

# Sego Lily

Newsletter of the Utah Native Plant Society

VOLUME 27 , ISSUE 4

JULY / AUG 2004

## BIOLOGISTS MOVE TO PROTECT MOJAVE RARE PLANT HABITAT

ST. GEORGE – The Center for Biological Diversity (Center), Utah Native Plant Society (UNPS) and Southern Utah Wilderness Alliance (SUWA) today noticed the Bush administration Interior Dept. – Fish & Wildlife Service (FWS) of an intent to sue over their failure to designate critical habitat and to implement a recovery plan for two endangered Mojave Desert plants, the Holmgren milkvetch and the Shivwits milkvetch, as required by the Endangered Species Act (ESA).

Initially discovered in 1941 but not rediscovered again until 1979, the rare Holmgren milkvetch (*Astragalus holmgreniorum*, named in honor of Drs. Noel and Patricia Holmgren and also known as Paradox milkvetch), and the Shivwits milkvetch (*Astragalus ampullarioides*, also known as Shem milkvetch, in reference to a site where the species was first found in 1976) were both listed as endangered species by FWS on 9/28/01, under an agreement with the Center. Both species occur only in Washington County near sprawling St. George, Utah (except for a small area just over the state line in Mohave County AZ historically occupied by the Holmgren milkvetch, but the plant may now be extirpated there).

The Holmgren milkvetch is known from only three populations. The primary population exists within a limited area south of St. George along the Utah-Arizona border. The remaining plants in the primary population are seriously threatened by a proposed interchange that would connect I-15 to the proposed Southern Corridor highway, as well as urban sprawl planned by the state of Utah, and other habitat loss that would follow the highway.

The Shivwits milkvetch is known from only five sites. Most habitat at one site that formerly harbored several hundred plants was nearly destroyed by recent golf course development. Both species are also threatened by non-native invasive plant species, off-road vehicles, mining, and livestock grazing.



Holmgren milkvetch, a Mojave Desert member of the Pea Family, has attractive white-tipped purple flowers.



Holmgren milkvetch plants only live for 2-3 years and need specialized habitat.



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Habitat destruction is the primary threat to both of these endemic species. “These species are truly in peril. Critical habitat designation will add significant strength to the mitigation of future impacts,” said Dr. Renee Van Buren, a Botanist with Utah Valley State College who specializes in endangered species.

A primary purpose of the ESA is to provide a mechanism so that “...the ecosystems upon which endangered species and threatened species depend may be conserved...” These species are severely restricted geographically, just as if they were living on islands. Typically rare plant species have adapted to specific soil types and microenvironments outside of which they cannot survive. This includes a complex association with other living things not the least of which are typically ground nesting, solitary native bees (rare plants usually do not self-pollinate).

FWS’ own data proves that endangered plants & animals with critical habitat are less likely to be declining, and twice as likely to be recovering, than those without. Yet, only 37% of endangered wildlife in Utah has critical habitat.

While not the case for most of Utah’s 24 federally listed plant species, the Holmgren milkvetch and the Shivwits milkvetch each included a critical habitat proposal when listed. Yet 2½ years after listing, FWS still has not designated critical habitat or finished recovery plans for the two species as required by U.S. law. Private landowners are not affected by the federal listing of plant species, nor the designation of critical habitat.

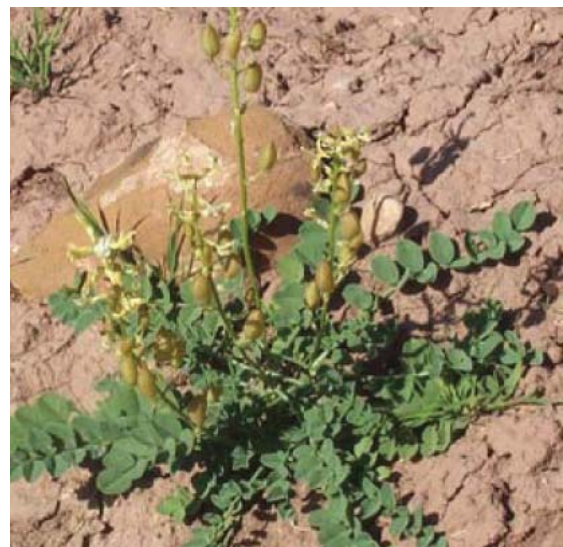
“Critical habitat works – it’s the most important action to give wildlife a safe harbor for recovery,” said Daniel Patterson, the Center’s Desert Ecologist. “As wildlife habitat in the Mojave Desert is lost, so is the human quality of life.”

