

SLIPPER ORCHIDS

THE SLIPPER ORCHID ALLIANCE JOURNAL



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Paph. Dark Fantasy 'Total Eclipse'
(Flash Point x Tiger Hill)
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SLIPPERY TALES

By Mary Gerritsen

This story began with a call from Karen Muir of the Orchid Digest. I had been a speaker at their “Orchid Digest Speakers Day,” and Karen was trying to organize speakers for another Orchid Digest-related event, the Paph Guild. She asked me to give a talk and basically, I said “no way,” mostly because I would feel like a first grader lecturing to an audience of senior faculty! I have to give Karen credit, because she was persistent and really wanted me to be one of the speakers. What in the world could I possibly talk about without coming across as a total idiot?

After several days of thinking about it, I realized that, of my many travels to orchid habitats in the subtropical and tropical New World and Old World, most had involved the sighting of a slipper orchid or two or more. And, as I began to mull this further, I also realized that almost every time a slipper orchid was involved, it was associated with some type of mishap, misadventure or intrigue.

And so, based on these misadventures, I created a new seminar entitled “Slippery Tales,” and (amazingly) it was received with great success at the Paph Guild. The talk soon became one of my more popular presentations to orchid societies, and many times my audience was laughing so hard they forgot to ask questions! Barbara Tisherman learned of my seminar and asked me to translate it into an article for the Slipper Orchid Alliance. Not all of it readily translates to the written word, but I will give it a try.

It probably comes as no surprise to this audience that traipsing around the jungles and cloud forests of South or Central America or Southeast Asia to find and photograph orchids in the wild is still associated with many of the trials and tribulations experienced by the orchid hunters of the late 19th Century. And I must say, I have had a few adventures.

EXPLORING ECUADOR

My very first orchid “expedition” consisted of a small group (my husband, myself and a British chap whose name I have long forgotten) tour organized by Ecuagenera. Our driver was an energetic teenager, Alex Portilla, and our orchid spotter was Hugo Medina. We traveled many miles over some of the worst roads I had ever seen (up to that point), and we had an average of two to three flat tires per day, every single day. One day, far up a remote mountain road (where we had seen no other vehicle for hours), we managed to have two flat tires at the same time! Hugo and Alex had to roll one of the tires down the steep mountain road to a distant town to have it repaired, leaving the gringos with the truck and the wildlife for many hours. I imagined a jaguar was ready to eat us at any moment, but fortunately, no worries. Alex and Hugo eventually returned, put the repaired tire on the truck, and off we went. However, I digress. Let’s get to the slipper orchid part of the story.

While up in the northern province of Carchi, Ecuador, we explored a hillside thick with shrubbery and a few very tall, spindly plants of *Selenipedium aequinoctiale*. These slipper orchids were growing in laterite, a crumbly soil type rich in iron and aluminum. While photographing one of the flowers, the ground literally opened up beneath me and—Whoosh!—I dropped down about 6 feet into a hole with the sides continuing to collapse inward. The entire hillside was undermined, and much of the shrubbery was actually growing over hollow ground. Needless to say, we did not have a ladder or rope with us, and it took nearly an hour to pull me back up to solid ground. Now in retrospect, I think that the soil type would be better defined as “ladder-yikes”!

Later, on the same trip, we traveled to Puerto Misahualli, a small village in Ecuador on the Amazon tributary, Río Napo. The Río Napo is no small river itself, and at this location is at least a hundred feet across, with lots of nasty-looking rapids. We walked down to the shore where a few flat-bottom boats were beached and hired one of them to take us across the river to search for *Phragmipedium pearcei*, a species known to grow along the steep banks. Our first stop, however, was a small village on the opposite side of the river, where our boatman climbed up the bank to purchase a gallon of gas. We then traveled some distance upstream looking for the plants, finally spotting a few just above the waterline.



- 1 *Selenipedium aequinoctiale* flower close-up
- 2 *Selenipedium aequinoctiale* plants *in situ*
- 3 Lush jungle next to Río Napo

Great photos, and it was wonderful to see them. However, on the way back, just as the boat traveled into the roughest patch of water near the middle of the river, the motor conked out and we began drifting downstream, basically out of control. After several tries to get the motor started again, our boatman threw his hands up in the air, yelled, then got up and jumped out of the boat!

At this point I was imagining the waterfall we were about to go over, or maybe it was the huge rock we were about to crash into. I clutched my new Nikon camera, certain we were all about to go overboard any minute. Surprise! Our boatman popped up next to the boat, rope in hand, and managed to pull the boat back over to the side of the river. (The river was obviously not as deep as it looked.) It turned out he had bought only a half-gallon of gas and pocketed the rest of the money! He had underestimated the amount of gas it would take to travel upstream to the orchid site and had paid the price. He pulled us back to the little village, which was no mean feat, bought another few ounces of gas, got the motor started again, and finally we made it back to Puerto Misahualli. We did see several other slipper orchids (*Phragmipedium besseae*, *P. hirtzii*, *P. lindenii*, and *P. longifolium*) on that tour, fortunately without further mishaps.

TEPUIS OF VENEZUELA

My final *Phragmipedium* tale takes place in Venezuela. This tale all started with a book. Not just any book, but one of the first books I read when I began to be interested in orchids and seeing them in the wild. *Orchid Hunting in the Lost World (and Elsewhere in Venezuela)* by G. C. K. Dunsterville and his wife, E. Dunsterville, to be precise. If you haven't read this book, I would definitely add it to your reading list. My favorite chapter, "Auyántepeui, Home of 50 Million Orchids," had inspired me to find a way to explore the tepuis (table-top mountains) of the Venezuelan Guyana region. One day, such an opportunity unexpectedly presented itself. I saw a flyer on the website of a local carnivorous plant society advertising an expedition to Mt. Roraima, the tallest and largest of the Venezuelan tepuis. Luckily, there was still one space on the tour, and I joined as the only orchidophile on the trip. Unfortunately, shortly after paying my deposit, I tripped over a tree root and managed to break my right elbow. I learned quickly how essential elbows are for such mundane things as brushing teeth, writing checks, putting on socks, and even cutting up food. But what I was most worried about was whether I could still go on the tour! I had only about three months to recover. I had a book of exercises and devices from my physiotherapist to help with my recovery and to regain the use of my arm, and I practiced for hours every day. She told me I had the fastest recovery of arm motion and strength following an elbow fracture she had ever seen. Nothing like a little motivation. But, let's get back to the trip.

It is not easy to get to Mt. Roraima. Repaired elbow and all, I flew from San Francisco to Miami, and from there to Caracas, Venezuela, where I was met by the tour leader (and my future publisher), Stewart McPherson (Redfern Natural History Expeditions). We stayed overnight at a small hotel near the airport, and in the morning the tour group met in the front office to catch the shuttle to the airport. Unfortunately, there was no shuttle! Apparently the driver had had too much to drink the night before and did not wake up in time. Stewart, a master of innovation as always, ran down the street and managed to round up three very old cars and drivers to take the group to the airport. First stop was to buy gas for all our drivers, and then we were off. My car had no seats in it at all (the driver sat on a wooden chair nailed to the floor), so we basically rolled around on the floor as the car lurched around the corners to the airport. Amazingly, somehow, we made it and were able to



- 4 *Phrag. pearcei* growing along the Río Napo
- 5 The Río Napo
- 6 On the boat on the Río Napo
- 7 Crossing the river on way to Mt. Roraima

catch our flight. We flew to Ciudad Bolívar, the capital of Bolívar State, situated on the Orinoco River. After a short overnight stay, we boarded a private chartered airplane. The view from the plane of the vast, seemingly uninhabited jungle below us was an incredible sight, and soon we were able to see some of the tepuis off in the distance. A few hours later we landed at a small airstrip near the town of Santa Elena, just a few miles from the border with Brazil. From there we traveled by four-wheel drive to a small Pemón (an

indigenous Amerindian tribe) village within sight of Mt. Roraima looming in the background. We had a comfortable overnight stay in small cottages, and in the morning we met up with our porters, who would help carry our backpacks with tents, sleeping gear, food, etc.

