



The **Slipper Orchid Alliance Newsletter**

Volume 7, Number 1

Spring 2006

2006 Paphiopedilum Guild Meeting

It is mid-January on the coast of California again. This means time for the 50th Paphiopedilum Guild Meeting, which was held at The Inn at Morro Bay, January 14-15. A weekend again for Paphs, Paphs, Paphs (Phrags too), good presentations, good food and good friends. This was the first Guild meeting without its original organizer, Norris Powell, who passed away shortly after the meeting last year. Most of the presenters acknowledged this event with old pictures and memories of Norris, who had organized this event along with his daughter, Patti James, forever, or so it seems. Patti has now taken up the mantle of continuing this special weekend of camaraderie.

This meeting was called to order by the Chairman, Dr. Louis Hegedus of Ft. Collins, Colorado, on Saturday morning. He introduced the first presenter, Norito Hasegawa (Paphanatics, UnLtd.), who started the day with his presentation of "Paph Species and Their Influence on Hybrids." Norito opened with a small history of the Paph Guild and the old Paph breeders who were well known in the Paph world, recalling especially John Hanes (who passed away January 5, 2006) and was the first judging chairman of Pacific South. He then divided his presentation into color

sections of reds, greens and golds, white, and spotted Paphs and showed the basic species contributing to these sections of breeding and what has evolved through them into some of the finest complex hybrids.

After a short break, Francisco Baptista (The Paph. House), continued with his presentation of "The Past and Present of Complex Hybrids," commenting on other directions of breeding complex paphs.

Following Francisco, Charles Weckerly-Thrun (Lothorian Orchids), presented the award slides given to Paphiopedilums and Phragmipediums in the last few years by the Cymbidium Society of America.

After lunch, Paul Phillips (Ratcliffe Orchids), presented his outlook on "Why Are Paphs Complex?" Paul went back in history with the English breeders, and his slides proved that some so-called "new" things have been around for a long time.

At the end of the lecture portion of the day, there were orchid sales in the hotel along with no-host cocktails and hors d'oeuvres. Orchids of Los Osos also had a cocktail/food/sales event at their greenhouses. Capping off the evening was the banquet.

On Sunday morning, the first speaker was Helmut Rohrl (La Jolla, California), giving his PowerPoint presentation "Paphiopedilums in Germany," showing primary hybrids of some of the species that are not yet legal in the United States but are being used for breeding in Germany, particularly Paph. helenae, hangianum and vietnamense. The German hybridizers were Thomas Fourmann, Rene Klinge and Franz Glanz. These primary hybrids and their photos have basically never been seen in the US. A treat for the dreamers.

The closing speaker was William Goldner (Woodstream Orchids), whose PowerPoint subject was "Report from Orchid Heaven, Growing Phragmipediums – A Perspective." His program detailed the Phragmipedium species, including Phrag. kovachii, and a trip to Ecuador and Panama visiting some of the habitats and their growing conditions. He then recounted how Woodstream Orchids adapts to these growing conditions in their greenhouse environment in Maryland.

SOA Membership

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, 2323 Edinboro Rd. GH#6, Erie, PA 16509. Questions about your membership? Jean can be contacted at orchidiva@yahoo.com.

The Paphiopedilum Guild is always a weekend of shared fun and information, but sometimes even that is intruded upon by some sobering reality. Unfortunately that happened this weekend at the Guild when another California icon, Trudi Marsh, passed away in her room the night before – preparing to do what she loved best, being with orchids and friends.

*Karen Muir
Laguna Niguel, CA*

Update on Coconut Husk Chips

Although many growers, including commercial ones, have turned to coconut husk chips as an alternative to fir bark, we have been hearing some cautions about their use related to their possible retention of salts. Bob and Lynn Wellenstein of AnTec Laboratory have posted new instructions for cleaning the CHC before use. For more information go to their website, Anteclab@ladyslipper.com, and in their Paphiopedilum Orchid Reading Room find “Use of Coconut Husk Chips for Potting Medium.” We repeat their pertinent instructions about washing the CHC below and we thank them for allowing us to present them here. Following the AnTec directions we have comments from Jerry Fischer of Orchids, Ltd. on his experience using this medium.

“We use the compressed bales of coconut husk chips from Crystal Company of Saint Louis, Mo. or Roberts Flower Supply in Ohio. These have been prewashed and pressed by the company a couple of times to reduce the amount of leachable salts contained in the product, which can vary greatly and be quite high from some sources. They are both Sri Lankan sourced, which appears to be better quality than other sources. When hydrated, each bale will swell to about 6 to 7 cubic feet of husk, so we divide each bale into two 32 gallon containers (plastic garbage cans) for hydration. The coconut husk from these bales has been extremely clean with relatively little dust, and quite uniform in size. There will be a small amount of fines after hydration, but the amount has been so small as to present no problems.

