

MALUS

International

Ornamental Crabapple Society

Bulletin

Summer 1987

Vol. 2 No. 3



*INTERNATIONAL ORNAMENTAL CRABAPPLE SOCIETY
OFFICERS*

PRESIDENT

John J. Sabuco PhD.
Good Earth Publ. Ltd.
P. O. Box 104
Flossmoor, IL 60422
312-758-4700

SECRETARY

Peter W. Bristol
Holden Arboretum
9500 Sperry Road
Mentor, OH 44060
216-946-4400

VICE PRESIDENT

Mike Scott
Rt. 1, Box 540
Allentown, NJ 08501
609-259-6375

EXECUTIVE DIRECTOR

Thomas L. Green
Morton Arboretum
Lisle, IL 60532
312-968-0074

SOCIETY COMMITTEES

Membership

Norbert Kinen (OR)
cochair with
Bill Hendricks (OH)
Mike Scott (NJ)

Registration

Ed Hasselkus (WI)
Tom Green (IL)

Publications

Ed Hasselkus (WI)
John Sabuco (IL)
John Martens (IL)

Publicity

Tom Green (IL)
John Sabuco (IL)
Bob Lyons (OH)

ACKNOWLEDGEMENTS

Cover Photo:

Provided by John J. Sabuco
(Film: Ilford Xp 400 Variable)

Editorial:

John J. Sabuco
Tom Green

MALUS

is the official publication of the International Crabapple Society. Volume 2,
Number 3. Published bi-annually.

MALUS

**INTERNATIONAL
ORNAMENTAL CRABAPPLE SOCIETY
BULLETIN**

CONTENTS

Letters to the Editor	1
The Apple Pear Pickle	3
Fragrance of Flowering Crabapples	6
Crabapple Bloom Sequence	7
List of Common Names of Crabapples	9
Flowering Crabapples Named for People	12
Flowering Crabapples Named for Places	17
Miscellaneous Names of Flowering Crabapples	20
Are Apples Pears?	21
Malus "Obscurus"	23
True Confessions of a Crabby Landscape Architekt.	25
New & Used Crabs	28

MALUS

is published by

Good Earth Publishing Ltd.

P. O. Box 104, Flossmoor, IL 60422
(312) 758-4700

Subscriptions and memberships are available
through the publisher at \$15.00 per year.

Letters to the Editors

Tom Green
Ed Hasselkus
John Sabuco

Dear Dr. Green,

When I opened the Spring 1987 issue of MALUS to page 3 and spotted the heading MALUS "OBSCURUS" I cringed and shuddered.

I cringed, because new cultivar names "...published on or after 1 January 1959, must...be a fancy name, that is, not a botanical name in the Latin form." I shuddered, because: "Cultivar names, when adjectival in form, should agree in gender with the generic name concerned...", thus Malus 'Obscura'.

We advanced from CRAB GAB to MALUS; couldn't we advance also from Malus "Obscurus" to "Obscure Crab Apples" and drop what could be a confusing example?

Sincerely,

Freek Vrugtman
Vice-Chairman, ISHS
Commission for
Horticultural
Nomenclature and
Registration

(Quotations are from the International Code of
Nomenclature for Cultivated Plants)

REPLY:

Dear Freek,

All too often the scientific community refuses to have fun, to use their wit in such a way as to add humor to the subjects they cherish. Not only does this create a doleful and overly somber lot, but it also makes science dull to those whom we most wish to educate; our children and the public at large.

Fluency is the ability to understand 2 meanings simultaneously, and in the case of our title, take delight in the innovative twist of words. We did not and do not believe any fluent individual would believe this title to indicate a given taxon but we will give it quotation marks for those who might miss the nuance. Feminizing the word "Obscurus" would diminish the humorous intention of the name. Since this is not intended to be a name that one takes seriously as botanical nomenclature, the International Code of Nomenclature for Cultivated Plants may take a holiday.

The board of directors wishes the journal to be enjoyable to read, not laborious. For this reason alone, we will do all things necessary to reach our goal.

Answering for the IOCS:
Dr. John J. Sabuco
President, IOCS

Dear Editor:

I have a dilemma I'd like to present to the society. We at Johnson's Nursery in Menomonee Falls, Wisconsin have had problems growing budded Malus sargentii to landscape size.

In the spring of 1983 we lined out some very healthy looking five foot, branched Sargent Crabapples. They had been budded on a vigorous apple understock. The following fall of 1983 was a wet one. The spring of 1984 we noticed vertical cracks in the bark of the trunks near the base of the plants just above the graft union. No damage occurred below the union. Some trees were so severely damaged that they were completely girdled. We were left with a mass of suckers from the understock and a few vigorous Sargent shoots from near the graft union. This same type of damage occurred on Mary Potter. It has also happened on Sargent Crab in much the 70's before I was employed here. We had quit growing them for several years for this very reason.

My theory is this: A Sargent Crab budded on a vigorous standard size rootstock will keep growing too late in the season, especially when it's a wet fall. It doesn't get ready for the winter early enough. The vigorous rootstock keeps it going too late in the fall. As a young tree it's immature bark cannot tolerate the temperature fluctuations near the surface of the snow or the soil, so this is where the damage shows up. Once a tree gets older and develops a more mature bark, and its growth rate slows, it is not so susceptible to this type of damage. That's why, once a Sargent Crab gets about two inches or more in caliper we have no more problems with them other than the atrocious suckering. I suspect that Sargent Crabs on their own roots or budded on Sargent seedlings would be less susceptible to this bark splitting.

Has anyone else experienced this same problem? has anyone had this problem with non-budded trees or trees that were budded on Sargent seedlings? Are Sargent seedlings uniformly hardy?

Michael D. Yanny

REPLY:

The most likely damaged tissue from the scenario presented would be stem tip. That where viscous binding (hardening off) would take place last. It is not likely that bark splitting would occur without stem tip damage, the problem sounds more to me like graft incompatibility manifesting itself after poor weather conditions. Though I haven't seen this type of damage myself, Connor Shaw of Possibility Place Nursery in Monee, Illinois, indicates no bark splitting whatever on own root stock grown in root bags under drip irrigation. Jim King proprietor of King Nurseries has never seen the splitting on his Sargent Crabs either. His plants are conventionally field grown on their own roots.

Dr. John J. Sabuco, LA
President, IOCS

There is little evidence to suggest that bark splitting occurs due to temperature fluctuations after vigorous growth. Bark splitting and frost cracks occur because of unequal contraction of lignous tissues at low temperatures and not (as is often stated due to temperature fluctuation) Please respond, members, to Mike's request for information.

Dr. Tom Green
Executive Dir., IOCS

THE APPLE-PEAR PICKLE

A Learned debate on whether the apple is an apple, or a pear

Jules Janick

POST-HORTUM

The name of the apple,
is the game that I grapple.
A name that won't fail us
is it Pyrus or Malus?
One name for the red,
the gold, green, or the dapple;
If there's none,
I'll invent one: Deliciosus Winesap L.

Many botanists have commented on the problem in the use of common names of plants, but none has bewailed the vulgar epithet more eloquently than the London botanist quoted in *A Dictionary of Plant Names* by James Pritton and Robert Holland, 1886:

"Having plucked a little blue flower in a garden in Wiltshire, I was incautious enough to ask the proprietor, an owner of many water-meadows, to tell me the name of this pretty and fragrant leguminous plant. With a smile of compassion at the ignorance of his London guest, my friend informed me that it was 'only a bit of old sow.' I thanked him, but felt decidedly humiliated-and not much wiser than before. Why should this plant be called 'old sow'? What knowledge of its nature and properties is communicated by such a name? Above all, why should this agrarian philosopher look upon me with contempt because I am ignorant of what probably constitutes his whole knowledge of it-its vulgar name? An examination of the common or vulgar terms applied to plants and animals will at once introduce us to a complete language of meaningless nonsense, almost impossible to retain, and certainly worse than useless when remembered; a vast vocabulary of names, many of which signify that which is false, and most of which mean nothing at all."

