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**INTRODUCTION:** This is the second of three volumes in our series of woody plant cultivar registrations submitted to and discovered by the OROC Project. Originally we hoped to "just catch up" on years of missing registratrions and documentation and cut off the new tree, shrub, vine, and conifer registrations at 2013. We figured there might be a few pages. In fact, doing 2013 to 2019 so far has produced more over 200 PDF 8 x 12 in. pages of described cultivars. And that count grows every single day. Drip, drip,

The pictures are back! We removed the images from the first volume of the series to make the register more traditional, more compact for smart phone viewing, and more spartanly "academic" in appearance. That was not a popular decision and I personally admit to making it. Sorry. The images stay with the second volume and new ones are added too.

Some individuals were confused about first few registers and say "these are far from comprehensive...I know of 319 cultivars". Yes. That was the intent. These are only new cultivar listings from 2013 to 2019. A few legacy cultivars missed by older reference works were added too. If you want as comprehensive as most folks can do, CULTIVARS OF WOODY PLANTS (CWP) available at cultivar.org now has 6145 pages of PDF content. There are thousands of screen-filling images of 1000-1300 pixels wide. I shoot new stuff almost every week of the year, replacing old shots with better ones. Your purchase of CWP goes in part to support this project. In the spirit of fairness, the legendary woody plant guru Dr. Mike Dirr and equally legendary plantsman Keith Warren are publishing THE TREE BOOK this coming April and you can preorder print and ebook copies right now from leading book vendors. That book will be massively informative and by all rumors very comprehensive and loaded full of original research. And while I'm at it, the 2014 Edition of The Hillier Manual of Trees and Shrubs is darn impressive and if you have to carry one, non-digital book, this might be a good choice as it contains species, variety, and subspecies descriptions too.

This past several years has been a wonderful, exciting ride and the OROC volunteers never get tired of your email comments. More than 83,000 people have either viewed online or downloaded our free registers. There are untold more people, mainly at schools and libraries we think, who received copies second and third hand. Please continue to share these registrations. My favorite comment (and one that speaks volumes to me personally) is "I would have [loved/killed for] to have this resource when I was a student". Me too. Cubed. My second favorite comment is "I almost bought a bunch of X and you guys told me about a better cultivar with more disease resistance and a better look". I'm no eco-nut but knowing about new, superior cultivars is going to spare the world from alot of unnessesary spraying, weeding out seedlings, cleaning up messy fruit, water consumption, and corrective mainteance. That is both green and logical.

We have endeavored to produce as accurate and useful descriptions as possible based on all available information on these new and often very rare cultivars. This registry is never finished so if you know more (and can document it) please contact us at ornamentals@lycos.com with OROC in your subject line. Where no descriptions are placed please rely on the under URL link to view the originator's or a major vendor's description.

Some wise collectors, breeders, plant materials experts, students, designers, directors of this or that, consultants, big growers, plant people of all shapes and sizes, curators, taxonomists, gurus, future gurus, and otherwise well connected plant people did not know about a large percentage of the plants we registered. Neither did I. So maybe this remains a good idea.

If this book makes you or me feel more eager to learn and click, empowered, charged up, ready to dig up more of your lawn for planting beds, crazy and insane to acquire some new cool plants, happy about the general state of the gardening universe, loving those devoted plant breeders, bringing your students up to pace, and with a vast new knowledge base, we at OROC have done our job. If we went "above and beyond" and we knocked your socks over to the next county, please write. If we didn't - also please write and tell us how to get better.

Your data submissions today will make those free books happen. Thank you in advance.

Tell us what you think because we truly care.

- Larry Hatch
Senior Registrar and General Editor
www.cultivar.org
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## **OROC CULTIVAR REGISTRATION LONG FORM II:**

Beginning in February 2019, we are using mainly this new "Long Form II" though the interactive form is still online and welcome. Most registrants we asked felt a simple "cut and paste" form that can be easily emailed was the best approach for them.

You may omit any subject or topic lines that are not appropriate or relevant to your introduction. This will save our editors some time in getting the cultivar to press. We will omit any lines in the final register if left blank. No need to mark N/A or not applicable. Any email addressed provided in the body of the form will be published for the general public in the registers. Your sending email address will never be published or shared without your permission.

Since the form is long we have color-coded various sections and saved room by not adding headers. Please remember that taking a few extra minutes to complete this extra amount of detail will make it more likely buyers all over the world will be interested in your cultivar's unique and special traits.

If you need any assistance just email office with OROC in the subject line. We have several trained Registrars and two graduate-trained taxonomists who can provide help with precise Latin terms, assuming they are helpful to set your new cultivar apart from others. Name choices are easily reviewed too so please don't hesitate to ask.

----copy and cut below

Species and genus name:

Any infraspecific affiliation (ie. subspecies chinensis, botanical f. alba, var. hatchii, var. jonesii x var. smithii):

Cultivar name:

Significant of cultivar name (name for friend or relative, place where sport found, my garden name):

Do you have permission to use the name if after a celebrity, famous person, place, or product?:

It is hard to sell a plant that repeats a trademark or protected asset (Coke, Elvis, Big Mac, Mercedes) in some countries. Is this a concern?:

Patents or Breeder's Rights?

If so: USPP# and date:

Canadien Patent# and date:

Euro PBR# and date:

Other Patent# and date:

Since Latinized words are permitted in unregistered trademark names, would you consider adding this "old school" nomenclature?"

Trademarked (specify registered, unregistered)?

In what countries is the trademark registered?:

Was the trademark unregistered at first and later registered or it being sought now?:

Trademark Name for this one clone or taxon (ie. GREEN MAGIC® 'JMmagic')

Trademark Name for a group of cultivars (ie. NIRVANA® 'Heavenly Blue')

Does this trademark group name apply to more than one genus?

Significance of trademark name (ie. NIRVANA® is the name of the family garden)

Originator's name:

Originator's affiliation (ie Metropolis University, Frigid Experiment Station, Damncold, North Dakota):

Registrant's name (who is submitting this):

Registrant's affiliation (if different from originator):

Nominant's name (who named it, if different):

First commercial introducer (who first sold it or distributed it):

Patent assigned to in the body of the application:

First place of valid publication in print book (ie. Doe, J. 2021. Golden Trees. Metropolis Press, p, 43-44):

First place published on internet:

Associated with any particular fund-raising, charity, or special cause?

Do royalties go to one of these causes (share any details you like):

Is another nursery introducing it for you?:

When was it discovered (year):

First year or date or commercial sales and by whom? (ie. Doe Nursery, Metropolis, Ohio, 2011):

Has it been published in a printed catalog (ie. Doe Nursery Fall-Winter 2023 Catalog):

How did it occur (seedling, sport, controlled cross, wild):

If sport, name parent cultivar if known:

Did this cultivar come from a witches broom?:

If seedling, give history of source (ie. John Doe #JD3021 collected at 8000 ft. at Mt. Dido, Szechuan, China in 1988, notably fruitful tree with arker leaves):

Is from a notable tree at a particular garden, nursery, park, collection, etc? (ie. #76-203 from Metropolis Arboretum)

Parent taxa if hybrid (female x male, female parent if pollinator is unknown):

Height and width (specify 5 or 10 years or original plant with it's age)(10-12 ft tall x 4-5 ft. wide, 10y):

Habit form (ie. globose, fastigiate, pendulous, decumbent):

Secondary branchlet form (ie. apex fasciated, columnar overall but secondaries semi-pendulous and filiform):

Special branching patterns (ie. self-branching, distincty plumose, filiform/thready, densely tufted, virgate/snake-type):

If you have cladometric data (useful for Juniperus, Thuja, Chamaecyparis)(ie. 5-9 secondary shoots, longest 7-12 cm long, 2-4 tertiary shoots, longest 3-5 cm long, 0-2 quarternary shoots, longest 0.0-1.8 cm long) enter it here:

Growth rate per year (range as young stock):

Internode spacing (ie. 2-3cm or 0.5-0.75 in.):

Special landscape uses (ie. ecological reclamation, wildlife food, hedge, rock garden, fast windbreak, collector's item):

Unique habit features (ie. stronger crotch angle, no staking required, no fruit so keep dense form):

Bark showy? (yes, no):

If bark showy, describe colors and pattern (ie. corky to 5cm thick, white exfoliating brown by 3rd year, orange similar to orange winter twigs):

Stem or twig traits, if unique or showy (ie. alate/winter to 3cm deep, showy orange winter stems, thornless twigs, twigs red striped white 1st year):

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if flowers dimorphic (ie. fertile and sterile, describe each separately below):
If flower bicolored or tricolored describe pattern (ie. picotee, eyezone, flecking, suffusions or tints):
If flower bicolored or tricolored describe distribution (ie. red picotee 10% surface, pink throat 10%, base color white 80%)
Flower scent, only if atypical or variable in species (ie. light fruity scent, unscented, unique strong bubblegum aroma):
Flower bud color (specify corolla, calyx, bracts, etc.)(ie. red buds open blush, white at maturity):
Flower color (corolla, main mature color, use RHS or Pantone values when known):
Flower color (corolla, fading color):
Flower color (calyx or bracts):
Flower color (pedicel/stalk):
Flower corolla lobe shape (ie. suborbicular, broadly ovate, irregularly notched and undulate, convex and elliptic-ovate):
Flower corolla shape (only if ayptical, ie. campanulate, funnelform, rhomboid):
Flower corolla length and width (diameter) (specify in, cm, mm):
Bloom period (give location, ie. July 15 to September 5, Raleigh, North Carolina):
Is it unusual for blooming earlier or sooner or young plants?:
Rebloom (under what conditions, ie. partial 5-10% fall rebloom if cut back in September after peak):
Other floral traits (ie. self-deadheading, lacks petals, incised petals, heads born well above foliage):
Petal or tepal count (only if atypical):
Inflorescence shape (ie. domed panicle, flat cyme):
Inflorescence dimensions (specify cm or in)
Can this plant be described as an dual purpose "edible-ornamental"?
If a conifer, use the "fruit" traits below to describe any ornamental female strobili (cones)
Fruit showy?:
Fruit edible?, if so describe:
Fruit shape, describe if atypical (ie. elongated ellipsoidal to narrowly ovoid while species is broadly ovoid):
Fruit color, if showy (ie. gold tinged red, green becoming blue and later black):
Fruit dimensions if showy (in, cm, length x width):
Special fruit traits (ie. fruitless, early fruit by September 15 (GA), pods showy and red):
Leaf polymorphic (2 or more distinct shapes or forms)?:
Leaf shape and type (ie. palmately 5-lobed, cordiform and unlobed, omit if typical of species):
Leaf dimensions (long x wide, average, cm):
if you have more phyllometric data enter it here (useful for Hedera, Acer)(ie. 3-5 secondary lobes, 2.3-4.1 cm long, 1.1-1.5cm wide; 1-2 tertiary lobes, 1.1-1.3 cm long,
0.5-0.7 cm wide, tertiary lobes rarely absent in 2-4% of blades measured):
Leaf lobe count:
Leaf color (new tips, immature)(ie. showy red to orange tips becoming light olive green, finally a dark olive green):
Leaf color (above when mature)
Leaf color (below when mature, if conifer describe stomatal banding):
Leaf color (fall):
Leaf color (winter or cold weather):
Leaf vein color (describe if contrasting, reticulate)(ie. veins distinctly silver, veins a slightly green but not showy):
Leaf petiole (special, atypical traits only)(ie. 1.0-1.6 cm long, shorter, distinctly pink to red, very showy with the gold lamina):
Is the leaf multicolored but not truly variegated (a section lacking chlorophyll)(ie. green suffused red, tinged orange with greener veins):
If variegated leaf, is it bicolored, tricolored in general, or more?:
If variegated leaf, pattern (ie. marginate, central zone/medio-picta, speckled/maculata, margino-maculata):
If speckled or maculata variegated are there tiny flecks, large spots, and big sectors?:
If marginate variegation is there a central "tree" or "leaf" shape (describe it):
If variegated leaf, chimera % of entire surface (ie. marginate 25-45% surface):
If variegated leaf, color of chimera (ie. pink becoming cream with maturity):
Leaf vestititute (hairs or trichomes, describe only if aytpical)(ie. more tomentose than species, glabrous below unlike 'Pendula'):
Leaf base type (ie. broadly cuneate, shallowly cordate to truncate):
Leaf apex type (ie. acuminate, obtuse, acute, cuspidate):
Leaf margin type (ie. crenate, incised, serrate, dentate):
Leaf margin undulates (if atypical, describe # of waves and depth per side of leaf):
If spinose marginal teeth (ie. Ilex, Osmanthus, Mahonia) describe # of teeth per side:
If spinose marginal teeth (ie. Ilex, Osmanthus, Mahonia) describe length and wide of teeth (in, mm):
If spinose marginal teeth (ie. Ilex, Osmanthus, Mahonia) describe spacing between teeth (in, cm):
If incised or cut, estimate depth of cut or lobing in %:
Any special leaf traits (more glaucous than cultivar X, thicker blade, showy red petiole):
if leaves edible, note any special chemistry (ie. 12% thymol, more potent for culinary use than 'Big Red'):
Cold hardiness (USDA number and/or degrees, if atypical and compare)(ie. USDA 4a compared 5a for 'Grandiflora Alba'):
Any special pest or disease resistance (give specific names):
Any special cultural resistance (ie. urban resistant due to higher drought tolerance and thicker leaves):
Any laboratory proven physiological improvements (ie. 26% higher photosynthetic efficiency compared to 'Viridis Nana'):
Propagation notes: (ie. roots up to 97% from softwood cuttings, best crafted on resistant 'Rootuff' understock):
Non-invasive clone (ie. triploid, fruitless, sterile seed)?:
Genetics/cytology (ie. ploidy, uniquie traits):
Has the cultivar been DNA profiled by a qualified or certified lab (if so, where on file):
International awards (ie. RHS AGM 2012, Plantarium Gold Medal 2021, Plantus Society Plant of the Year 2020):
This cultivar was bred mainly to remove certain flaws of the species other cultivars?:
Cultivar is designed to replace existing cultivar (name it)(ie. sterile 'Green Goblin' type, mildew resistant 'Red King'):
Compare and contrast to existing Cultivar A (name it):
Compare and contrast to existing Cultivar B (name it):
Compare and contrast to "species typical" of gardens:
Are any traits completely new to this species or genus (ie. first lavender-flowered clone, first genetic dwarf)?:
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Is this a unique combination of two or more existing traits (ie. weeping/gold, dwarf/white-flowered, first gold-leaved dwarf with true red flowers)?: Why is it unique and special in general?

Any quotes from evaluators (name or not) describing it ("best white-flowered clone we have tested" John Doe, Metropolis Nursery):

Internet video link for it's promotion (please do not attach video files to email):

Sales email to purchase it (specify if wholesale only):

Informational email to discuss (if contact is invited by any reader):

Sales internet link to purchase it (specify if wholesale only):

Informative internet link with more details (including cultivar release, academic article):

Public garden or nursery where it can be seen by public (attach Google map or other link if desired):

Image link on internet:

Image for registration form (please attach up to 10MB and your copyright statement, this is OPTIONAL):

Any other information our readers might like:

---end here, paste into email, fill out, and send

HALE001 - Halesia carolina CRUSHED VELVET™ 'JFS-PN2Legacy' (J.F. Schmidt) - 20 ft. tall x 15 ft. wide, ovoid, more compact and slightly more narrow, finer textured branching. Leaves rich bluish-green, smaller dimensions, textured, and waxy, hence the trademarked name.

HAMA001 Hamamelis 'Foxy Lady' - flower tepals vark ruby red to dark violet-red, one of the darkest reds known in the genus (May 2015). Selected by Chris Lane.

HAMA002 Hamamelis virginiana 'Lemon Lime' (Rare Find Nurseries) - leaves very finely striped, speckled, and thinnly sectored in typical green, lime green, chartreuse and light yellow, about 50% chimera and thus highly colorful.

HAMA003 Hamamelis vernalis ORANGE SUNRISE™ (Song Sparrow Nursery) - 5-6 ft. tall (10 years), flowers abundant, very fragrant, tepals orangish-gopld, calyx a contrasting dark red. Leaves in dark red shades in fall. Roy Klehm selection.

HAMA004 Hamamelis GRAPE FIZZ™ 'KLMNN' (Song Sparrow Nursery) - 5 ft. tall x wide (10 years). Flower tepals an unusual lavender-purple. Leaves with gold colors in fall. Roy Klehm selection

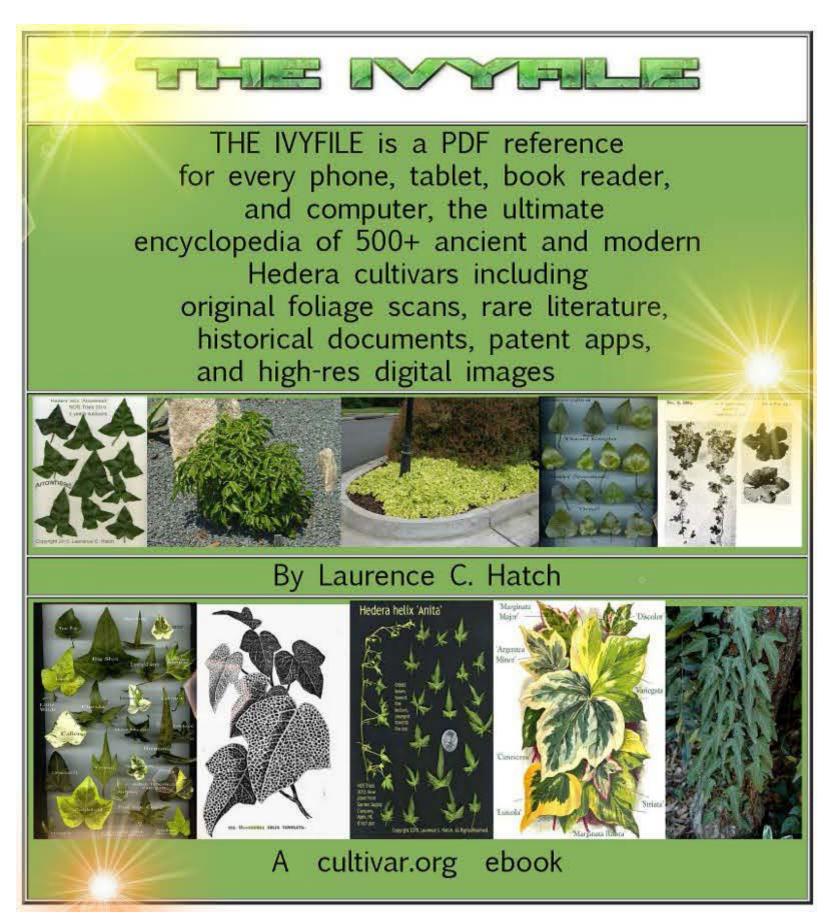
HAMA005 - Hamamelis vernalis PURPLE PRINCE™ 'KLMKK' - 7-10 ft. tall x 6-8 ft. wide (10 years), erect, vigorous.. Flower tepals deep rosy lavender, appearing a lavender-purple to violet from a distance. Leaves green, becoming orange and red shades in fall, dropping cleanly before next spring's floral show. Or: Roy Klehm, introduced www.songsparrow.com, accessed 4.6.2016

HAMA005 - Hamamelis vernalis RUSTIC RUBY™ 'GROY' - 7 ft. tall x 6 ft. wide (10 years), form more compact than species typical. Flowers "rich brick red".Or, so: Selected by Roy Klehm, propagated on own roots, <a href="http://www.songsparrow.com/catalog/plantdetails.cfm?">http://www.songsparrow.com/catalog/plantdetails.cfm?</a>

ID=4968&type=WOODY,&pagetype=plantdetails&plant\_name=Hamamelis%20vernalis%20Rustic%20Ruby%3Csup%3ETM%3C/sup%3E%20(%27GROY%27), accessed 5.10.2017

HAMA006 - Hamamelis 'Winter Champagne' - 15-18 ft. tall x wide, large shrub to small tree, flower tepals yellowish-orange, blooming mid fall into winter. Cross of H. virginiana x H. vernalis, showing glaucous undersides on leaf below, these glabrous. Or: Brotzman before 2011.

HAMA007 - Hamamelis virginiana 'Phantasm' - flower tepals yellow, very numerous, covering the tree, darker and earlier (by up to 2 weeks) than 'Harvest Moon', also narrower and more crimped than it.



Hedera - our nomenclatural standard is the IVYfile section of CWP with 500+ cultivars also offered as a standalone book at Google Play Books. Ever more comprehensive with 750+ named clones is the German Ivy Society's <u>Efeu-ev (website, cultivar database)</u>, a very monumnental compilation of cultivars and very likely the most complete ever. British and American ivy collectors will find a bewildering number of new and unfamiliar clones described and imaged to a high standard. We always use the Rose and McAllister volumes too as well as the various ivy society publications. The firm of Fibrex.co.uk is good for many new cultivars from England.



HEDE001 - Hedera helix 'Nilita' - Habit slower, vinous. Stems red to reddish-violet or tinged so. Leaves 5-lobed, star-shaped, entire, blade very flat, terminal lobe dominant, 5cm long x wide (average), goldish-yellow to greenish-yellow, later becoming more light green to ivory depending on light and temperature, base deeply cordate, apex subacute. The originator says " 'Renton Gold' has more greenish, not gold color, not star-shaped leaves, with slightly undulate, not flat margin, and rounded, not subacute apex, and reddish-green not red as in the 'Nilita' stem. Our observations that the lobes are more narrow, less undulate, more uniform in color (less suffused green in early leaves), and far less rugose than the popular 'Buttercup'. Or: Andriy V. Yena, as sport of 'Surprise' in 2010, courtesy to originator for use of this photo and description. The spelling 'Niliata' which appeared in previous volumes is incorrect. 'Nilita' is correct.



HEDE002 - Hedera helix 'Yarik' - Habit very slow, self-branching, dwarf, miniature class. Leaves lanceolate to narrowly three-lobed, lateral lobes 1-2, rarely absent, these lobes very small, reduced at times to large teeth or wide undulations of the margin, somtimes their upper surface at a right angle to the margin above, dark green, 2.5 cm long x 1.0 cm wide (average), base cunate, aboex bluntly obtuse. Considered resistant to Xanthomonas hortorum pv. hederae. The originator states it differs from 'Arguta' with it's greenish, not whitish veins, ribbed midrib [raised line], and more rounded apex. Or: Yaroslav A. Yena, as sport of 'Anake' in 2014, courtesy to originator for use of this photo and description.



HEDE003 - Hedera helix 'Papa Yena' - Leaves palmately 5-lobed to medium depth (about 1cm), star-shaped due to about equal primary vein angles, entire, 5 cm long x wide, medium green with some brighter sectors of green, heavily mottled yellowish-cream at about 35-50% surface, many blades also irregularly margined in the same shade, deeply cordate, basal lobes often overlapping, apex subacute, terminal lobe wide and symmetrical. The originator states that 'Pittsburgh Variegated' less regularly mottled with almost no marginal chimera and has narrower blades with a longer terminak lobe. 'Harlequin' is similar but belongs to subsp. hibernica, a tetraploid. Or: Andriy V. Yena, found as sport of 'Mona Lisa' in 2011, name for the originator's father Prof. Vasily Yena. Courtesy to the originator for use of this image.