To prepare the husk we first hydrate the bale in two 32 gallon containers at least overnight, and then transfer the hydrated husk and excess water to a second container that has had a large number of holes drilled into the bottom, and about six inches up the sides. After the husk drains, a steady stream of water is washed through until it appears to run clear from the container. Then the husk is again transferred back

to the solid container and again covered with water with a few ounces each of Calcium Nitrate and Magnesium Sulfate (Epsom Salts) added at least overnight. The draining and washing procedure is repeated again using pure water, with the final rinse being extensive. At this point measurements have revealed virtually no significant leachable salts and a pH just slightly below neutral. The conditioning with calcium and magnesium is done because of the moderate Cation Exchange Capacity (CEC) of the coconut husk. Sodium (Na) and Potassium (K) ions are strongly bound to the CHC. Laboratory comparative analysis of extracts of coconut husk products using distilled water versus a barium chloride solution demonstrate that as much as 2/3 of the Na and K may not be leached by water alone. What then happens is that you cation exchange calcium and magnesium for sodium and potassium in your early fertilized irrigations, creating possible calcium and magnesium deficiencies and sodium and potassium excesses. If you irrigate heavily as we recommend, the problem is quite temporary and limited. Unfortunately, it seems to be more and more common to hear about people using less extensive irrigation practices, and under these circumstances problems may arise. The addition of calcium and magnesium in the wash stages allows for cation exchange to occur then, creating a more balanced state from the start.”

Jerry Fischer has been using the chips for several years and says they work great for Phragmipediums, Lycastes, Oncidium Intergenerics, Phalaenopsis and Zygopetalums. He soaks them overnight in clear water without adding any minerals but does blend in 10% charcoal and 15% sponge rock before using. He also points out that there are different grades of husks. The best husk is pre-washed and soaked, and then the water is pressed out to remove the salts. He states that this is the only way to truly get rid of the salts that are at the center of the husk chips. He believes that Millenium Soils in Canada makes the best, and he uses and sells their CHC. For him they last about two to three years before they need to be replaced.

We thank Charles Van Dyke of Pittsburgh, Pennsylvania for bringing this situation to our attention. He has found that Calcium Nitrate (Greenhouse Grade) is not expensive when purchased from a greenhouse supply company. For instance, BFG (based in Burton, Ohio and Zelienople, Pennsylvania, 800-883-0234) charges \$17 for fifty pounds.

Upcoming Events

American Orchid Society Members Meeting

Orlando, Florida, April 5-9, 2006;
web-site www.aosorchidmagic.com; registration:
Emily Clarkson, 4713 Foxshire Cr., Tampa, FL
33624; 813-968-3402

SOA Open Board Meeting, Friday, April 7, 4:30
p.m.

All members and anyone interested in slipper
orchids are invited to attend. Please come and
share your thoughts and ideas.

The following speakers are of particular interest to
SOA members:

Terry Root (The Orchid Zone) – “West Coast
Paphiopedilums,” Friday, April 7 at 10:00 AM.

Christopher Purver (Curator, Eric Young
Foundation) – “Twenty Years of the Eric Young
Foundation,” Saturday, April 8, 10:00 AM.

Norito Hasegawa (Paphanatics) – “Paph Species
and Their Influence on Their Hybrids,” Saturday,
April 8 at 2:00 PM

American Orchid Society Members Meeting

May 3-6, 2007, Arlington, Texas (midway between
Dallas and Fort Worth and eight miles from the
D/FW airport)

Cypripedium montanum Preservation

About the year 2000, some friends mentioned a location
in northeast Oregon where wild Mountain Lady-slippers
(*Cypripedium montanum*) grew. This species, found from
northern California to Alaska and east to Montana and
Wyoming, is threatened due to loss of habitat over the years
caused by land development, overgrazing, forest fires and
poaching.

The following spring a trip to GROWISER (Grande Ronde
Overlook Wildflower Institute Serving Ecological
Restoration, founded by Andy Huber) provided an
opportunity to see the orchids blooming in their natural
habitat. We were challenged by word that the seeds of this
beautiful orchid were very difficult to germinate. Attempts
to germinate the seed collected from mature pods did, in fact,
prove to show no germination in the Kelsey Creek
Laboratories. Gradually all persons involved with these

particular orchid populations concurred that a bigger and more
directed effort was going to be needed to unlock the secret of
germinating these seeds.

