



The **Slipper Orchid Alliance Newsletter**

Volume 4, Number 1

Spring 2003

Santa Barbara SOA Meeting and Cymbidium Congress

Where could you find a better way to spend a weekend than an inspiring meeting and great orchid show in sunny and scenic Santa Barbara, California? It is not too late to plan to attend this year's SOA meeting, which is being held in conjunction with the Cymbidium Society of America's annual Congress on Saturday, March 29. There are a multitude of activities throughout that weekend, highlighted by outstanding speakers, including three from other countries, and the renowned Santa Barbara International Orchid Show. (All SOA members should have received the registration material in early February.) Please join us for a memorable meeting of education and camaraderie.

The slipper lectures on Saturday afternoon feature three genera. Stig Dahlstrom of Marie Selby Botanic Gardens will take us "Tracking Phragmipediums – a Slippery Business." Stig is a free lancer, a self-taught watercolor artist, botanical illustrator and orchid taxonomist. His scientific work covers much of the Andean species as well as field work on Phragmipediums. "Biology and Culture of the Genus *Cypripedium*" will be discussed by John Doherty of Zephyrus Orchids in Windsor, Canada. John began growing orchids at the age of fifteen, inspired by the orchid successes

of his father. He holds a Bachelor of Science degree in Plant Biology, is an AOS judge and a Director of the *Orchid Digest*, and has published many articles on slipper orchids. The third slipper lecture takes us to New Zealand. Barry Fraser of Papa Aroha will explain "Breeding Complex Paphs Down Under." He bought his first *Paphiopedilum* flasks in 1982, and started his own breeding program in 1988 based on a broad range of American and English breeding lines. Presently he makes about 300 crosses a year and supplies markets in Japan, Taiwan, Australia, South Africa and the United States. Concluding the afternoon there will also be a panel discussion with these experts answering questions and discussing culture.

The morning lectures start with "Cymbidium Hybridizing Down Under" by Kevin Hipkins of Royale Orchids, Peats Ridge, Australia. Kevin is a *Paphiopedilum* as well as Cymbidium grower. He will discuss his breeding and current trends in Cymbidium hybridizing, including what are felt to be the best parent plants for standard Cymbidiums and his current best flowers. We will learn about "The Evolution of New Types of Decorative Cymbidiums at Mukoyama Orchids in Japan" from Susumu Furuya, whose career has included breeding, sales and culture of Cymbidiums. This firm, of which he is Managing Director, nurtures new types of orchids so that a feeling of soothing co-existence with plant life may be incorporated into daily life. "Judging for Perfection" is the subject of Tony Velardi, who began collecting Cymbidiums a little over thirty years ago. He has served as president and director of several orchid organizations and has been a CSA judge for about ten years. A panel discussion will conclude the morning.

A limited selection of plants will be for sale during the Congress breaks.

Full registration entitles you to admission for the special evening show party on Friday, March 28, 6 – 9 pm., the full day of outstanding lectures and panel discussions, continental breakfast, buffet luncheon, no-host cocktail party and auction, gala awards banquet, commemorative pin, and unlimited entry to the Santa Barbara International Orchid Show throughout the weekend. The early registration fee of \$100 is due by March 1, 2003; late registration is \$125. Partial

DUES ARE DUE!

**2003 dues should be sent to Steve Drozda,
Treasurer,
\$25 for an individual or household
\$50 for a supporting (commercial) member**

**Your prompt response is greatly appreciated,
as it will save the SOA the expense of mailing
dues notices.**

registration is possible for lectures and continental breakfast, luncheon only, or banquet only.

Special room rates are available at the Holiday Inn for \$94 plus tax (805-964-6241) and The Best Western South Coast Inn for \$110 plus tax (805-967-3200). Room reservations should be made by the close of business on March 8 to receive these rates; ask for the Cymbidium Society of America rate.

To receive the registration form or for further information, contact Albert and Sandra Svoboda, 231 Middle Road, Santa Barbara, CA 93108; 805-969-4536; or e-mail stillisch@earthlink.net.

The British Paphiopedilum Society

As President of the British Paphiopedilum Society, also a former Chairman and a co-founder, I am happy to provide a few words about this prestigious group which was formed in late August, 1990, by several enthusiastic Paphiopedilum and Phragmipedium growers. The inaugural meeting was held in conjunction with the British Orchid Growers' Association's Annual Orchid Fayre at the Elcot Park Hotel in Newbury, Berkshire. Almost 100 people attended that first meeting to set up the Society - the small room we had hired was so full that many enthusiasts had to remain outside but, not to be put off, stood in the garden with their heads through the windows in order to participate!

It was agreed that two meetings a year would be held; the main winter meeting fixed its venue at Marwell, near Winchester, on the first weekend of December, and has always been known as the AGM (Annual General Meeting). In the early days I was the main organizer of these functions so it was more convenient to hold the main meeting nearby to allow for regular personal contact with hotel management. Summer meetings floated around the country, but unfortunately they have never achieved the high attendance levels of the winter ones.