HEDE004 - Hedera helix 'Eny' - "Leaves narrow cordate to cordate, 4 cm long x 3 cm wide (average), light (limey) green with white and grey-green spots and mottles, apex rounded, stems and petioles red. 'Eny' could be compared to at least three cultivars: 'Eileen', 'Eugen Hahn', and 'Bruder Ingobert'. 'Eny' differs from 'Eileen' with it's more flat, and typically narrow cordate leaves (not wavy, wide, five-lobed,or reniform as in 'Eileen'), gray-green spots and zones together with white spots and smears, never with the faint reddish tints (leaves of 'Eileen' spotted white or creamy with faint reddish tints). Leavews of 'Eny' are never colored dark green or product acute lateral lobes as 'Eugen Hahn'. Rarely, similar narrowly cordate leaves can be produced by 'Bruder Ingobert' but typicals it's leaves are 3-5 lobed, dark green, less white spotted and much more gray-green zoned". Or: Dr. Andriy V. Yena, Professor and Head of the Dept. of Phytobiology, Simferopol, Republic of Crimea, the previous description written by the originator.



HEDE005 - Hedera helix 'Sasha' - "Leaves 3–5-lobed, entire, slightly convex, 4 cm long x wide, with shallow sinuses and slightly cordate to truncate base, dark green with yellow main veins and the center suffused with a big yellowish green spot mottled dark-green, limey-green, yellow and sometimes white. This variegated zone often reaches tip of terminal lobe. Stem reddish.

In contrast to all yellowish-centred ivy cultivars, 'Sasha' derives from aboriginal Crimean population of Hedera helix, not from other cultivars. Yellowish blotch is mottled with yellow, light green and dark green, rare white but never evenly colored as in all similar cultivars, very stable (doesn't darken or depend of light conditions as e.g. in 'Nugget'). Among yellowish centered cultivars of H. helix, 'Sasha' is the only hatched additionally white. 'Sasha' also differs from similar 'Peter' with wide-triangular and slightly longer terminal lobe (not narrowly triangular lobes with longer terminal lobe as in 'Peter') and from 'Serenade' (which is very close to 'Nugget') with much more bright central spot. Frost tolerant to –25C (as opposed to similar 'Green Quartz')."

Or: Dr. Andriy V. Yena, Professor and Head of the Dept. of Phytobiology, Simferopol, Republic of Crimea, sport found in 1984 in the wild in RF, Crimea, vicinity of Yalta. The previous description written by the originator as well as the following comparative chart. Photo above copyright owned by and courtesy of Dr. Yena.

## A COMPARISON OF LEAVES OF THREE IVY CULTIVARS

Nº	'Nugget'	'Peter'	'Sasha'
1	Basal leaf color green	Basal leaf color green	Basal leaf color dark green
2	Leaf blade thin	Leaf blade thin	Leaf blade leathery
3	3-lobed	3-5-lobed	5-lobed
4	Basal lobes absent	Basal lobes small, pronounced	Basal lobes small, slightly pronounced

5	All lobes nearly equal	Terminal lobe 2,5–3 times as long as lateral	Terminal lobe 2 times as long as lateral
6	Venation weak pronounced	Venation weak pronounced	Venation (incl. secondary veins) clearly pronounced, of wild ivy type
7	Basal veins arc-like, ½ times as long as lateral	Basal veins straight, ¾ times as long as lateral	Basal veins straight, ¾ times as long as lateral
8	Central blotch unstable, monochromatic, light green,	Central blotch unstable, monochromatic, light green,	Central blotch stable and mottled with yellow, light green, dark green, rare white
9	Veins within blotch thin, yellowish	Veins within blotch thin, light green	Veins within blotch thick, yellow
10	Self-branching	Self- branching	Not self- branching

HEDE006 - Hedera helix 'Tattoo Ripple' – a new 'Yellow Ripple'-like cultivar with 5-cm leaves of notable dark-green thin edges and triangles in sinuses. Of particular interest is its special yellow color with blue reflex.

In: <a href="http://www.floricode.com/Portals/0/Downloads/Productcoderingen/svsB1602040.pdf?ver=2016-02-29-123928-137">http://www.floricode.com/Portals/0/Downloads/Productcoderingen/svsB1602040.pdf?ver=2016-02-29-123928-137</a>, accessed 01.04.2017. Thanks to Dr. Yena for providing this data and the following two named Hedera clones.

HEDE007 - Hedera helix 'Minisonja' - leaves birdfoot type, reduced, ovate in outline. In: <a href="http://www.floricode.com/Portals/0/Downloads/Productcoderingen/svsB1602040.pdf?ver=2016-02-29-123928-137">http://www.floricode.com/Portals/0/Downloads/Productcoderingen/svsB1602040.pdf?ver=2016-02-29-123928-137</a>, accessed 03.06.2017, also http://www.caparis.nl/hedera/php/pics.php, accessed 3.13.2017.

HEDE008 - Hedera maroccana 'Neon' – very attractive big star-like leaves of bright yellow color, some green-centred, all turn green soon. A sport from 'Spanish Canary'. Misidentified as Hedera algeriensis (<a href="http://www.canadaplants.ca/display.php?id=5341">http://plantsarethestrangestpeople.blogspot.com/2008/07/ghost-hedera-canariensis.html</a>, accessed 03.06.2017.



## HEDE009 - Hedera helix 'Andreas'

Species and genus name: Hedera helix L.

Cultivar name: 'Andreas'

Patents or Breeder's Rights? no

Trademarked (registered, unregistered)? no Originator's name (and affiliation): Andriy V. Yena

Registrant's name (who is submitting this): Andriy V. Yena

Is another nursery introducing it for you?: no

When was it discovered and when is it for sale? discovered in 2015

How did it occur (seedling, sport, controlled cross, wild): sport of Hedera helix 'Masquerade'

Height: fast growing, one-year shoot runs 50-60 cm long; not self branching Leaf shape: "ivy ivy", palmately lobed but with central lobe curved down Leaf dimensions (specify inches, cm, mm, etc.): 7x6 cm (average) Leaf color (above): dark green with central blotch of yellowish green

Leaf color (below): more pale than above

Leaf color (fall): to not changing Leaf base type: heart shaped

Leaf apex type: acute

Any special pest or disease resistance: no

Genetics/cytology such as tetraploid, triploid, etc: diploid, 2n = 48

Compare and contrast to one existing cultivar close to it: 'Andreas' differs from similar cv. 'Nugget' with 3D, not flat leaf shape, deeply lobed, bigger size of blade and

fast growing

Why is it unique and special? Unusual 3D shape of leaves

Any other information our readers might like: The cultivar is named for Andreas Hönemann, in recognition of his outstanding achievements in study of ivy cultivars as the Head of German Ivy Society.



HEDE010 - Hedera helix 'Konstanin Eftov'

Species and genus name: Hedera helix L.

Cultivar name: 'Konstantin Efetov' Patents or Breeder's Rights? no

Trademarked (registered, unregistered)? no Originator's name (and affiliation): Andriy V. Yena

Registrant's name (who is submitting this): Andriy V. Yena

Is another nursery introducing it for you?: no

When was it discovered and when is it for sale? discovered in 2014

How did it occur (seedling, sport, controlled cross, wild): sport of H. helix 'Surprize'

Height: slowly growing; four-year plant is ca. 25 cm long

Leaf shape: lanceolate or three-lobed bird foot with small side lobes

Leaf dimensions (long x wide, average, cm): 3,5x1,5 cm (lanceolate); 3,5x2,5 (3-lobed)

Leaf color (above) yellow, turn light green with age

Leaf color (below): like above Leaf color (fall): to not changing Leaf base type: cuneate or truncate

Leaf apex type: rounded

Any special pest or disease resistance: no

Genetics/cytology such as tetraploid, triploid, etc: diploid, 2n = 48

Compare and contrast to one existing cultivar close to it: 'Konstantin Efetov' differs from similar cv. 'Limey' with distinctly yellow color of leaves, later turn evenly, not unevenly light green; with lanceolate, not cordate blade; if 3-lobed, narrow, not wide blade with much longer central lobe (2/3 or 3/4, not 1/2 of leaf length); cuneate,

never cordate base; less pronounced vein net; slightly glossy, not matt surface.

Why is it unique and special? This is the only "golden" cultivar of ivy with lanceolate leaves.

Any other information our readers might like: The cultivar is named for originator's friend, professor at the Academy of Medicine of Crimean Federal University. Suffer from heat weather, better for indoor cultivation



HEDE011 - Hedera helix 'Laurence'

Species and genus name: Hedera helix L.

Cultivar name: 'Laurence'
Patents or Breeder's Rights? no

Trademarked (registered, unregistered)? no Originator's name (and affiliation): Andriy V. Yena

Registrant's name (who is submitting this): Andriy V. Yena

Is another nursery introducing it for you?: no

When was it discovered and when is it for sale? discovered in 2017

How did it occur (seedling, sport, controlled cross, wild): sport of Hedera helix 'Snow Cap'

Height: fast growing, one-year shoot runs 40-60 cm long; not self branching

Leaf shape: three-angular heart-shaped with longer and wider central lobe; remarkable slightly chute-shape and undulating leaf blade

Leaf dimensions (specify inches, cm, mm, etc.): 7x6 cm (average) Leaf color (above): dark green with central blotch of yellowish green

Leaf color (below): more pale than above

Leaf color (fall): to not changing Leaf base type: heart shaped Leaf apex type: obtuse

Any special pest or disease resistance: no

Genetics/cytology such as tetraploid, triploid, etc: diploid, 2n = 48

Compare and contrast to one existing cultivar close to it: 'Laurence' differs from similar cv. 'Nugget' with 3D, not flat leaf shape, noticeably bigger size of three-lobed blade with larger central lobe more constant heart-shaped leaves and central yellowish green blotch on them

Why is it unique and special? Attractive 3D shape of leaves

Any other information our readers might like: The cultivar is named for Laurence C. Hatch, Director of New Ornamentals Society in recognition of his outstanding achievements in horticulture and especially in study of ivy cultivars.



HEDE012 - Hedera helix 'Darth Vader'

Species and genus name: Hedera helix L.

Cultivar name: 'Darth Vader' Patents or Breeder's Rights? no

Trademarked (registered, unregistered)? no

Originator's name (and affiliation): Yaroslav A. Yena, Andriy V. Yena

Registrant's name (who is submitting this): Yaroslav A. Yena

Is another nursery introducing it for you?: no

When was it discovered and when is it for sale? discovered in 2015

How did it occur (seedling, sport, controlled cross, wild): sport of Hedera helix (wild)

If found in the wild, name the general region, country, provence, etc: -- RF, Crimean Republic, Crimean Mountains, in the forest

Height: fast growing, not self-branching; tree-year plant is ca. 150 cm long

Leaf shape: triangular-egg-like with wide central lobe

Leaf dimensions (specify inches, cm, mm, etc.): 3 x 3 cm (indoor), 4 x 4 cm (outdoor creeping), 5x5 cm (outdoor climbing)

Leaf color (above): dark-green, very glossy with very rare white sections

Leaf color (below): more pale than above

Leaf color (fall): to not changing Leaf base type: heart shaped Leaf apex type: obtuse

Any special pest or disease resistance: comparatively resistant to Xanthomonas hortorum pv. hederae

Genetics/cytology such as tetraploid, triploid, etc: diploid, 2n = 48

Compare and contrast to one existing cultivar close to it: 'Darth Vader' differs from 'Magic' (both very glossy and with pale green veins) with its leaf shape (triangular-egg-like, not five-lobed), with leaf blade margin (slightly undulating, not flat); leaf color (dark green, not green) and rather intensive, not slow growth.

Why is it unique and special? One of the better glossy ivy cultivars, in addition fast growing

Any other information our readers might like: The cultivar is named for one of the most iconic fictional character in the Star Wars with leaf shape resembling in outline

## Darth Vader's helmet.



HEDE013 - Hedera helix 'Petrovich'

Species and genus name: Hedera helix L.

Cultivar name: 'Petrovich' Patents or Breeder's Rights? no

Trademarked (registered, unregistered)? no Originator's name (and affiliation): Andriy V. Yena Registrant's name (who is submitting this): Andriy V. Yena

Is another nursery introducing it for you?: no

When was it discovered and when is it for sale? discovered in 2014

How did it occur (seedling, sport, controlled cross, wild): sport of Hedera helix 'Minty' Height: rather slow growing, four-year plant is ca. 50 cm long, not self branching

Leaf shape: heart-shaped

Leaf dimensions (specify inches, cm, mm, etc.): 5,5x5,5 cm (average) Leaf color (above): limey green with central blotch of yellowish green Leaf color (below): more pale than above Leaf color (fall): to not changing

Leaf base type: heart shaped Leaf apex type: obtuse

Genetics/cytology such as tetraploid, triploid, etc: diploid, 2n = 48 Compare and contrast to one existing cultivar close to it: leaves of 'Petrovich' differs from those of similar cv. 'Limey' with more constant shape of heart and with central yellowish green blotch on them

Why is it unique and special? The only heart-shaped ivy cv with central bright spot

Any other information our readers might like: The cultivar is named for the big friend of originator's family Yuriy Petrovich Bobronnikov.



HEDE014 - Hedera helix 'Bizar'. The second plate below compares it to it's parent cultivar 'Triton'



Species and genus name: Hedera helix L.

Cultivar name: 'Bizar'

Patents or Breeder's Rights? no

Trademarked (registered, unregistered)? no

Originator's name (and affiliation): Iñaki Garmendia Ginea

Registrant's name (who is submitting this): Iñaki Garmendia Ginea

Is another nursery introducing it for you?: Pepiniere of Olivier Arcelus (France), and collection of Andreas Hönemann (Germany)

When was it discovered and when is it for sale? Discovered in 2013

How did it occur (seedling, sport, controlled cross, wild): Sport of 'Triton'

Height: on tall y on wide in years 6 year outdoor plant is of 0.40 m in length.

Height: cm tall x cm wide in years 6-year outdoor plant is of 0.40 m in length .

Leaf shape: deep dissected into very narrow-linear, forward directed lobes often becoming tubular because of leaf margins rolled upwards

Leaf dimensions 4 cm long x 2 cm wide (average)

Leaf color (above): grayish green

Leaf color (below): vivid green that is visible on the upper side due to the rolling margins.

Leaf color (fall): non changing Leaf base type: narrow cuneate Leaf apex type: attenuate

Any special pest or disease resistance: no

Genetics/cytology such as tetraploid, triploid, etc: diploid, 2n = 48

Compare and contrast to one existing cultivar close to it: From 'lantha' differs with not hairy leaves, not flat and more long lobes and petioles, not tuft-like and not miniature habit Why is it unique and special? Unique lichen-like cultivar with narrow tubular lobes.

Any other information our readers might like: Slow growing and self-branching. Prone to frequent reversion. 'Bizar' in basque means "beard"



HEDE015 - Hedera maroccana 'Nabar-Nabar'

Species and genus name: Hedera maroccana McAll.

Cultivar name: 'Nabar-Nabar' Patents or Breeder's Rights? no

Trademarked (registered, unregistered)? no

Originator's name (and affiliation): Iñaki Garmendia Ginea

Registrant's name (who is submitting this): Iñaki Garmendia Ginea

Is another nursery introducing it for you?: Pepiniere of Olivier Arcelus (France), and collection of Andreas Hönemann (Germany)

When was it discovered and when is it for sale? Discovered in 2000

How did it occur (seedling, sport, controlled cross, wild): Sport of maroccana green form (probably 'Spanish Canary')

If found in the wild, name the general region, country, provence, etc: Antsoain village, Navarre provence, Spain, in a private garden. Climatic zone 8 Height: cm tall x cm wide in years Every year can grow more than 1 m.

Leaf shape: palmate, 3 to 5 lobes

Leaf dimensions 8 cm long x 8 cm wide (average)

Leaf color (above): green with white irregular tracery, or dark green hatches and freckles over a white background

Leaf color (below): paler than leaf color above

Leaf color (fall): non changing Leaf base type: cordate

Leaf apex type: acute

Genetics/cytology such as tetraploid, triploid, etc: diploid, 2n = 48

Compare and contrast to one existing cultivar close to it: Differs from 'Rona' (H. hibernica) and 'Profesor Seneta' (H. helix) in having white, not cream/yellowish variegation.

Why is it unique and special? Unique combination of green spots over white variegation for maroccana species.

Any other information our readers might like: Fast growing. Not self-branching. No reversions to date. 'Nabar-Nabar' in basque means "very variegated"



Hedera maroccana 'Ederalai'

Species and genus name: Hedera maroccana McAll.

Cultivar name: 'Ederalai'

Patents or Breeder's Rights? no

Trademarked (registered, unregistered)? no

Originator's name (and affiliation): Iñaki Garmendia Ginea

Registrant's name (who is submitting this): Iñaki Garmendia Ginea

Is another nursery introducing it for you?: no

When was it discovered and when is it for sale? Discovered in 2017

How did it occur (seedling, sport, controlled cross, wild): Sport of maroccana green form (probably 'Spanish canary')

If found in the wild, name the general region, country, provence, etc: Aretxabaleta village, Gipuzkoa provence, Spain

Height: Every year can grow more than 1 m

Leaf shape: palmate, 3 to 5 lobes

Leaf dimensions 8 cm long x 8 cm wide (average)

Leaf color (above): dark green with broad yellow margins that fade to lime. Bright veins over the lime sector illuminate the variegation. On winter these colors don't merge into green.

Leaf color (below): paler than leaf color above

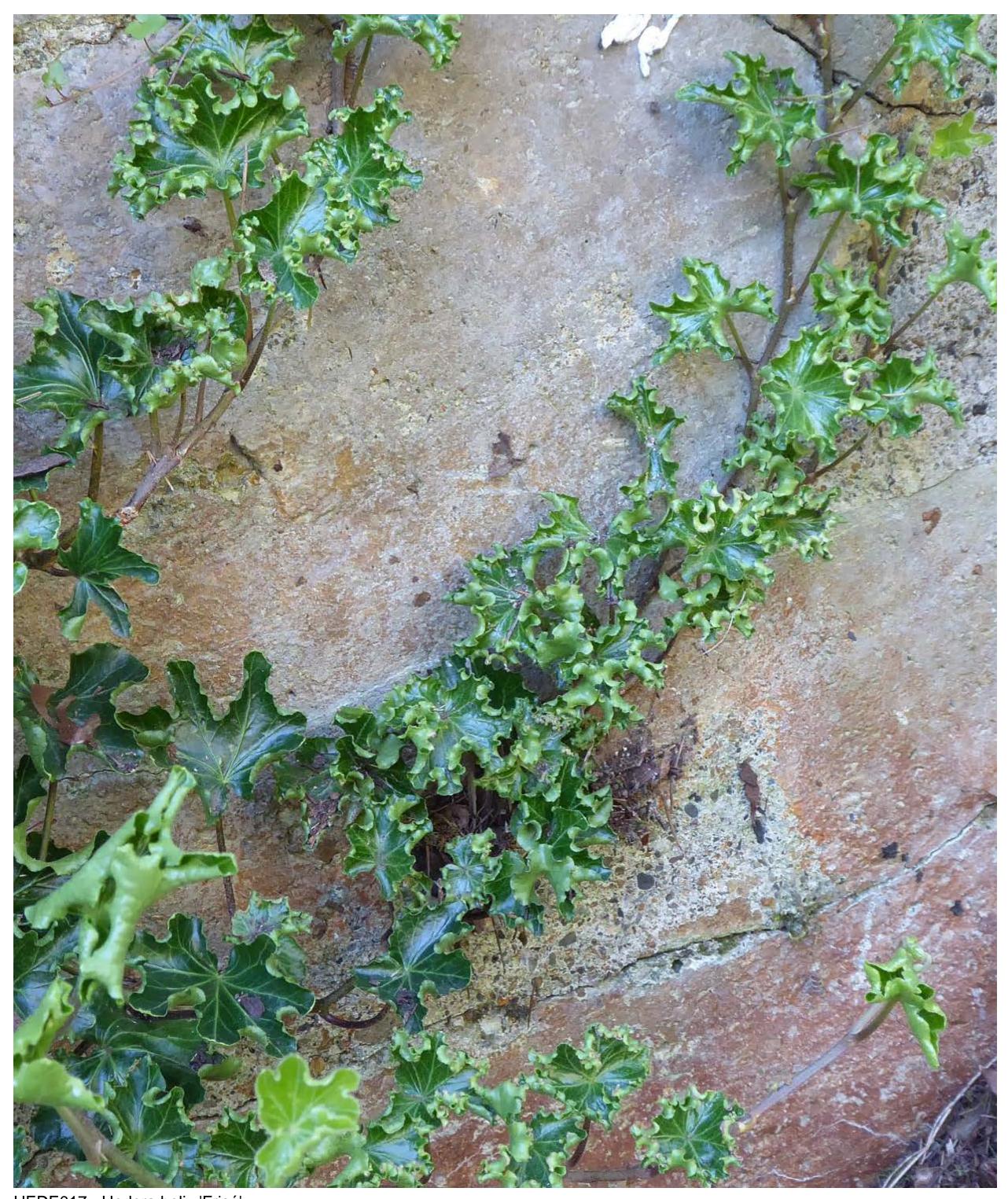
Leaf color (fall): non changing Leaf base type

Genetics/cytology such as tetraploid, triploid, etc: diploid, 2n = 48

Compare and contrast to one existing cultivar close to it: 'Neon' has got plane lime colored leaves that fade to dark green. 'Ederalai' keeps differentiated green/lime tones even on winter.

Why is it unique and special? Unique combination of lime, yellow and green that endures through winter.

Any other information our readers might like: fast growing. Non selfbranching. Resistant to sun scorching. 'Ederalai' in basque means "beautiful-eder, and lively-alai"



HEDE017 - Hedera helix 'Frisé'

Species and genus name: Hedera helix L.

Cultivar name: 'Frisé'

Patents or Breeder's Rights? no

Trademarked (registered, unregistered)? no

Originator's name (and affiliation): Iñaki Garmendia Ginea

Registrant's name (who is submitting this): Iñaki Garmendia Ginea

Is another nursery introducing it for you?: Pepiniere of Olivier Arcelus (France), and collection of Andreas Hönemann (Germany)

When was it discovered and when is it for sale? Discovered in 2005

How did it occur (seedling, sport, controlled cross, wild): Sport of 'Ivalace'

Height: 3-year outdoor plant is of 1 m in height

Leaf shape: leaf blade concave, palmate, 3 to 5 broad lobes with dramatically undulate margins. Edges puckered and crested.

Leaf dimensions 4 cm long x 4 cm wide (average)

Leaf color (above): glossy dark green

Leaf color (below): paler green color than above

Leaf color (fall): crested margins take on a mauve coloration on the abaxial side of the leaf

Leaf base type: cordate Leaf apex type: rounded

Any special pest or disease resistance: no

Genetics/cytology such as tetraploid, triploid, etc: diploid, 2n = 48

Compare and contrast to one existing cultivar close to it: Similar dark color and glossiness of 'Ivalace' combined with outline and very undulate margins like in 'Parsley crested'.

Why is it unique and special? Unique combination of puckered edges and crestation over a shiny dark green concave foliage. Fasciation can produce abnormal growings on stems, petioles and leaves.

Any other information our readers might like: More compact than 'Parsley crested' but bigger than 'Ivalace'. Sunny exposition enhances frilling leaves.



HEDE018 - Hedera helix 'Troll Panaché'

Species and genus name: Hedera helix L.