In 2003, a pilot study was conducted to find out whether
or not green pod seeds would germinate as reported by fellow
researchers. Fortunately, a few of them did germinate and
developed into twisted masses of roots and growing tips. The
pilot study led to a grant proposal from the United States
Department of Agriculture-Small Business Innovation
Research to study seed germination in greater depth for the
purposes of possible re-introduction projects and commercial
nursery stock. The proposed study was funded for six months
(June 2004 to December 2004), with a subsequent Phase II
grant for two years to further refine the procedures and attempt
to make these orchids available to gardeners, hobbyists, and
forestry restoration projects.

With the support of the USDA-SBIR grant, working with
a team of biologists, and collaborating with area universities,
nurseries, federal and state agencies, and local conservation
societies, the goal is to develop hardy *Cyp. montanum*
seedlings in large numbers for restoration of depleted
populations of Mountain Lady-slippers in the western portion
of the United States. KCL hopes its research will result in
the development of this species for commercial sales through
landscape nurseries. Results of this work will be shared
through public presentations and publications. Through these
efforts it is hoped that this beautiful orchid will be made
available for restoration projects and to the public for personal
enjoyment.

Restoration efforts of populations of either plants or
animals have always been challenging. Usually the effort is
“too little, too late.” One example of a success is found in
England. About ten years ago, a partnership was formed by
some concerned citizens and the seed germination laboratory
at Kew Gardens to save the *Cypripedium calceolus*. This
terrestrial orchid was once plentiful in meadows of the
countryside north of London. When this effort was begun,
there were only a few plants remaining, and no natural
pollinators were found. The national government agreed to
establish a guarded area to protect the remaining plants. The
orchid enthusiasts agreed to do the hand pollinations when
the flowers were in bloom. The laboratory at Kew Gardens
agreed to germinate the seed. Through these collective efforts,
the population is slowly recovering.

Kelsey Creek Laboratories (KCL) - <http://www.kelseycreeklabs.com> - started as a home-based business
about a decade ago in Bellevue, WA, east of Seattle. The
growth of the business forced a move to a new location with
more elbow room. Learning orchid biology from processing
seeds has continued ever since!

Roger and Jane Smith
Kelsey Creek Laboratories



***Paph. Leeanum* "E .G. Morris" - The History**

My wife, Margy, gave me my first orchid, which I still have, about 35 years ago. I met Ray Mesmer around 1977, and he continuously showed me the Paphiopedilums he was growing with his Cattleyas and Phalaenopsis. Ray told me that I should try Paphs, but I continued buying Catts and Miltonias. Finally, after several years, Ray gave me *Paph villosum* "Lloyd" AM/AOS. I did very well with "Lloyd" and started the Paph section of orchids I have because of Ray's gift.

Dr. Eleanor G. Morris was our family physician and our mutual interest in orchids started a long friendship. Dr. Morris's sister had *Paph. Leeanum* "E.G. Morris" in her home for many years. She gave the plant to her sister because Dr. Morris had admired it. Dr. Morris had *Paph. Leeanum* on her kitchen windowsill for a long time and gave it to me about 20 years ago.

Several years later we moved to the Richmond, Virginia area from Somerset, Pennsylvania, and I joined the Virginia Orchid Society. The VOS was very active in shows and *Paph. Leeanum* was in many of the VOS exhibits. Barbara Noe and Bayne Hawkins encouraged me to take the plant to the National Capital Judging Center in Washington, D.C., where I was awarded a CCM of 82 points on January 1, 2001. At that time the plant had 16 flowers and five buds.



Cypripedium montanum



Cyp. montanum seedlings in the lab

I grow my orchids in our basement under lights and in cool temperatures - seldom above 70 degrees. The growing area is on raised pallets and enclosed with plastic tarps; foil reflective sheeting lines the walls, tarps and ceiling. Light is provided by High Intensity Discharge (HID) lamps. All orchids are outside in the summer. My potting mix consists mainly of dry, crushed oak leaves (scrunched by my fists), with some bone meal and granular limestone added. I water with rainwater and fertilize with diluted Miracle Gro. *Paph. Leeaunum* "E.G. Morris" has simply been re-potted into the next larger pot. This plant is a strong grower and flowers each year regularly in late winter/early spring. In order to get a good presentation with so many flowers I rotated the plant every day.

This winter the flowers started opening on New Year's Day, and by February 35 flowers had opened. I took *Paph. Leeaunum* to the Orchid Society of Western Pennsylvania meeting in January and was urged by Barbara Tisherman and several other members to take it to the 2006 Paphiopedilum Forum. I took the plant to the Forum on February 18, and it was an experience beyond my wildest dreams.

