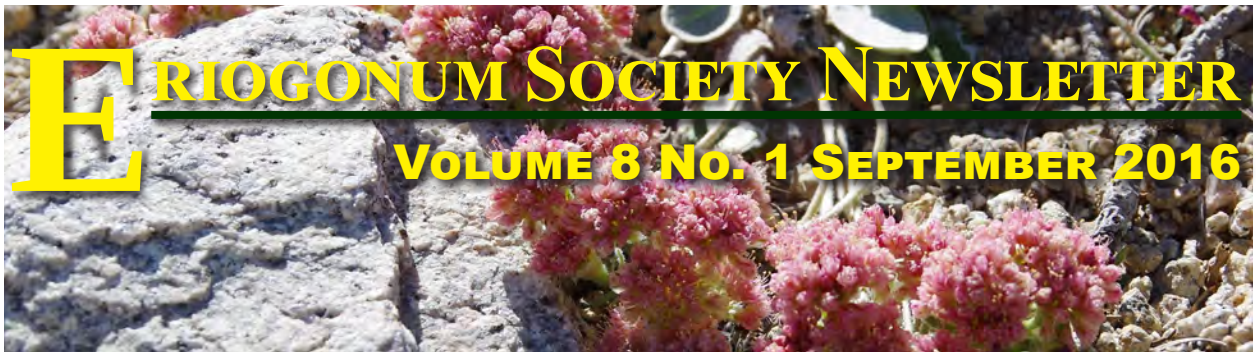

Eriogonum Society Newsletter

Volume 8 No. 1 September 2016

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Eriogonum Society Board

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From the Editor

Taking a closer look, Reno 2015 - *R. Tietje*

At a glance, a visitor from the Eastern US may dismiss the desert as a wasteland where nothing grows. Jim Andre would surely dispute that, having spent a quarter-century documenting the diversity of plant life in the Mojave. Where a casual visitor sees nothing, a careful observer sees a vivid story of the tenacity of life told in subtle changes of slope, aspect, elevation, and soil – changes which shape the desert's native residents. Whether you are joining us in September as Jim lead hikes through his backyard, the Mojave Preserve, or merely exploring your own backyard, look for the story around you. Enjoy this edition of the newsletter and keep your eyes on the ground!

Annual Meeting

September takes the Society to the **Desert Studies Center** in the Mojave National Preserve.

The event begins on **Friday**, September 16, with the board meeting followed by registration. Later that evening we'll gather for a presentation from Dr. Grady and Jim Andre will give a preview of the field trips planned for the weekend.

On **Saturday**, we voyage to Fourth of July Canyon in the New York Mountains. If time permits, we'll visit **Cima Dome** and Valley Wells. That night is the Society banquet and another talk from Dr. Grady and our featured speaker, Arnold Clifford.

Sunday takes us to the Bristol Mountains and the **UC Granite Mountains Desert Research Center**. We may also visit Foshay Pass in the Providence Mountains or **Kelso Dunes**.

For those who stay until **Monday**, possible destinations include **Clark Mountain** and the **Castle Mountains**.

A detailed itinerary including lists of species that may be present at each of the destinations is on the **society website**. Be aware that changing weather and road conditions as well as the phenology of the local buckwheats may lead to schedule changes. Updates will be posted on the website as they become available, but plans may alter at the last minute. **Above all, come prepared for hiking and traveling in desert conditions.**