Cultivar name: 'Troll Panaché' Patents or Breeder's Rights? no

Trademarked (registered, unregistered)? no

Originator's name (and affiliation): Iñaki Garmendia Ginea

Registrant's name (who is submitting this): Iñaki Garmendia Ginea

Is another nursery introducing it for you?: Pepiniere of Olivier Arcelus (France), and collection of Andreas Hönemann (Germany)

When was it discovered and when is it for sale? Discovered in 2004

How did it occur (seedling, sport, controlled cross, wild): Sport of 'Troll'

If found in the wild, name the general region, country, provence, etc: Aretxabaleta village, Gipuzkoa provence, Spain, climatic zone 9

Height: cm tall x cm wide in years 15-year outdoor plant is of 0.50 m in height

Leaf shape: deep palmately dissected into 5 long lanceolate, sometimes falcate and contorted lobes with undulate margins

Leaf dimensions 5 cm long x 5 cm wide (average)

Leaf color (above): green with cream tracery, hatches and freckles that fade to grayish

Leaf color (below): similar to leaf color above

Leaf color (fall): not changing Leaf base type: truncate to cuneate

Leaf apex type: attenuate

Any special pest or disease resistance: no

Genetics/cytology such as tetraploid, triploid, etc: diploid, 2n = 48

Compare and contrast to one existing cultivar close to it: It looks unlike just a variegated form of 'Troll' due to contorted and twisted leaves with edges slightly rolled downwards. Differs from 'Spectre' and 'Kaleidoscope' with leaves dissected to petiole and with more miniature and disheveled habit

Why is it unique and special? Unique combination of twisted ripple-like leaves and picturesque cream coloration Internet link to learn more about it:

Any other information our readers might like: Slow growing and self-branching.



HEDE019 - Hedera helix 'Irina'

Species and genus name: Hedera helix L.

Cultivar name: 'Irina'

Patents or Breeder's Rights? no

Trademarked (registered, unregistered)? no Originator's name (and affiliation): Andriy V. Yena

Registrant's name (who is submitting this): Andriy V. Yena

Is another nursery introducing it for you?: no

When was it discovered and when is it for sale? discovered in 2017

How did it occur (seedling, sport, controlled cross, wild): sport of Hedera helix 'Feenfinger'

Height: miniature, slow growing, self-branching; 5—10 cm per year

Leaf shape: bird foot or star-like lobed with 3-5 linear lobes

Leaf dimensions (specify inches, cm, mm, etc.): 4 cm long x 3 cm wide (average)

Leaf color (above): dark green with narrow white margin

Leaf color (below): similar Leaf color (fall): to not changing Leaf base type: truncate

Leaf apex type: acute

Any special pest or disease resistance: no

Genetics/cytology such as tetraploid, triploid, etc: diploid, 2n = 48

Compare and contrast to one existing cultivar close to it: 'Irina' differs from 'Feenfinger' with narrow white margins of leaf blade.

Why is it unique and special? This is the only variegated cultivar among bird-foot ivies with linear lobes.

Any other information our readers might like: The cultivar is named for Irina Yena, the wife of originator's brother. For indoor and outdoor cultivation.



HEDE020 - Hedera helix 'Hulk'

Species and genus name: Hedera helix L.

Cultivar name: 'Hulk'

Patents or Breeder's Rights? no

Trademarked (registered, unregistered)? no

Originator's name (and affiliation): Yaroslav A. Yena, Andriy V. Yena

Registrant's name (who is submitting this): Andriy V. Yena

Is another nursery introducing it for you?: no

When was it discovered and when is it for sale? discovered in 2015

How did it occur (seedling, sport, controlled cross, wild): sport of Hedera helix 'Green Ingot'

Height: slow growing, self-branching; tree-year plant is ca. 15 cm long

Leaf shape: always asymmetric, obcordate, reniform or wide egg-like, convex, puckered, with irregular veining

Leaf dimensions (specify inches, cm, mm, etc.): 3 x 4 cm (average)

Leaf color (above): bright green Leaf color (below): more pale than above

Leaf color (fall): to not changing Leaf base type: heart shaped

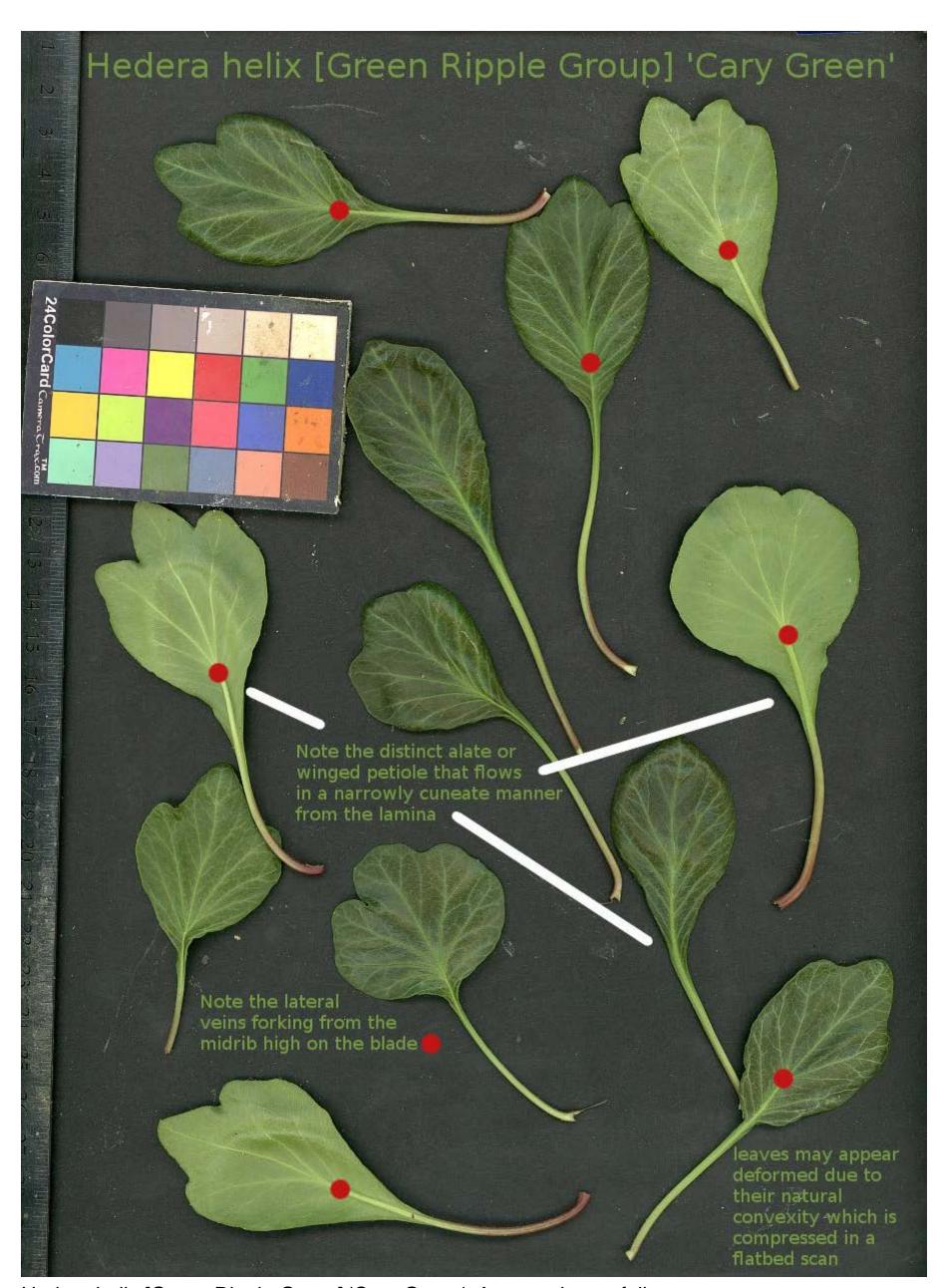
Leaf apex type: rounded or emarginated

Genetics/cytology such as tetraploid, triploid, etc: diploid, 2n = 48

Compare and contrast to one existing cultivar close to it: 'Hulk' differs from 'Green Ingot' with its asymmetric, puckered and irregular leaves with width exceeding length, and especially with irregular veining

Why is it unique and special? One of few cultivars with high variability of leaf shape

Any other information our readers might like: The cultivar is named for one of the most famous fictional character Hulk with leaves resembling his green veined skin.



Hedera helix [Green Ripple Group] 'Cary Green'. A second scan follows:



HEDE021 - Hedera helix [Green Ripple Group] 'Cary Green' - 9-12 in. tall x 10-20 ft. wide, visually dense in part due to the added leaf surface from shallow lobing, compact, moderately self-branching without pruning; leaves medium to dark and glossy green above, paler below and less lustrous, veins numerous and prominant in a pale green to silvery-green above (as is typical of the Group), shallowly 3-lobed, lobes (0.0) 2.4-11.0 mm deep, occasionally unlobed and broadly oblanceolate-elliptic and obelliptic to subovate, most mature lamina distinctly convex to subconvex, often cucullate (hooded) in 1-3 lobate units (one terminal and two laterals), in three dimensions, cupped 4.5-18.3 mm deep or high from an imaginary vertical line from the margins on a table to the upper lamina surface projected a nd spanning above the table. Though often highly cupped but not generally shell-like as defined by "shell type" or fasiated-vein cultivars of the Green Ripple Group, some shoots very polymorphic, blades of some mature lamina with distinct long cuneate base flowing into the petiole, sometimes alate to subalate as a lamina-petiole blend without clear separation nor a well-defined Petiole Attachment Point (PAP), 5.1-8.2 cm long when having a distinct petiole (petiole not included), 7.8-14.1 cm long when petiole included in the long blade with extended or alate base tissue, (2.5) 3.7-4.8 cm wide, apices distinctly obtuse to obtuse-acute, highly rounded compared to most Green Ripple Group sports with acuminate, subfiliform, and narrowly acute apices and often very deep incisions.

The lateral or side lobes are projected forward closer toward the terminal lobe due to common subfasiciation or narrow spacing of secondary veins usually appearing in this cultivar group, the Primary Intervenal Angle (PVA) between the midvein and lateral veins only 5-18 degrees measured at 1cm out (this metric's standard) from their divergence point or sub-PAP whereas in normal, species-like cultivars this angle is 45-90 degrees. The lateral veins leading to the apex of the lateral or secondary lobes often separate from the midvein in the middle of the blade when a PAP is not definable and is sometimes much diffused or branched, sometimes giving the appearance of two lateral veins to form this side lobe. Indeed, the lateral lobes may be viewed as comprising much of the side of the blades, this section much rounded, rarely squared off or flat-sided, with numerous lateral veins and their tertiary branchlets before reaching the apex of that lobe.

It differs from some American plants sold as 'California Fan' (which is now polyclonal) in the convexity of the blade, glossier sheen, consistently shallow lobes only numbering to three (almost never 5), lack of sinus undulations, and the elongated, cuneate (rarely cordate to truncate) leaf base. From shallowly-lobed 'Wonderful' it differs in the visible, paler lateral veins, overall convexity of the blade, and the shallow lobes pushed forward or towards the apex in 'Cary Green' (less to the middle of each side), and almost never showing the frequent truncate base of 'Wonderful'. Origin: Laurence C. Hatch, Cary, North Carolina, sport from an unnamed clone of the

Green Ripple Group, notably distinct for it's shallow lobing, elongated leaf base, and convex-cucullate blades, named for the town in which it first appeared in 2017. Unlike many shell-type or "oddity" sports of Green Ripple Group this clone has the strong vigor typical of 'Green Ripple' and forms a neat, full groundcover of a relatively normal ivy appearance except on close inspection. While polymorphic, it is the most growth rate stable, dense, and vigorous of more than eleven sports of the Group the originator has evaluated in outdoor plantings over 35 years. It is also suitable for general indoor cultivation as a groundcover or houseplant. Cold hardiness is untested but the originator has observed the parent clone 'Green Ripple' to survive over a decade in USDA 4a under snow cover in Syracuse, New York where in some years it approached -10 deg. F. under the warm, white blanket. In USDA 7b in Raleigh-Durham-Cary, North Carolina no winter damage has been observed on 'Cary Green' with night temperatures as low as 11 deg. F. and the plants having only moderate shelter from wind on an open patio, low bark mulching of 1 inch, and no cover otherwise.

Helwingia chinensis PEARLY TWIRLY™ 'Dhhs073' - 5 ft. tall x 4 ft. wide, graceful, leaves much narrower than species (and we have studied numerous clones), broadly linear to linear-lanceolate, new growth light olive green tinged bronze, coming a light to medium olive in summer. Flowers apparently as species. Or: Dan Hinkley. In, Web: <a href="http://www.monrovia.com/our-2018-new-plants-collection/">http://www.monrovia.com/our-2018-new-plants-collection/</a>, accessed 12.27.2017

Heptacodium miconoides TEMPLE OF BLOOM™ 'SMHMRF' - 6-10 ft. tall x wide. Differs from the species as random seedlings in being more compact and earlier in season to flower. So, in: <a href="http://springmeadownursery.com/plants\_details.php?id=29280">http://springmeadownursery.com/plants\_details.php?id=29280</a>, accessed 10.31.2017

HSYR001- HIbiscus syriacus PURPLE PILLAR™ 'Gandini Santiago' - 10-16 ft. tall, columnar (officially "pyramidal" per US Plant Patent), neat. Flowers sterile, semidouble, somewhat open-faced to show marekings, rich purplish-lavender, heavily marked and streaked red to violet-red, each zone orbicular with 7-12 claw-like or striped projections. Or: US Plant Patent #25568 on May 19, 2015 to Marinus van Aart, Oudenbosch, The Netherlands, as chance seedling fiound in Girona, Spain 2002. In: www.springmeadownursery.com, accessed 2.28.2016

HSYR002 - Hibiscus syriacus RUFFLED SATIN® 'SHIMCR1' - US Plant Patent #26222

HSYR003 - Hibiscus syriacus LIL' KIM™ 'SHIMRV24' - US Plant Patent #26374

HSYR004 - Hibiscus syriacus PEPPERMINT SMOOTHIE™ 'DS04PS' - 8 ft. tall x 4 ft. wide, dense, freely branched. Leaves dark green, Flowers fully double, petals and petaloides variable in size, somewhat undulate, mix of pale pink and darker pink shades to some near reddish-purple, effectively all pink from a distance but bicolored on close inspection, early season, uniform, floriferous, long bloom period. Or, pat: US# 26551 on March 29, 2016 to Don Shadow, Winchester, Tennessee as open-pollinated cross.

Source, photo: http://www.greenleafnursery.com/index.cfm/fuseaction/plants.plantDetail/plant\_id/6138/index.htm, accessed 4.6.2016

HSYR005 - Hibiscus syriacus LIL' KIM™ RED 'SHIMRR38' - 304 ft. tall x wide, compact, erect, vigorous, uniform. Flowers 5.75 cm wide, petals rich rose-pink to reddish-purple, distinct dark red eyezone. Leaves dark green. US Plant Patent #27195 on September 27, 2016 to Kyung Shim, Cheonan-si, Korea as part of a breeding program, cross made 2001, assigned to Spring Meadow Nursery.

In, ph: <a href="https://www.greenleafnursery.com/index.cfm?fuseaction=plants.plantDetail&plant\_id=7113&typeID=&whichname=genus">https://www.greenleafnursery.com/index.cfm?fuseaction=plants.plantDetail&plant\_id=7113&typeID=&whichname=genus</a>, accessed 10.5.2016

HSYR006 - Hibiscus syriacus 'Gandini Santiago' - US Plant Patent #25568

HSYR007 - Hibiscus syriacus RASPBERRY SMOOTHIE™ 'DS03RS' - habit dense, compact, freely branching, more compact than 'Notwood3'. Leaves dark green. flowers rich raspberry-pink to pinkish-purple, doublt, numerous petaloids in center, no eyezone generally visible, long blooming period. Or, pat: US# 27196 on September 27, 2016 to Don Shadow, McMinnville, OR as open-pollinated seedling of unnamed parent 2007. Li: Althea `Raspberry Smoothie` Oklahoma Gardening Show Notes. Jul. 13-14, 2013. http://www.oklahomagardening.okstate.edu/show-notes/2013/july-13-14- -2013-show-notes (2 pages). cited by US Patent examiner.

HSYR008 - Hibiscus syriacus 'Carpa' - Flower petals violet, double. Leaves broadly margined yellow (10D) in spring or new tips, fading paler (RHS 157D) Or, pat: US# 24965 on October 14, 2014 to Paul Van Der Kroft, Strathroy, Canada as sport of 'Ardens'

HSYR009 - Hibiscus syriacus FRENCH CABERET® PASTEL 'MINDOUB1' (FRENCH CABERET® BLUSH) - stronger, more vigorous plants than old clone 'Leopoldii'. Flowers fully double, informally so, white streaks in shades from violet-red to pale pink, many pinks shades between these, this rich pigment about 10-40% petal surface but variable. Sterile. Or: Corinne Liquiere, Minier Nurseries, France, introduced 2014, widely sold 2015. Ns: the trademarked name is mostly with the world PASTEL in Europe but has been sold as BLUSH in the US, keeping the same 'MINDOUB1' true cultivar name. As the originator uses the PASTEL name, we accept this here as correct.

HSYR010 - Hibiscus syriacus FRENCH CABERET® PURPLE 'MINDOUV5' - flowers fully double, informal, rich violet-purple, fairly uniform in the one color. Eval: improved over old clone 'Souvenir de Charles Breton'. Or: Corinne Liquiere, Minier Nurseries, France, introduced 2015, widely sold 2016.

HSYR010 - Hibiscus syriacus FRENCH CABERET® RED 'MINDOUR1' - flowers fully double, informal, dark violet-red. Or: Corinne Liquiere, Minier Nurseries, France, introduced 2015, widely sold 2016.

HSYR011 - Hibiscus syriacus SUP'HEART® 'Monomb' - flowers white, quite wavy and undulate, more so than most red-eyed whites, small to medium dark red eye to 10% surface or less, diameter quite large Or: Minier Nurseries, 2012.

HSYR012 - Hibiscus syriacus POLLYPETITE™ 'Rosina' - 3-4 ft. tall x wide, dwarf, globose in time. Flower corolla pinkish-lavender. Leaves dark green. Fruit showing "very low seed set". Web, in: http://springmeadownursery.com/plant/31730, accessed 3.13.2017

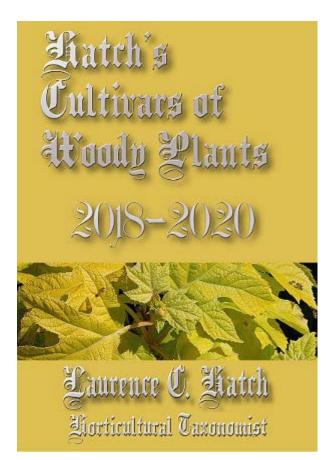
HSYR013 - Hibiscus (syriacus x paramutabilis) WALBURTON'S® ROSE MOON 'WALHIROSMO' 10 ft. tall x 6 ft. wide, robust, upright. Flowers 6-8 in. wide, corolla rich rose-pink, very large violet-red eyezone continuing up into the full petal at 12-15% surface, much larger red eye than most cultivars. Web:

<a href="http://planthaven.com/plant/hibiscus-rose-moon/">http://planthaven.com/plant/hibiscus-rose-moon/</a>, accessed 5.1.2017. Or: Walburtons Nursery, UK, <a href="http://www.walberton-nursery.co.uk/walbertons-introductions/">http://www.walberton-nursery.co.uk/walbertons-introductions/</a>

HSYR014 - Hibiscus syriacus WHITE PILLAR™ 'Gandini vcan Aart' - 5-8 m tall, narrower than species typical, leaves dark green, flower corolla all white, semi-double.

Or: Francesco Gandini. In: 2016. Web: http://www.grootgroenplus.nl/hibiscus-syriacus-gandini-van-aart-white-pillar-2, accessed 5.11.2017

Holboellia brachyandra HEAVENLY ASCENT® 'HWJ1023' - vinous as species, generally to 12 ft. tall if supported, flowers numerous, pure white on contrasting red pedicels, melon-like scent, fruits purple, edible. Or: Dan Hinkley. Web: <a href="http://www.monrovia.com/our-2018-new-plants-collection/">http://www.monrovia.com/our-2018-new-plants-collection/</a>, accessed 12.27.2017



Hydrangea is not registered by OROC but hundreds of cultivars can be found in the CWP.

Editor's Note: Hypericum - there are numerous floricultural cultivars released each year, most for the cut fruit trade. You know...the flowers baskets you send to your grandma on her birthday and she asks what the round green things on twigs are. We are including only those cultivar known to exist in the outdoor, landscape trade and are proven for that culture.



HYPE001 - Hypericum calycinum GOLDEN RULE 'NCHCI' - photo courtesy of and copyright owned by Dr. Tom Ranney, NC State University.



HYPE002 - Hypericum BLUE VELVET™ (Hawksridge Farms). Image copyright owned by and courtesy of www.provenwinners.com

HYPE003 - <u>Hypericum kalmianum COBALT-N-GOLD™ 'PIIHYP-I'</u> - 2-3 ft. tall x 4-5 ft. wide, compact but not overly dense, somewhat open and natural-looking branch architecture, mounding, not splaying out or getting rough with age, not producing open or unkempt centers. Bark cinnamon-brown, exfoliating, semi-showy. Leaves silvery-green, effectively bluish-green as the trademarked name implies, fall tones yelow, red, and orange. Flowers bright yellow, small but numerous heads at the apices, bloom period long as in late spring to earyy summer. US Patent #25318 on Feb. 24, 2015 to Joshua Kardos and Dr. Michael Dirr of Georgia, USA, as open pollinated seedling. assigned to plantintroductions.com.

HYPE004 - Hypericum kalmianum BLUES FESTIVAL™ 'SMHKBF'- 24-36 in. tall x 24-48 in. wide. Leaves ellliptic, distinctly bluish-green to - silvery-blue. Flowers to 1 in. wide, single, very long bloom period.

HYPE005 - Hypericum calycinum 'Fiesta' . .http://www.plantdelights.com, accessed 1.16.2016, new for 2016016

HYPE006 - Hypericum CORNFLAKES® 'Vappzalm' - 50-70cm tall. Rust resistant. Leaves retained in autumn. Fruit brownish-red, calyx lime green, later more black, lasting up to December. Flowers bright yellow.

HYPE007 - Hypericum androsaemum 'Matisse' - (Dr. Tom Ranney, North Carolina State University - follow these links please

HYPE008 - Hypericum androsaemum 'Pollock' (Dr. Tom Ranney, North Carolina State University)

HYPE009 - Hypericum androsaemum 'Picasso' (Dr. Tom Ranney, North Carolina State University)

HYPE010 - Hypericum myrtifolium 'George Girl' - 15 in. tall x 25 in. wide, flowers rosy-red in bud, opening rich yellow, 0.75 in. wide, stamens showy and much exerted, blooms very numerous in spring, sporadic in summer, "heavy again in fall...still going strong for us in mid-November (Plant Delights, Raleigh NC)". Cold hardy in Raleigh NC (USDA 7b), having survived temps to single digits for 16 years. Or: Tony Avent found in wild near Pierce County, Georgia in 2001 "in a moist cutover woodland, teeming with more snakes I've seen in one place since watching Raiders of the Lost Ark".