The Paph Forum had four excellent speakers. The plants to be judged (about 200 were displayed, I am guessing) were of the highest quality. I was awarded a Certificate of Cultural Excellence of 93 points by the American Orchid Society judges for my plant, which had 35 flowers and two buds. The plant was awarded a first place blue ribbon in its class and the following:

The Paph Forum Award - Best Novelty/Primary Paphiopedilum Hybrid and ceramic Paph display pot

The Memoria Bud Mellott Award - Best Plant Culture and cash award

The Memoria Merritt Huntington Award - Best Overall Plant in Show and cash award

International Slipper Orchid Alliance Award - Peoples Choice Award and crystal Paph trophy

The awards were so unexpected, and I want to thank the Paphiopedilum Forum and the Slipper Orchid Alliance for the awards and a wonderful experience. Thanks also to my wife Margy and the people who have helped me through the years.

John Whiting
Somerset, Pennsylvania

(Editor's Note: Based on the memories of several knowledgeable sources, it seems that John Whiting and his outstanding plant won more awards given at the Paph Forum than to any plant in any previous year. It received all but one possible trophy for a Paphiopedilum at this event, as well as the SOA Peoples Choice Award and the AOS / CCE. Our heartiest congratulations to John!)

Paph. delenatii – Modern Breeding Trends

The delightful pink Paphiopedilum species, *Paph. delenatii*, has been in cultivation for 85 years, first discovered in 1913 and collected again in 1922. There were conflicting reports about those collections, where they were found, the number of plants that were collected, who had them and when. The original collection was reported to be from Tonkin in North Vietnam; the second was said to be from Nha Trang in South Vietnam. Until the mid-1980s there were no other reports of the existence of this species and it was thought to be extinct. The literature about *Paph. delenatii* has generally given Tonkin as the habitat while ignoring the reference to Nha Trang. Since the recent collections have, in fact, been from South Vietnam it would seem that the reason that this species has eluded collectors for so long was that they were all looking in the wrong place!

Most of the plants in cultivation (until recently) descend from a selfing of a plant belonging to the firm of Vacherot and Lecoufle of Boissy-Saint-Leger, France. Because these plants were derived from a very limited gene pool there was much speculation about whether or not they were truly representative of the species or if, perhaps, there were other forms and colours. Indeed, when *Paph. armeniacum* was discovered in 1982, at least one eminent botanist proclaimed it to be a yellow variant of *Paph. delenatii*. Subsequent examination of live material proved otherwise, however. So, when rumours surfaced around 1990 of the rediscovery of populations of *Paph. delenatii*, botanists and growers were excited, hoping that some of them would prove to be different from the species that we know. There are indeed some differences. Certain plants from the new collections exhibit pouches with intense colour, many have extra-large flower size and others flaunt petals which are wider than long, reminiscent of a Phalaenopsis. These last have been dubbed "butterfly delenatiiis." There are now seedlings on the market derived from the new collections, so in time we can expect to see all the existing hybrids remade with quite different results.

Breeding Characteristics

Paph. delenatii gives the impression of being pink, but, except for the pouch, the flower is actually white with pink markings on the reverse of the segments. Because these are thin and translucent, the pink shows through. There is also a white pubescence which reflects light in some situations giving a white appearance. The pouch is usually rosy, and the rose and yellow staminode gives the finishing touch. The petals are broad, which explains why this species was originally placed in the Brachypetalum section, and, in common with other Parvisepalum species, the sepals are narrow and sometimes pinched. This latter characteristic can

negatively affect the hybrids unless the other parent is carefully chosen to counteract it. Other problems that can be found in *Paph. delenatii* hybrids are some waviness and/or reflexing in the petals.

Colour Inheritance

Most breeding with *Paph. delenatii* has been done to produce pink flowers, but it can also be used for white breeding. The same characteristic is responsible for both types, namely, the ability to erase yellow and green tones. When the yellow/green pigments are removed or reduced, the red/purple pigments are enhanced and the areas that do not carry those pigments become white. So, a yellow flower such as *Paph. concolor*, when crossed with *Paph. delenatii* to produce the hybrid I. Pizar, results in a white flower with purple speckles. A similar effect occurs when *Paph. delenatii* is crossed with the pure yellow form of *Paph. primulinum*, to produce the hybrid *Paph. Deperle*. The clone 'Laucous' HCC/AOS is a pure white multifloral. However, if *Paph. primulinum* var. *purpurescens* is used, the pink petals and pouch of this variety are seen in the hybrid but the rest of the flower is white.