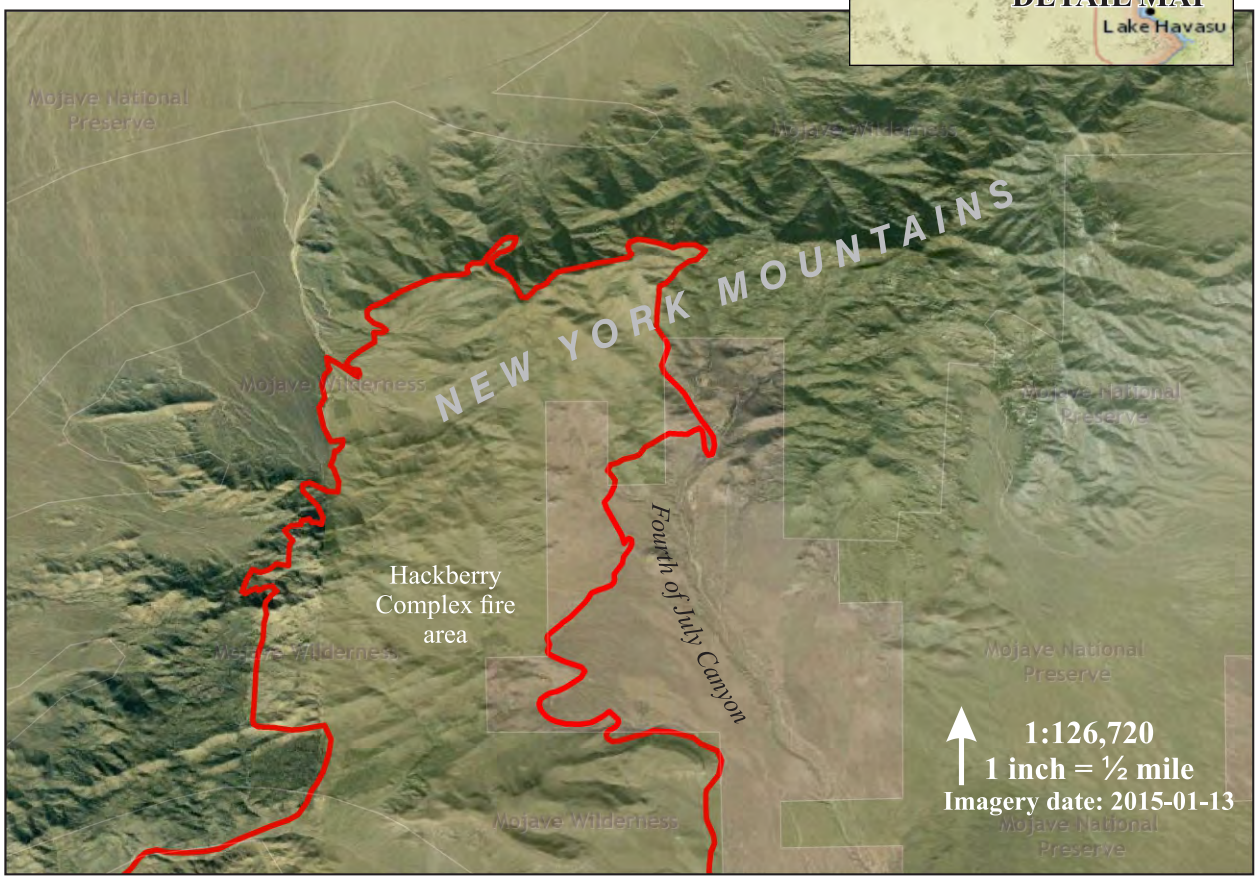
Below are some websites that may be helpful in planning and preparing for this trip:
Mojave National Preserve, NPS **https://www.nps.gov/moja/index.htm**
Hike Guy **http://www.thehikeguy.com/2010/01/26/the-essentials-mojave-national-preserve**
Hikes in Mojave National Preserve **http://www.hikespeak.com/ca-desert/mojave**

Thorne's Buckwheat: Rare and Still There

by James M. Andre

Most species of plants in the western U.S. were discovered and described when the first big wave of exploration occurred more than 100 years ago. From Asa Gray to Marcus Jones, it was the golden age of discovery and we all missed out on the party. Or did we? Happily, there has been a resurgence of taxonomic discovery in recent years in California, as botanists aided by new molecular tools, have added more than 500 vascular plant taxa to the state's flora. Many of the discoveries are outright new species, and the majority of these are rare, commanding immediate conservation status. More surprisingly, roughly half of these discoveries have come from California's deserts, which comprise only a quarter of state's landmass. In fact, nearly 200 new taxa have been added to the California deserts in just the last couple of decades, illuminating the region as one of North America's remaining floristic frontiers, ripe for additional taxonomic discoveries.

