The
Slipper Orchid Alliance Newsletter

Volume 5, Number 3 Fall 2004

International Orchid Conservation Congress II
The Conservation Balance

Marie Selby Botanical Gardens
Sarasota, Florida May 16 – 21, 2004

Orchid scientists, conservationists, and orchidaceophiles from 24 countries gathered at the Marie Selby Botanical Gardens (MSBG) for 21 days of learning, networking, and planning. The theme – The Conservation Balance – was addressed along a rich continuum from basic research on the relationships between orchids and mycorrhizal fungi to practical educational conservation.

Organized by the MSBG and the Orchid Specialist Group of the International Conservation Union, the Congress was superbly planned and executed. The presentations were well organized and the hospitality was flawless.

Forty-three presentations were organized into11 areas: Specific Threats to Orchids, Integrated Approaches to Conservation, Conservation Education, Grassroots Conservation, Mycorrhizal Fungi, Pollination Studies, Systematics, Conservation Case Studies, Population Recovery, Population, Studies, and Red-Listing. These same topics were covered succinctly in 19 well-organized and well-illustrated posters.

SOA Membership

Dues are US$25 for individuals or US$50 for supporting (commercial) members. If you receive a membership renewal form with your newsletter, your membership is up for renewal within the next three months. Please fill out the form and mail it to our membership secretary, Jean Metcalf, 2553 Main St., Lake City, PA 15423.

CITES was addressed in a forum. The participants addressed the history of CITES, some of its problems, and the relationship between CITES and science. As was the case throughout the Congress, discourse was substantive and constructive.

Orchid Specialist Group activities included meetings of the North American Region Group and the *In Situ* Conservation Group. At a General Meeting, reports from these two Groups were presented along with a report from the Education Group. (See http://www.rbgkew.org.uk/herbarium/orchid/ORN32/ssc.htm).

"Baiting" has a special meaning in the orchid world. It doesn't refer to the evil medieval practice of taunting tethered bears, but to seed baiting. Papers dealing with the role of mycorrhizal fungi and orchid germination *in situ* introduced the practice of placing orchid seed in proximity to plants or in suspected or known plant areas and allowing nature to take its course.

In **If Orchid Mycorrhizal Fungi Are So Specific, How Do Natural Hybrids Cope?,** "detailed and intensive symbiotic cross-germination studies of parental and hybrid seed on fungi from the species and the naturally occurring hybrids were compared with genetic fingerprinting…studies of the fungi to answer which fungi the hybrids use. The germination study found that, while the hybrid seeds can utilize the fungi from either parental species under laboratory conditions, the natural hybrids seem to share the fungus of one parent only in nature." The presentation by Penelope S. Hollick went into detail about fungi as a possible path to speciation.

"Hands-on" conservation was illustrated by a number of papers. In **Hands-On Elementary School Workshop Demonstration for Adults** (the Community Service Program of the Orchid Society of Arizona), Wilella Stimmell described how in their work with sixth-grade students they show participants how to make an orchid greenhouse from a gallon milk jug, providing all of the supplies, including a Phalaenopsis seedling. The fun activity serves as an opportunity to introduce students to worldwide conservation. (It also was fun for the individuals who helped her demonstrate the process.)

Slipper orchids were not neglected, as in **S.O.S. Save Orchids in Your State: How to Mobilize to Protect Native Species** (Boulder Orchid Society, Denver Orchid Society, Partners for Colorado Native Plants). Denise Wilson reported on their program that involves conducting censuses and monitoring wild orchid populations, getting plants appropriately placed on the Colorado threatened species list, helping to develop management plans to protect vanishing species, and training people to undertake scientific studies usually conducted by professional botanists.

Developing Germination and Plant Growth Protocols for *Cypripedium montanum*, a Vanishing Species of the Pacific Northwest was a poster presentation by J. A. Smith that dealt with the observation that C. montanum hasn't responded well to currently known procedures of germination. The study indicated that "developing seeds quickly move through a window of time (40 – 47 days post pollination)." Future plans include study of "conditions that might support higher frequencies of seed germination in seed collected…at the appropriate developmental stage."

Naturally, Phragmipedium kovachii was present, in the literary sense. Scientists of the Centro de Jardineria Manrique, Peru, reported on their preliminary studies for the planning of a genetic breeding program of Phrag. kovachii – **Habitat, Morphological Characteristics, and Culture Conditions**. The goal of their presentation, by Miluzka Damian Loayza, was "to describe the habitat of Phrag. kovachii, to show the morphologic characteristics and their growing conditions, but particularly for the Conservation of the species as Peruvian Germplasm."

Madagascar Orchid Conservation in the Eastern Rainforest by Linking Local Residents and Biotechnology: An Integrated Approach (Lab for Rare & Endangered Plants, Omaha's Henry Doorly Zoo), presented by Margaret From, was representative of a concern that conservation be seen as an essential component of preservation. Small habitats can be preserved by protection, such as the use of purchase, including the mechanism of conservation easement, which gives a land owner the opportunity to receive money directly and through the development of ecotourism activities. Seed banks and botanical collections can preserve resources *ex situ*; integrated conservation engages the residents of an ecosystem in the protection of habitat and its plants in a manner that makes it financially advantageous for the local residents to do so.

From a small sample, it should be clear that the International Orchid Conservation Congress II was rich in information. Very effectively, the Congress organizers did a splendid job of scheduling papers in pairs, alternating with brief breaks, and the midweek schedule was devoted to relevant excursions and an excellent tour of the treasures of Selby. It was a most painless and gratifying experience.