The only way, other than via a chartered helicopter, to get to Mt. Roraima is to walk. And walk we did. The first day we walked about eight hours through the hot, shadeless and bug-infested Gran Sabana, finally reaching a camping spot near a river. The next day we were up early, wading across two fairly challenging rivers to get to the trail that led to the top of the tepui. On this second day we climbed and climbed and climbed, finally reaching a base camp just as the sun was beginning to set. Along the way we did find a few orchids, including various reed-stem-type epidendrums in the grasses, some unidentified *Catasetinae* growing on some large boulders and several *Cyrtopodium parviflorum* growing next to large termite mounds, as well as *Masdevallia picturata* and an unidentified lepanthes growing on a few mossy rocks next to the trail. The carnivorous plant people found several large *Utricularia humboldtii* as well as many plants of the carnivorous bromeliad, *Brocchinia hechtioides*. Near the base camp we found several bushes adorned with a beautiful passiflora, and next to one we found several plants of *Galeottia burkei*. The large, waxy flowers of this orchid were stunning! While photographing one of the *Galeottia* flowers, I noticed the leaves of what could only have been a phragmipedium! Taking a closer look, I found several plants of this slipper orchid, one of which had a tall spike with a tight flower bud. Darn! I wish I could have seen it in bloom.

The next day we climbed the last steep incline to the top of Mt. Roraima, reaching a fog-covered alien landscape with bizarre primitive plants, rock formations, small and large pools of water surrounded by carnivorous plants (various *Drosera* species, *Utricularia campbelliana* and a particularly impressive clump of *Heliophora nutans*). In the cracks between the rocks were hundreds of tiny orchids, mostly some unidentified *Octomeria* and *Maxillaria* species, as well as various short, sturdy terrestrials, including *Habeneria roraimaensis*, *H. repens*, *Epidendrum imthurmii* and *E. violascens*. We continued our trek across this rocky, alien landscape for several hours, finally reaching a large cave complex where we could set up our tents. The top of Mt. Roraima receives massive amounts of rainfall on a near daily basis (usually beginning in the late afternoon) as well as high winds, so the only really dry and safe place to camp is inside one of the caves.

For the next three days we made multiple daily hikes across the far-from-flat surface of the tepui, visiting various bizarre sites, including an enormous sinkhole, the Valley of the Crystals (quartz crystals in massive heaps along a deep valley) and the “three corners” (a site with a cement monument denoting the meeting of three countries—Venezuela, Brazil and Guyana). We wandered from one country to another for a few minutes, then started back to our camp. On this, the second-to-last day on the tepui, the skies opened up and rainfall of what seemed like biblical proportions hammered down on us. We slogged our way back to camp, trying as best we could to walk on areas that were not a foot or more underwater. Needless to say, we were soaked on our return, and my hiking boots were making a frightening squishy noise with every step. On the last day, while some of the party continued exploring, I desperately tried to dry my boots in the sun while exploring the surrounding rocks and ponds. I did find many more orchids, but my boots were just about as wet in the evening as they were the day before when we returned to camp.

Our climb back down the tepui was much easier than the upward journey, and the sun, weather and gorgeous views of the Gran



- 8 Crossing the Gran Sabana on the way to Mt. Roraima
- 9 Mt. Roraima, as seen from Pemón village
- 10 *Phrag. lindleyanum* growing in situ at Mt. Roraima
Photo: Lachlan Laurie

Sabana below were wonderful. But what was not wonderful were my boots. Every step that I took I could feel my feet rubbing against the heel, bottom and toes of the boots. We traveled in one day what took two on the way up, traversing the two now very swollen rivers to return to the very first camp site. When I took my boots and socks off to cross the rivers, I knew I was in trouble. My feet were sore, swollen and red, and after crossing the first river, I could not get my shoes back on, so I made my way barefoot to the camp. After filling my socks with talcum powder to shrink the blisters, I was able to sleep (I was totally exhausted) and the next day still had to walk many hours to get to the Pemón village. I made it with plastic bags wrapped around my talcum filled socks, but it was one of the longest and most difficult treks I have had to make. Finally, upon reaching the village, the group sat in a circle and compared their wounds. Almost everyone had a blister or two, but both of my feet were just one huge blister—top, bottom, sides, toes, the entire foot! For the next three days (the amount of time it took to return to San Francisco), my footwear consisted of socks and plastic bags. When I reached the Miami airport and realized how far I had to walk to customs (and then back to my gate), I was sure I was never going to make it! (This was before the Miami airport had a train between gates.) And what strange looks I got from the customs, immigration, and security personnel, in addition to my fellow passengers. But now, where was the slipper orchid in all of this? Stewart took another group to Mt. Roraima two weeks after our return, and one of the party found and photographed the phragmipedium that I had spotted at the base camp. It was a magnificent specimen of the rare species, *Phragmipedium lindleyanum*. This species was first collected on Mt. Roraima by Robert Schomburgk (the first explorer to summit the tepui) in 1839!

LOOKING FOR NEW WORLD CYPYS

Let's move on to another slipper orchid genus, *Cypripedium*. This widely distributed temperate genus has species that occur across North and Central America, Europe and Asia. I love the intriguing flowers of cypripediums, although many of them are a challenge to find and photograph in the wild. In California, we have three: *Cypripedium montanum*, *C. californicum*, and *C. fasciculatum*. After reading the book by the late Ron Coleman, *The Wild Orchids of California*, I was eager to see these species *in situ*. My friend and co-author, Ron Parsons, talked me into helping him write a book on a genus of North American bulbs called *Calochortus*, and as a consequence we spent many a spring and summer weekend searching out, studying and photographing these species. While planning one of the first trips that I made with Ron, he mentioned that we could potentially see *Cypripedium montanum* and asked would I like to photograph it. Of course!

It was a warm, sunny, cloudless day in mid-June. Our destination was a remote site in Yosemite National Park (California), the location of which I am sworn to secrecy to prevent people from going there and digging up the orchids. When we finally reached a parking area



- 11 Perfect hot and dry day for hike in Yosemite
- 12 *Cyp. montanum* clump in Yosemite
- 13 *Cyp. montanum* close up
- 14 *Calochortus balsensis* habitat in the state of Puebla, Mexico

near the trail, it was mid-day, and the temperature was in the low 90s, with very low humidity. We climbed out of the car, shrugged on our camera backpacks and set off. I asked Ron if we should bring water, to which he said, no, we won't need it because the site is only a mile or so from where we were parked, and we will be back in an hour or so. So off we went. We walked and walked and walked, spotting a few unusual mycoheterotrophs (*Pleurocospora fimbriolata*, *Sarcodes sanguinea*), the occasional *Corallorhiza striata* (Striped Coral Root Orchid) and not much else. Certainly no cypripediums. My mouth was very dry, I was sweating profusely, and after more than two hours, I suggested that perhaps we should turn back. Surely we had walked more than a mile (more like six!). After another 30 minutes, Ron finally agreed, and we turned around, slowly making our way back to the trailhead. Amazingly, just about a mile from where we started, Ron spotted a few cypripediums! We made our way off the trail to find a large colony of plants with at least ten or more in full, gorgeous bloom. After spending a good hour photographing the plants, it was time to return to the car. Our one-hour trip was more like five! I was so thirsty I thought I was going to collapse on the trail, and when we finally made it to the car, I immediately drank a two-liter bottle of water. With no further misadventures, we finally returned to the San Francisco area.

The next morning when I awoke, I noticed that I had a large painful lump on one side of my face. It was not an insect bite and actually seemed to be inside my mouth. The lump continued to get larger, such that by about noon it was the size of an acorn! I could not figure out what it could possibly be and made an emergency appointment with an ear, eye, nose and throat specialist that afternoon. He took one look at my cheek, peeked and poked around inside my mouth and then asked "Have you been severely dehydrated lately?" He had only ever read about my condition, which apparently was quite unusual. I had a salivary duct stone that was clogging the outlet into my mouth, so the gland was continuing to produce saliva and getting larger and larger. At the time of this trip, I was in senior management at a biopharmaceutical company and had to make a presentation to the Chief Scientific Officer and other "C" level officers the next day. I showed up to the meeting with my lopsided cheeks, chewing a large wad of gum (the cure for the salivary duct blockage), and after hearing my story, all had a good laugh at my wildflower plight. Lesson learned—if Ron says we don't need water, bring two bottles at least!