The British Paphiopedilum Society is an international group with members in most of the European countries and some in U.S.A. and Canada, Japan, Australia, South Africa and Iran. At first we produced a Year Book and sent out quarterly Newsletters, but everything has now been incorporated into a quarterly Journal under the Editorship of Maren Talbot. The Association holds plant appreciation classes rather than judging. Plants are divided into groups - e.g., species, primary hybrids, multiflorals, complex hybrids, etc., for both Paphs. and Phrags. At the winter meeting each class winner receives the JARRAS Medal, donated by one of our members, Ahmad Sheikhi, and the winner of the best overall Paph. or Phrag. is awarded the (non-commercial) Jim

Binks Memorial Gold Medal, donated and presented by Julie Binks in memory of her husband, Dr. Jim Binks, who was one of our founder members and a real Paphologist. He was also a good friend. At this meeting we also have the Yvette Briois Medal, donated by Dr. Jean-Remy Briois and presented by Yvette for the best foliage plant - their exemplary intention is to give each member the chance to be a winner, even when the prize plant is out of bloom! - and a large silver salver for the commercial prize, donated anonymously by one of our members. At the summer meeting each class winner receives a Caithness Glass goblet and to the overall best goes the John Garner Trophy, donated by our Show Secretary in memory of his mother.

Over the years we have enjoyed as guest speakers many of the well-known figures in the Paph. and Phrag. world, including Joyce Stewart and Mollie Pottinger, our very first speakers, followed by (in alphabetical order) Judy Adams from Canada, Leonid Averyanov from Russia, Phillip Cribb, Alan Moon and Ray Oddy from the UK, Jerry Fischer, Norito Hasegawa, Tom Kalina, Harold Koopowitz, Joe Kunisch, Karen Muir, Kevin Porter and Sam Tsui from the USA, Guido Braem, Olaf Gruss and Franz Glanz from Germany, Koichi Hiyama and Machan Takahashi from Japan, Philippe Lecoufle and Marcel Lecoufle from France, Joan Elvin and Roelie and Angela van Rooyen from South Africa, and Robert Willmott from Australia. The main talks are often filled out with short presentations from members showing their "Ten Plus-or-Minus Favorite Paphs./Phrags," and there have also been some lively and informative Culture Forums. The BPS went from strength to strength but after ten years or so the hotel service dropped below that to which we were used, and the Society began to move elsewhere for both meetings; membership seemed ever more reluctant to follow, however.

Now I'm happy to say that the winter meetings have returned to Marwell, which is where it all began, and hopefully - along with our colleagues in the Slipper Orchid Alliance - we look forward to an ever-increasing amount of interest and enthusiasm among the world's Paph. and Phrag. growers. If you are planning to be in the UK at the right time, please make contact and join in one of our meetings - you will be very welcome! Contact the Secretary, Claudia Whales, at Ratcliffe Orchids Ltd., Owslebury, Winchester, Hampshire SO21 1LR, England.

(e-mail: ratcliffe@zoo.co.uk).

*Paul Phillips, President
British Paphiopedilum Society
Ratcliffe Orchids, LLC*

Upcoming Events

Santa Barbara International Orchid Show
March 27-30, 2003
Holiday Inn, Goleta, CA
Joint meeting of Cymbidium Society of
America and the Slipper Orchid Alliance.
Contact Albert and Sandy Svoboda for more
information. 805-969-4536 or email at
stillisch@pol.net

SOA Has Tax-exempt Status

Effective as of May 1, 2002, any donations made to the Slipper Orchid Alliance may be deducted as a charitable contribution on your income tax return, because the Internal Revenue Service has recognized us as a 501(c)(3) tax-exempt organization. Travel expenses for official SOA business, for example as a Board member attending a meeting, would also be deductible. It is very gratifying that our efforts and activities have been recognized as serving an important educational function in such a short period of our existence.

Many Thanks and Welcome

Our extremely efficient Membership Secretary, Barbara Noe, did a superb job of keeping records and producing a comprehensive and elegant Membership Roster. We owe her a great debt of gratitude.

Unfortunately she is not able to continue at this time, and Jean Metcalf, from the Erie, Pennsylvania area, has accepted this vital responsibility. Dues should still be sent to Steve Drozda, as they have been, but any changes or corrections in membership information should be sent to Jean at 2553 Main Street, Lake City, PA 16423; (814) 774-4932; orchidiva@yahoo.com. Our deepest thanks to both.

Euro-Paphs

A new Yahoo group called "Euro-Paphs" has been opened by Dr. Jean-Paul Pichardie. He describes it as a European interface between serious collectors of slipper orchids to exchange information on:

- Paphiopedilum societies in the European Union, Asia, and the Americas
- divisions and seedlings available from professional growers in the E.U.
- divisions and seedlings available from private collectors in the E.U.
- visiting growers from overseas bringing LEGAL plants for sale in the E.U.
- botanical gardens and collections to visit
- hybridization
- pollen exchange
- culture.

Paph friends from all countries and continents are warmly invited. If you would like to join, the address is <http://groups.yahoo.com/group/Euro-Paphs/>. All messages will be edited and the group will be a closed group to avoid spam. English is the official language.

