chaenomeles japonica* — *lagenaria*, etc., etc. (Cf. *P. I.*, II no 3, 6, 21, etc.).

d. To carry a—c into execution, the plants are to be divided into groups; f.i. hardy ligneous plants, hardy herbaceous plants (perennials, annuals), tropical ligneous plants, tropical herbaceous plants (perennials, annuals); etc., etc.; or, divisions are made with regard to the geographical distribution or, special families resp. genera are taken apart. All of this depending on the readiness of Institutions and Persons to treat groups of any kind.

25. As soon as names are fixed at an International Congress, changes, based upon further research, may not be taken as valid and legal so long as they are not expounded beforehand and accepted by a following International Congress; when this takes place, the date, upon which the name was proposed and expounded in an authentic paper, is to be taken as the date of publication.

26. A **change of name** or **the name of a new species or other group of plants,** ought, for consideration as valid and legal name, to be published with the indications, by means of which the name may be studied and critizised. **The description of a new species etc.** ought to be complete (plant, branches, leaves, flowers, fruits); and dried material ought to be put at the disposal of one or more Herbaria, indicated for that purpose.

**The publication** is moreover to be made **in** one of the periodicals of different countries, indicated for that purpose. The best way would be to establish **an International paper,** which could be affixed as an appendix to periodicals of the different countries. (Cf. with this proposition Sect. 4 Art. 34 of the Intern. Rules).

Not only the new species etc. but its name also is submitted to approval. Instead of the principle "nomen est nomen" ought to prevail the principle "nomen est omen"; cf. *P. I.*, II no 19*a*.

27. As to **plants, of which no sufficient material is obtained to determinate the genus or the species,** it would be good to give them for name a temporary phrase, as did e.g. THUNBERG in his "Flora Japonica" of 1784; f.i. *Scandens foliis ternatis; Frutex radicans foliis quinquelobis; Rhus hirsuta spinosa;* etc.

28. In the meantime, whilst the names of already known species are fixed, **authentic material** of them is to be deposited;

1st Material, as far as possible, from the original author (or authors, f.i,

in the case of species taken as synonymous), or at least indication where this authentic material is to be found.

2nd Complete material, as far as possible enlarged with drawings and photos, of the plants, which, at the time that their names are Internationally fixed, are comprehended under those names.

In the cases where there are different names of a plant resulting from fidferent opinions as to its relationship, those different names are to be put together with the same material; f.i. *Berberis Aquifolium* and *Mahonia Aquifolium; Rhododendrum luteum* (*flavum*) and *Azalea pontica; Cornus alba* s.sp. *sibirica* and *C. sibirica.*

The material sub 1st from species, described before 1900, is to be taken as of historical value; that sub 2nd as the actual authentic material. Species, described after 1900, are, as to authentic material, to be treated as new species (see 26).

The task of procuring and keeping this actual authentic material, may be divided over the different Herbaria, in connection with the preparatory work sub 24*d*, with the geographical distribution of the plants, etc.

As far as possible all Herbaria may obtain part of this actual authentic material from the species desired; at all events photographic offprints are to be put at their disposal.

29. **The office of the Index Kewensis might be the centre** for the standard herbary mentioned sub 28, for the International periodical sub 26 and for the lists of plants and the explanations mentioned sub 3, 4, 24 and 30.

30. **For the sake of Handbooks, Catalogues, Seedlists and other papers for general use, a separate list of names** might be compiled, whereby all existing questions of relationship are decided in one or another sense. F.i. *Leguminosae* sensu amplo or *Papilionaceae* etc.; *Berberis* and *Mahonia* as separate genera or *Berberis* incl. *Mahonia; Abies concolor* s.sp. *lasiocarpa* or *A. Lowiana;* the result being that in all the papers of the above mentioned kind the same families, genera, species, etc. appear, in the same meaning; cf. also 7.

To obtain unity in the mentioned papers, temporary decisions might be taken with regard to dubious names, about which an International Congress has not yet given a final decision. These temporary names ought to be indicated in a special manner.

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