

***NORTH AMERICAN
NATIVE ORCHID JOURNAL***

Volume 15(3)

2009



IN THIS ISSUE:

A TALE OF TWO TRIPS

The *North American Native Orchid Journal* (ISSN 1084-7332) is a publication devoted to promoting interest and knowledge of the native orchids of North America. A limited number of the print version of each issue of the *Journal* are available upon request and electronic versions are available to all interested persons or institutions free of charge. The *Journal* welcomes articles of any nature that deal with native or introduced orchids that are found growing wild in North America, primarily north of Mexico, although articles of general interest concerning Mexican species will always be welcome.

NORTH AMERICAN
NATIVE ORCHID JOURNAL

Volume 15 (3)

2009

CONTENTS

NOTES FROM THE EDITORS

138

A TALE OF TWO TRIPS

139

PAUL & STAN'S GREAT ORCHID ADVENTURE 2007

Paul Martin Brown & Stan Folsom

140

10,000 MILES WAY OUT WEST

A Family Orchid Vacation to the Western United States 2009

Tom Nelson

153

BOOK NOTICES

202

Unless otherwise credited, all drawings in this issue are by Stan Folsom and
photographs by P.M. Brown.

The opinions expressed in the *Journal* are those of the authors. Scientific articles may
be subject to peer review and popular articles will be examined for both accuracy and
scientific content.

Volume 15(3): 138-206 issued October 26, 2009.

Copyright 2009 by the *North American Native Orchid Journal*

Cover: *Epipactis gigantea* by Stan Folsom

NOTES FROM THE EDITORS

Originally planned as a double issue and now separated into two issues, volume 15 number 3 features a pair of stories of intrepid orchid adventures. Both groups visited some of the same sites, as well as other places. They will make for interesting armchair travel.

Volume 15 number 4 will be available in December and will be a single publication in field guide format on the wild orchids of the White Mountain National Forest (N.H. and Maine) region.

The electronic format continues to be well received and we now reach more than 1500 readers.

You may read current and back issues at: <http://wiki.terrorchid.org/tow:journals>

The current update of the *North American Personal Checklist* is also available at that website. The checklist will be updated as needed with new taxa noted.

Paul Martin Brown, *Editor*

naorchid@aol.com

10896 SW 90th Terrace, Ocala, FL 34481

36 Avenue F, Acton, Maine 04001 (June- early October)

Scott L. Stewart, PhD. *Associate Editor*

slstewar@gmail.com

Kankakee Community College

Horticulture & Agriculture Programs

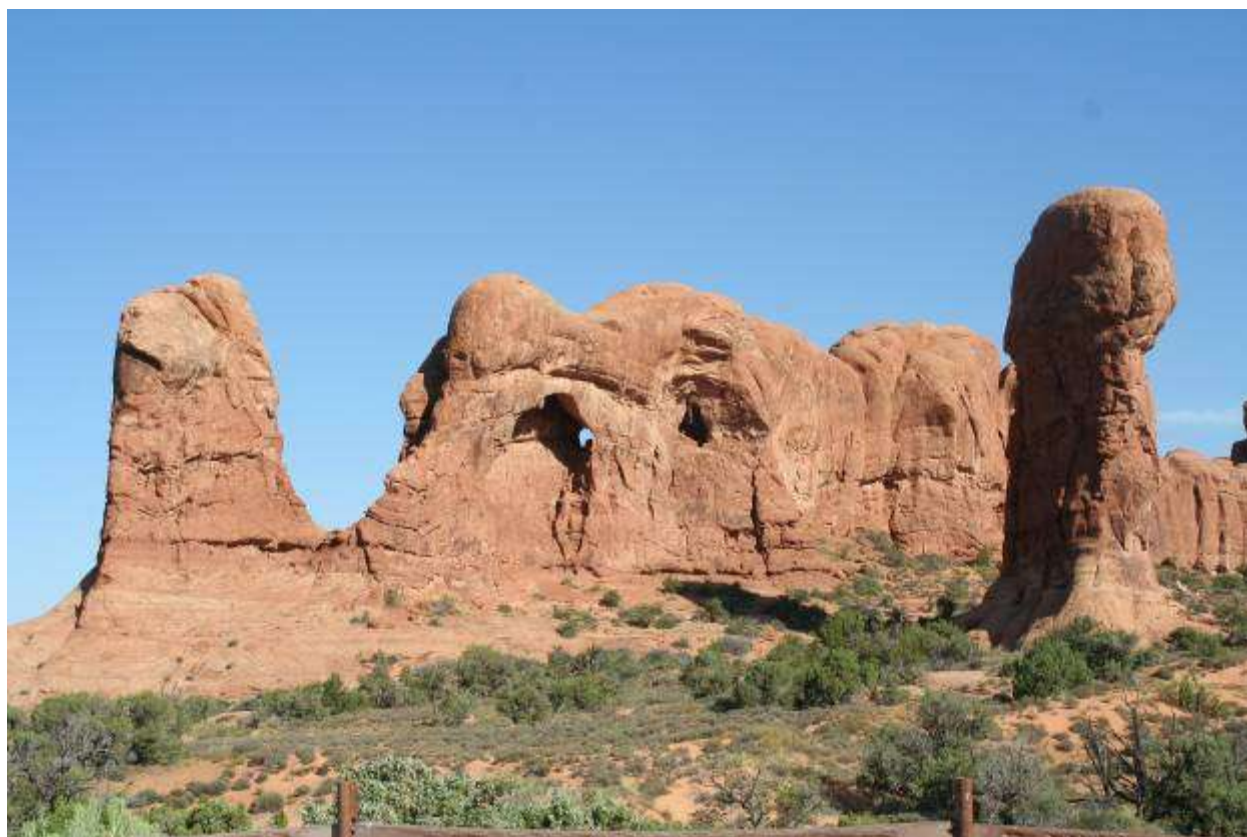
100 College Drive

Kankakee, Illinois 60901

A TALE OF TWO TRIPS

The following two accounts follow the travels of two families as they head to the western United States in search of our native orchids. Stan and Paul's Great Orchid Adventure took place in the summer of 2007 and was previously published, in a slightly different format, as a four-part series in the *McAllen International Orchid Society Journal* and the *South Marion (FL) Citizen* newspaper. Stan and Paul's trip would not have been possible without the help of several friends: Chuck Sheviak, Bill Jennings, Scotty Smith, Alison Colwell, Brad Kelley, Scott Shriver, Mark Larocque, and Ron Coleman.

Tom and Jackie Nelson's ambitious trip in 2009 took them to many of the same places as Stan and Paul's trip as well as to the California coast, and the Pacific Northwest/Olympic Peninsula. This is the third account of the Nelson's annual summer orchid trips.



Arches National Park, Moab, Utah

STAN AND PAUL'S GREAT ORCHID ADVENTURE! 2007

Paul Martin Brown & Stan Folsom

Note: In preparation for the 12th field guide to the wild orchids of North America Paul Martin Brown and Stan Folsom of Ocala, Florida and Acton, Maine, accompanied by their Pomeranians Leroy and Lena, drove from their summer home in Acton to the Southwest in the summer of 2007. Over the years Paul and Stan had visited 49 states and nearly all of the provinces and territories in Canada. This trip completed the set with their 50th state, and also enabled them to see an abundance of wild orchids and national parks. Their research for the many books they have written has taken them to 252 of the 262 species and varieties of wild orchids in the US and Canada. They had the potential of seeing 8 of the 10 remaining species on this trip including a new species from Yosemite National Park that was just discovered. The three weeks of driving, included exploring, and discoveries -- from the heights of the Rocky Mountains in Colorado to the depths of Death Valley in California!

Our great Southwestern orchid adventure started early Sunday morning, July 22nd, from our summer home in Maine. We packed up the car with ourselves, the dogs, and everything we could fit in and headed out with our first stop in State College, Penn. Our pretrip quest here was the copper colored form of Small's twayblade orchid, *Listera smallii*, that Paul needed to photograph. Our local driving took us through meticulously kept Amish country and into a large state forest to the Alan Seeger Natural Area. Unfortunately we were unable to



Small's twayblade, *Listera smallii*



club-spur orchid, *Gymnadeniopsis clavellata*

find that color form but Stan did find a beautiful plant of the little club-spur orchid, *Gymnadeniopsis clavellata*, in perfect condition.

The next three days took us over 1000 miles west through Ohio, Indiana, Illinois, across the Mississippi River near St. Louis, and on to Kansas where we spent the night with friends. We were pleased to see that the area before

and after Indianapolis was still devoted to extensive farming and were amazed to find that most of Kansas has rolling hills and trees instead of the flat land we thought of as typical of the area. Then finally into Colorado and the Great Plains where on July 26th we spent our first day of exploring for the Southwestern field guide. After the prairies and Great Plains the mountains of Colorado were a welcome sight! For flatlanders like us living at near sea level in Florida the elevation in the Rockies of 7-9,000 feet slowed us down a bit, but we were successful in finding the first species on our wish list. Our first quest was a rare, local, ladies'-tresses orchid that is known primarily from the Boulder, Colo. area. After a few false starts and rather poor plants we found the best spot, hurdled the fence, and explored the wetland near the farm that is now Boulder Open Space property, we were rewarded with several hundred Ute Ladies'-tresses, *Spiranthes diluvialis*, many well over a foot tall!



Ute ladies'-tresses, *Spiranthes diluvialis*

After returning back to the car to walk the dogs while Paul finished up his photos Stan, using his binoculars, found a new spot for the same rare orchid – always a rewarding experience!

A gentle mountain seep near the Fourth of July Mine trailhead at 8,000 feet and the steep woodlands around it provided us with several bog orchids, *Platanthera*



short-spurred bog orchid, *Platanthera purpurascens*



short-spurred bog orchid, *Platanthera purpurascens*

purpurascens, *P. dilatata* var. *albiflora*, and *P. aquilonis* and Stan found some of the spotted coralroot orchids, *Corallorhiza maculata*, still in flower. We finished that first day with an exhausting hike with the dogs to the ghost town of Hessie and searched for more green bog orchids.

The next morning we headed west for the lower slopes of Mt. Evans. The Mt. Evans auto road is the highest in the U.S. if you go all the way to the top. This we had done several years ago and the 14,000 foot+ elevation was a bit more than we could take. Although we were unable to find the spot a friend suggested on the slopes of Mt. Evans we found several orchid colonies of our own and many more of our target species of *Platanthera purpurascens* and a great surprise with the blunt-leafed rein orchis.



blunt-leafed orchid, *Platanthera obtusata*



By afternoon we were back on the road and heading to the Edward Rest Stop near Vail for a recently described species of rein orchis, the Intermountain Rein Orchis, *Platanthera tescamnis*. Our directions were excellent and we found the plants, most of which had finished flowering, but some were still in good condition. The real treat



Intermountain rein orchid, *Platanthera tescamnis*

there were hybrids with the more common *P. aquilonis*, which will require that the new hybrid be named (*P. ×smithii*). A task Paul tackled after we returned. Our trek that day was a long one and we had to make it to Moab, Utah that evening which meant another 300+ miles to go!

Moab is home to Arches National Park and some spectacular scenery. It is also home to a local endemic orchid, the alcove bog orchid, *Platanthera zothecina*; called this because it only grows in the alcoves of the cliffs formed in the red sandstone along the Colorado River. These alcoves are often inaccessible and always have dripping water that forms 'hanging gardens'. We had planned a very early morning trek to the suggested alcove so as to take advantage of the cool weather. Also the alcoves tend to face north so light is never as good as we might like. As we approached Moab after being wowed by some of the scenery along the river we saw the alcove that was recommended to us and the sun was shining right in at 7 PM. Sooo.... We changed our plans, crated the dogs, set the AC on high in the car and locked them in tight as we scrambled across the road and up to the alcove. We were rewarded with half a dozen perfect flowering plants! Keep in mind that all of these



Alcove bog orchid, *Platanthera zothecina*

plants we wanted to see were somewhat of a gamble as timing is difficult and subject to weather conditions. So far we were batting nearly a 1000 for our wish list!

Because we made the effort that evening we were left with a day to travel to Ely, Nevada and enjoy the wonders of Arches National Park and Capitol Reef National Park along the way. Although many of the parks in Utah all sport dramatic red sandstone formations no two are really quite alike. Our arrival that afternoon in Nevada was a milestone for us. This was our 50th state to visit. We had now visited all of the Canadian Provinces and all fifty of the United States! The trip across Nevada had no orchids planned and we enjoyed the varied scenery and finally were able to comprehend the concept of Basin and Range topography. Often written about in natural history books, until you see the high mountain ranges separated by broad, often many miles, of flat lands (the basins) that whole idea of the basins and (mountain) ranges is somewhat nebulous. We have driven through enough of them now to become experts! A little goes a long way! One thing that Stan realized in this alien environment is how trivial human beings are and how insignificant we are when you look at the effects the ages have had on this landscape that was once lush and tropical. A lot of it eroded through the centuries totally changing the landscape. Mankind, with all their big plans by so many people who strive to be important, pales into insignificance. There is a lesson here to be learned.

Our arrival in Lee Vining, California on Sunday the 29th finished our first week. At this point we are all very overtired. And tomorrow we are off to Yosemite National Park and some of the rarest and newest orchids in North America.

The second week of our great Southwestern orchid adventure was spent mostly in and around Yosemite National Park in eastern California. Although the arid landscape still abounded there were many lakes and meadows to be explored. We had several primary quests for this area and started off on the 30th with a few beautiful flowering plants of Coleman's piperia, *Piperia colemanii*, a species found only in a few localities in northern California. Our party was made up of Alison Colwell, the park botanist, Bob Lauri, a PhD student studying the genus *Piperia*, and Brad Kelley, a new acquaintance from Marin County on the coast of California. Paul first came in contact with Brad when he needed a photo for the Pacific Northwest book which Brad was able to supply. Since then Paul has furnished Brad with directions for finding several other California species that Paul could not see himself at that time. An invitation was extended to Brad to join Paul and Stan here this week. They were then transported - dogs and all, to the Mariposa Grove of ancient giant redwoods estimated at 2000 years old in the park and then hiked a brief distance to find the plants. Both Stan and Paul found plants in good condition and the three others in our party found a few more. Also seen there were flowering plants of *Goodyera oblongifolia*, the giant rattlesnake orchid.



Coleman's Piperia, *Piperia colemanii*

After emerging from the grove they went to the south side of the park to search for the newly described Yosemite bog orchid, *Platanthera yosemitensis*, or in recent publicity, the 'stinky foot orchid'. Only a few locations, all within the park, were known for this plant and most of them had less than 20 plants. After only a brief search expertly guided by the botanist at the park, we found three flowering plants of the new species. A real thrill! And they do stink much like old socks or certain cheeses! Also there were flowering plants of what will become a new species of *Spiranthes*, the starry ladies'-tresses orchid. This was the research part of the trip – to find and determine what these plants are. After parting company with the park botanist and Bob Lauri, Stan, Paul, the dogs, and Brad went to a second site for the Yosemite bog orchid and eventually found several excellent plants and a few hybrids with *Platanthera dilatata*, a more common orchid. The hybrids were Stan's discoveries and will be named for him (*P. ×folsomii*).

Our unknown ladies'-tresses orchid was there as well. The afternoon was moving along rapidly and we still had nearly two hours of driving to go to get back to the motel in Lee Vining so we parted with our friend from the coast who had left his car



The new species that became the starry ladies'-tresses, *Spiranthes stellata*

midway and we started back to the motel. Only a few miles down the road Stan and Paul spotted an inviting meadow below the road, pulled off and Stan allotted Paul ten minutes to scramble down and see what was there. It was late afternoon and getting too warm to leave the dogs in the



Yosemite bog orchid, *Platanthera yosemitensis*

car with the windows down partway so Stan needed to stay behind. (We cannot leave them in the closed car with the air conditioning on because they unlock the doors and put the windows down!) What Paul found in the meadow was over 700 of the Yosemite bog orchid – more than most of all of the other sites combined. A new spot in a completely different part of the

park – and also present were the curious ladies'-tresses we were working on. That made an exciting end to the first day in Yosemite National Park. Now don't think we completely ignored the magnificent scenery surrounding us, but right now we were a bit overwhelmed with the orchids. Tioga Pass at the east entrance to the park is at 10,000 feet and the air is thin but the views magnificent. We descend to 5,000 feet on very narrow and twisty roads with sometimes alarming drop-offs and no guardrails! We were fortunate that traffic was relatively light that morning but it increased by the time we had to return to the motel in late afternoon. The play of sunlight and shadows on the trees was one of the most memorable visions of the park!



