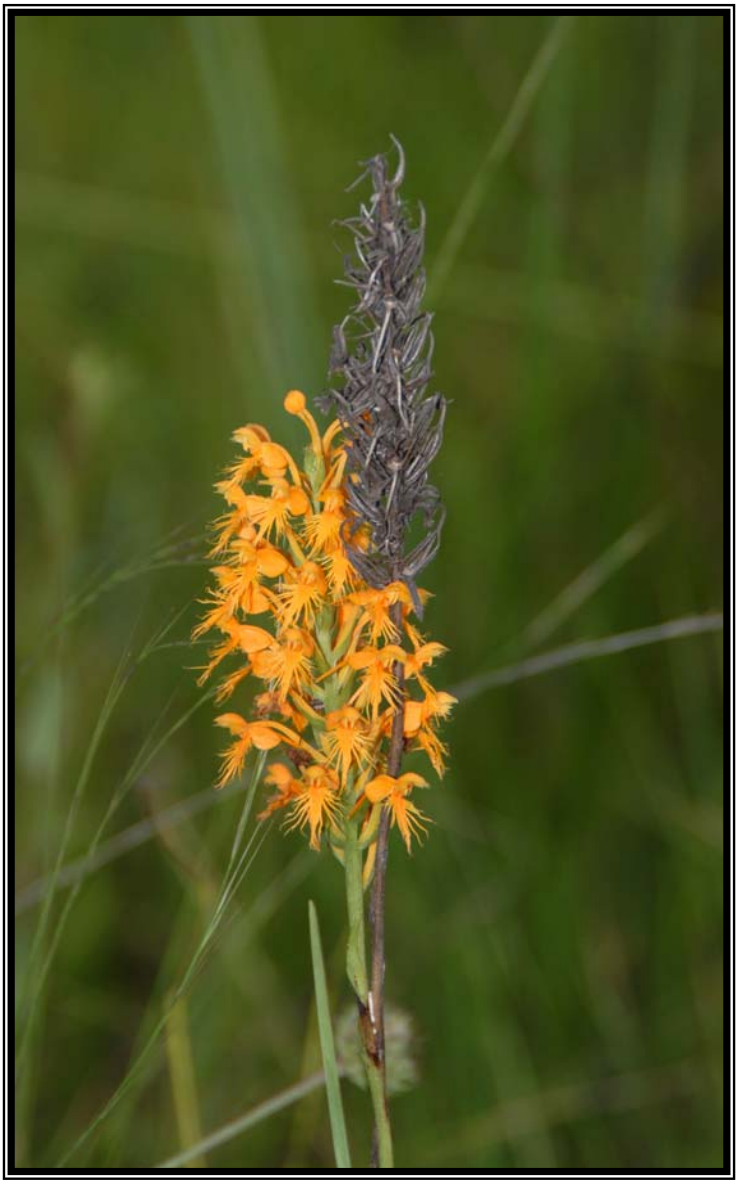
ISSN 1554-1169

The Native Orchid Conference **Journal**



Volume 6 (4)
October-November-December 2009

Volume 6, Issue 4

Contents

Native Orchid Conference Journal is published four times a year by the Native Orchid Conference, Inc., a non-profit [501(c)3] organization, as a service to its members. The organization is devoted to fostering the study, conservation, and enjoyment of orchids native to North America. Membership dues are $25, $30, and $35 for individuals, families, and international subscribers, respectively. Address inquiries about membership, back issues of this journal, and requests for copies of the bylaws to the Treasurer: Christine Fleissner, NOC, Inc., P.O. Box 29010, Greensboro, North Carolina 27429-9010, USA; nativeorchids@yahoo.com OR ncorchid@yahoo.com.

Editorial contributions and inquiries about publishing articles and requirements for manuscripts, illustrations, or photos for publication should be addressed to the **Editor:**

Dr. Jyotsna Sharma
Department of Plant and Soil Science, Texas Tech University
PO Box 42122; Lubbock, TX 79409; USA
jyotsna.sharma@ttu.edu
jsorchids@yahoo.co.uk

Rediscovery of *Platanthera chapmanii* in Georgia

Richard Carter
Valdosta, Georgia
rcarter@valdosta.edu

Platanthera chapmanii (Small) Luer (Chapman's yellow fringed orchid) was initially described as *Blephariglottis chapmanii* Small based upon a type specimen collected by A.W. Chapman from Apalachicola, Florida (Small, 1903). Subsequently, Small (1933) suggested *B. chapmanii* was "perhaps a hybrid between *B. ciliaris* and *B. cristata*," and others formally treated it as a nothotaxon: *Habenaria* ×*chapmanii* (Small) Ames, with parents *H. cristata* (Michx.) R. Br. and *H. blephariglottis* (Willd.) Hook. (Correll, 1950), or *Platanthera* ×*chapmanii* (Small) Luer, with parents *P. cristata* (Michx.) Lindl. and *P. ciliaris* (L.) Lindl. (Luer, 1975).

Based upon extensive research in the field, laboratory, and herbarium, including an analysis of the pollination biology of *P. chapmanii*, *P. cristata* and *P. ciliaris*, Folsom (1984) concluded that *P. chapmanii* was indeed a distinct species – not a hybrid. Folsom's chromosomal studies showed no evidence of amphitetraploidy, and he found that populations of *P. chapmanii* are generally pure without the presence of either or both putative parents, and his studies of pollination biology provided evidence for morphological isolating mechanisms involving divergent floral morphologies, especially the form of the terminal portion of the column (rostellum) and the length of the spur (Folsom, 1984). Moreover, Folsom (1984) documented actual hybrids between *P. ciliaris* and *P. cristata*, which he described and named *Platanthera* ×*channellii* Folsom. In contrast with *Platanthera chapmanii*, *P.* ×*channellii* is found in mixed populations with its parents *P. cristata* and *P. ciliaris*, and its rostellum lobes are straight and also intermediate between those of *P. cristata* and *P. ciliaris*, whereas the rostellum lobes of *P. chapmanii* are strongly down-curved (Folsom, 1984, 1995). Folsom's interpretation has recently been adopted by others (Sheviak, 2002; Brown, 2002). Excellent photographs of *P. chapmanii*, *P. cristata*, *P. ciliaris*, and *P.* ×*channellii* may be found in Brown (1995, 2002, 2004) and Chafin (2007).