A number of recently discovered buckwheats occur in California's eastern Mojave Desert, which also happens to be the location of the 2016 Annual Meeting of the Eriogonum Society. Some are rare and endemic and some remain undescribed. We hope to visit some of these during our September field excursions in and around the Mojave National Preserve in eastern San Bernardino County. And in this modern-day sequel to the days of



Eriogonum thornei - J. Andre

Asa Gray, one must-see attraction is Thorne's Buckwheat, *Eriogonum thornei* (Reveal & Henrickson) L.M. Shultz, known globally from just one small population area on a remote ridge in the New York Mountains, Mojave National Preserve (NPS).

Thorne's Buckwheat was discovered in the early 1970s by James Henrickson, and published by J.L Reveal and J. Henrickson in 1975 as *Eriogonum ericifolium* var. *thornei* (Madrono, vol 23, no 4, pp 205-209). Shultz later elevated it to species (Harvard Pap. Bot. 3:51. 1998) based upon morphological differences from *E. ericifolium*, the unique substrate affinities of *E. thornei*, and the substantial geographical separation between the species. The plant was named in honor of the late Robert F. Thorne, iconic field botanist, taxonomist and curator emeritus at Ranch Santa Ana Botanic Garden and Professor Emeritus at Claremont Graduate University, California.

Easily one of the highest profile rare plants in all of California, Thorne's Buckwheat is listed by the state as well as the California Native Plant Society. It is known from only one occurrence on a 6,000-foot-high ridge in the northwest end of the Fourth of July Canyon watershed in the New York Mountains, located in federal (NPS) wilderness. The total areal extent of the population is 40 x 75 m in size, or 0.3 hectares. It grows in open sites in unique (to the region) copper-rich gravelly soils. Thorne's Buckwheat is a low-growing subshrub no more than about 5 to 10 cm tall and tends to favor open areas as opposed to the understory of nearby single-needle piñon pine. Even on dry years, plants will usually green up in spring and flower from mid-summer to early fall. The linear leaves are 4 to 6 mm long and distinctly rolled under, a diagnostic feature of this species, as well as other related species such as *E. microthecum*. Flowers are pale pink to white and can be densely crowded on the plant obscuring the leaves and dark woody stems.

Initially thought to have been avoided by the 70,000 acre Hackberry Complex fires in 2005, the Thorne's Buckwheat population was

in fact impacted by the event. During my initial visit to the population in November of 2005, I observed a near total burn of the canyons and slopes east and west of the ridge where the population rests. In fact, in all directions surrounding the population few living trees or shrubs could be found, and I walked towards the ridge where the buckwheat grows, I feared I would be first witness to an extinction event. Upon closer view, however, I was relieved to discover that the fire seemed to have sheared at the crest of the ridge, sparing more than half of the population. I have estimated 3,000-4,500 plants in the population. Roughly 50% of the population area (30% of the total plants) was impacted by the burn, and an estimated 900 plants were lost in the burn. Fortunately, the densest stand of plants was not burned, and last census has shown some recruitment has occurred into the portion of the population that suffered highest levels of mortality.

While many fires in the west can be attributed to human influence, the Hackberry Fire was ignited by a rare June lightning event, driven by 50 mph winds, and fueled by a dry native stand of spring annuals following a wet El Niño year. Though protected by law and safely nestled within NPS wilderness, it nearly succumbed to a natural stochastic event.

The only known location of Thorne's Buckwheat - J. Andre

Jim Andre has over 25 years of work (and 40,000 vouchers) under his belt documenting the plants of the Mojave and is currently the director of the Sweeney Granite Mountains Desert Research Center, part of the Natural Reserve System in UC Riverside's Department of Biology. He is also senior advisor to the California Native Plant Society's rare plant program (as well as chair of that program's committee). He reports he is nearly finished with a complete flora of the Mojave Desert.