Reminders

Just a friendly reminder that SOA dues for 2003 are now due and can be mailed to Steve Drozda, 661 Harrogate Road, Pittsburgh, PA 15241. Current membership expires on April 1, 2003.

Please also consider the woes of Tom Larkin. Here he is in northern Arkansas, way back in the boonies. The winter has not been kind to him. Snow storm after snow storm, freezing temperatures, loneliness. No one to keep his spirits up except Barbara and his plants. Sitting and waiting for an entry to arrive for the SOA logo contest. But, alas, not one has arrived. So he sits. And waits. Looking at that bottle of fine wine that goes to the prize winner. Thinking about what will happen to that bottle of wine if no one enters. Maybe, just maybe no one will enter the contest and then it will be up to him to determine the fate of the wine. And the winter stretches on. And the bottle of wine looks all the more inviting.

But if someone enters the logo contest, then they might win the bottle of wine. All entries should be sent to SOA Logo, Tom Larkin, 9790 Larkin Lane, Rogers, AR 72756.

Phragmipedium Jimi Hendrix 'Guitar Player'

Not many studies have been done on chromosome numbers of Phragmipedium species and hybrids. Donald Wimber did most of the cytogenetic work on this genus of Lady-slippers, native to South America, back in the 1980's. Most Phragmipedium species tend to have between 18 and 30 chromosomes, but a lot of authors have conflicting data regarding the number of chromosomes for a particular species.

Phragmipedium Jimi Hendrix, a hybrid made by Jerry Fischer of Orchids Limited, Plymouth, Minnesota, is a cross between Phrag. April Fool 'Fools Gold' (Cardinale x besseae) which is a possible tetraploid and a tetraploid Phrag. besseae 'Rob's Choice.' Phrag. Jimi Hendrix is comprised of 75% Phrag. besseae, 18.75% Phrag. schlimii and 6.25% Phrag. longifolium. Phrag. besseae has a chromosome number of 24 (Cox et al., 1998); Phrag. schlimii has a chromosome number of 30 (Karasawa, 1979; Atwood, 1981; and Wimber, 1983). It is unclear how many chromosomes Phrag. longifolium has. It is known that Phrag. longifolium is a very variable species so it may be that different populations of this species have different chromosome numbers, but more research needs to be done to confirm this. Another reason for this variability is due to B or supernumerary chromosomes floating within the population, with some clones having them and others not (Wimber, 1983). According to Karasawa (1979), Phrag. longifolium has 23 chromosomes; according to Atwood (1981) and Wimber (1983), Phrag. longifolium has 20 chromosomes; and according to Cox (1998), Phrag. longifolium has 21 chromosomes. This variability of chromosome numbers in different cultivars of Phrag. longifolium gets reflected in its offspring with Phrag. schlimii. Phrag. Sedenii (longifolium x schlimii) has chromosome counts of 25, 26, 35 and 40 (Wimber, 1983). Phrag. Jimi Hendrix 'Guitar Player' seemed to be a polyploid with thick wide leaves and large thick petals. As we were curious to see if it was a polyploid, we counted the chromosomes of this clone and of its ancestors.

Materials and Methods

Luckily we still have a number of clones in our collection at Orchids Limited that are part of the family tree of Phrag. Jimi Hendrix 'Guitar Player.' These clones are: Phrag. April Fool 'Fool's Gold,' Phrag. besseae 'Rob's Choice' AM/AOS and Phrag. Cardinale 'Birchwood' AM/AOS. We were not able to count the chromosomes of the clone Phrag. besseae 'Red Wing' but were able to count two other clones of diploid red Phrag. besseae and two clones of yellow Phrag. besseae.

We do not know which clone of Phrag. Sedenii and Phrag. longifolium were used, but as the chromosome counts of Phrag. longifolium are so conflicting in the literature we decided to recount the chromosomes of three populations of Phrag. longifolium in our collection: Phrag. longifolium var. hincksianum, Phrag. longifolium var. hartwegii and a population of small compact Phrag. longifolium from Peru without a varietal status.

Growing root tips were excised and pretreated in 0.002 mol/L 8-Hydroxyquinoline for 4 to 5 hours at 18 °C. Next the root tips were fixed in 3 parts Absolute ethanol and 1 part glacial acetic acid (freshly prepared) for at least one hour. The root tips were transferred to 45% Acetic Acid for 5 minutes at 4 °C. The root tips were then hydrolyzed in 1 mol/L HCL at 60 °C for 1 minute. The root tips were transferred to Feulgen solution stain for at least 30 minutes or up to 24 hours at 4 °C in the dark. The next day the root tips were transferred to 70% ethanol and could be squashed under a cover slip with 1% Aceto-Carmine or could be stored at 4 °C. Two to three root tips per clone were fixed and used for counting the chromosomes. From each slide the chromosomes of 4 to 6 meta-phase cells were counted.

Results

Table 1 and Figure 1 indicate the chromosome numbers for the species and hybrids counted for this study.