Platanthera chapmanii is known from eastern Texas, northern Florida, and southeastern Georgia (Folsom 1984, 1995; Brown 2002, 2004; Sheviak 2002). There is only a single specimen of *P. chapmanii* from Georgia at the University of Georgia Herbarium (T. Patrick, pers. comm.): "U.S.A. Georgia. Camden County: growing in low sandy humus among scrub-palmetto and pines, (near) Kingsland, 1 August 1949, William J. Dress 869 (GA)." This specimen was annotated as *P. chapmanii* by James P. Folsom (T. Patrick, pers. comm.). According to Chafin (2007), Chapman's yellow fringed orchid is known from Charlton County, Georgia. In Georgia, *P. chapmanii* is listed among *Special*

Concern Plant Species with a Global Rank of G2 (imperiled globally because of rarity, 6-20 occurrences) and a State Rank of SH (of historical occurrence in the state, perhaps not verified in the past 20 years, but suspected to be still extant) (Anonymous 2008).

While conducting an intensive general floristic inventory of Camden County in southeastern Georgia, two populations were located that seemed consistent with Folsom's (1984, 1995) concept of *P. chapmanii* (Figures 1,2; page 7). Both populations were pure, i.e., without either *P. ciliaris* or *P. cristata* present. Because of the long history of disturbance from agriculture, degradation from modern "forestry" practices, fire suppression, and – more recently – rapidly advancing real estate development, for the most part, only small remnants of natural habitats were found in Camden County, and both populations of *P. chapmanii* were found in small relict strips along roadsides where periodic mowing is surrogate for fire. General voucher specimen data follow, with precise locations withheld and geographical coordinates truncated.

U.S.A. Georgia. Camden County: N of Kingsland, N30.9° W81.7°, infrequently mowed right-of-way, with *Acer rubrum, Aletris* sp., *Anthaenantia rufa, Erigeron vernus, Eupatorium rotundifolium, Hypericum* spp., *Ilex glabra, Lobelia glandulosa, Marshallia* sp., *Morella cerifera, Osmunda cinnamomea, Persea palustris, Pinus elliottii, P. palustris, P. serotina, P. taeda, Polygala lutea, Pteridium aquilinum, Quercus nigra, Q. pumila, Rhexia* spp., and *Sarracenia minor*, 21 Jul 2006, R. Carter 17083 and W.W. Baker (VSC); N of Kingsland, N30.9° W81.7°, seepy backslope along right-of-way through bayswamp, with *Arundinaria tecta, Eriocaulon decangulare, Gaylussacia frondosa, Gordonia lasianthus, Ilex coriacea, Lyonia lucida, Morella cerifera, Nyssa biflora, Persea palustris, Quercus nigra, Sphagnum* sp., and *Vaccinium corymbosum*, 11 Aug 2009, R. Carter 19357 and W.W. Baker (VSC).

Both Camden County populations of *Platanthera chapmanii* are small and highly vulnerable, one comprising only 19 flowering plants in 2009, and the other 28. They are potentially at great risk from the injudicious use of herbicides, road widening activities, and real estate development. Therefore, cooperative conservation efforts are currently underway with Matt Richards (Atlanta Botanical Garden) and Tom Patrick (Georgia Department of Natural Resources) to collect seeds from these populations and artificially propagate plants from them.

Acknowledgments
Wilson W. Baker graciously provided assistance with field work. Tom Patrick (Georgia Department of Natural Resources) and Kristian Jones (GA) kindly provided data on the University of Georgia Herbarium *Platanthera chapmanii* holdings, and the staff of the Interlibrary Loan Service of the Odum Library of

Valdosta State University kindly provided assistance in obtaining copies of Folsom (1995) and Brown (1995). Financial support for field work was provided by the Georgia Botanical Society, the Foundation of Valdosta State University, and Georgia Department of Natural Resources.

Literature Cited

Anonymous. 2008. Georgia Rare Species and Natural Community Information – Protected Plants, Special Concern Plants, Watched Plants. Date of information - 5/27/2008. Georgia Department of Natural Resources, Natural Heritage Program. Social Circle, Georgia. http://georgiawildlife.dnr.state.ga.us. [last accessed 03 October 2009].

Brown, P.M. 1995. The real identity of *Platanthera chapmanii*. North American Orchid Journal 1(3):211-212.

Brown, P.M. 2002. Wild orchids of Florida. University Press of Florida. Gainesville. 409 pp.

Brown, P.M. 2004. Wild orchids of the southeastern United States. University Press of Florida. Gainesville. 416 pp.

Chafin, L.G. 2007. Field guide to the rare plants of Georgia. State Botanical Garden of Georgia. Athens. 526 pp.

Correll, D.S. 1950. Native orchids of North America. Chronica Botanica Company. Waltham, MA. 399 pp.

Folsom, J.P. 1984. Una reinterpretacion del estatus y relaciones de las taxa del complejo de *Platanthera ciliaris* (A reinterpretation of the status and relationships of taxa of the yellow-fringed orchid complex). Orquidea (Mexico City) 9:321-345.

Folsom, J.P. 1995. A reinterpretation of the status and relationships of taxa of the yellow-fringed orchid complex. North American Orchid Journal 1(3):213-238.

Luer, C.A. 1972. The native orchids of Florida. New York Botanical Garden. Bronx, NY. 293 pp.

Luer, C.A. 1975. The native orchids of the United State and Canada. New York Botanical Garden. Bronx, NY. 361 pp.

Sheviak, C.J. 2002. *Platanthera*. Pp. 551-571, in G.W. Argus, K. Gandhi, P. Goldblatt, W.J. Hess, R.W. Kiger, J.L. Strother, F.H. Utech and J.L. Zarucchi (eds.), Flora of North America, vol. 26. Oxford Univ. Press. New York.

Small, J.K. 1903. Flora of the southeastern United States. Published by the author. New York Botanical Garden, New York. 1370 pp.

Small, J.K. 1933. Manual of the southeastern flora. University of North Carolina Press. Chapel Hill. 1554 pp.

