



Sego Lily

Newsletter of the Utah Native Plant Society

Spring 2016
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Duchesne penstemon (*Penstemon duchesnensis*) is a dwarf, perennial penstemon restricted to the Uinta Basin in Duchesne County, Utah, where it grows on barren, gravelly bluffs. As discussed in Ty Harrison's article starting on page 6, Duchesne penstemon is threatened by energy development and home-building within its narrow range. The species was recently upgraded from the Utah Native Plant Society's "Watch list" to "High priority" for conservation attention due to heightened threats and downward trend data. It is one of 180 native plants recently identified by the UNPS Rare Plant Committee as being of Extremely High or High conservation concern (download the May 2016 edition of *Calochortiana* from the UNPS website, www.unps.org, for more details). Despite its rarity, Duchesne penstemon has no official legal protection. Conservation of this species will require the cooperation and dedication of private landowners and groups such as the Utah Nature Conservancy and UNPS. Photo by Tony Frates.

Utah Native Plant Society



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Sego Lily Editor: Walter Fertig (waltola64@gmail.com). The deadline for the Summer 2016 *Sego Lily* is 30 July 2016.

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Utah Native Plant Society Chapters

Unidentified Flowering Object

This month's UFO comes from the normally unflappable Bill Gray, who was initially perplexed when he submitted the image in May. Bill took the photo in the southwest corner of the Salt Lake Valley. He observed that the flower had 5 stamens attached to the corolla and a three-parted style. Can you tell what it is?

The Winter Unidentified Flowering Object was Pinyon-juniper lousewort (*Pedicularis centranthera*) photographed by Jeff Lauersdorf near Escalante, Utah. This species has traditionally been included in the Scrophulariaceae, but has recently been moved to the Orobanchaceae with other fully and partially parasitic plants with irregular flowers. Congratulations to Scotty Smith of Denver for being the first person to correctly identify the image.

Have a UFO to share? Send it in! - *W. Fertig*

Bulletin Board

Salt Lake Chapter Meetings: Monday, July 4: Raven Reitstetter will lead a trip to the NEON and SAGESTEP sites which are part of long-term ecological studies described by Maria Gaetani at our February UNPS meeting. Meet at the junction of SR 73 and SR 36 (this is near Rush Valley) at 8:30 AM. We will continue on to the NEON site and then the SAGESTEP study area. If interest and time allow, we can continue on to a couple of juniper removal sites via Lookout Pass and will return to the meeting point in the afternoon. Contact Raven (raven.reitstetter13@alumni.colostate.edu) for more information.

Saturday, July 9: Tony Grove (Logan Canyon) field trip. Leila Shultz will be organizing this trip to one of the premier wildflower sites in northern Utah. Contact Bill Gray for additional information (cyberflora@xmission.com) - Bill Gray

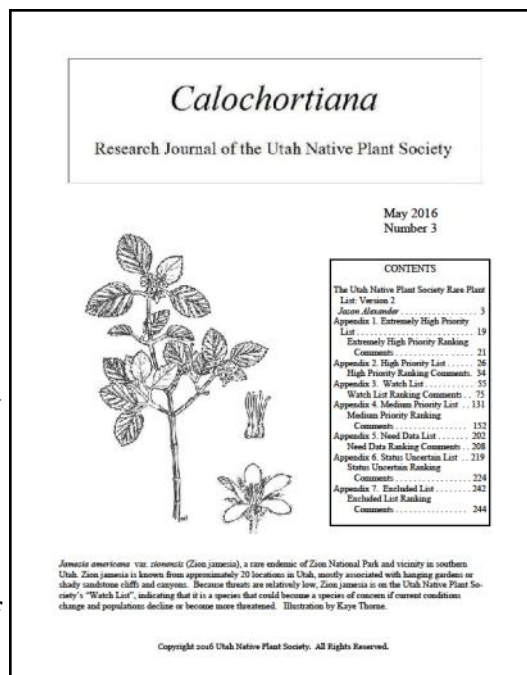
Cedar Breaks Wildflower Festival: The annual Cedar Breaks Wildflower Festival will take place from July 2-17, 2016, at Cedar Breaks National Monument, high atop Cedar Mountain east of Cedar City. Local wildflower experts will lead guided hikes at 10AM and 3 PM each day starting at the Point Supreme Visitor Center/ parking lot (hikes usually go to Spectra Point or the Alpine Pond Trail at Chessman Overlook). The hikes are free, but there is an admission fee to the monument. Checklists with information on what is in bloom are available at the fee station or visitor center. Cedar Breaks also has a colorful wildflower app available for download from the internet.