HYPE011 - Hypericum x inodorum FLORALBERRY™ CHAMPAGNE 'KOLCHAM' - 3 ft. tall x wide, semi-evergreen where hardy, flowers numerous, butter yellow, numerous exerted stamens add to merit, fruit creamy-white and showy in fall. Web: <a href="http://www.monrovia.com/our-2018-new-plants-collection/">http://www.monrovia.com/our-2018-new-plants-collection/</a>, accessed 12.27.2017

HYPE012 - Hypericum x inodorum FLORALBERRY™ CHARDONNAY 'KOLCHAR' - Web: <a href="http://www.monrovia.com/our-2018-new-plants-collection/">http://www.monrovia.com/our-2018-new-plants-collection/</a>, accessed 12.27.2017

HYPE013 - Hypericum x inodorum FLORALBERRY™ PINOT 'KOLPINOT' - Web: <a href="http://www.monrovia.com/our-2018-new-plants-collection/">http://www.monrovia.com/our-2018-new-plants-collection/</a>, accessed 12.27.2017

HYPE014 - Hypericum x inodorum FLORALBERRY™ ROSE 'KOLROS' - Web: http://www.monrovia.com/our-2018-new-plants-collection/, accessed 12.27.2017

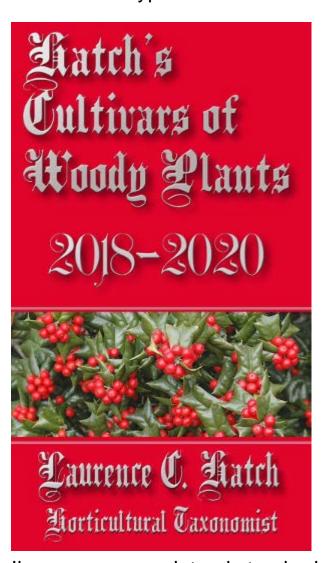
HYPE015 - Hypericum x inodorum FLORALBERRY™ SANGRIA 'KOLSAN' - Web: http://www.monrovia.com/our-2018-new-plants-collection/, accessed 12.27.2017



HYPE016 - Hypericum LITTE MISSTERY™ - leaves broadly margined rich golden-yellow, chimera 30-45% surface, central zone variably layered in olive green to yellowish-green, often forming a 2-3 lobed "tree" or leaf shape, new tips tinged orange to red



HYPE016 - Hypericum SUNNY BOULDVARD - image copyright owned by and courtesy of www.provenwinners.com



Ilex - our nomenclatural standard is the print edition of Dr. Galle's massive tome, <u>The Genus Holly by Galle (book, Amazon)</u> as well as CWP for the newer cultivar. CWP has 475 pages on Ilex alone but this is greatly expanded because of the large number of full-sixed color images taken at the great American holly collections at the U.S. National Arboretum, Bernheim Forest and Arboretum, Ebersole Collection at Sandhills Community College, University of Tennessee Arboretum, Charles R. Keith Arboretum, J.C. Raulston Arboretum, and several others.

ILEX001 - Ilex pedunculosa 'Mountain Mist' (Raulston Arboretum, Instagram) - legacy name, registration requested

<u>ILEX002 - Ilex 'Elizabeth Coleman' (Camellia Forest)</u> - legacy name, registration requested

ILEX003 - Ilex x meserveae SCALLYWAG™ (Monrovia) - legacy name, registration requested

ILEX004 - Ilex vomitoria MICRON® (Garden Debut) - legacy name, registration requested

ILEX005 - Ilex vomitoria EUREKA GOLD™ (Garden Debut) - legacy name, registration requested

ILEX006 - Ilex crenata 'Adorned' (JC Raulston Arboretum) - legacy name, registration requested



ILEX007 - Ilex crenata BRASS BUCKLE™ - - legacy name, registration requested. Image above copyright owned by and courtesy of www.provenwinners.com.

<u>ILEX008 - Ilex opaca 'Winter Sun' (Rare Find Nursery, Holly Ridge Nursery)</u> - we are all used to red and some gold-berried American hollies but here's one of the few that bridge that gap with golden-orange to pale orange fruit colors.

ILEX009 - Ilex vomitoria 'Lances Weeper' - vigorous, penduous. Based on JC Raulston Arboretum, accession #040566 in 2004.

ILEX010 - Ilex verticillata 'Firestorm' - see American Holly Society Registration

ILEX011 - Ilex 'Baltimore Blaze' - see American Holly Society Registration

ILEX012 - Ilex x attenuata 'Blackwater' - 15 ft. tall x 8-10 ft. wide, vigorous, open branched unless heavily pruned, best trained in conical form. Stems purplish at first, later grayish-brown. Seedling of 'East Palatka' but resembling 'Foster No. 1', having more drought and soil saturation tolerance but it. Female clone, fruit heavily. Panhandlegrowers.com, accessed 5.9.2015.

ILEX013 - Ilex cassine 'Dodds Yellow' - 12-15 ft. tall x 8 ft. wide, open, erect. Leaves dark green, toothed. Fruit yellow, showy. Tom Dodd. Panhandlegrowers.com, accessed 5.9.2015.

ILEX014 - Ilex cassine 'Tensaw' - 15-20 ft. tall x 10-15 ft. wide, more heavily branched than some forms, narrowly to moderate pyramidal, crown often rounded with age. Leaves light green, very ovate, darker green with maturity. Panhandlegrowers.com, accessed 5.9.2015.

ILEX015 - Ilex vomitoria 'Miss Allentown' - 10 ft. tall x 4 ft. wide, dense, multi-trunked, narrower, very heavily branched. Leaves smaller, dark green. Fruit small, abundant. female clone. Selected by PGI. Panhandlegrowers.com, accessed 5.9.2015.

ILEX016 - Ilex vomitoria 'South Harbour' - 12-14 ft. tall x wide, very dense, wider as most species form. Leaves dark green, slightly purple in new tips. Selected by PGI from Little Sabine Bay, Pensacola Beach, Florida, USA. Panhandlegrowers.com, accessed 5.9.2015.

ILEX017 - <u>Ilex opaca 'Brotzmans Male'</u> - proven male pollinator. Selected by Brotzman's Nursery, Ohio, USA.

ILEX018 - Ilex x meserveae 'Little Gloss' - 50-150cm tall x 50-100cm wide, slow, dense, shruybby. Leaves bright medium green becoming dark green, very glossy, the

name suggesting a little plant with gloss not a low amount of luster. Male clone, no fruit, good pollinator. Bred by K. Hibbers, Kranenburg, Germany.

ILEX019 - Ilex maximowicziana var. kanehirae IMPALA® (Ilex mutchagara hort.) - 1.5-2.5m tall x 0.5-1.0m wide, erect. Stems purplish, semi-showy. Foliage much as Ilex crenata but a sharper apex in general, 2-3 cm long, elliptic, serrulate, light green bnecoming darker. USDA 6. One reference states "it's correct Latin name is faqr too long and a bit complicated to pronounce and spell, hence its modern trade nmae IMPALA holly". Thus one might propose this a mere rename of the species but in the course of rooting this material it invariably becomes a popular clone of the species, and surely not it's sole representation worldwide, and may be regarded as a typical name names. First seen by us at havlis.cz, accessed 5.16.2015.

ILEX020 - <u>Ilex vomitoria 'Scarlet's Peak'</u> - 20 ft. tall x 3 ft. wide, fastigiate to narrowly columnar, very dense, much narrower than 'Will Flemming', the current and popular evaluation standard for narrow Yaupons, a clone which often splits and sends out odd arms after being injured or flopping in portions in a very ungraceful manner, requiring regular pruning, this new clone with branches also much stronger than this standard. Leaves smaller than species typica (23-25mm long x 9.5-12mm wide), very dark green. Fruit red, sometimes numerous (20-35 per later branch), a female clone, not a male fruitless clone as 'Will Flemming'. USDA 7b-8 hardiness. Said to be replacement for the conferous Italian cypress by some growers. <u>US Plant Patent #20581</u> to Daniel Batson as cross of unnamed seedlings, selected 2005, patent assigned to Unique Plants Inc.

ILEX021 - Ilex crenata LUXUS® GLOBE 'Annys 5' - 60cm tall x 50 cm wide, densely subglobose to mounded, usually wider than tall in photographs, said to combine the best traits of Buxus and dwarf llex. Leaves short, dark green, glossy, mostly flat, about 3-5 small minute teeth per side, holding green color all winter. Ch: to -22 deg. C. Pat: Euro PBR 42629, bred by Andre van Nijnatten of Zundert.

Web, ph: https://www.plantipp.eu/en/Plants/ilex-crenata-luxus-globe-annys-5pbr-2/, accessed 10.11.2016

ILEX022 - Ilex crenata LUXUS® SPIRE 'Annys 4' - 175cm tall x 50cm wide, narriowly pyramidal, strong, spire-like if trained well. Leaves flat, dark green, glossy all year, not discoloring. Sex: male, no fruiting. Ch: -22 deg. C. Pat: Euro PBR 43630 to Andre van Ninjatten of Zundert.

Web, ph: <a href="https://www.plantipp.eu/en/Plants/ilex-crenata-luxus-spire-annys-4pbr-2/">https://www.plantipp.eu/en/Plants/ilex-crenata-luxus-spire-annys-4pbr-2/</a>, accessed 10.11.2016

ILEX023 - Ilex aquifolium RED TIPS™ 'Spek 02' - leaves broadly margined a true gold, chimera 10-25% surface, new growth a very distinct and dark ruby red, very showy, if trimmed regularly these new tips provided a rich tricolor effect unlike most variegated hollies. Pat: US# 26088, Euro PBR 20131968. In: <a href="http://www.newplants.nl/en/planten/i/ilex-aquifolium-red-tips/">http://www.newplants.nl/en/planten/i/ilex-aquifolium-red-tips/</a>, accessed 10.11.2016

Best image: http://globeplanter.com/illustration/catalogue/large/ilexredtipscopie\_0.jpg

ILEX024 - Ilex x meserveae 'David Carroll' - 30cm tall x 27cm wide as young plants, compact, rounded, freely branching, dense, bush, slower than parent 'Blue Princess'.. Leaves bright yellow to yellowish-green (RHS 151C abd 151D, 184A, 176C, 143C)., 3.5-4.0cm long x 2.4cm wide, petioles 6mm long x 1m wide, ovate, apex acute, base obtuse to truncate, margins serrate with short spines. Pat, or: US# 26926 on July 12, 2016 to David Carroll, sport of 'Blue Princess;, found November 2003 on plants in Wayne Township, PA, USA. patent assigned to Spring Meadow Nursery. Google Patent: <a href="https://www.google.com/patents/USPP26926">https://www.google.com/patents/USPP26926</a>, accessed 8.6.2016

ILEX025 - Ilex glabra 'Gold Mine' - sport of 'Shamrock' with golden margins. Or: Gabe Cesarini, US Patent #14233

ILEX026 - Ilex crenata 'Golden Rock' - habit upright, slight open, reasonably compact. Twigs dark, contrasting with bright foliage. Leaves effectively all yellow, in fact suffused yellow over green, mottled gold, and also all gold. In, ph: http://www.newplants.nl/en/planten/i/ilex-crenata-golden-rock/, accessed 10.4.2016

ILEX027 - Ilex crenata 'Glorie Dwarf' - 50cm tall x 70 cm wide (5-6 years), dense, dwarf, compact, somewhat irregular tufted surface, possible Buxus replacement, 30% slower than parent 'Glorie Gem'. Leaves smaller and darker than parent 'Glorie Gem'.Or: Germany as variation of 'Glorie Gem'. In, ph: http://www.newplants.nl/en/planten/i/ilex-crenata-glorie-dwarf/, accessed 10.4.2016

ILEX028 - Ilex aquifolium 'Glanzzwerg' - 10-50cm tall, dwarf, pyramidal with time, leaves very dark green. In, ph: http://www.hachmann.de, accessed 10.6.2016, appears to have been in the European treade for several years.

ILEX029 - Ilex crenata 'Shogun' - Stems light red, slightly showy. Habit generally spreading, wider than tall, subglobose or otherwise trained for hedging or large groupings. Leaves bright green, fairly small, reminding us at least of a Microphylla Group leaf aka 'Helleri' but on a much stronger plant. Or: Frank Schnupper, Germany as seedling. Pat: Euro PBR 2015/1015 In, ph: <a href="http://www.newplants.nl/en/planten/i/ilex-crenata-shogun/">http://www.newplants.nl/en/planten/i/ilex-crenata-shogun/</a>, accessed 10/7/2016. Originator's website:

ILEX030 - Ilex crenata 'Samurai' - i80cm tall, vigorous, very quite size, easily shaped and trained, narrowly pyramidal to columnar, Buxus substitute. Leaves light green, finally darker. Pat: Euro PBR 2015/1014. Or: Frank Schnupper, Germany as seedling. In, ph: <a href="http://www.newplants.nl/de/planten/i/ilex-crenata-samurai/">http://www.newplants.nl/de/planten/i/ilex-crenata-samurai/</a>, accessed 10.7.2016. Originator's website:

http://www.schnupper-baumschule.de/de/Sortiment/Ilex\_Samurai\_und\_Shogun\_.html



ILEX031 - Ilex 'Screen Play' (I. integra x I. latifolia) - 7-9m tall x 3.6-4.6m wide (10 years), dense, well-branched, upright, suitable by vigor for hedge or privacy screen use, growing up to 1.5m a year at first (Georgia, USA). Leaves bright green tinged bronze at first, later dark green, very glossy, notably lacking spinose teeth ("spineless") unlike 'Emily Brunner', margins finely serrate, thus a non-offensive, child-friendly hedge, blades very large as parentage suggests. Fruit rich dark red, very pesistant. Ch: USDA 7.Or, pat: US# 27524 on 1.3.2017 to Toshibhiro, Hagiwara, Japan, as sport of a hybrid of this parent in 199, these seedlings created in 1987. Image above from US Patent Application.



ILEX032 - Ilex x meserveae 'Geers' - Moderate vigor for this hybrid group. Leaves greyish-green, margined creamy-white with a a "dotted transition", chimera about 10-20% surface according to the US patent app images. Sex: male, fruitness, floriferous so may serve as a pollinator. Leaves spinose but not offensive or shar to touch. Pat, or: US PP applied for 1.12.2017 by Peter Geers, Boskoop, The Netherlands, sport of 'Blue Prnce' in 1995. Image above from US Patent Application, a noncopyrighted item.

ILEX033 - Ilex crenata STRAIGHT AND NARROW 'PIIC-I'™ - 6 ft. tall x 18 in. wide, columnar, superior in form over time to 'Sky Pencil' and 'Sky Sentry' per Bailey Nurseries, branches erect, not splitting or splaying as older cultivars, leaves flat (not convex), glossy dark green, good color in winter, male, Or: Plant Introductions Inc. c 2017 Web: <a href="https://www.baileynurseries.com/media/wysiwyg/bn/our-brands/firsteditions/marketing/brochures/downloads/FE-New\_Varieties\_2017.pdf">https://www.baileynurseries.com/media/wysiwyg/bn/our-brands/firsteditions/marketing/brochures/downloads/FE-New\_Varieties\_2017.pdf</a>, accessed 5.10.2017

ILEX034 - Ilex aquifolium 'Holly Girl' - Habit globose, leaves undulate, spinose, about 4-6 teeth per side, large light yellow to cream central (medio-pictum) variegation of about 80-90% surface, margins glossy dark green, transition zone a mix of green shades from pale to dark, sex female, "occasional fruit" has been reported. Or: Stewart McLean, McClean Nursery, Maryland USA. Photo: <a href="http://www.hollysocam.org/image-viewer.htm?gallery/llex-aquifolium-Holly-Girl.jpg">http://www.hollysocam.org/image-viewer.htm?gallery/llex-aquifolium-Holly-Girl.jpg</a>, accessed 5.11.2017

ILEX035 - Ilex 'Carolina Cone' (I. dimorphophylla x I. cornuta) - leaves highly spinose, reduced to 1.5 inches, female with abundant red fruit, but also producing some male or staminate flowers in a spineless phase. Or: Gene Eisenbeiss, US National Arboretum as hybrid. I have seem a similar plant from Gene at the Raulston Arboretum but I cannot connect the two by name.

ILEX036 - Ilex 'Dragon Slayer' - Conical, small tree to large shrub, leaves elliptic-oblong to narrow quadrangular, minimally spinose with (0) 1-2 teeth per side, female, fruit red. Or: US National Arboretum as hybrid, unnamed by them, selected by Hampton Roads Ornamental Research Station, Virginia USA in 1992, the name registered by Mobjack Nurseries with the American Holly Society (HSA 1-12). Web: <a href="http://www.hollysocam.org/image-viewer.htm?gallery/Ftest-holly-2014.jpg">http://www.hollysocam.org/image-viewer.htm?gallery/Ftest-holly-2014.jpg</a>, accessed 5.11.2017

ILEX037 - Ilex 'Dragon Claws' ((I. aquifolium x pernyi DRAGON LADY™)x(I. cornuta x pernyi 'John T. Morris)) - upright, female, fruit red and oblong, leaves with usually 1 long claw-like spinose teeth (more like lobes) per side, sometimes 2, arching like sharp claws from each blade, these larger than parent DRAGON LADY™. Or: Jim Resch, Bear, Delaware, USA as hybrid. Web: <a href="http://www.hollysocam.org/image-viewer.htm?gallery/FDragon-Claws-6-July-2009.jpg">http://www.hollysocam.org/image-viewer.htm?gallery/FDragon-Claws-6-July-2009.jpg</a>, accessed 5.11.2017

ILEX038 - Ilex GOLDEN OAKLAND™ 'Magden' - as OAKLAND™ but leaves irregularly margined light yellow, variable in marginal depth, chimera often at 40-60% of the surface. So, in: <a href="http://southernlivingplants.com/trees/plant/golden-oakland-holly">http://southernlivingplants.com/trees/plant/golden-oakland-holly</a>, accessed 10.31.2017. It appears to be comparable to 'Solar Flare' (aka 'Unique'), a gold-margined sport of OAKLAND™ which has also been offered as OAK LEAF™.

ILEX039 - Ilex glabra STRONGBOX™ 'llexfarrowtracey' - 2-3 ft. tall x wide, mounded to flat-subglobose, very dense, useful as a boxwood alternative in colder areas. Leaves dark green, staying green all year, diseased resistant (unspecified species). So, in: <a href="http://springmeadownursery.com/plants\_details.php?id=46970">http://springmeadownursery.com/plants\_details.php?id=46970</a>, accessed 10.31.2017

ILEX040 - Ilex LUCKY LEAF™ 'EN1' - web: <a href="http://www.gardendebut.com">http://www.gardendebut.com</a>, accessed 12.28.2017

ILEX041 - Ilex x meserveae GENTLE™ 'Annys Dwarf' - 70cm tall x 50cm wide, compact, dwarf, flowers numerous, white tinged pink, leaves glossy medium green, tinged purple in winter, cold hady to -25 deg C. Aw: GrootGroenPlus Bronze Medal 2017. Pat: EUR 20160499. Or: Andre van Nijnatten. In, web: <a href="https://www.plantipp.eu/en/Plants/ilex-meserveae-gentle-annys-dwarfpbr-2/">https://www.plantipp.eu/en/Plants/ilex-meserveae-gentle-annys-dwarfpbr-2/</a>, accessed 12.30.2017

ILEX042 - Ilex opaca 'Pride Yellow' - conical, dense, leaves rich green, fruit canary yellow, abundant, more cold hardy. Or: Orlando Pride.

ILEX043 - Ilex rotunda RED DOT® - Web: https://www.pepinieres-minier.fr/produit/ilex-rotunda-red-dot-r-minzong-cov, accessed 12.27.2017

ILEX044 - Ilex SHARUM'S SHAMROCK™ 'EN2' - web: <a href="http://www.gardendebut.com">http://www.gardendebut.com</a>, accessed 12.28.2017

ILEX045 - Ilex verticillata BERRY HEAVY™ GOLD 'Roberta Case' - 6-8 ft. tall. fruit abundant, rich golden-yellow, amonst the brightest and abundant yellow fruit in the genus. Or: Fred Case, Saginaw, Michigan, USA. Video: <a href="http://springmeadownurserv.com/plant/48350">http://springmeadownurserv.com/plant/48350</a>



ILEX046 - Ilex vomitoria 'Mike James' - 10 ft. tall x 6 ft. wide, openly and loosely pyramidal, a sparse and curious novelty, often in a series of narrow pyramidal towers, very finely textured, leaves much reduced in size, 1.2-2.8 cm long x 0.3-0.6 cm wide, entire, subentire, or lightly toothed, dark green. Ever seen a holly do a spot-on impersonation of a 12 foot tall Aster? Now you have.

ILLI001 0 Illiciium flordanum PARADISE SONG™ 'MONdnis' - 10 ft. tall x 6 ft. wide, leaves dark olive green, Monrovia photo shows gold mottling in the blades but the description does not mention this, flowers dark maroon, anise-scented. Web: <a href="http://www.monrovia.com/our-2018-new-plants-collection/">http://www.monrovia.com/our-2018-new-plants-collection/</a>, accessed 12.27.2017

ILLI002 - Illicium ORION™ 'NCIH2' - 3 ft. tall x 5 ft. wide. Flower tepals nearly white at maturity, stamens more cream colored, very large diameter. Or: Dr. Tom Ranney, North Carolina State University

ILLI003 0 Illiicium SCORPIO 'NCIH1' - 5 ft. tall x 3 ft. wide. Flowers tepals a bright pinkish-red to rose-red, numerous, very large. Or: Dr. Tom Ranney, North Carolina State University

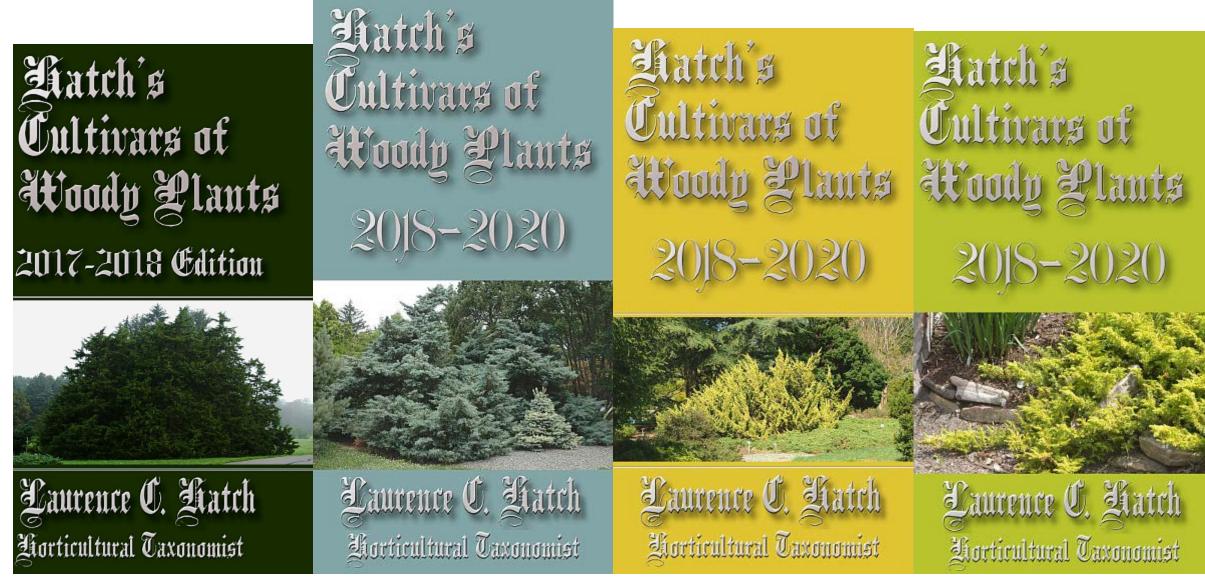
ITEA001 - Itea virginica SCENTLANDIA® 'SMNIVDFC' - 2-3 ft. tall x wide, compact, semi-dwarf, very at all year, flowers abundant, florierous, more cold hardy (reliably in USDA 5), tolerant to -29 deg. F. by one report, extending the species practical landscape range into cold regions, leaves "brighter, more consistent" in fall colorations. Or: Spring Meadow Nursery, intro. c. 2018



JASM001 - Jasminum mesnyi 'Sunglo' is absolutely one of the finest vine-like or long-branching shrubs for rich gold color. It is unfortunately not hardy for many of our readers (USDA 6b-7) but would certainly make a killer conservatory shrub if given strong enough light. It is also strong enough to make a summer outdoor treat if overwintered in a northern greenhouse. It's habit is quite different from FIONA SUNRISE™ and these colors tend to be richer in the new tips and more green with maturity of the leaf.