Lessons from *Eriogonum*…

by Ben Grady, PhD

Personally, I have always been intrigued by plants and the way they tolerate harsh conditions and go to ridiculous lengths to produce the next generation. For my money, no other plant genus exemplifies these extremes more than *Eriogonum*. Members of this genus can be found at elevations from below sea level in Death Valley to above tree line in the highest peaks of the Sierra Nevada. Species of *Eriogonum* can be tiny little annuals or shrubs over two meters tall. Along with these elevational and life form variations, wild buckwheat can tolerate a wide range of extreme soils. This is what drew me to learn more about this large, challenging genus.

Ben Grady - *K. Pyle*

Having conducted field and genetic research on the bladderpods (*Physaria*) as a master's student at the University of Northern Iowa, I noticed time and again how certain plant species seemed to be closely associated with certain types of soils. Whether it was silt derived from limestone, to heavy clay, to almost pure gypsum, some species loved certain soil types. This observation formed the basis of my doctoral studies at the University of Wisconsin. It is here that I truly discovered, and fell in love with the wild buckwheats. After an immense amount of background research into plant genera that would provide an ideal model into speciation and soil conditions, I kept coming back to *Eriogonum*. After consulting with a number of folks, including the foremost *Eriogonum* expert, Dr. Jim Reveal, things were put into motion.

As a grad student at Madison, my summers were spent chasing *Eriogonum* species across the western U.S. and the rest of the time was spent sequencing DNA, staring at wild buckwheat specimens, and teaching botany courses. Well, to be totally honest, I may have had some spare time to canoe on Wisconsin's lakes, brew beer, and spend time with my son, Sage. *Eriogonum* taught me many lessons along the way. First, teasing apart evolutionary relationships in a complex genus like *Eriogonum* is hard. Like, really, really hard. Some groups of plants don't like to follow our nice, neat taxonomic rules. Secondly, it seems that many wild buckwheat species could tolerate a variety of soil conditions, but tend to do well in the absence of competition from other species. Additionally, there are many, many species of *Eriogonum* that are exceedingly rare and require further study and protection.

For the past couple of years, I have set up shop at the University of Wisconsin-Platteville. I am still working on sorting out the evolutionary history of *Eriogonum* and related genera. Much like Jim Reveal, this is probably a lifelong pursuit. I continue to work on other projects relating to conservation issues. In addition to my ten-year-old son Sage, I also have a one-year-old daughter to chase around. Stella is very active and looks forward to fieldwork in the west and learning more about *Eriogonum* in the future.

Eriogonum truly is a unique, almost magical group of plants. Many of you are well aware of the beautiful variety of form shown by the wild

buckwheat. While this is certainly true, beauty can also be found in the way a cushion-forming Eriogonum species can grow at the highest of elevations, or by the endless tiny flowers that pour out of an involucre. Even some of the tiny annual species, when examined closely, have secrets to reveal. I look forward to seeing species of Eriogonum this fall at the annual meeting. I also look forward to meeting up with members of the Eriogonum Society. It is no surprise that such a charismatic group of plants has attracted such a passionate following.

Dr. Ben Grady is currently a member of the Biology Department at the University of Wisconsin-Platteville, teaching botany while researching the tangled evolutionary history of Eriogonum. His introduction to western field biology while completing a master's in biology amid the fields of Iowa led to his doctoral investigation of the evolution and speciation of Eriogonum at the University of Wisconsin-Madison. Ben is eagely pursuing the many interesting unanswered questions surrounding the the beautiful and unusual buckwheat.

Memories of Reno - Saturday, July 25, 2015

by Isaac Marck

In July 2015, Eriogonum Society members met in Reno, Nevada, for a weekend of outings in search of the wild buckwheats of the Eastern Sierra Nevada. During field trips led by local experts we explored habitats of interest where mountain slopes were at the peak of flowering, including Mt. Rose and Relay Peak and then the Sierra Valley to the northeast. As we encountered each blooming *Eriogonum*, Dr. Ben Grady pointed out key characteristics for identification and patiently led enthusiastic students through the *Eriogonum* key.