Light and shadow at play in Yosemite National Park

On Tuesday morning while Stan did preliminary drawings of the new orchids for the Southwestern field guide, Paul with his our new associate Brad, went to explore the marsh at the north end of Mono Lake in Lee Vining. This unusual place is where most of the tufa rock comes from that is used in gardens. Brad had seen a bog orchid there several years ago but was not sure what it was. In short, we ended up finding not only the few-flowered bog orchid, *Platanthera sparsiflora*, that Brad had seen earlier, but also the Intermountain bog orchid, *P. tescamnis*, that we had seen back in Colorado last week, and the beautiful chatterbox orchid, *Epipactis gigantea*,— the latter in great numbers. In the afternoon we all returned to the park to explore more and take our friend to the new site for the Yosemite bog orchid and also explore other roadside areas for the possibility of other orchids – which we found. This second foray into the depths of the park were just a bit much for both Leroy and Lena, our well-travelled Pomeranians, as the changes in altitude and curves in the road made them both a bit anxious. And although they both seemed to really like the park and the explorations we decided that that was enough mountain climbing for them for this trip.

Wednesday allowed Stan to plan a new painting of some of the dramatic scenery in the area and he spent the morning painting both *en plein aire* and at the motel room while Paul could not get his fill of the local orchids as he explored more at the Mono Lake site and found even more orchids



chatterbox, *Epipactis gigantea*

and some additional hybrids and after lunch returned to hunt for more *Spiranthes* on the east side of the Sierras. They found several sites for the hooded ladies'-tresses, *S. romanoffiana*.



hooded ladies'-tresses, *Spiranthes romanoffiana*

Thursday was travel time to head south towards Death Valley and prepare for an excursion into Ash Meadows Wildlife Preserve to search for one of the rarest orchids in the world – aptly call *Spiranthes infernalis*! Rising very early on Friday morning (5AM) to beat the heat we drove to the far northern end of the preserve and did find the plants – but they had already finished flowering. Not all was lost though. Because of the extreme heat and low humidity in that area (it is really the Nevada side of Death Valley) the plants were preserved in an unusual condition that still permitted photos. Sort of half a point for that species, but we knew we were later than ideal for seeing it in



Spiranthes infernalis in a 'mummified' state

flower. The area was so rugged and barren that it takes a very special kind of person to live contentedly in that environment and pray that emergencies are few and far between. Later that morning we headed to Flagstaff, Arizona and the next day on to Silver City, New Mexico. Two days of enjoying the scenery although the Las Vegas area and the traffic nightmare of crossing the Hoover Dam was one we would prefer to never have to return to! So far we have seen 6 of 8 species we had not seen before that were possible this trip as well as 1 new species and 7 hybrids!

Our final week of this excursion started in New Mexico with the hopes for more species we have never seen before and who knows what other surprises!

On Sunday, August 5th, we explored the Emory Pass area between Silver City and Los Cruces. It is billed, justifiably as one of the most beautiful roads in the Southwest. After a couple of short stops we ended up at the Iron Creek Campground, fabled among botanists as the best site for the rare Mexican species, the short-leaved rein orchid, *Platanthera brevifolia*. After checking out much of the relatively small campground, Paul explored the northern area and hillsides and came back to the car with reports of several dozen of the rare orchid as well as the purple adder's-mouth orchid, *Malaxis porphyrea*. Stan leashed up the dogs and joined him in the cool shade of the pass as they explored and found well over 100 full blooming



short-leaved rein orchid, *Platanthera brevifolia*

plants of the orchids. This species was number seven of the eight they needed to see in the Southwest. Lunch at the Emory Pass lookout was very dramatic and the Gila Wilderness of New Mexico is an awe-inspiring sight. Descending from 8,000 feet down the twisty road took them on the way to Alamogordo, New Mexico for the night and preparations to meet up with local orchid expert, Ron Coleman, and his wife, Jan, for a final orchid foray on Monday morning.



Gila Wilderness from Emory Pass, southern New Mexico

Several years ago a local botanist was surveying the Lincoln National Forest for the U.S. government and came upon a plant he had never seen but was quite sure it was an orchid. He contacted Ron who, after much research, determined that it was a rare Mexican species, *Microthelys rubrocallosa*, and that it had never been found in the United States before. Ron kindly offered to take us to the plants, hoping they were in flower. Until that day only Ron and three others had seen the plants. We started off on a beautiful valley road from Alamogordo to Cloudcroft and on to the town of Weed where we left our car and loaded ourselves, equipment and the dogs in Ron's Expedition. The roller-coaster, and often rough road into the forest was occasionally met by foraging cattle (who have the right of way) until we came to a very ordinary looking hillside. The Colemans commented that both a recent fire and lots of blow downs had impacted the area and they had not been there this season. After only a few minutes we found the first of the plants – in full flower!! The ensuing

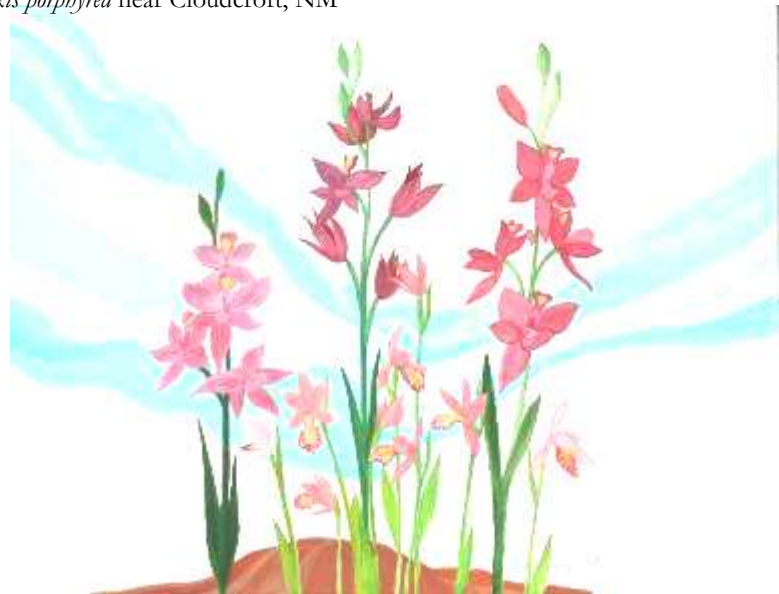
search by the four of us revealed nearly a dozen flowering plants plus groups of leaves that were not flowering. Stan found the first of the purple adder's-mouths and short-leaved rein orchids in the area. The *Microthelys* was the final species on our wish list for the Southwest! The curious tiny flowers twist around the stem and only by lying on the ground and looking up into them can you see the diagnostic bright orange-red lip. It was a very exciting experience for all of us!



Time was moving and we needed to get packed up and start our trip back to Maine. We were scheduled to be in Amarillo, Texas that night and it turned out to be much farther than we thought. Leaving the mountains of the west behind and entering the Great Plains the landscape returned to the gentle undulations we saw in the landform region on the way out two week earlier. We knew the next few days would be nothing but forced driving to get eastward, but were pleasantly

Microthelys rubrocallosa and *Malaxis porphyrea* near Cloudcroft, NM

surprised with the lack of traffic and interesting landscape in Oklahoma (all 330 miles of it!); lots of gentle hills and tree-lined wetlands. By the time we reached Arkansas the landscape looked much like the familiar eastern woodlands. An e-mail from the University Press of Florida that was preparing to send the finished work for *Wild Orchids of Texas* to the printer informed us that Stan's painting for the back cover did not work with the colors of the cover design. So after contemplating several possibilities (we do not carry



Stan's new back cover painting for the Texas book: grass pinks and rose pogonia

a supply of alternate paintings with us) Stan decided to create a new painting in the colors that would work. This necessitated an extended stay in the motel near Little Rock (104°!) while he finished the new painting for the back cover and then finding a hotel the next day that had the Internet service needed to email the file to the press.

Our last stop for orchids on the trip was in eastern West Virginia for number ten of our ten orchids we had never seen before.



Orange fringed orchis, *Platanthera ciliaris*

hillside of brilliant orange fringed orchids in flower that we saw on the way to the coralroots.

Highlights of the trip apart from the orchids we were guided to have to be the discoveries we made on our own by simply stopping where it looked good for orchids. The unreal red-rock scenery of the Colorado River in Utah was a visual plus as well as the other mountain

West Virginia for number ten of our ten orchids we had never seen before. *Corallorhiza bentleyi*, Bentley's coralroot was only discovered and named a few years earlier and is a curious plant that has no green leaves and flowers that never really open. It is restricted to a few areas in the southern Appalachians on the West Virginia/Virginia border. After two lengthy drives Thursday on twisty mountain roads and subsequent searches that proved fruitless we finally located plants in flower on Friday morning. They proved very difficult to see in the dark woodlands but we were also rewarded with flowering plants of the frog orchid, *Coeloglossum viride* var. *virescens*; not a rare species but difficult to locate in some years. An additional pleasant surprise was also a seeping



Bentley's coralroot, *Corallorhiza bentleyi*

views. Another plus was that we encountered no rattlesnakes, errant bears, or mountain lions! We did see wild swans, deer, eagles, hawks, humming birds, jack rabbits, an assortment of western squirrels and other fauna. We remained in reasonably good health, and the weather cooperated nearly 100%, apart from the seasonable heat in the lowland valleys. Our hottest weather was on the trip back, especially in Arkansas at 100°+ and we avoided much of that by traveling in the air conditioned car.

From Stan's notes: "the obvious high point was Yosemite at 10,000+ feet and low point was Death Valley below sea level, but that aside, the trip as a whole was a high point and it gave me a rich patchwork of visual impressions of our country, soaring and rugged mountains, breathtaking gorges, broad expanses of high desert where you can see for miles and the sky arches over it a brilliant blue with armadas of clouds marching through it. The low points were the aggravations you encounter in travelling such as the road repairs that take forever to pass through to the rude drivers you encounter".

What I have learned is how diverse our country is, how hard it is in some parts of the country to scratch out a living but these people do and seem to be stronger for it. The saddest thing for me occurred in Flagstaff, Arizona. We encountered a handsome, clean-cut young man who had a cute puppy on a leash. He was neatly dressed but his meager belongings were packed in a small carrier that indicated he was homeless. I asked Paul to give him some money even though he wasn't begging. He smiled his thanks and told Paul he found the puppy abandoned on the roadside about three months ago. "She always gets to eat before I do." He said. The puppy obviously adored him as she frisked around his legs. As we drove away I wondered how people could abandon a puppy like that and how our great nation could let such a nice young man end up on the streets. Maybe we need to reorder our priorities and be less self-indulgent as we spend some of our wealth to help the less fortunate

After 7200 miles the final tally for the whole trip including the Pennsylvania and West Virginia stops was 27 species in flower plus 6 hybrids, 1 new unnamed species, and 8 additional species that were not in flower or had finished.

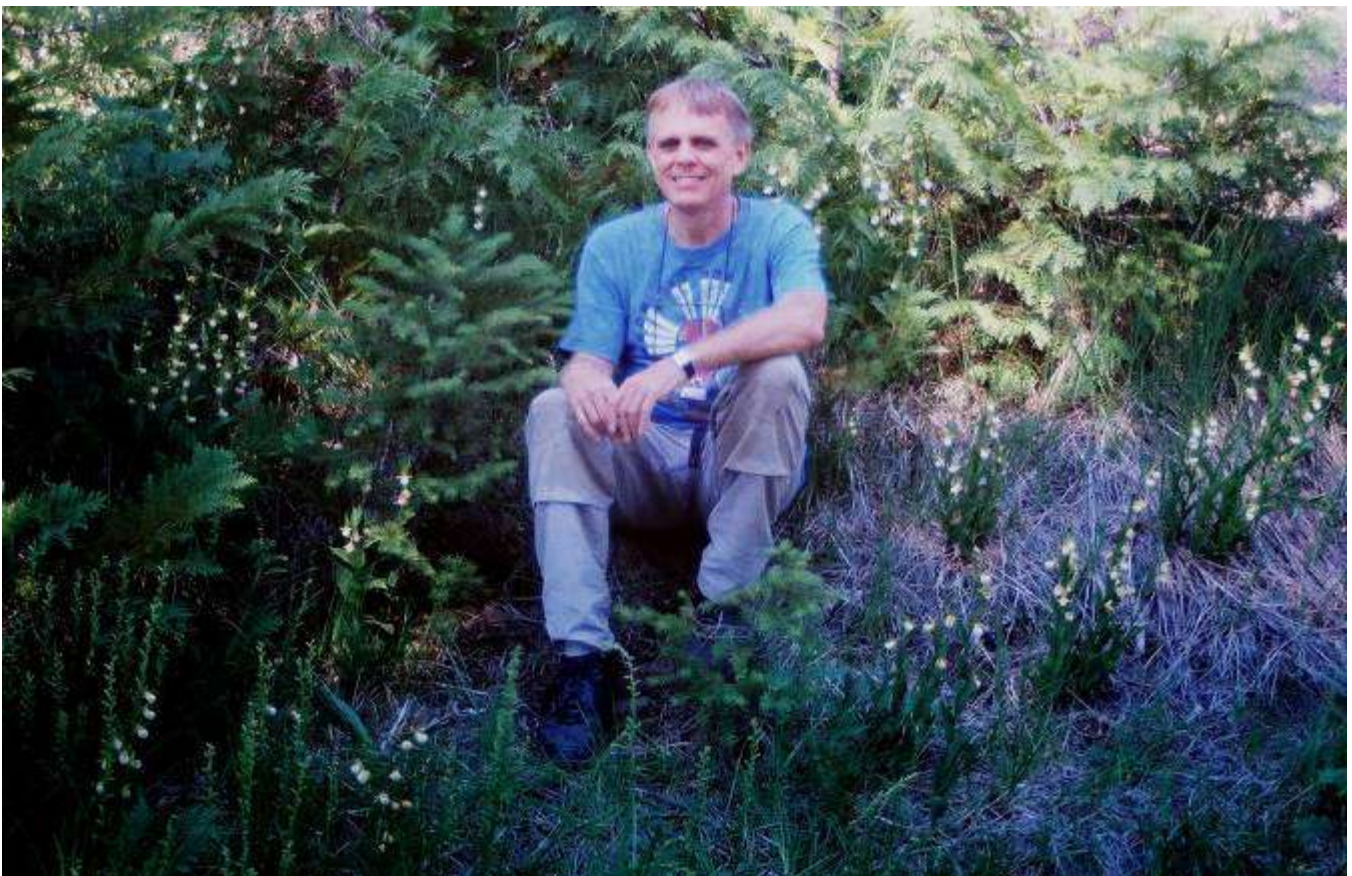
NOTE: Four of the hybrids referred to in the article received names in *NANOJ* 15(1) 2009 and the 'unknown' *Spiranthes* was described as *S. stellata* in *NANOJ* 14(1) 2008.



A map of the western United States showing some of the highlights of both groups orchid adventures.

A FAMILY ORCHID VACATION TO THE WESTERN UNITED STATES

Tom Nelson



Tom Nelson with *Cypripedium californicum* and *Platanthera sparsiflora*, Siskiyou Mts. California. 7/6/09

Since 2007, the Nelson family has, thanks to Dad, been very involved in the pursuit of native orchids. Trips to Newfoundland, the Great Lakes, Manitoba and many other eastern and southeastern U.S. locations have added a number of choice species to our ever-growing list. The west was for us the final frontier. Paul Martin Brown and Stan Folsom's book *Wild Orchids of the Pacific Northwest and Canadian Rockies* had been an inspiration, so with Paul's help, plans for a July 2009 'grand tour' of some orchid hot-spots in the west were made.

6/26/09: School isn't over until the end of June here in New York City, so careful planning, good contacts and a lot of luck would be required to find the desired species still in bloom. We decided that a cross-country road trip would be fun for the kids and also the best way to see the most species. So on the last day of school, I packed the car and picked up wife Jackie – a kindergarten teacher – and daughters Johanna (age 10) and Christina (age 6) as soon as the closing bell rang. Westward Ho!

7/01/09: After a marathon 3-day trip across the vast heartland of America, our first rest stop, 2,100 miles later, was in Logan, Utah, where I grew up and developed a keen interest in all things natural before moving to NYC to become a professional musician. Leaving the family with my delighted parents, I headed out to track down a population of *Cypripedium fasciculatum* (clustered lady's-slipper) in the Uinta Mts. of eastern Utah with one Frank "Buddy" Smith, a local field botanist. Buddy works in the Intermountain West doing plant surveys and botanical research and discovered a new species of violet (*Viola frank-smithii*) in Logan Canyon a few years back. He was a student of the noted botanist Arthur Holmgren, who was the curator of the Intermountain Herbarium at Utah State University in Logan for over forty years and had mentored me as a teenager. We had never met before, so it was fun getting acquainted as we drove through the beautiful canyons of Utah, with Buddy identifying every plant that we passed. It's good to be surrounded by experts!