Canyonlands Chapter News: Saturday July 16—La Sal Alpine Tundra Plants trip. Bruce Condie and Sarah Topp will lead a moderate to strenuous hike starting at the Geyser Pass Trailhead and continuing to Colorado Bowl. For more information on car-pooling, the days itinerary, and recommended provisions, email Sarah at scarletgilia@hotmail.com or phone/text 259-0193.

Calochortiana # 3: The third edition of the Utah Native Plant Society Technical Journal, *Calochortiana* is now available for free download as a pdf document from the UNPS website (www.unps.org). This issue features a revision of the UNPS Rare Plant Committee's "Rare Plants of Utah" list by Jason Alexander, chair of the Rare Plant Committee. *Calochortiana* # 2, featuring a key to the flora of Zion National Park, was published in December 2015 and is also available from the UNPS website for free.

Have a botanical meeting or chapter event to publicize? Send announcements to the editor.

In Quotes: " I don't want to come off as arrogant here, but I'm the greatest botanist on this planet" - Astronaut and botanist Mark Watney (portrayed by actor Matt Damon) referring to his botanical exploits on the planet Mars in the 2015 film *The Martian*. In February 2016, Bucknell University botanist Chris Martine proudly described a new species in the potato family (Solanaceae) that he named *Solanum watneyi* in honor of the fictional astro-botanist. This species, known as bush-potato, grows on red soils in Northern Australia that bear a resemblance to the red planet of Mars. Martine is hoping to capitalize on the notoriety surrounding the movie to build interest in the real-world study of plants.



Botanica: Odds and Ends from the World of Botany

By Walter Fertig

A New Use for Cactus Spines. Anyone unfortunate enough to sit on a cactus or grab one to break their fall knows painfully well that the primary function of spines is to prevent large, clumsy organisms from eating or damaging succulent stems or pads. Cactus spines are modified leaves that have forgone photosynthesis to provide protection to their bearer. In addition, spines can help shade the stems and trap air near the surface to reduce evaporation and transpiration. Despite their relatively small size, cactus spines have a high surface to volume ratio. In foggy weather, spines can form a surface for water droplets to condense. Once captured, water droplets are shunted from the pointy tip of the spines towards its broader base and then down the stem to the ground, where the precious moisture can be absorbed by the cactus' shallow roots.

This latter attribute has caught the attention of bio-engineers interested in cleaning up oil spills from leaking tankers or uncapped wells. When mixed with sea water, oil tends to break into dense, microscopic droplets that sink below the surface and disperse widely. Such droplets are beyond the reach of surface skimmers and booms. Researchers in China are experimenting with arrays of synthetic cactus spines that have the potential to capture and aggregate microscopic submerged oil droplets.

Preliminary results have been promising. Oil droplets condense on cactus-shaped spines underwater and are rapidly transferred to the base of the spines where they can accumulate and be sucked up by a tanker. An array of synthetic cactus needles as small as 0.3 x 0.3 m could potentially clean 1 liter of oil-contaminated water per second. Whether the oil cleaning properties of cactus spines can be ramped up to industrial scales, such as the enormous area impacted by the Deepwater Horizon spill in the Gulf of Mexico, remains to be determined.

Reference: Wong, J. 2013. Synthetic cactus needles could clean up oil spills. ScienceNOW. American Association for the Advancement of Science.