Russell M. Tyler and Rodney L. Knowles

Paphiopedilum philippinense and Its Hybrids: Whiskers and Moustaches.

Introduction.

This fascinating species from the Philippine Islands has excited orchid lovers for generations, especially those who grow warm; it has charm, strength and is widespread and common in its native range. It is not *rothschildianum* nor *sanderianum*, with their long waiting for blooms; this plant may bloom in only two years from flask. It does, however, have spectacular petals and a multifloral habit that make it a must in any collection of Paphs.

I propose we look at the species, then the primary hybrids, then some secondary developments. In all there are 114 hybrids formed from *philippinense*, and some are quite striking. And, after a short look at future trends, we shall deal with judging issues on the whole group.

Sit back, then, and follow my whiskers, which, lucky for me, are not as long as *philippinense* petals.

The Species

Paph. *philippinense* (one l and two p's), comes from a wide area of the archipélago, tracking south from south Luzon (the big island where my father served as a marine), to north Mindanao, and as far west as Palawan, jumping over to the Island of Borneo and even eastern Malasia. Growing in fairly bright light, it seems to like the lower altitudes, to 500 meters (1500 feet), in lowland rainforest, where there may be one or two rainy seasons, or just general high precipitation year-round.

It was first described by Reichenbach fils in 1862, and received its present name from George Stein in 1892. Sometimes placed in the Coryopetalum, or Polyanthe, or most recently in the section called Mastigopetalum[1], it belongs to the long petaled multiflorals. Of course it is a sympodial, producing shiny green leaves up to 30 cm long and 4 cm wide. The inflorescence is arched, and bears up to five flowers about 20 cm across the petals, which are twisted and about 12 cm long, and held almost horizontally to the yellow-green pouch. The dorsal sepal is white, striped with maroon.

According to Olaf Gruss, there is a forma alboflavum, lacking anthocyanon pigments and thus pale yellow and green. It is rare. Some call it var. aureum, others album.

Another variety, now regarded as a separate species by RHS, is roebbelenii (variously spelled with one or two b's, after Carl Röbbelen, its collector), sympatrically limited to one area of Luzon Island near Manila. It has much narrower leaves, a hairier peduncle and a lack of green on the

Upcoming Events

AOS Members Meeting
October 6 - 10, 2004
Four Points Sheraton
Denver, CO
For more information check the website: www.DenverOrchidSociety.org. SOA will sponsor Glen Decker speaking on Phrag Hybrids. There will also be an open SOA meeting and all members are encouraged to attend.

7th Slipper Symposium
November 6, 2004
Kissimmee, FL
Please check the website for more info. http://home.cfl.rr.com/slipperorchids/

staminode. The petals are generally droopier too.

A complicating issue is the swarm of look-alikes in other areas of the Pacific. How closely related are *glanduliferum* and *praestans*? These latter are from the New Guinea islands, and they differ from *philippinense* by the 45°angle of the petals, which are also twisted, and the reddish, roths-like pouch. And what to make of wilhelminae, a form of glanduliferum or a species in its own right, which renders glanduliferum totally confusing because of mislabelling, says Braem. *Parishii* (and *dianthum*), *adductum*, *kolopakingii* and *stonei* are sufficiently distinct to pose no problem in identification. This alliance of multiflorals with more or less twisting, long petals, is generally amenable to hybridization, but more of that later.

Back to the species. How is one to judge it? Generally, we are looking for improvement (and not perfection!) over the type. Using the point scale, and not the Paph scoring form (which is intended for the single blooming Winston Churchill-like hybrids), we judge according to form, size, number of flowers, color and texture, as well as arrangement. Intensity and clarity of color are very important (30 points), but form is also 30 points and should be judged according to symmetry and flatness. Let us look more carefully at this latter category, because pointy and twisty petals (our moustaches) can hardly seem flat. The secret is in the plane of the flower viewed from the side. The synsepal and dorsal sepal ought to be close to parallel and the petals should be on the same general plane, neither reflexed nor overly cupped. Some shielding of the dorsal sepal is to be expected, because the plant is protecting its reproductive parts. As a result, a 100% vertical (non-nodding) flower is suspect. A flower facing downward, however, at 45° or more, is a fault.

Symmetry refers to the individual flower, including the staminode, but extends to the entire inflorescence, which should be, preferably, pleasingly presented in a gently arching spray, neither vertical nor lax. The petals should be symmetrical, and with about the same twisting in each. The flowers will tend to be smaller as they mount the stem, but not radically different from the larger blooms, and they must be well-spaced.

Since the 1930's *philippinense* has received more than 45 awards, with 15 AMs — plus 16 for the variety roebbelenii, with 8 AMs (only one alba, an AM in 1990), with the most recent quality award in 1998. I believe we will see other superior clones of *philippinense*, surpassing even the fabulous 'Candor Red Ribbons.'

The Primary Hybrids

There are 114 registered hybrids using *philippinense*, with 51 primaries, that is, using another species for the grex. In most cases the *philippinense* shows quite a bit of dominance, that is, bringing its petals, pouch and floriferousness with it. The size of the plant, flower color and the number of twists seem to be recessive.