Mnay discussions were sparked about the conservation value and beauty of these wonderful flowers and specific propagation techniques were shared among horticulturists. On Saturday evening, participants relaxed into their camp chairs and enjoyed a barbeque prepared by meeting chairperson John Weiser at a local campground while recounting botanical stories and memories of the late, much esteemed Jim Reveal.

On one memorable field trip, our caravan snaked up the backroads of Mt. Rose in search of the endemic Mt. Rose buckwheat, *Eriogonum rosaceae* var. *rosaceae*. Finding

M.C. of the Saturday BBQ, John Weiser - *R. Tietje*

▲▲ *Eriogonum ovalifolium* var. *nivale* - *J. Johnson*
▲ *Eriogonum lobbii* - *I. Marck*
▼ Mount Rose summit - *J. Johnson*

abundant buckwheats along the way, we made several stops. Our first stop brought us face to face with the Sierran cushion buckwheat, *Eriogonum ovalifolium* var. *nivale*, in full bloom and displaying the capitate inflouresces and brilliant white tomentum that have made this species a popular attraction in rock gardens.

Higher up the mountain, on a gravelly talus slope approximately 300 feet below the summit of Mt. Rose, we found two more incredible *Eriogonums*. The first of these was the marum leaf buckwheat, *Eriogonum marifolium* var. *marifolium*, with its brilliant red and yellow inflorescences in full display. This species is remarkable for being dioecious with distinct sexes that are so distinct in appearance that at first glance we thought we had found two separate species! The other species we found was Lobb's buckwheat, *Eriogonum lobbii*, a real showstopper! *E. lobbii* is a very attractive buckwheat possessing a matted form with basal rosettes of tomentose leaves and prostrate flowering stems terminating in brilliant purple pom poms. This species is under study as a model of speciation.

Finally arriving at the top of the mountain, the view of the Great Basin from the alpine conifer-covered slopes was fantastic. Before long, we came across the objective of our trip: the Mt. Rose buckwheat. An impromptu identification

Eriogonum rosense var *rosense* - *I. Marck*

lesson led by Dr. Grady followed, in which many useful tips for identifying buckwheats were shared. Finally, after botanizing extensively in the surrounding woods, and filled with excitement and new wisdom, we headed down the mountain to fill our bellies and relax.

The annual meeting was a great success and many ideas were presented about future gatherings, ideas, and potential projects. The subfamily *Eriogonaceae* is in desperate need of basic study and conservation. The genus *Eriogonum* is one of the most diverse in Western North America and almost a third of its species are considered rare. These plants also have great horticultural potential. There is alot of work to do and it's up to us to work together to spread the word about buckwheats!

Isaac Marck (shown below) is an Eriogonum Society scholarship recipient and a Ph.D. candidate in integrative biology at UC Berkeley. Photo by K. Pyle.

Tour of the Sierra Valley - Sunday, July 26, 2015

by Bill and Nancy Harnach

On a warm and somewhat hazy Sunday, we explored a portion of Sierra Valley in California. The area of the valley floor is approximately the same as Lake Tahoe. Twenty-four species of *Eriogonum* have been recorded in the Sierra Valley region, but due to the fact that this region covers 360 square miles, we stuck to sites that offered a diversity of species.

Our first stop was Beckwourth Pass in Plumas County. The site is approximate 25 miles north of Reno and just across the border into California. Dr. Grady led some field keying sessions and we were able to identify *Eriogonum baileyi* var. *baileyi*, *E. baileyi* var. *praebens*, and *E. elatum* var. *elatum*.

Moving on further west, our next stop was the Ramelli Ranch, a US Forest Service property about 15 miles past Beckwourth Pass and just outside of the town of Beckworth. Beginning beneath a well-graffitied bridge on route A23 over the Feather River, we walked to patches of *Eriogonum nudum* var. *nudum* and *E. umbellatum* var. *nevadense* as well as some other rare plants such as Sierra Valley mousetail (I*vesia aperta* var. *aperta*) and Plumas mousetail (*Ivesia sericoleuca*).