How Prevalent are Plant Misidentifications? We all have done it at least once—misidentified a voucher specimen deposited in our favorite herbarium. Despite the many resources available (field guides, technical keys, on-line keys and images) identifying plants can be tricky and mistakes happen—even to professional taxonomists. A recent review of world herbaria, however, suggests that error rates in plant identification may be much higher than commonly acknowledged, with serious consequences for research and conservation.

Dr. Robert Scotland and colleagues from Oxford University and the Royal Botanic Garden Edinburgh, published a provocative article in 2015 suggesting that more than 50% of tropical plant specimens in the world's leading herbaria are misidentified or labeled with an outdated name. The researchers reached this conclusion by analyzing 4500 specimens in the African ginger genus *Aframomum*. Using a 2014 monograph of the genus as a benchmark, the team found that 58% of the specimens were misidentified, determined only to genus, or had an outdated (or synonymous) name. Similar results were obtained with digital records for *Ipomoea* (sweet potato) and trees in the Dipterocarpaceae. The main cause of error was a lack of modern monographs of many genera, the rapid increase in number of collections in the past half century, and a lack of expertise to review so many specimens.

Critics of the study have pointed out that synonyms are not equivalent to misidentifications, especially since multiple validly published names may exist for a given taxon. Error rates are also probably lower for better known plant species of temperate regions. Increased digitization and imaging of the world's herbaria could reduce the amount of error by making specimens more readily accessible to experts. But diminishing employment opportunities for taxonomists and fewer students entering the field may make errors more commonplace in the future.

Reference: Goodwin, Z.A., D.J. Harris, D. Filer, J.R.I. Wood, and R.W. Scotland. 2015. Widespread mistaken identity in tropical plant collections. *Current Biology* 25 (2):1066-1067.

Star Lily

By Walter Fertig



Above: Star lily (*Leucocrinum montanum*) in flower at Bryce Canyon National Park. Photo by Bill Gray

The Star lily (*Leucocrinum montanum*) can easily be recognized by its star-shaped white flowers with elongate tubes that appear to grow directly from the center of a basal rosette of narrow, grass-like leaves. The flowers seem to have six petals, but technically these are a set of three petals alternating with three sepals. When petals and sepals are identical taxonomists refer to them as tepals (a clever anagram of the word petal). Many members of the lily family and their relatives are characterized by tepals, including onions (*Allium*), camas (*Camassia*), lilies (*Lilium*) and hyacinths (*Hyacinthinus*).

Star lily is the only species in the entire genus *Leucocrinum* and is restricted to prairies, sagebrush grasslands, deserts, and mountain meadows of western North America from Oregon to South Dakota south to California, Utah, and New Mexico. Traditionally, Star lily has been placed in the lily family (Liliaceae), but over the past decades taxonomists have been busily deconstructing this amorphous group into numerous, more natural

families. Unfortunately, a consensus of views has not yet emerged. Frequently *Leucocrinum* is placed in the Anthericaceae, a family with mostly tropical species. More recently, genetic studies suggest a strong relationship with the agaves and yuccas in the Agavaceae (now renamed the Asparagaceae!). Future research may place the species elsewhere.

One of the more unusual traits of the Star lily is that once flowering is completed in late May or June, the entire above-ground part of the plant withers away. Only the ripened fruit pod remains and is buried underground among the fleshy, finger-like roots. How these fruits distribute their black seeds is something of a mystery. Some authors have suggested that the seeds are released when the sandy or loose rocky surrounding soil weathers away, while others believe the seeds are literally pushed out of the soil by new bud growth the following year. South Dakota botanist Dave Ode offers a more likely explanation in his recent book *Dakota Flora*: ants or other insects find the buried seeds and transport them away from the parent plant, replanting them elsewhere in the process.

It was the best of times (searching for rare *Penstemons* in central and northeastern Utah), it was the worst of times (seeing so many populations impacted by human activities). It was ...