Powerline Platanthera

Mark Larocque
Quarryville, Pennsylvania
pesllc@comcast.net

Back in 2005, Ann Rhoades, a regional botanist with the Pennsylvania Natural Heritage Program conducted a survey along a powerline cut behind an industrial park in north central Pennsylvania. The powerline cut has a small stream that transects the powerline and forms a 1-2 acre boggy area. Along with several interesting rare Pennsylvania species like: climbing fern (*Lygodium palmatum*) and soapwort gentian (*Gentian saponaria*), there are several orchids. The bog is home to a good population of grass pink (*Calopogon tuberosus*), white bog orchid (*Platanthera blephariglottis*), yellow fringed orchid (*Platanthera ciliaris*) and the rare hybrid, *Plantanthera ×bicolor*. See Figures 1-6 on pages 8-10.

I have seen lots of populations of both *Platanthera blephariglottis* and *Platanthera ciliaris* in PA and in New Jersey, but not in the density and numbers at this site. A quick walk in the woods surrounding the powerline revealed even more plants (most non-flowering). I would suggest that the powerline clearing was the main reason for this large population to form. I would estimate the *Platanthera blephariglottis* population to be in the thousands and the *Platanthera ciliaris* at less than 100 total. The amazing thing about the site is the *Plantanthera ×bicolor* number and variations. In 2008, I counted around 20-25 *Plantanthera ×bicolor* at the location. The color forms range from the traditional lemon yellow to orange petals with white lips to white petals and orange lips. There is a whole range of color variations.

The site also has hundreds of *Calopogon tuberosus,* which is not common in any abundance in eastern PA. The site was slated for further development by the adjacent industrial park. However, through the efforts of Frank Distefano, a local botanist, the site is now under review for purchase by the state heritage program and Nature Conservancy. Wet powerline areas in PA are usually rich with orchids. *Platanthera ciliaris* can be found in relative abundance along several powerlines in northern Lancaster County along with a scattering of *Platanthera psycodes* and *Platanthera flava* var. *herbiola.* The regular disturbance along the powerlines via brush hogging or herbicide applications seems to open up habitat for the various orchids.

In summary, I would like to thank Frank Distefano for his field efforts and research in the northern areas of the state. He has been a valuable asset to the local botanical and orchid community.

Orchids Under the Big Sky

Stefan Ambs
Silver Spring, Maryland
ambss@nih.gov

Montana is renowned for its mountainous western region and famous Glacier National Park. It is also well-known for the wide open country to the east, harboring exceptionally rich examples of remaining native grasslands, and being the headwater state for the Missouri River. It has wonderful outdoors. The convergence of a Pacific Northwest climate in and around Glacier National Park with an arctic climate in the high mountains and a continental climate coming from the east creates a wide variety of plant and animal communities and an unusually high species diversity that one can visit and enjoy in a single day. Many visitors come to Montana just to see rugged Glacier National Park with its snow-covered peaks and glacier lakes, and grizzlies and mountain goats. Others explore the outstandingly rich plant and animal life that can be found along the Continental Divide in the Front, Swan and Mission Ranges to the south of Glacier. I decided to search for native orchids in and around Glacier National Park, and do some birding on the site.

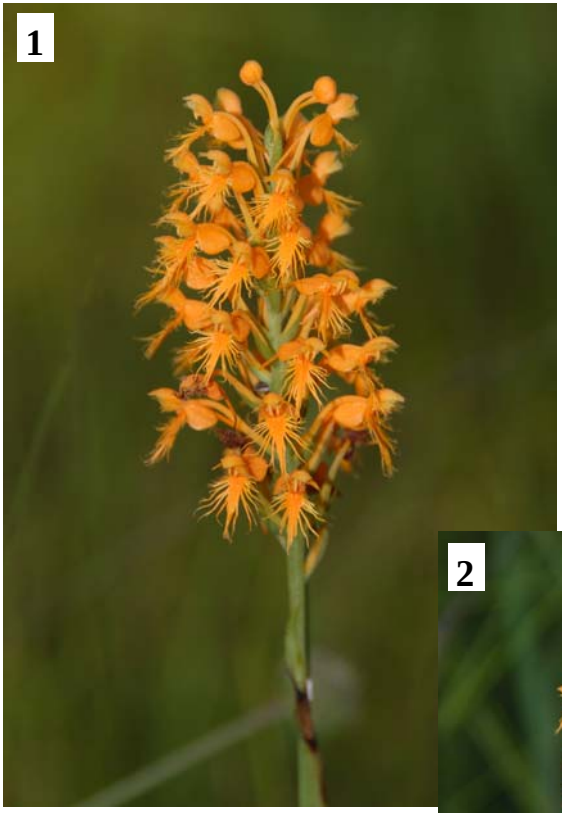
The state flower of Montana is the beautiful purplish-pink bitterroot. Orchids come second although at least 30 native orchid species are known from the state. These species are not distributed evenly throughout Montana. Most of them are found in the mountainous western part, and the Swan River Valley is the most species-rich area with 25 different orchids. This valley became my staging area for day trips. Friends had offered my wife Anita and myself to stay at their cabin along the Swan River, which was just a few miles away from Bigfork, a small town at the Flathead Lake, which has grocery stores, shops, and several very good restaurants. I decided to fly into Spokane, Washington State, with Southwest Airlines and take a rental car for the road trip into Montana. Anita would arrive two days later in Missoula. Flights into Spokane can be much cheaper than flights into Montana, and my initial drive from Spokane to Missoula also brought me to the first location that I wanted to visit for orchids.

