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*About the Institute*

The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

9/12/47 - A general run through the greenhouses at  
Glen Dale this morning to gather notes for  
descriptions, if needed before another flowering, time  
gave several impressions -

As parents, Yozakura, the better macrothas,  
all tend to contribute to good foliage - Kurumes  
& Kaempferi keep foliage "thin"; micronatum  
tend to woolly leaves & some drooping.

There are several clones that, have partic-  
ularly good foliage, approximately in shape,  
color & texture, the so-called Belgians -

Malotian form appears in background of  
the very good clones.

Vittata Fortunei which has a curious foliage  
more like that of micronatum than any other  
one plant - often combines in hybrids to show  
a very distinct broad leaf of good "body"  
but not leathery looking - My cross 80/45  
(V7 x Alice) x (malotian x Yozakura) has this  
type - with no suggestion of what one might  
anticipate for the malotian <sup>and</sup> Yozakura  
ancestry.

In my own seedlings (1946) a curious lot  
of bits show up. Nearly all the Chugai's  
(either way) produce fairly seedlings & very  
slow growing. Pl. 81661 gives wretched seedlings  
which soon become stungy - if over watered -

The Chugai "Mai Hime" seems to give  
some good combinations.

1948 should see the following basic  
crossings:

Save good pollen from sw, they to use  
on the Chugais.

Mai-hime is not as close to mucronata  
as some but should be given special attention.

Get a stock of Hakata shiro + put pale  
colored Kurumes on it.

Parallel with Kurumes on the low lat  
Chugai hybrids I have good stock.

Get melvatica again - B + A?

Cross Karai-Gishi with good Chugais - since  
apparently it sets seed freely.

Save mucronata pollen for Chugais.

Save <sup>pollen</sup> also of mucronata type hybrids - (pollen)  
for use on Chugais.

Save pollen the V7 x Alice etc series for use  
on Chugais.

Get series that runs abt 32203 -  
a V7 x Kurume hybrid - 7 loc. var.



for the occurrence of spots ~~is to be sought~~ elsewhere and that in the well fixed Mendelian laws -

Indeed, should the premises (hypotheses) of Dr B.S. Banyela be true, then he also should find <sup>any</sup> the ~~abundant~~ <sup>abundant</sup> ~~in the young basic asproples~~ <sup>in the young basic asproples</sup> ~~of the agates~~ <sup>of the agates</sup> since they belong to the same race & are subjected to the same light pressure, the appearance of numerous spots which is really not the case. On the other hand it is notable that the pure white varieties have given no spots - any that bloom ~~but~~ that on the contrary - these crosses with red pure colours - (red, orange) & most of all with striped or stippled flowers have brought out the greatest number of spots. Concerning pure white flowers it is to be deduced - they have no color material - therefore cannot change, nor shift. Self (pure) full-color varieties ~~(stronger)~~ <sup>(stronger)</sup> also will be able to ~~(do)~~ <sup>(do)</sup> this according to Mendel's laws yet in practice & experience show that here still the color variegations of the old & the ancestral varieties have influence -

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and their colorations can appear -  
The mutation - genes (?) can occur <sup>even</sup> vegetatively in somatic cells as ~~in~~ <sup>in</sup> diploid individuals (subtiss)

a genetic mutation ~~can~~ <sup>can</sup> appear as a ~~deception~~ <sup>deception</sup>. Whenever it ~~is~~ <sup>is</sup> present as a recessive factor, the mutation is not visible and this is always (the case) whenever the new character is dominant or when by chance the mutation is carried in an individual that <sup>is</sup> already heterozygous for the same hereditary factor, that the mutation becomes visible. This can be found out from the analysis of a 7<sup>th</sup> generation. <sup>Thus</sup> Bateson ~~found~~ <sup>found</sup> a Lathyrus plant ~~with~~ <sup>with</sup> violet flowers. K that was heterozygous in factor B, a factor in which the red had been altered by violet (Bd),

2  
a red flowering — with the formula 66. Practice  
also teaches us that such vegetative mutations are  
common among plants.

Let us clarify this through a single example hereafter.

Among the pure white varieties A. Borsig, Bernard Andreae  
alba, Königin der Weiser (of Indica alba) up to to-day, there  
has not appeared a single sport with other color of flowers and  
this — (as) we say, probably, <sup>through</sup> the influence of the ancestors  
by other factor color is concerned, <sup>is</sup> a total suppression or its  
possibility has disappeared. The red variety, Mme Louis  
Eckhardt which resulted from a crossing of Charmes, magenta  
red with Mlle. Maria Van Houtte white striped, gave as a  
sport Mlle. Emma Eckhardt, salmon colored with white  
border. Dr. De Bruijncker (l.c.) who also believes that in  
very many cases the sport is founded on a vegetative outbreak  
of a hybrid, attempts to prove this ~~and~~ through the