A Tale of Four Rare Utah Penstemons

By Ty Harrison, Emeritus Professor of Biology, Westminster College

The Tushar penstemon. On June 21, 2016 the Utah Native Plant Society Fremont Chapter hosted the 2016 Penstemon Festival with a field trip to a local site called Devil's Dance Floor. This site is known to have a population of Tushar penstemon (*Penstemon tusharensis*), a local endemic named by Noel Holmgren in 1979. A synonym for the Tushar penstemon is *Penstemon caespitosus* var. *suffruticosus*. The species was thought to only occur in the Tushar Mountains (the type locality) and on the Sevier and Markagunt Plateaus, but appears to be at least somewhat more widespread than previously thought.

An easily accessible area to see the plant is 7.8 miles west of Fremont Indian State Park, where the paved road to Cove Fort crosses the famous Paiute ATV Trail. Follow the Paiute ATV trail 2.8 miles to arrive at Devil's Dance Floor. A more accurate GPS location is Lat. 38.616535°, Long. -112.454585° at 7187 ft, elevation. This species was not known from Sevier County until fairly recently and occurs here at an elevation some 1,000 ft. lower than previously known in Utah.

The Tushar penstemon only grows to about 6 inches in height and is slightly woody at the stem base. The short plants have small, pale green, oval shaped leaves. The plants were all in bud, but I found one light blue flower growing over a warm rock. Flower color can range from blue to blue-violet. The locality is in a flat saddle, very xeric, and on volcanic bedrock blown free of soil by winter storms. Twenty four species were in flower at this time including multi-colored Desert paintbrush (*Castilleja chromosa*), Prairie Smoke or Old Mans beard (*Geum triflorum*), Bicknell milkvetch (*Astragalus consobrinus*), a Utah endemic with tiny, long purple flowers and hairy pods, Nuttall's clover or Dwarf clover (*Trifolium gymnocarpon*), Yellow milkvetch (*Astragalus flavus*) and the Nipple cactus (*Escobaria vivipara*) with its yellow-pink flowers. The other species in bloom were the common spring flowers also found in the Wasatch foothills. But unlike the Wasatch, there is a noteworthy occurrence of Blue grama grass (*Bouteloua gracilis*) in the dry,



Above: Tushar penstemon (*P. tusharensis*) by Charmaine Delmatier from the Utah Rare Plant Field Guide (www.utahrareplants.org).

gravelly soil. It was clearly waiting patiently for the summer monsoon thundershowers.

During the Penstemon Festival dinner that evening, I met Drs. Noel and Pat Holmgren who told me where I could go to see three other, even rarer species of Utah penstemons on my way back home to the Wasatch--- my own personal Penstemon Festival. I took their advice and spent two more days searching out locations for the Price penstemon (*Penstemon marcusii*) which was named for the famous botanist Marcus Jones, the Flowers' penstemon (*Penstemon flowersii*) named for my favorite University of Utah botanist Seville Flowers, and finally the Duchesne penstemon (*Penstemon duchesnensis*, syn. *P. dolius* var. *duchesnensis*) which grows only in Duchesne County.

The Price penstemon. Noel Holmgren told me to visit the type locality for the Price penstemon or Marcus's beardtongue at the Price Cemetery. Here it grows only in the eroding soil of the blue clay Mancos Shale Formation in Carbon and Emery Counties. I was dismayed to find the locality east of the old cemetery almost totally destroyed



Above: The Price penstemon (*Penstemon marcusii*) growth habit (left) and flower close-up (right). Below: Habitat of Price penstemon on eroded Mancos Shale at "Jerry's Point". All photos by Ty Harrison.

by a new city park and BMX facility. Another important botanical locality bites the dust! Not giving up, I explored the Mancos Shale badlands east of Price along what is known as Airport Road. I found a new locality on a high bluff called "Jerry's Point," so named on a welded metal sign lying along a deer trail leading up the slope. The first Price penstemon I saw was in full flower near a bulldozed parking area behind the Price Mine Supply Company building on the south side of Airport Road. This area is apparently the type locality for the species first named by Keck for the famous western botanist Marcus Jones*. The Price penstemon was initially named by Keck as a variety of the Moffat penstemon (*Penstemon moffatii* var. *marcusii*) another Utah endemic species with a slightly larger distribution. The Price penstemon was later recognized as a distinct species by Noel Holmgren and, according to the NRCS Plants Data web site, it occurs only in Carbon, Emery, and more recently, Wayne Counties. It has a closely related endemic species, the Goodrich penstemon (*Penstemon goodrichii*) just to the north in the Uinta Basin in Duchesne and Uintah Counties.