I've learned that one can never network enough, nor have too many guides on a trip like this. In January I had contacted Ann Kelsey, assistant curator of the Garret Herbarium at the University of Utah, to get information about *Cypripedium fasciculatum* in Utah. I was particularly interested in a site high in the mountains above Salt Lake City at Lake Blanche (elev. 8,500 ft.) that had been discovered by botanist Walter P. Cottam in 1943 and re-visited and found to be extant by Art Holmgren in 1973. Ann told me that she had heard of that site and had not been there, but could give me directions to a new *C. fasciculatum* site that she had discovered two years ago, right by a road. This sounded great, since Lake Blanche is a strenuous all-day hike and I had no specific directions to the actual site. She really wanted to come along, but was too busy, so I was glad to have Buddy along today to help.

There had been record-breaking rains in Utah and the wildflower pageant was spectacular; the gravel road we followed climbed steadily through a dazzling display of *Penstemon*, *Balsamorhiza*, *Ceanothus*, *Gilia*, *Delphinium* and lots of incredible scenery. Thanks to good GPS coordinates we found 100+ prime-blooming plants growing, just as Ann had promised, close to the road in a lodgepole pine forest. The elevation was 9,100 ft. A low-growing, hard-to-spot plant best appreciated up close on bended-knee because of the drooping nature of its blossoms *Cypripedium fasciculatum* is not an easy find. The very striking fingernail-sized blossoms were present in a variety of colors: greenish-brown, mahogany, and mahogany-gold. The petals and sepals dramatically enshroud the lip petal, in most cases totally obscuring it. It leaves the impression that one is viewing a costumed dancer in an exotic ballet. We photographed for over two hours – mostly flat on our stomachs – trying to capture the rare and unique beauty of this unusual orchid. There are no other

known stations for this species anywhere nearby, so it is a real discovery that Ann made. A beautiful group of *Corallorhiza maculata* var. *maculata* (spotted coralroot) was growing nearby alongside *Arnica cordifolia* (heart-leaved arnica). Arnica is always a good 'indicator plant' for coralroots. I've found in the west that when you see arnica, start looking for coralroots. We reluctantly left and made the long drive back, both extremely satisfied to have seen a rare orchid for the first time.



Cypripedium fasciculatum showing golden (above) mahogany (below) and greenish colored flowers. Uinta Mts. Utah.



7/3/09: After making the 524 mile drive from Logan to Reno on July 2nd, today found us driving north through California. As we drove up a big hill the Pinyon-Juniper vegetation zone of the Great Basin Desert suddenly gave way to the marvelous pine forests of the Subalpine Zone. The array of coniferous species was amazing; we counted at least seven different types along the roadside.



Cypripedium fasciculatum. A cluster of flowering plants. Uintah Mts. Utah. 7/1/09

We eventually reached scenic Lassen Volcanic Nat'l Park. A truly incredible place, giant old-growth trees line the roadsides, making us appreciate the far-sighted men that set aside and preserved this wonderland. As we drove higher and higher it became spring again and the roadsides were teeming with wildflowers. We suddenly came upon an orchid-filled seep. Hundreds of *Platanthera dilatata* var. *leucostachys* (Sierra rein orchid) and *Platanthera aquilonis* (northern green bog orchis) were in prime bloom, alongside incredible five-foot tall specimens of *Lilium pardalinum* var. *shastense* (Shasta lily). What a combination. A little further on was a meadow filled with the same species. One giant *P. dilatata* was at least 30" tall. Lilies and orchids... Wow! We eventually reached the summit near Lassen Peak where the kids had a grand time playing in the snowfields and investigating the sulfur-belching hot springs that indicated a portal into the molten core of the earth. On the other side of the pass we happened upon a nice colony of *Sarcodes sanguinea* (snow plant) an attractive ruby-red saprophyte that was a real treat to see as it is uncommon in California. As usually happens when we find a wonderland such as this, we dallied with the flowers for so long that we didn't arrive at our hotel in Yreka - 125 miles further north - until after 10:00 p.m. in a state of utter exhaustion. A great day!

7/4/09: We had never been to Northern California before, and today we were excitedly driving through the spectacular Klamath River Gorge on our way to Cook and Green Pass, a botanically rich area in the Siskiyou Mts. near the Oregon border. The Klamath runs wild and free here and we were lulled into a reverie as we drove. Jackie commented that this was probably her favorite part of orchid hunting; taking off into a new corner of the world that we had never seen before and would never have visited had we not been in hot pursuit of new orchid species. I had

fortunately met the flower photographer and San Francisco native Ron Parsons at the Native Orchid Conference in Morgantown, West Virginia last summer and he proved to be a great help with site directions in California. Ron had told me about an area near Cook & Green where all three California cyps can be found in bloom in early July. I had been singing “*californicum*, here we come” to the kids for days, so the anticipation was high.

We eventually left the main highway and soon came to a fork in the road that I wasn’t expecting. There were no signs, so I consulted my map and decided that the narrow road on the left must be the one. After turning onto the road we immediately saw a huge rattlesnake (*Crotalus viridis*) stretched out in front of us, soaking up the morning sun. I was thrilled! Here was a great opportunity for the kids to see a rattlesnake up close from the safety of the car. As the snake slithered away a truck approached from the opposite direction and I flagged it down to ask directions. The two occupants looked as if they had just stepped out of the movie *Deliverance*, complete with missing teeth and long scraggly hair. They told me I that was indeed on the right road. I then asked them if they had seen the rattlesnake. One blurted out: “Where? I collect those!” I don’t think he meant alive, so to protect our reptilian friend I pointed him in the opposite direction...

The narrow dirt road wound its way up through a beautiful gorge that provided a welcome respite from the 100 degree heat of the valley. We came upon a seep filled with the uncommon *Lilium pardalinum* var. *wigginsii* (Wiggins’ lily) and more *Platanthera dilatata* var. *leucostachys* which was a real treat. After reaching our destination at 4,100 ft we headed to the appropriate trail and immediately spotted a new species: past-prime *Corallorhiza mertensiana* (western coralroot) as well as *C. maculata* var. *maculata*, also well past-prime. Both were growing right at the trail head. The trail climbed up through a magnificent old growth forest and we soon came upon dozens of prime *Cephalanthera austiniæ* (phantom orchid) growing under the giant trees. It was our first time for this species, and I dropped to my knees to examine the beautiful ivory-colored blossoms with yellow lip petals of this saprophyte.

The trail eventually entered an open rubble slope of peridotite boulders. Peridotite is



Cephalanthera austiniæ enlarged about natural size.
Siskiyou Mts. CA 7/4/09

the unaltered mantle rock that is often lumped into the term serpentinite; technically being the parent rock it is different, although mineralogically they are very close. This was our search area and we followed the trail across the boulder field in the blazing sun – the temperature was in the mid nineties - watching for the *Cypripedium montanum* (mountain lady's-slipper) that had been seen there. We didn't find any, but much to our delight there were prime specimens of *C. californicum* (California lady's-slipper) growing in a seepage area at the end of the boulder field, exactly where the directions said they would be! Three large clumps were perched on a steep slope below the trail with loose rocks and heavy undergrowth, making for treacherous and challenging photographic conditions. I coerced Jackie into climbing down to hold my white umbrella to diffuse the light while I happily clicked away. I had wanted to see this species for years and was not disappointed. The small white slippers are arranged on a many-flowered raceme – unique to this species - and were in this case stunningly highlighted with beautiful golden sepals and petals. It has a very limited range, being found in only eight counties in northern California and extreme southwestern Oregon. A real beauty!

After a nice *al fresco* picnic in the shade of a giant pine tree, we headed back to the car to get more water and then ventured down another trail to search for *Cypripedium fasciculatum*. This trail went downhill towards a canyon and was botanically very rich. It was here that we encountered for the first time the attractive reticulated form of the giant rattlesnake orchis (*Goodyera oblongifolia* forma *reticulata*) and our first *Piperia unalascensis* (Alaskan piperia) of the trip. There were lots of lilies and other wildflowers as well, but the cyps were elusive. After searching diligently, I managed to find one set of the characteristic two opposite leaves with no flower. I was very glad that I had already seen this species in Utah, but was disappointed, as I had wanted the family to see it.

It was after 3 p.m. and we still had a long way to go, so we followed all the switch backs back down the mountain. When we reached the town of Happy Camp, we followed another road over the mountains to Oregon. Shirley Curtis, an orchid friend from New Hampshire who has hunted orchids all across America, had told me about a *Cypripedium californicum* site along this road. We found the site with no problem, but at this lower altitude the orchids were long past. I was very thankful for the high altitude sight that we had just visited! We eventually reached the town of O'Brien, Oregon and then headed south into California.

The drive down Hwy. 199, or the “Redwood Highway” that follows the Middle Fork of the Smith River, is spectacular. It reaches its climax when it enters the cathedral-like groves of Redwood Nat'l Park, winding its way through the silent behemoths. We had never seen redwood trees before and were awe-struck by the spectacle. We drove on to nearby Crescent City, and checked into the comfortable Best Western – right on the shores of the Pacific Ocean – which would be our base of operations for the next two days. We were elated that we had driven all the way from the Atlantic Ocean to the Pacific Ocean and couldn't wait to see what adventures - botanical and otherwise - awaited us here. We had been in Canada on the Fourth of July for the last three years, so the kids really enjoyed the fireworks show that evening.



Cypripedium californicum. Top left and top right. Cook & Green Pass, 7/4/09. Enlarged $\frac{1}{2}$ to $\frac{3}{4}$ times. Bottom left. Second Siskiyou Mts. site. *C. californicum* growing amidst *Platanthera sparsiflora*. Bottom right. Entire plants at second site. 7/6/09.

7/5/09: After a nice morning jog south along the Pacific Coast Highway, I returned to the motel and mustered the troops and we set out to explore the redwoods. At breakfast a local gentleman had recommended that we visit nearby Jedidiah Smith State Park. According to him, the biggest trees were there and it is not a tourist destination. We were soon following a narrow dirt road that wound its way through giant trees, occasionally narrowing down to just the width of the car to pass between two trees. There wasn't much blooming in the redwood forest this time of year, but Jackie found one very attractive *Iris chrysophylla* (yellowleaf iris) growing on the roadside. We stopped to walk the trail through the Stout Memorial Grove, which was luckily donated to the Save-the-Redwoods-League in the 1920's by lumber magnate Frank D. Stout at the insistence of his wife. Apparently she couldn't bear the thought of these magnificent trees being logged. As we left the park we came upon a very steep – almost vertical – serpentine seep. After scrutinizing it intently, I realized that there were large clumps of past bloom *Cypripedium californicum* growing all the way up the cliff, along with its indicator plant, the unusual *Darlingtonia californicum* (cobra lily) an insectivorous plant in the pitcher plant family, as well as lots of lilies. What a sight this must have been a few weeks ago!

I had done a lot of research about the Smith River area during the long winter months and at the Forest Service's recommendation had looked at the website of the *North Coast Chapter* of the *California Native Plant Society* and perused their online newsletters to try to find orchid site information. One field trip report in a newsletter had mentioned seeing *Cypripedium californicum* in bloom at Rock Creek on the South Fork of the Smith River on July 26th. I eventually contacted Carol Ralph, the President of the society and she was very friendly and helpful. A person that truly loves



There's orchids in them thar' hills! Northern California's botanically-rich Siskiyou Mts.

nature and the out-of-doors, she told me that she has found seven species of orchids in the dunes near her house in Arcata. Impressive! Carol verified the Rock Creek report and helped with directions. That was where we were headed next.

After a little searching we located the Rock Creek trailhead and followed the trail up the drainage. We soon found the lady's-slippers which were not surprisingly past bloom, as this was a lower elevation and it was very hot this year. This was another serpentine area and there were only two small clumps of *Cypripedium californicum* but there were thousands of cobra lilies, so I busied myself photographing this incredible plant for the next forty five minutes. It was the best display of this species that we saw on the entire trip. It was then back to Crescent City for a delicious seafood dinner overlooking the Pacific.

7/6/09: We really hit pay dirt today. We checked out of the motel and headed back up Hwy 199 towards our destination of Grant's Pass Oregon. On the way I wanted to investigate a remote forest road that I had heard about in the Six Rivers Nat'l Recreation Area. The landscape/wildflower photographer Larry Ulrich has a photograph of *Cypripedium californicum* in his great book *Wildflowers of California*. The caption reads: "Middle Fork Smith River July 3rd, 1993". I left a message for him at his stock photo business number last winter - not really expecting a reply - and he actually called me back; I got a message from him saying: "so you want to find those orchids..." He was very friendly and we had a good conversation about photography. He said that it had been a long time since he had taken that picture, but he did remember what road to take and thought that they were about "halfway up on the left", and visible from the road.

We headed up the long road not knowing if we would find anything. We climbed and climbed – a good sign – but there was no sign of the cyps. We passed beautiful stands of *Lilium bolanderi*, *L. kellogii*, and *L. washingtonium* on the way up. After about 10 miles we finally came upon a serpentine seep filled with cobra lilies. I searched it thoroughly but there were no orchids. Disappointed, we had little choice but to keep going. A few miles later, at 4,100 ft. we came upon a second, bigger seep. There were massive stands of a new species, *Platanthera sparsiflora* (few-flowered rein orchis) growing with lots of cobra lilies. And viola! Finally a few scattered plants of *Cypripedium californicum*.

After photographing for over an hour and thinking that was it, we got in the car to leave. It was too narrow to easily turn around, so we drove up the road to find a wide spot. It was so beautiful that I kept going for a ways before finally turning around. After going about 50 feet back down the road, Jackie suddenly yelled Stop! The roadside was teeming with California lady's-slippers - 127 plants to be exact – in prime bloom. I had obviously been looking the other direction on the way up and had totally missed them. It's good to have a second set of expert eyes at a time like this. We couldn't believe we had spent so much time at the other, lesser site, when this bonanza was right up the road, and that we had come so close to missing it. There were massive stands of *Platanthera sparsiflora* and the lady's-slippers were everywhere. In fact, in an area approximately 40 ft × 50 ft there was nothing but orchids growing. As we were photographing, a van full of people came down

the road and stopped. It turned out to be a botany class on a field trip! It was only the second car we had seen all day, which shows how far off the beaten path we were. The group leader was named Stu Winston and the class was from Diablo College near San Francisco. Stu is a friend of Ron Parsons and knows his orchids. We had a good conversation and he told me that the *Cypripedium montanum* at Cook & Green Pass was actually *past* the peridotite rubble field... Oh well. After “just a few more pictures” we headed back down from the mountaintops and on to our motel at Grant’s Pass.

7/7/09: Today we were headed for Bend, Oregon. Luckily for us, Crater Lake Nat’l Park was on the way. I had read up on the park and was hoping to hike the two wildflower trails that the Park Service maintains where there are several species of orchids listed. I didn’t realize that the elevation at the rim of the lake is well over 8,000 ft; most of the trails were still under snow and were not even open. So we hiked one of the rim trails instead and were amazed with the incredible beauty of this park. I’ve never seen water the color of Crater Lake anywhere else. Something about how it reflects the sky is truly mesmerizing. Thankfully many proposals for building restaurants, trams, lodges and other foolish things in the caldera have never been approved, and the lake itself remains wild and is accessible only by taking an arduous hike many hundreds of feet down and then of course, back up. Bravo! We sat on one of the overlooks for a long time, just soaking in the serenity.

After our afternoon idyll ended it was on to Bend and a dinner appointment with Kermit and Donna Williams, Bend residents and our Oregon orchid guides. I had helped Kermit with information about orchid sites in Manitoba and he repaid the favor with some great Oregon orchid sites. Located on the eastern slopes of the Cascade Mts., Bend is an attractive town and we enjoyed a nice



John Day Fossil Beds Nat’l Monument and the Painted Hills

dinner in a restaurant overlooking the scenic Deschutes River that runs right through its center. After getting acquainted and exchanging many orchid-hunting stories, plans were made for a trip the following day to central Oregon to hopefully find *Cypripedium montanum* (mountain lady's-slipper) still in bloom at this late date.

7/8/09: Central Oregon is high desert that gives way at the higher altitudes to montane forest. Sparsely populated, the scenery is terrific. As we crossed the Ochoco Mts., we were amazed by the abundance of roadside wildflowers. Scarlet gilia, Penstemon, Indian paintbrush, balsamroot, the spectacle was incredible! I glimpsed a wet meadow that was loaded with *Platanthera dilatata*; I made a mental note to myself to stop there on the way back.

Our first stop was at John Day Fossil Beds Nat'l Monument and the Painted Hills. Beautiful reds, yellows, blues, greens and lavender are all mixed in stripes on barren desert hills that are volcanic in origin. Ron Parsons had told me to watch for the stunning *Calochortus magnocarpus* (green-banded mariposa lily) in this area and Kermit showed me where he had seen it but we couldn't locate any plants. As we drove on eastward I suddenly spotted – at 70 mph - the unmistakable blossoms of the mariposa lilies in all their glory on a sagebrush covered hillside along the highway. I started frantically honking at Kermit, who was leading the way and we turned around and found a place to pull over. Swaying in the breeze, the blossoms were an indescribable shade of lavender and were very large, at least as big in circumference as my camera lens.