The great Liberty Hyde Bailey, the first president of the American Society for Horticultural Science and the dean of American horticulturists, in a charming book called *How Plants Get Their Names* (1933), describes common names as inadequate, erroneous, misleading, duplicative, degenerate, obsolete, impractical, and imprecise. To the taxonomist common names are anathema because they not only avoid relations but often suggest false relationships. Pineapple, for example, is neither a pine nor an apple. In contrast, the scientific nomenclature that is based on the two-word system of Carl Linne (Carolus von Linnaeus) seems to be exact and precise; it distinguishes the name from all others and can be employed by writers in any language. Scientific names are presented as constant, and if multi-syllabic and difficult to pronounce, they have the virtue of classifying the plant as well as naming it. Occasionally, however, these scientific names may only have the virtue of hiding their misnomers in Latin.

The system of scientific nomenclature, while theoretically precise, is fraught with difficulties in practice. The biochemist George Wald encountered a classic case when he tried to identify two animal species mentioned in a scientific paper by Nuttall, published in 1904. Wrote Wald:

"In the original version of this table, Nuttall mentions *Cynocephalus mormon* and sphinx, omitting their common names. I have learned since that one is the mandrill, the other the guinea baboon. Since Nuttall wrote, in 1904, these names have undergone the following vagaries. *Cynocephalus mormon* became *Papio mormon*, otherwise *Papio maimon*, which turned to *Papio sphinx*. This might well have been confused with *Cynocephalus*, now became *Papio sphinx*, had not the latter meanwhile been turned into *Papio papio*. This danger averted, *Papio sphinx* now became *Mandrillus sphinx*, while *Papio papio* became *Papio comatus*. All I can say to this is, thank heavens one is called the mandrill, the other guinea baboon."

The use of scientific names offers difficulties in many common horticultural crops, especially those that have an extensive history of hybridization and selection. Scientific nomenclature, which seems most suited to natural species, slowly collapses as evolution is speeded up under the fertile finger of the plant breeder. And for those plants in which the generic names change it is a nightmare.

Nowhere is this more obvious than in the scientific name for the common apple. This problem vexes authors, readers, and editors, as the following spate of correspondence bears testimony. This exchange was prompted when an associate editor at the professional journal *Hortscience* paused, in editing a manuscript, to ponder the author's classification of the apple. One question led to another and as editor of the journal, I found myself in a scholarly pickle.

Letter of July 27, 1972, from **E.L. Proebsting**, Associate Editor of *Hortscience* to **Robert Stebbins**, Oregon State University:

"The scientific name for apple always bothers me. I note that the common practice in our Journal and in *Hortscience* is not to use it. If you do use it, I would prefer *Malus domestica* (rather than *Pyrus malus*) so that apples aren't in the pear genus. As horticulturists we separate apples and pears so why not keep them separate in our scientific literature? If you have a good reason for using *Pyrus malus* don't change it."

Reply of **Robert L. Stebbins**, July 31, 1972:

"The scientific name of apple was given me by Mel Westwood. When I was in school it was *Malus domestica* as you have suggested. However, in talking with my father, who as you know is involved in plant evolution, it becomes obvious that it is absurd to have a separate genus for pear and for apple. They are so closely related that they should be in the same genus. For this reason I prefer the name *Pyrus malus* for apple. There are many other *Pyrus* species with what we in horticulture would consider very large differences between them. In fact, greater differences than there are between the commonly grown pear species and apple. It would be a good idea to get the editor to settle on some guidelines for this.

Jules Janick, editor of *Hortscience*, to **Dr. M.N. Westwood**, Oregon State University, August 10, 1972.

"I enclose an interesting bout of correspondence between Ed Proebsting and R. L. Stebbins on the scientific name for apple. Would you be interested in sending me either a 'letter to the editor' or a short note about this point? I have used *Pyrus malus* L. myself and would appreciate an authoritative answer because *Malus* is commonly used by many-and especially for various crab-apples."

M.N. Westwood to **Jules Janick**, September 21, 1972:

"Enclosed is the letter I promised. It is intentionally brief and omits many details. If you wanted a single name for the wild apple of Europe I would lean toward *M. pumila* after Rehder, and I see no reason to assume that *M. sylvestris* is a different species.

Binomial for Apple

"From time to time someone asks why can't we use a single binomial for apple. Yet recent papers in the Journal (ASHS) and Hortscience have used *Malus sylvestris*, *Malus domestica*, and *Pyrus malus*. Many horticulturists use *Malus* for apple and *Pyrus* for pear. Yet many botanists and some horticulturists lump pears and apples into the single genus *Pyrus*. In such controversies we should ask, "Are there sound reasons for having two genera and would those working with such plants benefit by such separation?" If not, then they should be lumped. In this case, I can list several reasons for retaining two separate groups. I am presently co-authoring papers dealing with the taxonomy of both pears and apples, which provide details supporting such a separation.

"Considering such traits as graft compatibility, breeding behavior, phenolic constituents, flower morphology and flower odor, there is much less variability within *Pyrus* than between *Pyrus* and *Malus*. All pear species are graft compatible, but most pear-apple grafts are incompatible. The 20-odd pear species are all self-sterile cross-fertile sexual diploids (2N=34), while apple species are 2x, 3x, 4x, and 5x and include some sexual forms along with both facultative and obligate apomicts. Apples rarely cross with pears and any resulting offspring are sterile. Yet pear x pear or apple x apple interspecies crosses are common and the hybrids are usually fertile. The apple inflorescence is determinate, while all pear species are indeterminate. Chemically, apple species contain phloridzin and other phenols which are lacking in all pear species. Conversely, pear species contain a large number of phenols never found in apple species. All pear flowers contain amines which result in putrid odors, whereas apple species have pleasant smelling flowers characterized by certain volatile esters. In all these traits, within-group variability is minor but between-group variability is large. There is as much logic in lumping *Sorbus*, *Cydonia*, *Mespilus* and *Crataegus* into a single genus as in lumping *Pyrus* and *Malus* into one.

"If we agree that apples and pears should be separated, can we now decide on a standard binomial for the common apple? I would suggest that we use only clonal or cultivar designations for domestic forms, e.g., 'McIntosh' apple rather than *Malus domestica* cv. McIntosh. Domestic forms of most fruits which have been selected by man for thousands of years are complex hybrids of two or more original wild species, thus a binomial has little meaning. Papers dealing with taxonomy, variety origin, breeding or wild forms would benefit from appropriate binomials as long as the authors don't extrapolate too far beyond their personal knowledge of the species under study."

Robert L. Stebbins to Jules Janick, September 29, 1972:

"I am in agreement with Mel Westwood that the apple should be called *Malus domestica*. I think his arguments are very convincing. I have made no special study in this area myself, and am willing to accept whatever the authorities who have studied the matter would like to call it. Every horticulturist worth his salt knows that an apple is an apple and a pear a pear anyway. I believe the name *Pyrus malus* was attached to my paper during the review process at Michigan State University. If I remember correctly, I simply called them apples."

Jules Janick is the editor of two horticultural publications, *Hortscience* and *The American Society of Horticultural Science Journal*.

Reprinted by permission and courtesy of the author & "Horticulture The Magazine of American Gardening", Sept. 1976

FRAGRANCE OF FLOWERING CRABAPPLES

Lester P. Nichols

"The names of many flowers are inseparably associated with their fragrance, such as lilacs, narcissus, heliotrope or roses. Unfortunately this is only known in a negligible way with the apples and crabapples. They are generally accorded to have some scent, but not in the measure they deserve. All our native species and their varieties should be in higher esteem for all their fine qualities including the delightful, subtle fragrance of their blossoms and pleasing, spicy scent of their fruits." 1.

There is still much truth to den Boer's statement made back in 1959 but unfortunately there is still little in Crabapple literature to give a hint as to the most fragrant of the Crabapple blossoms. Following is a list of fragrant apples that I have been able to find in my meager collection of literature. Readers are urged to submit their own lists to "Malus" so that we may have more information on this fragrance feature of crabapples.