Of course, in olden days, before 1905, there were primary crosses that flopped, while others continue to draw interest. Limiting ourselves to awarded grexes in this group, we should look at Selligerum (*barbatum* is the other parent), developed by Veitch in 1878, has taken five awards from 1979 to 1985. Millmanii, using *callosum*, was made in 1895 and also has five awards between 1983 and 1995. Clinkaberryanum, a cross made by Pitcher in 1893, uses *curtisii*, now to be called *superbiens*, and, although it has three awards, all of them AM, I find it an ungainly grex. According to the RHS, this would be the same cross as Youngianum, done by Sander in 1890.

In 1891, Vipar crossed *lowii* with *philippinense* to make Berenice. It has received over 50 awards and two FCCs, and is a perennial favorite, with improvements still to come. Lebaudyanum is a rather strongly-colored and vigorous grower, developed by Lebaudy in 1895, with 26 awards, half of them after 1995, a hundred years after its inception. Its parentage reflects much the same genetic material as Berenice, since *haynaldianum* is *lowii* with spots on the dorsal. The grex Phoebe, which has three HCCs from 1988 to 1999, is *bellatulum* by *philippinense* (Statter did this charmer in 1895, of whom more later). Then there is Hollington, named after the breeder, who used *ciliolare*, in 1895, which has one award. Finally, from the grandfather grouping, comes another great cross by Froebel in 1899, Helvetia, *chamberlainianum* by *philippinense*, that, curiously, has only 11 awards, mostly from 1975-80. Let us retain Berenice, Lebaudyanum and Helvetia from this generation.

Oh, I almost forgot. Saint Swithin is the grandmother of

all primaries that trumps all others. Created by the Englishman Statter in 1901, it now has well over 150 awards and as many progeny. Whether using *rothschildianum* as mama or papa, this is a marriage made in heaven, as if the best Rhett Butler of Borneo fell in love with Scarlet and stayed with her.

After 26 years of development, for the next 59 years, from 1904 to 1963, there are no recorded primary hybrids using philippinese. That's right, none. Why the lacuna? Changes in style—the bulldogs or single blooming shiny giants start to appear and drive out the multiflorals for the duration. Shireen broke the long silence of 50 years, and was produced by SBG, with *glaucophyllum* as pod parent, garnering over 12 awards, 8AMs, as recently as 1999. Slowly, the multis rumble back, with Oriental Magic and Recovery coming in 1974 from crosses with *bullenianum* and the newly discovered *sukhakulii*, respectively. The latter, coming from D'Lin and Rands, of plasic pot fame, has three awards from 1990 to 1997, and a CCE in 2001. Afterwards, Cryder developed Honey, using *primulinum*, in 1978, a charming grex that blooms easily and regularly, with lovely form and a color of, well, honey, on a petite plant. Its close cousin, Prim-N-Proper (1981), is the same but uses *glanduliferum* to make it even smaller. Umatilla (with *supardii*), comes from the prolific breeder Wilson, in 1980. It has 6 awards, with four AMs, the latest in 1999. Delphi, using the pink *delenatii*, was introduced in 1983 by Bechtel and Birk; it has two awards. However, the blockbuster in this second generation is Mount Toro, placing philly pollen on *stonei* foundations, which brings out the striping on white and seems to take the best of both parents. A strong performer, with over 35 awards to date, and 19 progeny, it still gets looked at, carefully.

In more recent times, three more primary hybrids have excited orchidophiles: Temptation, Michael Koopowitz and Addicted Phillip. Temptation has *kolopakingii* as pod parent, made by Viengkhou in California in 1994. With only 2 awards, it suffers from lack of color and form, but I would expect improvement in coming years, with as many as eight flowers on a largish plant.

Michael Koopowitz is a dream tale. With new cultivars of *sanderianum* coming on the market, it had to be made, and Paphanatics did it in 1993. It got its first FCC in 1994 for 'Cuarenta' referring to its 40 cm petals, but I think that clone could have better color, and most of its 14 or so other awards fall in the HCC range.

Deena Nicol, a previous cross by Paphanatics, in 1987, has 7 awards, although taking *glanduliferum* pollen would not seem to improve the *philippinense* stock, but reduce both size and color.

Addicted Phillip (two d's and two l's) has *adductum* as the pollen parent. Booth introduced it in 1991, but it is only now coming to judging circles, since its first of 7 awards was in '97.

In sum, the primary hybrids provide plenty of variation on a theme: twisting petals on an arching multifloral inflorescence. Leaving this group, however, let us now turn to the more complex, or secondary, hybrids.

Secondary Hybrids

By injecting qualities that are weak or missing in a grex, by returning to the source as it were, *philippinense* can renew a line of breeding, since it brings the stability of the species with it, and often, renewed fertility as well. The first of these to receive an award was Yesteryear, using Gowerianum, a Maudiae cross, but in 1980 Lecoufle, in France, developed a show-stopper called Moustache, using Saint Swithin as a parent. It has about 15 awards so far, with most of them being AM. A cross to watch, if for no other reason than its most appropriate name, given the perky upturned points to its «beard.»

Billy Cardalino is a desirable grex, using the very robust Susan Booth as a parent. Booth's cross again; here is a man with a very busy toothpick. He also developed Booth's Supersuk, using Transvaal in the same year. They have seven and two awards respectively. His Fran's Philly, with Frank Booth, is not awarded, but comes in 1990, and he has ten other crosses using *philippinense* in the next seven years. One of these, Karol Wojtyla, named after the Polish fellow in the Vatican, has an AM.