Species or Hybrid Name	Chromosome count
Species	
<i>Phrag. besseae</i> 'Ecuador #88'	24
<i>Phrag. besseae</i> 'Sunfire'	24
<i>Phrag. besseae</i> flavum #1	24
<i>Phrag. besseae</i> flavum #2	24
<i>Phrag. besseae</i> 'Rob's Choice' AM/AOS	48
<i>Phrag. longifolium</i> var. <i>hartwegii</i>	24
<i>Phrag. longifolium</i> var. <i>hincksianum</i>	24
<i>Phrag. longifolium</i> (small Peruvian form)	24
Hybrids	
Phrag. April Fool 'Fool's Gold'	48
Phrag. Cardinale 'Birchwood' AM/AOS	38
Phrag. Jimi Hendrix 'Guitar Player'	60

From the results it is clear that we were able to confirm earlier reports of 24 chromosomes for Phrag. besseae. This chromosome number applies also for the yellow form of Phrag. besseae (besseae var. flavum). We were also able to confirm that Phrag. besseae 'Rob's Choice' AM/AOS is a tetraploid with 48 chromosomes. All our counts of Phrag. longifolium showed 24 chromosomes. We were not able to detect if these included any B-chromosomes, so further study

needs to be done to confirm this. From the hybrids that we studied we were able to count 48 chromosomes for Phrag. April Fool 'Fools Gold' which indicates that this is a possible tetraploid plant (if one assumes a base number of 12); Phrag. Cardinale 'Birchwood' AM/AOS had 38 chromosomes which indicate that it is a possible triploid. Finally, to our surprise, Phrag. Jimi Hendrix had 60 chromosomes, which indicate that it is a pentaploid (with a base number of 12). One must note that in these complex hybrids it is hard to call a plant 'tetraploid' or 'triploid' etc. A lot of these hybrids may be actual aneuploids (have additional chromosomes or are missing some chromosomes). Also we are dealing with different base numbers because these are hybrids of three or more species that all have different base numbers.

The chromosome count of 60 for Phrag. Jimi Hendrix 'Guitar Player' is to our knowledge the highest chromosome count for any Phragmipedium species or hybrid. Both parents of Phrag. Jimi Hendrix have 48 chromosomes. It is probable that one of the parents had an unreduced gamete with an extra chromosome set of 12 chromosomes (24 + 12 chromosomes) plus a regular gamete (24 chromosomes) from the other parent creating $36 + 24 = 60$ chromosomes. The question is how far can we go with increasing the chromosome count in these Phragmipedium hybrids. I believe that a chromosome count of 60 is probably as high as it will go. Phrag. Jimi Hendrix 'Guitar Player' is sterile and thus a dead end. If we were able to increase the chromosome count we would probably get deformed plants and flowers.

*Dr. Robert-Jan W. Quené
4630 North Fernbrook Lane
Plymouth, MN 55408*



Phrag. Jimi Hendrix 'Guitar Player'

Growing Cyripediums in Your Garden For Beginners

REALITY CHECK:

Cyripediums, commonly called lady's slippers, are lovely native orchids that are a challenge to grow. They grow in temperate regions of North America, Europe, and Asia. For those of you who have grown paphs, phrags and phals, you will find out that cyps do not deliver the same blossom satisfaction of the tropical orchids.

Where the tropical lady's slippers have blooms that can last over a month, cyp blossoms, if you are lucky, may last a week at best. Unusually warm weather or heavy rains will shorten the life of the bloom. They are temperamental plants that take time to master and you will experience losses so be prepared. Cyps require a lot of work and care; they are susceptible to extreme hot and cold, numerous fungus infections, slug attacks and neglect.

THE BASICS:

Cyripediums are temperate orchids that require a 3 – 4 month winter dormancy at temperatures below 45 degrees. Therefore, those of you in warm areas, such as southern California, Florida and Arizona, cannot grow these plants outside. Despite what you may have heard, artificially propagated cyps and hybrids do not require a symbiotic fungus in the soil for the plants to live. However, if this fungus is present, it will benefit the plants.

Cyripediums you should consider growing should be the easiest species: Pubescens (yellow), Parviflorum (small yellow), Reginae (showy) or hybrids (Gisela). Please do not attempt to grow Acaule or Montanum. These plants will always die unless they are in their natural habitat. If you have cyps growing naturally on your property best to leave them be but show them some care.

Cyps are best planted in the fall when they are dormant, however I have planted them in the spring in full bloom with good success.



Cyp. pubescens and Gisela with Trillium luteum

THE LOCATION:

Cyps do best in dappled shade. Morning and late afternoon sun are ideal. Full sun at noon will cook your plants, even the sun loving candidum. As I have learned, try to avoid planting directly under maple trees as their roots will invade your garden and choke the plants. It is important to keep the fine balance between bright dappled sunlight and not too hot conditions.

PREPARING THE GARDEN:

I strongly recommend making a special raised garden for your cyps. I use lichen covered rocks to make my raised bed. An area is dug out, soil is removed, a weed liner is placed down, and then the rocks are laid around the perimeter. I punch holes into the weed guard to assist drainage. Over the weed guard I put about an inch of gravel/crushed stones, again for drainage. The removed soil is put back on top and then you must prepare my special cyp soil mix.