<u><i>Malus angustifolia</i></u>	Southern Crab
<u><i>Malus baccata</i></u>	Siberian Crab
<u><i>Malus coronaria dasycalyx</i></u> (Type)	Wild Sweet Crab (Western)
<u><i>Malus ioensis fimbriata</i></u>	Fringe Petal Crab
<u><i>Malus ioensis</i> cv. <i>Plena</i></u>	Bechtel's Crab
<u><i>Malus hupehensis</i></u>	Tea Crab
<u><i>Malus lancifolia</i></u>	Allegheny Crab
<u><i>Malus coronaria</i> cv. <i>Nieulandiana</i></u>	Nieuland Crab
<u><i>Malus floribunda</i></u>	Japanese Crab
<u><i>Malus robusta</i></u>	Cherry Crab
<u><i>Malus sieboldii arborescens</i></u>	Tree Toringo Crab
<u><i>Malus sieboldii</i> var. <i>zumii</i> cv. <i>Calocarpa</i></u>	Redbud Crab
<u><i>Malus sargentii</i></u>	Sargent Crab
<u><i>Malus arnoldiana</i></u>	Arnold Crab
cv. Bob White	
cv. Brandywine	
cv. Burgundy (has a grape-like fragrance)	
cv. Dolgo	
cv. Huron	
cv. Lisa	
cv. Prince Georges	
cv. Tanner	

1. den Boer, Arie F. 1959. Flowering crabapples p. 26. American Association of Nurserymen

CRABAPPLE BLOOM SEQUENCE

Keith Warren

EARLIEST

baccata var. jackii
baccata cv. Dolgo
Pink Spires
Selkirk

EARLY

Baskatong
Beverly
Red Splendor
Sentinel
Spring Show
White Cascade

EARLY/MIDDLE

Atrosanquinea
Floribunda
Henningi
Hopa
Pink Perfection
Professor Sprenger
Radiant
Red Jade
Red Silver
Royal Ruby
Snowcloud
Strawberry Parfait
Sugar Tyme
Whit Angel
White Candle
Zumi Calocarpa

LATE/MIDDLE

Adams
Weeping Candied Apple
Centurion
David
Echtermeyer
Henry Kohankie
Indian Magic
Liset
Mary Potter
Profusion
Red Baron
Red Jewel
Robinson
Royalty
Snowdrift
Van Eseltine
Velvet Pillar

LATE

American Beauty
Brandywine
Donald Wyman
Prairiefire
Sargent
Winter Gold

LATEST

Klehm's Improved Bechtel
Tschonoskii
yunnanensis Veitchii

This chart of bloom sequence is based on our observations in Oregon. While there may be some variation in different years or climates, we feel the sequence should be fairly reliable for the country as a whole.

The amount of time between groupings will vary according to temperature at bloom time, but we have observed an average of about four days between groups.

Some additional bloom time information. The Editors

(Krussman *MANUAL OF CULTIVATED BROADLEAVED TREES & SHRUBS, Vol. II, E-PRO* 1985, Courtesy of the late Gerd Krussman & Timber Press):

"Flowering time is based on plants observed in the Dortmund Botanic Garden, West Germany (at about 51° N latitude but in zone 6); grown in other zones, flowering will occur earlier or later depending upon zone. The earliest to flower is always *Malus baccata* var. *mandshurica*, together with *Magnolia kobus* var. *stellata*. Following quickly thereafter, are *M. baccata*, its varieties and hybrids, *M. purpurea*, *micromalus*, *prunifolia*, *magdeburgensis*, etc. The middle flowering time coincides with the Japanese flowering cherries (*Prunus serrulata*), and is represented by *M. arnoldiana*, *floribunda*, *halliana*, *hupehensis*, *purpurea*-types, *pumila*-types, *robusta*, *scheideckeri*, *spectabilis*, *zumi* and its descendents. The late species and cultivars flower with *Caragana arborescens*; they are *M. bracteata*, *ioensis*, *sargentii*, *sieboldii*, 'Dorothea', 'Elise Rathke', 'Marshall' Oyama', 'Profusion', 'Wynema', etc. The latest group to flower comprises the American and Asiatic species: *M. coronaria* and varieties, *florentina*, *ioensis*-types, *kansuensis*, *platycarpa*, *sikkimensis*, *toringoides*, *transitoria*, *tschonoskii* and *yunnanensis*".

"The average flowering period from bud opening to petal fall is about 10 days, but can last longer. Collectively, the flowering period of the genus covers 4-5 weeks".

A List of the Common Names of Crabapples

Lester P. Nichols

Most of the newer crabapples on the market have cultivar names that are relatively simple and these names are the ones listed in most nursery catalogs. Many of the older crabapples have botanical names in Latin and may or may not be listed under the Latin name or under a common name or under both. An example would be Malus floribunda as the correct botanical name and Japanese Flowering Crab which is the usual common name under which it is listed. The following is a list of some of the older crabapples and their common names. If more than one common name is given the first one is generally used more often. (The presence of a Crabapple on this list does not imply that it is thought to be outstanding by the author, the list is for historical clarification only).

MALUS

angustifolia

X arnoldiana

X atrosanguinea

baccata

baccata cv. Columnaris

baccata cv. Dolgo

baccata cv. Gracilis

baccata var. himalaica

baccata var. jackii

baccata var. mandshurica

baccata var. nikkoensis

bracteata

brevipes

coronaria

coronaria cv. Charlottae

coronaria var. elongata

coronaria cv. Nieuwlandiana

X dawsoniana

cv. Dolgo

ellwangeriana

cv. Excellenz Thiel

florentina

floribunda

formosana

fusca

glabrata

glaucescens

COMMON NAME

Southern Crab
Evergreen Crab
Arnold Crab
Carmine Crab
Siberian Crab
Column Siberian Crab
Snow White Crab
Dwarf Siberian Crab
Himalayan Crab
Jack Crab
Manchurian Crab
Nikko Crab
Buncombe Crab
Missouri Crab
Nippon Crab
Wild Sweet Crab
Eastern Crab
Garland Crab
Garland Tree
Sweet Scented Crab
Charlotte Crab
Rehder Sweet Crab
Nieuwland Crab
Dawson Crab
Snow White Crab
Ellwanger Crab
Thiel Crab
Italian Crab
Florence Crab
Japanese Flowering Crab
Showy Crab
Formosa Crab
Taiwan Crab
Oregon Crab
River Crab
Riverside Wild Service Tree
Creek Pyrus
Kenai Crab
Biltmore Crab
Alabama Crab
Dunbar Crab

halliana

halliana cv. Parkmanii

honanensis

hupehensis

ioensis

ioensis cv. Fimbriata

ioensis var. palmeri

ioensis cv. Plena

ioensis var. texana

kansuensis

lancifolia

X magdeburgensis

X micromalus

cv. Oekonomierat Echtermeyer

X platycarpa

X platycarpa cv. Hoopsii

pratti

prunifolia

prunifolia cv. Pendula

prunifolia var. rinkii

pumila

pumila cv. 'Niedzwetkyana'

pumila var. paradisica

X purpurea

X purpurea cv. Aldenhamensis

X purpurea cv. Eleyi

X purpurea cv. Lemoinei

X robusta

X robusta cv. Erecta

X robusta var. persicifolia

cv. Rocki

sargentii

X scheideckeri

sieboldii

sieboldii (var. arborescens)

sieboldii var. zumi

sieboldii var. zumi cv. Calocarpa

(Most now consider M. sieboldii to be distinct from Malus X zumi and therefore Malus sieboldii var. zumi cv. calocarpa becomes Malus X zumi var. calocarpa)

sikkimensis

X soulardi cv. Soulard

spectabilis

spectabilis var. alba-plena

spectabilis cv. Plena

spectabilis cv. Riversii

X sublobata

toringoides

transitoria

yunnanensis

yunnanensis var. veitchi

Hall Crab

Parkman Crab

Honan Crab

Tea Crab

Prairie Crab

Fringe Petal Crab

Palmer Crab

Bechtel Crab

Texas Crab

Kansu Crab

Allegheny Crab

Narrowleaf Crab

Madgeburg Crab

Midget Crab

Pink Weeper

Georgia Crab

Hoopes Crab

Pratts Crab

Pearleaf Crab

Plumleaf Crab

Pendent Crab

Chinese Pearleaf Crab

Common Apple

Red-Vein Crab

Paradise Apple

Purple Crab

Aldenham Crab

Eley Crab

Lemoine Crab

Cherry Crab

Column Cherry Crab

Peachleaf Crab

Rock Crab

Sargent Crab

Scheidecker Crab

Toringo Crab

Tree Toringo Crab

Zumi Crab

Redbud Crab

(Most now consider M. sieboldii to be distinct from Malus X zumi and therefore Malus sieboldii var. zumi cv. calocarpa becomes Malus X zumi var. calocarpa)

Sikkim Crab

Soulard Crab

Chinese Flowering Crab

Double White Chinese

Flowering Crab

Double White Apple

Large Flesh Pink Crab

Rivers Crab

Yellow Autumn Crab

Cutleaf Crab

Tibetan Crab

Yunan Crab

Veitch Crab

Sources of information:

- Wyman, Donald 1955 "Crabapples for America". The American Association of Botanical Gardens & Arboretums
- den Boer, Arie 1959 "Ornamental Crabapples". The American Association of Nurserymen
- Jefferson, Roland, M. 1970 "History, Progeny, and Locations of Crabapples of Documented Authentic Origin" U.S. National Arboretum Contr. No. 2.