## JASM002 - Jasminum beesianum 'Marshall Olbrich' (Cistus Nursery)

JASM003 - Jasminum sambac SUMMER SOUL® 'Monhariklia' - 6-8 ft. tall x 3-4 ft. wide where fully hardy, more upright and neater (less loose, vining) than 'Grand Duke'. Flowers larger, very full double (25+ unfused petals), petals and tepals highly congested, center of bloom slightly yellowish to lime, otherwise classic white to ivory of species, fully white at maturity (not as greenish as 'Grand Duke'), highly scented, 3.0 cm wide, 3.9 cm deep. USDA 9 hardiness. Pat, Or: US# 27171 on September 20, 2016 to Eugenia Tzioros, Matthews, North Carolina, found as mutation on plant in Volos, Greece. Web: http://www.monrovia.com/plant-catalog/plants/3953/summer-soul-arabian-jasmine/, accessed 9.26.2016



CWP currently covers more than 1100 different Juniperus cultivars and that number grows almost by the week. Between Juniperus scopulorum and the related J.

virginiana you'll learn about 292 cultivars and their descriptions, histories, and nomenclature. There are also 146 Juniperus chinensis cultivars which does not include the J. x media hybrids. There are also 197 Junipeus communis and 156 of Juniperus horizontalis. I am very proud to have updated the hybrid sections which include J. horizontalis crosses to other species, namely J. x fassettii and J. x ambigens as well as the Hetzii Group which involves three different species. I probably have more good images of junipers that any other genus so these groups are very carefully referenced with detailed visuals from some of the country's best collections, public and private. This is a very hard genus to understand and images from documented collections are always helpful. People write me and say "I know that juniper...just didn't known it's name before". Glad to help.

JUNI001 - Juniperus scopulorum SKY HIGH™ - legacy name, registration requested

JUNI002 - Juniperus virginiana (x horizontalis?) GREY GUARDIAN (Garden Debut) - - legacy name, registration requested

JUNI003 - Juniperus x media LEMON PFIZZ (Plant Haven) - - legacy name, registration requested

JUNI004 - Juniperus x media SEA OF GOLD (Monrovia) - legacy name, registration requested

JUNI005 - <u>Juniperus x media ETERNAL GOLD™</u> - legacy name, registration requested

JUNI006 - Juniperus horizontalis GOLDEN FUTURE™, accessed 4.12.2015

JUNI007 - Juniperus rigida var. conferta 'Osaka Dwarf Blue' - Nurcar.com, accessed January 2013.

JUNI008 - Juniperus x media 'Girard Millenium' - as SAYBROOK GOLD™ but slightly mottled white, a chimeral mutation. Girard Nurseries, sport of their own SAYBROOK GOLD, found 2000, intro, 2014.

JUNI009 - Juniperus squamata 'Green Star' - Girardnuseries.com, 2014, this firm now closed.

JUNI010 - Juniperus STAR POWER™ 'J.N. Select Blue' - 6-7 ft. tall when similar J. chinensis 'Ames', 'Iowa' and J. virginiana 'Caneartii' were just 4-5 t. tall at the same age, hence very vigorous, narrow upright, narrowly ovoid to narrowly pyramidal, dense, rich silvery blue. Leaves highly-divergent, similar to J. communis and juvenile foliage of J. chinensis, many star-shaped green leaves with star-shaped tips appearing, bright stomatal bands very apparent on the upperside. Michael Yanny, 1998 found as possible cross of J. communis x J. chinensis, introduced johnsonsnursery.com, Wisconsin. The images are not consistant with ordinary juvenile J. chinensis forms and so a cross to J. communis is likely.

Li: http://www.deckersnursery.com/wp-content/uploads/2012/01/JNInc\_StarPowerFlyer.pdf

JUNI011 - Juniperus squamata LITTLE JOANNA® - much as (Meyeri Group) 'Blue Carpet' but even more compact, slower, low-spreading and not tufted nor mounded as 'Blue Star' which is much more vertical and decumbent. Eur. CPVO PBR to Boomkwekerijen Gebr. Visser, Netherland, "active: under procedure' when accessed 5.2.2015. This appears to be best available image of it, given the originator (Visser) has no posts (5.2.2015): <a href="http://www.newplants.nl/typo3temp/pics/0173415259.jpg">http://www.newplants.nl/typo3temp/pics/0173415259.jpg</a>

JUNI012 - Juniperus squamata 'Tropical Blue' - very dense, dwarf, compact-mounded, similar to 'Blue Star' but a more silvery-blue tone, sometimes with aqua notes (hence "tropical"), leaves shorter and sometimes slightly twisted about the stem but only moderatley so, not a contorted clone but with nice subtle, irregular leaf twist. Older plants tend to have outwardly cascading shoots than 'Blue Star' but is not a wide-spreading clone in general.

PENDING - Juniperus rigida var. conferta 'Golden Wings' - Habit loosely procumbent to low, irregular decumbent, much as species in Western gardens. Leaves medium green, to pale blush-green, in the foliage mass variegated with a scattered chimera in light to medium yellow, 10-25% of branches and foliage mass. It appears identical to 'Sunsplash' from Brookside Gardens and of US and could be either a parallel mutation or rename. The use of this appears from web searches to concentrate mostly with Polish nurseries (may 2015).

JUNI013 - Juniperus x media 'Blue Chiffon' - elegantly spreading, some limbs erect, tufted long limbs, reminds us of a larger, arching J. sabina 'Blue Tam' overall. Leaves mostly divergent or adult type, bluish-green to light blue. Bluehorizonnurery.com, their own selection, accessed 6.2.2015.

JUNI014 - Juniperus horizontalis 'Copper Harbor' - as 'Bar Harbor' but newer shoots light to medium yellow, older foliage blue and contrasting, due to the parent cultivar's height differences, taller than 'Wiltonii' gold sports and yet shorter than LIMEGLOW, winter coloration a lovely mix of copper, orange, blue, bronze, and gold tones. bluehorizonnursery.com, their sport, accessed 6.2.2015

JUNI015 - Juniperus procumbens 'Peve Spikkel' - compact, typical of the 'Nana' or slower clones in form. Foliage mass mottled 40% of surface in light yellow to cream, most variegated sections large and covering many secondary branchlets.

JUNI0016 - Juniperus virginiana 'High Schoals' - informally pyramidal, nice lacy look due to long shoot tips and good vigor, not overly dense yet neat, reliable green winter color, female clone and known to produce showy blue cones. Or: Ray Tate found outside Watkinsville, Georgia. In: www.boldspring.com, accessed 2.28/2016

JUNI0017 - Juniperus virginiana 'Greenbelt' - broadly pyramidal, bright rich green colors, developed for ease of transplanting, and we have seen as many as 50% of redcedar plantings in commercial settings fail. In: www.boldspring.com, accessed 2.28/2016

JUNI0018 - Juniperus scopulorum 'Woodward' - 20 ft. tall x 2-4 ft. wide, fastigiate, handling "snow loads with grace". Foliage dark green turning more greyish-blue in winter. It appears to be paler than 'Spartan' which while usually sold as a Juniperus chinensis is actually a J. scopulorum when the foliage and cones are subject to taxonomic scrutiny. A comparison of the two is warranted. Web: <a href="http://plantselect.org/plant/juniperus-scopulorum-woodward/">http://plantselect.org/plant/juniperus-scopulorum-woodward/</a>, accessed 3.20.2016

JUNI0019 - Juniperus horizontalis [Plumosa Group] JAZZYJEWEL™ - as the Group but foliage very heavily mottled yellow to gold at about 25-40% of the foliage mass, this being a departure from several known mutants of 'Plumosa' and 'Andorra Compact' which are mostly mottled white to cream in low coverage rates (usually 5-24%).

foliage mass). This clone also appears of have a richer gold chimera color and more massive chimeral coverage the 'Variegata', the species' first known variegated clone.

JUNI0020 - Juniperus scopulorum BURLY BLUE™ - 24 in. tall x 6-8 ft. wide, habit low-mounded to spreading, grafted on standard per Monrovia site but they state "excellent replacement for Blue Creeper Juniper". Leaves richly frosty, blusih-grey. USDA 3. The habit suggests it may be a cross to J. horizontalis (which occurs in the wild within the J. scopulorum range and is well documented as a hybrid to it) or if from cultivation one of many low junipers which can breed to the tall species. In: <a href="http://www.monrovia.com/plant-catalog/plants/5507/burly-blue-juniper/">http://www.monrovia.com/plant-catalog/plants/5507/burly-blue-juniper/</a>, accessed 8.2.2016

JUNI021 - Juniperus (Hetzii Group) 'Izabelin' - as parent 'Hetzii' in silvery-blue, erect-arching, but a sport mottled creamy-yellow, growth 3-6 in. a year. Or: Sami Saidi, Poland, as known as J. x media 'Hetzii Variegata' in post-1959 Latin. Li: Mesterhazy, Z. 2010. Conifer Treasury of Poland. www.conifertreasury.org, accessed 10.3.2016. Ns: the Hetzii Group is not alligned with any one species but is a cross of J. virginiana 'Glauca' and J. x media 'Pfitzeriana', being a tricontinental hybrid of J. sabina, J. chinensis,. and J. virginiana.

JUNI022 - Juniperus x media 'Kiss Mityu' - 4-6 ft. tall x wide, erect-arching, much larger than a typical golden Pfizter clone, foliage rich yellow. Or: Kiss Milhaly, Hungary. Li: Mesterhazy, Z. 2010. Conifer Treasury of Hungary. www.confertreasury.org, accessed 10.3.2016

JUNI023 - Juniperus x media 'Savaria Gold' - spreading Pfitzer type, shoots very lace, slightly open but plant overall quite dense, yellow foliage under rich golden to bright yellow tips, later chartreuse and green by the second year. Photo:

http://ns4.cpanel.hu/~egzota9/tarolo/conifertreasury/ren/Hungarian%20conifers/Juniperus%20media%20x%20Savaria%20Gold%20N%E9meth%20Imre%20%20732.jpg

Web: <a href="http://diszfa.hu/?product=juniperus-chinensis-savaria-gold-arany-terulo-boroka">http://diszfa.hu/?product=juniperus-chinensis-savaria-gold-arany-terulo-boroka</a>, accessed 10.3.2016

JUNI024 - Juniperus chinensis 'Richcrop Yellow' - habit dense, irregularly globobose to globose-pyramidal, foliage juvenile and adult, appears to be of Japonica Group morphology, foliage rich yellow, later a bright green, dark green in the canopy, female strobili abundant. Or: Jozsef Hodi Toth of Hungary collected seded from China, original plant now in the Arizonica Arboretum, Hungary, selected about 2014. Li: Mesterhazy, Z. and J. Hodii Toth. 2014. Conifer Treasury of Hungary 4.0, accessed 10.3.2016. Web, photo:

http://www.sophora.pl/katalog-roslin/juniperus-horizontalis/pigmalion-p435

JUNI025 - Juniperus horizontalis 'Pigmalion' - 20cm tall after many years, miniature to pygmy, dense, tufted, foliage rich blue as parent 'Wiltonii', foliage mostly diergent and juvenile to various degrees, dervied from a sport of juvenile foliage of 'Wiltonii'. It is similar to 'Blue Pygmy', another super slow, pygmy juvenile selection but appears to be of more recent origin, the older clone known from Mr. Neumann of Jeddelph Nurseries, Germany. The origin of this newer clone is undetermined.

JUNI026 - Juniperus chinensis 'Simpaku Fish Tail' - as 'Shimpaku', a dwarf, small-leaved, generally mint green to dark green plant or perhaps cultivar groups, this bonsai clone has more procumbent stems in a fishtail pattern, 4-6 inches a year. In, web: <a href="http://www.stanleyandsons.com/product/jun-4055/juniperus-chinensis-shimpaku-fish-tail.html">http://www.stanleyandsons.com/product/jun-4055/juniperus-chinensis-shimpaku-fish-tail.html</a>, accessed 10.5.2016. Ns: in Japan the name "shimpaku" tends to refer to very old, "pre-bonsai" of no particular taxa collected in the crags of high, revered, ancient Japanese mountains and not the Western concept of a specific type dwarf, mint-green, tiny-leaved, scaly (adult type), semi-irregular form of J. chinensis sold in the bonsai trade that is generally recognized by one common clone, now best considered a cultivar group, and several variations upon it in clonal form. It is very likely the Western 'Shimpaku' came from one of those Japanese collections and likely from a notable bonsai tree or twenty but we have very little clarity as to it's origin. The Shimpaku Group as a whole is related to the 'Plumosa' types for the dwarf habit, small needles, and mint green color but unlike our Western concept of 'Plumosa' the typical 'Shimpaku' is not erect nor arching but a low mounded thing, quite irregular, wider than taller, often by 2-3 times, and quite informal.



The old Morris Arb tree, the oldest known weeping example in the US if not the Western world. Sourced from Cob Cob Nursery in 1935.



The oldest Cornell example from Chase Bros. Nursery 1941 and part of the Great One's (Liberty Hyde Bailey) renowned research and teaching collection called the Conifer Slope at Cornell Plantations.





JUNIPERUS RIGIDA S. & Z.

Wilson gave this plate as his typical J. rigida and some we know today are even more erect, conical, and dense, with fewer outward facing tips. This is clearly not our Weeping Group defined below.

JUNI027 - Juniperus rigida Weeping Group ('Pendula') - habit pendulous, often with long, horizontal arms (secondary branches) from the trunk outward, these may or may be slightly angled up at the apex, in some cases arching up and in other cases quite drooping to the very end, these secondaries 3-6 ft. long, the drooping branchlets below them easily 12-22 inches long, in the manner of Chamaecyparis nootkatensis 'Pendula' or Pendula Group in the widest, least erect or conical variations, with tertiary limbs hanging down vertically or nearly so, forming olive green curtains which please the eye and mind. Leaves rich olive-green, not as bluishgreen or medium green as some more erect versions of the species which show stomatal bands due to the vertical or more erect positioning of the sprays. Older, more shaded, or cold-stunted specimens may have vertically pendulous tertiary limbs just 6-14 inches long. The typical clone in the US is female, bearing numerous waxy, glaucous cones after 10-20 years. There is another clone similar in habit which shows no cones nor does it show male strobili and this requires additional study. The majority of commercial J. rigida sold in the US are of this pleasing, weeping variety while in the wild the typical species in some semi-weeping at the tips and more often conical or erect and pyramidal. Our view of this species is very tainted in the US by the popularity of one or perhaps a few similar, very pendulous clones. The origin of this group and the familiar female clone of it remains unclear. The oldest tree clearly of this variation is at the Morris Arboretum (see image above) and was received Cos Cob Nursery in 1935. There is a gaunt, lonely, and thin tree on the Conifer Slope at the Cornell Plantations which was sourced from Chase Brothers Nursery in 1941. I have viewed many Chase catalogs and not found even the species listed so perhaps the great Dean and Professor L.H. Bailey who built that collection got it as a special favor. If anyone can or will fund a DNA study of these known materials we would grateful and perhaps a cultivar name or two would be in order. The epithet 'Pendula' was not published prior to 1959 and therefore cannot be the basis of a cultivar group. I have previously published this group in Garden Junipers and later Cultivars of Woody Plants but as OROC has a sometimes wider, more general audience this is a good opportunity to register the name with additional clarity and distribution.



JUNI028 - Juniperus x ambigens (J. horizontalis x J. virginiana) Cedarug Group NEW CULTIVAR GROUP among 'Wiltonii' is one of it's more typical phenotype combinations, that being greenish-blue, slightly less frosty than 'Wiltonii', very long, loose, open shoots with small, adult, appressed leaves and far more open than any known cultivar, except perhaps 'Jade River' in the shade. This is the only example I know that is mature in terms of cones, these being small, yellowish, male strobili. This sparse, overtopping of open shoots is very typical what you will find with Cedarugs. This is seedling CR01.



This image shows two of the J. horizontalis 'Wiltonii' x native J,. virginiata seedlings in a very long 'Wiltonii' that is at least 30 years old. Seedling CR03 is similar to CR01 shown above but a tad greener. Seedling CR02 is very curious. It has very short, highly divergent (juvenile, pricky, sharp) needles not unlike a young eastern redcedar seedling, most of which are persistantly juvenile for up to five years or so. It is very rich green and something like a small-needled 'Andorra Compact' (also from J. horizontalis) and I made sure it was not a planting error. It is far more loose and shorter-leaved than anything in the Plumosa Group but slightly suggestive of it overall. Think of it as perhaps a redcedar seedling with some procument to horizontali habit genes.



This is seedling CR04 and it reminds me of the named clone 'Hermit' (also of this same cross) we grew at the Raulston Arboretum in 1982 as part of my Master's Thesis on Juniperus horizontalis cultivars. That collective had over 52 named cultivars and lots of odd sports and such, one of which became the widely sold LIMEGLOW™. The CR04 type Cedarug clearly shows the erect genes of redcedar but carries the pretty frosty blue of 'Wiltonii' and is about as glaucous as it. Yet is has nothing much in common with the juvenile, erect clones like 'Blue Forest'.



Population CR05 here is from a rural BP gas station where the blue rugs are long-established and full of cones. These very gaunt things are clearly at 45 degrees (typical of an erect x prostrate species cross) but are very green like the thousands of Jv's the neighborhood. There may be as many of five of these seedlings and while these are unlikelyk to put any Pfitzers out of a job, it is curious. Again, there is no existing cultivar in the US trade, surely not where this place is buying, like it. And to reward our readership for wandering deep into the print, the first person worldwide who emails me with the subject line Cedarrug, mentioning this offer, will receive a free copy of CWP. Only one prize will be awarded and the offer is void when not permissible or unlawful.



This is CR06, very open and more vigorous than kudzu and much greener than 'Wiltonii'. There is nothing in the North Carolina that could have been confused with it. It has some of the aspects of the old, original 'Plumosa' but that has not been sold for decades in these parts and the foliage is not nearly as divergent as the Plumosa Group. Is this pretty enough for a name? We will see. And of course we need to give them a try in more stable evaluation gardens.



Here's another view of CR06 with it's rich green needles amid it's mother 'Wiltonii' which here is loaded with female cones. How fun and fascinating is this mix of colors and genetics.

Turns out these 'Wiltonii' seedlings, and perhaps a sport of two, are turning up in many states wherever the cultivar has matured. Some of you have written me. I have more images in the CWP of some other interesting material I have found on my trips here and there.

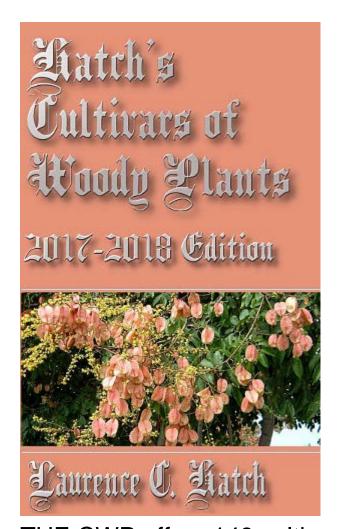
JUNI028 - Juniperus x ambigens (J. horizontalis x J. virginiana) Cedarug Group NEW CULTIVAR GROUP - In 1945 the great botanist Fassett noted (Bull. Torrey Bot. Club 72: 380) that Juniperus virginiana crossed with J. horizontalis in the wild and he called these J. virginiana var. ambigens. Today we form hybrid species names differently so this taxon is best called Juniperus x ambigens. We later found out the two species cross back and forth in the wild in what is called "recurrent introgression". Some of the low-growing garden clones of J. virginiana around today (I'm thinking 'Royo') may belong to this cross (DNA work is needed) and there was one introduced years ago called 'Hermit' from a wild population (if memory serves) in Maine. It was kind of raw and ugly but very blue, never sold well. Some years ago I noticed that old plantings on Juniperus horizontalis 'Wiltonii' in ordinary cultivated locations like grocery store parking lots, universities, gas stations, parks, banks, malls, and abandoned malls often produced regular cones, that is female cones, for that cultivar is female only and dioecious (only one sex per plant) as is the entire genus. They cannot self fertilize to our knowledge. With observations I noted there were very long, unruly, long and arching sprouts (8-24 in. tall) from these plantings and to date I know over 18 beds of origin and about 30 plants. Landscape crews just cut them down into the low 'Wiltonii' canopy. These long sprays are not sports as I originally thought (perhaps high-vigor gibberlin mutants?) but standalone plants, likely seedlings. The only thing which could provide male pollen in these areas is....you guessed it...native and cultivated eastern recedars or J. virginiana. As expected, these seedlings range from near green to bluish-green to emerald-blue and only occasionally near the frosty blue of 'Wiltonii'. Some want to arch up and others want to be very robust but cascade a bit. They are trying to find a way - evolve in cultivation if you will. Their diverse variation

By the way, the male clone 'Bar Harbor' has not as yet produced such hybrids in my realm of observation and it reaching J. virginiana would be a far harder thing. Also beward of finding 'Bar Harbor' plants which get mixed in with 'Wiltonii' in some plantings and could appear like a taller seedling but in fact are clearly referable to this other clone and not nearly so variable in color, vigorous, or long-shooted as the Cedarug Group. They are also planted as rootballs and not loose seedlings. Now with knowledge of more than 30 such seedlings, I am confident these cultivated crossings deserve a name and evaluation of the best seedlings in stable, garden conditions with an much scientific scrutiny as possible. I do not think these most will be ornamental blocklbusters since the trade has already embraced prostrate x conical crosses from J. virginiana 'Glauca' x J. x media 'Pfitzeriana' with vigor and beauty called 'Hetzii' and 'Grey Owl' for many decades now. I'm pretty darn sure the lovely and useful J. virginiana 'Royo' (frosty blue, low spreading mound) is one these creatures and if not surely with the big parent is frost king J. scopulorum, a cross which is known as J., x fassettii (J. scopulorum x J. horizontalis). Some of this new material may become interesting and valuable if we evaluate as many as possible. And yes my friends these will all be US natives for people sensitive to crazy exotic hybrids. Anyone on board? I need folks to propagate, distribute, and give trial to the "Cedarugs". Write me at ornamentals@lycos.com.