*The life and works of Marcus Jones were described by William King, William Gray and Walter Fertig in the November 2011 issue of the *Sego Lily* (volume 34 number 6).

The flora of the Mancos Shale badlands was especially lush this year due to favorable spring storms. Interesting species in flower include the Pretty buckwheat (*Eriogonum bicolor*), Cisco woody aster (*Xylorhiza venusta*) a Colorado Plateau endemic, Castle Valley saltbush (*Atriplex gardneri* var. *cuneata*), and Mat-saltbush (*Atriplex corrugata*). Surprisingly, the state flower (*Calochortus nuttallii* - or a possible western range extension of *C. ciscoensis*?) was in full bloom on these Mancos Shale badlands. This privately owned parcel on an elevated bluff in east Price City needs protection to compensate for the bulldozed Price Cemetery site. The City of Price should be proud of an endemic Penstemon named for the city as well as a famous western botanist.



The “Flowers” penstemon. Noel Holmgren showed me on a map where he first saw what would be named Flowers’ penstemon, by Utah botanists Elizabeth Neese and Stan Welsh. The Holmgren collection of many years ago was still clear in both Noel and Pat’s mind as being immediately east of the Myton Cemetery, along a road and across a pasture fence with an access ladder (a stile). The fence-ladder was especially memorable to Pat Holmgren and I was directed to watch for it. According to correspondence between Tony Frates and Noel Holmgren, Rupert Barneby of the New York Botanical Garden was accompanying the Holmgrens on a collecting trip to Utah when they saw this unique, pink-flowered Penstemon from the road (it was not however the earliest collection of the species). Well, I searched up and down the county road east of the cemetery, and all around the cemetery itself, and even up a steep dirt road on top of the isolated river bluff above the cemetery. No luck seeing any pink penstemons.

Not giving up, I spotted a badlands area approximately two miles northwest of Myton. Driving on a county road I found the eroding badlands of the Uinta Formation surrounding a map feature called Flattop Butte, with various communication

towers and aerials sprouting out of its top. It was surrounded by a plethora of haul roads, oil wells, oil storage tanks and pipes, newly built barbwire fences, and worst of all, NO TRESPASSING signs. Undeterred*, I pulled off the road near a cattle guard and walked up a reddish sandstone ridge which topped the eroded gray clay badlands below Flattop Butte. In the warm, waning evening light, I saw my first Flowers’ penstemon, only 50 yards from my parked RV. It was beautiful! I’ve seen blue, purple, orange and red penstemons, but never a pink one. It was nestled in a small ravine of eroding gray, sandy clay and in full flower. Its large pink flowers contrasted nicely with the fleshy, gray leaves clustered around its base. Rain-fall had been nice to the Flowers’ penstemon this past year. These badlands only receive an average of 6 inches. Based on the number of plants flowering, their size, and the number of new seedlings from prior years, It was clear that 2016, and probably the year before, had been a banner years for establishment, growth and flowering. 2016 should be a good year for seed set. I estimated a population count of approximately 500 plants growing on the south side of Flattop Butte on both sides of the new, oil haul road.

No one knows how long this penstemon’s seeds can lie dormant, waiting for a spring rain storm event of possibly over ½ inch, sufficient to leach germination inhibitors out the dormant embryo. And then additional precipitation was needed to

Below: Flowers’ penstemon east of Flattop Butte, 2 miles NW of Myton, UT. Photos by Ty Harrison.



get the seedling established. This is well understood for the warm season and cool season desert annuals of the Mojave and Sonoran Deserts, but we understand very little about what controls episodic germination events for isolated populations of these edaphically restricted perennial penstemons. We need a great deal of research to truly understand the evolution and ecology of this species named for my undergraduate mentor.