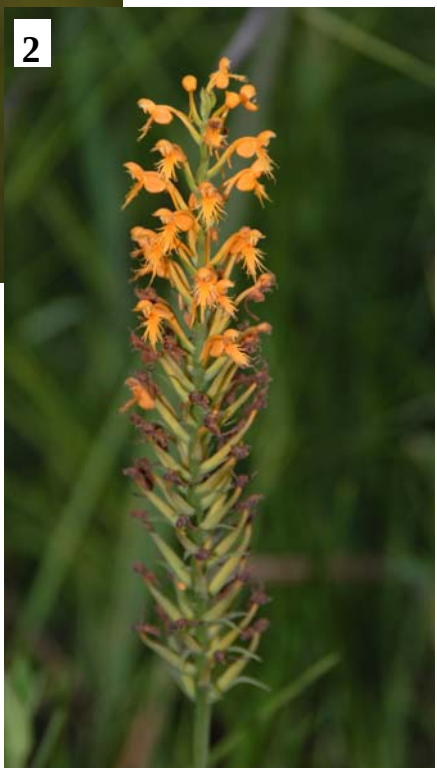
I had contacted Craig Odegard, the West Zone Botanist with the Montana National Forest Service. Craig generously offered to guide me to a site for *Cypripedium fasciculatum* (CYFA) and *C. montanum* (CYMO) in the Lolo National Forest near St. Regis. Most Montana locations for CYFA are in this area of western-most Montana close to Idaho while *Cypripedium montanum* is far more widespread in western Montana, and can also be found in the Rockies and mountain ranges even further to the east. CYFA was rediscovered in Montana near St. Regis in 1991 and since then, many new colonies have been located by Craig and colleagues in and near the Tamarack Creek drainage. I ar-

rived in mid June, which is late for CYFA but perfect for CYMO. I met Craig in St. Regis and followed him to Tamarack Creek. This valley has water year-around and the area contains examples of western Red cedar forest along the creek and steep dry slopes with Ponderosa pine (*Pinus ponderosa*) and Douglas fir (*Pseudotsuga menziesii*) among other tree species. In Montana, CYFA typically occurs in the Douglas fir and ninebark (*Physocarpus malvaceus*) habitat type at 3000 to 4500 feet elevation. Here, the annual precipitation is only 15 to 25 inches of rain/snow with dry and hot summers and frequent forest fires. Craig guided me into such a habitat of CYFA, which required a moderate uphill hike. On our way to the location, we quickly found blooming *Listera cordata* and *L. caurina* at the bottom of the slope in more or less moist areas and several plants of *Piperia unalascensis* that were still in bud. Most common, however, was beargrass (*Xerophyllum terax*) with its striking white flowering stems that were up to 5 feet tall and were covering the slopes. Not surprising, the area also contained *Corallorhiza maculata* and *C. striata* in prime condition. These *Corallorhiza* species are quite common orchids in these western forests. On my way back to Spokane airport 10 days later, I came back and explored a nearby moist area occupied by Red cedar and the adjacent roadside. This search yielded more of the same orchid species including flowering *Piperia unalascensis*, but also colonies of blooming *Listera convallaroides*, *Platanthera dilatata* and *Platanthera stricta*. On this day, however, Craig and I focused on finding the two lady slippers. It turned out that most plants of CYFA were already gone by and only two were still in decent shape. Good enough for me! The CYFA plants were spread out over several acres and grew in patches of typically 2-15 plants. They were hard to find, and I was lucky to have Craig with me who had surveyed and flagged the area and knew where to find the plants. Intermixed with CYFA were patches of CYMO. I had seen this combination before in Oregon and like Oregon, CYMO was still blooming while most of the CYFA plants had bloomed one or two weeks earlier. Some of the CYMO groups were quite spectacular, and I gladly filled the memory card of my digital camera with many, many images. This was a great day, thanks to Craig Odegard. Later in the afternoon, Craig had to leave and I continued my drive on I-90 into Missoula to find two essential things, a hotel and a steakhouse.

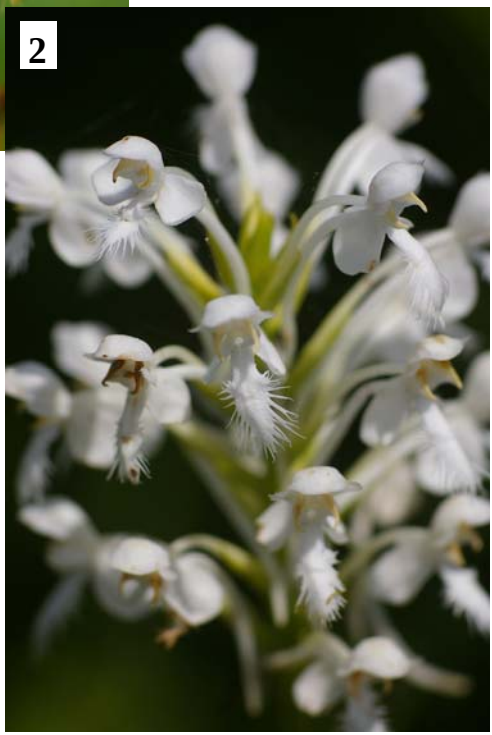
The next morning, I left early for a long drive to the eastern site of the Rocky Mountain Front Range near Choteau. This area gives you access to several sites for *Cypripedium passerinum* and *Amerorchis rotundifolia* along well-marked hiking trails. Both orchids are rare in Montana and have a preference for seeps on limestone-rich soils. My drive also passed through native grasslands near Augusta and Choteau, which offered great opportunities to observe numerous grassland birds that are difficult to see at other places. I decided to hike the Blacktail Gulch and Clary Coulee trails. According to my source, seeps with *Cypripedium passerinum* and *Amerorchis rotundifolia* could be found along both trails after hikes of about 0.8 and 1.1 miles, respectively. The

Figures to accompany 'Rediscovery of *Platanthera chapmanii* in Georgia' by Richard Carter (page 1). Images: Richard Carter.
Figures 1 and 2: *Platanthera chapmanii* in Camden County, Georgia.