After checking into the Best Western in John Day, we headed south into the nearby Strawberry Mts. to the *Cypripedium montanum* site. The road climbed up through a steep canyon and then leveled out at about 8,000 ft. into beautiful ponderosa pine parkland. We followed Kermit down a side road and parked the cars at the beginning of a two-track dirt road which we followed it into the forest. We soon started seeing a lot of lady's-slippers but it was immediately apparent that most of them were about a week past. The previous week's heat wave had apparently pushed them over the hill. But what a site! Hundreds, if not thousands of plants were growing in a dry balsam fir/ponderosa pine forest, with many quite tall double-flowered plants and countless seedlings. My quest was now almost complete. Except for the two Alaskan species, I had now seen all of the North American *Cypripedium* species in the wild.

Kermit and I scoured the area and found quite a few plants – maybe 25% - that were still in pretty good condition and one group of prime plants was found deep in the shade, which we set about photographing eagerly. Thank heavens! It would have been disappointing to drive 3,900 miles only to find everything out of bloom. Kermit is a fascinating individual who has, amongst other things, climbed all of the major peaks in Oregon. He is an accomplished nature photographer as well and it was a great learning experience to be in the field with him. Donna, a retired veterinarian, is his equal as a nature lover and outdoors-person; today she was kindly helping Jackie entertain the kids while the boys searched for the perfect specimen.

The plants and flowers of *Cypripedium montanum* are much smaller than I had expected but are nonetheless very beautiful. Pure white lips contrast with purple or green sepals and petals; the inside of the slipper is accented with attractive maroon striations and the bright yellow column with maroon spots highlights the entire flower, which is sweetly fragrant. Also present in the forest were many *Goodyera oblongifolia* and a few *Piperia unalascensis*. Mixed in with huckleberry (*Vaccinium parvifolium*) and *Arnica cordifolia*, the cyps are one of the dominant species present in the forest understory; the numbers here rival some of the populations of *Cypripedium parviflorum* var. *pubescens* that I have seen on the Bruce Peninsula in Ontario and the limestone barrens of Newfoundland. The site is on National Forest land and is obviously an open range area. Cattle trails run throughout the habitat, which doesn't seem to bother the lady's-slippers at all; they are actually the most plentiful in some of the disturbed areas where there is little competition. Kermit is a member of the *Oregon Native Plant Society* and tells me that the society members check the logging bids very carefully each year to make sure that this incredible site is not on the list and are determined to protect it.

When it became too dark to photograph any longer, we headed back to the cars where the ladies were waiting to avoid the mosquitoes. Then it was off to dinner and more good conversation before retiring for the night.

7/9/09: We bid Kermit and Donna goodbye and thanked them for taking the time to show us a beautiful part of Oregon. It was really great having such knowledgeable and enthusiastic guides. They were off on a hike in the Strawberry Mountains and we were going to make the long drive west and north to Hood River, in the Columbia River gorge. The meadow full of *Platanthera dilatata* that I had seen on the way to John Day beckoned as we drove by, so I stopped and went down to investigate. Hundreds of pure white, strongly scented *Platanthera dilatata* var. *dilatata* were standing at attention in the morning sun, just waiting to have their pictures taken.

We kept pushing ahead, traveling along the eastern flank of the majestic Cascade Range and reached Mt. Hood by mid-afternoon. Talk about scenery! Kermit had given us directions to a high altitude site for *Corallorhiza mertensiana* in a campground slightly west of Mt. Hood. We found the orchids – hundreds of brightly colored beauties illuminated by the afternoon sun – easily and were glad to get out of the car and relax in this sylvan setting. This was the only time on the entire trip that we found this species in fairly good condition. Jackie, who is always a step ahead of me and has an eagle eye, discovered a few prime *Listera convallarioides* (broad-lipped twayblade) scattered in with the coralroots; this was our first sighting of this species.

We then headed up to historic Timberline Lodge, which is perched high on the slopes of Mt. Hood. There was an amazing display of *Xerophyllum tenax* (bear grass) along the road; it was in prime bloom at this high altitude. The view at the lodge was spectacular but the restaurant that we had planned to dine at was too pricey, and unbelievably it had no view of Mt. Hood, so we headed for our motel in nearby Hood River and a more reasonably priced dinner.



Cypripedium montanum east of John Day, Oregon. 7/8/09. Top left and bottom right photos are about natural size.





A meadow filled with *Platanthera dilatata* var. *dilatata*, Ochoco Mts., Oregon. 7/9/09

7/10/09: was spent in the Hood River area. I had been in contact with Mellissa Rathbun-Holstein, the president of the Washington Native Orchid Society and she had kindly provided me with directions to a site in the Columbia River Gorge for *Cephalanthera austinae*, *Corallorhiza striata* var. *striata*, *C. striata* var. *irelandii* and *C. maculata* var. *occidentalis* forma *aurea*. We found the site no problem, but everything was way past at this low elevation. It looked like it would have been breathtaking about three weeks earlier. I knew it was too late for the *Corallorhiza*, but was hoping the *Cephalanthera* might still be blooming. The three species were growing everywhere on a steep hillside under a canopy of conifers. Some of the *Cephalanthera* were very tall – upwards of 30” –and were two to three times as big as the individuals we had seen at Cook and Green Pass. We spent the afternoon searching for *Spiranthes porrifolia* (western ladies’-tresses). We never found it, but the scenery in the gorge is spectacular and we did find a nice colony (our first) of *Piperia transversa* (flat-spurred piperia).

7/11/09: Our destination today was Olympic Nat’l Park, 254 miles away. We were excited about the scenic drive along the Columbia River. Kermit had suggested getting off the Interstate and following the old road to Multnomah Falls. This was a great suggestion. The old road was built in the 1920’s as one of the first scenic byways in the country for the wealthier residents of nearby Portland and was very charming, complete with ornate bridges and masonry work the likes of which is never seen on a modern road. The falls was spectacular and we enjoyed taking the foot trail up the side of the gorge for a better view. We then put the “pedal to the metal” and headed for the Olympic Peninsula.



Corallorhiza mertensiana. Slopes of Mt. Hood, Oregon 7/9/09. Johanna poses with a large colony (top). Bottom left: Illuminated by the afternoon sun. Bottom right: Flower, enlarged 2 times



Leaving the urban sprawl of Portland and Olympic, Washington behind, we began to relax again as we made the restful drive up the western side of the Puget Sound and out onto the peninsula. Since we live in a big city, I always try to plan vacations that take us far from the maddening crowds, but unfortunately we occasionally “bounce off” a city as we travel. We soon caught sight of the spectacular Olympic Range towering in the distance, filling everyone with anticipation for the adventures that lay ahead.

We finally reached Port Angeles on the northern coast of the Olympic Peninsula by late afternoon. I had directions to a site for a short coastal race of *Spiranthes romanoffiana* (hooded ladies'-tresses) that I wanted to check out before dinner. Unfortunately the site was now a gated community, complete with its own airstrip. Progress! I searched in a nearby state park but came up empty-handed, so we assuaged ourselves with a delicious dinner of Dungeness crab in a nearby restaurant. The town of Dungeness is nearby and the crab had been caught fresh that day. Delicious! We then made the drive over to Olympic Nat'l Park and Lake Crescent Lodge, which would be our headquarters for the next two nights.

7/12/09: Ah, Olympic! What a fabulous place. Built in 1925, historic Lake Crescent Lodge is sited on the shore of the lake, and is a much sought-after tourist destination. I had made our reservations six months ago, and now there wasn't a room to be had. We had a second floor balcony overlooking the lake, in a modern annex surrounded by sword ferns (*Polystichum munitum*) tucked discreetly away into the forest. It would have been easy to stay right there all day, drinking in the ambience, but there were orchids to find and scenery to see, so after a nice breakfast we headed out.

Paul had given me a lot of site information and *Wild Orchids of the Pacific Northwest and Canadian Rockies* has more, so we had a wealth of information to go on. Our first stop was outside of the park on the western end of River Road, where we found our first *Piperia candida* (slender white piperia) growing prolifically along the road with *P. unalascensis*. When I first started trying to find native orchids I didn't realize that disturbed areas with a lot of light, such as roadsides, are ideal orchid habitat; I would always search the deep woods and never find anything. There was also a lot of beautiful *Lilium columbianum* (Columbia lily) a very common flower in certain parts of the Olympics. It was a wonderful windless, overcast day – perfect for photography, so I got to work.



Piperia candida, about natural size.
Olympic Nat'l Park, WA. 7/12/09



Paintbrush and cow parsnip grow alongside Hurricane Ridge Road. Olympic Nat'l Park, WA.

We then headed over to Hurricane Ridge Road. For anyone with an interest in wildflowers, this drive is a real treat. The road climbs up to the top of the Olympic Range and gains many thousands of feet in elevation, passing through several vegetation zones along the way. We checked out a location at the beginning of the road where four species of *Piperia* had been found previously but the roadside bank was now densely overgrown with shrubbery. Plant succession strikes again! 2009 was a hot dry year in the Pacific Northwest and the coralroots and twayblades at the lower elevations were unfortunately all past bloom.

As the road climbs higher the array of non-orchid species is truly dazzling: Paintbrush, columbine, larkspur, Columbia lilies, alpine bistort, Piper's bellflower and elephant heads fill the roadsides with their brilliant blooms. The roadside seeps are filled with all three varieties of *Platanthera dilatata* including our first sighting of var. *albiflora*. One seep had *P. aquilonis*, *P. dilatata*, and *P. stricta* (slender bog orchis) another new species, all growing together. There were so many photo opportunities that it took us nearly three hours to travel the eighteen miles to the top. Jackie and the kids were very patient as I worked; unfortunately it is a busy road with a lot of traffic, so Jackie didn't feel safe letting the kids out of the car very much, and they missed a lot of what I saw.

We eventually reached the top (elevation 5,549 ft.) and set out on the Hurricane Ridge Trail, which affords incredible views of the Olympic Range. Johanna and Christina were thrilled to be out of the car and scampered happily about. We were now in the sub-alpine zone and it seemed like an

unlikely place for an orchid, but after a ½ mile or so we found prime specimens of *Platanthera unalascensis* forma *olympica*, the object of our search. Short and stout, this unique form is well adapted to the harsh environment after which it is named. We found several more populations as we continued the pleasant hike along the ridge top. Everyone was getting hungry by this time so we tore ourselves away and headed back to Port Angeles for a delicious dinner of local seafood.

7/13/09: We bid farewell to Lake Crescent Lodge and headed over to the other side of the lake to East Beach to look for *Epipactis gigantea*, (stream orchid) the only species of *Epipactis* native to North America. After careful searching, we finally found twenty plants – some prime – scattered in a heavy growth of alders. A far cry from the numbers that used to be there; plant succession rears its ugly head again... The chatterbox orchid, as it is also known, is a very attractive plant. The slender stems hold numerous green, yellow, purple and orange blossoms, with beautiful deep-red veining on the translucent lip petal. It was nice to be able to show the ladies a brightly colored orchid for a change; let's face it, the *Platanthera* and *Piperia* species we had been seeing, while fascinating to the botanist, are not famous for their showiness.

Our next stop was the Solduc Falls Trail, on the western side of the park. The drive in along the Sol Duc River is very scenic. There is an old-growth cedar forest along the way that was thankfully spared the woodsman's axe; it is wonderful to see all the giant trees that just as easily could have been logged had they not been preserved. We reached the trail head and set off through a beautiful forest filled with more giant cedars. We were searching for *Listera banksiana* (western twayblade) and didn't immediately find any, as we thought we would. Jackie has a real knack for finding hard-to-spot orchids; she was searching ahead of me and managed to spot a beautiful specimen obscured under some shrubbery. Totally green, it blends in with its surroundings and is very hard to spot. It turned out that there were quite a few plants growing around a huge cedar tree; I knew that I would be here for awhile, so as I set up my camera and Jackie and the kids headed on up the trail to the falls.

The setting was spectacular. The old-growth coniferous trees and twayblades had been growing happily together here for centuries and we were lucky enough to spend time in this beautiful spot that was a long, long way from the busy streets of New York. A tonic for the soul! The western twayblade is, in my opinion, one of the most handsome members of the genus. The specimen that Jackie found was at least 8" tall and very robust. The petals and sepals are green and the lip is greenish-yellow and is highlighted with two darker green stripes. There are two black spots near the top of the lip resembling eyes that to my eyes give the flower the appearance of a comedic face.

I eventually finished up and headed up to the falls – almost a mile away – to find the family. There were more *Listera* along the way, including a colony of past-prime *L. cordata* var. *nephrophylla* (western heart-leaved twayblade) but none of the specimens of *L. banksiana* matched the first colony in size or beauty. I was photographing right by the trail when two hikers stopped and asked me what



Top left and bottom left: *Piperia unalascensis* forma *olympica*. Hurricane Ridge Trail. 7/12/09. Top right: *Listera banksiana*, 1/2 natural size. Bottom right: *L. banksiana*, flower, 4 times natural size. Sol Duc Falls Trail, Olympic Nat'l Park. 7/13/09

I was photographing. I replied: “an orchid!” one of the gentlemen then said: “Wow! That will be pretty when it blooms!” I didn’t bother to tell him that it *was* in bloom...

The falls were beautiful and the girls excitedly asked me if I had seen the *Corallorhiza mertensiana* along the trail. It’s good to have a



The incredible Olympic Range as viewed from the top of Hurricane Ridge.

support crew, as I had totally missed it. They had marked the spot for me, as well as the *Listera cordata* site. Incredible! We headed back down the trail and sure enough, there were five *C. mertensiana*, mostly past, blooming a little ways off the trail. One plant had some good blossoms left that were nicely back-lit by the afternoon sun. Click! Click!

It was then out to Rialto Beach, on the Pacific Ocean, to search for *Corallorhiza maculata* var. *ozettensis*, (Ozette coralroot) a newly discovered coralroot that is endemic to this part of the Olympic Peninsula. There are many miles of wilderness coastline preserved in Olympic Nat’l Park and Rialto Beach is a great example of what was thankfully preserved. The beach is beautiful with “sea stacks” off in the distance and millions of perfectly rounded pebbles that would be the envy of any Japanese gardener. The directions were unfortunately not very detailed. The orchids grow on the bluffs overlooking the beach, which sounded easy until we got there. The bluffs were miles long and were heavily forested with impenetrable under-growth. This was a true rain forest where everything was giant-sized. I left the family happily playing in the surf while I waded through waist-high *Equisetum*, sword ferns with five foot long fronds and a plant that resembled skunk cabbage with leaves the size of a man’s upper body. All of this vegetation covered a maze of fallen-down timber and rocks that was impossible to walk through. I couldn’t even go 25 ft., let alone climb up onto the bluffs! So I rejoined the ladies on the beach and savored the fact that we were sitting on the opposite side of the continent gazing west at the Pacific Ocean. I had really wanted to visit the Hoh Rain Forest as well today, but we had used up all of our time and so we headed to Kaloch Lodge, about 40 miles on down the coast, to check into our room. Next time!

7/14/09: Kaloch Lodge, like Crescent Lake Lodge, is a privately run concession within the park. Built in 1950, it is located in a beautiful setting overlooking the Pacific with miles of

undeveloped beaches in either direction. After a refreshing morning jog along US 101 – the coastal highway – we set out to explore the area for a few hours. We followed a sign along 101 that said “old cedar tree” and were amazed to find, about ½ miles off the road, a giant western redcedar (*Thuja plicata*) gnarled with age but still very much alive. It was at least 15 feet in circumference and the gnarled roots were a testament to its longevity.

This area is famous for its tidal pools, so next we headed to a nearby beach where luckily it was low tide. The girls were able to experience first-hand the variety of sea life that is exposed when the tides go out: Sea anemones, starfish, mussels and sea urchins were all on display at close range and were a fascinating sight.

It was now time to head back south. We had originally planned to continue north to Vancouver Island and then return east across Canada, but Paul felt that it made more sense orchid-wise to return south to catch some later-blooming species in California and Colorado. So we piled in the car and made the 470 mile drive to Grant’s Pass Oregon, arriving by 9 p.m. – just in time to dine at our favorite restaurant before it closed.

7/15/09: The plan was to spend the day exploring different areas in Redwood Nat’l Park along the California coast. But as we drove down Hwy. 199 along the Middle Fork of the Smith River we passed the turnoff to the incredible *Cypripedium californicum* site. I had not even thought of stopping, as I had the day’s itinerary all planned out, but Jackie casually mentioned that perhaps we should go see the lady’s-slippers one last time...