JUNI029 - Juniperus chinensis 'Swampscott Gold' - spreading, rich golden-yellow. Or: Brent Markus found as sport. Given the habit of spreading it may prove to be a J. x media sport. In, ph: <a href="http://www.coniferkingdom.com">http://www.coniferkingdom.com</a>, accessed 10.12.2016

JUNI030 - Juniperus procumbens 'Lightning Spot' - foliage heavily mottled in bright yellow, chimera up to 45% surface, some small shoots all yellow. Web: <a href="http://hgeers.nl/assortiment/juniperus-procumbens-lighting-spot/">http://hgeers.nl/assortiment/juniperus-procumbens-lighting-spot/</a>, accessed 5.11.2017

JUNI031 - Juniperus virginiana subsp. silicicola BLUE SPIRES™ 'RLH-JS2BS' - web: http://www.gardendebut.com, accessed 12.28.2017



THE CWP offers 149 cultivars of Kalmia, 18 of Kerria, and 15 of Koelreuteria. For Kalmia we also recommended the genus great pioneer Dr. Jaynes' volumes as well as the following:

- http://www.rhs.org.uk/Plants/RHS-Publications/Journals/Hanburyana/Hanburyan-issues/Volume-4--September-2009/HanburyanaVol4\_03to12\_Kalmia
- http://www.kalmia-society.org/cultivars.php?&lang=gb

KALM001 - Kalmia latifolia 'Ginkona' (Esveld Nursery)

KALM002 - Kalmia latifolia 'Mitternacht' (Esveld Nursery)

KALM003 - Kalmia latifolia 'Red Bandit' - Registered with the Kalmia Society

KERR001 - Kerria japonica 'Chiba Gold' gives interest even when this fine, flowering species is not in gold bloom. In fact, it's true gold flowers contrast it bit poorly and

awkwardly with the limey-chartreuse and pale lemon tones of the leaves. It is best as a misty blast of pale coloration in an other dark or blue border. It's not among the finest gold-leaved shrubs but it is different, fairly new, and rare.

KERR002 - Kerria japonica CAT'S EYE™ 'Shandale' - 2-3 ft. tall, flowers large, showy, golden-yellow as parent 'Shannon', leaves thinly margined white. Or, in: <a href="http://springmeadownursery.com/plants\_details.php?id=52240">http://springmeadownursery.com/plants\_details.php?id=52240</a>, accessed 12.27.2015, as sport of 'Shannon'.

KOEL001 - Koelreuteria paniculata SUMMERBURST™ (J.F. Schmidt)

KOEL002 - Koelreuteria paniculata GOLDEN CANDLE™ (Upshoot) - 35 ft. tall x 4 ft. wide, narrowly columnar. Leacves rich gold in fall

KOEL003- Koelreuteria paniculata 'Beachmaster' - legacy name, registration requested, previously documented in Cultivars of Woody Plants

KOEL004 - Koelreuteria paniculata 'Starhill Compact' Or: Starhill Arboretum. so: http://www.pavia.be/catalogue/, accessed 12.30/2017

LAGE001 - Lagerstroemia BLACK DIAMOND Series, a cultivar group.

LAGE002 - <u>Lagerstroemia PRINCESS HOLLY ANN™ 'GA 0701'</u> - 3-4 ft. tall x wide, semi-dwarf, mounding at first. Leaves copper-red at first, later dark green, purplish-red in fall. Flower corolla rich pinkish-red, similar to common watermelon red cultivars overall, described as "cherry red" but all official show a brighter, more pink shade or red. Cold Hardy to USDA 6 or better. Dow Whiting Hybrid.

LAGE003 - Lagerstroemia PRINCESS KYLIE™ 'GA 0803' - 3-4 ft. tall x wide, semi-dwarf, mounding at first. Leaves grayish-green, undulate margins. Flower corolla rich magenta pink, intense and bold but not too harsh.. Cold Hardy to USDA 6 or better . Dow Whiting Hybrid.

LAGE006 - Lagerstroemia PRINCESS LYLA™ 'GA 0804' - 2-3 ft. tall x wide, dwarf, mounding at first. Leaves medium to dark green, gold in fall. Flower corolla light ot medium pink. Cold Hardy to USDA 6 or better. Dow Whiting Hybrid.

LAGE004 - Lagerstroemia PRINCESS ZOEY™ 'GA 0702' - 4-5 ft. tall x 3-4 ft. wide, semi-dwarf, mounding at first. Leaves very dark green, reddish-purple in fall.. Flower corolla very finely crisped-frilled, pink to rich rose-red, bicolored as the whole inflorescence in genera.. Cold Hardy to USDA 6 or better . Dow Whiting Hybrid

LAGE005 - Lagerstroemia 'Miss Frances' - HortScience 50: 1721-22 (2015) - Refer to http://hortsci.ashspublications.org/content/50/11/1721.full.pdf+html to purchase.

LAGE006 - Lagerstroemia 'MIss Gail' - HortScience 50: 1721-22 (2015). The following USDA document is useful: <a href="https://www.ars-grin.gov/npgs/images/na/docs/Miss\_Gail\_CM223.docx">www.ars-grin.gov/npgs/images/na/docs/Miss\_Gail\_CM223.docx</a>

LAGE007 - Lagerstroemia 'Miss Sandra' - HortScience 50: 1721-22 (2015)

LAGE008 - Lagerstroemia speciosa 'Big Pink' - HortScience 50: 1593-1594 (2015)

LAGE009 - Lagerstroemia BARISTA™ Series - www.waltersgardens.com, accessed 12.26.2015

LAGE010 - Lagerstroemia RED ROOSTER™ 'PIILAG-III" - 8-10 ft. tall, medium-sized, upright. Leaves very dark green, mildew resistant. Flowers a true bright red. Pat: US#23178.

LAGE011 - Lagerstroemia PURPLE COW™ 'GAMAD IX- habit medium-sized for genus. Leaves very dark green. Flowers said to be "deep purple" but all images we have seen show magenta-violet tones and not a true grape purple. Web: <a href="http://gardenersconfidence.com/plants/purple-cow-crapemyrtle">http://gardenersconfidence.com/plants/purple-cow-crapemyrtle</a>, accessed 6.25.2016. Pat: US# 23560.

LAGE012 - Lagerstroemia PINK PIG™ 'GAMAD VIII' - Habit mid-sized for the genus. Flower petals light pink, a clean pastel shade, calyx and stems rich red and contrasting well.

Pat: US# 23499. Web: http://gardenersconfidence.com/plants/pink-pig-crapemyrtle, accessed 6.24.2016

LAGE013 - Lagerstroemia indica 'Jinhuang' - 1.7 m tall x 1.8m wide (11 years), semi-dwarf, stems reddish-purple becoming grayish-brown. Leaves bright yellow (RHS 25A, 1A), some red in new tips, later more green, 3.3 - 5.3 cm long x 2.2 - 3.7 cm wide. Flower corolla deep pink (RHS N57B), panicle 9-18 cm long x 7.5-17 cm wide. Or: Institute of Botany, Jiangsu Prov. & Chin. Acad. Sciences, sport 2003. Li: Wang, Shu'an. 2016. HortScience 51: 595-6. First known cultivar in species to have golden or yellow leaf color.

LAGE014 - Lagerstroemia indica BLACK SOLITAIRE® Group - Leaves dark blackish-purple, near black when mature. registrations of the individual cultivars will be split at a future time.

LAGE015 - Lagerstroemia indica WITH LOVE® VIRGIN 'Milabla' - habit compact, 60cm tall x 40cm wide, useful for flowering shrub borders. Flower corolla pure white, pedical red showy. Leaves dark green. Pat: Euro PBR 20141482. Or: Piero Frangi, Italy.

In, ph: <a href="https://www.plantipp.eu/en/Plants/lagerstroemia-indica-with-love-virgin-milablapbr-2/">https://www.plantipp.eu/en/Plants/lagerstroemia-indica-with-love-virgin-milablapbr-2/</a>, accessed 10.11.2016

LAGE016 - Lagerstroemia ENDURING SUMMER™ RED 'PIILAG-V' -

http://www.gardendebut.com/index.cfm/fuseaction/plants.kwsearchpost/variety/Lagerstroemia/index.htm, accessed 10.12.2016

LAGE017 - Lagerstroemia ENDURING SUMMER™ FUCHSIA 'PIILAG-III' -

http://www.gardendebut.com/index.cfm/fuseaction/plants.kwsearchpost/variety/Lagerstroemia/index.htm, accessed 10.12.2016

LAGE018 - Lagerstroemia ENDURING SUMMER™ LAVENDER 'PIILAG-IV' -

http://www.gardendebut.com/index.cfm/fuseaction/plants.kwsearchpost/variety/Lagerstroemia/index.htm, accessed 10.12.2016

LAGE019 - Lagerstroemia ENDURING SUMMER™ PINK 'PIILAG-II' -

http://www.gardendebut.com/index.cfm/fuseaction/plants.kwsearchpost/variety/Lagerstroemia/index.htm, accessed 10.12.2016

LAGE020 - Lagerstroemia ENDURING SUMMER™ WHITE 'PIILAG-I' -

http://www.gardendebut.com/index.cfm/fuseaction/plants.kwsearchpost/variety/Lagerstroemia/index.htm, accessed 10.12.2016

LAGE021 - Lagerstroemia DRURY CRIMSON™ 'GV1125" - http://www.gardendebut.com/index.cfm/fuseaction/plants.kwsearchpost/variety/Lagerstroemia/index.htm, accessed 10.12.2016

LAGE022 - Lagerstromia 'Ebony Fire' - http://www.gardendebut.com/index.cfm/fuseaction/plants.kwsearchpost/variety/Lagerstroemia/index.htm, accessed 10.12.2016

LAGE022 - Lagerstromia 'Ebony Embers' - http://www.gardendebut.com/index.cfm/fuseaction/plants.kwsearchpost/variety/Lagerstroemia/index.htm, accessed 10.12.2016

LAGE022 - Lagerstromia 'Ebony Flame' - http://www.gardendebut.com/index.cfm/fuseaction/plants.kwsearchpost/variety/Lagerstroemia/index.htm, accessed 10.12.2016

LAGE022 - Lagerstromia 'Ebony and Ivory' - http://www.gardendebut.com/index.cfm/fuseaction/plants.kwsearchpost/variety/Lagerstroemia/index.htm, accessed 10.12.2016

LAGE022 - Lagerstromia 'Ebony Glow' - http://www.gardendebut.com/index.cfm/fuseaction/plants.kwsearchpost/variety/Lagerstroemia/index.htm, accessed 10.12.2016

LAGE023- Lagerstroemia indica MIMIE® FUCHSIA - web: http://www.sapho.fr/gb/trees-and-shrubs/268-lagerstroemia-indica-mimie-fuchsia-dablage01-.html, accessed 12.29.2017

LARI001 - Larix kaempferi 'Stiff Weeper' (Esveld Nursery) - legacy name, registration requested

LARI002 - Larix laricina 'Emerald Curtain' - dwarf, weeping, usually grafted high to cascade down. Found at the Memorial University Botanical Gardens, Newfoundland. Introduced Iseli Nursery 2014.

LARI003 - <u>Larix kaempferi 'Paper Lanterns'</u> - 8-10 ft. tall x 3-4 ft. wide (10 years), narrowly upright, slightly twisted branches and branchlets. Needles showy yellow to orange in fall. Female strobili abundant, appearing as many papery, thin-scaled in dark orange to dark red tones, hence lantern-like in appearance. Selected by Ed Wood.

LARI004 - Larix laricina 'Iron Rod' - vigorous, fastigiate to columnar, foliage bluish-green. In: http://www.coniferkingdom.com, accessed 10.12.2016

LARI005 - Larix sibirica OASIS™ 'Durcarl' - 40 ft. tall x 25 ft. wide densely ovoid to narrowly pyramidal, very neat, much denser and refined for this species. Leaves bright green, holding the green shades longer into the fall than typical seedlings, turning rich amber-gold shades in fall, reliably showy. Ch: USDA 1b. Or: Rick Durand, Prairie Shade Nursery, Manitoba, Canada.

LAUR001 - Laurus nobilis EMERALD WAVE® 'Monem' - 12-15 ft. tall at fist, later to 20-35 ft, compact, pyramidal. Leaves narrower, distinctly linear-lanceolate to narrowly linear-elliptic, very undulate, 7-12 waves per side, apex narrowly acute to acuminate, appearing sharper than typical. In: Monrovia Nursery.

LAUR002 - Laurus nobilis LITTLE RAGU™ 'MonRik' - 6-8 ft. (10 years), smaller. Leaves brighter green, finely undulate, more showy than typical blades, "fabulous fragrance". In: Monrovia Nursery. Ns: name cannot be considered an infringement in any way on the famous pasta sauce maker's name as the term "ragu" is a long-existance culinary term for sauce that contains bay leaves and other herbs.

LAUR003 - Laurus nobilis 'Bay Junior' - compact, slower habit. Leaves medium to wide elliptic, well-scented.

LAUR004 - Laurus nobilis 'Brilliant Times' - stems of reddish at first, contrasting, showy. Leaves bright yellow, new growth faintly tinged red on the margins, later yellowish-green. Or: Japan.

LAUR005 - Laurus nobilis 'Chicester' - leaves mottled and sectored, sometimes marginally spotted white to cream. Leaves narrowly elliptic to linear-elliptic similar to an 'Angustifolia' with a chimera.

LAUR006 - Laurus nobilis 'Goldstein' - leaves slightly undulate, whitish midrib.

LAUR007 - Laurus nobilis 'Hex Brilliant' - leaves irregularly margined white to cream, usually a very thin margin, sometimes mottled too, irregularly tiwsted, very asymmetrical, often appearing deformed as with variegated Ardisia blades.

<u>LEUC001 - Leucothoe fontanesiana WHITEWATER®</u> 'HOWW' - 2-3 ft. tall x 4-5 ft. wide, slightly more compact and slower than species. Leaves thinnly margins white, tinged bronzish-red in the new growth, chimera about 3-5% blade surface, this color sometimes as 2-3 small sectors from the apex into the blade but the sport is largely marginal in position. Or: Bob Head, Head Ornamentals, USD Patent #18396.

LEUC002 - Leucothoe fontanesiana 'Little Flames' (Esveld Nursery) - 50cm tall x 30cm wide, dwarf, compact, suitable as a colorful hedge. Leaves very bright red in new growth, later more medium to pale green. Cold hardy to -20 deg. C. Eur. PBR 20110116 to Boomkwekerij van Opstal, Zundert.

LEUC003 - Leucothoe keiskei BURNING LOVE® 'Opstal50' - 30-40cm tall x 30-60cm wide, low, compact, much smaller and neater than older 'Royal Ruby' with similar new growth colorations. Leaves rich burgundy red to bright medium red in new growth, seemingly longer, more narrower and more acuminate than some specdies variants, blades maturing to rich medium to darek green. Flowers generally not showy. Ron van Opstal, Zundert hybrid, introduced 2013. Eur PBR 20131363.

LEUC004 - Leucothoe keiskei LEAFSCAPE™ BURNING LOVE® "Opstal50' - 30-40cm tall x wide, new growth very bright yet rich burgundy red to dark violet-red. Or: Boomkwekerij van Opstal, Zundert, Eur. PBR

LEUC005 - Leucothoe fontanesiana LEAFSCAPE™ 'Little Flames - leaves sharply acute to acuminate, sharper than species, very intense bright red in new tips, slowing becoming more bright green, thenfinally bright green. Or: Boomkwekerij van Opstal, Zundert, Eur. pbr GRANTED

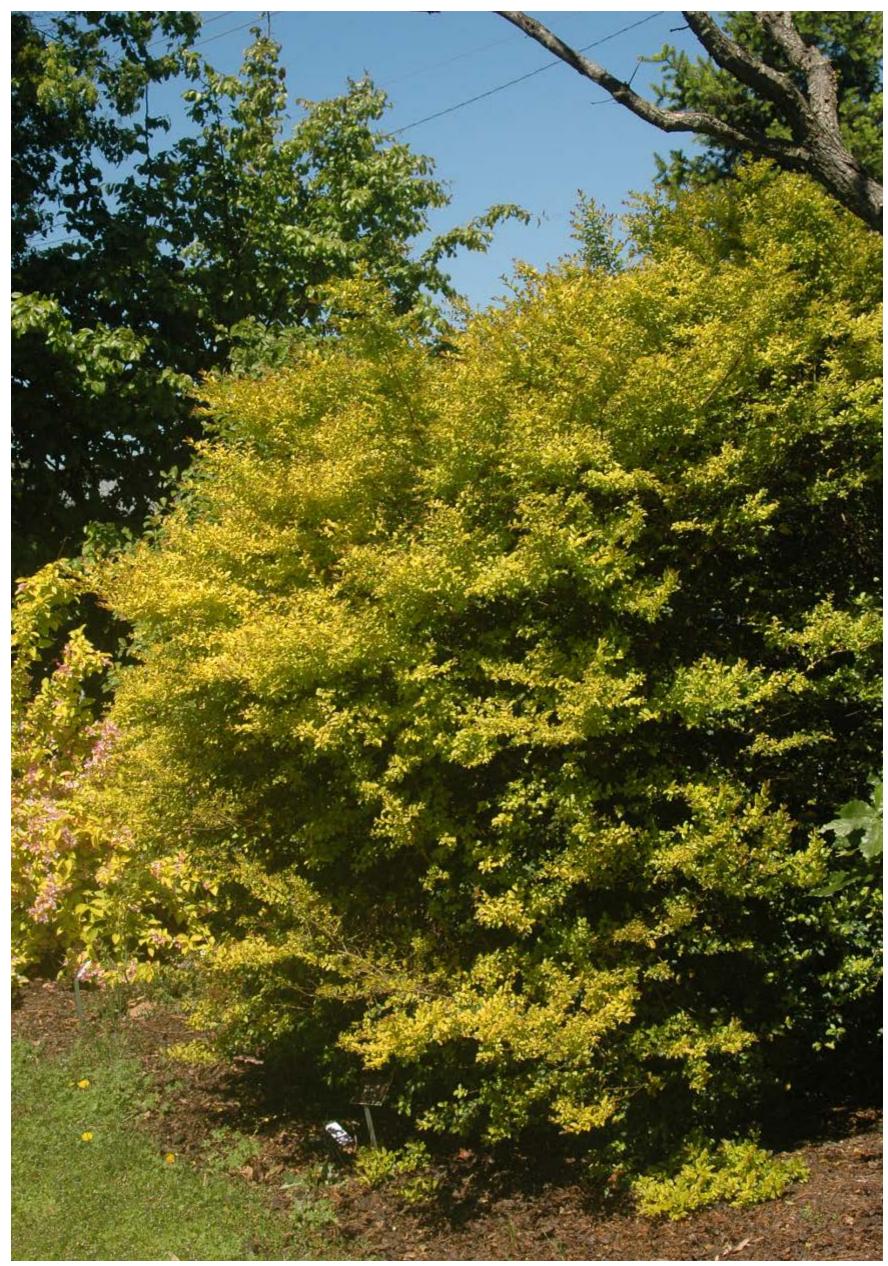
LEUC006 - Leucocthoe keiskei HALLOWEEN™ 'Opstal16' -75cm tall x 25cm wide. Leaves more narrow than typical, giving a finer texture, new growth rich bronzish-orange to dark orange, becoming typical green.Or: Ron van Opstal, Zundert, Netherland, Eur. PNBR granted.

LEUC007 - Leucothoe 'Red Rum' - 16 in. tall x 18 in. wide, erect, ovoid, leaves highly rugose, twisted, irregular, rich bright red at first, later a very dark green.

LEUC008 - Leucothoe axillaris REJOYCE™ 'EJN-1' - compact, neat habit, new growth very bright red to scarlet, later a medium, glossy olive-green to bright olive-green, rich orange and red colors again in fall. Or: Greg Joyce, Edgar Joyce Nursery, New Jersey USA. In: markted by Plants Noveau c. 2019.

<u>LIGU001 - Ligustrum GOLDEN TICKET™</u> (Spring Meadow Nursery) - a super gold privet that is also seedless and thus never L invasive. Bred by Dr. Tom Ranney, North Carolina State University.

LIGU002 - Ligustrum japonicum 'Harmony Dwarf' (Nurseries Caroliniana)



<u>LIGU003 - Ligustrum sinense 'Sunshine' (JC Raulston Arboretum)</u> - image above: copyright owned by and courtesy of Laurence C. Hatch, imaged at the JC Raulston Arboreton on April 28, 2016. Images are not part of OROC Data Sharing.

LIGU004 - Ligustrum japonicum 'Hirose' (Esveld Nursery)

LIGU005 - <u>Ligustrum japonicum ARLEQUIN™ 'Briseize'</u> - 2m tall x 1.5m wide, dense, compact. Leaves much longer, narrower, generally not flat, often slight folded up, more long acute than species typical, distinctly margined cream to light yellow (5-10% surface) tips slightly tingd pink to orange, yet not tricolored.

LIGU006 - <u>Ligustrum japonicum COLUMBINE™ 'Briquinze'</u> - much as 'Briseize' but new growth tips more pink, margins closer to white, having a simillar narrow, sharp folded blade too. As COLUMBINE is a trademark name is does not fall within the cultivar naming guidelines to avoid using a genus name, common or Latin.

LIGU007 - Ligustrum ovalifilium NANTUCKET PRIVET™ 'Grenanpriv' - 10-15 ft. tall x wide, vigorous, semi-evergreen where hardy. Leaves dark greeen, yellowish-green below, pale green overall. USDA 5 hardy. Web: www.gardendebut.com, accessed 5.22.2016, https://issuu.com/gardendebut/docs/2016\_catalog-online/1

LIGU008 - Ligustrum delavayanum 'Verstappen Gold' - Habit strong, vigorous, not dense. best is pruned regularly. Leaves irregularly margined golden yellow, becoming margined a paler creamy-yellow, chimera 30-50% at first, later more 20-35%. In, ph: http://www.newplants.nl/en/planten/l/ligustrum-delavayanum-verstappengold/, accessed 10.4.2016

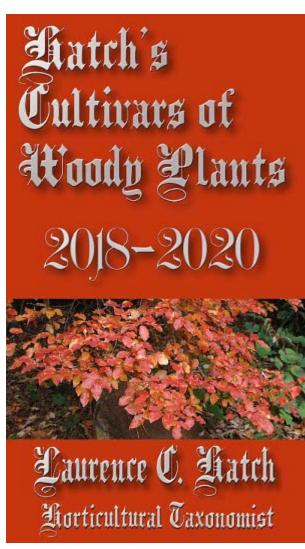
LIGU009 - Ligustrum ovalifolium 'Green Diamond' - compact, 60cm growth a year possible at first, slower but steady, retrained form, generally erect to ovoid, suitable for large hedge. Leaves bright, medium green. Pat: Euro PBR CPVO #20152183 to Josa Selecties BV on September 18, 2015.

LIGU010 - Ligustrum vulgare STRAIGHT TALK™ 'Swift' - 10-12 fr. tall x 2 ft. wide, truly columnar. Leaves dark green. USDA 4. web: <a href="http://www.firsteditionsplants.com/straight-talk-privet">http://www.firsteditionsplants.com/straight-talk-privet</a>, accessed 3.12.2017

LIGU001 - Ligustrum ovalifolium 'Green Diamond' -

http://www.grootgroenplus.nl/uploads/images/nieuwigheden/2015/Ligustrum%20ovalifolium%20%E2%80%99Green%20Diamond%E2%80%99.pdf, accessed 5.11.2017

LIND001 - Lindera umbellata 'Togarashi' - leaves bright yellow, subtle green flecks and spots, this overlaid with orange and red tones in fall.. Registration based on specimen at the JC Raulston Arboretum and documented at https://jcraulstonarboretum.wordpress.com/2013/05/24/pic-of-the-day-lindera-umbellata-togarashi/



CWP now has 105 Liquidambar cultivars as well as 67 of Loropetalum. That is probably the best you can find anywhere. But I always like competition....