I have found this mix very good with my cyps. I use Fafard premium potting soil, with sterile white play sand, perlite, paph potting mix (it's available in huge 3 cubic foot bags) and leaf compost. I actually do the mix by eye, but I would say the mix is 50% potting soil, 5% perlite, 5% sand, 20% paph potting mix and 20% leaf humus. This is a light and airy mixture that encourages root growth and retains moisture.

The mix is added to the raised bed, brought level to the rocks, and then watered to settle down. This garden can be made in the Spring or Fall, there is no need to wait before you bring in the plants. I normally do this in late September.

THE PLANTS:

For beginners and even experienced growers, I recommend first, *Cypripedium Gisela*. This is a hybrid of *Parviflorum* and *Macranthos* and was hybridized by Werner Frosch of Germany. This plant is very heat and cold tolerant, multiplies rapidly, and makes a very lovely pinkish flower. I also recommend *Pubescens*, *Parviflorum* and *Reginae*. *Kentuckiense* is simply too expensive for beginners. *Candidum* is also somewhat easy to grow as is its hybrid *Andrewsii*.

As these plants become established, over time some will multiply by sending out additional buds. Not all plants do this. I have *Pubescens* that are over 30 years old that remain single nose plants. I also like *candidum* but have only grown it for one year. It likes a sunny grassy location so I put one right at the edge of my lawn and stone walkway. I let the grass grow long to shelter it but it wilted in the noon sun so I had to put a table over it for shade.

HOW TO PLANT THEM:

Cyps have thin spidery roots. Your plants usually are bought bare root and shipped dormant. Simply dig about 4 inches deep into your prepared bed.

The center of the plant must be at the highest point and the roots are laid out and spread down lower than the crown of the plant. The bud should not be more than one inch under the soil. Planting too deeply will result in a weak plant. I make a small mound of dirt then mount the plant atop and then spread out the roots. Place a marker and then cover with the soil and gently pat down the soil.



Making an addition to the front cypripedium garden



Cyp. candidum, bare root

COMPANION PLANTS:

Remember, you'll at best have blossoms for one week in mid-May so you need companion plants to keep things looking good.

Bulbs and cyps get along fine, so crocuses/snow drops and daffodils look nice in the cyp bed. Trillium is a must, it makes a lovely companion as does blood root and Dutchman's breeches.

Maiden hair ferns and wood ferns are also another must! I also encourage creative use of moss and rocks to make a perfect garden.



Cyp. pubescens with phlox, daffodils, blood root, ferns and more.

MY SECRETS FOR SUCCESS:

Maintaining your cyp garden is the most important secret for success. Fertilizing is important. I use either liquid Miracle Gro or the new granular form. Your cyp bed must

be kept moist and **NEVER** allowed to dry out. It also must not be soaking wet or the plants will rot. During the hot summer months, I water every evening with the hose or sprinkler. Reginae and Candidum like crushed lime rocks. Do not allow the plants to be crowded out by weeds or tree roots. For their first 3 years, do not allow them to go to seed if they are pollinated.

SOURCES:

These are sources I have used that provide mature healthy artificially propagated species plants and hybrids:

VERMONT LADY SLIPPER COMPANY

56 Leduc Road
New Haven, Vermont 05472-1000
<http://www.vtladyslipper.com/>

**WERNER FROSCH
HÖHENWEG 8**

63303 DREIEICH
GERMANY
http://www.w-frosch.onlinehome.de/menu_e.htm

CARSON WHITLOW/Cypripedium Haven

2291 - 280th Street
Adel, IA 50003 E-mail: SlipperGuy@aol.com
Phone: (515) 993-4841
Fax: (515) 993-3623
<http://www.cyphaven.com/index.htm>

These sources provide certified documented salvaged/rescued cyps:

TOM NELSON/WOODS END NURSERY

807 College Street
Northfield, MN 55057
507-663-1544

CARSON WHITLOW

2291 - 280th Street
Adel, IA 50003 E-mail: SlipperGuy@aol.com
Phone: (515) 993-4841
Fax: (515) 993-3623
<http://www.cyphaven.com/index.htm>

THE FUTURE:

Artificial propagation and hybridization of cypripediums is in its infancy. I predict in 5 – 10 years the growers of tropical orchids who produce them in the millions, will realize the demand for cypripediums is there and start up mass production of cyps. It will be nice to be able to buy these artificially produced plants at your local garden centers for reasonable prices. I truly believe we shall see that eventually.



My raised cyripedium garden under the maple tree

CONCLUSIONS:

The transition from tropical lady's slippers to temperate ones is a challenge but one not without its rewards. I strongly recommend everyone spend some time reading through the posts of the *Cypripedium* Forum for invaluable information:

<http://www.cypripedium.de/forum/index.html>

Paul P. Perakos
perakos@hartford.edu

Paphiopedilum Ho Chi Minh

Back in 1999, Neboscha Popow, a well known orchid grower in Germany, took pollen from one of his best *Paphiopedilum vietnamense* and used it to pollinate one of his best *Paphiopedilum delenatii*. The cross produced viable seed, and Mr. Popow distributed the resulting flasks to a number of nurseries around Europe. Many plants began to flower in the spring of last year. In March 2002 a blooming plant was taken to a monthly regional judging center in Germany where it received a Silver Medal, similar to an Award of Merit in AOS judging. That same weekend the necessary paperwork was submitted to the Royal Horticultural Society to register the hybrid as *Paphiopedilum Ho Chi Minh* (*Paphiopedilum delenatii* x *Paphiopedilum vietnamense*). {The new hybrid was published in the RHS May-July 2002 list and in the November 2002 AOS *Orchids*. }

These first blooming hybrids consistently show marked improvement over both parents - larger and better color than *Paph. delenatii*, rounder and flatter than *Paph. vietnamense*. Subsequent remakes of this cross may not produce such

uniformly spectacular results.