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"Concerning *Azalea indica* L. var. "Vervaeckiana"  
the origin is incompletely known. Its family tree  
lets us come up all the way (rise) from seed of  
the variety Versicolor, well known for its white  
flowers with numerous stripes & dots, and according to  
all appearances gotten <sup>by seed</sup> <sup>through</sup> crossing with some hybrid.  
From Versicolor there arose as a sport the  
variety: "Comte Charles de Kerckhove", from the  
well known plant nursery of Josef Vervaeck seed was  
gotten in Versicolor fructifera of a red flowered sort  
for which (?) red flowered seedling was produced which in  
time gave the sport that later came into trade as  
Vervaeckiana. This <sup>much sooner after</sup> ~~is~~ bears somewhat irregular

but large completely double flowers rose colored with broad margin  
It has produced itself striking spots: one pure white, *Verveenene*  
*alba*; one with pure red flowers, *Verveenene rubra*, besides the  
variety *Pharailde Mathilde* in which the flowers like those of  
*Vervicolor* show rose stripes & spots, but in this case whiter than  
this form, finally there appears, the pale pink Haerewell's  
Pink Pearl

Dr. de Bunge (l.c.) was seriously mistaken about the ancestry  
of *Verveenene* - Its origin is well known - It is a sport of  
*Pharailde Mathilde* which is a seedling of Comte Charles de Kerckhove  
rose colored, planted by Königin der Beisse (St. K.)<sup>4</sup> [<sup>4</sup> For the ancestral  
tree, see *Pharailde Mathilde* (table of sport-variants)]

In spite of these criticisms nevertheless Baur's *Delphinium hybridum*  
where these lines green & uncolored leaflets can be compared to the red &  
white portions of the corolla, these agreements are the best accepted  
& enlarged (see table page 61)

with *Hexe* - the *Hexe* with (Hexe) - The *Hexe* is a  
race, the *Hexe* varieties -

The *Hexe* race is distinguished by the double flower corolla  
in which the calyx is altered & petal tissue. This petaloidy  
arises in *Hexe* from *Galea amoena* and is still dominant in  
the first generation of further crosses, e.g.

1. *Hexe* (red) x *Camille Verveene* (red) = *Lente groet* (red): flower  
with double corolla.
2. *Hexe* (red) x *Charles Foscke* (rose) = *Mignon*, small white  
with double corolla
3. *Hexe* (red) x *Charles Foscke* (rose) = *Haeren's Louise* (red);  
shape like *Lente groet*.

Further crossing with *Lente groet* gives in the same way by first  
with 2 or 3 corollas -

1) Lentegroot x Stok de Belgien = Haerens Brillante rubra  
with double corolla

2) Lentegroot x unknown variety = Encicorolla with 3 corolla.

In this last variety the doubling takes place not only through the calyx  
but through the stamens. This doubling showed up even more later on  
in the crossing of Lentegroot and Mme Aug. Haerens, the offspring  
being the variety Triumph = the beautiful double agalax variety of Show.

From the study of the sports therefore comes a considerable quota  
to the study of pure inheritance data, just as they have had a great role in  
the origin of tens indeed hundreds of novelties which <sup>were more by</sup> ~~through~~ <sup>the</sup> ~~hand~~  
experienced nurseriesmen + we should <sup>rather</sup> ~~have~~ <sup>to</sup> put the question <sup>in</sup> ~~of~~  
therefore, how many saw the light and never were shown so that the  
plant could be found in the hands of some one who evaluated it not by  
surmise but by knowledge. Many of these sports are still <sup>known as</sup> well known  
of + asked for commercial plants or are still so today. Among them we  
ought mention Vervaeckera, Mad. Aug. Van Damme, Petricke alba,  
Albert-Elizabeth, Theodor Finessein and still so many others though  
which this list would become too long.



1937 red double <sup>12</sup> IHT IHT II rose double 1  
 deep orange double 1 carmine double 1  
 white 1

1936 red double IHT II salmon double II  
 orange double IHT II salmon double white edge 1  
 light rose double II rose double 1  
 bright rose 1

1935 orange double III double white II rose-orange double 1  
 rose double IIII salmon double 1 deep orange 1  
 rose 1 light orange 1  
 violet salmon double 1 double red IIII

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1934 red <sup>red III</sup> IHT IHT IHT IIII pale rose II <sup>salmon 1</sup> rose ~~II~~ 1 1  
 rose salmon double IHT 5 salmon 1 1 violet blue double 1 1  
 orange double IHT 5 white orange edge 1 red IIII 4  
 white double 1 1 rose double IHT IHT <sup>10</sup> orange III 3  
 purple double 1 1 lilac rose 1 1

1933 orange II 2 double rose IHT II 7 orange double IIII 4  
 red purple double 1 1 light rose double IIII 4 red 1 1  
 salmon white edge 1 1 double white IHT 5 light rose II 2  
 purple double 1 1 salmon double 1 1 rose II 2  
 red double IHT 1 6 white red edge double 1 orange white stripes <sup>double</sup> 1 1  
 white purple <sup>double</sup> 1 1