LIQU001 - Liquidambar styraciflua 'Fame4ever' - leaves with narrower, longer lobes, thus more deeply lobed in appearance, rich dark red to dark purplish-red in autumn: Or: Roemer, Holland. In: Esveld Nursery among other European firms.

LIQUI002 - Liquidambar styraciflua 'Worby Rose' (Esveld Nursery)

LIQU003 - Liquidambar styraciflua 'Oakville Highlight' - 15m tall x 4m wide, fastigiate. Flemings.co.au, accessed 4.12.2015.

LIQU004 - Liquidambar styraciflua 'Little Richard' - 4m tall, pyramidal, very compact, semi-dwarf to slower. Leaves rich red, sometimes with orange in fall, smaller than species typical, often more narrowly lobed and more coarsely dentate when young. Thought to be of Australian origin.

LIQUI005 - Liquidambar styraciflua 'Summer Storm' - leaves blackish in late summer, remaining so into fall with inner, shaded blades in yellow to red shades

LIQU006 - Liquidambar styraciflua MILESTONE™ - 10-20 ft. tall x 6-8 ft. wide, semi-dwarf, subglose to short ovoid. Fruit absent (fruitless). Warren County Nursery.

LIQU007 - <u>Liquidamabar styraciflua 'Gold Beacon'</u> - Habit slightly slower than species typical. Leaves light green at first, maturing to light yellow to golden-yellow, remaining so all summer, apparently the reverse of 'Shocking Gold' aka 'Shock Gold' which is more yellow becoming green, fall colors red to orange, hence not an anthocyanin deficient sport as many gold trees. Selected by Charles Allen, Green Biz Nursery, Fayetteville, NC USA. heritageseedlings.com, accessed 5.10.2015, asked by originator to market this for him. It is also sold by Forest Farm and Buchholz in 2015.

LIQU008 - Liquidambar styraciflua 'Naree' ('Naree Yellow') - leaves smaller than typical, fewer serrations than 'Gold Beacon' on preliminary evaluation, golden-yellow, fall colors orange, gold, and dark red. Australian origin. Forestfarm.com, accessed 5.11.2015. We found one Aussie grower (Kigi Gowers) in 2015 listing 11 year old stock so it must be at least that old.

LIQUI009 - Liquidambar styraciflua 'Savill Torch' - intense, reliable shades of red, orange, and gold in fall compared to other plants nearby. Based on a notable tree at Savill Garden, Windsopr Great Park, UK as seedling c. 1930-40's. It was removed after damage in 2002 but already grafted and now available in the European trade, not yet seen in US cataogs (May 2015).

LIQU010 - Liquidambar styraciflua 'Black Parking' - fall color a very rich, dark blackish-red.

LIQU012 - Liquidambar styraciflua 'Dark Autumn' - leaves very dark, rich burgundy-red to maroon-red in fall. In, ph: http://www.esveld.nl/htmldiaen/l/lisdau.htm, accessed 10.7.2016

LIQUI013 - Liquidambar styraciflua 'Wintergreen' - leaves about typical=, 5-0lobed, basal lobes tending to be small, medium green with paler veins, petioles mostly yellow tinged red. The name does not imply a "winter green" or evergreen condition. In, ph: <a href="http://www.esveld.nl/htmldiaen/l/liswin.php">http://www.esveld.nl/htmldiaen/l/liswin.php</a>, accessed 10.7.2016

LIQUI014 - Liquidambar formosana 'Jinjue' - Twigs golden-yellow, showy, Leaves golden yellow in spring, later in mottled red shades. Or: Seedling Breeding Center of Ningbo Forestry Bureau, China. Web: <a href="http://en.cnki.com.cn/Article\_en/CJFDTotal-LYKE201510020.htm">http://en.cnki.com.cn/Article\_en/CJFDTotal-LYKE201510020.htm</a>, accessed 5.1.2017

LIND001 - Lindera umbellata 'Togarashi' - leaves bright yellow, subtle green flecks and spots, this overlaid with orange and red tones in fall.. Registration based on specimen at the JC Raulston Arboretum and documented at https://jcraulstonarboretum.wordpress.com/2013/05/24/pic-of-the-day-lindera-umbellata-togarashi/

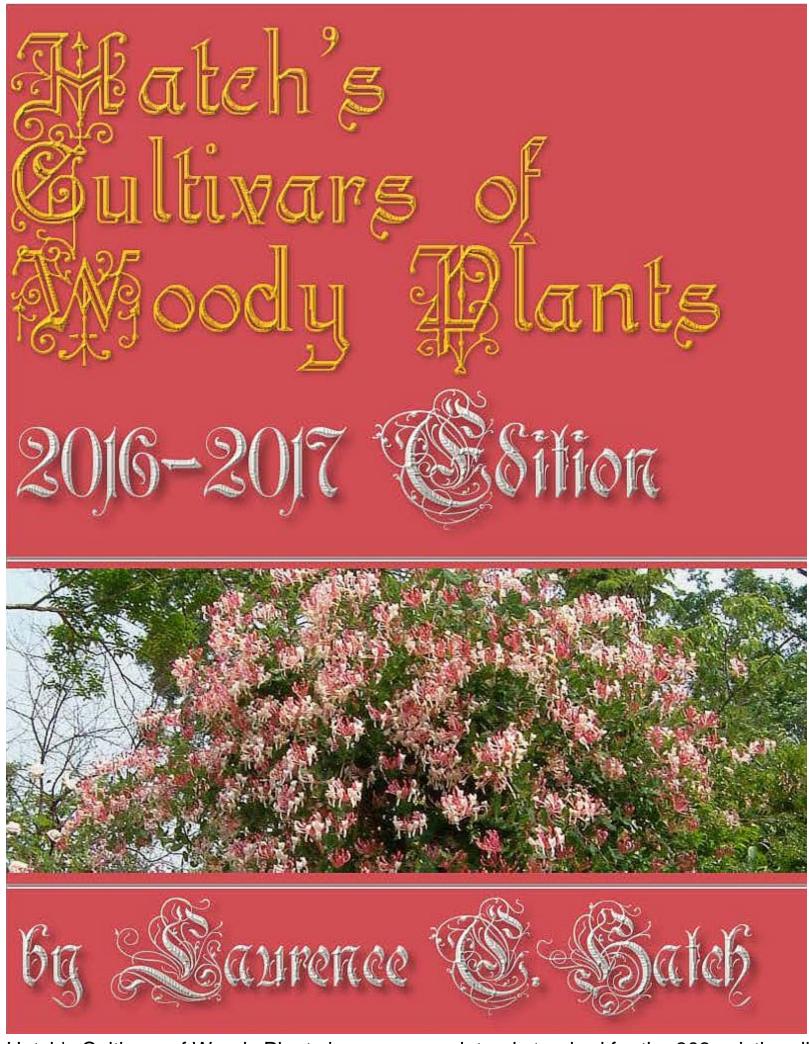
LIRI001 - Liriodendron chinense 'J.C. Raulston' - Leaves 10-14 in. long, very massive for this genus, thicker darker green than some seedling, however more of a medium olive-green, midrib and half of secondary veins a paler, usually yellow shade, silvery-gray below, the dark upper surface contrasting nicely with the reverse quite unlike most anything from L. tulipifera.

LIRI002 - Liriodendron tulipifera EMERALD CITY™ 'JFS-Oz' (PDF data sheet, nursery website, J.F. Schmidt)

LIRI003 - <u>Liriodendron tulipifera 'Edward Gursztyn'</u> - 1.8m tall x wide (parent tree, 15 years), ;like 2-3m tal x wide in some decades, slower, compact to semi-dwarf, distinctly globose, very symmetrical crown, marketed as a street or small yard tree. Leaves close to species dimensions, some smaller, but not with thicker, reduced blades as 'Ardis'. Random seedling at Gursztyn Nursery, Braniewo, Poland.

LIRI004 - Liriodendron tulipifera 'Gursztin' - subglobose, dwarf- so: http://www.pavia.be/catalogue/, accessed 12.30.2017

LITS001 - Litsea populifolia ASIAN ESSENCE™ 'DJHC8059' - 18 ft. tall x 10 ft. wide, pyramidal, deciduous tree (as species), form upright open. Leaves aromatic (as species), decidely rounded, suborbicular, petiole red, reminding me a bit like Fagus sylvatica 'Rotundifolia' or some Cotinus. Flowers yellow in small umbels (as species). USDA 7. Or: Dan Hinkley colected in western Sichuan. In: <a href="http://www.monrovia.com/plant-catalog/plants/5877/asian-essence-litsea/">http://www.monrovia.com/plant-catalog/plants/5877/asian-essence-litsea/</a>, accessed 8.2.2016



Hatch's Cultivars of Woody Plants is our nomenclatural standard for the 303 existing different cultivars in the genus Lonicera.

LONI001 - Lonicera nitida OPHELIA™ 'Brilliame' - 4 ft. tall x wide, low, compact, mounded to spreading, suitable for mixed borders and even rockeries. Leaves lime green to chartreuse, tinged more gold in stronger light, maturiing to medium green, not a classic golden honeysuckle, not burning in strong sun. <u>US Patent #20761</u> to Andre Briant in 2010 as sport of 'Briloni' 2004.

LONI002 - Lonicera sempervirens RED CHARM™ 'Grerdch' - Leaves "clean green", apparently slightly glaucous as the species. Flower corolla rich coral-red to scarlet-red, stamens very yelow to gold, much exerted and complimenting with contrast of hues. Introduced by Greenleaf Nurseries c. 2014.

LONI003 - Lonicera pileata LITTLE LEMON ZEST - details pending.

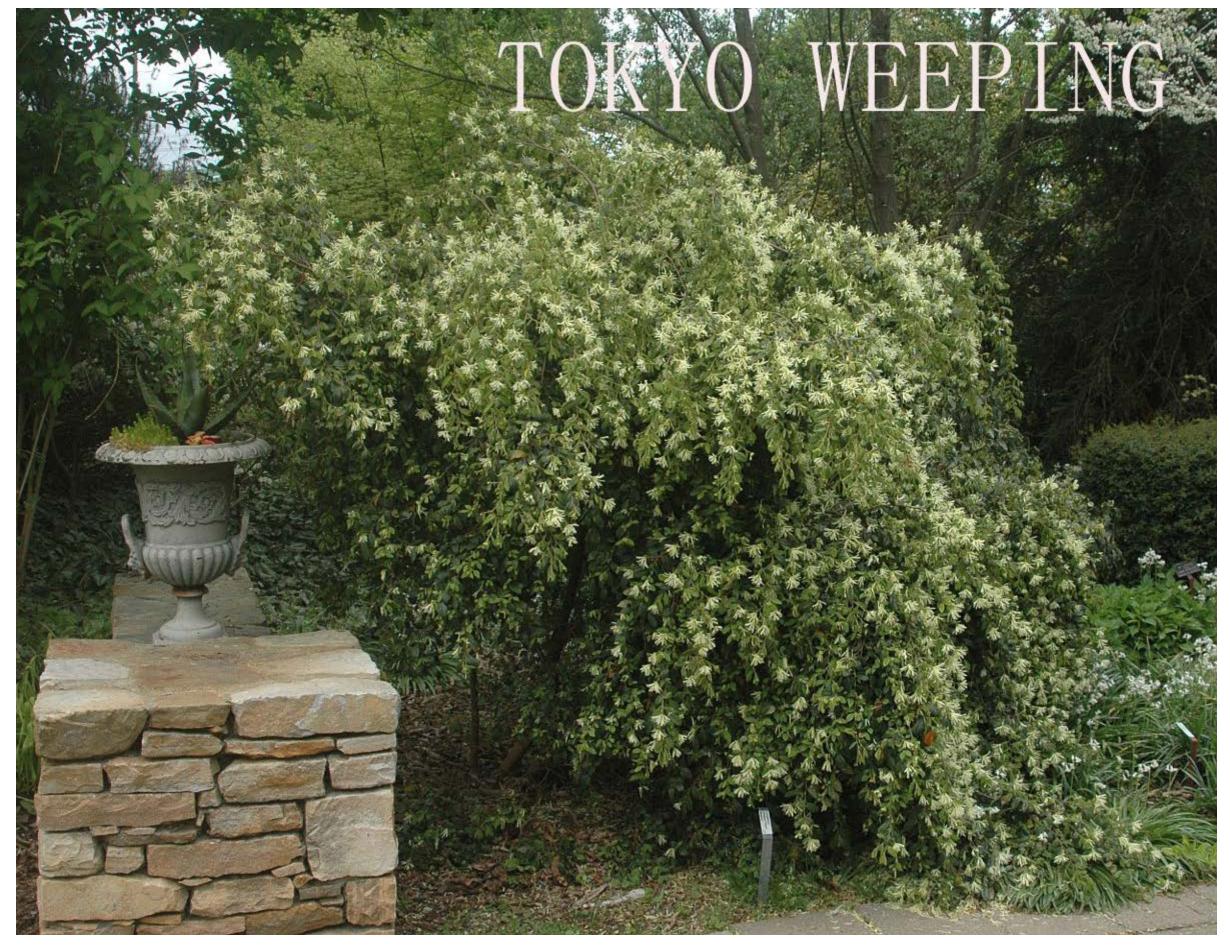
LONI004 - Lonicera CANDY SWIRL 'Inov41' - 8 ft. tall x wide, vinous, leaves dense, evergreen, resistant to blackspot, flowers pink and orange. USDA 5. Or: French Nat. Instit. Agri. Res. (INRA).

LONI005 - Lonicera periclymenum GROUNDHUGGER 'INOV205' - 48-60 in. tall x 72 in. wide if grown as mounded shrub or low maintenance ground cover, flowers white, yellow, and violet-pink at once. US Plant Patent #25702

LONI005 - Lonicera japonica 'Gold Nancy' - leaves uniformly "warm golden on orange-red stems", flowers typical. www.cistus.com, accessed 3.29.2016, their own introduction, sport of species flound there, named for their friend Nancy Goldman of Portland.

LONI006 - Lonicera acuminata 'Green Junkie' - Very vigorous. Flower corolla mostly pink from redder buds, showy. This cultivar is being promoted as a "pollution absorber" to remove urban toxins such as nitrogen dioxide, carbon dioxide, and even particulates due to larger, more hairy leaves in it's genetics. The biomass which absorbs the material is then harvested for other purposes, the main plant continuing to regrow and repeat the cleansing process in spaces where trees cannot scrub the atmosphere. A massive pollution absorbing park aka "green corridor" is planned for Amsterdam with this as one of the central taxa. Pat: Euro PBR CPVO #20151750 on July 24, 2015 tyo Ed Bertoen. Youtube: <a href="https://www.youtube.com/watch?v=Rn8K0RnA9vU">https://www.youtube.com/watch?v=Rn8K0RnA9vU</a>, accessed 10.15.2016

LONI007 - Lonicera japonica PINK APERITIF® 'Crowthlon' - https://www.pepinieres-minier.fr/produit/lonicera-japonica-pink-aperitif-r-crowthlon-cov, accessed 12.27.2017



LORO001 - Loropetalum chinense var. chinense 'Tokyo Weeping' - 4-5 ft. tall x 4-6 ft., weeping to low-spreading, best raised as a high-grafted lant unless you wish a low, procumbent creeper or mound. Leaves medium green, not generally dark as new cultivars. Flowers creamy-white, fairly typical of species in tone and abundance.



LORO002 - Loropetalum chinense var. rubrum PURPLE PIXIE®. This is almost certainly the best of the low, very dark purple mounds and spreaders (this November 2014 at least) in terms of long-term density, tiny textured foliage, and persistance of the color into summer. The jury, at least for me, is out on the flowers as they seem to be sporadic and oddly distributed (magenta as with var. rubrum) on the foliage and not strictly necessary for a good display. The foliage and form are so near perfect here, though sufficiently variable plan t to plant not to be dumb, resemblant domes, flowers are just a glowing icing the already lovely cake. Here is a fine example of very useful Asian genetics made much more interesting and creatively lovely by persistant American breeding over these last 30 years or so since var. rubrum came to our shores.

LORO003 - Loropetalum chinense var. rubrum 'Plum Glamorous' - shorter, compact. Leaves very dark plum-purple (187B). Fl;ower tepals bright plum-pink (RHS 187D), not magenta. Plant Growers Australia, intro. 2012, as cross of 'China Pink' x 'Daybreak's Flame' in 2007.

LORI004 - Loropetalum chinense GARNET FIRE™'sPg-3-017' - 4-5 ft. tall. Leaves dark burgundy-purple from maroon red tips, color lasting all summer. Flowers reddish-magenta to reddish-pink, not hasrsh as some magenta clones. In: Greenleaf Nursery

LORI005 - Loropetalum chinensse 'Cherry Blast' - 6 ft. tall x wide, vigorous yet dense over time. Leaves dark purplish-red. Flowers near true cherry red. (Greenleaf Nursery)

LORI006 - Loropetalum chinense 'Burgundy Blast' 6-8 ft. tall, outward-arching, vigorous. Leaves tips red to burgundy, becoming greenish-red, then finally reddish-green or green suffused red shades, one of the most green leaves known in a magenta-flowered clone. Flowers rich magenta-pink to hot pink, very numerous, covering branches, highly floriferous, giving a contrast og green and magenta like few other Icones. In: Greenleaf Nursery)

LORI007 - Loropetalum chinense JADE CONFETTI™ 'DSNH 1206' - 6-8 ft. tall x 4-6 ft. wide. Leaves palish green, shades of jade, sometimes suffused a paler green over medium, certainly not dark green under foliage is very mature, being a brighter foliage mass than modern dark green clones. Flowers white in dense heads, something like confetti clusters, these rarely open as species and most white cultivars, sometimes appear tufted. - In: Greenleaf Nursery

LORI008 - Loropetalum chinense 'Shang-Green' - 60cm tall, habit erect, dense, remains neat leaves green and smaller than typical, denser and more erect than 'Shang-White'. Or: US PPAF on 2.11.2016 to Robert E. Lee, Independence, Louisiana

LORI009 - Loropetalum chinense PURPLE DAYDREAM™ - 2-3 ft. tall x 3-4 ft. wide, mounded, dwarf, compact. Leaves dark maroon-red. Flower reddish-magenta. In: Southern Living Plant Collection, intro. 2016

LORI010 - Loropetalum chinense RED DIAMOND™ 'Shangri-Red' - 6 ft. tall x wide, "mid-sized" introduction, compact. Flowers "reddest blooms of all cultivars...deep, vivid red" (Southern Living). Leaves rich dark burgundy, purplish-red, color held all season, appears to have a semi-glossy finish. web: <a href="http://southernlivingplants.com/new-introductions/plant/red-diamond-compact-loropetalum">http://southernlivingplants.com/new-introductions/plant/red-diamond-compact-loropetalum</a>, accessed 3.12.2017

LORI011 - Loropetalum chinense var. rubrum PLUM CUTIE™ 'PIILC-III' - 4.5 ft. tall x 7-8 ft. wide (years), mounded, compact, looser than CRIMSON FIRE per Dirr, <a href="http://www.plantintroductions.com/loropetalumchinenseandvarrubrumchecklist.html">http://www.plantintroductions.com/loropetalumchinenseandvarrubrumchecklist.html</a>, flower tepals near true red, leaves rich reddish-purple, holding color slighter longer than CRIMSON FIRE per Dirr. Or: Plant Introductions Inc., intro by HGTV

LORI012 - Loropetalum chinense ROSY BABY™ 'PIILC-IIII' - 28 in. tall x 50 in. side, low-mounded, compact, dense, eaves dark plum purple, glossy, flower tepals pink. Or: Plant Introductions Inc., Georgia, USA

LORI013 - Loropetalum chinense 'Blonde 'n' Gorgeous' - web: http://www.pma.com.au/Plants/Plant.aspx?plant\_id=2144398790, accessed 12.27.2017

LORI014 - Loropetalum chinense 'Flame 'n' Gorgeous' - web: http://www.pma.com.au/Plants/Plant.aspx?plant\_id=2144398791, accessed 12.27.2017



LORI014 - Loropetalum chinense JAZZ HANDS™ VARIEGATED - image copyright owned by and courtesy of www.provenwinners.com

MAAK001 - Maackia amurensis MaacNIFICIENT® (J.F. Schmidt) - 30 ft. tall x 22 ft. wide, upright-vase form, decidely more upright than typical (globose to subglobose-spreading), most vigorous clone known to J.F Schmidt in their many years in tree growing and selection. Leaves green with silvery tints (apparently species typical). Cold hardy to USDA 3.

Magnolia - our nomenclatural reference is the newly updated database of the American Magnolia Society which is now a stellar, very detailed work. 'Bought time.

MAGN001 - Magnolia 'Fancy Dude', a gold-margined 'Big Dude' (Rare Find Nursery)

MAGN002 - Magnolia 'March Til Frost' (Rare Find Nursery)

MANG003 - Magnolia laevifolia 'Free Spirit' (Cistus Nursery, their 2013 introduction, still very rare)

MAGN004 - Magnolia 'Ginter Spicy White' ((M. tripetala 'Bloomfield' x Magnolia R20-1 (M. sieboldii x M. ashei)). Flowers tepals near white, fairly flat, narrowly obovate to broadly elliptic, rich lemon-mint scent of the spicy variety, Intro. Lewis Ginter Bot. Gard., Richmond, Virginia, USA c. 2012, bred by Bill Smith bef. 2010. To learn more about Bill's Magnolia breeding please view these videos:

MAGN005 - Magnolia grandifolia PURPAN® - very vigorous, said to be fastest clone known in Europe, up to 50cm a year growth once established. Leaves thinnly rusty-tomentose below. Flowers 20-24cm wide, very well scented. While this name is new (about), it is said to be based on a vigorous clone from France known since 1735 in Toulouse, proving cold hardy over decades. The derives from a well-known French college of the same tree where and they feature the cultivar on their school website as Tree of the Year 2013. Their School of Agriculture registered the trademark. We currently believe this clone to more than a historical named stock (forbidden by the ICNCP) from a famous tree of no horticultural merit. It's vigor and large flowers along with cold survival suggest it does have potential garden merit and is not merely a name fro a famous tree.

MAGN006 - Magnolia 'Canary Charm' - 8-10 ft,. tall x 6-8 ft. wide (10 years). Flowers numerous, "consistent heavy bloomer each year", tepals light to light-medium yellow, paler yellow in warm weather, more dark on cold days, nicely scented. USDA 4, floral bud quite cold resistant. - Or: Dennis Ledvina as cross of M. acuminate x 'White Rose'. In: www.songsparrow.com, accessed 3.29.2016

MAGN007 - Magnolia 'Sunset Swirl' 10 ft. tall x 8-10 ft. wide (10 years). Flowers large, well-scented, tepals appearing to be a blend of cream, pink, and yellow,

sometimes with a salmon-pink look overall. in close inspection a creamy to yellow tepals very finely flecked and suffused in dark pink shades. irregular tulip form becoming a wide, swirling pinwheel of tepals. Or: David Ledvina, cross of 'Pink Royalty' x 'Daybreak'. In: www.songsparrow.com, accessed 3.29.2016

MAGN008 - Magnolia floribunda 'Fansipan Furry' - Leaves "wonderful reddish palmate foliage", later bronze, and finally green. Flowers white, aging to pink. In, or: www.crug-farm.co.uk, accessed 2.16.2016 as FMWJ13340, their own selected clone.