Flowering Crabapples Named For People

Lester P. Nichols

- Malus cv. Adams Named for Walter Adams, former president of Adams Nursery, Inc. Westfield, Mass.
- cv. Albright Plant originally raised by Mr. W.O. Albright of Beaver Lodge, Alberta, Canada.
- cv. Almey Named for Mr. J.R. Almey, horticulturist of Canadian Pacific Railroad.
- cv. Anne (formerly Manbeck Weeper) Named for Anne E., an outstanding former worker in the propagation/liner area of the Manbeck Nurseries of New Knoxville, Ohio.
- baccata cv. Walters Named for Richard Walters, former city arborist of Municipality of Maplewood, New Jersey
- cv. Barbara Ann Named for youngest daughter of Donald Wyman former horticulturist of the Arnold Arboretum.
- cv. Blanche Ames Named for Mrs. Oakes Ames, wife of former supervisor of the Arnold Arboretum
- cv. Carol Ann Named by Chester D. Schwartz of Puyallup, Washington for his granddaughter Carol Ann Morgan.
- cv. Cathy Named by Chester D. Schwartz for his granddaughter Cathy Gonsalves.
- coronaria cv. Charlottae Found growing wild near Waukegan, Illinois in 1902, by E. deWolf, husband of Charlotte M. deWolf, and named in her honor.
- cv. Clausen May have been named for a dentist who found it in Alton, Illinois
- cv. Cameron Named for Mr. D.F. Cameron, plant breeder of the Canadian Department of Agriculture in Ottawa.
- cv. Cheal's Crimson Selected in 1919 by Joseph Cheal, an English nurseryman.
- coronaria cv. Nieuwlandian Named for Rev. J.A. Nieuwland, Professor of Botany at Notre Dame University.
- cv. Colonel Lee Named for Mr. Guy Lee of Chestnut Hill, Mass. by Bay State Nursery.
- dawsoniana Named for Jackson Dawson, former propagator for the Arnold Arboretum.
- cv. David Named in 1957 by Arie F. den Boer for his grandson.
- cv. Donald Wyman Named for Donald Wyman, former horticulturist at the Arnold Arboretum.

cv. Dorothea Named for a daughter of Donald Wyman.

cv. Edna Mullins Named for Mrs. Edna Mullins, former receptionist for the Weston Nursery of Hopkinton, Massachusetts

cv. Ellen Gerhart Named by Robert Simpson for one of his first secretaries.

cv. Evelyn Named for Mrs. Keith (Gwendolyn) Tobin of Des Moines, Iowa, where the tree was grown.

cv. Franz Lipp Named in 1960 by the Matt Tures Sons Nursery of Huntley, Illinois for Mr. Franz Lipp, noted landscape architect of Chicago.

halliana Named for Dr. G.R. Hall who introduced it to the United States from Japan about 1863.

halliana cv. Parkmanii Named in 1863 by Dr. G.R. Hall for his friend, historian Francis Parkman.

cv. Henrietta Crosby Named for Mrs. S.V.R. (Henrietta) Crosby of Manchester, Massachusetts

cv. Henry F. DuPont Named for Henry F. DuPont of Winterthur, Delaware

cv. Henry Kohankie Named in 1965 for Henry Kohankie of the Henry Kohankie Nurseries of Lake County, Ohio.

cv. Hillier Named for the Hillier & Sons Nurseries, Winchester, England.

honanensis From Honan province in North East China.

joensis cv. Palmeri Named for E.J. Palmer who sent seed in 1910 from Webb City, Missouri to the Arnold Arboretum.

joensis cv. Plena (Bechtel Crab) Discovered between 1840 and 1850 by E.A. Bechtel of Staunton, Illinois.

cv. Jay Darling Named by Arie F. den Boer for Mr. Jay Darling, first president of The Men's Garden Club of Des Moines, Iowa.

cv. Jennison Located near the main entrance of Jennison Gymnasium on the campus of Michigan State University, East Lansing, Michigan.

cv. J.L. Pierce Discovered in 1955 by Milton Baron of Michigan State University in the garden of Mr. & Mrs. J.L. Pierce, of Detroit.

cv. John Edward Named by Chester D. Schwartze of Puyallup, Washington for his youngest grandson, John Edward Gonsalves.

cv. Judy Named for the sister of William D. McReynolds, Jr. of Hook's Nursery, Inc., Lake Zurich, Illinois.

cv. Joan Discovered in 1918 in Rochester, New York by John Dunbar, former propagator of Rochester Park System. Named for his granddaughter.

cv. John Downie Raised in 1875 by E. Holmes at Whittington, England and named for his friend John Downie, a Scottish nurseryman and partner in the Handsworth Nurseries.

cv. Katherine Discovered in 1928 by Bernard Slavin of the Rochester Park System and named by Donald Wyman for Slavin's daughter-in-law Katherine Clark Slavin.

cv. Kelsey Named for Henry Kelsey, an early explorer of Manitoba's Northland.

cv. Kerr Originated by W.L. Kerr of the Dominion Experiment Station, Morden, Manitoba.

cv. Kibele Named for Mr. & Mrs. R.R. Kibele of Springfield, Illinois.

cv. Laxton's Red Raised by Laxton Brothers of Bedford, England

cv. Leslie Named in 1945 for W.R. Leslie of the Canadian Department of Agriculture, Morden, Manitoba.

cv. Linda Named in 1958 for a granddaughter of Arie den Boer of Des Moines, Iowa.

cv. Lisa Named in 1958 for a granddaughter of Arie den Boer of Des Moines, Iowa.

cv. Liset Named in 1952 for granddaughter of S.G.A. Doorenbos, Department of Parks, The Hague, Holland.

cv. Louisa Named by Polly Hill of Martha's Vineyard for her daughter Livisa Spotswood of Washington, D.C.

cv. Lyman Prolific Originated prior to 1916 by H.M. Lyman of Excelsior, Minnesota.

cv. Manbeck Weeper Originated at A.K. Manbeck & Sons, New Knoxville, Ohio. (Now known as cv. Anne)

cv. Margaret or cv. Margaret Fenicchia Named for the wife of Mr. Fenicchia of Highland Park, Rochester, New York

cv. Mary Currelly Named for the wife of Dr. C.T. Currelly, Curator of the Royal Ontario Museum, Ottawa, Canada

cv. Mary Potter Named in 1947 for the daughter of Charles Sargent, former director of the Arnold Arboretum.

cv. Masek Named by Robert Simpson of Simpson Orchards of Vincennes, Indiana for John Masek, a local nurseryman in St. Louis, Missouri.

cv. Mathews Grown by B.A. Mathews of Knoxville, Kentucky in 1898.

cv. Mrs. Bayard Thayer Named for the owner of an estate in Massachusetts.

cv. Milton Baron No. 1 Found and named for Dr. Dan Milton Baron, former landscape architect at Michigan State University. (Now named Sugartyme)

cv. Neville Copeman Raised by Mr. T.N.S. Copeman of Royden Hall, Norfolk, England.

cv. Oakes Introduced by William Oakes, Glenelm Nursery, Miami, Manitoba.

cv. Ormiston Roy Introduced in 1954 and named by den Boer for William Ormiston Roy, a landscape architect of Montreal, Canada.

cv. Patricia Introduced by Arie den Boer and named in 1953 for a daughter-in-law.

cv. Piotosh From a cross made in 1903 of cv. Pioneer crab X cv. McIntosh apple.

prattii Discovered in 1904 in Szechwon, China by A.E. Pratt.

cv. Printosh Named in 1920 for the first and last syllables of each parent name (cv. Prince X McIntosh).

cv. Professor Sprenger Named in 1950 by Mr. S.G.A. Doornbos for Professor Sprenger, Director of the Department of Horticulture in Wageningen, Holland.

prunifolia var rinki Both 'rhinki' and 'ringo' are derived from the Chinese name for this apple - 'linkun'. 'To-ringo', meaning Chinese apple, is also used in Japan for this variety.