Next in line was Red Dragon, a cross with Gloriosum, receiving 5 awards. It is the first of many Orchid Zone hybrids by Root to use *philippinense*. Some others are Mandarin Dragon (1 HCC), Green Horizon (7, 2AM, using Makuli), Black Falcon (1 AM, using Red Maude).

Only five awarded crosses remain in our study, each with one award. Doll, of Dollgoldii fame, produced Doktor Karlheinz Senghas, with Vanguard, in 1995 (1 AM). McAlister and Powell bring us Waikiki Princess (1 HCC), with Blanchette pollen (*niveum* x Psyche). Hausermann takes Vintner's Treasure to produce James Hausermann (1 HCC). Paphanatics scores again with Land Ahoy, using Landmark (1HCC). Finally, In-Charm, an Asiatic company, registers In-Charm Doll (1 AM), *philippinense* by Conco-Bellatulum.

Whether it be to add wings to a Parvi-like *delenatii*, or improve form and floriferousness in the Maudiae types, *philippinense* has proven once again to be a strong parent and a steady supplier of novelty. It is most successfully crossed with multiflorals, but can improve the breeding in successive bloomers too, as well as Maudiae types and Cochlopetalum (*niveum*) groups.

The Future for award-winning Crosses

Four or five primary crosses are in the works as we speak. Master Philipp comes from Krull-Smith and Lehua and shows great promise for color, with its *mastersianum* pollen. Other

registered hybrids take *randsii* (for Memoria Michael Lawless), *supardii* (for Ken Itchi Tayaka), and *wilhelminae* (for Harbinger's Dark Ages, which has an HCC in 2002). I am anxious to see the natural hybrid cross called x expansum, with *hennisianum*, and among the most recent secondary hybrids Saint Juan Diego, using Rolfei, and Jack Ung You, made with Vera Pellechia. I'll mention a few others in a moment. Styles change and I expect more varied color forms on the theme, as well as an increase in flower count. There is a serious effort at downsizing the plants, due perhaps to the popularity of Paphs in the home. Just as the cut flower market drove the so-called tea-cup craze between the two world wars, so also the desire to produce superior grexes in the multiflorals is bearing economic fruit.

Scales and Measures

Remember what we covered already on judging the species philippinense, and how we use the general point scale and not the Paph scale, which is designed for a different product altogether. When it comes to hybrids we are looking for improvement over the parents, and I would add, over the good, even very fine parents, but not necessarily over the FCC qualities that may be on both sides. Floriferousness, size, color and form are all important here, but perhaps we should also take into account (and this is not easy), the ratio of inflorescence to plant size and the issue of polyploidy in this line of breeding. As a grower myself, I'd like to see some recognition for ease of culture and longevity, both of the inflorescences and the plants themselves. Many of the more recent crosses seem to go into remarkable decline after blooming, or just never bloom. If we use the general point scale judiciously (30 for form of the flower, 30 for color and 40 for other characteristics), we should be able to keep awarding remarkable flowering plants. Using the «other» category, we can account for floriferousness and arrangement quite easily, according to Thomas Kalina (20 points total), and then deal with size and substance, and the imponderable notion of charm. From personal communication with a number of breeders who are also judges (in particular Norito Hasegawa), I feel that novelty and surprise work well in the Paphs as elsewhere, that superior parents will have better progeny, and that culture can bring a plant to produce its best. It's up to us to recognize top quality and diffuse the information through our awards system, for that is what we volunteer to do.

Conclusion

This discussion of *philippinense* and its hybrids draws to a close. As only one species among the 70 or more others in the genus, it is a powerful parent for whiskers and moustaches, as well as for striking arrangemnents of four or five soaring flowers. It is no mistake that flight, and wings, yes, a certain sense of freedom inspire its many names, for this is what it represents in its best offspring.

And now, like Rumplestiltskin, I shall pull the ends of my moustache, twirl them once or twice, and disappear.

Fr. Ted Baenziger, C.S. B.

(Fr. Baenziger is an Associate Professor of French at the University of St. Thomas in Houston, TX. He began growing orchids in France in 1978 and in Houston in 1991. This article is based on a talk he gave at the Houston Judging Center where he is a student judge.)

Paph. *philippinense var. roebelinii* 'Ten Inch Tales' AM 80
Paphanatics, unLtd.
Photography by Richard Clark

Paph. Saint Swithin 'Rain Circle'
AM 82
Helen Congleton
Photography by Richard Clark

Paph. Moustache 'D'Arlene'
FCC 90
Harvey Holland
Photography by Charlotte Randolph

Paph. Michael Koopowitz 'Alberta'
AM 84
Dewey C. Houser
Photography by Craig J. Plahn, DDS

Paph. Angel Hair 'Sam's Spirits'
AM 84
Sam Tsui, Orchid Inn
Photography by Craig J. Plahn, DDS

Parvisepalums - Then And Now

By now, we all are very familiar with those orchids in the genus *Paphiopedilum*, subgenus *parvisepalum*, found in mainly limestone slopes of China and Vietnam. It is difficult to believe that it has been only 20 years since *Paph. armeniacum* came onto the scene. In the course of this paper, we will take a look at what sorts of hybrids have resulted from parvisepalum breeding programs in those two decades, such as: crossing parvis with other parvis, with brachypedilums, with maudiae types, and with sequential and simultaneous multiflorals. We will then look at the complex hybrids, and finally see what conclusions we can drawn from these hybrids, and what may lie over the horizon in parvi breeding.