So we turned around and took an unexpected detour back up the long gravel road to the site. It had been eight days since we were last there, but amazingly a lot of the plants that were in the shade were still in good bloom. But what we noticed next horrified us. It looked like a group of people had visited the site and had been very careless. A lot of the *Platanthera* had been trampled and even a few of the cyps. I can’t



Cypripedium californicum still in bloom on July 15th! Siskiyou Mts., California. Photos by Jacqueline Nelson.

imagine that true “orchid people” would treat a site in such a cavalier fashion; it sickened me to see the wanton destruction of the vegetation by careless feet. It shows the vulnerability of a roadside orchid site and further reinforced the fact that these locations have to be kept secret.

Since it was on the way, we drove through Jedidiah Smith State Park again and took some more photos amongst the giant trees. We then followed US 101 on down the coast through Redwood Nat'l Park. One stretch of road had incredible numbers of very tall Columbia lilies – taller than the specimens in Olympic – growing amongst the redwoods. I stopped to photograph, but it was so windy that it was almost impossible to get a decent shot. One has to take mental photographs at a time like this. There are only so many hours in a day, and we had spent a lot of them with the lady's-slippers, so we had to bypass the other areas that I had intended to see, such as Fern Canyon and the Lady Bird Johnson Grove. As we drove into Arcata, California to check into our motel the fog was rolling in and darkness was falling, so we called it a day and went in search of a good restaurant.

7/16/09: Today I was meeting Ron Parsons and his friend Mary Gerritson – whom I had also met at the Native Orchid Conference last summer - at an area in the Six Rivers Nat'l Forest near Onion Mt. for a day of botanizing. Jackie and the kids were very happy to stay at the motel and play in the pool. Anything to stay out of the car! I got up very early and drove east out of Arcata into the Klamath Mts. It was 50 degrees and foggy on the coast, but as I climbed up into the mountains the fog burned off and by the time I got to the rendezvous site, the temperature was hovering in the mid-nineties. In California the coastal range traps all the fog and moisture on the coast, creating an ideal environment for the redwoods, while the interior is dry and hot.

Ron and Mary soon showed up and after loading my gear into their car, we started up a gravel forest road to see what we could find. The Onion Mt. area is well known for its lilies and several species of orchids grow there as well, so I was quite excited. We soon found a few prime specimens of *Piperia candida* and lots of *Goodyera oblongifolia* still in bud. *Goodyera oblongifolia* is one of the more common orchids in the mountain west and I had seen a lot of it growing up in northern Utah and western Wyoming and more recently on the Bruce Peninsula in Ontario, but this species grows best in the mountains of California. The plants here were giant-sized, nearly twice as big as what I was used to seeing in other parts of the country.

We kept driving up the road and soon started seeing lilies. Ron was worried because it was a drought year, but his fears were unfounded and the lily parade was fantastic. Giant 3-4 ft. tall specimens of *Lilium washingtonianum* (Washington lily) soon began appearing along the roadside. Named after Martha Washington, not the state of Washington, these stunning pure white lilies were present in both the normal variety and var. *purpureum*, which is purplish. Next we saw *L. rubescens* (redwood lily) a smaller but still beautiful species. When we reached the highest point of the road at around 4,100 ft., we started seeing *L. bolanderi* in great numbers. Lots of *L. kelloggii* and a few *L. pardalinum* were growing in a more forested area further on, along with a few past-prime *Cephalanthera austini*. Ron had been excited to show me a good site with dozens of *Corallorhiza mertensiana* but

they were well past-bloom. He was surprised, since they were usually in bloom on this date. We finally tore ourselves away and drove back down out of the mountains and as we said our goodbyes I thanked Ron for showing me an incredible place that I never would have found by myself. I would be seeing him in two weeks for orchid hunting in Pennsylvania and New Jersey – one good turn deserves another! I then made the drive back to Arcata, happy to have spent a great day with two like-minded individuals.

7/17/09: We were headed for Monterey today. We wanted to spend time in San Francisco, so we got up at the crack of dawn and hit the road. Ron had told me about a *Spiranthes porrifolia* site located in the Coastal Range along a highway a little south of Arcata that went east to the Interstate, so we left the redwoods behind and headed up into the mountains on that road. He had warned me that it was narrow and slow, and he wasn't kidding. After following the narrow, winding road for hours, we finally reached the appropriate spot only to discover that the roadside had been recently mown and there was nothing there... Ah, the plight of the orchid hunter! We continued on and did eventually find a seepage area with lots of *Platanthera dilatata* and the best specimens of *Lilium pardalinum* that we saw on the entire trip, which was some consolation for the missing *Spiranthes*. When we reached Redding and the Interstate – 165 miles later – it was 105 degrees!



We got to the Golden Gate Bridge by 4 p.m., much later than I had hoped. There was a good chance of seeing the very showy *Piperia elegans* on the Marin Headlands near the bridge so we took that exit. Incredible scenery! The wind was whipping the fog in and as we watched, the bridge became totally obscured from view. The orchids were not to be found; we were probably a little

too early in the season. I was disappointed as we had not managed to find this very desirable species yet and this was probably our last chance. Oh well, a good reason to come back.

Then it was across the Golden Gate to the charming “City on the Bay.” We headed to the Exploratorium, an interactive science museum, which Johanna and Christina really enjoyed. Then it was off to Fisherman’s Wharf, where I treated the family to a sumptuous seafood feast as a thank you for tolerating their orchid-crazed father, who had dragged them nearly to Timbuktu while searching for *Spiranthes*. We reached our motel in Monterey, where we would thankfully be staying for 3 nights, at 11:30 p.m.

7/18/09: My brother Eric and his neighbor Bill Oblock were driving out from Utah to meet us in Monterey. Eric had wanted to join us on a family “orchid outing” and he and Bill were already camped in the vicinity, awaiting our arrival. Their wives regrettably couldn’t come, so they were having a boy’s weekend out. Eric has been to Monterey many times and had been extolling its virtues to me for months. He would be our tour guide for the next 2 days.



On the trail of *Piperia elegans*, Marin Headlands, CA

Thanks to Eric and Bill’s intervention, today was a non-orchid day and was spent sightseeing. It was actually sunny, which was a relief. Foggy, overcast days are the norm for the northern California coast and we had certainly seen our share. There is something about the quality of the light in Monterey that is unique. The blue waters of the bay and matching azure-blue skies, coupled with the craggy coastline that is dotted with bonsai-like Monterey pines all go together to create a setting that has attracted landscape painters and photographers for generations.

The bulk of the day was spent at the fabulous Monterey Aquarium, an unforgettable experience for everyone. It was then off to a fresh seafood dinner at a great Italian restaurant on Fisherman’s Wharf, after which we drove south along the Pacific coastline to show the girls the pounding surf crashing into the rocks. A magical place!

7/19/09: Today Eric and Bill picked us up at our motel and without wasting any time we set out to locate a site that Ron Parsons knew about for *Piperia yadonii* (Yadon’s piperia) an orchid species endemic to Monterey County. Designated as an endangered species by the United States government in 1998 and rated G2, or imperiled, the major threat to its survival is habitat loss from land development. Yadon’s piperia is confined to a handful of sites in the coastal area of north Monterey County - primarily the Del Monte Forest on the Monterey Peninsula - which was where we were headed today. The site is located in the SFB Morse Botanical Preserve, which was created in 1972 to protect the Gowen Cypress and several other endemics when the area was threatened with development. The preserve is accessed from the famous “17 – Mile Drive,” a private toll road that winds through the scenic town of Pebble Beach and passes some of the most expensive real estate in the country.

It was a remarkably easy orchid-hunt; after paying the toll – one of the few times we’ve had to pay to see an orchid – we went a mile or two on the drive, turned off on the appropriate road and immediately saw many prime specimens of *P. yadonii* right on the roadside. Growing in a forest of Monterey pine (*Pinus radiata*) and Gowen’s cypress (*Cupressus goveniana* ssp. *goveniana*) the tall, leafless, densely flowered greenish-white flower spikes really stood out.

The first plants we found were not that tall – maybe 12-20 inches. As is often the case, I spent a long time photographing this group only to drive a few hundred feet more down the road where there were more plants that were twice as tall. Bill was a great help as I photographed. A biology major in college who presently runs his own bakery in Logan, Utah; he was fascinated with the orchids and was devouring Ron Coleman’s book *The Wild orchids of California* as I worked. While the others explored the area, we set about stabilizing the plants against the strong ocean winds. When the wooden stakes I had brought proved to be too short for the tallest specimen, Bill resourcefully fashioned a wire coat hanger that he had in his camper into the perfect plant stake.

In the spring *Piperia yadonii* develops a basal rosette of 2 to 3 leaves at ground level. The inflorescence is borne on a single vertical spike ranging from 12 to 55 centimeters in height and appears between late June and early August. By the time the flower is produced, the leaves have typically senesced. The flowers are very attractive when viewed up close. The most easily distinguished characteristic of *P. yadonii* is its bicolored upper sepal and petals. The dorsal sepal is green with white margins. The upper petals, curving toward the dorsal sepal and sometimes touching its tips, are green on the inner half, white on the outer half. As the flowers mature, the column turns an attractive orange, contrasting nicely with the petal and sepals.

The Monterey Peninsula and Big Sur areas are influenced by a marine climate that is pronounced due to the upwelling of cool water from the Monterey submarine canyon. Rainfall is 40 to 50 centimeters per year, but summer fog-drip is a primary source of moisture for Yadon’s piperia and other plants that would otherwise not be able to persist with such low precipitation. The Monterey Peninsula has a high degree of species endemecism. Many species reach their northern and southern limits there. The pines and cypresses that comprise the habitat of *Piperia yadonii* are relic stands that once extended more widely when the climate was wetter thousands of years ago, but have since retreated to small pockets of cooler and wetter conditions along the coast. The vegetation in the SFB Morse Preserve was quite lush; one of the companion plants of the *Piperia* was the lovely *Mimulus aurantiacus* (sticky monkey flower) a real beauty.



Top left, right and bottom right: *Piperia yadonii*. SFB Morse Preserve, Pebble Beach, CA. 7/19/09

Bottom left: *Mimulus aurantiacus*.

After a few hours the gang convinced me that I had taken enough pictures – really – so I packed up and we continued on around 17-mile drive. Million-dollar mansions fill the area and I can see why the SFB Morse Preserve was so necessary. The orchid site would no doubt be someone’s front yard now, if not for the preservationist’s efforts. It was then onto the Carmel Valley where we toured a winery and had a superb meal at a local restaurant recommended by the folks at the winery.

Our next destination was the Point Lobos State Reserve, a place that Eric was very excited to show us. Ron Parsons had told me that the uncommon *Piperia michaelii* (Michael’s piperia) could be found growing along a trail there, so there was a double attraction. It was after 6 p.m. when we arrived and as we passed the trail heading to the *P. michaelii* site I looked longingly in that direction but Eric insisted – he is a good leavening agent in my life – we should instead go to an incredible place that he knew about called China Cove. It was incredible. A short hike led down to a sheltered cove with pure turquoise-colored water. The girls played in the surf and I actually sat on a rock and relaxed.

As we left the reserve we stopped at the entrance station and I showed the attending ranger a picture of *P. michaelii* and asked him if he had ever seen it at the reserve. He studied the picture and surprisingly told me that there had been some growing by the ranger’s residence but the landscapers had weeded them a few days ago... He told me that the trail that Ron had told me about was under construction and was closed. He suggested that I



The “mother of all *yadoni*?” 30” tall! SFB Morse Preserve.



The ladies pose with the orchid mobile. SFB Morse Preserve, Pebble Beach, CA

instead access the area from the highway, which I decided I would do in the morning.

After stopping in Monterey and indulging in some sinful desserts, we bid Eric and Bill adieu. They would be heading back to Utah in the morning and we would point ourselves east for the first time in weeks and head for Yosemite Nat’l Park and eventually New York.

7/20/09: I got up early and leaving the ladies asleep drove back over to Point Lobos. Accessing the search area via a beach trail, I was having a great time exploring the

various trails of the reserve when I met a man who asked me what I was doing in the closed-off area. When I told him I was on an orchid-quest, he became very friendly. It turns out that he was an archeologist doing field studies of Native-American sites in the reserve.

He didn't know anything about orchids but did tell me that if anyone asked what I was doing, to say that I was with him.

Very nice! I found what I thought was the trail Ron had mentioned and unbelievably it was being widened so that it would be handicap accessible and there were no orchids anywhere. Not my lucky day.



The dramatic Pacific coastline at Point Lobos State Reserve.

The park headquarters was nearby so I walked over and was told that “Ranger Chuck” would be the person to talk to. Chuck Bancroft was indeed very helpful. He seemed to like the idea that I had come all the way from New York to find *Piperia* species and even though he was very busy he basically dropped everything for a few minutes to help me out. When I mentioned *P. yadonii*, he told me that he had been mentored by Vern Yadon, the former longtime director of the Pacific Grove Museum of Natural History after whom the species was named. He said he had an orchid that had come up voluntarily in his nearby backyard and wasn't sure what species it was. It turned out to be a very tall and robust past-bloom *Epipactis helleborine* (broad-leaved helleborine). We returned to his office and he found a picture of *P. michaelii* on the internet and Chuck said that yes, that species *used* to grow in the area where the trail had been widened but he hadn't seen any this year. Drat! Chuck told me that I should go over to the State Parks office – about 10 miles away – and speak to Tom Moss, who is the district ecologist for the parks. He said that there were a lot of *piperia* growing behind the headquarters building that I should check out.

Unfortunately Tom Moss was not in so I went out the back door and was greeted by the familiar spikes of *Piperia yadonii* growing in a small area of preserved habitat between the building and a parking lot. There were many plants and even more were growing in a larger area to the east of the building. The plants at this location, which was further inland and undoubtedly hotter, were way past prime. I had been lucky to find the prime specimens yesterday. While writing this article I called Tom Moss again and spoke to him at length about *P. yadonii*. He told me that the plants by the office building grow there naturally and that he does his best to keep the state work crews – who don't

know a piperia from a stump - and their weed-whackers at bay. He has been successful and he estimates that there are now upwards of 3-4000 plants growing on the grounds.

As I was looking around a nice woman came out of the building and asked me if I was the one looking for orchids. She said that she was no expert but had seen what she thought were piperia while walking her dog recently. Armed with directions to the site, I returned to the motel, where the family was awaiting my arrival. It was still only 10:00 a.m. – I had accomplished a lot so far today - so we checked out and headed for the Fisherman’s Wharf to do some souvenir shopping. We then headed to the site, where the ladies ate lunch in the car while I went looking for the orchids. I followed an old road into an area forested with Monterey pine and lo and behold, I came upon a large colony of *Piperia yadonii*. There were about 50 plants growing in an area that was about 20 × 30 ft. Amazingly, as is often the case with wild orchid populations, there were no other plants anywhere close by. Unlike yesterday’s site, the whole understory of the forest was quite barren and the orchids were the only thing growing there at all. Tom Moss tells me that he knows this population and it is part of the SFB Morse Preserve.

By this time it was around 2 p.m. so we headed east towards Yosemite and what would turn out to be a bonanza of newly discovered orchid species. We had now essentially begun the trip home and from this point on would be visiting a lot of the same sites that Stan and Paul had visited on their epic western trip in 2007. We soon left the cool coast behind and by the time we reached the Central Valley it was 107 degrees. We reached West Portal and our motel, near the entrance to the park, by 6 p.m.

7/21/09: Our motel was right across the highway from the beautiful Merced River so I awakened early and jogged a few miles up the road to enjoy the beautiful scenery. I saw several stunning western tanagers (*Piranga ludoviciana*) one of my favorite bird species, in the lush riparian habitat. It was already in the upper 70s at 7:30, and



The second *P. yadonii* site. Note absence of any other vegetation.

I could tell that today was going to be another scorcher.

This was our first time in Yosemite and the scenery was, as expected, incredible. We were headed south to Merced Grove to look for *Piperia colemanii* (Coleman's piperia) so we passed by the entrance to Yosemite Valley and then turned south on the perimeter road. As we approached the turnoff to Merced Grove, Jackie yelled out "turnaround, orchids!" It pays to have a copilot with an eagle eye. Growing right on the roadside were three species of piperia: *P. unalascensis*, *P. transversa* and the object of our search, *P. colemanii*, all in prime bloom. I was thrilled, since this was a site that no one seemed to know about. We had directions to a population inside Merced Grove that required some walking; this roadside location was much more convenient. As I photographed Jackie searched the area and found another population of the same three species behind the nearby entrance station to the park.

