

ERIOGONUM SOCIETY NEWSLETTER

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Eriogonum arborescens, Santa Cruz Island Buckwheat

Endemic to the
Channel Islands National Park

Photo by Gary A. Monroe

Santa Cruz Island Buckwheat and a brief discussion of rarity

(photo on cover)

Santa Cruz Island buckwheat (see front cover) is an endemic to the Channel Islands about 20 miles off the coast of California. Although found nowhere else in the world under natural conditions, this species was found to be local (and occasionally rare) on Santa Cruz, Santa Rosa and Anacapa Islands, but too common where it is found to be listed as threatened or endangered under the Federal Threatened and Endangered Program, which is managed by the US Fish and Wildlife Service (<http://www.fws.gov/endangered/index.html>). Neither is it listed by the state of California under their Natural Heritage Program (<http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEPlants.pdf>), or by the California Native Plant Society (CNPS). Some plant species, even though endemic, are common where they are found, and this is the case with Santa Cruz Island buckwheat.

The description of Santa Cruz Island buckwheat from the Flora of North America, Vol. 5

(http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=250060177):

“Flowering Apr-Oct. Rocky slopes and canyon walls, coastal scrub communities; of conservation concern; 10-600 m; Calif.

Eriogonum arborescens is local and occasionally rare on Santa Cruz, Santa Rosa, and Anacapa islands in Santa Cruz and Ventura counties. The species is cultivated, and populations have become naturalized on the mainland from San Mateo County south to San Diego, in large part because of planting along highways. Every effort should be made to remove these naturalized populations from the mainland.

Visit <http://santacruz.ucnrs.org/Endemic%20Plants%20List.html> to see what other plant species are endemic to the Channel Islands.”

There are other endemics that are more narrowly occurring. Such is the case with Donner Pass buckwheat, *Eriogonum umbellatum* var. *torreyanum* (see story further on in this newsletter). Donner Pass buckwheat is not listed by the state of California Natural Heritage Program, but it is listed with the California Native Plant Society - as *fairly* “Rare, Threatened, or Endangered in California.”

In California, the Natural Heritage Program ranks 87 *Eriogonum* taxa as “Special Status” (see <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPPlants.pdf>. Of those species, 12 are listed as State Endangered (SE) (see <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEPlants.pdf>) . Conversely, the (CNPS), whose ratings include both “rare, threatened and endangered” and “watchlist” species, has focused on 77 *Eriogonum* taxa as being of concern (see <http://www.cnps.org/cnps/rareplants/inventory/>) .

Dr. Reveal, in the *Eriogonum* section of Flora of North America at www.efloras.org , reports that about one-third of the species are uncommon to rare in their distribution. Seven species of *Eriogonum* within the US are listed under the Federal Threatened and Endangered Program. Those species are:

E. ovalifolium var. *vineum*

Cushhenbury buckwheat

Endangered

E. apricum (including var. *prostratum*)

lone buckwheat

Endangered

<i>E. longifolium</i> var. <i>gnaphalifolium</i>	scrub buckwheat	Threatened
<i>E. ovalifolium</i> var. <i>williansiae</i>	steamboat buckwheat	Endangered
<i>E. pelinophilum</i>	clay-loving wildbuckwheat	Endangered
<i>E. gypsophilum</i>	gypsum wildbuckwheat	Threatened
<i>E. kennedyi</i> var. <i>autromontanum</i>	southern mountain wildbuckwheat	Threatened

Do you know of an endemic *Eriogonum*, or one that is considered Threatened, Endangered, Rare, or of concern that you would like to tell us about? Send your story to the newsletter editor whose email address is at the end of this newsletter.

2011 Annual Meeting

Gary Reece, our Annual Meeting Leader for 2011, advises that our application to the University of California facility in the high White Mountains of California has been filed but we will not receive information on it before the first of the year. For this reason we do not yet have a firm date in August for the meeting.

We realize that many of you need this date as soon as possible for your personal planning. We will make a final decision on the facilities location at the end of the first week in January and send out the information by email as well as posting it on our website. We still plan to have the meeting in the White Mountains, but if we cannot use the UC facilities there we will plan to stay in motels in Bishop and arrange for a class room there.