Utah has over 2700 species of native plants and it is estimated that over 10% of these are globally rare and potentially vulnerable. The extent to which a species is considered rare involves a variety of factors including the number of populations and remaining individual plants, and the area over which it occurs.

**Contact & Photos: Tony Frates, Rare Plant Coordinator, UNPS 801.277.9240  
Daniel R. Patterson, Desert Ecologist, Center 520.623.5252 x306**



Shivwits milkvetch, also a member of the Pea Family, has nice yellow flowers.



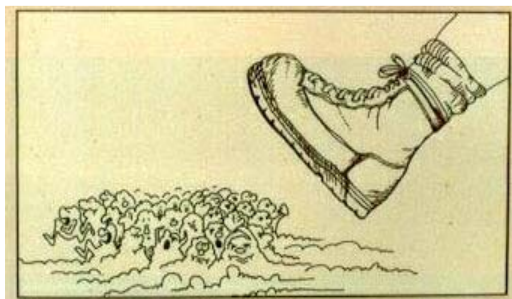
Shivwits milkvetch has a longer lifespan, but can only live on the purple clay soils of the Chinle formation

# ATV's - Man versus Microbe

Words Paula Longhurst Pictures Ray Trussell

**ATV** – those three letters can inspire love or hate in some people. The issues attached to ATV use are as contentious to the American people as Fox Hunting is in the UK. On the one side we have the riders who want to exercise their pioneer spirit and explore as and when they want and on the other we have heavyweight environmental groups who want to ban anything that moves from going into the backcountry. In the middle of this are the responsible riders who are content to stay “on-trail” and groups like the BLM who’s job it is to keep everyone in line.

But why do ATV riders have to be monitored? It’s just an empty desert right? Well no it’s not and that is what has environmental groups up in arms. Soils are very vulnerable to impact damage. In the desert for example, there’s a magic mixture on the desert floor called *Cryptobiotic crust*. It’s not the sort of thing you can re-create in a lab even if you had the 50 to 100 years it takes to fully mature.



These black, knobby mats – almost invisible in the early development stages - make up over 70% of living desert ground cover. They can hold up to 10 times their weight in water and release moisture gradually back into the soil.

If you were to break the crust open (not recommended!) and look at it under a microscope, you would find a symbiotic microbial community of bacteria, blue green algae, lichen and fungi that covers much of the soil surface in desert areas.

Blue-green algae - also known as Cyanobacteria are particularly important in maintaining the crust. The Utah variety are filamentous. When they are moistened they progress through the crust leaving behind a sticky sheath, rather like a snail trail. This adheres to surfaces, such as rocks or soil particles forming an intricate network of webbing, which helps reduce wind and water erosion on previously unstable surfaces. The binding process is not dependent on living cyanobacteria, layers of older webbing have been found at depths of 15cm or greater.

Cyanobacteria also make nutrients and fix carbon and nitrogen (Nitrogen is especially important because Utah

soils lack this element) turning them into amino acids which enable larger plants to grow. Fossilized cyanobacteria have been carbon dated back past 3.5 million years old. It is thought that these tiny organisms were essential to transforming the earth’s carbon dioxide rich atmosphere to a more breathable oxygen one.

Although it can take nearly a century for the crust to fully function, tire tracks, boot steps and hooves can crush it in seconds. Continuous tracks are especially damaging because the ruts collect water when it rains and this erodes the crust from the inside out.

If the crust is damaged it is unlikely that it will be fully re-colonized in our lifetime. To regenerate a *thin* layer takes 5-7 years and that is only when conditions are favorable. It is only a small part of the desert ecosystem but an essential one.

If all of the crust was destroyed the plants would quickly die off and all you would be left with was a gigantic sandbox, with no shade and no water. In order to venture into the desert you would need to be fully covered and I mean fully, being sandblasted is not good for any part of the human body!