The connection with *Calochortus* continues, however. There are over 70 different species in the genus, with at least 15 species found only in Mexico and one in Mexico and neighboring Guatemala. To learn more about these Central American species Ron Parsons and I made three separate field trips to Mexico and, in total, managed to visit nearly every state of the country on our journeys. We were fortunate to have a guide and colleague,

Dr. Aaron Rodríguez, a professor of Botany at the University of Guadalajara, on these trips. Often based only on old herbarium records that were at least 50 years of age, we managed to find all but one of the species, as well as discovering at least one, and possibly two, new ones. One of the trips was to journey south and west of the State of Jalisco, traveling through Colima, Michoacán, Guerrero, Oaxaca, Puebla and Morelos.

This slippery tale, however, takes place in the state of Guerrero. Even 15 years ago, this was a nearly lawless state, with a heavy influence from the drug cartels. On several occasions we were motioned aside by machine-gun-toting youths (they looked like teenagers), who would make us get out of the truck while they searched through our herbarium sheets and assorted plant collecting material. Inevitably they soon gave up, shaking their heads as to why those gringos would be driving around with a truck full of dried-up flowers and miscellaneous plant parts. At least twice we were pulled over by somewhat sketchy policemen demanding some kind of bribe to allow us to continue on our journey. When we finally made it to the violence-torn city of Chilpancingo, it really felt like we had entered a totally different Mexico. The very atmosphere of this part of Guerrero was tense, with the hint of murder and mayhem bubbling beneath the surface of an uneasy tranquility. We left as quickly as we could, heading inland on highway 93 towards the state of Puebla.

We were in search of one of the largest-flowered *Calochortus*, *C. balsensis*, and this region is the only known area where it occurs. This species has large, bright yellow, nodding flowers and is easy to spot from a distance. Soon we began to find the plants and stopped at several locations to get photos and for Aaron to collect herbarium specimens. On one hilly slope, we found a dozen or more plants, and Ron and Aaron explored the bottom of the slope looking for more. I thought I saw a plant up near the top of the hill and climbed up there to photograph it. To my complete surprise, it was not a *Calochortus* at all! It was an incredible plant of *Cypripedium irapeanum*, with two large, beautiful flowers. After yelling downhill to Ron and Aaron for a good ten minutes, trying to convince them to climb the hill to see it (they could not understand what I was trying to tell them), they both finally climbed up and were as excited as I was to see this incredibly rare *Cypripedium*.

All too soon it became too dark to continue taking photos, so we returned to our



16 *Cypripedium irapeanum* growing in situ

truck and continued the journey. In this thinly populated area, we traveled for miles in the dark in search of a town large enough to have a hotel where we could spend the night. It was pouring rain when we finally reached a small town, featuring pigs literally running down the highway, as well as a washed-out bridge, with the road detouring through the muddy riverbed. Finally, we reached the town square, where there was a hotel. However, despite appearing to be completely empty, we were told there were no rooms. It was a strange place—the streets were completely deserted (unusual for most Mexican towns on a Saturday evening), and everyone in the hotel was staring at us suspiciously. After a heated discussion, we were told there was another hotel across the square that might have rooms and would let us stay there. Walking over there, we found what looked like an abandoned and boarded up building, with all of the potential entrances and windows closed tight with metal roll down door coverings. Feeling even more scared than before, we finally dared to knock on one of the metal doors, yelling that we were looking for the hotel. Someone yelled back at us, then magically, up rolled the door. It was truly like the scene from the movie, *Romancing the Stone*, when the sketchy drug lord welcomes his favorite author, Joan Wilder, into his hacienda mansion (hidden behind an unassuming façade). Behind the roll-up door was a totally unexpected scene—a luxurious swimming pool, palm trees, and brightly lit rooms with balconies overlooking the pool. And we were the only “guests.” After we entered, the metal door rolled back down and locked, and despite my misgivings, we did have a comfortable stay. The following morning, we wandered across the street to a little restaurant and once again felt totally out of place. As soon as we entered, everyone stopped talking and stared at us. We quickly ate our huevos and tortillas, jumped back in the truck and headed out of that town as fast as possible. Hopefully, the insignia of the University of Guadalajara on our truck was sufficient to convince the locals that we meant no harm. To this day I believe we had stumbled into one of the local drug cartel’s headquarters, and we were fortunate to have made it out unscathed.

SEEKING SLIPPERS IN CHINA

According to the *Flora of China*, there are 36 species of *Cypripedium* in China, the majority of which occur in the provinces of Sichuan and Yunnan. I have made five separate trips to see orchids in China, all organized by Wenqing Perner and her late husband, Holger. Spring in the mountains of Sichuan and Yunnan is glorious, with entire mountainsides of rhododendrons in full bloom, wonderful alpine species in the genera *Androsace*, *Fritillaria*, *Pedicularis* and *Primula*, and lush forests with thousands of peonies, clematis, hydrangeas, lilacs and saxifrages. It is a visual feast. And, of course, slipper orchids! I have two slippery tales from my China adventures.

The first was a visit to Wanglang Nature Reserve in Pingwu County, Sichuan. This reserve was set up specifically to protect the endangered giant panda (*Ailuropoda melanoleuca*). A biodiversity hotspot between the Himalayas and the Hengduan Mountains, Wanglang is thought to be home to at least 30 of the giant pandas, as well as the endangered



- 16 *Cyp. calcicolum*, Huanglong
- 17 *Cyp. xwenqingii* (*tibeticum* x *farreri*)
- 18, 19 Travertine pools of Huanglong, China
- 20 *Cyp. flavum*, Huanglong
- 21 Clump of *Cyp. flavum*, Huanglong
- 22 *Cyp. guttatum*, Huanglong
- 23 *Cyp. tibeticum*, Huanglong
- 24 Guangxi, China landscape



20



21



22



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takin (*Budorcas taxicolor*) and the golden snub-nosed monkey (*Rhinopithecus roxellana*). We tried to visit this reserve on two separate trips. On the first trip, we were forced to turn around due to extremely dangerous road conditions. Wenqing was driving a small mini-van, and the final part of the road into the reserve consisted of a temporary, narrow, muddy, unmaintained road perched on the side of a cliff that descended several hundred feet straight down into a reservoir. A year later we tried again, this time with a larger bus and a driver who had served in the Chinese army as a truck driver (Mr. Jon). Mr. Jon was fearless, and he maneuvered that bus down the one lane track through washouts, holes, mudslides and other obstacles that I would have been afraid to even navigate on a motorcycle! Amazingly (thank goodness!) we made it, although in one spot I was so frightened I got off the bus and walked. It's difficult to translate the trip over this road to words, but I do have a movie made by one of the participants that really tells the story. When we finally reached the reserve, we were treated to an absolute paradise of orchids, with multiple *Cypripedium* species (*C. tibeticum*, *C. flavum*, *C. calcicolum*, *C. farreri* and *C. xwenqingii*) as well as other orchids (*Amitostigma*, *Calanthe*, *Galearis*, *Hemipilia*, *Neottia*, *Oreorchis* and *Ponerorchis*). Today this reserve is served by a brand-new highway, and it is unfortunately visited by over 30,000 tourists per year, so it's likely that the continued existence of this pristine wilderness is now highly challenged.