Ch. J. Wille + Cie

Zebra - semi-dark orange - white stripes -

Tigra - white + purple with flecks - double

Aug. Haerens + Sons

<sup>9.11</sup>  
Bier + Sons

Fr. Spae

Princess Josephine - Charlotte - like Albert Stigebott

A. Stuyvaert

Th. Piens - Sons de Theophob Pains

L. Dr. Meyer

J. Haerens -

Mal. Green Haerens 2000 with red border  
Leopold-Hstrand, like AS but red is deeper color

Well  
right  
why

Of qualified people (breeders) certainly it has not happened that  
 easily, raising <sup>has yielded</sup> more satisfactory results <sup>has yielded</sup> than  
 fortunate <sup>(many)</sup> gains and that otherwise the bringing into commerce  
 of a new variety often has cost sacrifices & effort? to the  
 winner. Although the breeder always hopes for more splendid  
 and better varieties than he already has, although different,  
 — several varieties crossed in order to attempt to unite good  
 characteristics and link them as one good, shall yet discover <sup>(experience)</sup> that  
 this desired (and) never will give <sup>100%</sup> what perhaps expected, i.e. from  
 this crossing there may arise a hundred young plants of which perhaps  
 scarcely a single one will come which show the desired, anticipated  
 character. Thus we are not so firm that was contracted <sup>concerned</sup>  
 with the business of the Petrick varieties, had to fight so much  
 the leafspot disease? that they resolved — at least according to  
 the opinion of the breeder — what <sup>diseases</sup> planned crossing ~~to~~ could make  
 possible new plants which could advantageously supplant the Petrick  
 varieties, or at least would be immune to the so dreaded disease.

Two plants were crossed, Mad C. Petrick with a variety of good  
 resistance to the leafspot, and the breeder eventually got 3000 new  
 plants that were given all the Vanderkark care <sup>so</sup> <sup>one</sup> <sup>was</sup> that the man assigned  
 (to their exclusive) work of caring for them. From all these seedlings  
 a single plant remained which could be sure of success in commerce  
 and even this is not immune to the disease. All the others were  
 rejected by the firm itself + <sup>destroyed</sup> after 5 years of cultivation.

Thus we abandon the idea that <sup>sure</sup> factors might be  
 present that although they do not give back the determined character  
 when <sup>actually used</sup> brooked by hand, and also that the breeder may have complete  
 certainty that the desired hereditary characteristics are present

near  
1871

in at least one plant, in order to for the reason that we gave  
at the beginning of the chapter (section). In fact, whenever one  
takes Begonia tuberosa one might not expect other than that  
Begonia tuberosa would come & whenever one makes cuttings  
of *Agave indica* L., the young plants will be *A. indica* L. -  
This phenomenon, which one calls heredity, should appear  
natural to everyone - But whenever one considers the descendants  
from seed, one must truly notice ~~that~~ the agreement <sup>between</sup> among  
these descendants and the mother plant, is neither mutual  
nor complete. This phenomenon that we regularly see appear  
in *Agave indica* L., one calls variability or changeableness.

Heredit & Variability are <sup>the</sup> basis of genetics and the  
study of doctrines of heredity or genetics stands in new relation  
with the doctrine of descent, which is a great deal of significance  
in the improvement of existing things.

There is no need for us to give here a course in  
genetics, for which one uses special course. We have only the  
task of giving nurserymen & specially growers of seeds -  
a practical book for the improvement & bettering of their  
plants whether they are already made, crosses or when they are  
disposing of the plants.

Before all else it must be said that variability <sup>doesn't</sup> ~~is~~ <sup>acts</sup>  
accidentally & arbitrarily in our plants. Already in the 15<sup>th</sup>  
century, we had Köhlerer, Sprenger, Haller, Looff &  
others who were seeking <sup>a clarification</sup> an explanation or tried to give  
an explanation, but <sup>the key</sup> it was first <sup>times</sup> in 1865 and published by  
the Austrian Augustinian monk Gregor Mendel. After working  
& seeking for 5 years it came close to the <sup>unanimous</sup> ~~general~~ <sup>man</sup>

that the characters determined by man can be strengthened or weakened arbitrarily, and the law of free combination of hereditary characters was scientifically published by him - But Mendel was nowhere understood & he himself apparently did not <sup>shully</sup> foresee to what jurisdiction this double new science was still to develop. Only some 30 years later, or in the beginning of this century, were the laws which Mendel had found, rediscovered almost simultaneously by Prof. Correns in Munich, Prof. Hugo DeVries in Amsterdam & Tschermak in Vienna. Then the doors of the new science were opened wide so that soon numerous new plants & animals were scientifically bred.