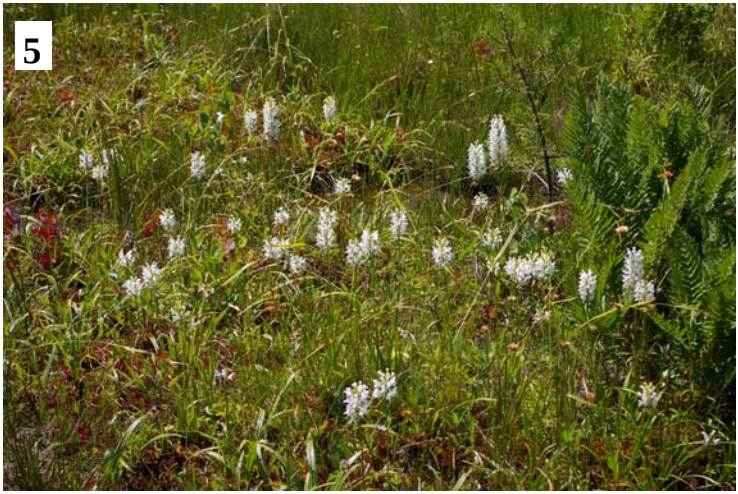


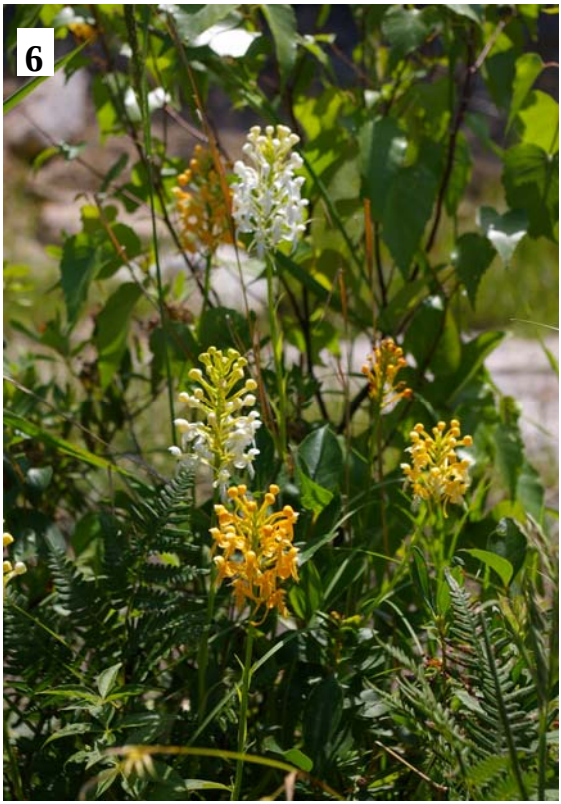
Figures to accompany ‘Powerline Platanthera’ by Mark Larocque (page 4). Images: Mark Larocque. 1. *Platanthera ciliaris*; 2. *Platanthera blephariglottis*.



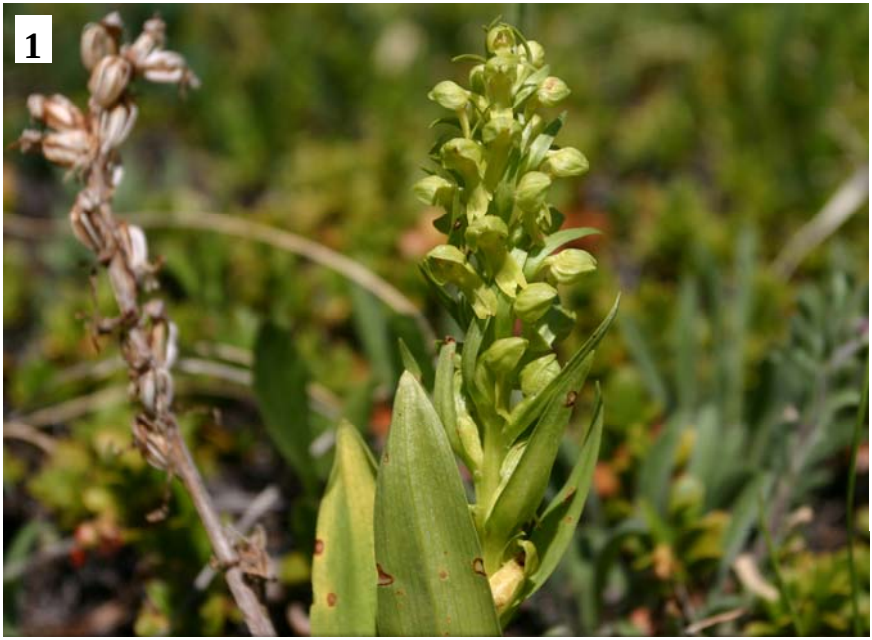
Figures to accompany ‘Powerline Platanthera’ by Mark Larocque (page 4). Images: Mark Larocque.
Figures 3 and 4. Different color forms of *Plantanthera ×bicolor*.

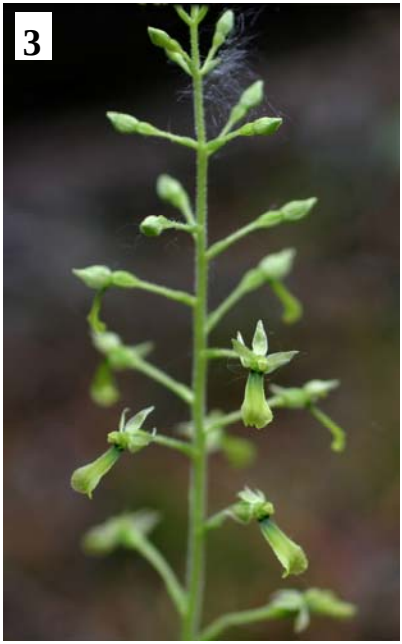
Figures to accompany ‘Powerline Platanthera’ by Mark Larocque (page 4). Images: Mark Larocque. 5. The habitat of *Platanthera blephariglottis*; 6. *Platanthera blephariglottis* and *Platanthera ciliaris* growing together.