A second hotspot for *Cypripediums* in China is Huanglong National Park, located in the southern part of the Minshan mountain range, about 230 miles northwest of Chengdu. Most of the tourists that visit this park travel to see and photograph the many cascading travertine pools that are formed by calcite deposits. This park is also home to the giant panda and golden snub-nosed monkey. However, Huanglong is home to an astonishing variety of orchids, including *Cypripedium bardolphianum*, *C. calcicolum*, *C. fasciculatum*, *C. flavum*, *C. guttatum*, *C. henryi*, *C. micranthum*, *C. palangshanense*, *C. plectrochilum*, *C. shanxiense*, *C. sichuanense* and *C. tibeticum*. Additionally, there are multiple *Amitostigma* and *Calanthe* species, several very attractive *Epipactus* species, and representatives of other terrestrial genera, including *Calypso*, *Cephalanthera*, *Coeloglossum*, *Corallorhiza*, *Galearis*, *Gastrodia*, *Gymnadenia*, *Habenaria*, *Listera*, *Malaxis*, *Neottia*, *Oreorchis*, *Platanthera*, *Pleione*, *Ponerorchis*, *Spiranthes* and *Tipularia*. Mixed in with this amazing display of orchids are numerous alpine flowers, including *Anemone*, *Aquilegia*, *Corydalis*, *Gentian*, *Pedicularis*, *Paeonia* and *Papavera*. When visiting Huanglong with Holger and Wenqing, you had special access to a region of the park off limits to the tourists. Just a few hundred yards off the boardwalk, one comes to a small clearing where there are literally hundreds of *Cypripedium tibeticum* and *C. flavum* growing in large clumps around small trees and bushes. After visiting this paradise of orchids, the usual routine is to walk up the boardwalk to the top of the valley (about three miles) and photograph the travertine pools, wildflowers and orchids that grow on either side. You can descend on the opposite side of the valley, where you will find different orchids (mostly deep forest terrestrials). If you time the visit right, there may also be three to four different rhododendron species in full bloom. By this time, you must be asking, so what is the slippery tale? With so many cypripediums, there must be one!



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- 25 Boarding longboats to explore for *Paph. sanderianum*
- 26 On the longboat exploring Mulu for paphs
- 27 Leeches, Borneo

On my last visit to this park, I had my cameras, lenses and ring flash in a shoulder bag, along with a water bottle and a few snacks. The bag wasn't particularly heavy, but it is a long, strenuous walk up and down the valley. By the end of the day, my shoulder was aching, and I was looking forward to a hot shower and a spicy Sichuan dinner. When I finally got to my hotel room and took off my shirt to see what seemed to be some kind of rash, I was shocked. My neck, upper shoulder, and even upper arm were covered with a burning, blistering, itching and incredibly painful rash. My fellow travelers emptied their medical kits and gave me their antihistamines, pain killers, steroid creams and anything else that might be of use. Nothing seemed to help. Finally, I spent several hours on the internet (not an easy task in China since most American search engines [e.g., Google] are banned) trying to figure out what I had. At last, I came across a website with photos and symptoms that matched exactly. Egad! Shingles! And the best treatment was an antiviral medicine such as Acyclovir, which would reduce the severity and duration of the symptoms. But where in this remote part of China was I going to be able to find Acyclovir? This happened on one of the very first days of my trip, and there was no way I was going to go home! Wenqing worked a miracle, making a few calls to a senior administrator at the Huanglong Park, and somehow arranged for a large box of Acyclovir to be air shipped from Chengdu to a community hospital in the small town of Jiuzhaigou. I was so relieved to see her walk out of the hospital with three dozen packages of this antiviral medicine. Amazingly, the total cost of these pills was only about \$8. Try getting that deal in the USA! Although I had to take four pills every three hours, I hoped it would be worth it. We also visited a local traditional medicine shop where I was given several tubes of a cream called "999." In Chinese, 9 represents the maximum level of mortal happiness, completeness and everlasting. To this day, I don't know what the active ingredient in this lotion was, but it was the only thing I found that would relieve the pain, so there must be a meaning in those numbers. (I have subsequently discovered this lotion is also great for the reaction I get to poison oak.) To make a long and painful story short, I had the blistering rash of shingles for an additional month. When the new shingles vaccine came out, I was first in line. No way was I willing to suffer through that again. OK, on to a new genus.

Paphiopedilums are probably the most popular and widely cultivated species of the slipper orchid alliance. There are about 80 accepted taxa, all of which occur in Southeast Asia, southern China and the Indian subcontinent. The next slippery tales come from the islands of Borneo and Sulawesi and the limestone karst region of Guangxi, China.

ADVENTURES IN BORNEO

If one could make only one trip in their lifetime to see orchids *in situ*, I would have to put the island of Borneo on the top of this list! At last count, there are over 1,700 different species of orchids here, and new ones are still being discovered. Over ten years ago I had the opportunity to join a small tour group organized by John Varigos (of Melbourne, Australia) and had one of the most amazing three-week adventures of my life. We visited many different areas of the island, but the two outstanding favorites were Mt. Kinabalu and Gunung Mulu National Park. The richness of the orchid flora on Mt. Kinabalu is astounding. For the curious, there is a wonderful two-volume set of books called *Orchids of Mt. Kinabalu* by J. J. Wood, T. E. Beaman, A. Lamb, C. C. Lun and J. Beaman that I highly recommend. For the paphiopedilum lovers, this mountain is home to *Paphiopedilum dayanum*, *P. hookerae*, *P. javanicum*, *P. lawrenceanum*, *P. lowii*, *P. ooi*, *P. rothschildianum* and *P. sugiyamanum*. It is still possible to see some



of them *in situ*, although the sites of the highly prized *P. rothschildianum* are known to only a few. We did photograph *P. dayanum* and *P. javanicum* leaves (no flowers) *in situ*, and were able to photograph several of the other species in flower in a shade house that we were invited to visit (not open to the public). The steep trail to the top of Mt. Kinabalu is lined with orchids on all sides, and genera represented include *Acanthephippium*, *Bulbophyllum*, *Coelogyne*, *Dendrobium*, *Dendrochilum*, *Gastrochilus*, *Phaius*, *Pholidota*, *Robiquetia*, *Schoenorchis*, *Spathoglottis*, and *Stikorchis*, just to name a few. Of course, no trip to this part of Borneo would be complete without the ubiquitous leeches, which are literally dangling on the tips of small branches and grasses next to the trail, just waiting to get you. You don't even realize you have been leeches until you notice a large bloody spot on your shirt or pants. On one of the trails, I reached down to remove something from my sock and found about 20 leeches squirming around trying to get to my ankles! Fortunately, while disgusting, leeches carry no known diseases, and after a few days on the trails you start to look upon them as annoyances, much like mosquitoes on a native orchid tour in Manitoba. Although my field pants and shirts from that trip are still stained with large blood spots to this day!

One of the highlights of the Borneo trip was the visit to Gunung Mulu National Park, in the state of Sarawak. Characterized by remarkable limestone pinnacles, rainforest-covered mountains and enormous caves full of bats, this park is also home to one of the most spectacular of the *Paphiopedilum* species, namely *Paph. sanderianum*. One of the members of our tour group, Peter Maxwell, was on his fourth or fifth trip to Borneo in search of this incredible orchid. Upon landing at the small airport, our group immediately transferred our luggage to our lodge, and we set out in small, flat-bottom longboats for one of the limestone mountains in the area. We paddled our way down the Melinau River, turning off at one of the many small tributaries. To this day I have no idea where we went, except that the further we traveled, the denser the jungle became. We could see *Vireya*-type rhododendrons in full bloom growing on trees as epiphytes overhanging the water, and everywhere we looked there were orchids in profusion. Finally, we disembarked on a rocky shore and set out on a steep uphill climb over the slippery and very sharp, eroded limestone. After an hour or so climbing, we neared the top, where a narrow but deep canyon separated us from a large limestone formation. It required binoculars or a big telephoto lens to see them, but there on the rock was a colony of a half dozen or so full-sized *Paph. sanderianum*. It seemed to be a healthy colony, with a few seedlings growing on nearby rocks. Unfortunately, they were not in bloom. Regardless, it was exciting to see them. (Several years later Peter Maxwell made yet another trip to Mulu, and I'm not sure if is the same site, but he found a large colony of *Paph. sanderianum* in full bloom. Magnificent!). On the way back down the slope, my elbow brushed against a tree branch and there was an instant, burning pain. Certain that I had been bitten by one of the five terrestrial venomous snakes of Borneo, I immediately stopped to see what I had encountered. It was NOT a snake. It was a big, green, fuzzy caterpillar, with sharp, spiny hypodermic-needle-like projections on its back. Within minutes, the area of my arm that had touched the caterpillar had turned bright red, began to itch and eventually developed into an oozing blistery mess. Moral of the story, never pet the caterpillars!