The bright yellow species *Paph. armeniacum* is closely related to *Paph. delenatii*. Soon after its introduction in 1982 it was crossed with the pink species in hope of producing an apricot coloured flower. The breeder was disappointed when the flower opened and it was near-white. (If he had done his homework he would have known what to expect!) This cross was named *Paph. Armeni White* and the clone 'New Moon' is an excellent example.

Paph. delenatii breeds well with members of the *Cochlepetalum* section. Since it is itself often two-flowered it produces floriferous, compact plants when crossed with



Paph. Delrosi 'Bessie' HCC/AOS
Photo courtesy of Antec Labs

the sequential-flowering types. A good example is *Paph. Delophyllum* 'Shelia' AM/AOS (x *glaucophyllum*) with rosy-pink flowers after the green tones have been erased. Another popular multi-floral is *Paph. Delrosi* (x *rothschildianum*), in which the yellow tones existing in the ivory and brown of the strap-leaved parent are removed to give stunning raspberry and white flowers of a large size.

Another breeding characteristic of *Paph. delenatii* is that large spots or blotches of purple from the other parent are usually broken up into speckles, or, in some cases, transformed into a flush of pink. This can be seen in the cross with *Paph. haynaldianum*, a strap-leaved multifloral species with green and white flowers and petals which have large purple spots basally and rosy-purple tips. This hybrid, *Paph. Harumi*, is a very attractive pink and white multifloral in which the large spots have been transformed into speckles as shown by the clone *Paph. Harumi* 'Miwa' AM/AOS. Another heavily spotted species, *Paph. bellatulum*, produces speckled flowers when crossed with *Paph. delenatii* to make *Paph. Vanda M. Pearman*, a much-awarded hybrid. When this is crossed back to *Paph. delenatii* the resulting hybrid,



Paph. Mercedes Gallup 'Pink Doll' AM/AOS
Photo courtesy of Antec Labs

Paph. Mercedes Gallup, is whiter with fewer spots, reflecting the increased influence from *Paph. delenatii*. This is illustrated by the clone *Paph. Mercedes Gallup* 'Rain Circle' AM/AOS. When this hybrid is, in turn, crossed to *Paph. chamberlainianum* to produce *Paph. Ring Leader*, the resulting flower, while only 3/8 *delenatii* in theory, is pink-veined with purple.

Paph. Deception II (*delenatii* x *niveum*) is an old cross which has been remade by several breeders. A fine example of this white hybrid is the clone 'Oo La La' AM/AOS which looks very much like a pure-white *Paph. delenatii* but with rounder shape. Even the staminode has lost its colour.

Parvisepalum Crosses

Breeding *Paph. delenatii* to other members of the *Parvisepalum* group has produced some very attractive



Paph. Lynleigh Koopowitz
Photo courtesy of Antec Labs

hybrids. *Paph. Armeni White* (*x armeniacum*) has already been mentioned. *Paph. Lynleigh Koopowitz* (*x malipoense*) produces large, fragrant flowers, generally ivory with raspberry veining and a prominent raspberry and white staminode that looks good enough to eat! The clone 'Berry Ripple' HCC/AOS has a particularly luscious look! One of the nicest Parvisepalum hybrids is *Paph. Magic Lantern* (*delenatii x micranthum*). The shape is usually a nice balance between the two parents, with the large pouch of *Paph. micranthum* reduced considerably. The colour is generally pink with purple veining in the petals and dorsal sepal. There have been many awards to this grex: examples are *Paph. Magic Lantern 'Echo Valley'* HCC/AOS and 'Debbie Ann' HCC/AOS. Another very popular Parvisepalum hybrid is *Paph. Joyce Hasegawa* (*delenatii x emersonii*) which has large, fragrant flowers of a soft ivory and pink combination. Again, the staminode is well-coloured and provides a distinctive touch. *Paph. Joyce Hasegawa 'Candorelle'* AM/AOS has flowers which are strongly reminiscent of the *Paph. emersonii* parent while the clone 'Picardie' HCC/AOS favours *Paph. delenatii* for shape.

Some second-generation breeding is now being done with the Parvisepalum group. An un-named new hybrid (*Paph. delenatii x Memoria Larry Huer*) has produced large wide-petaled flowers with distinct purple stripes on an ivory background and a rosy-rimmed pouch. This cross is a mixture of three species - *Paph. delenatii*, *Paph. emersonii* and *Paph. malipoense*. Another fine new second-generation cross is *Paph. Marilyn Levy*, illustrated by the clone 'Icy' HCC/AOS. This is *Paph. Armeni White* crossed back to *Paph. delenatii* and has resulted in a round, pure white flower, the double dose of *Paph. delenatii* succeeding in completely eliminating the yellow of *Paph. armeniacum*. Another recent hybrid, *Paph. Helen Congleton*, is *Paph. delenatii* crossed to *Paph. Norito Hasegawa* (*armeniaceum x malipoense*), producing large, full, rounded flowers with the colouration of *Paph. Armeni White*.