The two plants used to make this hybrid were selected from the best parents available. In Germany and Holland, *Paph. delenatii* breeding is serious business. Even hobby growers often keep fifty or more individual clones, and after



Paph. Ho Chi Minh

three or four generations of selective breeding the quality of *Paph. delenatii* seedlings available in Europe is outstanding. Breeders select for a combination of size, form, pouch color, flatness and fragrance. If you ask the price of a particularly good blooming clone the response you're likely to get is, "You probably don't have enough money in your pocket."

Paphiopedilum vietnamense has yet to reach even the first generation of sib-crosses. Most of the seedlings being grown in Europe are selfings; since so few were imported after their discovery in 1999, finding two in bloom simultaneously was rare. Saving pollen wasn't an idea that caught on with the few growers that had imported *Paph. vietnamense*. The thinking was that more plants would soon be available, and there would be better clones among them. Sadly, *Paph. vietnamense* remains rare to this day and great clones are rare indeed. Few have a solid colored pouch or round form. Photographs of good forms of *Paph. vietnamense* were probably taken within the first few days of the flowers opening; after that the top and bottom of the petals usually reflex backward, giving them a rectangular appearance. The *Paph. vietnamense* used to make the original *Paph. Ho Chi Minh* was a clone that had a solid dark purple pouch and non-reflexed petals.

Paphiopedilum vietnamense is finally becoming legally available in the United States. AnTec Laboratory recently offered flasks of this species on their website. AnTec obtained permission from the U.S. Fish and Wildlife Service to germinate seed pods from plants previously confiscated by the Customs Service, then cultivated in a designated rescue center. (As required by CITES, the plants had been offered back to Vietnam, and when their return was refused, they were placed at an official rescue center, where they have thrived. Growth that existed at the time of placement must remain at the rescue center, whereas new growth may be propagated. Capsules were set on selected plants at the center.) Documentation is supposed to accompany these legal plants. This should be good news for all growers and breeders.

There's little doubt *Paphiopedilum Ho Chi Minh* was being made in other parts of the world at about the same time it was made in Germany. It is now being grown, exhibited and awarded in Europe, Asia and Australia. More important, it is being admired and enjoyed, as it should be, as a welcome addition to many slipper lovers' collections. Let's hope that soon we don't have to travel so far to see one.

Dennis D'Alessandro
Gypsy Glen Orchids

The Himantopetalum Section of *Phragmipedium*

The Himantopetalum Section of the genus *Phragmipedium* currently consists of five species: *caricinum*, *ecuadorensis*, *klotzscheanum*, *pearcei*, and *richterii*. All of the species are similar in their culture, and in their flower size and shape, in some cases making them difficult to identify. All five species are also native to South America.

These species are very typical of the *Phragmipedium* stereotype in that they love and require moisture at the roots. Each of the five species generally is found at or very near river or stream channels, in a lot of cases on granite rock outcroppings. In some instances, when the river water rises, the plants will become fully submerged under water. In other words, these plants require large amounts of fresh water at the roots. We grow all of our plants in shallow trays and apply water to the trays when the trays have gone dry. No water is applied at the top of the pot. The plants do not tolerate standing water in the crowns, especially during the formation of the inflorescence. The plants benefit from regular light feedings of fertilizer, especially when in flower. The plants seem to prefer and in some cases require being repotted on a very regular basis, up to twice per year due to the heavy concentrations of moisture at the roots. As with most of the *Phragmipediums*, the type of media does not seem to be too critical. The selected media should hold even amounts of water, resist rapid decay when subjected to large amounts of moisture and allow good air circulation at the roots. Each of the five species enjoys high levels of humidity and bright light. Good air circulation provided twenty-four hours a day is also a must in collections consisting of more than a few plants.

All five species have generally green flowers of varying size held nicely above grassy like dark green foliage. The five species similarity ends here. Three of the five species tend to ramble on long rhizomes between growths. *Pearcei*, *klotzscheanum* and *ecuadorensis* all are better contained in shallow bulb pans to allow for the rambling habit. These three species will tend to also grow up and out of the pots as well. These species seem to always enjoy the media in the neighboring pot. This sometimes can be irritating in a neat greenhouse, but it also makes it easy to make rapid divisions to share with friends. *Pearcei* and *ecuadorensis* tend to grow fairly rapidly while *klotzscheanum* tends to be a bit slower. The other two species, *caricinum* and *richterii* differ from the other three in that they form neat dense clumps and rapidly form nice specimen plants. *Richterii* also differs in its overall form in that it is generally twice as large in both leaf width and spread as the rest of the species in the group. All five species form stiff upright inflorescences producing many successive blooms. Both *richterii* and *caricinum* will on many occasions

produce branched inflorescences, allowing for several flowers to be open simultaneously.