The obtain<sup>ing</sup> of varieties or races better than their forebears is "veredelen" (improvement) in the broadest sense of the word. To gain varieties which have larger flowers, which bloom earlier, which are stronger or immune to specific diseases, which are stronger in growth, etc. - is improvement or betterment. Yet these characters must be present in the constitution of the parent (--- m.a.w.) the basis of the characters must be brought out & made permanent through the carriers (genes) if man can reach any result. In this way, one can proceed with the improvement in two distinctly different <sup>directions</sup> ~~ways~~. First the strengthening of specific present characters & second, the bringing out of new characters which the plant does not yet possess, or even the reverse, the weakening of the less good characters bringing it about by changing them for better or more desirable ones. In the first <sup>direction</sup> ~~case~~ <sup>one</sup> can lead one ~~to~~ <sup>himself</sup> through the ~~himself~~ to be guided in advance by

changes in appearance, which the ~~outer~~ external appearance of the phenotype of the plant can show. Thus we know that each plant has particular characteristics - and also these specific claims constitute what concerns the ~~form~~<sup>conditions</sup>, wherein ~~they~~<sup>is</sup> the powerful development. Their outward appearance can thus undergo a considerable change through a better + appropriate feeding, which can also improve the size (bulk) of the plant = also under the influence of greater or lesser warmth, for in case of too great warmth, for example, the flowers are too light and sometimes not properly colored. The same changes in appearance can be brought about under the influence of insufficient light when they develop paler leaves and larger, thinner stems + trigs are formed - we also know the effect of too much or too little water, of the location or site of the plants, and concerning the influence of climate we can look at the plants (themselves). The influence which the plants suffer from the alteration of the living conditions can bring about the greatest advantage to one nurseryman, yet ~~though~~<sup>in</sup> this improvement careful limits must be considered. Under these influences, actual or hidden characteristics such as the size or color of the flowers, the leaves, etc. can be improved to a marked degree yet at the same time one experiences (knows) that this adapted form is not hereditary for under the restrictive influence of the outside living conditions it will be ~~frustrated~~<sup>frustrated</sup> by the limits of the plant itself. These changes in appearance are not brought forward ~~therefore~~<sup>therefore</sup> as the way to obtain new varieties.

The genotype, as for example, more resistance or immunity, or  
 specific diseases, or whenever we will bring out new characteristics,  
 we must apply himself to do it scientifically with these fixed  
 hereditary characteristics. One can improve the wild azalea cut  
 and by the utilization of the immunity of the most resistant type  
 but also <sup>without</sup> long vegetative propagation, i.e. by seeds. This has appeared  
 many other times already, that multiplication by cuttings (~~clones~~  
~~clones~~) just as happens now, results in degeneration. In the  
 use of cuttings (clonal selections) one must always use the most  
 resistant lines and the possibility of resistance must be aroused by  
 better fertilization or other cultural practices. Through the  
 selection of the most resistant lines for grafting  
 (stock?) is also much to be attained and whenever one grafts  
 such wildlings - with highly resistant varieties many diseases are  
 no longer to be feared.

the needed care and with which we can (practice) continuous selection: for certainly this is not to be said (<sup>absolutely</sup> ~~closed~~) that even completely ideal motherplants will give numerous, misformed, weak seedlings which are not worth of being brought into cultivation - least of all be used as motherplants. ? How much times this must pass before it can compete with the numerous varieties asked for in the trade, one can calculate. First + foremost the successful man must take care that he never introduces a variety into trade that is not completely fixed. Here we should point out as example the variety *Petunia celba* (syn. *Schepens Kerst peral*), <sup>first</sup> after the <sup>raising</sup> first few years in cultivation <sup>one that dominates the whole seed stock</sup> that disfigured the corolla -

Do our nurserymen not - that all too quickly, their new acquisitions are mealy? he ~~to~~ can well accept that one has a well founded reason to attempt to see each sport (already fixed) flowering on the mother plant where it appears, yet the nurseryman himself should watch with the spread of the variety till he is absolutely certain that it is fixed. Then also his example could be followed by growers of other kinds of plants. Special nurseries should be established that could specialize in the bringing out valuable (worth) selected mother plants or arrange for the shipment of first class cuttings or scions, in case (?) the nurseryman himself cannot give a strict, long time selection.

Yet we know this well: a selection <sup>or choice</sup> carried out thus can be of more value to the phenotype and before any one goes through with the multiplication (change <sup>negative?</sup> ~~neglect~~ ~~by~~ ~~the~~ ~~way~~). Whenever one <sup>appears</sup> ~~finds~~ the bottomland on in favour of <sup>to</sup>



? Are disappointed? by the descendants of a not-fixed mother plant, ?, for it appears that the remarkably bookish petals differ from the one flower next to, & another, even in the same establishment for no group of plants is another that we even come to doubt of a uniform type of this variety could be found.

A. Similar can we find in the variety, Violacea.

Many nurseries have put out these plants in such a form and with such slender trigs <sup>(have)</sup> always forced <sup>(it)</sup> that it is now no longer possible to get grafts for their own business nor to raise plants of irreproachable form (habit). The young trigs are so weak (feeble) that we have the plant <sup>so as not to graft</sup> break (and takes the trig from the foot of root (the crown). A third case of which we will treat later, we should <sup>only</sup> mention has to do with the flemishness of Haze.

Variability obliges one toward a continual selection or roguing as it is absolutely necessary, & indispensable to grow quality stock, which can hold for us an established market or confine a new one.