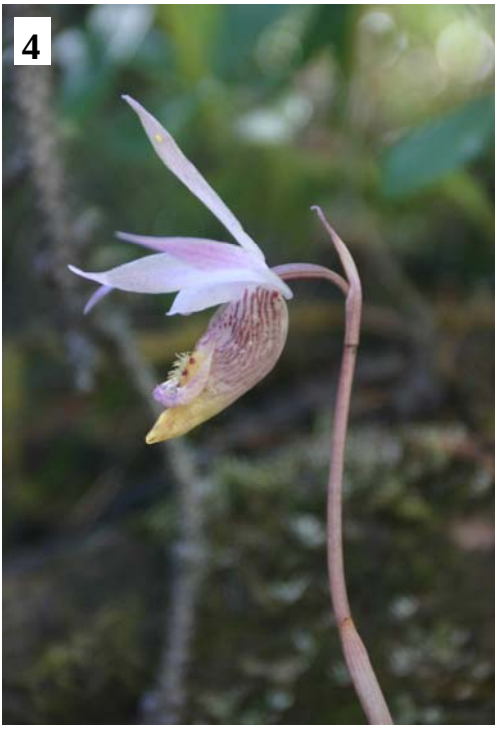


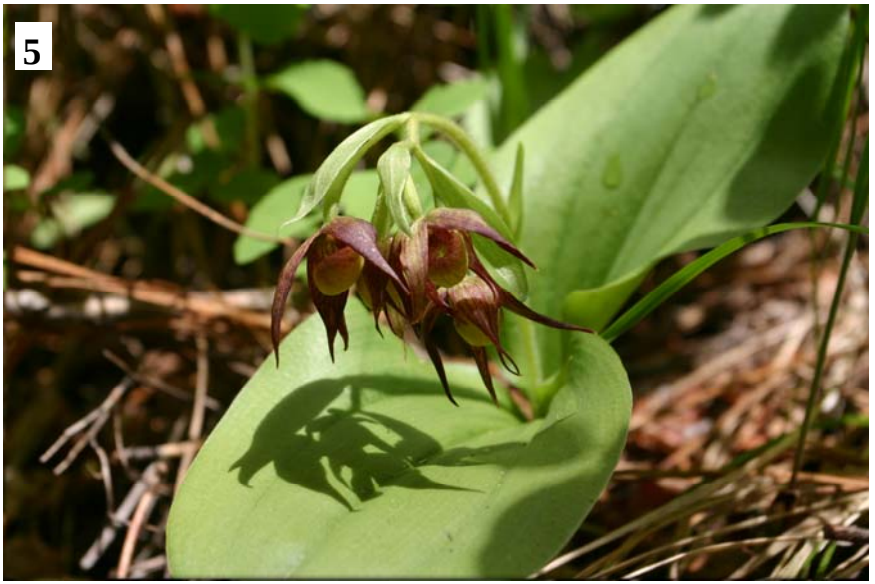
Figures to accompany ‘Orchids Under the Big Sky’ by Stefan Ambs (page 5). Images: Stefan Ambs. 1. *Coeloglossum viride*; 2. *Listera convallaroides*; 3. *Listera caurina*.





Figures to accompany ‘Orchids Under the Big Sky’ by Stefan Ambs (page 5). Images: Stefan Ambs. 4. *Calypso bulbosa*; 5. *Cypripedium fasciculatum*.





Figures to accompany ‘Orchids Under the Big Sky’ by Stefan Ambs (page 5). Images: Stefan Ambs. 6. *Cypripedium montanum*; 7. *Cypripedium passerinum*.

Figures to accompany 'A Hidden Jewel of the Deep, Dark Florida Swamps: Ghost Orchid (*Dendrophylax lindenii*)' by David McAdoo (page 17). Images: David McAdoo. 1. Flower of *Dendrophylax lindenii*, a leafless orchid species; 2. Root system of a plant of *Dendrophylax lindenii*.

colonies are relatively small with less than 50 blooming plants of each at the two sites. After about one mile of hiking, a wet area on Blacktail Gulch trail indicated that the seep could be close, and searching the downhill slope indeed quickly revealed the orchids. I was early, and none of the lady slippers had opened its flowers. There were two plants of *Amerorchis* in bloom, but as with *Cypripedium passerinum,* I was too early and most plants were still in bud. From here, I continued to the second orchid site along Clary Coulee trail. After a steep uphill hike with switchbacks, I had problems to find the seep at the expected location. Instead, the trail rewarded me with hundreds of blooming *CYMO* that existed here in a dwarf variety. Most dwarf plants grew on the sun exposed limestone slopes and were not more than 4-7 inches tall. Some plants were so small that the second flower could not get into its usual position and instead remained in a vertical position while blooming. The Clary Coulee trail no longer transversed the seep, and it needed an effort to find the old passage that was purposely hidden behind a pile of old logs and branches. Nevertheless, I managed to find my way and the seep. Again, I was too early and all the orchids were still in bud on June 19. Seven days later, I would return to this seep and find about 10 blooming plants of each *Cypripedium passerinum* and *Amerorchis rotundifolia*, together with several plants of *Platanthera obtusata*. That day, I will also find a single blooming plant of *Coeloglossum viride* var. *virescens* along the trail, and more CYMO, and *Corallorhiza trifida* and *maculata* in a wet and shady area nearby a creek. Clary Coulee turned out to be an excellent area for orchids. It is also grizzly bear country, as I was reminded by a well-armed passing family on horseback with additional large dogs for protection. On this second trip to this area, Anita and I decided to visit Our Lake, which is an alpine lake with a spectacular view of the area a few miles in distance from Clary Coulee. The hike to the lake is moderately strenuous, and at the end of June, required us to pass through a few snow fields that will disappear in early to mid July. This hike offered us glimpses of blooming *Listera caurina* and *Corallorhiza striata,* and a few CYMO in bud. It also provided us with the only encounter with *Calypso bulbosa* var. *americana* that was still blooming in a shaded area along the trail. We used our day trips into the Front Range not just to see orchids. Here, birding is excellent and visiting Benton Lake National Wildlife Refuge near Great Falls will reward you with great numbers of both grassland and wetland birds, some of them rarities that you will not see in this variety and number at any place else. Great Falls is a larger city and the commercial center of the area and can be used as a staging area for field trips into the Front Range and Glacier National Park to the north.

The Swan River Valley separates the Swan and Mission Ranges from the Front Range and the Bob Marshall Wilderness area. It is a favorite area for summer visitors because of natural beauty, magnificent views of the Swan and Mission Ranges, the numerous hiking trails that originate from here and give visitors access to the surrounding mountains, and the many lakes that dot this valley. It is perfectly situated for wildlife viewing and enjoyment of the outdoors includ-

ing fishing and hunting. Anita and I visited places in the valley several times during our stay in Montana. On this day, we decided to go to Holland Lake & Falls Recreational Area and hike from here up to the alpine Necklace Lakes. This hike became soon a challenge of endurance. The trail of choice, as it turned out, was steep all the way up and at 6000 feet, we started to get into snow fields which finally forced us to return to base without seeing the lakes. Moreover, the hike along Holland Lake was miserable because of an astonishing mosquito infestation that reminded me of visits to Everglades National Park during summer time. There would not be much good to report if we would have not seen orchids along the trail and several interesting bird species. After about a half mile, we discovered the first *Corallorhiza striata* in bloom, and between miles one and two, many blooming CYMO arose on both sides of the trail. There were also an occasional *Listera caurina* and *Piperia unalascensis* in bud. Perhaps, other orchids can be found in the area, but Anita and I did not want to spend that much time among our new friends, the mosquitoes. It should be mentioned that many of the wet roadsides in Swan River Valley had large populations of *Platanthera dilatata* and *P. aquilonis*.