28 *Paph. sanderianum* flowering *in situ*

Photo: Peter Maxwell

29 *Paph. sanderianum* as we saw them in Mulu

30 Are we having fun yet? in Sulawesi, Mt. Lumut

SLIPPERS IN SULAWESI

Several years later, I had the opportunity to visit the nearby island of Sulawesi on a small group tour (Redfern Natural History Expedition) led by Alastair Robinson (who, coincidentally, was also the editor on several orchid books that were co-authored by me and Ron Parsons). I had had a total hip replacement about four months before the trip, and this would be my first big physical adventure on my new hip. My companion on the trip was my co-author, Ron Parsons. Our group was once again a mix of carnivorous plant lovers and orchid nuts, and Sulawesi is renowned for both its orchids (over 250 species) and nepenthes (four endemic species as well as several other more widespread). There are eleven recognized *Paphiopedilum* taxa, and we hoped to see at least one or two of them. The ultimate quest was for the newly described *Paphiopedilum robinsonianum*, named for our tour leader who had photographed the plants on a remote mountain (Mt. Lumut) in Sulawesi just a year or two prior to our expedition. It was an adventure even getting to Sulawesi! When I first tried to make plane reservations on Expedia, I could not even find a trip that was less than 50 hours in length (one way). Finally, however, I succeeded by basically patching together several separate trips.

To get there we flew from San Francisco to Hong Kong to Singapore to Jakarta, and finally to Makassar. When we arrived late in the evening, we had to take a taxi from the airport and had no local currency. After much searching, we finally located an ATM machine, and unfamiliar with the denomination of the rupiah selected “150,000” thinking that would be enough for a few days. To our surprise, the short trip from the airport cost 100,000 rupiah, and I was beginning to wonder if this place was incredibly expensive. The next morning, however, I was able to look up the exchange rate, only to learn that it was a \$7 taxi trip! Whew. We met up with the group at breakfast and immediately thereafter set off in a small four-wheel-drive mini-bus, heading north into the Toraja region of the country. This region is best known for its tongkonans, large ancestral houses that look like upside down boats on stilts. In the highlands of Tana Toraja, we explored these amazing villages, and at the same time searched for orchids and nepenthes. We found several small, unidentified paphiopedilum plants growing on some steep banks next to the main highway, along with *Spathoglottis plicata*, an unidentified *Pterostylis* and an unidentified *Spiranthes*. In another nearby location, after bushwhacking through some very tough brush, we found a few plants of *Paph. sangii*. Our guide for this part of the trip was a local orchid lover/collector named Tampang. We visited his impressive and well-grown collection, which included a magnificent plant of *Paph. gigantifolium*.

We continued on our land-based trip, reaching the large interior freshwater Lake Pozo after a nightmarish trip on a horrendous, muddy road with washed-out bridges and mudholes that nearly defeated the four-wheel drive on our minibus. We spent a number of days in this area, finding some interesting reserves and lots of nepenthes, but generally it was an orchid-poor area. Even the orchid reserve that we visited had a poor selection of orchids, with absolutely none in bloom! Our final destination on this leg of the trip would be Mt. Lumut, where we would try to find the newly described *Paph. robinsonianum*. To get there, we traveled to an idyllic resort near the town of Ampana. It was situated on a beautiful beach, and we stayed overnight in lovely wooden cabins. Before dinner, the group spent much of the afternoon swimming in the warm waters, looking at the many tropical fish and corals beneath us. I photographed one of the most magnificent sunsets I have ever experienced. This resort was the most luxurious (by far) that we had visited on the tour; prior to this most of the hotels/lodging had been rather shabby, run down, and in



31 Crossing one of many rivers in Sulawesi

32 Motorbike adventure in Sulawesi



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- 33 Tampang with huge plant of *Paph. gigantifolium*
- 34 Tongkonan ancestral house, Sulawesi
- 35 The paph that wasn't. End of trip, Sulawesi—aren't we happy!

some cases, downright dirty. However, in the small villages that we had travelled to, they were all that was available.

We left Ampana early in the morning and traveled farther up the peninsula to a small village near the coast. The entire village had turned out to greet us, as our transportation inland consisted of a “fleet” of somewhat underpowered motorcycles and their drivers (basically all the young men in the town). After loading up the backpacks and supplies, we set off down a muddy track between the groves of coconut palms, heading inland. The people of Sulawesi are generally small (under 5 feet 6 inches in height) and not terribly heavy (probably at the most 150 pounds), and it was rather comical to be behind a motorcycle with a 6-foot-3-inch, 225-pound American on the back (no names please!). On more than one occasion, the American leaned the wrong way on a corner, and driver, rider and backpack all rolled off into the mud and brush. We somehow managed to cross several rivers (wading, with our drivers carrying the motorbikes), and several hours later we arrived at a remote and even more primitive village. We said good-bye to our drivers and met up with the inhabitants of the village of Paranonge, who would be our porters and guides for the next three days.

The next five or so hours were the most difficult part of the trip, basically slogging through mud and brush, wading through waist-high rivers, ducking under low-hanging bushes, suffering the 90° F heat with near 100% humidity, and little to look at other than a scrubby secondary forest. Finally, we reached the more pristine primary forest, where the air was fresh and much cooler. We began to find terrestrial orchids (several different *Calanthe* species) and the occasional epiphytic orchid, although they were mostly tiny *Oberonia* and *Bulbophyllum* species. Absolutely exhausted, we reached our campsite, where our porters quickly built a lean-to shelter where they would sleep and cook, and the rest of us set up our hammocks. The campsite was actually on an island in the middle of a river (I believe this was to avoid leeches), and there were not many trees to tie the hammocks up to, such that several of the hammocks were tied to a common tree. My friend Ron absolutely hates camping, and he left it to me to set up his hammock, which in hindsight probably was a mistake. Regardless, we had our camp dinner, and soon it was dark and we retired to our hammocks. Each hammock had a net top which zipped up, over which there was a rain fly to keep you dry when it rained (which it did every night). Suspended off the ground, we would presumably be safe from leeches, snakes, and potential flooding of the river (our packs and clothes were also tied up in the trees). I fell asleep to the noises of the forests, chirps, squeaks and squeals from who knows what type of creature, along with the roar of the nearby river. Several hours later I woke up when my hammock started to shake and swing back and forth. It was completely dark and I could not see what was causing this. The swinging went on for what seemed like hours, then finally subsided, only to begin much more violently when it began to get light. I sat up and looked over at the neighboring hammocks, and to my surprise, the hammock that Ron was in had bent down the trees, and the hammock, instead of stretching horizontally, was now resting in a v-shape with presumably Ron's bottom resting on the ground. He was as angry as a hive of bees! To top it off, somehow he had managed to flip his hammock in a complete circle several times, and could not find the zipper to get out. (Aha, now I knew why the hammocks were shaking and swinging). And now he had to pee!! “Please, get me out of here!!!”

Yep, I admit it, the hammock debacle was all my fault. To this day, Ron won't let me forget it! And has not gone camping ever since. And probably never will.