The Duchesne Penstemon. The next day I traveled north from Price and down Indian Canyon toward Duchesne to see the narrow endemic Duchesne penstemon where Noel Holmgren told me it could be found at the east end of town where a road crosses the Duchesne River. I found that the place he indicated on my map was on the edge of a high gravelly bluff, overlooking the city and river and was a veritable cactus garden among the erosion-rounded, cobble-size stones of the Duchesne River Formation. In flower were the Claret cup (*Echinocereus mojavensis*), and the common Whipple's fishhook cactus (*Sclerocactus parviflorus*, syn. *S. whipplei* var. *roseus*). The Prickly pear (*Opuntia* sp. dry-fruited hybrids) and Harriman's yucca (*Yucca harrimaniae*) were not yet flowering. But no Duchesne penstemon! The flat behind the bluff's edge had ominous stakes, survey markers and bulldozer tracks. It will soon be home sites with "view lots". Another Holmgren penstemon locality bites the bulldozer's dust. Not giving up, I searched the mesa-like bluff line leading north out of town, looking for pinyon and junipers which seem to be associated with the boulder and gravel-loving Duchesne penstemon. Less than a mile away to the northwest I found this elusive, small penstemon growing happily among the rocks and P/J, together with the dark pink-flowered Whipples fishhook cactus at lat. 40.173476°, long. -110.421317°. Success!!! This diminutive penstemon, not over 3 inches tall, had beautiful bright blue flowers with a lavender tinge, over an inch long, disproportionate for the size of the plants, much like some alpine tundra flowers.

And to top it all off, I saw a bumble bee emerge from one of the large flowers. He moved too fast to get a count of the orange abdominal stripes which can be used to identify Utah's bumble bee species. See this web site *How To Identify Bumble Bees of Northern Utah* for an excellent bumble bee identification chart (www.ars.usda.gov/Research/docs.htm?docid=10749). In the distance to the west, across the Duchesne River I could see more P/J terrace-bluff penstemon habitat crying



Above: *Duchesne penstemon* by Ty Harrison

for exploration and documentation. But it was getting late in the day, and I needed to be home by evening. More Penstemon hunting will have to wait for next year.

Standing on the Duchesne River bluffs with the tiny Duchesne penstemon at my feet, I marveled at the big-picture story of these four rare and endemic Utah penstemons. How did they come to be here? What are their evolutionary stories? What are their co-evolved pollinators? How do they tolerate the extreme conditions of dryness, salty gypsum soils or wind-blasted winter exposure? There are PhD dissertations waiting to be done here.

The big question is whether we can protect the isolated populations of these rare flowers, growing mostly on private lands and facing the threats of future oil and gas development as well as off-road recreation vehicles. Once back home, I immediately contacted Tony Frates, who is our UNPS "go-to" person for Utah's rare species. He reminded me that he had summarized information both *Penstemon flowersii* and *P. duchesnensis* at the March 9, 2010 UNPS co-sponsored Utah Rare Plant Conference in Salt Lake City, which I had missed. He sent me the document as well as a new monitoring study which The Nature Conservancy has funded for *Penstemon flowersii*, named in honor of my old University of Utah professor. I read both documents immediately, and felt better that our organization and TNC were playing an important role in protecting and understanding some of these rare Utah Penstemons. But I think more can be done. What of the poor Price Penstemon? Who is studying it? Hopefully, not all of its Mancos Shale badlands habitat will be destroyed by energy development and recreation vehicles like I saw happening around Price. Does it need protection together with its interesting Mancos Shale partners?

Grow This:

Wetland Gardens

By Robert Dorn (Adapted from *Castilleja*, publication of the WY Native Plant Society, March 2016)

Wetland gardens range from subirrigated upland sites to open water whether flowing or stagnant. Often both subirrigated upland and open water are part of the garden. Sedges and rushes are usually dominant on the upland portion but intermixed with flowering forbs. Flowing water will support the fewest showy species such as *Ranunculus aquatilis*. The four examples which follow are for upland sites or stagnant water.