Toward the end of our Montana vacation, Anita and I finally decided to visit Glacier National Park. The news reached us that the Going-to-the-Sun Road and Logan Pass were cleared of snow and debris and open for traffic. We left early and drove up to Logan Pass to beat the crowds. Much of the area was still covered in snow and a brisk cold wind called for a short stay. Nevertheless, the brief visit gave us magnificent views of the mountains, and of passing mountain goats and bighorn sheep. On our way back, we stopped at Avalanche Creek and Lake McDonald and hiked the trails along Avalanche and McDonald Creek, and Lake McDonald. This area is strongly influenced by a Pacific Northwest climate, making it moist and covered with an extensive Red cedar forest intermixed with Douglas fir, Lodgepole pine, birches, larches, and many other tree species. Within this forest and along McDonald Creek, we found numerous orchid species while Harlequin ducks were feeding among rock outcrops in McDonald Creek. *Listera cordata* and *L. caurina* were widespread in these forests, and so were plants of *Corallorhiza trifida*, *C. striata* and *C. maculata*. *Calypso bulbosa* was rather uncommon and past bloom. Rosettes and early spikes of *Goodyera oblongifolia* were a frequent sight. Two orchid species grew here that we had not seen at the other places in Montana. *Corallorhiza mertensiana* was flowering among the Red cedars at one occasion and *Platanthera orbiculata* was common along the McDonald Creek trail. Unfortunately, none of the *Platanthera* plants was flowering. It appeared that these plants would soon bloom in early to mid July, and we were just a few days too early to see the first open flowers. Roadside ditches along the Going-to-the-Sun Road harbored large colonies of *Platanthera dilatata* and *P. stricta*. On our way out from the Park, we stopped briefly near the Park entrance at West Glacier and looked around for CYMO. This area is known to have this lady slipper, but we failed to find any. Most likely, it was the result of a lack of ef-

fort because we had already seen this species at several other places and did not bother to search more extensively. We came back to Glacier National Park two more times in the following days. During the third visit, we did not spend time on orchids. Instead, we enjoyed the lodge at Lake McDonald with its selection of food and locally brewed beers.

Our trip to Montana ended with visits of Whitefish and Missoula and me driving back to Spokane. We had only one day of rain in a 12-day period and temperatures in the 70s during the day. Mid to late June is a perfect time for orchids at elevations below 5000 feet. Above it, and especially above 6000 feet, snow will be encountered and a visit of the higher mountains should be planned for not earlier than beginning to mid July. Of the 30 orchid species for Montana, we saw 20 on this trip (see photos of some of the species including dwarf plants of CYMO). While such a success would satisfy almost everybody, it seemed not enough for me. Arriving at Spokane airport, I boarded a flight to south Florida where I met Mark Larocque, Ron Coleman and others to see *Triphora* spp. and the Ghost orchid.

Note: Figures to accompany this article are on pages 11-13

A Hidden Jewel of the Deep, Dark Florida Swamps: Ghost Orchid (*Dendrophylax lindenii*)

David McAdoo
Kernersville, NC
ncorchid@yahoo.com

Ghost orchid! The name conjures up a vision of something white floating in the wind. Actually, that is exactly what you see if you are lucky enough to find an actual plant blooming in the middle of the deep, dark, and wild swamps of south Florida. The flower looks like a white frog leaping off the side of a tree. It is one of the North American flagship species of the Orchid Specialist Group. This international conservation organization is using the species to highlight the potential risk to the future safety of wild orchids in our region.

Dendrophylax lindenii (Lindley) Bentham ex Rolfe (Figures 1 and 2; page 14) was discovered in Cuba in 1844 and named after Jules Linden, the Belgian plant collector who found it. It was recorded in Florida about 30 years later and has gone through several name changes over the years including *Angraecum, Aeranthes, Polyrrhiza, and Polyradicion* to end up as a *Dendrophy-*

lax. This plant is a very rare species that ranges from Cuba and the West Indies into Florida. It is present in three counties at the southern tip of Florida – Lee, Hendry, and Collier. When it is not in flower, it is very difficult to find because it is a leafless epiphyte. Early in the life of the plant it has two tiny vestigial leaves that are shed as it matures. In addition to it being only a cluster of roots, it generally blooms in the Florida swamps in the middle of summer when mosquitoes are at their worst. You really have to want it to see this plant in the wild!

In the United States the plant became famous because of a book by Susan Orlean, *The Orchid Thief*, and the subsequent 2002 movie, "Adaptation," which starred Meryl Streep and Nicolas Cage. The story is about John Laroche who collected plants in the wild with the help of local Seminoles. Laroche attempted to benefit from laws exempting Native Americans from state regulations regarding collecting and propagating endangered species, specifically the ghost orchid.

Today it is a rare and fascinating sight to see the ghost orchid blooming. There were several freezes in south Florida in 1970's and 1980's that killed many of these plants. It is reported that there are probably less than 2,000 individual plants still residing in Florida's swamps. Of these, maybe 10% bloom each year, and of those that bloom only about 10% are pollinated. The pollinator is the rare giant sphinx moth, *Cocytius antaeus,* which has a proboscis long enough to reach the nectar in the long spur. Flowers can grow up to 9 centimeters wide (about 3.5 inches) and 13 centimeters long (over 5 inches) with a spur that is typically almost 13 centimeters long. The bulk of the plant consists only of flat green roots with distinctive "track marks." These white dashes on the roots allow the plant to be distinguished from the other two leafless epiphytes, *Campylocentrum pachyrrhizum* and *Harrisella porrecta*, that grow with it in the swamps.