MAGN009 - Magnolia MERCURY<sup>TM</sup> 'NCMX1' - 25 ft. tall x 15 ft. wide, habit refined, upright, pyramidal, a true tree, strong central leader, suitible for street or specimen use. Flowers very late, up to a monmth after M. x soulangeana, avoid late spring frost damage, very large, tepals long, obovate, strap-like, reddish-magenta to near red in bud, opening more bright reddish-pink shades on the reverse, paler pink shades on the inside, eventually maturing to bright lavender-pink as the flower expands to show more of the paler inner tepal colors. Leaves dark green, clean in appearance, new growth often tinged purple to red, midribs paler and yellowish-green, adding some merit, certainly a very dark tree when in leaf only. Or: Tom Ranney, NC State University. In: J.F. Schmidt and Son Nursery, <a href="http://www.jfschmidt.com/pdfs/mercurymagnolia.pdf">https://www.jfschmidt.com/pdfs/mercurymagnolia.pdf</a>, Web: <a href="https://www.ces.ncsu.edu/fletcher/mcilab/introductions/mercury-magnolia.html">https://www.ces.ncsu.edu/fletcher/mcilab/introductions/mercury-magnolia.html</a>.

MAGN010 - Magnolia virginiana GREEN MILE™ 'MVHH' - habit more erect, neater, evergreen, flowers most of summer. Leaves more glossy than some clones and appears more sharply acute as well. Or: Alex Neubauer, Hidden Hollow Nursery, Tennessee.

MAGN011 - Magnolia kobus MARACZI 'Isis' - 5-10 m tall x 2-3 m wide, narrowly erect, new twigs more yellow, showy in winter. Leaves rusty-colored becoming green. Flowers at 3-4 years, much as species with 6 tepals in pure white, stamens pink. Pat: Euro #29997

MAGN012 - Magnolia sieboldii 'Pride of Norway' - 15 ft. tall x 10 ft. wide. Flowers down-facing as some species variants, 9-10 tepals, substantial feel (perhaps thicker tepals), white as species but larger (up 6-7 inches), stamens distinctly dark pink. Or: Dr. August Kehr, self of Genesis', named in honor Norwegian plantsman Olav Kalleberg. Gen: thought to be a polyploid but tested for diploid.

MAGN013 - Magnolia sieboldii 'White Flounces' - flowers an a open double, flat at maturity, perhaps 20 tepals or more. In: Harry Heineman, Massachusetts, USA.

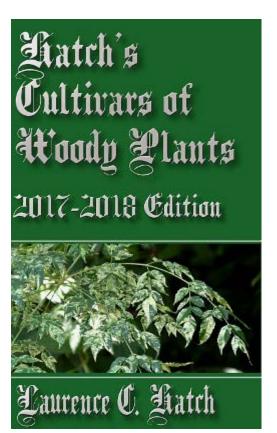
MAGN014 - Magnolia liliiflora 'Raven' - Flower tepals very dark, rich purple, more white inside, lemony scent. or: Korea. web: <a href="http://www.panglobalplants.com/plants-for-sale/shrubs/M/4/">http://www.panglobalplants.com/plants-for-sale/shrubs/M/4/</a>, accessed 3.12.2017

MAGN014 - Magnolia sprengeri 'Marwood Spring - Flower tepals dark reddish-purple outside, creamy-white tinged purple inside, to 15cm wide, floriferous. Or: Marwood Hill, Devon, England.

MAGN015 - Magnolia stellata CRAZY LADY™ 'KLMXX' - flowers numerous, tepals near white, "uniquely and alluringly twisted". Or: Roy Klelm as open-pollinated M. stellata 'Jane Platt'. In: <a href="http://www.songsparrow.com">http://www.songsparrow.com</a>, accessed 12.28.2017, New for 2018

MAGN016 - Magnolia figo (Michelia figo) 'Stellar Ruby' - 4.6 m tall x 1.5-1.8m wide (10 years), narrowly and densely pyramidal, not sprawling, wide nor irregular as many M. figo, vigorous flowers abundant, 3-5 per lateral branch, lasting 4-5 days, 6cm wide, buds RHS 146C and 151B flkushed N79C, opening to RHS N79B and C, more floriferous so than parent varieties or 'Purple Queen', rich ruby-red to near purple, darker than 'Purple Queen', fragrant, blooming well on trees of a young age, petals 3 per flower (plus 3 petaloid sepals per whorl), 2.5cm long x 09.cm wide, star-like in shape, non-overlapping, cupped flower overall, leaves dark green, evergreen, cold hardy to USDA 7 as an evergreen taxon, more cold hardy tha M. figo 'Purple Queen'. or, pat: USPP# 29777 on 30 October, 2018 to Pat McCracken, Zebulon, North Carolina, cross in 2004 of M. figo var. crassipes x M. figo var. skinneriana, selected in 2010.

MAGN017 - Magnolia officinalis 'Wulin' - 4-6m tall (species 6-10m), smaller, erect, neat, evergreen to semi-evergreen (species more deciduous), floral tepals pink (species typically white to cream) in bud, pink with a cream base at maturity, filaments deeper, "oxblood red", entire flower 7.6-10.2cm wide (9.2-14.6cm in species), leaves more leathery, petiole more narrow, blades 15.2-19.5cm long x 6.2-8.5cm wide (species there 22.5-44.5 cm long x 14.5-23.8cm wide). Or: Yi Wu, and others, Central South University of Forestry and Technology, Hunan, found as superior tree among seedlings in winter 1996, named for it's high ornamental qualities.



As of late 2018, CWP now has 94 different Mahonia, 48 Metasequoia, 12 Melia, 25 Morella/Myrica, and 105 Morus both ornamental and edible, and 43 Myrtus. I had guessed there were 50 or so Mahonia out there but was only about half right!

MAHO001 - Mahonia BLACKFOOT® 'Bokrafoot' - 60cm tall, ground cover function, very compact. Flowers in dense heads, yellow, very showy. Leaves evergreen, dark glossy dark green, purplish in winter. Or: bred from M. repens and much improved from the species typical.

MAHO002 - Mahonia SIOUX® 'Bokrasio' - 60 cm tall, low-spreading. Flowers densely formed in golden-yellow panicles. Leaves dark green, glossy, purple tinged in

## winter.Rust resistant. (Esveld Nursery)

- MAHO003 Mahonia 'Soft Touch' legacy entry, previous described.
- MAHO004 Mahonia confusa INDIGO FLAIR™ 'S-fg-3-018' 3-4 ft. tall x wide, compact, subglobose. Leaves bluish-green. Flowers, fruit abundant. Web: www.gardendebut.com, accessed 5.22.2016, https://issuu.com/gardendebut/docs/2016\_catalog-online/1
- MAHO005 Mahonia 'Marvel' flower heads very large in massive whorls, typical yellow. Leaves dark green, notably "frond-like", blades appear to be somewhat short and narrow from the images. In: Southern Living Plant Collection, intro. 2016.
- MAHO006 Mahonia 'Pans Peculiar' (M. declouxiana x M. japonica) leaves short, congested, arch down in distinct units or hummocks. Flowers light yellow, nicely scented. web: http://www.panglobalplants.com, accessed 3.12.2017
- MAHO007 Mahonia eurybracteata SWEET WINTER® 90-120 cm tall, compact, dense, leaves narrow as species, same ferny look without harsh spinose teeth, widely spaced, dark green, racemes large, lightly scented, arching-spreading, flower corolla yellow to yellowish-green, fruit blue to black, showy. Said to be less incised in the blade, these more twisted or curved than 'Soft Caress' which derives from the same species, also taller than 'Soft Caress' in time. The two are an obvious pair for comparative, same site evaluations. <a href="https://www.pepinieres-minier.fr/produit/mahonia-eurybracteata-sweet-winter-r-minganpi-cov">https://www.pepinieres-minier.fr/produit/mahonia-eurybracteata-sweet-winter-r-minganpi-cov</a>
- MAHO008 Mahonia repens DARKSTAR® 'MonRWS' 18 in. tall x 48 in. wide, mounded, spreading as species, leaves rich, dark purple, thin red midrib, showy yellow flowers in spring, numerous fruit of bluish-black. Web: <a href="http://www.monrovia.com/our-2018-new-plants-collection/">http://www.monrovia.com/our-2018-new-plants-collection/</a>, accessed 12.27.2017
- MALU001 Malus AMERICAN SALUTE™ 'Amsalzam' 18 ft. tall x 10 ft. wide, upright, not spreading wid with old age, forms high calipers in nursery fast than most other crabs, flower corolla rose-red, leaves dark maroon to dark green, fruit cherry red, 3/8 in. wide, persisting longer, hardy to USDA 4, high pest resistance. Or: Lake County Nursery, Perry, Ohio, USA.
- MALU002 Malus AMERICAN SPIRIT® 'Amerspirzam' 15-18 ft. tall x wide, globose, flowers single, corolla rose-red, leaves green, fruit 0.5 in. wide, bright cherry red, highly persistant, hardy to USDA 4, considered a replacement for the older 'Radiant' and similar clones. Or: Lake County Nursery, Perry, Ohio, USA.
- MALU003 Malus AMERICAN TRIUMPH™ 'Amertrizam' 20 ft. tall x 10-12 ft. wide, columnar, erect, recommended as single trunk or clump-form production, flowers single, corolla rich pinkish-red, dark burgundy stamens intensify the color effect, fruit dark burgundy-red, leaves reddish-purple, hardy to USDA 4, high disease resistances (not specificed). Or: Lake County Nursery, Perry, Ohio, USA.
- MALU004 Malus CINDERELLA® 'Cinzam' 6-8 ft. tall x 5 ft. wide, dwarf to semi-dwarf, very dense, compact, ovoid, erect, flowers single, white from reddish buds, fruit 3/8 in. wide, golden-yellow, leaves green, hardy to USDA 4.Disease and salt tolerant. suitable for small properties and large containers. Or: Lake County Nursery, Perry, Ohio, USA. In: widely distributed by Monrovia Nurseries..
- MALU005 Malus sargentii 'KNI S-1' and also as 'Pendula', a post 1959 invalid Latin name. 2-3 ft. tall x 4-6 ft. wide as grafted, horizontalis to weeping, often in a flat moundOffered by http://www.klynnurseries.com, 2013 Catalog/No Pricing, accessed 2.17.2016, their own introduction
- MALU006 Malus sargentii TINA'S BLUSH™ 'KNI B-1' Offered by <a href="http://www.klynnurseries.com">http://www.klynnurseries.com</a>, 2013 Catalog/No Pricing, accessed 2.17.2016, their own introduction
- MALU007 Malus sargentii TINA'S CHARM™ 'KNI B-6' Offered by http://www.klynnurseries.com, 2013 Catalog/No Pricing, accessed 2.17.2016, their own introduction
- MALU008 Malus sargentii TINA'S RUBY™ 'KNI B-6' Offered by http://www.klynnurseries.com, 2013 Catalog/No Pricing, accessed 2.17.2016, their own introduction
- MALU009 Malus sargentii TINA'S WEEPER™ 'KNI B-9' Offered by http://www.klynnurseries.com, 2013 Catalog/No Pricing, accessed 2.17.2016, their own introduction
- MALU005 Malus SPARKLING SPRITE™ 'JFS-KW207' 12 ft. tall x wide, compact, dense, globose, summer foliage bright green, remaining clean and neat, flowers white from pink buds, fruit yellow to orange shades, 0.25 in. wide. Excellent scab, mildew, cedar-apple rust, and fireblight resistances. In, or: <a href="http://www.jfschmidt.com/">http://www.jfschmidt.com/</a>, accessed 12.26.2016, 2016 intro
- MALU006 Malus x domestica 'Rosalie' habit columnar, 2.8m tall x 0.4m wide, moderate vigor, ornamental. Flowers form shallow cup, petal ovate (not elliptic as parent 'Maypole'), petals overlapping, reddish-purple 9RHS 63A, below 63B becoming 63B to 63C), showy. Fruit 50-55mm wide (mean), 61g (mean weight), broadly globose-conical, medium red, red in flesh, weakly scented, not generally considered edible, larger than on most ornamental Malus, fruit persisting long than 'Maypole' parent. Scab resistant. Or, pat: US# 25501 on 5.5.2016 to J. Tupy, Otto Louda, and J. Zima, Insitute of Experimental Botany As, Czech Republic as 'Aneta' x 'Maypole' in 1994. Web: <a href="https://www.google.com/patents/USPP25501">https://www.google.com/patents/USPP25501</a>.
- MALU007 Malus RED OBELISK® 'Dvp Obel' 3-5m tall x 2m wide at most, plants have been measured at 4m tall x 1.2 wide when young, compact, columnar to very upright, very narrowly pyramidal with some age. Flower buds magenta pink, later medium to light pink, opening near white on the inner side, reverse may be white tinged pink for some time, sweet scent. Fruit conical, red, useful for crab apple jelly, not edible for fresh. Leaves 3-5 lobed, purplish-brown in tips, becoming dark green, fall color may contain yellow shade Or: Belgium. Web:
- http://www.publicgreen.be/catalog/pdfuk/151.pdf, accessed 8.6.2016
- MALU008 Malus hupehensis ARIE MAURITZ® 7m tall, strong growing small tree, upright. Flowers light pink, opening pinkish-white. Resistant to scan and powdery mildew. Eval: highest rate crab apple in street tree use by Applied Plant Research, Wageneningen University. In: <a href="http://www.boot.nl/en/text/89/Trees">http://www.boot.nl/en/text/89/Trees</a>, accessed 8.6.2016, introduced in Holland about 2010. Web:
- http://www.greenkeeper.nl/upload/documenten/04.\_jan\_p.\_mauritz\_-\_de\_juiste\_boom.pdf

- MALU009 Malus x atstringens EMERALD SPIRE®'Jefgreen' 16 ft. tall x 8 ft. wide, more narrowly columnar as young plants. Leaves silvery-green, very disease resistant. Flowers dark pink, abundant. Fruit red, very show. Or, pat: US#23863 to Jeffries Nursery.
- MALU010 Malus IVORY SPEAR™ 'JFS KW214MX' or, in: <a href="https://www.jfschmidt.com/pdfs/JFS\_New\_2018.pdf">https://www.jfschmidt.com/pdfs/JFS\_New\_2018.pdf</a>, accessed 12.22.2017
- MALU011 Malus RASPBERRY SPEAR™ 'JFS KW213MX' or, in: https://www.jfschmidt.com/pdfs/JFS\_New\_2018.pdf, accessed 12.22.2017
- MELIA001 Melia azedarach f. umbraculifera 'Caroline' as the forma, 10 ft. tall x 8 ft. wide bvut grafted from superior selection for uniformity. Flemings.co.nz, accessed 4.24.2015
- MELIA002 Melia azedarach 'Lilac Lady' flowers more abundant. Leaflets distinctly incised to 3-7mm deep, thus irregular serrate to sharp-dentate. Flemings.co.nz, accessed 4.24.2015
- MELIA003 Melia azedarach 'Elite' non-fruiting clone. Metropolitcan Tree Growers, New Zeand bef. 2015
- MELIA004 Melia azedarich 'Alzentina White' Leaves heavily sectored white to cream, chimera 35070% of the surface, based on Ryochiku images the markings appear to be large, bolder sectors than 'Jade Snowflake' but comparative trials are still needed. So: <a href="http://ryochiku-plants.jp/pb/4114/">http://ryochiku-plants.jp/pb/4114/</a>, accessed 4.28.2017
- MELIA004 Melia azedarich 'Romaneti' leaves birhgt yellow at first, later more chartreuse to yellowish-lime. Yellow-shoot shoots are common in this species but most are merely dying limbs or nutrient deficient ones. In the 1980's a couple of curators tried to root several of these at the Raulston Arboretum's prophouse. None proved true yellow. Based on these photos, the clone here appears to be all yellow, large, and stable. So: <a href="http://ryochiku-plants.jp/pb/4126/">http://ryochiku-plants.jp/pb/4126/</a>, accessed 4.28.2017
- META001 Metapanax delavayi 'Stout' erect, strong, perhaps sturdier clone, "rather thickened compound leaves, more schefflera-like than it's brethren" in the same seed bed. www.cistus.com, accessed 3.29.2016, their own clonal selection from seed
- METAS001 Metasequoia glyptostroboides JADE PRINCE™ 'JFS-PN3Legacy'- 70 ft. tall x 25 ft. wide, upright, pyramidal, dense, upright branching is improved, along with a strong central leader. Leaves bright green, very lush and feathery, rusty orange in fall.
- META002 Metasequoia glyptostroboides 'Golden Guusje' ('Kools Gold') leaves darker yellow than 'Ogon', more sun tolerant than it, and best with full sun for rich gold color. Nelis Kools, Bueme, Netherlands selection. Marketed in the US as 'Kools Gold' which so far is only used in cultivar form. It would be logical to make that name a trademark because a cultivar can have only one cultivar name but it can have other trademarked or marketing names.
- META003 Metasquoia glyptostroboides 'Hamlet' ('Hamlet's Broom')8 ft. tall x 6 ft. wide (many years), dwarf, from witches broom, compact overall but all mottled creamy-white, becoming more normal green by summer. In: www.iselinursery.com, online 2016-17 catalog, accessed 10.5.2016
- META004 Metasequoia glyptostroboides CHINA GROVE™ 'CP14C0792' narrowly pyramidal, loose, erect, somewhat more dense. Leaves dark bluish-green, not a bright green shade. In: http://www.hawksridgefarms.com/viewplant.php?id=2118, accessed 10.7.2016
- META005 Metasequoia glytostroboides 'Blue-ish' ('Blue Dawn') needles light bluish-green, fairly pale and glaucous for this species.
- META006 Metasequoia glyptostroboides AMBER GLOW<sup>TM</sup> 'WAH-08AG' 30-35 ft. tall (25 years), compact, dense, pyramidal, moderately vigorous, much more dense than 'Ogon' and other gold cultivars to date (November 2017). Leaves bright yellowish-green to charteuse the first year, twigs a light amber color and contrasting, later more of a pale green to lime, holding well in heat and sun (more so than parent 'Ogon'), occasionally "hint of burgundy" appear in new tips, these may be in fact be more orangish-gold by some reports, but named primarily for the rich amber or orange tones in fall. Pat, or: US PPAF on November 9, 2017 to William Head, Seneca, South Carolina, as seedling of 'Ogon', thought to be pollinated by 'Sheridan Spire'. While the patent app says it "originated in a controlled breeding program", this particular selection is defined as "open pollinated" and the male "presumed to be", thus not controlled in this case. In: Star Roses and Plants, also Hawksridge Farm, catalogs, accessed 11.11.2017.
- META007 Metasequoia glyptostroboides 'Bizzarger' habit erect, open, highly contorted. Leaves all twisted, often curled from the apex. Or: Bil Barger before 2014. So, in: <a href="http://www.coniferkingdom.com">http://www.coniferkingdom.com</a>, accessed 10.31.2017, listed under new plants
- Metasequoia glyptostroboides 'Featherduster' leaves pale green, "wispy", very long for the species, fall color yellow (not amber nor copper). Or: Tom Cox, Ciox Arboretum, Canton, Georgia from seed supplied by the Arnold Arboretum from China. In: www.brokenarrownursery.com, accessed 12.29.2017
- Metasequoia glyptostroboides SHAW'S LEGACY<sup>TM</sup> 'Raven' ('Peter Raven' Dirr 2017 website reference below) 70-100 ft. tall, bark more deeply furrowed, overall more vigorous than random seedlings and it's cohorts in the same planting, upt to 3 ft. per year when young, more uniformly pyramidal, somewhat denser but not overall compact, low branching good, a neat, clean outline or silhouette, lacking random extending branches and branchlets as so many seedlings provide, more uniform spacing, Dirr in his articles reports "darker green needles" but the MBG do not mention that. Dr.: "better resistance to folar disease" MBG website, species not specified. Or: one of several trees planted at the Missouri Botanical Garden near the Lehmann Building in 1952. Ns: the name honors Dr. Peter Raven, noted botanist and garden Director, the name name SHAW honors Henry Shaw who founded the MNG in 1859. MBG's website confirms the true cultivar name to be just the surname of the honoree. web: <a href="https://www.hmiadvantage.com/dr-dirrs-tree-spotlight-metasequoia-glyptostroboides/">https://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=e309</a>, both accessed 11.11.2017
- Metasequoia glyptostroboides 'Swamp Thang' habit compact, upright, branches thick, symmetrical, bark exfoliating in dark chocolate brown. Or: Tom Cox, Cox Arboretum, Canton, Georgia as seedling. web: <a href="http://www.mrmaple.com">http://www.mrmaple.com</a>, accessed 12.29.2017, also offered by <a href="http://www.brokenarrownursery.com">http://www.mrmaple.com</a>, accessed 12.29.2017, also offered by <a href="http://www.brokenarrownursery.com">http://www.mrmaple.com</a>, accessed 12.29.2017, also offered by <a href="http://www.brokenarrownursery.com">http://www.brokenarrownursery.com</a> at this same time.
- MICH001 Michelia maudiae 'Jinxiu' vigorous, crown spire-shaped, straight trunk, "branches are slightly flat and layered". Buds, young twigs, and leaves green below, lacking white powder or glaucescence. Or: Jiangsu Acad. For. as seedling. web: <a href="http://en.cnki.com.cn/Article\_en/CJFDTotal-LYKE201609019.htm">http://en.cnki.com.cn/Article\_en/CJFDTotal-LYKE201609019.htm</a>, accessed 4.29.2017

MICH002 - Michelia maudiae 'Mengyuan' - a listed name in China.

MICR001 - Microbiota decussata 'Carnival' ('Boyko's Variegated') - foliage mass mottled yellow to about 30% surface, some sections large, covering many secondary and tertiary shoots, interesting winter coloration, showing a patchwork of yellow and purplish-violet or yellow and bronzish-purple tones, a very unique combination for any conifer genus.

MICR002 - Microbiota decussata 'Clouded Carpet' - foliage mass mottled yellow, 25% surface or so, comparisions to 'Carnival' are not yet known.

MICR003 - Microbiota decussata 'Filip's Pretty Pride' - slowerr, compact, but not dwarf, foliage masses more symmetrical and uniform than species typical. Edwin Smit Conifers, their own selection, 2004, not widely seen until 2010's.

MORU001 - Morus alba 'Ho-O' - legacy registration requested, documented in Cultivars of Woody Plants prior to OROC initiation.

MORU002 - Morus 'Lincoln Trail' (Morus alba x ?) - very compact, low-spreading dome to fslightly flat-tiopped, multiple trunks. View website: <a href="http://www.montgomeryparks.org/activities/things\_to\_do/fall/documents/shf\_presentation.pdf">http://www.montgomeryparks.org/activities/things\_to\_do/fall/documents/shf\_presentation.pdf</a>



MYRI001 - Myrica cerifera 'Soleil' (JC Raulston Arboretum). Image above taken at the Juniper Level Botanic Garden.

MYRI002 - Myrica cerifera 'Escarosa' - 16-20 ft. tall x 8-10 ft. wide, a strong, large forn, thick with 8-14 breaks per major limb, these shoots mostly flush with the canopy. Leaves darker green. Selected by PGI from seed collected at Escartosa Bay. Pannhandlegrowers.com, accessed 4.9.2015.

MYRT001 - Myrtus communis 'Redside' - 20 in. tall., compact, stems tinted red, leaves densely held, red-tinged below, drought tolerant, flowering abundant, USDA 8. Or, web: http://www.cistus.com, their own hybrid of 'Compacta' and 'Anne McDonald'