Swamp milkweed (*Asclepias incarnata*) grows to 5 feet tall and 1 foot wide. The leaves are opposite, to 6 inches long and 1.5 inches wide. The flowers are pale to bright rose-pink, to 0.4 inches long, and arranged in dense umbellate clusters of up to 40 flowers at the tips of stems and branches. They appear from June to August. The plants occur naturally in swampy areas of plains and basins. They prefer full sun and silty or clayey, wet to moist soils. It can be grown from seed, either planted in the fall, or in late spring after at least 30 days cold stratification. Seeds may be slow to germinate as they prefer 80 degree days and 60 degree nights. It is easier to propagate from root-stalk divisions. It may take two years to reach blooming size. There are several cultivars in the nursery trade.



Above: Swamp milkweed (*Asclepias incarnata*) from Carbon County, Montana. Photo by R. Dorn.



Above: Spotted Joe-pyeweed (*Eupatoriadelphus maculatus*) from Platte County, Wyoming. By R. Dorn

Spotted Joe-pyeweed (*Eupatoriadelphus maculatus* or *Eutrochium maculatum*) grows to 5 feet tall and 1.5 feet wide. The leaves are whorled with 3 to 5 at each node, lance-shaped, and to 8 inches wide. The flowers are white, pink, or lavender, tiny, but in many flower heads densely clustered at the stem tips. The involucre bracts and exerted styles add a pink-lavender color. They appear from July to September. The plants occur naturally in moist to wet places in plains, basins, and mountain foothills, often along streams. They prefer full sun to light shade and moist to wet loamy soils. It can be grown from seed sown outside in the fall when the substrate is constantly moist. Barely cover the seeds with soil. It can also be grown from rootstalk divisions taken in the fall and replanted with the crown just below the soil surface. There are several cultivars in the nursery trade.

Yellow waterlily (*Nuphar polysepala*) grows in still or very slow moving water up to 6 feet deep. The leaves are oval with a deep notch at the base, up to 15 by 18 inches, and float on the water surface or are held just above the water. They appear



from May to August. The plants occur naturally in shallow lakes, ponds, and sluggish streams in the mountains. They prefer full sun and silty bottoms of lakes and ponds. Yellow waterlily will not survive in shallow ponds that freeze to the bottom. They are rhizomatous and can be aggressive and take over a pond. To avoid this, grow them in large submersed tubs down 2 to 3 feet. They can be grown from rhizome cuttings or from seed that is first scarified and planted in soil under water in late fall below the freeze line. It is also in the nursery trade.

Water ladysthumb (*Polygonum amphibium* or *Persicaria amphibia*) has creeping or floating stems to 2 feet long. The leaves are elliptic or lance-shaped, to 6 inches long and 2.5 inches wide and often floating when in water. The flowers are pinkish-rose, tiny, but in dense, crowded, oblong to ovoid clusters at tips of stems, the clusters up to 3 inches long and held upright above the water or mud. Water ladysthumb appears from July to October. The plants occur naturally in shallow ponds, wet meadows, and on stream banks and shores in plains, valleys, basins, and mountains. They prefer full sun in a shallow pond or muck along a shore or in a very wet meadow. They will tolerate drying after blooming but may not bloom every year. Variety *emersum* can be grown in moist upland areas rather than very wet conditions. They can be grown from seed sown outdoors in wet mud or from rhizome cuttings. It is also in the nursery trade.

Above: Yellow waterlily (*Nuphar polysepala*) from Fremont County, Idaho.

Below: Water ladysthumb (*Polygonum amphibium*) from Albany County, Wyoming. Both photos by R. Dorn



Utah Native Plant Society



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Return Service Requested



If you have a smart phone you can enter the UNPS website via the QR at left. At the UNPS website you can access the *Sego Lily* in color, download past issues, read late breaking UNPS news, renew your membership, or buy wildflower posters, cds, and other cool stuff at the UNPS store. If you don't have a smart phone, you can still stare at the QR and try to find the hidden pony.

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