Discovered by and named after the noted orchid expert Ron Coleman, *Piperia colemanii* is very similar to the more common *P. unalascensis*, but differs in several respects, the most notable being the shorter spur length and upcurved lip of *P. colemanii*. Ron had seen the plants many times before and had always considered them to be *P. unalascensis* until he found them growing on the same trail and was able to compare the differences. This led to the description of the species in 1993. *P. colemanii* is a California endemic and grows in a narrow strip stretching from the Sierra Nevada in Fresno County to the Cascade Mountains in Siskiyou County. It is found in just 11 counties with 19 known locations and is considered rare. I felt very lucky to be seeing it today. The *P. transversa* at this site were very tall and robust and was in prime bloom. What a great experience – studying and photographing these species in the beautiful setting of Yosemite Nat'l Park!

We then spent a few hours exploring the amazing Merced Grove. Miraculously, these giant sequoias (*Sequoiadendron giganteum*) one of the world's tallest trees somehow survived the loggers thanks to people like John Muir and Teddy Roosevelt. In 1864, Abraham Lincoln paused during the Civil War to set aside Merced Grove and Yosemite Valley as a protected state reserve. This has to be one of the earliest instances of land preservation. Thank heavens! Growing as tall as 250 ft with giant reddish-brown trunks and a buttressed base, they are a sight to behold. Some of the trees here are over 3000 years old.



The scenic splendor of Yosemite Nat'l Park



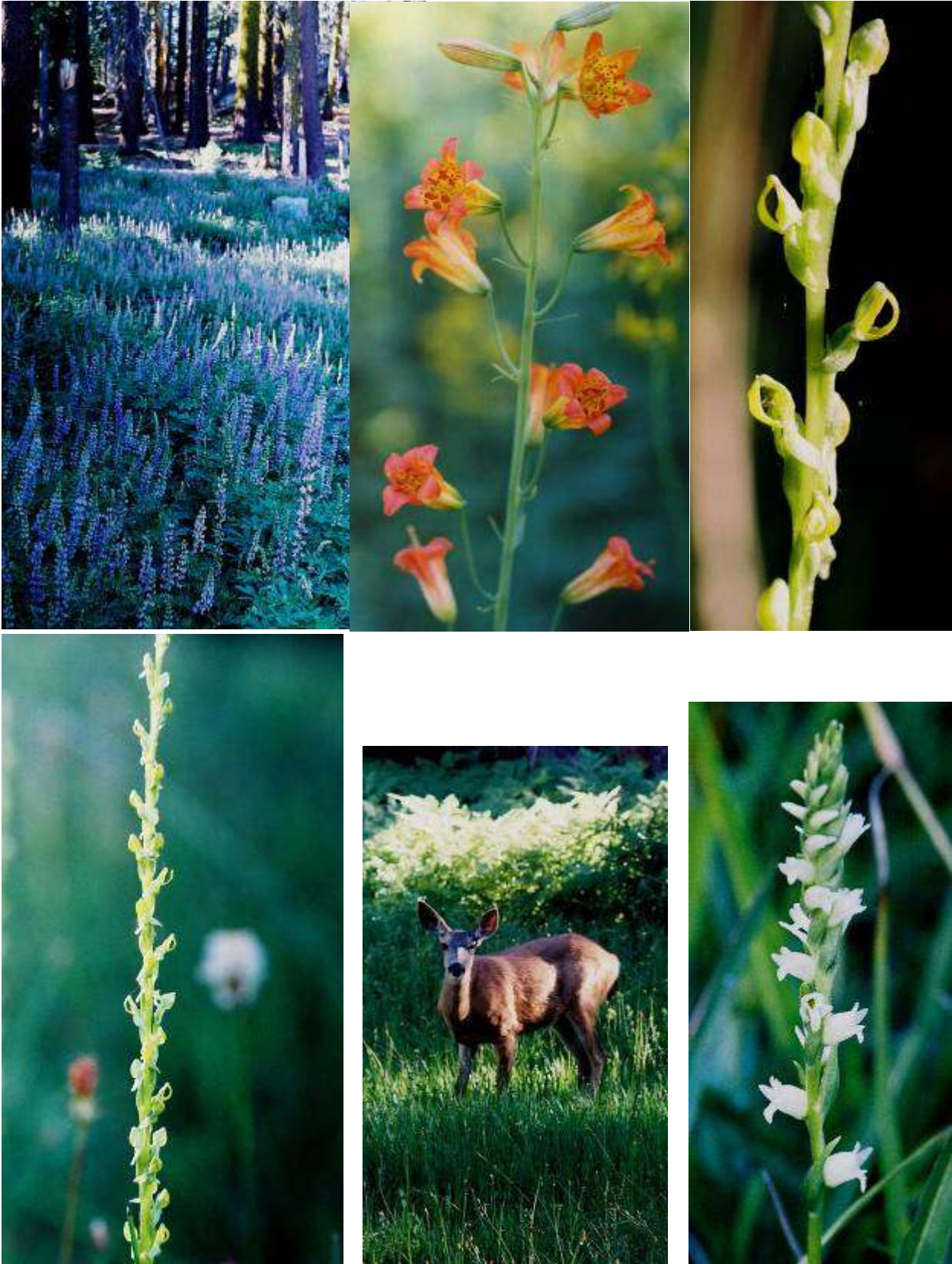
Top left: Tom photographing *Piperia transversa*. Top right: *Piperia colemanii*, about natural size. Bottom left: Johanna poses with an ancient Sequoia. Bottom right: *P. transversa*, twice natural size. Mariposa Grove area of Yosemite Nat'l Park.

Yosemite is a busy place in July and today was no exception. We decided to head straight for the other orchid site – which was also on the way to our motel in the town of Lee Vining, California on the east side of the park – and skip seeing the fabled Yosemite Valley. It proved to be a wise choice; there ended up being a bad accident that caused massive traffic tie-ups in the valley and it would have been dark when we got to the site had we tried to see the valley. We'll see the sights another time. We were in the front of the line but still waited for about 45 minutes while they cleared the accident – an RV had gone over the side - and then headed for the site.

The road climbs and climbs and when we reached about 8,000 ft we went around a curve and I suddenly saw the mountain meadow below the road where the orchids are. I excitedly parked the car and since this is a very vulnerable site, I left the ladies happily watching a DVD and ventured out into paradise. It was around 4:30 p.m. and the afternoon sun was filling the alpine meadow with a golden glow. It was peak blooming season for wildflowers and hundreds of broadleaf lupine (*Lupinus latifolius*) carpeted the ground near where we were parked. It was a short, steep, rocky descent into the meadow and there was lots of undergrowth so I was glad that the family was happily entertained in the car.

I initially accessed the stream that empties into the meadow where there was a large population of very tall *Platanthera sparsiflora* and some very beautiful *Lilium parvum* (alpine lily). I then bushwhacked my way through the alders out into the meadow and was greeted by an amazing sight – hundreds of prime-blooming *Platanthera yosemitensis* (Yosemite bog orchid) illuminated by the afternoon light. One of the newest additions to North America's orchid flora, this species was described in 2007 and is very rare, with only nine known sites, all in spring fed areas between 6,000 and 9,000 ft in Yosemite. Not a showy species, it is most notable for the smell - akin to sweaty feet - that it emits to attract pollinators. A specimen collected by botanist George Henry Grinnell in 1923, who thought it was related to the green bog orchid, was noticed in 1993 by Ron Coleman who went to the site and amazingly found and photographed the plants. He then contacted orchid expert Dr. Charles Sheviak, curator of botany at the State Museum of New York, who initially thought it was related to an extant species in the Rocky Mountains. This opinion was revised when park botanist Peggy Colwell was surveying clovers one day and started smelling something foul, which led her to the orchids. Colwell contacted her boss, Peggy Moore and they dug up a plant and sent it to Sheviak who determined that it was a new species.

I had been intently photographing for awhile when I heard a sound. I looked up and realized that a beautiful doe was grazing in the meadow, about 25 ft away. I turned my camera on the tripod and since I luckily had my 105mm lens on, which is a telephoto, I got a good shot of her. Thinking that the deer would run away, I picked up my tripod to move. Instead she



Top left: *Lupinus latifolius*. Middle: *Lilium parvum*. Top right: *Platanthera yosemitensis*, enlarged 2X. Bottom left: *P. yosemitensis* slightly reduced. Middle: The “watcher of the orchids” Bottom right: *Spiranthes stellata* slightly enlarged.

lowered her head, flared her nostrils, snorted at me and acted like she was about to charge. “Ok, I’ll stay over here!” was my response and since there was enough *Platanthera* for everyone, I quietly moved in the other direction. My guess is that she had a fawn somewhere nearby. She kept me company the entire time I was there.

I had to search for a bit to locate the other orchid that I was looking for in the meadow. I finally found, in the wettest part of the meadow, 7 prime specimens of *Spiranthes stellata* (starry ladies’-tresses) a new species described by Paul Martin Brown, Lucy Dueck and Ken Cameron in 2008. It is common in mid-elevation wet meadows in Yosemite and occurs as far north as southern Oregon and as far south as Tulare Co. California. This orchid has been known for years and was considered to possibly be a hybrid until DNA sequencing was done and it was moved to species status. *Spiranthes* and the green *Platanthera* that occur in the western United States are two of the most perplexing genera in the orchid family and the fact that they hybridize within each genus only complicates matters.

When I had finished photographing I stood quietly for a few minutes and did my best to absorb the mood of the meadow. The still-grazing deer, the orchids, the alpenglow lighting the scene; it was all very magical and I was aware that before I knew it we would be back in New York and this would all be just a memory.

As I have said before, I am very lucky to have a family that patiently waits while I tiptoe through the orchids, sometimes for hours on end. It was almost 7 p.m. by the time I tore myself away from the meadow but the ladies were nonplussed. It was now what photographers call the ‘magic hour’ the hour before sunset or after sunrise when the light is sublime – and we continued on our way, stopping at Olmstead Point, perched high above Yosemite Valley - where I got a good shot of the vista with the top of half-dome visible in the distance. We soon passed through the beautiful Tuolumne Meadows and eventually reached Tioga Pass (elevation 9,945 ft) and the park boundary. As we made the steep descent down the eastern side of the Sierras we stopped in the twilight to investigate several large colonies of *Platanthera aquilonis* growing in roadside seeps. We were glad to finally reach our motel after a long but very fruitful day.

7/22/09: The town of Lee Vining and Mono Lake sit on a high desert plateau on the dry side of the Sierras. Mono Lake, which has no outlet to the ocean, is very alkaline and provides critical habitat for several bird species. Paul and Stan had found an incredible orchid site here in 2007 and we were headed there today.

We drove out to the lake and followed the boardwalk towards the lakeshore. The girls were ahead of me when suddenly Johanna came running towards me to tell me that there were orchids everywhere up ahead. When I reached the spot I couldn’t believe my eyes. There are



Top: Mono Lake. Bottom left: *Epipactis gigantea* twice natural size.
Bottom right: *Platanthera tescamnis* slightly enlarged.

freshwater springs in this area and hundreds of orchids were growing in the marshy area by the boardwalk. *Platanthera sparsiflora* and *P. tescamnis* (Intermountain rein orchid) and their hybrids, *P. ×kelleyi*, grow here and I was trying to determine what exactly I was looking at when Jackie asked me if that was an orchid growing to my left. It was. I had totally overlooked a diminutive *Epipactis gigantea* in my excitement over the *Platanthera*. As I explored I found some very tall *Platanthera dilatata* var. *dilatata* and hundreds more *Epipactis*. The scenery was great and I wanted to stay longer, but our destination for the evening was Delta, Utah which was 441 miles away, so I reluctantly packed up my camera.

We wanted to experience some of the ‘old west’ flavor of the region, so even though we didn’t really have time, we decided to visit the famous ghost town of Bodie, about 12 miles to the north. It was well worth the trip. The site of a major gold strike with a population of 80,000 in its heyday, it was inhabited up into the 1940’s and is now being preserved as a California state park. Everything is there just as the last inhabitants left it – right down to dust-covered dishes on the kitchen tables. The elevation is over 8,000 ft and there were beautiful clumps of *Iris missouriensis* blooming in the nearby wet meadows.

Hwy 6 crosses Nevada and is known as the “Loneliest Road in America.” They are not kidding. Once we passed the old mining town of Tonopah, all of the truck traffic went south to Las Vegas and we literally saw only a handful of other cars in the 110 miles to Ely, the next town. Not a good place to have car trouble... I grew up in country like this and really love it. It’s the perfect antidote to the closely- built cities of the eastern states. The basin and range topography unfolds endlessly to the horizon and aside from a few ranches there is little sign of humanity. One beautiful valley was unexpectedly marred by what appeared to be a giant natural gas facility; no doubt a legacy of the “drill baby drill” mentality of the Bush years.

It was almost dark as we left Eli and I was sad to be missing the dramatic scenery of Great Basin Nat’l Park on the Utah Nevada border, but it had been worth it to see Bodie. We passed exactly one car in the 90 miles to Delta. At one point I pulled over, turned off the headlights and had everyone get out of the car to see the incredible celestial display that stretched from horizon to horizon. With no moon and no light pollution whatsoever, it looked as if one could reach out and touch the stars. The only other time we have seen a star show like this was when we got off the ferry at 1 a.m. in far-off Port Aux Basques, Newfoundland; two far-corners of the earth that we have been fortunate enough to see. We finally arrived at the motel after midnight, exhausted.

7/23/09: We were able to pick up Interstate 70 near Delta, which made driving much easier although I missed the solitude. We crossed the San Rafael Swell in Central Utah, a giant dome-shaped anticline of sandstone, shale and limestone that was pushed up millions of years ago. The scenery was incredible and the people that built the road across this maze of cliffs and canyons were truly incredible.

We have spent a lot of time in the canyon country of Utah and our next stop was the Tamarisk Restaurant – one of our favorites – in Green River, Utah. The tamarisk tree, a native of Egypt, was introduced into this area in the early 1900's and took over virtually all of the riverbanks, crowding out the native vegetation. A few years ago scientists introduced a beetle, also from Egypt that has now wiped out the Tamarisk in the entire area. An unintended consequence of this has been the destruction of the riparian habitat that several endangered migratory songbird species relied on. When humans meddle with nature, the results are always unpredictable. So the restaurant, built with on the banks of the Green River now has a view of scores of dead tamarisk trees... All of this information was relayed to us by our very friendly waitress.

After a delicious lunch complete with pie and ice cream, we walked out into the 104 degree heat and discovered that the car wouldn't start. This had been happening intermittently throughout the trip and had certainly made driving to remote areas a nail-biting experience. Whenever mechanics looked at the car it would be fine and a diagnosis impossible; I was just hoping to make it home where the problem could be dealt with. I went back inside and asked the friendly waitress who the most honest mechanic in town was – very important at a time like this. She made a call and a colorful local soon arrived, gave the starter a few taps with a hammer, and bingo! It started. I'll remember that trick.

Outfitted with a new starter and a little poorer, we happily headed to nearby Moab, our destination for the day. I had pushed so hard the day before so that we would have time to sight-see in this fantastic area. It was 107 degrees when we got to Moab, so I took the kids to the pool and Jackie was happy to relax in the air-conditioned room. It had cooled down considerably by 7 p.m. so we headed over to Arches Nat'l Park, one of our favorite places on earth, to watch the sunset. Most of the tourists had left for the day and we had it pretty much to ourselves. It was a good call.

7/24/09:

We were headed to Buena Vista, Colorado – 341 miles away – today but there was one orchid stop that I wanted to make first. There are a few sites for the very rare *Platanthera zothecina* (cloistered bog orchid) in the Moab area. The orchids grow in



Beautiful Arches Nat'l Park.