Of the five species, three are fairly easy to distinguish; however, *pearcei* and *ecuadorensis* must be identified by the staminodes. The flowers are about two to five inches vertically for all five species. *Phragmipedium caricinum* tends to be one of the smaller flowers in the group. The green flower base is often overlaid with brown and burgundy. The petals tend to be held vertically and twist slightly, much less than the others in the group. The pouch opening is very heavily spotted with brown or mahogany spots. The staminode is very clean with very few hairs. *Phragmipedium ecuadorensis*, found in its namesake country, is very similar to *pearcei*. While traveling in Ecuador, I experienced *ecuadorensis* as a very lush thick ground cover, lining several garden paths. It tends to bloom sporadically, unlike *caricinum*, which blooms regularly enough to set your calendar by. *Ecuadorensis* produces mostly green flowers with lightly twisted petals. It has more of a round staminode than *pearcei* and has dark brown to black hairs wrapping the top two thirds of the upper edges. The pouch is light green with darker green vertical stripes. In my personal experience, I find *ecuadorensis* the most reluctant to bloom on a reliable basis. *Phragmipedium klotzschianum* has been relatively unavailable for sale until recently. The species still demands higher prices due to its rarity. This species is the smallest of the five in terms of the plant itself, but produces a relatively large flower. The plants are very stiff and upright and tend to ramble as well. The plants will wilt and show signs of stress very quickly if allowed to dry out. *Phragmipedium klotzschianum* produces flowers with yellow green solid pouches with a white interior. The petals tend to be burgundy to pink in color. *Phragmipedium pearcei* is probably the most common of the five species. The plants and flowers, as indicated above, are very similar to *ecuadorensis*. *Pearcei* tends to be a little larger, has heavier twisted petals and has a more angular staminode with heavy hairs only on the top edge. The best clones have wonderfully twisted petals. The final species, *Phragmipedium richterii*, is the largest of the group. *Richterii* has only recently been described and is still commonly sold under the name of *amazonica*. *Phragmipedium richterii* has much larger foliage than the others in the group with leaf spans reaching two feet across with leaf widths nearing one half an inch. The five to six inch flowers are produced on very tall upright, sometimes branching inflorescences. The flowers are generally green with a white interior in the pouch. The top of the pouch also has green spotting at the top opening.

The species in this group have not been heavily used in breeding. In most cases, the plant size is reduced with not a lot of impact on the resulting flowers. Some of the more notable hybrids include the following: Mary Bess (*caricinum* x *besseae*), Ecua-Bess (*ecuadorensis* x *besseae*), Olaf Gruss (*pearcei* x *besseae*), Green Hornet (*pearcei* x *longifolium*),

Carol Kanzer (*pearcei* x *schlimii*) and Predator (*richterii* x *caudatum*). Most of these hybrids take the form and color of the non-*Himantopetalum* Section parents. However, these plants tend to be a little easier to grow and flower, especially those crossed with *besseae*.

Overall, these five species merit room in the greenhouse. Four of the five species form mature specimens in six inch pots, have extended blooming periods and produce some interesting green flowers. When given the adequate moisture and good bright light, these species will reward the grower for many years to come.

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Phrag. richterii



Phrag. caricinum

Phrag. pearcei



Plant Rescue Centers A 'New' Role in Conservation

As a slipper orchid grower and hybridizer chasing the elusive perfect pink *Paphiopedilum*, the discovery of new species near the North Vietnam – Southern China border, including *Paph. delenatii* in a variety of hues and *Paph. vietnamense*, whetted my appetite. Unfortunately, legally obtaining these was clearly prohibited both by CITES and a strict prohibition by the Vietnam government of trade in plants, pollen, or any plant parts. Illegal plant trade offered these species for exorbitant amounts reaching levels as high as \$10,000 U.S., but involvement in these practices clearly violated all concepts of species and habitat protection. A development which only recently came to my attention deserves wider recognition by fellow aficionados and a reappraisal by some of the much maligned CITES apparatus.

I have recently been made aware of a potential opportunity for plant rescue centers to significantly ease over-collection of certain species, making availability legal for orchid enthusiasts and collectors, opening new directions in hybridization and negatively impacting illegal trade. In discussing these opportunities with two directors of Plant Rescue Centers, I found that they were not fully cognizant of these recent opportunities and interpretations that I had verified with authorities in the Department of Agriculture.

Since 1995, several previously unknown species in the genus *Paphiopedilum* have been discovered in Southeast Asia, most notably in Vietnam. In addition, *Paph. delenatii*, a showy, pink-flowered species discovered in the early 20th Century and unknown from the wild since that time, was rediscovered in the early 1990s. Some of the newly described species may actually be natural hybrids of well-known taxa, but are being recognized as new discoveries of naturally occurring entities. Several are showy or possess other characteristics that make them highly prized to collectors and for hybridizing for the commercial market. While *Paph. delenatii* is already known in cultivation and widely available, until its rediscovery all plants in cultivation were believed to have been derived from a single plant. Additional plants from the wild are desirable to improve the genetic composition of cultivated stocks.