X purpurea cv. Eleyi Raised by and named for Charles Eley of Suffolk, England before 1920.

cv. Ralph Shay Named for the late Dr. Ralph Shay formerly plant pathologist in charge of the fruit breeding program at Perdue University.

cv. Renee Named by Dr. Chester D. Schwartze of Puyallup, Washington for his eldest granddaughter, Renee Scheyer.

cv. Robinson Introduced by C.M. Hobbs Nursery, Indianapolis, Indiana. The original tree was located on an adjacent property of James Robinson.

cv. Ruth Ann Named by Robert Simpson of Simpson Orchard Company of Vincennes, Indiana for one of his office secretaries.

sargentii Grown from seed collected in Japan in 1892 by C.S. Sargent, former director of the Arnold Arboretum.

sargentii cv. Tina Named for the granddaughter of the late William McReynolds of Hook's Nursery who selected the tree from selections grown from seed from Japan.

X scheideckeri Originated before 1888 at the Scheidecker Nursery, Munich, Germany.

sieboldi Introduced from Japan in 1872 to the United States by Siebold.

X soulardi cv. Soulard Named for James G. Soulard, Galena, Illinois, who introduced it into cultivation in 1868.

spectabilis cv. Riversi Introduced in 1872 by the English Nurseryman, Thomas Rivers.

cv. Toshprince Named in 1923 for a cross made in 1905 of 'Prince' crabapple X 'MacIntosh' apple.

cv. Van Eseltine Named in 1941 for Glen P. Van Eseltine who originated it in 1930.

cv. Veitch's Scarlet Originated before 1905 by Veitch's Nursery in England.

cv. Vikla's Ornamental A nurseryman named Vikla found this chance seedling in his nursery at Lonsdale, Minnesota.

cv. William Anderson Introduced before 1931 by William Sim Nursery, Cliftondale, Massachusetts. Named for the caretaker of the estate of Mrs. Bayard Thayer.

cv. William Sim Named before 1931 for the owner of the William Sim Nursery, Cliftondale, Massachusetts.

Flowering Crabapples Named For Places

Lester P. Nichols

- cv. Amisk Named in 1930 for Amisk Lake in North East Saskatchewan.
- cv. Amsib A combination of 'Am' for America and 'Sib' for Siberia.
- arnoldiana Originated in the Arnold Arboretum.
- cv. Arrow Named in 1930 for Arrow Lake in Southern British Columbia.
- cv. Athabaska Named in 1933 for Athabaska Lake in North Western Saskatchewan and North Eastern Alberta.
- baccata var. himilaica Named for its native habitat, the Western Himalaya
- cv. Baskatong Named for Baskatong Lake 90 miles north of Ottawa.
- cv. Boone Park Named for the Municipal Park of Boone, Iowa where it was found in 1940.
- cv. Burton Seedling Found at Burton's Nursery, Casstown, Ohio in 1939.
- cv. Calloway Named for Calloway Gardens, Pine Mountain, Georgia, where it was selected in 1954.
- cv. Chilko Named for Chilko Lake in South West British Columbia.
- cv. Cowichan Named for Cowichan Lake in South West British Columbia.
- cv. Crittenden Acquired by B.P. Tompsett of Crittenden House, Mayfield, Kent. Exhibited in 1961 in England.
- Ellwangeriana From the Ellwanger and Barry Nursery in England.
- cv. Erie Named in 1930 for Lake Erie.
- cv. Ferrill's Crimson From Ferrill's Nursery, Salem, Oregon, before 1953.
- cv. Girrard's Pendula Nana From Girrard's Nursery, Geneva, Ohio.
- X gloriosa cv. Lemoine Originated before 1931 at V. Lemoine and Fils, Nancy, France.
- cv. Gladwyne Raised from a cross made in 1939 by Mrs. Norman J. Henry of Gladwyne, Pennsylvania.
- hupehensis A native of Hupeh Province in China.
- cv. Huron Named for Lake Huron.

- ioensis cv. Boone Park Discovered in 1940 by Arie den Boer and Clyde Heard in Boone Park, Iowa.
- ioensis cv. Clinton Discovered along Illinois Route 10 near Salt Creek east of Clinton, Illinois.
- ioensis cv. Fiore's Improved From the Charles Fiore Nurseries, Inc. formerly of Prairie View, Illinois.
- ioensis cv. Klehm From the Charles Klehm Nursery, Arlington Heights, Illinois.
- ioensis cv. Nevis Discovered in 1930 by James Arrowwood, near Nevis Minnesota.
- ioensis cv. Texana Its habitat is in Texas.
- kansuensis Native of Kansu Province in China.
- cv. Kingsmere Named in 1930 for Lake Kingsmere in Ontario.
- Lonsdale A group name for baccata seedlings and hybrids from near Lonsdale, Minnesota.
- cv. Makamik Named in 1921 for Makamik Lake in Quebec.
- cv. Meach Named in 1930 for Meach Lake near Ottawa, Canada.
- cv. Mount Arbor Special Introduced in 1938 by Mount Arbor Nursery of Shenandoah, Iowa.
- cv. Muskoka Named in 1930 for Muskoka Lake in Southern Ontario.
- cv. Namew Named in 1921 for Namew Lake in Saskatchewan, Canada.
- cv. Nipissing Named in 1930 for Nipissing Lake in Ontario.
- cv. Prince Georges Named for Prince Georges County, Maryland, location of the U.S.D.A. Plant Introduction Station at Glendale.
- X purpurea cv. Aldenhamensis A chance seedling from the garden of Hon. Vicary Gibbs at Aldenham, Kornik, Poland.
- X purpurea cv. Kornicensis Originated by the Kornik Arboretum, Kornik, Poland.
- X purpurea cv. Lemoinei Originated in Lemoine and Fils Nursery, Nancy, France in 1922.
- cv. Rosseau Named for Rosseau Lake in Southern Ontario.
- cv. Scugog Named in 1930 for Scugog Lake in Southeastern Ontario.

cv. Shakespeare	A selection of <u>M. atrosanguinea</u> discovered by E.H. Scanlon in the Shakespeare Cultural Gardens, Cleveland, Ohio.
<u>sieboldii</u> cv. Fuji	Named in 1968 for Mount Fuji in Japan by Roland Jefferson of the United States National Arboretum.
<u>sikkimensis</u>	Found before 1895 by Sir Joseph Hooker in the interior of Sikkim in Himalaya.
cv. Simcoe	Named in 1930 for Simcoe Lake North of Toronto, Canada.
cv. Sissipuk	Named in 1930 for Sissipuk Lake in British Columbia.
X <u>soulardi</u> cv Wynema	Discovered in the vicinity of Oskaloosa, Iowa about 1920 and named after an Indian youth of the area.
cv. Timiskaming	Named in 1930 for Timiskaming Lake in South West Quebec.
cv. Tomiko	Named before 1953 for Tomiko Lake in the Nipissing area of Ontario, Canada.
<u>yunnanensis</u>	Discovered by Pierre Delavay in Yunnan Province of China.

A Note From Tom Green:

Roland Jefferson has extra copies of the History, Progency, and Locations of Crabapples of Documented Authentic Origin of The National Arboretum Contribution #2, 1970 of USDA.