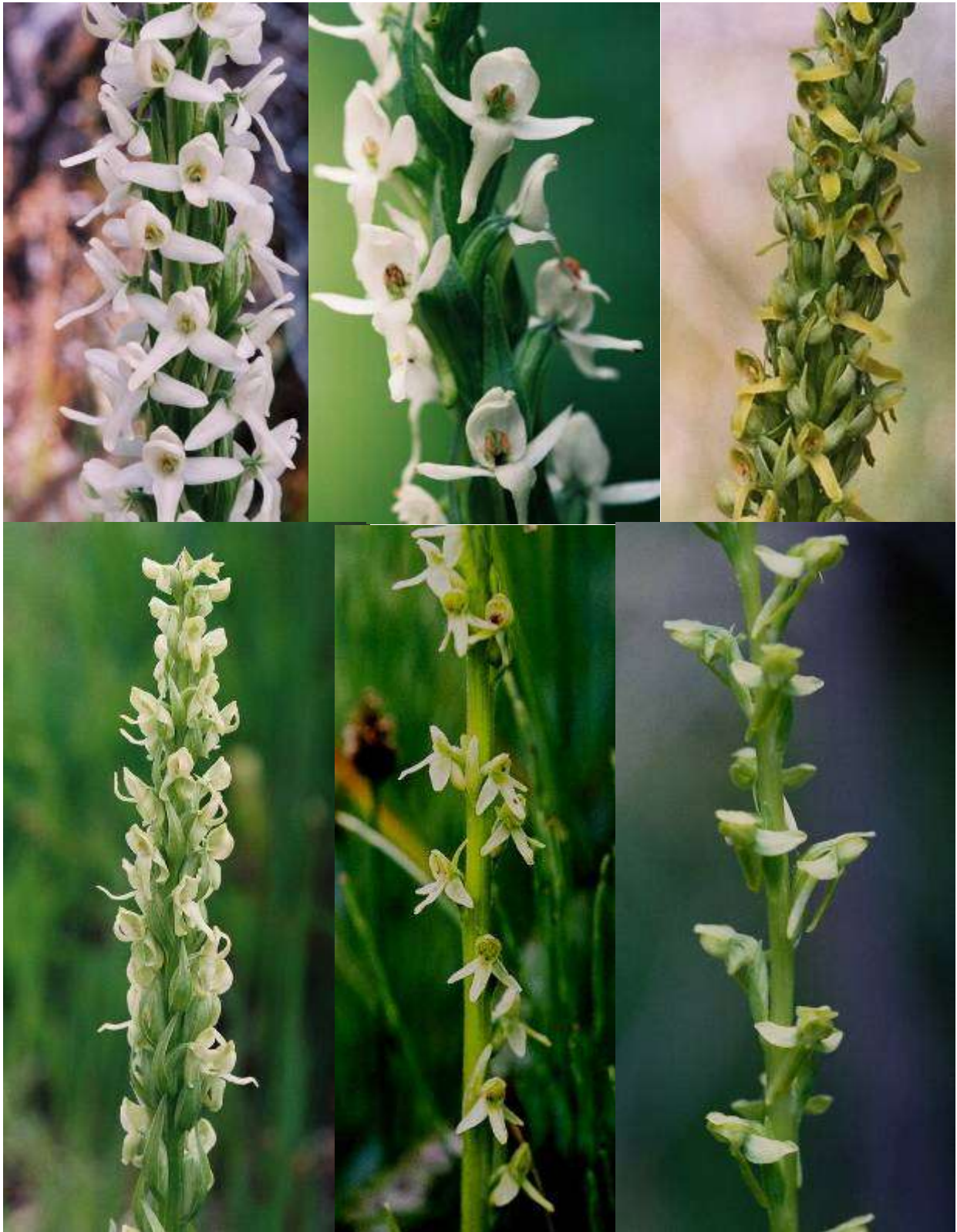
'hanging gardens' areas where springs seep through the sandstone cliffs and rare and unusual plants can often be found. We were in Moab in August of 2008 and I had visited one site along the Colorado River and although it was too late for blooming plants, I managed to locate one set of leaves amongst the copious amounts of poison ivy. I wasn't even that lucky this year. I searched the alcove for about 30 minutes and couldn't find a trace of the orchids that. It wasn't as if I was looking for a diminutive *Malaxis* or *Listera*; these are fairly large plants and not hard to see. They just were not there. Paul and Stan had seen them around the same date in 2007... I have heard that orchids are very capricious in nature and can go dormant for years at a time and then suddenly reappear. Maybe that is the case here. The good news is that Moab is a place we visit a lot, so maybe some year...

From the orchid site we continued along the two-lane road that follows the mighty Colorado River through a very scenic area. The famous Hollywood director John Ford filmed a lot of his westerns with John Wayne here and the scenery is breathtaking. We rejoined Interstate 70 after about 20 miles and headed east into Colorado. At Glenwood Springs we turned off onto Hwy 82 and after pausing to photograph majestic Mt. Sopris headed up the Roaring Fork River valley to Aspen. I was involved with the Aspen Summer Music Festival for several years and know the area well. Aspen sits at 8,000 ft and is surrounded by some of Colorado's highest peaks, and of course, beautiful groves of quaking aspen (*Populus tremuloides*). Buena Vista is on the other side of Independence Pass (elevation 12,100 ft) and the drive over the pass is one of the most scenic in North America. At one point the road is only about 1½ car widths wide with a sheer cliff on one side and a thousand foot drop on the other. As we climbed higher we entered the subalpine zone and it was spring again. *Platanthera aquilonis* and *Platanthera dilatata* and what appeared to be hybrids of the two were plentiful along the road. We stopped at 11,000 ft and took a nice sunset hike along a beautiful creek that drains out of a lovely alpine lake. Unfortunately it was dark when we reached the pass – one of the consequences of trying to pack too much into one day.

7/25/09: This was our last day in the field and we really made the most of it. We left Buena Vista and headed north towards Leadville, Colorado. At 10,000 ft, Leadville has the distinction of being the highest year-round city in the US. As we headed north from Leadville and climbed higher we entered Nat'l Forest lands and were treated to an unparalleled alpine wildflower show. Lassen and Olympic had been phenomenal but paled in comparison to Colorado's spectacle this year. The hills were truly alive... Paintbrush (*Castilleja*) was the predominant species and was present in all shades of yellow, red and white. Entire mountainsides were covered with masses of paintbrush and other choice wildflowers. This was a result of record-breaking rains and the skies were dark and threatening again today making for ideal photographic conditions. Standing tall amidst the paintbrush in the dry mountainside habitat were pure white specimens of *Platanthera buronensis* (green bog orchis). *P. buronensis* hybridizes with *P. dilatata* and the plants with whiter flowers may be the result of ancient or recent gene flow between the species.



Top: Mt. Sopris near Glenwood Springs CO. Bottom left: Aspen grove, Independence Pass, CO. Right: A white-flowered *Platanthera buronensis* growing with white paintbrush near Leadville, CO.



A *Platanthera* Gallery. Clockwise from top left: *P. dilatata* var. *dilatata*; *P. dilatata* var. *leucostachys*; *P. tescamnis*; a white-flowered *P. buronensis*; *P. stricta*; *P. sparsiflora*.

We soon rejoined Interstate 70 and headed east for our final two orchid stops of the trip. It was Saturday and as we approached the Denver area it becomes noticeably more crowded with people but the scenery was still fantastic. What a weekend playground these folks have. I've heard about the massive traffic jams that can occur in this area and was glad that we seemed to be lucking out in that respect. We left I-70 and headed north again towards the town of Eldora, west of Boulder.

The orchid site was near a well-known trail head and the gravel road we were following was lined with the parked cars of Saturday hikers. There were hundreds of Gunnison's mariposa lilies (*Calochortus gunnisonii*) blooming in the sagebrush (*Artemisia tridentata*) creating an incredible spectacle along the roadside. We parked at the appropriate spot and Johanna and Jackie soon located past-prime specimens of *Platanthera purpurascens* (short-spurred bog orchis) the object of our search. In rapid succession, before I could even turn around, they had also located past-prime *Coeloglossum viride* and *Corallorhiza maculata* close by. Well trained orchid hounds!

We then headed for Boulder and the last stop of the trip. The drive down scenic Boulder Canyon was very enjoyable, but when we reached the city, I became totally lost. We had directions to a site for *Spiranthes diluvialis* (Ute ladies' -tresses) on the east side of Boulder; we were on the west side and I couldn't orient myself. Needless to say we were totally fatigued after almost 4 weeks on the road and were in no mood for any foolishness. I pulled over and started asking people for help. It took a few tries, but finally a very friendly college coed patiently looked at the directions and figured out where we were headed and sent us on our way. Whew!

Spiranthes diluvialis was federally listed as a threatened species in 1992 and is not a common orchid. When we went to see *Cypripedium fasciculatum*, Buddy Smith had told me that a population of *S. diluvialis* has recently been discovered near Logan, Utah and I hope to see it some day. *S. diluvialis* is an amphidiploid hybrid product of *S. romanoffiana* (hooded ladies'-tresses) and *S. magnicamporum* (Great Plains ladies'-tresses)



Spiranthes diluvialis enlarged 3 ½ times. Boulder CO. 7/25/09

and exhibits characteristics of both ancestral parents.

The site we were headed to today is on preserved farm land within the city limits of Boulder. I hopped over the fence, went past the old barn and out into the former pasture and after a few minutes searching was able to locate two plants that were just starting to bloom. The season was a little late in 2008, so I'm sure there were more that weren't up yet. I was luckily able to take a few pictures before the rain came in and it started to pour; I was just glad that I had managed to find anything at all and see this species.

By this time it was 6 p.m. so we got in the car and tried to make some miles. I-70 east of Denver was wide, smooth and straight and was a motorist's dream. There was very little traffic so I set the cruise control on 90 mph and before we knew it, we were in Kansas. The next two days, although spent totally in the car, were enjoyable. The Flint Hills of Kansas are pleasant and the arches of St Louis majestic. We enjoyed a dinner stop in St. Charles, Missouri, the original capitol of the state. The 'old town' on the banks of the Missouri River has buildings dating back to the 1700s - a nice respite from our 10,000 mile cross-country marathon. It is great to have seen the country from sea to shining sea and the great National Parks and other incredible wild places that we visited – not to mention finding 32 species and varieties of orchids – are memories that we will treasure forever.

I would first and foremost like to thank Jackie, Johanna, and Christina for undertaking this incredible journey with me. Over the last 3 years we have traveled to the far corners of the United States and Canada in search of wild orchids. These remarkable ladies have allowed me to pursue my dream and gone uncomplainingly wherever the next species is. We have now seen 90 species of native orchids. Paul Martin Brown and Stan Folsom, as always, provided expert trip-planning advice and site information. Ron Parsons (California) and Kermit Williams (Oregon) provided site information and assisted in the field. Frank "Buddy" Smith, Mary Gerritson, Eric Nelson and Bill Oblock were great company in the field. Ann Kelsey (Utah) Mellisa Rathbun-Holstein (Washington) Carol Ralph, Larry Ulrich and Roger Raiche (California) and Shirley Curtis all provided site information. Ranger Chuck Bancroft and Tom Moss provided information about *Piperia yadonii* and *P. michaelii*.



Gamboling in the surf at Olympic Nat'l Park

Species found on Western Trip 2009:

1. *Cephalanthera austini*
2. *Coeloglossum viride* var. *virescens*
3. *Corallorhiza maculata*
var. *occidentalis*
4. *Corallorhiza mertensiana*
5. *Corallorhiza striata*
6. *Cypripedium californicum*
7. *Cypripedium fasciculatum*
8. *Cypripedium montanum*
9. *Epipactis gigantea*
10. *Epipactis helleborine*
11. *Goodyera oblongifolia*
12. *Listera banksiana*
13. *Listera convallarioides*
14. *Listera cordata* var. *cordata*
15. *Listera cordata* var. *nephrophylla*
16. *Piperia unalascensis*
forma *olympica*
17. *Piperia candida*
18. *Piperia colemanii*
19. *Piperia transversa*
20. *Piperia yadonii*
21. *Platanthera aquilonis*
22. *Platanthera dilatata* var. *albiflora*
23. *Platanthera dilatata* var. *dilatata*

24. *Platanthera dilatata*
var. *leucostachys*
25. *Platanthera huronensis*
26. *Platanthera purpurascens*
27. *Platanthera sparsiflora*
28. *Platanthera stricta*
29. *Platanthera tescamnis*
30. *Platanthera yosemitensis*
31. *Spiranthes diluvialis*
32. *Spiranthes stellata*



Great memories: *Balsamorhiza sagittata* fills a meadow at Lassen Volcanic Nat'l Park, CA



Platanthera dilatata var. *dilatata* and *Lilium pardalinum*,
Lassen Volcanic Park, CA

Photographs by Tom Nelson unless otherwise credited

Tomjackie90@msn.com Tom's photo galleries: www.pbse.com/tomdean

Book Notices

The Orchids of Ireland by Tom Curtis and Robert Thompson.

160 pages 9 × 6"

ISBN: 9780900761508

£20.00



The Orchids of Ireland, which was published in May 2009, is a book for naturalists, biologists, gardeners and all those who have an interest in this fascinating and attractive group of wild Irish plants and wish to improve their identification skills in the field. The first part of the book includes an introduction to Irish orchids and covers their morphology, the structure of the orchid flower, vegetative parts, the habitats of the species in Ireland and their conservation.

An overview of the classification and content of the Irish orchid flora is included, together with keys to the Irish genera and species which make it particularly useful for identifying plants in the field.

Comprehensive accounts of all species, subspecies and varieties follow, with their key identification features described, particular attention being paid to providing clear guidelines to the identification of the

difficult genera of the Helleborines, Dactylorchids and the subspecies of the Fragrant orchid. All accounts include comparisons with similar species, their flowering periods, salient observations, habitat preferences, current status and distribution maps. A full checklist of all orchids found in Ireland is presented and a section on hybrids provides guidance on the identification of these difficult plants. The book ends with a comprehensive bibliography and glossary.

The book is copiously illustrated throughout with stunning photographs of all the Irish species and their habitats, which are complemented by colour and half-tone illustrations of the flowers and morphological features of Irish orchids and is available from the National Museums Northern Ireland priced £20/€22.50 plus package and posting. For further information contact info@nmni.com

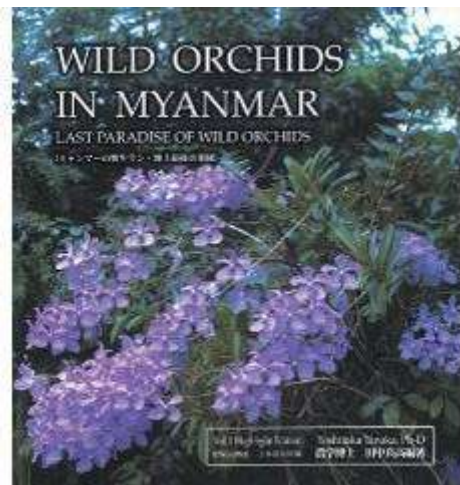
WILD ORCHIDS IN MYANMAR

Yoshitaka Tanaka

Orchid Press

Foundation of Agricultural Development and Education

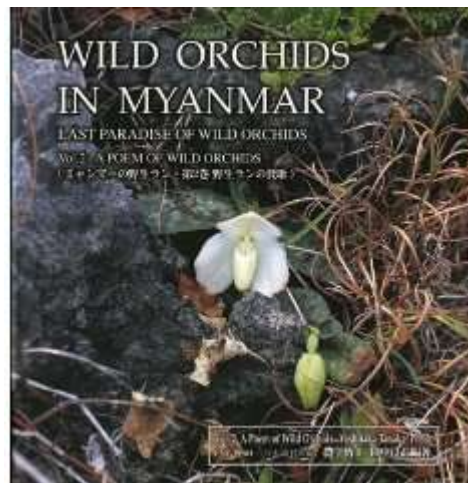
First 3 in a series of 6 volumes; bilingual in Japanese and English.



Wild Orchids in Myanmar, Volume 1: Last Paradise of Wild Orchids

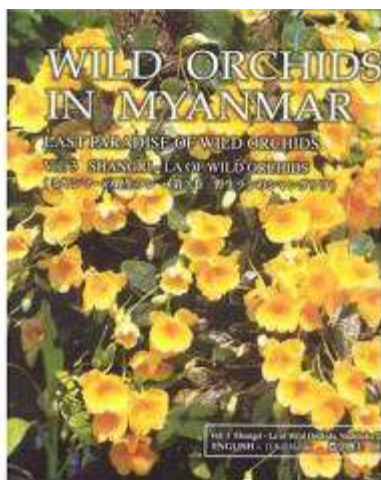
Hardcover | 2003 ISBN-10: 9749172035

8.5 × 8.25" 104 pages



Wild Orchids in Myanmar, Volume 2: A Poem of Wild Orchids

Hardcover | 2004 ISBN-10: 9742729107 8.5 × 8.25" 108 pages



Wild Orchids in Myanmar, Volume 3:
Shangri-La of Wild Orchids

Last Paradise of Wild Orchids

Hardcover | 2007

ISBN-13: 9789889776497

8.5 × 8.25" 108 pages

From the publisher: The third volume of a planned series of six, the present book focuses on the wide variety of orchid species to be found at high altitudes on and in the vicinity of Victoria Mountain, in the Chin State, close to Burma's border with Bangladesh. While *Dendrobium* is perhaps the most frequently encountered family, a rich assortment of other species are illustrated and described, some of which still require further taxonomic research. Here, despite its extreme remoteness, road development and the encroachment of poachers is also beginning to take its toll on the rich diversity of orchids that occur naturally in this rugged terrain. Orchid lovers worldwide owe a debt of gratitude to Dr. Tanaka.

From a review on Amazon.com by Philip Shin of Rosemead, California:

First of all, if you're looking for a book with detailed text about orchids and how to cultivate them, this is not that kind of book.