If you ever get a chance to take a swamp walk into the Fakahatchee Strand Preserve State Park in south Florida, do not pass it up. Many people call this area the orchid capital of the United States because 43 species have been found there over the years. For the past several years I have had the opportunity to participate in an annual, rare-plant survey that is being conducted by Mike Owen, biologist at the Fakahatchee, and a team of his botanist friends. These surveys have been going on for the past 10 years and are systematically covering the swamp. The group spends a couple of nights camping out on some of the old railroad beds in different areas of the swamp and search for some of the "lost orchid" species and other rare plants during the day. This work has led to some exciting discoveries in past years. Probably the most remarkable was refinding *Cranichis muscosa* which had not been documented in the United States since 1908 (see "Lost for a Century," by Russell Clusman, November 2004 *Orchids*, pages 862–864). The prize find during these surveys is always the ghost orchid. In the Fakahatchee plants seem to prefer Pop Ash trees or an

occasional Pond Apple tree and are normally found from eye-level to a few feet higher. Because the surveys are conducted during the dry, winter season plants are not in bloom, but it is still exciting to find them because they are so rare.

For years Owen led swamp walks in the Fakahatchee and showed ghost orchids to people on the walks. He has stopped doing this because some folks came back after the walks and stripped plants off of the trees. The sad news is that these collected plants stand little chance of survival. Conditions in the swamp are hard for someone to replicate. The water in the swamp mitigates the high and low temperatures and creates very high humidity. Summer time brings daily showers and temperatures climb to more than 35^{o} C (90^{o} F), but the shade from the leafed-out trees and the standing water keep the plants much cooler. During the winter, temperatures are not as high and there is little rain at that time of year. The light levels are higher in the winter because of fewer leaves on the trees, but plants tend to grow on the north side of tree trunks away from the direct sun light.

In spite of Mike Owen not leading you to ghost orchids on his swamp walks, there are opportunities to see many of the other rare species that grow with it in the preserve. You might even find a ghost on your own. The swamp is home to *Cyrtopodium*, five *Epidendrum* species, an *Ionopsis*, two *Prosthechea* species, several *Vanilla* and many other orchid species along with rare Peperomea, ferns, and bromeliads. You have to be willing to get a little wet, but the chance of spying a rare plant in the wild is exciting and enough to make you forget that you are knee deep in swamp water.

This year there was quite a stir when an extraordinary *Dendrophylax lindenii* plant was discovered growing in the Audubon Society's Corkscrew Swamp Sanctuary outside of Naples, Florida. It bloomed in July with 12 flowers, a second time later in the season with 10 blooms, and a final time this year with three blossoms. Typically plants have one and rarely as many as four flowers. According to Mike this monster plant is by far the most floriferous plant that he has ever seen or heard of. Not only that but the height (almost 14 meters) up the tree where it bloomed was almost twice as high as he had ever seen a plant growing before. He has been searching for plants in his preserve for the past 10 plus years and has only documented about 300 individuals. Hopefully the Corkscrew plant will bloom again next year, and you will have an opportunity to see a ghost from the boardwalk without even getting your feet wet in the swamps!

Note: Reprinted with permission from *Orchids -- The Bulletin of the American Orchid Society*, July 2009.

END NOTES

NOC, Inc. 2010 Annual Conference
12 - 15 June, 2010, University of Alberta, Edmonton, Alberta, Canada

The 2010 Native Orchid Conference will be held from June 12-15th, based in Edmonton, Alberta, Canada. The informal theme of the meeting will be "Native Orchid Conservation: Making a Difference". Some of the main issues facing native orchids in Alberta include rapid development and land-use changes, recreational use of lands, relatively-little legal protection for native orchids, and long-term change in climate. Despite numerous obstacles, there are some good things taking place, including small-scale volunteer-based conservation groups all the way to Federally-protected national parks. Presentations are invited dealing with all aspects of native orchids, and hopefully we can celebrate some of the worldwide success-stories in native orchid conservation.

There will be a slight change in the conference format this year, with the conference lectures being held over two days before heading out of town for two days of conference field trips. Lectures and displays will be hosted at the Lister Centre at the University of Alberta Conference Centre on June 12th and 13th. On June 14th we will depart Edmonton, and head 20 km west to the internationally-known Wagner Natural Area – to visit some of the 16 species of native orchids found within there. After spending the day in and around the Wagner Area, we will head 200 km west towards the foothills of the Rocky Mountains and overnight in Edson, Alberta. On June 15th, we will visit sites in/around Edson, Hinton, and Jasper. Attendees then have a number of options of either returning to Edmonton; staying in Jasper; heading to Banff; or traveling on to sites in British Columbia.

Orchids we expect to see include the following:
Cypripedium parviflorum complex (Wagner and elsewhere, peak blooming time)
Cypripedium passerinum (Wagner and elsewhere, just before to peak blooming time)
Amerorchis rotundifolia (Wagner and elsewhere, peak blooming time)
Calypso bulbosa (Foothills, peak to past blooming time)
Platanthera hyperborea complex (almost everywhere, just before to peak blooming time)
Platanthera obtusata (almost everywhere, just before to peak blooming time)
Coeloglossum viride (almost everywhere, just before to peak blooming time)
Corallorhiza trifida (Wagner and elsewhere, past blooming, possible in Foothills)
Listera cordata (Wagner and elsewhere, past blooming, possible in Foothills)
Corallorhiza maculata (Wagner area and elsewhere, just before to peak blooming time)

Registration will be limited to the first 100 people and will commence in March. For further information, please contact: Ben Rostron; Ben.Rostron@Ualberta.ca; 780-492-2178 (work); 780-434-3839 (home).

The Native Orchid Conference, Inc.
P.O. Box 29010
Greensboro, NC 27429-9010

Web Sites: http://nativeorchidconference.org/
http://www.nativeorchidconference.org/NOCJournal.html
http://groups.yahoo.com/group/nativeorchidconference/

Policies for obtaining back issues of the NOC Journal

⇒ New subscribers shall receive all issues published within the year they join Native Orchid Conference.

⇒ Contributing authors can request up to 2 free copies of the Journal at the time their article is accepted. Copies requested at a later date or requests for additional copies will be charged at $5.00 each.

⇒ Back-issues are available in limited quantities. Each issue may be purchased for $5.00 while supplies last.

⇒ Inquiries concerning orders for back-issues of this journal should be addressed to the Treasurer: Christine Fleissner, NOC, Inc., P.O. Box 29010, Greensboro, North Carolina 27429-9010, USA; nativeorchids@yahoo.com