Our final destination took us south to an open field outside of Calpine where we spotted *Eriogonum douglasii* var. *meridionale*, and *E. strictum* var. *anserinum*. Another in-field group keying session identified *E. umbellatum* var. *nevadense*.

Residents of the Sierra Valley, Bill and Nancy Harnach have studied the plants of the area for over a quarter-century and often lead field trips through their beloved valley, sharing their wealth of knowledge of the plants and insects of the region. The Harnachs have contributed articles to the California Native Plant Society's publication ***California's Wild Gardens*** *and taught classes about the medicinal uses of local plants for San Francisco State University's Sierra Nevada Field Campus.*

▲ Bill's bridge briefing

▼ *Eriogonum strictum var. anserinum - R. Tietje*

My Favorite *Eriogonum*: *Eriogonum heermannii*

by Bob Pennington

Among the *Eriogonums* we expect to see this year at the meeting in Baker are three varieties of *Eriogonum heermannii*, vars. *argense*, *floccosum*, and *sulcatum*. I first became aware of this fine species when my wife, Jeni, and I drove through the Spring Mountains and Charleston Peak area just northwest of Las Vegas, Nevada. Traversing from state route 157 to 156 on the Mt. Charleston Scenic Byway, we espied nearly symmetrical mounds of reddish brown above the highway in a white, crumbly clay and limestone substrate. When we were able to find a parking spot and could walk back to look at the mounds in question we determined that they were indeed buckwheats. The plant form was a sub-shrub, with very intricate branching. The few existing gray-green simple leaves were all near the ends of the branches. The achenes or seeds were loosely attached which presented a seed collecting problem, as touching the seeds would result in most seeds immediately falling to the ground. Eventually we were able to identify what we had seen as *Eriogonum heermannii* var. *sulcatum*.

This *Eriogonum* has subsequently become one of my favorite plants. Although its growth rate is painfully slow, it seems that it is ideally suited to my driest, most rapidly draining, alkaline flower bed. The elevation, (6,900'), hot summer and cool to cold winter temperatures, and our ongoing drought situation, don't seem to offer any challenges to *E. heermannii* var. *sulcatum's* slow but steady growth. Somewhere I read that this species is stress-deciduous. It makes sense that this would be so, as when I have seen most *E. heermannii's* in the wild, by the time they are producing ripe seed, they have few leaves left on the plants. My plants lose all their leaves during the fall, and appear as nothing but a tangle of dead tiny branches

▲ and ▲▲ *E. heermannii var. sulcatum* - *R. Pennington*

▲ and ▲▲ *E. heermannii* var. *argense* - *R. Pennington*

during the winter. With the warming of spring, though, the leaves reappear - at first on the old stems and then moving outwards towards the branch tips. It is an amazing if very slow dance of nature's infinite growth patterns.

As a species, *E. heernannii* exhibits a number of stature, flower color, branch color, and texture variations, and we should be able to see some of this in the three varieties on the Mojave Preserve. *Eriogonum heermannii* var. *argense* is a very shrubby and up to about a meter in height with flowering rounded stem-branches, "usually distinctly scabrellous or infrequently pappillate-scabrous." *Eriogonum heermannii* var. *floccosum* is much less branched, "3-6 dm tall, 4-8 dm wide, the branches thinly tomentose to floccose," while *Eriogonum heermannii* var. *sulcatum* is a subshrub, "densely branched, 1-8 dm tall, 2-8 dm across," with "flowering stems and inflorescence branches sharply ridged deeply grooved, minutely scabrellous." All quotations are taken from the 2013 edition of James Reveal's ***Eriogonum Manual for the Eriogonum Society***.

I look forward to seeing these three species in the Mojave during the meeting in September and, with luck, Jeni and I will be able to travel up to the White Mountains where we will also be able to see *E. heermannii* var. *humilius* near the Grandview Campground as well as more *E. heermannii* var. *argense* near the Toll Gate spring on Highway 168.