The primary focus of this book is conservation of orchids in their natural habitats by bringing awareness of their natural surroundings, their ecology, and their plight in facing extinction through habitat loss and over collecting for the orchid hobby and Eastern medicine in Myanmar.

In fact, there is very little text in this 103 page book. The text is to mention a brief contextual reference to the history, people, natural environment, and country of Myanmar. There are also short bits of textual description about the orchids and how they're growing in their natural surroundings to accompany the many beautiful and unaltered color photographs of them growing wild. It is much like a poetic story. Short and concise, but yet not plagued with details.

The details are in the photographs. You can see exactly how the orchids mentioned in the book grow. It's not just pretty flower pictures without seeing what they grow on and how they grow, it's very clear what the orchids are growing on and how they grow. These plants are clearly not growing in cultivation (a rarity; most photos on the net are of orchids growing in cultivation, what a shame).

This is a great book to own both as a visual reference for orchid culture and as a coffee table book. The great part of it is, if you're too busy to read, just look at the pictures; they speak for themselves.

I highly recommend this book. If you look through this book with an open mind and open heart, you will truly gain a lot out of it.

Available at Amazon.com all 3/\$99.90

THE MARIE SELBY BOTANICAL GARDENS

— Illustrated Dictionary of —

ORCHID GENERA

PEGGY ALRICH AND WESLEY HIGGINS

BRUCE HANSEN, ROBERT L. DRESSLER, TOM SHEEHAN,
AND JOHN ATWOOD, EDITORS

FOREWORD BY PETER H. RAVEN



THE MARIE SELBY BOTANICAL GARDENS ILLUSTRATED DICTIONARY OF ORCHID GENERA

PEGGY ALRICH AND WESLEY HIGGINS

EDITED BY BRUCE HANSEN, ROBERT L. DRESSLER, TOM SHEEHAN, AND
JOHN ATWOOD, FOREWORD BY PETER H. RAVEN

"The Marie Selby Botanical Gardens Illustrated Dictionary of Orchid Genera balances the needs of amateur orchid enthusiasts with those of the professional orchidologist, and its layout is very clean and easy to read. This book is not merely a list of names, nor is it a comprehensive treatment of the entire Orchidaceae. It is refreshingly something in between and 'just right' for the office or the home library."

—Kenneth M. Cameron, Director, Wisconsin State Herbarium

The dictionary describes not only all of the 850 orchid genera that are recognized today but also those genera known only from fossil records, published before Linnaeus, validly published (but not accepted), and invalidly published according to the standards of the International Code of Botanical Nomenclature, as well as those that have variant names or spellings. In addition to the alphabetic entries, this dictionary includes an introduction to orchid biology, a glossary, a list of taxonomists credited with publishing new orchid genera, key references and bibliographical abbreviation list, and the governing nomenclature rules.

512 PAGES | \$49.95 CLOTH | A COMSTOCK BOOK

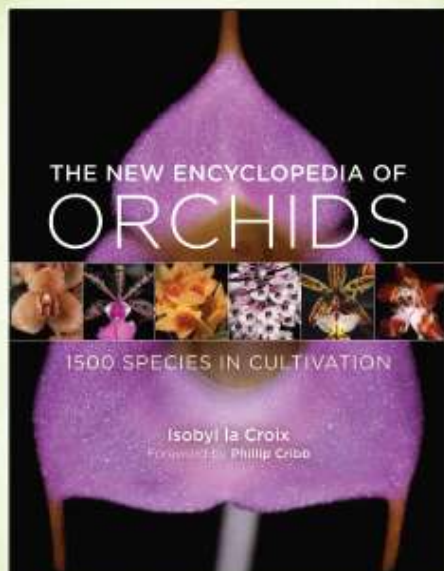


CORNELL
UNIVERSITY PRESS



Available from your favorite bookseller or at www.cornellpress.cornell.edu

THE ORCHID BOOKS YOU'VE BEEN WAITING FOR!



The New Encyclopedia of Orchids 1500 SPECIES IN CULTIVATION Isobyl la Croix

978-0-88192-876-1 • \$59.95

"A valuable reference for enthusiasts, collectors, and those starting out with orchids." —Library Journal

Orchid lovers will revel in this authoritative, detailed, and carefully researched encyclopedia. Features more than 350 genera, 1500 species, and over 1000 photographs. With a foreword by Phillip Cribb, curator of the Orchid Herbarium, Royal Botanic Gardens, Kew.

Wild Orchids Across North America A BOTANICAL TRAVELOGUE Philip E. Keenan

978-0-88192-720-7 • \$27.95

"This is a fascinating book, both as a study of wild orchids and as a study of enthusiasm itself." —New York Times Book Review

Keenan takes his readers on an incredible pursuit of 145 temperate American orchid species in their native habitats. Includes 170 superb color photographs.

Growing Hardy Orchids John Tullock

978-0-88192-715-3 • \$29.95

Tullock catalogs 103 hardy and half-hardy orchids. Includes information on cultivation, propagation, and conservation.

Winner of the American Horticultural Society's Book Award



 **TIMBER PRESS**
The Best in Gardening Books

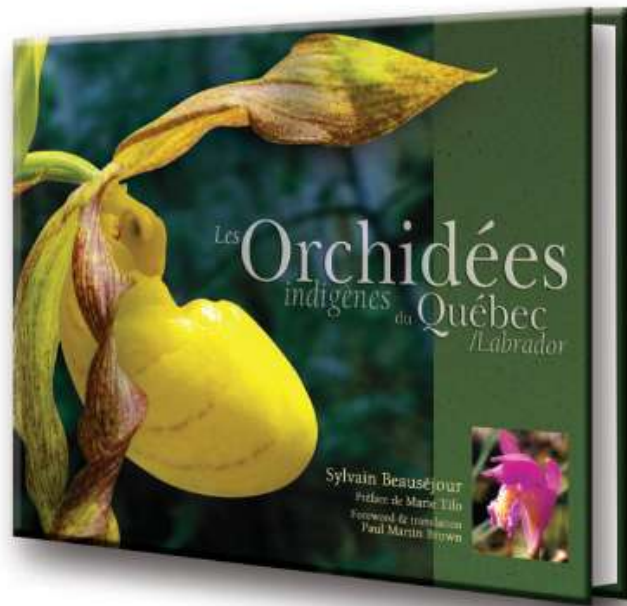
To order, call 800-827-5622
www.timberpress.com

Native Orchids of Quebec

/Labrador

“After many years of painstaking photography and research Sylvain has produced what is unquestionably the most beautiful book on the orchids of northern North America. Neither a field guide nor a botanical treatise, *Orchidees indigenes du Quebec/Labrador // Native Orchids of Quebec/Labrador* is a feast for the eyes of the most artistic photographs to come along in many years. . Each species is treated with numerous photos as well as the pertinent technical information and a map showing the general distribution in the region. Habitat photographs abound and extreme close-ups are the rule rather than the exception for each species.”

Paul Martin Brown
editor *North American Native Orchid Journal*



English Translation
page 158 to 172 by Paul Martin Brown

176 pages • 380 photographs
Format : 11" x 9.5" • 51 orchids
\$49.99 CAN + Shipping & Handling

*Les éditions
Native*

For to buy
www.nativeorchidsamerica.com



from the swamps of SOUTH FLORIDA to the wilds of northern ALASKA....
to windswept NEWFOUNDLAND and the Big Bend of WEST TEXAS

WILD ORCHIDS....

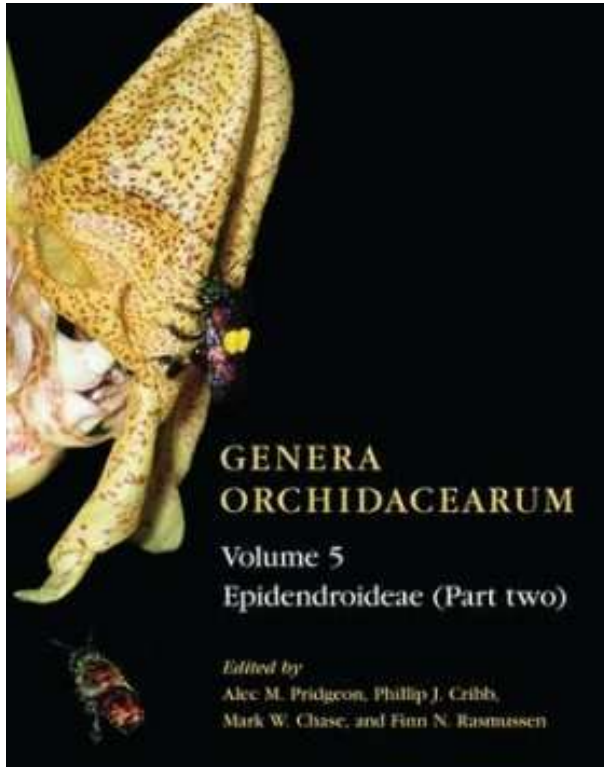
from the University Press of Florida a *by Paul Martin Brown & Stan Folsom*



Ordering information from University Press of Florida www.upf.com or 1-800-226-3822
or for signed and inscribed copies from the authors at naorchid@aol.com

or directly from the author at naorchid@aol.com

Forthcoming



Genera Orchidacearum, Volume 5: Epidendroideae (Part 2)

Edited by Alec M. Pridgeon, Phillip J. Cribb, Mark W. Chase, and Finn Rasmussen

664 pages, 400 line illustrations, and 48 color plates.
Oxford University Press

Hardcover - due December 2009 \$195
ISBN-13: 9780198507130

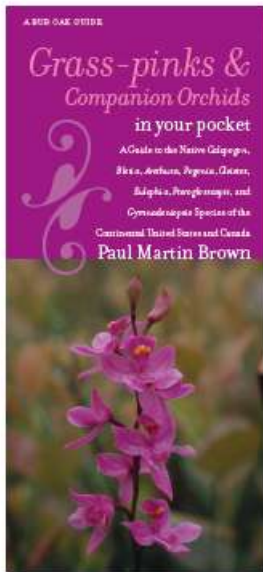
orchid guides

by PAUL MARTIN BROWN

laminated fold-out guides • \$9.95 each

Compiled and illustrated by long-time orchid specialist Paul Martin Brown, these pocket guides to the twayblades, adder's-mouths, grass-pinks and their companions, lady's-slippers, and ladies'-tresses, are part of a series that will cover all the wild orchids of the continental United States and Canada.

new

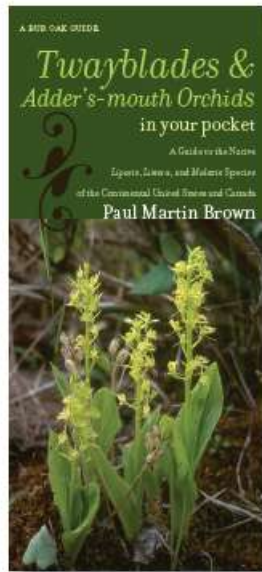


Grass-pinks and Companion Orchids in Your Pocket

A Guide to the Native Calopogon, Bletia, Arethusa, Pogonia, Cleistes, Eulophia, Pteroglossaspis, and Gymnadeniopsis Species of the Continental United States and Canada

43 color photos
3 drawings

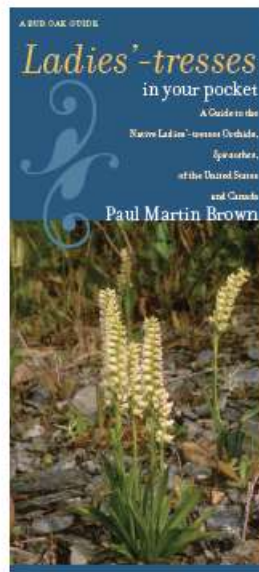
new



Twayblades and Adder's-mouth Orchids in Your Pocket

A Guide to the Native Liparis, Listera, and Malaxis Species of the Continental United States and Canada

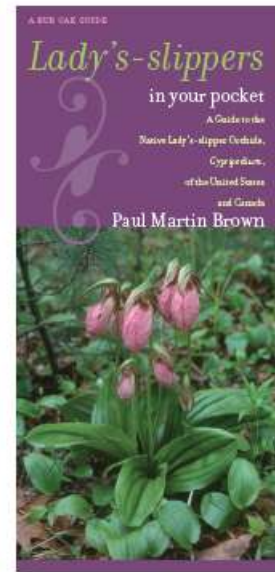
49 color photos
3 drawings



Ladies'-tresses in Your Pocket

A Guide to the Native Ladies'-tresses Orchids, Spiranthes, of the United States and Canada

30 color photos



Lady's-slippers in Your Pocket

A Guide to the Native Lady's-slipper Orchids, Cypripedium, of the United States and Canada

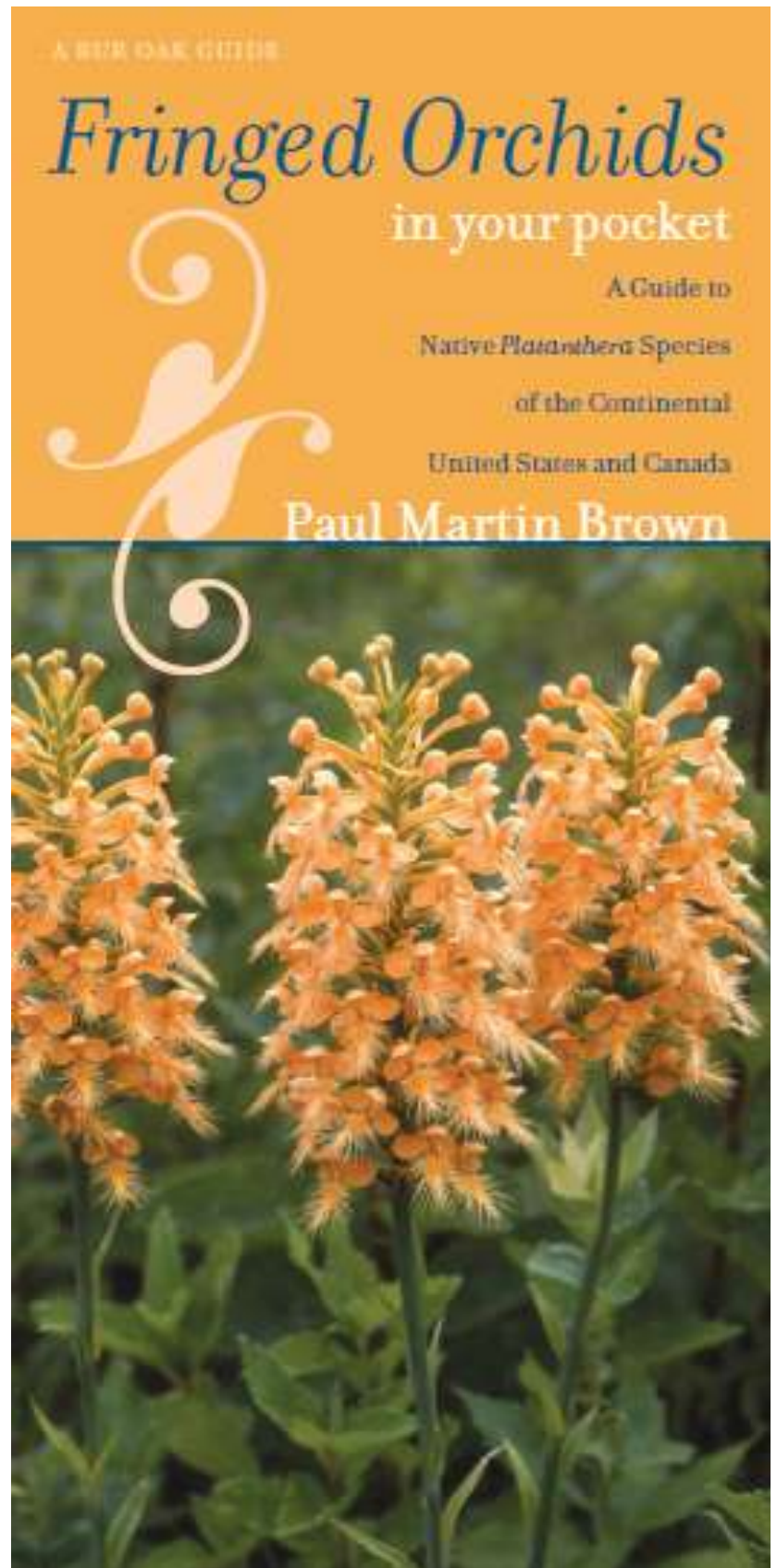
34 color photos

Each guide provides general distributional information, time of flowering, and habitat requirements for each species as well as a complete list of hybrids and the many different growth and color forms that can make identifying orchids so intriguing.

 **IOWA**
where great writing begins

University of Iowa Press
www.uiowapress.org • 800/621-2736

and the newest guide now available.....



Watch in the spring for the next guide *Woodland and Bog Rein Orchids in your Pocket*