As we all see in Agavea work so much more could be done in the preparation of (grafting) stocks or in the search for the first elements in order that pure lines might be grown. According to the sample of the Englishman, Hallett, one should proceed with the supposition, the best plant will arise which also is the most suitable for further propagation and, as we <sup>do</sup> in the description of seed genuine breeding, so above all such a plant should be preserved as a valuable mother plant, to which one can

yet we know that such matters are of great importance for us in the plants we commonly cultivate and although they are not "improvements" in the true sense of the word yet we can ignore them unless he wants to cause himself harm (loss).

A second alteration which plants undergo, is the gradual alteration or fluctuation, which can be called a common phenomenon and from which one of the basic rules was derived by Quetelet. The fluctuation is thus the gradual alteration whereby, under the descendants, an individual shows more or less great (degree of) difference which extend from the least to the greatest in one ascending line ~~etc~~ in which each is bound to the next. <sup>These gradual alterations are called fluctuations</sup> (Schwankungen), wherein <sup>in fact</sup> a minimum + a maximum, with intermediates, the median always high gives the greatest <sup>number</sup> ~~number~~ of plants in cultivation.

Under the influence of a careful selection the fluctuation goes ahead toward an improvement with a very considerable improvement, yet keeps its position only as long as it is regularly + firmly applied. One does not say, that it will revert more quickly than one realizes to the original race. A couple of examples in practice shall be mentioned. We all know what a stir the variety of Agavea indica "Albert-Elizabeth" when soon it first appeared at the meetings + exhibitions he recall how great the praise was raised for the particularly beautiful suffring + the soft red border of the white corolla petals - yet after a few years we might put the question as to where all the deviations had gone that the splendidly colored flower had shown. One hoped always but.

AZALEAS, "BELGIAN"

Unclassified air mail despatch from the American Embassy, Brussels, Belgium, April 1, 1947, report No. 380, prepared by Jerome T. Gaspard, entitled "Preliminary Report on Belgian Production of Flower Bulbs".

In the text there is a paragraph concerning plants which begins with a notation as to azaleas in which it says that the market will not be stabilized until either the German market is restored or the United States relaxes its quarantine requirements. Credit is given to the firm of Robert Haerens of De Pinte, Belgium, for most of the information.

86 plates

Albiflorum Series - 1 species.

Anthopogon " - 6 species.

Arboreum Series =

Subseries Arboreum 4 sp.

" Argyrophyllum - 15 sp.

Auriculatum Series 2 sp.

Azalea Series =

Subseries Canadense 4 sp.

" Luteum 16 sp.

" nipponicum 1 sp.

" Obtusum 37 sp.

" Schlegelii 7 sp.

" Tashiroi 1 sp.

Barbatum Series =

Subseries Barbatum 4 sp.

" Emigerum 2 sp.

" Hispidum 9 sp.

" Maculiferum 9 sp.

Boottii Series = 14 sp.

Camelliaeflorum Series 2 sp.

Campanulate Series 5 sp.

Campylogynum Series 4 sp.

Camtschatskum Series 3 sp.

Carolinum Series 3 sp. - all

Cephalanthum Series 21 sp.

Cinnabarinum Series 2 sp.

Dauricum Series 2 sp.

Edgeworthii Series 5 sp.

Falconeri Series 13 sp. (100)

Ferrugineum Series 3 sp.

Fortunei Series :

<i>Suberis calophyton</i>	2
" <i>Dardii</i>	4
" <i>Fortunei</i>	10
" <i>Griffithian</i>	1
" <i>Orbicular</i>	1
" <i>Oreodora</i>	4

Fulvum Series = ✓

<i>Glaucum Series</i>	9
<i>Grande Series</i>	11
<i>Heliopsis Series</i>	9
<i>Innotatum Series</i>	

<i>Suberis Innotatum</i>	23
" <i>Parishii</i>	7

Javanicum Series ~~suberis~~ -

<i>Lacteum Series</i>	14
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~~Lappacea Series~~ 32

<i>Lepidotum Series</i>	9
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Maddenii Series :

<i>Suberis Giliocalyx</i>	31
" <i>Maddenii</i>	8
" <i>Megacalyx</i>	8

*Micranthum Series* 1 ✓

*Moupinense Series* 4

*Neriiflorum Series* : ✓

<i>Suberis Forrestii</i>	5
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" <i>Haematodes</i>	8
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" <i>Neriiflorum</i>	10
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" <i>Sanguineum</i>	27
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*Oratum Series* ✓

Ponticum Series =	
Subseries Caucasica	12
"    Ponticum	4
Saluense Series	11
Scabriflorum Series	6
Semibarbatum Series	1
Stamineum Series	16
Taliense Series	
Subseries Adenogynum	17
"    Roxicanum	19
"    Taliense	16
"    Wasonii	7
Thompsonii Series	
Subseries Campylocarpum	7
"    Mantoufiorum	2
"    Selenae	23
"    Soulei	8
"    Thompsonii	8
Trichodadum Series	11
Triflorum Series	
Subseries Augustinii	7
"    Hanceanum	2
"    Oreotrophes	6
"    Polylepis	5
"    Triflorum	11
"    Yunnanense	23
Vaccinioides Series	9
Vinagatum Series	3