So back to the slippery tale part of the story. All of us, with the exception of Alastair and Steve Fretwell, the younger carnivorous plant nut, were so exhausted from the previous day's trip we could not imagine climbing the mountain in the heat and the rain. There was no trail, so it would be a bushwhacking trip the entire way. My new hip was hurting, and I was afraid to overdo it, so I too stayed at the bottom. We explored the forests around the camp, and found a number of orchids, but it was not a terribly rich area, so for the most part we sat under the lean-to in the rain, just being



36 *Paph. hirsutissimum* close up, *in situ*, Guangxi Zhuang Autonomous region, China

37 The cliff scaffold in Yachang a few weeks after the OCA visit...just a few missing stairs...beware!

All photos are by the author unless otherwise noted.

miserable and trying to talk to our porters, who spoke little to no English. Near dusk, Alastair and Steve returned to the camp. They had successfully found *Nepenthes hamata*, but it appeared that all of the paphiopedilums had been extirpated. So ultimately, it was the paph that wasn't.

WILD PAPHS IN SOUTHERN CHINA

The final chapter of my slippery tale takes place in southern China, in the province of Guangxi. This region is well known for its rivers, caves and towering karst formations. Thousands of tourists take the boat cruises on the Lijiang River between Guilin and Yangshuo. This was an Orchid Conservation Alliance "Orchids in the Wild" tour, led by Holger and Wenqing Perner. We visited several locations where paphiopedilums had once been quite numerous, including some steep cliffs above the Ming River, where *Paphiopedilum concolor* may still occur, although we did not spot them. These cliffs are famous for the Huashan Cliff Paintings, which are thought to be over 2,000 years old. We also climbed some rocky outcrops where *Paph. helenae* grew at one time (all plants have since been extirpated from this location). However, the highlight of this trip was the Yachang Orchid Nature Reserve, located in a remote part of the Guangxi Zhuang Autonomous Region (Leye County). When we visited, it was a two-day journey from the capital of Nanning. This reserve is carefully protected, with a high fence around the perimeter, and guards and forestry people who are there around the clock. We were allowed to visit as a group of international orchid experts; we were required to sign in and were carefully monitored by several of the guards throughout our tour. Home to over 130 species of orchids, this reserve is one of the few orchid-rich areas left in the Province of Guangxi. Perhaps the most famous scene from the reserve is an entire cliff covered with *Paph. hirsutissimum* in full bloom. We were exceedingly fortunate, as the date of our visit coincided with its peak bloom. That was a truly magnificent sight!

Whoops, did I forget to mention that the paphiopedilums were growing on a cliff? To see them, the reserve had constructed a wooden scaffold in front of the cliff. This would prevent visitors from trampling on the plants, but still allow for an excellent view. Except for one (minor?) problem...the scaffolding was rotten! One of our party stepped on one of the cross beams, and all of us turned our heads when we heard the loud "crack"! This time it wasn't I who experienced the curse of the slipper orchid, but rather Peter Tobias, the president of the Orchid Conservation Alliance. Although he tumbled a short way down the cliff, fortunately he wasn't injured. We managed to enjoy the rest of the day in the reserve, getting spectacular photos of *Dendrobium fimbriatum*, *Dendrobium loddegesii*, *Liparis* sp., *Oberonia cavaleriei* and *Phalaenopsis honghenensis*.

So ends my anthology of slippery tales. I hope you enjoyed them, and the next time you look at one of your slipper orchids, perhaps you will have a better idea of its origins! Furthermore, while it is well known that these plants can be dangerous to your pocketbook, BEWARE! They can also be hazardous to your health! Future explorers take note!

ABOUT THE AUTHOR

Mary Gerritsen, Ph.D., is an independent biotechnology consultant who has been growing orchids (mostly species) on and off for more than 30 years. She loves to see orchids growing *in situ* and has made it her mission over the last two decades to see as many as possible, with trips to see and photograph orchids (and other flora as well) in Canada, many parts of the U.S.A., Mexico, and countries in Central America (Costa Rica, Panama), South America (Brazil, Colombia, Ecuador, Peru, Venezuela), South East Asia (Borneo, southern and southwestern China, Sulawesi, northern Thailand, Papua New Guinea), Western Australia, Europe (Crete, Cyprus, France, Germany, Mallorca, Rhodes and Sicily) as well as South Africa and Madagascar. She also plans and leads one or two *Orchids in the Wild* tours a year for the Orchid Conservation Alliance.

Mary is the co-author of several botanical books: *Masdevallias*, *Gems of the Orchid World*; *Calochortus*, *Mariposa Lilies and their Relatives*; *A Compendium of Miniature Orchid Species* (1st and 2nd editions); *A Bay Area Guide to Orchids and their Culture*; and *The American Orchid Society Guide to Orchids and their Culture*, with fellow San Francisco Orchid Society member and well-known photographer, Ron Parsons. She has also published articles in *Orchids*, *The Orchid Digest*, *Slipper Orchids*, *The Orchid Society of Great Britain Journal* and *The Orchid Review*. Mary is the Chief Operating Officer and Treasurer of the Orchid Conservation Alliance, serves on the Board of Directors of The Orchid Digest, and is a member of the American Orchid Society, the San Francisco Orchid Society and the Peninsula Orchid Society.

UPCOMING EVENTS

43rd ANNUAL PAPHIOPEDILUM FORUM

Sponsored by the National Capital Orchid Society

JANUARY 21, 2023 (Tentative)

Likely venue:

North Chevy Chase Christian Church
8814 Kensington Parkway
CHEVY CHASE, MARYLAND

Speakers:

Ross Hella (Deerwood Orchids) –
Miniature Paphiopedilum Breeding
Bill Goldner (Woodstream Orchids) –
Phragmipedium kovachii Hybrids
Another speaker to be determined

FOR INFORMATION:

www.ncos.us

or

paphforumhelp@gmail.com

THE ORCHID DIGEST PAPHIOPEDILUM GUILD MEETING

FEBRUARY 18, 2023

Huntington Library, Art Museum,
and Botanical Gardens
1151 Oxford Rd.

SAN MARINO, CALIFORNIA

Hybrid meeting (in person and virtual)
held at 10:00 am PST (one day only this year)

Speakers:

Frank Cervera, Theresa Hill,
Brandon Tam, Harold Koopowitz

REGISTRATION:

Orchid Digest members \$49.00 / Non-members, \$59.00

Lunch on your own. No banquet.

SEE WWW.ORCHIDDIGEST.COM
FOR DETAILS.

42nd PAPH FORUM:

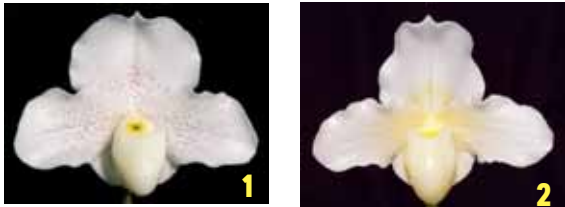
A selection of registrants' submitted photos for the People's Choice contest



- 1 *Paph. Icy Icy Wind* 'Bountiful'
Grower/Photo:
Hadley Cash
- 2 *Paph. (Winter Star x Seduction)* 'First Love'
Grower/Photo:
Hadley Cash
- 3 *Paph. sangii*
Grower/Photo:
Joel Graham
- 4 *Paph. volonteum*
Grower/Photo:
Joel Graham
- 5 *Phrag schlimii* 'Petite'
AM/AOS
Grower/Photo:
Roddy Gabel
- 6 *Paph. Harvey Man Hee* Wong '#1'
Grower/Photo:
Roddy Gabel

HADLEY CASH AT THE BRITISH PAPHIOPEDILUM SOCIETY: THE NEXT GENERATION OF COMPLEX PAPHS

Lecture Report by Chris Jones



To those British Paphiopedilum Society members with a particular interest in complex paphiopedilum hybrids, Hadley Cash is a familiar figure with a worldwide reputation in slipper hybridising. His visit to this year's Winter Meeting was eagerly anticipated, and the topic of his first lecture focused on the breeding of complex paphs and, in particular, the new lines that he has been developing at Marriott Orchids over the years.