Paph. Black Diamond
Photo courtesy of Antec Labs

Other *Paph. delenatii* Breeding

Paph. Black Diamond 'California Gem' HCC/AOS is a fine example of the cross with *Paph. fairrieianum*. This primary hybrid demonstrates the transformation of the stripes of the *Paph. fairrieianum* parent into wide bands of pink. The cross with *Paph. sukhakulii* is registered as *Paph. Quasimodo*, a most unkind name for a pretty pink flower, at



Paph. Quasimodo
Photo courtesy of Antec Labs

least as shown by the clone 'Tokyo Pinky' HCC/AOS. The *Paph. sukhakulii* shape dominates with wide, pink petals but the large spots have been reduced to fine speckles. Breeding with the Maudiae group is not always successful but there have been some notable achievements. *Paph. Darling* (*lawrenceanum x Madame Martinet*) is an older cross which has been awarded many times. Despite the fact that *Paph. delenatii* is only a grandparent its influence is so strong that the flowers of *Paph. Darling* are usually rose-pink with little



Paph. Darling 'Christine' AM/AOS
Photo courtesy of Antec Labs

or no sign of the greens and browns of the other species in its make-up, *Paph. callosum* and *Paph. lawrenceanum*. Some breeding has been done with vinicolor types, and this is one avenue which will no doubt be explored further. Many of the flowers, while beautifully coloured, exhibit crippling of one sort or another. One successful cross which has received at least three AOS awards is *Paph. Starr Rose* (Vintners Treasure x *delenatii*).

Lastly, a look at *Paph. delenatii* crosses with the classic complex hybrids. Breeders have been making this type of cross for decades, usually with the goal of producing large, round, pink flowers. Many of them result in malformed flowers but there have been some interesting progeny. The cross with *Paph. Hellas* is named *Paph. Maisie Gay*; unfortunately the flower usually exhibits some of the problems that can occur with this type of hybrid, with curling and twisting of the segments. The age of the flower has an effect on the severity of these faults; sometimes the flower shape will be quite acceptable for one or two weeks. The colour is, however, very attractive, being peachy-pink with a white border to the dorsal. *Paph. French Can-Can* is a cross with a large spotted hybrid, and it is as flamboyant as its name. Unusual in the flower are the large spots which remain unbroken in the center of the white dorsal sepal, surrounded by a striking pink border. The petals are wavy but symmetrically so. *Paph. Stardust Memory* (x Geraldine) is a modern attempt at this type of breeding, Geraldine being a large spotted hybrid. In this flower the large spots have been broken up into speckles.

Lastly, the cross with *Paph. Winston Churchill*, registered as *Paph. Rootin Tootin*. A fairly recent award to this grex is *Paph. Rootin Tootin 'Incredible Pink'* HCC/AOS, a fine round flower and a splendid example of the breeders' goal with deep, saturated colour. It is one of the occasional good

clones that make all the effort worth-while.

So, it would seem that, with *Paph. delenatii* breeding, the future is rosy when it isn't white.

Judy Adams

This article is from a probationary talk given by Judy Adams. It was first published in the Great Lakes Judging Center newsletter and is reprinted with permission from the author.

Try A Bit of Everything

I've been a naturalist since I could walk and talk and was introduced to orchids in my teens. But I don't think my wife knew what she was starting when she gave me an orchid (a hybrid phal) and the book, **Orchids for the Home and Greenhouse** for Valentine's Day in 2001. It was the picture



Paph. henryanum

of *Paph. sukhakulii*) and the text written by Lance Birk that reawakened my earlier interest in orchids and now, armed with the internet, I was ready to go nuts. After a quick search I latched into some of the species specialists and found several good sources of both species Paphiopedilums and some more cultural information.

But I needed more. I discovered Catherine Cash's book **The Slipper Orchids**, and soon after **Slipper Orchids of Vietnam** by Averyanov. I have since added books by Cribb and Birk. The Antec labs website reading room has also supplied a wealth of specific cultural articles, and I really enjoy the species library sheets on the Orchids Limited website. I've picked up tips from more successful growers

than I can list in this article, so please accept my thanks for your help and encouragement.