Let's begin by discussing the five species just about everyone will recognize. They *are Paph. armeniacum, Paph. malipoense, Paph. micranthum, Paph. emersonii and Paph. delenatii*. The very recently described parvisepalum species which are prohibited from international trade under the CITES treaty are *Paph. vietnamense*, *Paph. hangianum*, *Paph. jackii* and *Paph. jackii* var. *hiepii*. I have not yet seen any breeding progeny using these as parents, although I have seen a photograph of the first hybrid, *Paph. vietnamense* x *Paph. delenatii*, so named Paph. Ho Chi Minh and is on the cover of the magazine *Die Orchideen*. And of course *Paph. armeniacum, Paph. malipoense, Paph. micranthum, Paph. emersonii and Paph. delenatii* have an album form. So, we will set aside the new species, and focus on the first five mentioned above, and on their breeding.

Characteristics of section *Parvisepalum*

In general, these species share the following traits:
Large flower for a relatively small plant
Narrow, small dorsal sepal
Wide petals
Labellum / pouch inflated, with inward folded front margins
Great shield-like staminode (except for *Paph. micranthum*)
Short-lived flowers compared to those of many hybrids
Flower substance is tender and soft, easily bruised
Flower texture is velvety to papery, rather than glossy
Fragrance in some (*delenatii, malipoense, emersonii*)
All have heavily tessellated leaves, except for *Paph. emersonii* (*Paph. hangianum* has very light tessellation)
Stolons (runners) common to *micranthum, armeniacum* and *malipoense*

Hybridizing with section *parvisepalum*

Let's review some of those parvi traits that the hybridizer would want to consider in planning a breeding strategy:
Color traits
Fragrance
Good staminode size and color
Identifiable inflated pouch
Wide petals
Well-held stems
Small plants

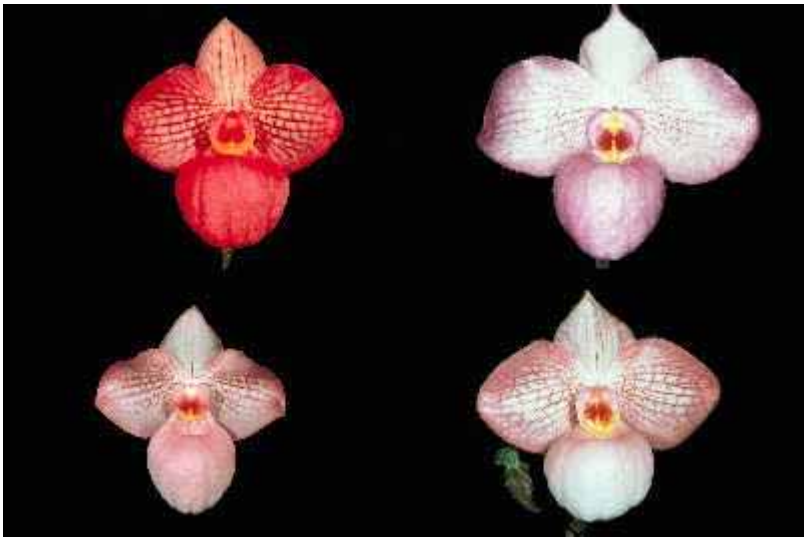
Paph. Norito Hasegawa Montage

P. parvisepalum x P. parvisepalum Hybrids

The 10 primary crosses listed below have flowered and are all very acceptable. Progeny seem to have the same charm as their parents, with the advantage that they are generally easier to grow and bloom than the species.

Paph. delenatii x armeniacum = Armeni White (yellowish tan to creamy white)
Paph. delenatii x micranthum= Magic Lantern
Paph. delenatii x malipoense= Lynleigh Koopowitz
Paph. delenatii x emersonii= Joyce Hasegawa
Paph. armeniacum x malipoense= Norito Hasegawa
Paph. emersonii x malipoense= Mem. Larry Heuer
Paph. micranthum x armeniacum= Fumi's Delight
Paph. micranthum x malipoense (nat hybrid)= Fanaticum
Paph. armeniacum x emersonii= Franz Glanz
Paph. emersonii x micranthum= Lolabird

Paph. Norito Hasegawa is one of the most variable in



Paph. Magic Lantern Montage

color of these ten, and can run in shades of bright yellow to chartreuse or a two-tone yellow with green. Some growers have reported that when the flower is small, pigmentation is sometimes more intense.

Second Generation Parivsepalum Hybrids

Let's move one more step up to some second generation hybrids that are still pure parvi:

Paph. Marilyn Levy = (Armeni White x *delenatii*) (nice white with good staminode)
Paph. Helen Congleton = (Norito Hasegawa x *delenatii*) (staminodes are quite variable)
Paph. Carolyn Butcher = (Fanaticum x *delenatii*)
Paph. Misty Dell = (Magic Lantern x *delenatii*) (2/3 delenatii)
Paph. Junko's Melody = (Mem. Larry Heuer x *delenatii*)
Paph. Maelstorm = (Armeni White x *malipoense*)
Paph. Emma Decker = (*malipoense* x Fumi's Delight)
Paph. Mem. Arnie Linsman= (Fumi's Delight x *delenatii*)
[Out of the six that have bloomed so far for the breeder, five looked like Paph. Armeni White with a slightly improved staminode, and one looked like a Paph. Magic Lantern.]
Paph. Francisco Baptista = (Larry Heuer x Norito Hasegawa)

In our experience, we have found that parivsepalum x parvisepalum hybrids are often easier to successfully grow and bloom than the parent species. In addition, they generally have the same charm with their large staminodes and inverted pouches as the parents, and sometimes the flowers are larger with the better traits of each parent, for example, Paph. Armeni White and Paph. Norito Hasegawa.