So the question is how can we strike a balance between off road use and ecology? Groups for and against are increasingly turning to legal means to achieve their desired outcome. All this is doing is muddying the waters and making the legal profession rich!

Here in Utah, land management organizations are trying to keep the situation under control by providing maintained trails for the ATV riders to use such as the Paiute trail which spans 4 counties Sevier, Millard, Beaver and Paiute.

Administering the trail are Fishlake National Forest, the Sevier River Resource of the BLM, and the Utah Division of Parks and Recreation. Overseeing all this is a cross-discipline coalition called the Paiute ATV Trail Committee. The trails are maintained by volunteers through the Adopt-A-Trail program.

I talked to a responsible ATV rider from California. He documented his visit to the Paiute trail in 2001 using a digital camera. Locals told him that volunteer groups using federal funds were recording authorized trail use with camera units.

This information was needed for further funding considerations and this rider could see no problem with

monitoring the trail's use because "everybody loved the Paiute Trail and would never want to jeopardize it."

Certain ATV activist groups are trying to trick ATV riders into leaving the Paiute trail by tampering with signs. Again it seems the actions of a few will cement the reputation of ATV riders as public land outlaws.

*Should ATVs be banned?*

I don't think so – if you ban them there is no way to regulate their use. The issues may seem very black and white when you are standing in one or other of the opposing camps but discussion and compromise on *both* sides are vital in order to work out a viable solution that, while not pleasing everybody, can benefit both the ATVers and those trying to protect the land for future generations.



Camera (top right) and recording equipment (shown here) used to monitor ATVs on the Paiute Trail

The Paiute Trail is an example of successful co-operation between the two sides, which could provide a model for further progress.

The nuisance/noise issue could be tackled by allowing off-road use on odd numbered days, much like the dog-on-leash laws currently operating in areas like Mill Creek Canyon. There also needs to be more funding for rangers to police the trails, protecting what still remains of the crust, because once it's gone, it's gone.



## Chapter News

### Utah Valley Chapter

At the May meeting, Forest Service ecologist Wayne Padgett gave a colorful and enlightening presentation on tall forb communities.

New officers were elected: Celeste Kennard as president, with Randall Nish as treasurer and Robert Fitts as field trip coordinator.

Utah Valley's next meeting will be August 20 at the Federal Building, 100 N 100 W in Provo. Potluck at 6 p.m., meeting at 7. Our speaker will be USFS fire ecologist and botanist Beth Corbin, who will discuss local fire ecology.

Members of the chapter have been hosting some interesting field trips featuring Beckwith viola, bristlecone pine and others. We sponsored a very popular tour of three native plant residential gardens. Big thank yous to Lyle and Annette Jenkins, Annette Brigham, Susan Meyer and Bitsy Schultz who opened their gardens to us.

Contact Robert Fitts at 801-796-8631 to learn about upcoming field trips, or keep an eye on the UNPS web site for more field trip info.

### Price Chapter

Mike Hubbard is organizing a field trip to Manti LaSal National Forest on July 10th. The group will meet in the morning at the Tucker Rest Stop on highway 6 and proceed up Clear Creek Road to Bear Ridge to investigate a larkspur tall forb community. The group will continue down Skyline Drive stopping at several different community types. The field trip will end at the Mont E. Lewis Botanical Area. The botanical area is a montane, cold-calcic spring site containing many species not normally found outside of arctic and alpine habitats. If you are interested please contact Mike at (435) 637-4834 or [mhubbard@sisna.com](mailto:mhubbard@sisna.com)

## Volunteer News

Joint UNPS/ Red Butte Conservation Project

On May 1st, about 10 of us joined Matthew Uttley and Ryan from Red Butte. After a short walk to the natural area Matthew gave us a basic lecture on what we were looking for – Dyers Wode and Butter and Eggs (both invasive weeds) We learned why just one weed can generate a massive underground seed bank and keep coming back year on year. We also learned how to recognize alternate leaves from opposite ones (very handy if you only want to pull out Dyers Wode and **not** blue Penstemon!)