For the last 40 years, Bob Pennington and his wife, Jeni, have run the Agua Fria Nursery in Santa Fe, New Mexico. Roaming around the West, especially the Great Basin, collecting seeds is their idea of a splendid vacation.

▲▲▲ *E. heermannii* var. ***flocculosum*** - *K. Morse, Creative Commons* ▲▲, ▲ *E. heermannii* var. *humilis* - *R. Pennington*

Wild Buckwheats are Now in Bloom

story and photos by Margaret Widdowson

Here's an example of Eriogonum outreach by one of our members. Well done, Margaret! This article first appeared in the Redding Record Searchlight on September 7, 2013.

As you drive or hike around Shasta County in late summer, the wild buckwheats are sure to attract your attention. Thriving on dry and barren slopes, they are blooming now in shades of white, cream, yellow, and pink.

The wild buckwheats are members of the knotweed family and belong to the genus Eriogonum. They are not to be confused with the cultivated buckwheat grain used for pancakes and pillows, or the nasty weed in the same family, black bindweed, also confusingly called wild buckwheat.

Wild buckwheats are found only in North America, mostly in the arid western United States. Fully half of all wild buckwheats are found in California, where it is the second largest genus. More than half of them are threatened or endangered. An amazing total of about 30 different kinds of wild buckwheats are found in Shasta County.

Buckwheats can be shrubs ranging in size from a few inches to a few feet tall, herbaceous perennials, or annuals. The individual flowers of wild buckwheat are tiny, but they are usually clustered into eye-catching heads that are ball-shaped or flat-topped.

They bloom later in the summer and well into fall when most other flowers have faded, making them stand out even more.

Wild buckwheats grow in a variety of dry, well-drained sites: roadsides, deserts, talus slopes, or riverside gravel bars. Anybody who has driven through the Mojave Desert will be familiar with the inflated stalks of desert trumpet buckwheat along the roadsides. Along California's central and southern coast, California buckwheat is common in coastal scrub, and provides a very important source of nectar for honey bees.

Driving north on Interstate 5 in late summer and fall, you won't miss the yellow heads of naked buckwheat on the slopes all along the freeway. Along the Sacramento River, you will find the bright yellow flowers of sulphur buckwheat, a compact shrub. Much less common there is Wright's buckwheat, with its strings of small white flowers arranged on untidy-looking shrubs, or you might notice the annual wickerstem buckwheat with its delicate wiry stems and hazy pink appearance.

Up on Lassen Peak there are wild buckwheats everywhere you look. Bear buckwheat clings to rocky slopes and is covered in large balls of pale yellow flowers. Nestled in the most barren areas of pumice you will find the neat mats of rosy buckwheat, which, despite its name, bears round heads of bright yellow flowers, contrasting with the equally neat cushion buckwheat with its deep pink flowers.

Being tolerant of arid sites, wild buckwheats make an excellent addition for a dry area in the garden, where they partner well with penstemons, coyote mint, and native lupines. Easily grown from seed, they require an open site with good drainage, little summer water, and almost no fertilizer. Some varieties might benefit from light shade during the peak of Redding's summer sunshine. Given these conditions, buckwheats will thrive in the garden. The smaller shrubby types such as coast

▲▲▲ *Eriogonum umbellatum*
▲▲ *E. ursinum* in Lassen Volcanic National Park
▲ *E. pyrolifolium*

buckwheat, and especially sulphur buckwheat, form low mounded shrubs with neat evergreen leaves. Ideal for the front of a border, they can be trimmed occasionally to keep them in shape.

California buckwheat is a taller shrub and makes a nice specimen plant. All varieties produce abundant flowers that will attract a flurry of small butterflies, bees, and beetles from June to October. After flowering, the heads often turn attractive shades of reddish-brown, and will stay on the plant well through fall and into winter —no need to dead-head!

Margaret Widdowson is a botanist with ICF International in Redding.

Margaret's article is a good reminder of one of the great ways of sharing buckwheats with our friends and neighbors, by bringing them into our gardens and sharing their offspring. Our membership lives in a wide variety of places offering many habitats. By collecting material for the seed exchange, we can make unusual local varieties available to our members spread across the world and share our love of buckwheats. - Ed.