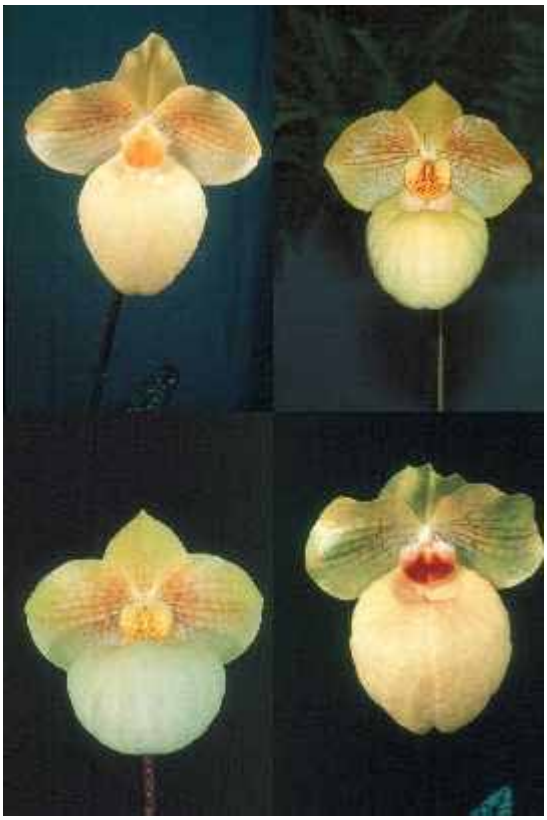
Parvisepalum x Brachypetalum Hybrids

As we review the progeny of parvi x brachy crosses, let's keep in mind some of the traits passed on by brachypetalum species:

Cupping of petals
Droopy petals
Unclasped dorsal sepals
Color streaks
Petal tip notches
Short stems
Wide petals
Good substance

Paph.. bellatulum grexes:

Paph. Mabelle = (bellatulum x malipoense)
Paph. Kevin Porter = (*bellatulum x micranthum*)
Paph. Wossner Bellarmi = (*bellatulum x armeniacum*)
Paph. Cam's Cloud = (*bellatulum x emersonii)*



Paph. Fumi's Delight Montage

***Paph. niveum* grexes:**
Paph. Wossner Vollmond = (*niveum x armeniacum*)
Paph. Sugar Suite = (*niveum x emersonii*)
Paph. Wossner Jade = (*niveum x malipoense*)
Paph. Wossner Pearl = (*niveum x micranthum*)

Paph. Sugar Suite has an excellent white color, fine form with wide petals, good staminode and a decent stem length. This is one of my selections as an excellent parvi x brachy primary cross.

***Paph. concolor* grexes:**
Paph. concolor x armeniacum = Fumi's Gold
Paph. concolor x emersonii = Earl Koledyke
Paph. concolor x malipoense = Wossner Concomal
Paph. concolor x micranthum = Flamingo Gold

***Paph. godefroyae* grexes:**
Paph. godefroyae x armeniacum = Kiryu
Paph. godefroyae x micranthum= Charlie O'Neill
Paph. godefroyae x malipoense= Mint Chocolate
Paph. godefroyae x emersonii = Wossner Godeem

Paph. Greyi grexes:
Paph. Greyi x *emersonii*= Wintermoon
Paph. Greyi x *malipoense* = Green Smoke
Paph. Greyi x *micranthum* = Wossner Greyimic
Paph.Greyi x *armeniacum* = China Moon

Next generation -
Paph. Koolaid Cup = (Blanchette x *micranthum*)
Paph. Wossner Yellow = (Dr. Jack x *armeniacum*)
Paph. Richard Wagner = (*bellatulum x fanaticum*)
Paph. Abracadabra = (*bellatulum* x Magic Lantern)
Paph. Tsui's Delight = (Psyche x *micranthum*)
Paph. Blushing Deb = (*micranthum* x Double Shot)
Paph. Armeni Gold = (*armeniacum* x Virgo)

And working for those elusive white we have:

Paph. Doris Butler = (Armeni White x *niveum*)
Paph. Irresistible = (Virtuous x *emersonii)*

What we have experienced and seen with parvisepalum x brachypetalum is smaller flowers but some of the fullest rounded flowers. Many exhibit some signs of genetic incompatibility with crippling, ragged petal edges or color breaks.

Parvisepalum x Maudiae Type Hybrids

Some Maudiae-type characteristics that can be inherited:
Crooked staminodes
Narrow petals
Twisted dorsal/sepals
Assymetrical ventral sepals
Horizontally-held pouches
Tall stems
Larger dorsal sepals

Examples:
Paph. Golden Diamond = (*fairrieanum x armeniacum*)
Paph. Jade Dragon = (*fairrieanum x malipoense*)
Paph. India Ennenga = (*fairrieanum x emersonii*)
Paph. Tanya Pinkapank = (*fairrieanum x micranthum*)
Paph. Wossner Armeday = (*dayanum x armeniacum)*
Paph. Maria Glanz = (*callosum x micranthum*)
Paph. Michael Gibson = (*mastersianum x armeniacum*)
Paph. Wossner Makulinal = (*makuli x malipoense*)
Paph. Grassauer Sabine = (Clair de Lune x *malipoense*)