Hadley's nursery is based in North Carolina, which he admits is more by coincidence than design, but happily the climate there is perfectly suited to growing orchids, being not too cold for too long in winter, not too hot in summer and far enough inland to escape the hurricane winds that occasionally threaten the lower east coast of the United States. His business was established in 1998, but his interest in orchids began some eight or so years before. As he learned more about them, and the increasing size of his collection necessitated the building of his own greenhouse, his interest focused on the slipper orchids. Their unusual shape and the fact that they cannot readily be cloned (meaning that there is genuine value in the quality of individual plants, their ancestry and progeny, rather than cloning thousands of an identical form) meant that he was attracted to them for both personal and business reasons. The extent to which he has been successful since is borne out by the obvious quality of his complex hybrids and the many awards they have received from the American Orchid Society (AOS)—over 250 Awards of Merit (AM/AOS), 10 First Class Certificates (FCC/AOS) and two Awards of Quality (AQ/AOS)—a difficult award for growers to obtain, as it requires the presentation of 12 specimens of a hybrid, all of which must be of suitable quality and agreed upon by the entire panel of judges, and at least one of them must also be awarded.

Hadley began by explaining the difficulties he (and other growers) faced when he first started breeding complex paphs—to find suitably fertile parent plants. Breeders were in general agreement that the white- and pink-flowered complexes around at the time were of very low fertility, meaning that they were able to raise so few offspring they generally kept them and certainly did not have flasks available. This thankfully changed when Terry Root of the Orchid Zone made the hybrid *Paph.* Skip Bartlett, using the well-known Ratcliffe white complex *Paph.* F. C. Puddle and crossing it with *Paph. godefroyae*. This resulted in plants with good fertility that not only were available in adequate numbers for Hadley to get some parent plants but would also impart fertility to their offspring. It was such a game-changer that almost all high-quality white modern hybrids now have Skip Bartlett somewhere in their background. Similarly, low fertility has

- 1 *Paph.* F. C. Puddle 'Superbum' (Actaeus x Astarte)
- 2 *Paph.* Skip Bartlett 'White Pepper' HCC/AOS (F. C. Puddle x *leucochilum*)
- 3 *Paph.* Alchemy 'Smooth Move' HCC/AOS (Peter Black x Yerba Nueva)
Exhibitor: Marriott Orchids
Photo: James Osen
- 4 *Paph.* Elfstone 'Woodstream' AM/AOS (Green Mystery x Palos Verdes)
Exhibitor: Woodstream Orchids
Photo: James Osen
- 5 *Paph.* Austin Cash 'Perfection' AM/AOS (Elfstone x Alchemy)
- 6 *Paph.* Titan's Gold 'Massive' (Elfstone x Greenvale)



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also been the problem in developing other colours, such as vinicolor complexes—a colour that had been attempted for many years by breeders all over the world but has only recently taken off for Hadley, after again finding a cross that would impart better fertility.

The huge variety of colour variations seen in complexes was broken down into several colour groups by Hadley—Greens & Golds, Reds & Spotteds, Whites & Pinks, as well as Vinicolors—and he then took us through each in turn.

Green/Gold Breeding

Twenty or so years ago a really good Green/Gold complex would have a natural spread of up to 14 cm and a petal width of maybe 6 cm, but now, thanks to improved breeding, there are some over 19 cm in width with petals over 7 cm wide. The cross that started it off for Hadley was *Paph. Alchemy* (Peter Black x *Yerba Nueva*), a cross that he admitted was the best he could do with the stock he had at the time. It resulted in big, full flowers of good substance that had great potential for further breeding. Hadley then set about improving his results by breeding with other quality plants he had acquired. *Paph. Elfstone* was crossed with *Paph. Alchemy* to give us *Paph. Austin Cash*, named after Hadley's son. Elfstone was then also crossed with a huge complex, *Greenvale*, to produce *Paph. Titan's Gold*—the only flower that Hadley has bloomed with petals over 8 cm wide. As he explained, by crossing plants with different strengths (e.g., one with good shape and the other good size), there is always a percentage of the offspring that will exhibit the best of both attributes. In this way, Hadley has been able to create many award-winning hybrids that have shown not only great substance and size but have also been incredibly round and flat-petalled.

Creating Red and Spotted Hybrids

Reds and Spotteds are distinguished by the absence or presence of spots in the dorsal sepal. If Skip Bartlett, and by extension, F. C. Puddle, are responsible for most whites and pinks, then Winston Churchill and its offspring are responsible for much of the red and spotted breeding. For Hadley, it was in particular *Paph. Amandahill* (*Amanda* x *Winston Churchill*) that invigorated his breeding lines, using other complexes with good colour to inject better colouration into their offspring, whilst retaining really good open and symmetrical blooms. It is particularly difficult to get complex paphs to have petals of equal size and shape, due to the fact that the petals overlap in the bud and their top edge is folded down over the pouch. The outside petal is inevitably slightly larger, but Hadley suggests this is far less noticeable in larger blooms.

Two breeding lines were necessary for Spotteds: one enabling him to develop flowers with spotting solely on the dorsal sepal and another with them on both the dorsal sepal and petals. For the latter, the old hybrid *Paph. Demura* (*Blendia* x *bellatulum*) was especially useful. Although difficult to get to breed well, it imparts great spotting and that distinctive creamy yellow background to its offspring. Particularly stunning is the cross with *Paph. Acclamation* that has both wonderfully even spotting and crisply defined segments of colour.



12



13

- 7 *Paph.* (*Amandahill* x *California Girl* 'Radiant')
- 8 *Paph.* (*Demura* x *Acclamation*) 'Moon Spots'
- 9 *Paph.* *Mystic Knight* 'White Magic'
(*White Knight* x *Elfstone*)
- 10 *Paph.* *White Legacy* 'Majesty'
(*Greyi* x *Silver Anniversary*)
- 11 *Paph.* *Legacy's Child* 'Beautiful Dreamer' HCC/AOS
(*White Legacy* x *bellatulum*)
- 12 *Paph.* *Legacy's Child* 'Moondust' AM/AOS
- 13 *Paph.* (*White Legacy* x *Amandahill*)
'Cinnamon Moon'



Challenging Whites and Pinks

Hadley's favourite colour groups are the Whites and Pinks, and you might say his obsession has always been to "overcome the odds" to produce great hybrids in this group. He recalled not only the difficulty he had in obtaining any plants to begin breeding with, but also the exorbitant prices he had to pay for some plants, only to discover they were likely to be of low fertility. To avoid paying such prices again he quite wisely remade his own versions of some. The Orchid Zone cross *Paph. Mystic Knight* (White Knight x Elfstone), that he remade, turned out to be far more fertile than plants from the original cross, and it was his discovery of another white, *Paph. White Legacy* (Greyi x Silver Anniversary), that really unlocked his breeding of pinks.

White Legacy can be quite variable in colouration and pattern, and Hadley's instinct was that it would make a great (and fertile) parent for developing a wide range of pink hybrids. His first hybrid using it was amongst his most successful—*Paph. Legacy's Child* (x *bellatulum*), which delivered a beautiful range of colour variations but with a great consistency of quality. It subsequently delivered Hadley his first Award of Quality (AQ) from the AOS. Further crosses with red complexes such as *Paph. Amandahill* have produced large, full-shaped blooms in pale or deep pink and cinnamon tones, as the dominant white of one parent has subdued the reds of the other. Other crosses between *Paph. Amandahill* and white/pink complexes, such as *Paph. White Knight*, *Paph. White Queen* and *Paph. Winter Star* have produced similarly vibrant colours, the best of which in Hadley's opinion is *Paph. Obsession* (Keyeshill x Winter Star), the only white/pink that he has bloomed to date with petals over 7cm in width. He continued to develop pinks that combine such flushes of colour with spots evenly overlaid.

Complex Vinicolors

The final colour group is one more commonly associated with the thin-petalled *Maudiae* hybrids and is the most recent breeding line that Hadley has pursued. The cross *Paph. Dark Destiny* (Montagnard x Black Wizard) is among his current best, with up to 4.5-cm-wide petals—as wide as many historic complex paphs. The vinicolor does not always come through, due to the complex genetics inherited from its different parents, most noticeably one of its grandparents, *Paph. sukhakulii*, that throws green-spotted versions. Although not vinicolors, these colourful individuals have their own charm too.