77121	Ayu no kamura	77144	Myagino
77076	Azuma shibori	77105	Momo zono
77113	Beni Kirishima	77124	Moniui gasane
77092	Fujibotan	77090	Murasame
77134	Futami akelono	77133	Oi no mesame
77091	Gibiyama	77095	O. Murasaki
77106	Hana asobi	77094	Osakazuki
77138	Hateushino	77074	Ryukyu
77140	Higashi yama	77145	Satsuki
77126	Hino ha kama	77115	Sakura kazami
77125	Hokorobi	77117	Shio satsuki
77116	Ima shoji	77141	Shishu
77102	Kagaribi	77067	Shoshobeni
77084	Karamishiki	77143	Surisumi
77064	Kirin	77107	Tama no ito
77089	Ko asobi	77093	Tama no midori
77136	Kocho no mai	77110	Tenta momiji
77127	Komurasaki	77122	Usuyo
77137	Koraini	77132	Warai Eishi
77120	Kumogiri	77100	Yaeshoji
77139	Koshikibu		
77142	Koromo shikibu		
77118	Kyo no tsunibana		
77114	Kyo myagino		

<sup>solitica</sup>  
Simsii 1808 - Ghat 1827 by Barona Dubois August 1817 -

[nitata, v. punctata, v. Fortunei, v. rosea all in 1844]

ledifolia in 1819 & hybrid, known in Belgia before 1825.

phoenicea - 1829

fulcra - 1830

(indica) variegata + laterita both 1832 indicum

macrantha 1834

phoenicea splendens 1837

lateritia alta or "Glebotanensis" - indicum

obtusa 1843

ovata Lindley 1843 -

check back over P. Simsii 1808 p. 190-191

Renaissance 1846 - indicum Pro  
Anciena 1852

1853 - laterita = Exquisita + Drayana

Amniata = Laterita + Drayana

1853 - Bealei (nitata)

1854 - crispiflora -

1855 - narcissiflora (macrantha)

1858 - nitata alta -

1859 - lineariflora

1861 - Charles Encke - "late Hlocisud"

" - mucrophylla (Siatros)?

1863 - Son de Prince Albert "late Hlocis"

1865 - punctata - green white ground, stripes cherry, red; flecked + flamed =  
small fls = by perfume!! This variety may be printed out as the  
earliest flower of this time!

punctata variegata separate 7 above and may. white border



1866 - *nitida crispiflora*.

1867 Evelyn "early bloom"

1868 - Frederic II "flowers easily,"  
Grandes "

1868 - Raphael "Forcées heel gemakkelijkt" Forc. v. v. s. g. -

[See note 1870 p. 250/251. In Bus. is de Shellhuis de de Halle - see last leaf deep  
for *A. lobiflora* -]

1869 - Mlle Loni van Hulle - "intravind'naard, late variety, which one can easily  
flower in March."

1871 - Ami Gustave Guimel "one of the first spring bloomers -

Oswald de Keetckloze "The flower is late"

Vuurwerk "can be easily forced late"

Jan Willem Saunders "early"

1872 - Baron J. de St. Yvris "late, but splendid flowers in mid May

Reine de Portugal. "The flower of the variety is late, but though late it  
can be forced rather easily."

1873 - Dr. D. Moore - *Dato* (late flower bud) - these buds of fruit during winter

1874 - Mlle. Souverain de Keetckloze - p. 258 - special instructions for forcing in warm house

1875 - Joseph Nep. Baumann "for"

1876 - Fürstin Bariatinsky - "can be easily forced"

1878 Mlle Louis Van Hulle (p. 268) "late blooming"

Comte de Charbord (p. 269) "can be easily forced"

Mad. de Grève "early"

Deutsche Perle "shows a punctual early bloom" is much used during winter in  
making floral pieces"

Alte speciosa plena - "can be easily forced"

Impératrice des Indes - not easily forced - h<sup>o</sup> drops off

Sakuntala "good variety for forcing"

James Veitch "easily forced"

Königin der Weisse "late" [drops leaves in winter]

1879 - *Bignoniaceflora plena* ("early forced")

1880 - Saw de Francois Verriere - "late blooming"

✓

1880 - Dame Mathilde - easily forced? "loot zich goed aanjagen"

1884 - Louise Verwaen - "geer goed om aan te jagen"

Edmond Verwaen - ditto -

Mrs August van Geest - "

Rhea - "

Vidua multiflora - "

Mrs Jean Neymans - Verscheffelt - cannot be forced -

1885 Mrs Gertrude Forestell "one of the best varieties for forcing"

Candidissima "well suited to forcing"

{ 22 rows } Neige et Lise "extra for forcing"

{ 4 pages } Rembrandt & Pius Paupold - "extra for forcing"

Madeleine "late flowering"

1886 Caroline de Moor - good for forcing"

Verwaeniana good for forcing

Lynx de easy to force

Lactea plena early variety

$\frac{33}{7}$  Fraj Fraj Thon easy to force

Mrs Jean de Kneef forces easily

Wm Scheurer one of the best to force -

1887 Pharaïde - Mathilde - "forces easily"

Lina Schulz "good to force"