Parvi x multiflorals -

Some of the multifloral type characteristics that can be inherited include:
Possible weak terminal flower or stems
Dented pouches (except in *glaucophyllum, adductum, primulinum*)
Large flowers with narrow petals
Large plant size
Examples:
Paph. Envy Green = (primulinum x malipoense)
Paph. Mary Ott = (glaucophyllum x armeniacum)
Paph. Mem. Connie Truex = (chamberlainianum x emersonii)
Paph. Guacamole = (glaucophyllum x malipoense)
Paph. Jenifer Kalina = (chamberlainianum x malipoense)
Paph. Summer Ice = (prinulinum x emersonii)
Paph. Karol Vaughan's Gold = (haynaldianum v. album x armeniacum)
Paph. Wossner Armeniglan = (glanduliferum x armeniacum)
Paph. Wossner Malihay = (haynaldianum x malipoense)
Paph. Dr. Toot = (kolopakingii x delenatii)
Paph. Wossner Philimal = (philippinense x malipoense)
Paph. Michael Ttibbs = (philippinense x armeniacum)
Paph. Dollgoldi = (rothschildianum x armeniacum
Paph. Gloria Naugle = (rothschildianum x micranthum)
Paph. Gerd Rollke = (rothschildianum x emersonii)
Paph. Harold Koopowitz = (rothschildianum x malipoense)

What we have experienced and seen with parvi x multifloral hybrids is that crosses with *Paph. rothschildianum* or some of the heavier marked species seem to be the best or most spectacular to date - others are erratic. Fifty percent or more of the second generation parvisepalums have been

disappointing. That is not too bad, considering that complex paphs are in their 25th generation. So in breeding with the complex paphs, you would think you should have parents that have bred out most the problems we are still seeing with our other crosses.

Parvi x standard hybrids

Paph. Cover Story = (Magic Mood x *armeniacum*)
Paph. Euphoria = (Grace Day x *emersonii*)
Paph. Glitter Gulch = (Magic Mountain x *malipoense*)
Paph. Golden Jubilee = (Aacclamation x *armeniacum*)
Paph. Action Central = (Acclamation x *malipoense*)
Paph. Sharp Shooter = (Promised Land x *malipoense*)
Paph. Winemer = (Winston Churchill x *emersonii*)
(Winston Churchill is a strong parent in parvis)
Paph. Poetic Society = (Winston Churchill *x micranthum*)
Paph. Hokus Pokus = (Magic Lantern x Jenna Marie)

We rarely have examples to show of "things gone wrong"; for now, good ones are the exception rather than the rule. But just to show you that we can run into bad genes, take a look at Paph. Yellow Doll (Hellas x *armeniacum*), Paph. Wossner Surprise (Achentaler Schwartz x *armeniacum*) and the yet unnamed paph. (Vintage Harvest x *armeniacum*).

What we have experienced and seen in parvisepalums x complex paphiopedilums: Some are very lovely; these are some of the first we have seen with heavy spotting or lines; but you can hit some really bad ones, i.e. Paph. Yellow Doll.

Conclusions

The following conclusions can be drawn regarding hybrids made with our original five parvisepalum species:

<u>*Paph. armeniacum*</u> - usually a good breeder, it lends good flower shape, wide petals, long lasting flowers. It seems to produce only strong yellows when bred with another yellow based flower.

<u>*Paph. emersonii*</u> – produces good flower size, seems to spread out markings making some pastel coloring, sometimes poor germination - needs to stay in bottle longer than usual, can breed fragrance.

<u>*Paph. delenatii*</u> - usually a good breeder, intensifies fragrance, breeds out yellows and greens.

<u>*P. malipoense*</u> - easiest to breed with, cleanest progeny, soft substance in pouch, petal markings, fragrance, strong white with dark apex on staminode, small pointed dorsals, should be good with complex greens.

<u>*Paph. micranthum*</u> - erratic breeder, lots of erose (ragged) edges, large inflated pouch, good petal markings, usually gives good color, fragrance killer, yields reticulation (or network of lines) of petals

Breeders are looking for a fertile direction for hybridizing; many still don't know how to breed with parvis in order to obtain a good yield. They are lucky to sometimes get 5 good bottles out of a cross. There seems to be a low yield of good things, but we still know so little about the low fertility rate and genetic incompatability.

Perhaps remake with better parents some of the crosses that showed good, or some of our proven fertile Paphs. Today we have improved standard Paphs that have good substance and size, as well as better lab techniques. A good breeder must have unlimited imagination and foresight, selecting a nice characteristic and attempting to amplify it with subtle changes through outcrossing and backcrossing.

Perhaps we should begin to grow up our best plants and try for a showstopper like Paph Dollgoldi "Montana de Oro" FCC/AOS 92pts, CCM/AOS 96pts, awarded in1999 with a natural spread of 19 cm, carrying 18 flowers and 6 buds on 11 inflorescences! Then again, there are always some new Paphiopedilums on the horizon for the hybridizing gene pool, if CITES will ever let us have them.

Karen Muir

Profile of S. Robert (Bob) Weltz

Anyone who loves Paphiopedilums and follows the current awards to that genus cannot help but run across the name of S. Robert (Bob) Weltz. He has successfully grown and hybridized orchids, mainly specializing in Paphs, for nearly 30 years. Bob has found the secret to success: find something that you love to do; then wholeheartedly invest your time and effort in that pursuit. Following this credo has helped create his success in business, personal relationships, and made him one of our premier Paphiopedilum growers.