Anyone interested in obtaining this may do so by contacting Tom Green at the Morton Arboretum, Lisle, Illinois 60532

The bulletin will be sent to those who write to Tom on a 1st come 1st serve basis.

Miscellaneous Names of Flowering Crabapples

Lester P. Nichols

cv. Anaros	Name is a combination of 'Ana' from Antonovka (an apple) and 'Ros' from Rosthern Experiment Station, Saskatchewan, Canada
cv. Calros	Name is a combination of 'Cal' from Calville (an apple) and 'Ros' from Rosthern Experiment Station, Saskatchewan, Canada.
cv. Dolgo	Dolgo is the Russian word for long which refers to the long conical fruit.
cv. Golden Anniversary	Introduced in 1931 during the 50th anniversary of Oscar H. Will Co., Bismark, North Dakota.
cv. Hopa	Hopa means beautiful in the Sioux Indian language.
cv. Indian Magic	Named for a horse owned by Robert Simpson of Simpson Orchard Co., Vincennes, Indiana.
cv. Kola	Kola means friend to the Sioux Indians.
cv. Sundog	Name refers to the parhelions commonly called "sundogs" which are colored refractions of sunlight observed in the Arctic regions.

Are Apples Pears?

Kenneth R. Robertson and Joseph R. Rohrer

Are apples pears? This question would never occur to the nonbotanists. After all, pears and apples appear to be very different fruits, with different colors, textures, shapes, flavors, and aromas. On closer examination, however, pears and apples have a lot in common.

Some grocery stores in Illinois now sell "Asian Pears" that are shaped like an apple but with a gritty flesh like a pear. Also, pear and apple trees in flower look much the same. Botanists classify both pears and apples, along with a number of other fruits, such as strawberries, raspberries, blackberries, cherries, plums, peaches, and apricots, to the Rose Family (Rosaceae). This family is subdivided into four subfamilies, and the pear and apple belong to subfamily Maloideae, which is characterized by a particular type called a "pome" with a thin skin covering a fleshy layer and a central cartilaginous or stony core. In addition to pears and apples, hawthorns, cotoneasters, shadbushes, firethorns, mountain-ashes, rowan trees, medlar, loquats, chokeberries, Christmas berry, and quinces belong to subfamily Maloideae.

Botanists like to group similar species (kinds) of plants together into a unit of classification called genus. Thus the genera often used for the above plants are: *Pyrus* (pears), *Malus* (apples), *Crataegus* (hawthorns), *Cotoneaster* (cotoneasters), *Amelanchier* (shadbushes), *Pyracantha* (firethorns), *Sorbus* (mountain-ashes and rowan trees), *Mespilus* (medlar), *Eriobotrya* (loquats), *Aronia* (chokeberries), *Heteromeles* (Christmas berry), *Cydonia* (quince), and *Chaenomeles* (Japanese quinces). In addition, there are about a dozen other genera of Maloideae that are less familiar.

The usage of the genus names just cited are fairly standardized in most current horticultural, gardening, and popular botanical publications. However, there is a great deal of controversy among botanists about the circumscription of genera of Maloideae. There are botanical reasons why as few as 10 genera or as many as 30 could be recognized, depending on how much emphasis should be given to the various similarities and differences. Additionally, very little is known about the relationships between the different groups. For example, are apples more closely related to pears or to mountain ashes?

With funding from the National Science Foundation, Ken R. Robertson, of the Section of Botany and Plant Pathology and his postdoctoral assistant Joseph R. Rohrer, along with James B. Phipps and Paul G. Smith of the University of Western Ontario, London, are studying the problem of how many genera are best recognized in light of today's knowledge and how they are related to one another. They are examining flowers, fruits, leaves, buds, and other plant parts for over 150 species representing all genera and subdivisions of genera of Maloideae. This information is being recorded as numerical data so that it can be analyzed by computer-aided cladistic and phenetic methods, especially the PAUP (Phylogenetic Analysis Using Parsimony) package developed by David Swofford of the Section of Faunistics and Insect Identification. From this information they will be preparing a modern classification system of subfamily Maloideae in which the genera are defined in a consistent way and in which relationships are clearly inferred. This research will be of considerable use to botanists, horticulturists, ecologists, and pomologists by providing a standardized taxonomy.

At present, this project is in the data-gathering stage, but some generalizations are possible. In taxonomic botany courses students learn that the subfamily is characterized by flowers with the floral parts inserted above the ovary (an inferior ovary). After examining flowers of more than 180 species, it is clear that there is considerable variation in the degree of fusion between the ovary and the hypanthium (floral cup) and between the carpels (individual female parts of the flower) themselves. The ovary is free from, but closely surrounded by, the hypanthium in the anomalous genus *Dichotomanthes*. In other genera the degree of fusion varies. In *Heteromeles* and *Pyracantha* the lower half of the ovary is fused with the hypanthium, while in *Amelanchier*, *Aronia*, *Cotoneaster*, *Docynia*, *Photinia*, and *Stranvaesia* all but the upper quarter of the ovary is fused to the hypanthium. In other genera, notably *Crataegus*, *Malus*, *Pyrus*, and *Sorbus*, the ovary and hypanthium are completely fused together. Fusion of the carpels to each other varies from being fully together in *Hesperomeles*, to free in *Cotoneaster*, *Heteromeles*, and *Pyracantha*. Preliminary cladistic analysis of the floral data suggests that evolution in the subfamily has included an increase in fusion between the carpels themselves and between the ovary and the hypanthium, a reduction in the number of carpels, and an increase in the number of ovules per carpel from two to numerous and, independently, a reduction from two to one.

Well, you ask, are apples pears? While a definitive answer is premature, preliminary data indicates that the answer is "no" with apples and pears being similar but clearly separate genera. In fact, they seem to have evolved along separate evolutionary lines with *Malus* being more closely related to *Docynia* (Chinese quince) and *Pyrus* to *Cydonia* (quince).

MALUS "OBSCURUS"

A series featuring some of the lesser known crabapples.

Malus tschonoskii

John Martens

Some readers have pointed out to us that kinds of crabs we have chosen to describe in this series are not very unfamiliar. True; so I should explain that thus far we have concentrated primarily on the crabs that are true species because we feel that that is the way to start and that, in general, species are less well known now than the spectacular cultivars. Consistent with this principle, we have chose for this issue the species Malus tschonoskii, commonly known as the Pillar Crab and as the Tschonoski Crabapple. And in this case, it may be a relatively unfamiliar one to many readers.

Arie den Boer (Ornamental Crabapples, 1959) says of Tschonoskii Crab, "It is surpassed in flower and fruit by almost every other species or variety of crabapple...." But he also says that "the foliage is so interesting that little else is needed to classify this tree as a desirable ornamental." Then he mentions the mixtures of purple, orange, yellow and crimson, that the leaves display in the fall when conditions are right.

No one has a good word for the fruit. Den Boer says the fruits are uninteresting, brownish-yellow, and that "they look like a miniature pear and an apple and [are] about one inch in diameter." Wyman (Crab Apples for America, 1955) says, "Fruit with grit cells, not ornamental."

From Curtis Botanical Magazine, Tab. 8179, February 1908, with the title, "Pyrus Tschonoskii," we learn, "This is apparently a rare tree in Japan, so far found only in the woods in Central Hondo. It was named after Tschonoskii, one of Maximowicz's collectors, who discovered it at Sibasiri at the foot of Fujiyama; subsequently in 1892 it was collected near Nikko and at the foot of Asamayomo north of Tokyo by Professor Sargent, who introduced the tree into the Arnold Arboretum and, in 1897, presented plants to Kew." Along with the account, there is a splendid color illustration of the Tschonoski Crab (in which case the blossoms appear quite attractive). In all my searching of the literature the only colored illustration of the Tschonoski blossoms I found was the drawing mentioned above. Den Boer has black-and-white sketches of the blossoms and the leaf. In the brochure that J. Frank Schmidt and Sons uses to market this crab, a photo illustration shows the brilliant fall colors of the leaves. Nowhere did I find an actual photograph of the flowers.