I got my first Paphiopedilums from Andy's orchids in the spring of 2001. My first Paphs were *Paph. sukhakuli*, *Paph. exul*, *Paph. charlesworthii*, *Paph. lowii*, and *Paph. bellatulum*. I am proud to say that I still have these plants today. Each one could tell a story of what I've learned about slipper orchids and their culture over the last 5 years. My collection now includes about 50 species, representing all the subgenera and sections. I also have seven Phragmipedium species and *Mexipedium xerophyticum*, but I'll save the story for them some other time. Since I am an ecologist by trade I developed a culture strategy based on what I thought these plants would experience in the wild. This strategy would be blended with the information I could obtain from experienced



Paph. lowii

growers for adaptations to pot culture and greenhouse management. In my work, I develop a lot of biological culture programs based on numerical data, so much of the original culture information I gathered was fairly vague for me. Light levels were measured in low, medium, and high units, and temperatures in cool, intermediate, and warm units. I wanted foot-candles, seasonal Fahrenheit or Centigrade, and annual rainfall data. There was certainly a lot of debate about fertilizers and potting mixes, and plenty of advice on pest and disease control, but I had to dig a bit for the basic environmental conditions. The books by Averyanov and Birk were especially helpful in this regard.

By putting into practice the information I had absorbed I was pleased that *Paphs exul*, *charlesworthii*, and *lowii* took off quite well. My collection grew, and by fall of 2001 I was seeing my first flowers from a *Paph. purpuratum*. The primary goal of every orchid grower is to have their plants flower. To date I have flowered 29 of the 50 species in my collection (9 of the 50 are still only seedlings), so up to this point I've had a great deal of satisfaction. I refined this flowering goal early on to attempt to flower at least one

species in every section. This was accomplished with the blooming of my *Paph. armeniacum* in March 2005. Even after this personal milestone, I still enjoy the regular blooming of the more vigorous species, and am looking forward to seeing flowers from the species and seedlings that haven't bloomed yet.

I've had two big revelations in my orchid culture program. The first one happened in the fall of 2002. Despite a successful blooming, the *Paph. bellatulum* was chronically having root loss problems, even after a few sphag and bag rescues, and a switch to a potting mix based on coconut chip husks. After reading about the sensitivity of Brachypedilums to salt and a check of my well water, I determined that the Total Dissolved Salts (TDS) of my well water was excessive, and a switch to Reverse Osmosis (RO) water was necessary. Along with the use of low TDS water I also learned the importance of having the plants in a fresh potting mix (regardless of what kind of mix it is). To that end I have been repotting into the clear air cone style pots to keep a better handle on mix quality and root health.

The second and most significant revelation came in the winter of 2003. Until then I was always on pins and needles during winter. Anything I had in the section Barbata was apt to loose older growths (even un-flowered growths), roots, buds, or sometimes the entire plant. *Paph. purpuratum* was particularly troublesome in this regard. I picked up a couple of hygrometers because I suspected my indoor growing area could be too dry, even though I was using all the usual tricks



Paph. sukhakulii

and devices recommended. But I was shocked as to what was going on in the greenhouse. After setting up the hygrometers I went back into the greenhouse after a "damping down" session, and the humidity was down to 30%. Within two weeks I built an automated misting system consisting of a humidistat, solenoid sprinkler valve, a couple of ultra-fine mist heads, and a couple of box fans. The misters do not spray directly on the plants but the fans circulate the very

fine vapor around the greenhouse. The greenhouse now maintains a fairly steady humidity of 70-80% and the difference in growth has been like night and day. It has only been recently that I obtained a copy of Lance Birk's **The Paphiopedilum Grower's Manual**, but I would definitely agree that airflow and humidity should be one of the highest priorities of the orchid cultural program.

Not being fully satisfied with just flowering my paphs, my first attempts at breeding slippers began in 2003 with my *Paph. lowii*. I had just found the Meyers Conservatory website on my search for information on flasking. Being conservation minded I thought that breeding and raising seedlings would be an important skill to add to my orchid culture repertoire. So I've come up with a new goal: to breed and rear to flowering seedlings from at least one species from every Paphiopedilum section. I've made good progress so far with capsules set on flowerings from 21 species, with seed germination of the first 14 of these. I'm also excited to get back my first flasks of baby orchids from that first *lowii* breeding, a *spicerianum* outcross, and a *moquetianum* selfing.

I realize it will be several years before this latest goal will be accomplished and other events and distractions can happen along the way. But I find my slipper orchid hobby is not only a satisfying pastime, but a form of adventure, challenge, and personal growth. Also, the people I've met along the way have been great.

You know, that first hybrid phal my wife gave me is a real monster now.