The proof of his success in orchid growing consists, in part, of the over 130 AOS awards bestowed on his plants. Eight of those awards have been FCCs. In addition, he has twice received the W. W. Wilson award for best plant in the Paphiopedilum Alliance, in 1993 for *Paph*. Dollgoldi 'Laurie Susan Weltz' FCC/AOS (*P. armeniacum* x *rothschildianum*) and in 1996 for *Paph.* Harold Koopowitz 'Robert Weltz' FCC/AOS (*P. malipoense* x *rothschildianum*). Several years ago he was even interviewed about his orchid passion for over five hours by television journalist Leslie Stahl, for an episode on "60 Minutes."

Bob has been a gardener from the age of eight, when he planted an acre of ground. It consisted of a rock garden,

perennial garden, and assorted vegetables. In the early 1970's he volunteered to help build a greenhouse for friends, Patricia and William Kelly, who lived in New Jersey. As a gift for his help, they presented Bob with five white Cattleya orchids. This was the beginning of his obsession with orchids.

In a familiar story, the orchids were grown on windowsills and eventually took over the bathroom; at this point they numbered over 300. To illustrate how completely Bob invests himself into his passions, he then turned the living room of his twelfth floor Park Avenue apartment into a greenhouse! Using high-intensity sodium and fluorescent lights, specially designed benches, and protective flooring, Bob converted this room into a tropical paradise for his plants. They flourished under his care and he began to accumulate his large quantity of American Orchid Society awards, beginning with *Phalaenopsis* Andrew Sanders 'von Weltz' AM/AOS, in April of 1980, awarded in New York City. Bob chronicled his adventures in urban gardening in an article published in the *American Orchid Society Bulletin* (Volume 52, number12, December, 1983). It is an excellent example of how to set up a successful growing habitat in a less than optimal environment.

After living most of their lives in New York City, Bob and his wife moved to their retirement home in Montecito, California in 1984. Bob now grows in a greenhouse to accommodate his vast collection and "orchid offspring." Viewing Bob's greenhouse is a rare treat. The immaculate greenhouse is home to approximately 40 thousand plants – mostly orchids. Bob is quick to point out that the majority of those plants consist of unflowered seedlings; however, the plants are in impeccable condition (not a brown leaf in sight!) and his collection of specimen-sized plants is extraordinary.

Besides the top-notch collection of Paphs, he especially favors Lycastes and, as he said, "the more unusual types of Phalaenopsis." It is unusual indeed, to see an immaculately grown *Phalaenopsis gigantea* in full bloom, with a diameter of over 3 feet; but we were privileged to see several of these "giants" in his greenhouse. Even his African violets, which reside between and under some of his orchid benches, were spectacular plants. Bob's passion for growing plants to perfection was obvious when he described the thrill of seeing new vegetative growths and buds emerge. He also described watching the unfolding of the bud of a *Paph. rothchildianum* as "spectacular." The love of his plants has surely been a large factor in his growing successes.

As his growing became perfected, Bob turned to creating new and interesting hybrids. He now describes hybridizing as his greatest thrill. He takes special delight in naming new crosses and awards after his family and friends. As an example: his two friends, the Kellys, who started Bob down the orchid path, are commemorated by the naming of *Paph. wardii* 'Particia Burke Kelly' HCC/AOS and *Paph. superbiens* 'Mem.William Kelly' HCC/AOS. He also made a *Paphiopedilum* cross named *Paph*. Patricia Burke Kelly (*wardii* x Mem. Samuel Weltz).

Bob has some favorite Paphs that are used as he develops new crosses: *Paph bellatulum*, *Paph. rothschildianum*, and *Paph.* Skip Bartlett. He is most proud of the hybrid he created in 1997, *Paphiopedilum* Robert Weltz, a cross between *Paph.* Skip Bartlett x *Paph. micranthum.*

Bob's success has not been limited to orchids. After graduating from Fordham University Law School, he embarked on an extremely successful, and highly stress-filled, 35-year career as a trader on the New York Stock Exchange, 25 years of which saw him on the floor on a daily basis. He never practiced law. His passion for his career was obvious as he described how much he loved being on the floor of the Exchange.

Bob shares his life with his wife of 23 years, Gloria Reeder Weltz. They both demonstrate great enthusiasm for their respective hobbies: Bob with his orchids and a great love of golf, and Gloria, who is an excellent master bridge player and actively participates in national tournaments. Bob also has three daughters, of whom they are exceedingly proud. Two daughters continue to reside in New York. One is a surgeon and the second is in the motion picture industry. The third is raising a beautiful family in Paris. All of them have at least one orchid named for them.

Bob currently spends an average of three hours each day with his orchids. Despite the large size of his collection, he does almost everything himself, with some assistance from a woman who helps with the repotting. Besides the care of the plants and maintenance of the greenhouse (he even whitewashes the greenhouse himself!), he is active in developing new and remade Paph crosses and keeping his meticulous records. It is apparent that Bob Weltz is a man who is doing what he loves!

Cindy Coty

Supporting Members

In each issue of our newsletter we like to recognize and thank our supporting members. Each one of these businesses continues to support our efforts to have an outreach program for all slipper growers. If you are interested in becoming a supporting member, please contact Jean Metcalf at orchidiva@yahoo.com. We also hope that each of our members will support these businesses.

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