As I began my research I trudged afield at blossom time to inspect the one remaining mature Tschonoski Crabapple at the Morton Arboretum only to find that it had died. None of the original three Tschonoskis we had bore blossoms since Tom Green and I began our crabapple surveys in 1982. Nor have any of the three juvenile trees in our National Crabapple Evaluation Program plot produced flowers. Upon discussing this with Tom Green, we concluded that neither of us has ever seen a blossom of a Tschonoski Crab. Evidently, the absence or scarcity of the blossoms is typical, exceptions being notable. For example, the Curtis article says, "It flowered in the spring of 1907 better than it had done previously, this being partly due to increasing age and partly, no doubt, to the splendid ripening weather of the previous autumn." The Tschonoski Crabs which formerly resided at Morton Arboretum, were obtained from Interstate Nursery and planted at Morton in 1971.

Our trees died; I don't know why our trees died. Tschonoski's resistance to disease is rated as excellent against cedar-apple rust and mildew, good against scab, but poor against fireblight. Still, I do not believe ours died of the blight. The only probable cause I can offer is lack of winter hardiness. In fact, Tom Green believes that during previous disease evaluations winter injury may have been mistakenly identified as fireblight. On the other hand, the three juvenile Tschonoskis (obtained from Schmidt) are doing splendidly at present. (M. tschonoskii does suffer significant damage below -20°F. The Morton specimens died after 5 consecutive years below -25°F. The new juveniles have yet to experience a temperature below -15°F; John J. Sabuco) There among the various cultivars in the Evaluation Program, the Tschonoski's vivid light green foliage is outstanding; perhaps the blossoms will materialize within a few years if we take good care of the trees.

The science of plant breeding demands the retention of germ plasm of known genotype. Since there seems to be no question about the species status of the Tschonoski, this crab should merit cultivation for its genetic properties. In his book, A Revision of the Sections of the Genus Malus Miller, 1972, Charles Huckins maintains the Section Docyniopsis, with Malus formosana, M. melliana and M. tschonoskii assigned to it. This section represents trees of a rather primitive nature. Says Huckins, "A summary of phylogenetic assumptions regarding diagnostic characters of the genus -- indicates that Malus Tschonoskii, the only representative of Docyniopsis observed in this study, has more primitive characters than any other taxon of the genus.

(Kruszman, MANUAL OF CULTIVATED BROADLEAVED TREES & SHRUBS Vol. II. E-PRO, 1985, Courtesy of the late Gerd Kruszman & Timber Press):

M. tschonoskii (Maxim) Schneid. Tree, to 12 m, conical at least when young, twigs white tomentose, winter buds red; leaves ovate-elliptic to more oblong, 7-12 cm long, irregularly serrate, often shallowly lobed, white thin tomentose beneath, an attractive orange and red in fall; flowers white, 3 cm wide, grouped 2 to 5, May; fruits globose, 2-3 cm thick, yellow-green with a reddish cheek. BC 3294; MJ 1411; BM 8179; KIF 2: 31 (= Eriolobus tschonoskii Rehd.). Japan. 1892. z6 plate 119; Fig. 197.

(Rehder, A Bibliography of Cultivated Trees and Shrubs, 1949, Arnold Arboretum of Harvard University):

M. tschonoskii (Maxim.) Schneider in Repert. Sp. Nov. Reg. Veg. 3: 179 (1906, Dec.).-Rehder in Sargent, Pl. Wilson. 2: 295 (1915).
Pyrus tschonoskii Maximowicz in Bull. Acad. Sci. St. Petersburg. 19: 169 (in Mel. Biol. 9: 165) (1873).
Eriolobus tschonoskii Rehder in Sargent, Trees & Shrubs, 2: 73, t. 37 (1903).-Schneider, Ill. Handb. Laubh. 1: 727, fig. 403h-i, 404f (1906, May).
Cornus tschonoskii Koidzumi in Bot. Mag. Tokyo, 23: 171 (1909).
Macromeles tschonoskii Koidzumi, Fl. Symb. Or.-As. 53 (1930).
Docyniopsis tschonoskii Koidzumi in Act. Phytotax. Geobot. 3: 162, 196 (1934) "Tschonoskii" p. 196.

TRUE CONFESSIONS OF A CRABBY

LANDSCAPE ARCHITECT

John J. Sabuco LA

I think Crabapples represent best ornamental trees (and occasionally shrubs) available for use in modern landscapes. Having seen the use of these magnificent plants in landscapes I am also convinced that most landscapers, landscape contractors, and landscape architects haven't got the foggiest notion of how to use a crabapple! Perhaps addled by the dizzying number of choices at their disposal, those installing the Mighty Malus have shrunk back from the doorway of novelty only to remain out in the cold. They continually plant only the two or three types they are familiar with regardless of their status as horrendous or heavenly. Additionally there appears to be virtually no attention given to their characteristics and how they work with their intended position. If a position looks ripe for an ornamental tree then "standard crabapple number one" is stuffed in the spot. Messy, large, fruited trees infested with scab, are usually planted 4-6' from homes and walkways. They may stand buck naked by the end of July and often provide a generous supply of rotting fruit complete with an incredible fruit fly population for 8th grade junior geneticists and their science projects. By August someone in each and every family with such a tree has completely forgotten the pretty blooms and has a sore pruning arm and dirty shoes.

Criteria for Selection in the Landscape

A successful planting of crabapples mixes the characteristics of the plants harmoniously with those of the site.

Crab Characteristics	Site Characteristics
Size	Area
Hardiness	Climate (micro & macro)
Flower color & type	Background
Fruit color & size	Distance from viewer
Fragrance	Use
Form	
Food quality	

Crabapples vary widely in all of these characteristics, and therefore produce tremendous possibilities for landscape design.

Flowers: White, pink, rosy, red, red & white bicolor, and pink & white bicolor; often the buds are far darker in color than the flowers. Very common are dark red or maroon buds, followed by white or pink flowers, often quite fragrant. There are double flowered forms, which though lovely, rarely set fruit.

Fruit: The fruit is the longest lasting ornamental characteristic and may be red, yellow, or a combination of both; often red flowered or foliated forms have extremely dark fruit. Some fruit turn from red to orange or yellow after frost. The best remain in fruit until spring; the worst for 1 or 2 months, or until frost. Some fruit are edible.

Form:

Weeping; may be of two types; one being very pendulous and cascade-like, the other semi-weeping with the horizontal branches having tips being pendulous.

Spreading; may be quite large but usually as wide as tall, or wider. The ultimate size can be just 6-8' tall but 25' wide (i.e. Mary Potter).

Upright; Taller than wide; may be columnar, vase shaped, oval or a combination of these.

Size: May range from 3' to 60' in height and 3' to 45 or 50' in width.

Culture: If you can't grow crabapples buy plastic plants. Sun is the only true requirement. Nearly any soil is suitable. Dryness, wetness, infertility, harsh winds, and baking sun all attempt to stress our trees but do no harm.

Disease resistance is quite variable, but the plants I have listed here will give you no problems. The major diseases are scab, fireblight and cedar-apple rust, on native plants with the secondary being frog-eye leaf spot and powdery mildew. Scab resistance is nebulous changing with the mutation of the scab gene pool. Scab tolerant plants are often the better choice when available. Tolerance means that scab is contracted by the tree but it will not negatively effect the ornamental quality. Fireblight can greatly disfigure a tree or kill it, and the prevention is nearly impossible; therefore many favorites such as 'Donald Wyman', 'Snowdrift', 'Red Jewel' and 'zumi', do not appear on my list on page 29.

The Process:

When I select a crabapple for one of my clients the first order of business is to determine the size of the plant needed and in what period of time it must fulfill its role in the landscape. Don't try to stuff 10 lbs. of 'taters' into a 5 lb. sack; this is the most common mistake in design. If the dimensions of the planting site for this tree are for instance 25' in height by 25' in width, then perhaps a large spreading tree, such as Malus 'Professor Sprenger' would suffice. The largest specimens of this cultivar have reached 35' in height and 45' in width, but the time period (about 50 years) would not interfere in our planting. 20 years may be all it takes to reach our desired size. If we change our dimension to 25' in height but only 10' in width, perhaps Malus 'Madonna' would be a better choice. In short, a tree should be able to reach its fullest capacity without need for pruning. Trees appear to grow slower as they age, when in fact they generally put on the same volume of new growth more or less, year after year. The new growth is spread out over more branch tips. A tree may grow 75% of its ultimate size in 25% of the time it takes to become "full-grown". A hillside vista can be best accented with very short wide trees: This makes the view seem more grand and does not block the view from the top of the hill. These trees are also beautifully displayed when you look up the hill or against it.