The best way to illustrate the above mentioned opportunities is to use a recent example currently listed at www.ladyslipper.com, the web-site of AnTec Laboratory of Candor, New York. In July 1999, a shipment of *Paphiopedilums* from Vietnam was intercepted at a U.S. entry port and found to be illegal.

“We are pleased to announce to all slipper growers a very special flask offering. We have been working with a rescue center the last two years, and will have available for late spring/early summer release legal flasks of *Paphiopedilum vietnamense* sib crosses. These flasks are

derived from plants that were intercepted at customs and confiscated. The plants were then offered back to the range country as is required by CITES, and when their return was refused, they were placed at an official rescue center where they were recovered and have thrived. We were approached by the rescue center to see if we were interested in propagating these plants, and after several consultations with senior management at US Fish & Wildlife, it was determined that new growth on the plants (growth that existed at the time of placement must remain at the rescue center, new growth on legal plants in cultivation is artificial propagation) could be propagated, and as a result, capsules were set on select plants at the center.

...The first group of flasks to be offered are plated with approximately 15 plants each and will be priced at \$175. They are now growing strongly and have good root systems started into the agar. ... to make this offering of legal *Paph. vietnamense* as widely available as possible, we will limit delivery to one flask per customer. ... A portion of the sale of each flask will be returned to an auxiliary group supporting the rescue center to further their endeavors in conservation.”

Since there are 15 plants per flask, the price of \$175.00/flask translates into about \$12.00 per seedling, a not unreasonable price for a new premier offering.

Let me review the steps by which propagules of *Paphiopedilums* entering the U.S. without proper documentation may become available to growers. All species in the genus *Paphiopedilum* are included in CITES Appendix 1 and are therefore prohibited from trade for commercial purposes, except as they may qualify for treatment under the exemption of Article VII, paragraph 4 and in accordance with the requirements of Resolution Conf 11.11 for artificially propagated plants including flasks seedlings. The failure of some flasks seedlings to satisfy the requirements for artificially propagated plants are two-fold: First, in at least some cases, range countries PC11 Doc. 24.4 – p.2 have not allowed the legal export of these species, either as wild-collected or artificially propagated specimens, with the possible exception of scientific research specimens. Second, some species have been over-collected and may have been extirpated, or nearly so, such that parental stock was obtained in a manner detrimental to the survival of the species in the wild.

Plants coming to the US enter the more than 20 ports of entry where Animal and Plant Health Inspection Service inspectors (APHIS) determine whether plants are in compliance with import/export requirements of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and that no foreign plant pests or disease is present. Shipments of plants determined to be illegal (and all *Paphiopedilum* species cannot be legally traded) are confiscated. These Plant Protection and Quarantine (PPQ) ports usually maintain shipments as units

and maintain these units for 30 days while the country of export is offered the plants returned at the export country's expense. Rather than maintaining confiscated plants for the requisite 30 days at the PPQ port, they may be transferred to a Plant Rescue Center (PRC) for care during this time. APHIS obtains legal ownership through forfeiture procedures.

For some illustrative numbers, in 1995 465 million plants entered 16 PRQ ports and 18 million were endangered. 17,500 plants were placed in Plant Rescue Centers. This is a small percent of the total plants, but possibly a heavy load for an individual PRC.

Plant and Rescue Centers were established in 1978 under a program of the US Fish and Wildlife Service of the US Department of Agriculture. The US Fish and Wildlife Services office of Management Authority (OMA) enlisted botanical gardens, arboretums, zoological parks and research institutions in the US to volunteer as PRCs. A PRC must be a government or a privately funded non-profit entity. Of the original 61 PRCs in 25 states plus the District of Columbia and Puerto Rico, 57 still are active. Not all accept orchids. Some may be in areas where orchids cannot flourish. Others may not have greenhouses to modulate temperature fluctuations. Some PRCs do not have expertise for all orchids or the requisite enthusiasm.

PRCs may display, propagate, or otherwise use plants for purposes consistent with CITES, but these plants remain US property and the PRC may not trade, sell or otherwise dispose of them. Propagules of the plants, though, become the property of the PRC and may be traded, sold or dispersed through other means.

To make these comments current and timely, if a PRC does not have the time or manpower or expertise to carry out desired selfing, sibling, or hybridization, a regional AOS affiliated society almost certainly could provide toothpick brigades of pollen pushers to lend assistance. If flasking is not available at the PRC or there are financial constraints, again the regional AOS affiliated societies could barter supplying the means for a share of the agar planted rewards. Plants could and should be distributed at minimal but reasonable cost, essentially destroying the black market

for such prized species and lifting some of the habitat pressure from collectors.

A win-win-win-win potential:

- for the habitat – to reduce over collecting;
- for the orchidist – to move in new directions;
- for the PRC – a potential source of revenue;
- for the species – the first step in line breeding for improvement.

Albert C. Svoboda, Jr., MD
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Secretary, SOA

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