$\frac{11}{4}$  Luna "can be forced"

Vestalin " " " " "

1888 Leon Pynacet late bloomer

Perle de Gartbrugge forces as easily as Perle de Perle

Mammoth early bloomer

Dr Schryberiana easily forced -

Melitta good for forcing

R. Lanissa easy to force

Triomphe de Saint-eman - easy to force

1888 Hex 2 - can be forced in Jan or Feb till May -

Pres. Comte Royal de Keckhove - early & force

1889 - His Rose - "early forced"

1891 - Fran Minna Hantle "early"

1895 - Fortiana "good variety & force"

1899 - Mr Moreux "very good for forcing"

1901 - Mad Petrick - "very regularly early in bloom so that one for Christmas etc"

1904 - Rose de Noël - "variety with early bloom"

1905 - Souv. de Mr. Vander Plas - "rather floriferous & early"

1907 - D'Hooghevaner - "Very early variety; easily forced."

1909 - Haerens Lorraine - "blooms about beginning of Jan. in temperate house"

Paristima - "blooms generally early" [lost to trade 1915]

La Coquette - "blooms moderately early"

Rose d'Amour - "blooms about the month of February"

Mlle Marie D'Hooghe - "Early variety that can be brought to full bloom for Christmas"

1912 Paul Schöme - "can be easily forced"

1913 Mad Petrick Superior - "x very floriferous & early blooming"

Fritz Sander - "good growth, early bloom"

1914 Mr Georges Royer - "it is early & long blooming x"

Eclairer - "x flowers about mid-January x"

Kerstday, Pink - sport of Mad Petrick - same means Christmas Pink

1920 - Schepens Kerst rosal (Petrick alta) "x very early blooming plant x"

1921 - Steyartiana - "moderately early"

1922 - Mad. Arthur Steyart "Very early in flower"

1923 - Par "Very early flower = x"

Rubis Noëlli "bloom at Christmas"

Haerens Jaumonea - "flowers at end of January +"

Abundantia rubra - "flowers in Feb & can be easily forced"

Memoria Sander - "Christmas bloomer"

Erica Sander - "

Raphaël Sander - "Very early in bloom"

Winterroze - "Very early variety"

- 1926 - Mrs. Francois Steyart "Half early variety"  
 1927 - Herdon Findeisen "Early variety"  
 1928 - Locha - "Flowers in February"  
 1929 - Rouge de Noël - "Early variety"  
 1930 - Gri - "Good Christmas Home"  
 1931 - Schime Frise - "Blooms early for Christmas"  
 Rudolf Sander - "Very early bloom"  
 1932 - Prosper van den Saal - "Blooms for Christmas"  
 Willem van Orange - "Christmas Home x x"  
 1933 - Louis de Theoph. Piens - "Christmas Home"  
 Perle de Noisy "Christmas Home"  
 Mrs. Hadfield "Christmas Home"  
 Madeleine "Half early"  
 Orange Kap "Christmas Home"  
 Edelweiss "Half early"  
 John " " "  
 Fontaine " " "  
 Zebra "Christmas Home"  
 Heil Helen "Moderately early x x"  
 1934 Adontglikake "Christmas Home"  
 Princes Juliana "Half early variety"  
 Fiat "Very early variety"  
 Steyartian "Christmas Home"  
 Noël " " " "  
 Rose de Noël " " " "  
 1935 Mrs. Bowland "Early Home"  
 Perle de Swyvaerde "Christmas Home"  
 Ypres " " " "  
 1936 Konigin Astrid "Christmas Home"  
 Mrs. Aug Haerens "Early variety"

1926(Cont) *Reclivus* "Christmas flowers"

*Nyx Prime* " " "

*Reem van Africa* "Reclivus made at Christmas Sat. h. 1926"

*Androsium cupata* "Early in flower"

*Drepanum* "Blooms rather early"

1937 - no early ones -

There are no notes to say what is considered early but  
apparently Christmas day is early - mid Jan is good -  
Feb. is moderately early - after March - ?

Hint numbers are not annotated for time

Hint is said that firing temperatures were how the  
work is done in this classified check list. Perhaps  
elsewhere.

100	Orange Queen		Kurume
50	Peach Bloss		
100	Pink Pearl		
100	Salmon Beauty		
50	Salmonia		macrantha late rose
100	Shenwoodii		macrantha hybrid late
100	Sunstar		
100	Sweetbriar		
100	Yayegiri		
100	Algers	} Corbridge Rare Plant } Garden }	Kurume
100	Cherry Ripe		
100	Pageantry	CRPG - lat.	macrantha hybrid
50	Cherry Blossom		
100	Bridesmaid		Kurume
100	Cattleya		"
50	Kyū-Miyagino		
100	<del>Tsurumata</del> - no Tsurumata		
100	Flamingo	CRPG - Red	Kurume Kamfs-
50	Wing Star	"	macrantha white
100	Crab Apple	CRPG	(my leaf for thinner in this)
50	Shionon	"	
100	Rose		deep rose red Kurume
100	Harai Gishi		late double pink macrantha