The Dyers Wode wasn't in flower so all we had to do was rip it out— I have to confess to not seeing any Butter & Eggs.

After half an hour of weed pulling we went back up to the rest area for the second stage – planting native plants around the area so that visitors would have something to look at on the hill.

I think the other volunteers would agree we could have done with more time, but Matt and Ryan shared their knowledge with us and made the project both interesting and fun.

Thanks to Jude, Kody and Jan, who gave up her lunch hour!

If you are interested in helping out with a similar volunteer project or joining our small-but-growing pool of volunteers, please contact me, the UNPS volunteer co-ordinator. My e-mail is [plonghur@xmission.com](mailto:plonghur@xmission.com)

## Be Waterwise at Jordan Valley Water Conservation District

### Design Principles for Low-Water Landscapes

Clifton Smith, Landscape Designer

Saturday, August 14, 10 a.m. - noon

Attractive landscapes develop from good landscape planning and design. Gain some knowledge and understanding of basic design principles that you can use to create a gorgeous water-wise landscape.

### A Wander with Joy in the Garden

*Get Answers to Questions on all Aspects of Water-Wise-Gardening with Joy Bossi, radio host of "Joy in the Garden"*

Thursday, August 19, 6-8 p.m.

Radio host Joy Bossi will take us on a tour of the Demonstration Gardens and talk about water-wise gardening basics while answering any questions that you may have regarding water efficient landscaping. Come and get some great advice, answers to questions, and enjoy an evening at the beautiful Demonstration Gardens.

### Bold and Beautiful Low-Water Perennials for Every Garden

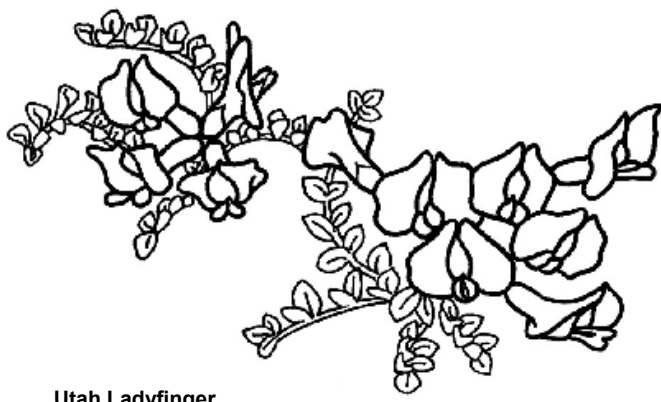
Barney Barnett, Willard Bay Gardens

Saturday, August 28, 10 a.m. - noon

There are a lot of perennials to choose from at the nursery. Come and learn which will provide lasting color and beauty for any site and thrive with much less water. Also learn about fall planting for a great start to a beautiful spring and summer garden.

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Utah Ladyfinger  
*Astragalus utahensis*

Bitsy Schultz

## Utah Native Plant Society Membership and Information

New Member     Renewal     Gift

Name: \_\_\_\_\_  
Street: \_\_\_\_\_  
City/State: \_\_\_\_\_  
Zip: \_\_\_\_\_ Phone: \_\_\_\_\_  
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- Check membership category desired:
- Student            \$9.00
  - Senior                \$12.00
  - Individual            \$15.00
  - Household            \$25.00
  - Sustaining            \$40.00
  - Supporting Org.    \$55.00
  - Corporate            \$500.00
  - Lifetime              \$250.00
- Please send a complimentary copy of the Segó Lily to the above individual.

Please enclose a check, payable to Utah Native Plant Society and send it to:

Membership , Utah Native Plant Society  
P.O.Box 520041,  
Salt Lake City, Utah 84152-0041

For more information about the Utah Native Plant Society call:

Bill King: 582-0432  
Susan Garvin: 356-5108  
Or write to: [unps@unps.org](mailto:unps@unps.org)

**Check out our website!**  
[www.unps.org](http://www.unps.org)

Many thanks to Xmission for sponsoring the Utah Native Plant Society website.

Please direct all suggestions, articles and events for the newsletter to Paula Longhurst at [plonghur@xmission.com](mailto:plonghur@xmission.com)  
**The deadline for next issue is 8th August**

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