▲▲ *Eriogonum ovalifolium* ▲ *E. elatum* with a visiting bumblebee

Society Business

Membership

Our current paid up membership stands at 113. A number of memberships lapsed during 2015. A total of 288 people have ever been listed as members, with a high percentage of these one-year members, likely registered for a single event (annual meeting in an area that interests them). We are neither growing nor shrinking membership at an alarming rate. We will likely see a few renewals closer to the annual meeting by those who only register for one year at a time. We have a total of 23 life members - nearly 20% of our membership.

Membership dues include qualification to register for our annual meetings, as well as an on-line newsletter, annual seed exchange, and access to the members' section of our website. Dues run on a calendar basis, renewed at the first of each year.

- Member - $10 for 1 year, $20 for 3 years
- Student - $5
- Lifetime Member - $150 one-time fee

You may pay either by check or by PayPal on our website at **eriogonum.org**. **Please do not send cash**.
Make checks payable to Eriogonum Society. Mail your check along with your **name, address, phone number,** and **email address** to:

Bob Pennington, Membership
1409 Agua Fria, Santa Fe, NM 87505-0907
(505) 603-9187 **aguafrianr@aol.com**

Please notifiy us of any changes in your contact information. Thank you for your enthusiastic support of the Society!
We do not sell, share, or distribute member data in any manner.

Bob Pennington

The Seed Exchange

Seed will be accepted whenever you can get it in the mail, any time of year. Please clearly label the donation with the species name, where it was collected, elevation, and anything special or unusual about the donation.

Please clean whatever seed you contribute if possible. If you can't for whatever reason, I will satisfy myself that there is seed present and will send it out as received.
Send your seed requests to:

Jim Swayne
4009 Old Milton Hwy
Walla Walla, WA 99362

More details regarding the seed exchange are on the society website. Happy trading!

Jim Swayne

Treasurer's Report

As of December 31, 2015

Our current cash reserves are healthy with no outstanding debts or liablities. The reserves are up $2,844.05 over the same time a year ago due mainly to a net income of $1,973.49 from the 2015 annual meeting.

Assets

Current assets	
Checking/savings	$15,313.01
Total assets	**$15,313.01**

Equity

Opening balance equity	$50.00
Retained earnings	$12,418.96
Net income	$2,844.05
Total equity	**$15,313.01**

Randy Tatroe

Buckwheats and their Pollinators - *Gasteruption striatum*

by Hartmut Wisch

There are many admirers of *Eriogonum*. Among them is *Gasteruption striatum*, a parasitic wasp found from southwestern British Columbia to northern Idaho and south through western Nevada to southern California (Townes, 1950).

A member of the family *Gasteruptiidae*, almost nothing is known about this tiny (the one in the photos is just 17mm from her head to the tip of her ovipositor) wasp's biology. In this species, the larvae parasitize (they're parasitoids since they kill hosts) the nests of twig-nesting bees such as *Ceratina* (a small carpenter bee) and *Hylaeus* (masked bee, *Colletidae* family).

Recently, *Gasteruption* have been found parasitizing nests of other bees. *G. kirbii russeum* (Townes) also occurs in southwest Oregon, and has been recorded to parasitize *Megachile rotundata* (alfalfa leafcutting bee) and *Hoplitis sambuci*, both in the family *Megachilidae* (leafcutter, mason, wool carder, and resin bees). However, unlike *G. striatum*, *G. kirbii* has a short ovipositor.

Hartmut Wisch, a retired guide, volunteers as a docent-naturalist at Eaton Canyon Nature Center in Pasadena, California. An avid photographer, he teaches classes on native bees and plants and is a nature interpreter at Rancho Santa Ana Botanic Garden.

▲▲ and ▲ *Gasteruption striatum* visiting *Eriogonum nudum* along near Selma, Oregon – *H. Wisch*

Eriogonum inflatum

illustration by Dolly Baker, photo by Janel Johnson