Next, I take stock of my site characteristics to determine the form, flower color, fruit size & color; the following is a list of automatic criteria:

Close to viewer:	Fragrant flowers
	Small fruit
	Red fruit
	Persistent fruit
	Detailed blossoms (double, bicolor etc.)
	Medium to small size (unless desired for shade)

Far from viewer:	Large fruit Yellow fruit Medium to large size
Red or dark brown stone or brick background:	White flowers Yellow fruit Yellow fall color
light brown or tan stone or brick & natural cedar:	White flowers Red Fruit Yellow or orange fall color
Blue sky:	White or red flowers Red fruit Medium to large size
Sunshine from behind viewer:	White flowers Yellow fruit
White or generally light background:	Red & rosy flowers Red fruit
Dark background (such as conifers):	White flowers Red or yellow fruit Good fall color
Hillside or small slope:	Semi-weeping Weeping or a very wide spreader
Over hanging water rock wall or terrace:	Horizontal spreading Semi weeping Weeping
Near walkways: Drives or tight corners:	Upright to Columnar Fragrant

Quite often there will be some minor difficulties or contradictions involved in meeting all of our criteria. The most obvious being that the number of instances in which yellow fruited trees would be a good choice far outnumbered decent yellow fruited cultivars. 'Ormiston Roy' which is yellow for a portion of its display, and 'Harvest Gold' are good plants. Then we have the fair 'Gibb's Golden Gage', 'Goldfinch', and the terrible 'Golden Hornet', which are the total of the yellow fruited ones might find with some consistency in the trade. Of these, only 'Harvest Gold' is being actively produced (Thank goodness; it's the best of the lot). Pink & orange fruit are generally used, as red fruit might be. Pink is better at close range and orange at a distance. Timing of blossoms and fruit display is important and a nearly always overlooked aspect of landscape design. If a property is large enough, small groups of crabapples, whose flowering and fruiting follow each other in succession, are very effective. A prime example is the combination of Malus 'Ralph Shay' and Malus 'Selkirk' in a park. Both have large showy flowers and fruit. The flowers of 'Ralph Shay' occur early in the bloom season and are pure white. As they fade 'Selkirk' comes into full bloom and the combined display is up to 3 weeks. The fruit of 'Selkirk' is the earliest of all crabs; even earlier than Malus fusca. In June or July a 1" brilliant red fruit is formed. As they fade 'Ralph Shay' colors, making the combined display stretch from June to December!

New & Used Crabs

This is a list of Crabs containing some plants newly introduced and plants that are old stand by performers that I have used for quite some time.

	ZONE	BUD	FLOWER	FRUIT	FORM	SIZE	FALL COLOR
'Adams'	3	dk.red	red to pink	5/8" Feb. dk. red	spreading	15H 20W	red, yellow
				<i>Can be very true red or light pink, depending on weather.</i>			
'Autumn Glory'	4	red	white pink-white	1" Jan. red	upright	15W 20H	none
				<i>Very profuse pure white blossoms and incredible fruit, fragrant.</i>			
'Basketong'	5	purple carmine	rosy	1/2 Dec. red	spreading	30H	red purple
				<i>One of the few good purple-leaved forms.</i>			
'Centurion'	4	red	rosy	5/8" Nov. red	vase to columnar	25H	red/orange
				<i>Very loose when young.</i>			
'Coral Cascade'	4	pink/orange or red	blush -white	3/8" Jan. coral pink	semi-weep	15W	orange
				<i>Very profuse bloom; very unusual & pretty fruit color.</i>			

'Gwendolyn'	3	pink	pink to white	5/8" Dec. red	spreading	20H 30W	yellow to orange
		<i>A definite light pink cast to the tree when in flower; fragrant</i>					
'Harvest Gold'	3	rosy-red	white	Jan. gold to yellow	spreading	20H 20W	yellow-orange
		<i>One of the brightest plants in the winter landscape, superb.</i>					
'Henningii'	4	red	white	1/3" Jan. brt. red	upright vase	20H 20W	none
		<i>One of the heaviest fruiting of all Crabs, color is brilliant, fragrant.</i>					
'Indian Magic'	4	red	rose to pink	3/8" red to orange	upright	15H 10W	best orange
		<i>Very profuse bloom & fruit; the best fall color, scab tolerant.</i>					
'Madonna'	4	red	double white	3/8" like McIntosh	upright	25H 9W	yellow & orange
		<i>Flowers open over a 3 week period; fruiting very heavily, fragrant.</i>					
'Mary Potter'	4	red	white	3/8" Feb. red	spreading very wide	7H 30W	yellow orange
		<i>Very constant performer with an unusual habit, alternate.</i>					

'Molten Lava'	4	red	white	1/3" Dec. red	semi-weeping	15H	yellow
		<i>Very graceful plant.</i>					
'Professor Sprenger'	4	pink	white	1/2" Dec. red	upright	45H 35W	yellow
		<i>Heavy fruiter, fragrant, large plant.</i>					
'Ralph Shay'	3	pink	white	1 5/8" Dec. shiny red	spreading	20H 30W	yellow
		<i>May develop a weeping habit due to the weight of its fruit, fragrant.</i>					
'Red Baron'	4	maroon	dk. red	5/8" Dec. shiny dk. red	upright narrow vase	25H 8W	reddish
		<i>Very nice red flowers; fits into small nooks, scab tolerant.</i>					
'Red Snow'	4	red/orange	white apricot	1/4" Jan. lt. red, shiny	fountain	15H	orange gold bronze
		<i>Excellent all round crab with an unusual habit.</i>					
'Robinson'	5	crimson	deep pink	3/8" red	upright to spreading	25H 30W	orange
		<i>Purple foliage until July.</i>					

sargentii	5	red	white	3/8" Dec.	spreading	6-7H 15W	none
		<i>Tolerates some shade, flowers open over a very long period, alternate.</i>					
'Selkirk'	2	maroon	rosy	1" Sept. shiny red	spreading	20H 30W	maroon
		<i>Large plant, fruit visible from great distances.</i>					
'Sugar Tyme'	3	red	white	1/2-5/8" Mar. red, profuse	conical upright	25H?	gold
		<i>Central leader; stiff, fairly formal, scaffolds @ 90°, superb.</i>					
'Weeping Candied Apple'	4	red	pink	1/2" red	semi- weeping	15H 20W	red/orange
		<i>One of the few good weepers</i>					

DIRECTORS

Mike Yanny
10903 W. Bobolink
Milwaukee, WI 53225
414-353-5105

Norbert Kinen
J. Frank Schmidt
& Son, Co.
9500 SE 327th Ave.
P.O. Box 189
Boring, OR 97009
503-663-4128

Fr. John Fiala
45 Never Bend Drive
Ocala, FL 32675
904-237-8705

Robert A. Curtis
Princeton Nurseries
P.O. Box 185
Allentown, NJ 08501

Fred Buscher
Northeast District
Extension Office
O.A.R.D.C.
Wooster, OH 44691

Robert Lyons
Sunleaf nursery
P.O. Box 639
Madison, OH 44057

Bill Hendricks
Lake County Nursery
Exchange
P.O. Box 122
Perry, OH 44081
216-259-5571

Fred Buscher
Northeast District
Extension Office
O.A.R.D.C.
Wooster, OH 44691

Robert Lyons
Sunleaf Nursery
P.O. Box 639
Madison, OH 44057

Judy Zuk
The Scott Arboretum
Swarthmore College
Swarthmore, PA 19801

Robert A. Curtis
Princeton Nurseries
P.O. Box 185
Allentown, NJ 08501

Judy Zuk
The Scott Arboretum
Swarthmore College
Swarthmore, PA 19801