Perhaps Hadley's most decorated bloom is actually a vinicolor complex he made almost twenty years ago. *Paph. Winwine* (Winston Churchill x Joanne's Wine) was not only awarded a First Class Certificate (FCC) by the AOS, but also the W. W. Wilson Award for the best slipper orchid awarded that year (2004) and the Merritt Huntington Award for the best orchid of any variety awarded an FCC by the AOS that year. By comparing this flower with one of the most recent vinicolors Hadley has bloomed, *Paph. Firecatcher* (Orchilla x Hsinying Charles), it is immediately apparent the extent to which breeding has improved the fullness of shape and solidity of colour in the intervening years. Hadley is currently waiting to see the



flowers from a further exciting cross between *Paph. Orchilla* and *Paph. Amanda 'Joyance'*, which he was pleasantly surprised gave good germination, as Orchilla is another temperamental breeder.

Fertility issues are a challenge in all hybridising, especially with slipper orchids, so growers are always looking for plants with good fertility to become the foundations of their breeding lines. In the case of his vinicolors, it was in *Paph. Flash Point* (Amanda x Flashdance) by Paphanatics that Hadley placed his faith. Not only does it have extremely large, full flowers with good colour, it is also very fertile and passes on its fertility to its offspring. This has enabled Hadley to develop his best cross so far, *Paph. Dark Fantasy* (x Tiger Hill), the ultimate vinicolor complex, with round shape and solid dark colour. The effect is undoubtedly striking.

14 *Paph. Obsession* 'Statuesque' (Keyeshill x Winter Star)

15 *Paph. Dark Destiny* 'BiggerNBetter' (Montagnard x Black Wizard)

16 *Paph. Dark Destiny* 'Glowing Embers'

17 *Paph. Winwine* 'Dark Spell' FCC/AOS (Winston Churchill x Joanne's Wine)

18 *Paph. Firecatcher* 'Shocker' (Orchilla x Hsinying Charles)

With a timeline of around seven years per generation, slipper orchid breeding is a test of patience and requires both dedication and foresight. It is evident from the superb range of complex hybrids Hadley developed at Marriott that he had these traits in abundance. His presentation and enthusiasm were so effective that many members discovered a new-found passion for complex paphs.

REFLOWERING YOUR PAPHS AND CULTURE TIPS

After Hadley had given his first presentation, he was kind enough to give the members some culture tips and answer any questions. His first topic was the much-lamented problem of reflowering slipper orchids after initial success or purchasing plants in flower. The most common mistake, he says, boils down to an excess of nitrogen-heavy fertilisation year round. By doing this, growers are chemically encouraging their plants to continue growing and skip flowering altogether. He recommends switching to a bloom fertiliser for two months or so in late September/early October or, failing that, reducing your fertiliser strength by two thirds, or even ceasing feeding completely, for a similar period.

Other factors play a role in activating flower development, too. A “chilling down” period in autumn, with a good day/night temperature swing, is important. Hadley recommends allowing the plants to cool at night to around 14°C (57.2°F), with an 8°C (46.4°F) swing warmer in the day. Hadley often achieved this by putting his plants outside for about a month to allow them to receive the cooler nights, but greenhouse growers here in the U.K. can effect a similar change by turning down the minimum temperature thermostat or allowing vents to remain open overnight. While the plants are kept in such conditions it is important to remember that they will have less need of water, and so watering should accordingly be reduced. Hadley suggests allowing a few more days between each watering.

Finally, shorter day length (fewer daylight hours) will also encourage the plant to develop a flower spike while in dormancy. This almost takes care of itself here in the U.K., with the problem for many growers being a lack of light in the winter, but whether you supplement with artificial light in winter or not, the following is a good guide: Plants should receive around 15 hours of daylight in summer, gradually decreasing from September/October to about 10 hours in January, before rising again over the spring months. Hadley maintains that if growers can achieve these four variables adequately, they should have no trouble re-blooming their plants year after year.

On the question of overpotting, he suggests using the smallest pot you can fit a plant into without damaging the healthy roots and a pot no more than 2 cm larger than the preceding pot size. It is time to repot when either the medium has broken down or the pot feels solid from the restricted root ball inside. The danger in overpotting is that the medium remains too wet upon watering, due to a lack of roots to absorb the moisture. Conversely, some mixes can be too dry in certain conditions. The addition of water-retaining components in the mix, such as a small amount of ground sphagnum moss, pumice chips or clay pellets can retard the drying time if the mix is drying too quickly.

The conclusion is, as is so often the case for slipper growers, that decisions such as media composition should be determined by a grower's own observations of the effects of their specific conditions and culture.

All photos are by Hadley Cash unless otherwise noted.

Editor's Note: Hadley Cash was the featured speaker, giving two talks, at the Winter 2020 meeting of the British Paphiopedilum Society. The Editor of their BPS Journal, Chris Jones, wrote and printed two articles based on these talks. Sadly, Hadley passed away on February 13, 2022, a terrible loss to the orchid world. (See the memorial article in the Summer 2022 issue of Slipper Orchids.) We are very fortunate that Chris made these articles available to us, along with photos of many incredible flowers. They are a fitting final tribute to a truly outstanding orchid grower and hybridizer.



19 Paph. Flash Point 'Rotunda' (Amanda x Flashdance)

20 Paph. Dark Fantasy 'Night Shade' AM/AOS
(Flash Point x Tiger Hill)

Photo: Bryan Ramsay

ABOUT THE AUTHOR

Chris Jones is the current journal editor and web administrator for the British Paphiopedilum Society (BPS) in the UK. He joined the society in 2016, after his interest in orchids was rekindled and he decided to seek out a society for fellow enthusiasts of slipper orchids. Upon joining, he was disappointed to find that there was talk of winding up the society due to dwindling members and rising costs. Deciding membership would be short-lived if he did nothing, Chris and several other members pushed for the society to be given a facelift and to modernise, enabling it to attract new members and at least survive, if not flourish. He volunteered to create a new website for the society and used his artistic skills to create a new logo, before joining the committee in 2017 and then similarly redesigning the society's journal as its new editor in 2019. When not involved with BPS business, Chris is employed full-time as an artist, painting mostly poultry and wildlife subjects, but also many of the orchids (predominantly multifloral paphs) that share his studio space. (See article in Fall 2022 issue of *Slipper Orchids*.)

23rd WORLD ORCHID CONFERENCE ANNOUNCED

The World Orchid Conference Trust is proud to announce that the 23rd World Orchid Conference will take place in Tainan, Taiwan, on March 1 - 4, 2024. The venue will be announced at a later date.

The 23rd WOC, the first since the COVID pandemic, will have the traditional format and several new components.

Conference & Show Expectations:

- Orchid exhibits from around the world,
- Individual orchid competition,
- Educational exhibits,
- Exhibit and individual entry judging by renowned international judges,
- Lecture program featuring botanical, scientific, horticultural, and conservation advances in the field of orchidology,
- Social program including tours of Taiwan.

Applications for Future World Orchid Conferences:

Applications are invited to host either the 24th WOC in 2026 or the 25th in 2029. The application deadline for either conference is January 15, 2024. An application form and guidelines for hosting a WOC are available on the WOCT website.

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SOA ELECTION: OFFICERS AND DIRECTORS

A Nominating Committee composed of Tim Culbertson, Bill Goldner and Elena Gaillard is presenting the following slate:

President – Roddy Gabel
Vice President – Jason Gebbia
Secretary – Deb Longworth
Treasurer – Rod Knowles
Directors – Ross Hella, Tom Mirenda and Nancy Mountford

According to the SOA By-Laws, “The slate shall be published in the SOA Newsletter. If no new nominations presented in writing by ten members in good standing and accepted in writing by the nominee are received within one month of publication, a single ballot shall be filed and those persons shall be declared elected. If a new nomination is received, the election will be repeated for that office in the next journal.” The above slate will take office as of January 1, 2023, for a term of two years.