Rick Lockwood



SOA Trophy

The Slipper Orchid Alliance sponsors a trophy at each AOS Members Meeting and at international meetings such as the World Orchid Congress to be given to the owner of the best lady slipper in the show. The trophy is also available to any member of the SOA who would like to sponsor it for a local or regional orchid event. It is a crystal lady slipper and each piece is created when it is ordered. If you would like to sponsor the trophy at your orchid show you would need to contact Barbara Tisherman 6 to 8 weeks before the show. The cost of the trophy is \$70 and this includes packing and shipping.

Past trophies have featured a cypripedium but for the last year or so the artist has been creating a Maudiae-type paph for the award. If you have a preference, you can tell Barbara when you order the trophy.

United Kingdom Scientist Jailed for Smuggling

In mid-January a UK pharmaceutical scientist, Dr. Sian Lim, was given a four-month term in jail for illegally transporting rare orchids for trade from his native Malaysia. UK Customs at Heathrow found Dr. Lim carrying 130 orchids in his luggage; 126 orchids were Asian slipper orchids, some of which were described as being among the rarest species on the planet, and all of which were on CITES Appendix I.

The prosecutor said that it was immediately obvious that a significant proportion of the consignment were of wild origin for which no permits had been obtained.

Considered a renowned collector, Dr Lim grows rare orchids in two greenhouses in the garden of his home in Putney, south west London, and exhibits at international shows.

He admitted to 13 charges of smuggling rare orchids into Heathrow Airport on June 2, 2004, but denied doing it for commercial gain despite the thriving black market. However, the prosecutor said that since June, 2003, Dr. Lim had been issued 399 CITES permits to import 8,980 plants and that the purpose given on each application form was "trade." Dr. Lim had sold plants at various international orchid shows, including those in London and Newbury. The prosecutor explained: "The international trade in orchids is a multi-million dollar industry, but the majority of this trade is in cultivated hybrid plants. Legal trade in orchids taken directly from the wild is very limited with many countries banning their export or requiring permission. As a result, there is illegal trade and they are often offered for trade under the counter at orchid shows."

Dr. Lim claimed he had been offered the plants for sale in Malaysia and that he only brought them back to Britain with him at the last moment because the climate there was too hot. But after a trial at Isleworth Crown Court, Dr Lim's claims were rejected by the judge, who jailed him for four months. The judge said that he was satisfied that Dr. Lim did bring in these plants with a view to commercial gain. "It is essential that the courts make it plain that such behaviour for gain will not be tolerated in order to discourage others who might be tempted to follow in your footsteps."

Orchid biologist Dr. David Roberts, of the Royal Botanic Gardens, Kew, said after the case: "Many orchids are threatened through habitat destruction, but some, often the

rarest, are also at risk from over-collecting for international trade. Illegal trade is rapidly pushing those species towards extinction."

Dr. Roberts added: "I was particularly concerned to see *Paphiopedilum gigantifolium*, an orchid I had never seen before, as this species was only described new to science in 1997." This species was discovered in river gorges on the remote Indonesian island of Sulawesi and is believed to be extinct there because of illegal collection.

Dr. Lim also had plants of *Paphiopedilum rothschildianum*, previously found only in a small number of sites in a national park on the slopes of Mount Kinabalu in Borneo and considered on the brink of extinction. A site recently discovered outside the park has been reported to be collected out by illegal plant hunters. Another plant in his possession was *Paphiopedilum sanderianum*, also found only in a national park in Borneo.

Dr. Roberts said that the plants now belong to Customs. "If and when they are handed over to Kew we will be in touch with the likely countries of origin to determine the future of the plants."

(Information in this article was obtained from the following web-sites: [www.Ise.co.uk/Show Story](http://www.Ise.co.uk/ShowStory), www.wildsingapore.com/news/20060102/060118-6.htm, and www.bgci.org.uk/botanic_gardens/scientist_jailed.html.)

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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SOA DIRECTORY

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Vice President: Steve Drozda, Pittsburgh, PA; (412) 854-1862; sdrozda@adelphia.net

Secretary: Russ Tyler, Brainerd, MN; (218) 829-4840; mtyler@brainerd.net

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Director: Sam Tsui, Bloomington, IL; (309) 662-2386; samtsui@orchidinnusa.com

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Director: Dr. Albert Svoboda, Santa Barbara, CA; (805) 969-4536; Asvoboda@earthlink.net

Webmaster: Rod Knowles, Brainerd, MN; (218) 829-4840; rkgems@brainerd.net

Newsletter Editor: Janette Harris, Westfield, NC; (336) 351-3945; jaharris@surry.net

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