50 - 141907 Tanager  
50 - 903 Boucaneer  
50 - Picador  
25 - 141777 Pixie  
25 - (32252)  
50 - 141898 aphrodite  
25 - 141910 Purity  
25 - 141769 Carree  
25 - 141770 alabaster  
25 - 141772 Minuet 792  
25 - 141776 - Carmel 901  
25 - 141774 -  
25 - 141768 - Mavourneen

425

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25 - 141791 - same  
25 141780 - Day spring, early pale pink  
25 141902 - Recovery, late pale rose  
25 141788 - Fashion, mid-late, w/h rose salmon  
25 141901 - Greeting, midseason coral rose  
25 141784 - not named yet  
25 - 141905 - Joya - midseason large pink  
25 - 141900 - Anchoite - late salmon rose

State hybrids

- 25-113-g-
- 25-126-g-
- 25-69-g-
- 25-19-g-
- 25-122-g-
- 25-155-g-
- 25-13 F-
- ~~25~~ 13 G-
- 25-96-g-
- 25-123-g-
- 25 A-11-g
- ~~25~~ 127-g
- 25-154-g
- 25-100-g
- 25-309-g
- ~~25~~ A-10-g
- 25 A-10-g
- 25-70-g
- 25-97-g
- ~~25~~ 21-C
- 25-145-g
- 25-85-g
- 25-151-g
- ~~25~~ 38 F

600



- 100 Kagami - bright red Kurume  
 100 Usuyo - red purple linearifolium clone  
 100 Ho-Oden - L/H - pink + white hybrid Kurume  
 100 Hatushimo - early pink + white lvs mucronatum  
 50 Yozakura - large late (lavender) pink  
 100 Avalanche - white Kurume  
 100 Bouquet Rose - rose pink Kurume  
 100 - Apple Blossom - pale pink Kurume  
 100 - OI-NO-MEZAME Kurume  
 100 - 77130 Better Kurume  
 50 - Hotoorobi " "  
 100 - Mai-Hime large late rose pink " "  
 100 - Ogi - Kasare 708 " "  
 50 - 71122 (not Usuyo - lvs mucronatum form) " "  
 100 - Hatushimi " "  
 100 - Karenta 71058 " "  
 100 - Daybreak Kurume  
 100 - Delicat 581mm "  
 100 - Flame "  
 100 - Hortsnee (not Hortensia) lvs mucronatum lvs  
 50 - lavender Queen  
 100 - Lorraine

Rt. 7 Box 1242

Ms. W. Douglas

Phoenix  
Ariz

Rhododendron seedlings transplanted August 1946

Seed brought to Bell by B.Y.M. Gathered from plants at his home.

Bell No.			No. flts.	No. plts.
38968	27416 x 27401 (VF x Marta) X (VF x Louise)	Sown by B.Y.M. as #6	3	120
38969	27488 x 32140 ( <del>66</del> ----) X (VF x Louise)	Sown by B.Y.M. as #1	5	200
38970	32155 x 32372 (VF x Willy) X (Willy x Momo Zono)			10
38971	32243 x No.1(BYM has pedigree) (Mac. orange x Momo Zono) X (-----) BYM #40		15	600
38972	32243 x 141910	BYM NO. #23	26	1040
38973	32414 x Formosa (Mae. Margotten x Warai Gishi)		7	280
38974	32418 x 32370 (Yozakura x Kag <sup>A</sup> rabi) X (Willy x Momo Zono)		2	80
38975	32420 x Formosa (Yozakura x Kag <sup>A</sup> rabi) X (Formosa)		20	800
38976	32427 x Formosa		5	200
38977	32533 x 32377 (Hinodegiri x Miltoni) X (VF X HEA #34)		8	320
38978	32580 x 32135 (Osakazuki x Flame) X (VF X Willy)		9	360
38979	32585 x 32155		1	40
38980	32620 x 32147 (V.F. x Warai Gishi) X (V.F. x Willy)		3	120
38981	32620 x 32155 (V.F. x Waraigishi) X (Mrs. Carmichael x Willy)		2	80
38982	32649 x 32209 (V.F. x Osakazuki) X (-----)		7	280
38983	32261 x P.I. 127678 (Mac. deep salmon) X Hazel Dawson)			1
38984	32672 x Formosa (Clone of pulchrum) (Mac. deep salmon X Hazel Dawson)		2	80

## Rhododendron seedlings transplanted August 1946

Bell No.		No. flts.	No. plts.
38985	Scabrum from Glen St. Marys plants.	9	360
<del>38986</del>	27479 - Self set - cross failed.		7
38987	Hatsushimo --- open set.	18	720
38988	Maxwelli --- open set	26	1040
38989	Indica Magnifica -- open set.	15	600
38990	27469 --- open set.	1	40

*Azalea Numbers*

#

35 277 -

35 278 -

127, 664 -

131, 301 -

141, 772 -

141, 780 -

141, 781 -

141, 900 -

141, 901 -

902 -

141, 905 -

141, 908 -

141, 910 -

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*Curtis May*