Seed Exchange

Cecile Shohet sent out a request for seeds for the exchange in the July newsletter. Please help us make this a useful part of our society and find those seeds and send them to Cecile by the end of the year. We hope to have a list for you to choose from soon after that. Her mail and email addresses are on her note below:

- I will be accepting seed that you've collected to pass on to other *Eriogonum* lovers at any time, so please send them to pass forward as soon as you can. Each contributor gets 1 free packet of seed for each species donated.
- Please clean your seed before sending them to me!
- The dates of the exchange ~ where I will send seed according to your requests, will take place from January 1, 2011 to February 15th, 2011.
- Each packet will have a minimum of 10 seeds, unless there have been more requests than seed is available for that particular species or variety.
- I will post the seed offerings online on the *Eriogonum* Society homepage, and in the next newsletter.
- There will be a \$3.00 charge for postage, and a \$0.50 fee per packet of seed.
- We love getting seed from Europe, and encourage Europeans to be involved!
- My address: Cecile Shohet, 1244 Calypso Court, Ashland, OR 97520; phone: 541-604-8201; email: cshohet@gmail.com

GATHERING INFORMATION ON GROWING ERIOGONUMS FROM SEED

Bob McFarlane

One of the real benefits of our society can be to share and tabulate information on growing eriogonums from seed that might improve our success in the garden. This article shows a little information on results that I have had in the past two years along with a plea for others to share and perhaps evaluate the information and put it on our website for all of us to use.

This type of information might ultimately provide guidance on the best way to germinate seed from individual eriogonum species, indicate how long eriogonum seed is viable, determine what are the best methods to grow the plants to planting size, what type of soil, watering and other care might provide the best plants for our gardens.

I know that most of you gardeners in our group have been growing eriogonums for many years and must have a lot of good information to share. If there is sufficient interest in sharing it please let me know by email at denvrbob@gmail.com and I'll follow up and see how best we might share this on our website.

I haven't been growing eriogonums for very long and started out treating the seed much as I have done with penstemons. The procedure I have used is roughly as follows,

1. Soak seed for 24 hours. I have no idea if this is necessary but have learned that it does help penstemon germination.
2. Place in a ziplock plastic bag with a little soilless germinating material and place in the refrigerator for a 3 to 6 week stratification period. The periods used were just estimates and not based on any actual results from others.
3. Remove from frig and pot up in soilless germinating material and place on the north side of our house until about April 1. We live in Denver and there is at least four or five more weeks of potential stratification outside.
4. Move to a sunny location and water daily until plants are large enough to separate into individual pots.
5. Continue to raise plants in sunny location, watering daily until they are ready to plant in the late fall.

In 2008 and 2009 I planted a total of 39 types of eriogonum seed. Of these I was pretty sure of 29 species and unable to identify ten others. No doubt, I need to repeat Dr. Reveal's course. However, he didn't tell us too much about how to identify the plants when they have gone to seed. The seed came from many sources, our first Eriogonum Society seed exchange, wild collected seed from our camping trips, our garden, our friends, etc. Some of the germinating information is shown in the following table.

<u>Species</u> <u>Name</u>	<u>source</u>	<u>date</u> <u>collected</u>	<u>age of</u> <u>seed</u> <u>when</u> <u>planted</u>	<u>frig</u> <u>stratify</u> <u>time</u> <u>(weeks)</u>	<u>species</u> <u>germin.</u>	<u>first</u> <u>plant</u> <u>(weeks)</u>
brevicaule	UT, ES-09	Dec-09	1 year	3	1	8.1
caespitosum?	OR, Steens Mountain	Sep-05	3.3	6		
caespitosum?	OR, Steens Mountain	Sep-05	4.3	4		
caespitosum?	UT San Pete county. ES-09	Dec-09	4.3	4		
corymbosum	CO Moffat County. ES-09	Dec-09	1	3	1	9.0
depressum-fluff	garden	Sep-09	1.3	4	1	23.0
douglasii, v. douglasii	ES-09	Dec-09	1	4	1	13.7
gracilipes	ES-09	Dec-09	1	4	1	13.9
heracleoides	OR, Steens Mountain	Dec-05	5	4	1	23.0
jamesii	garden	Sep-09	1.3	4		
kennedii	garden	Sep-04	5.3	6		
lobbii	ES-09	Dec-09	6.3	4	1	15.9
nudum	OR Santiam Pass. ES-09	Dec-09	1	4	1	18.9
ovalifolium	NV Conner Pass @ 8000'	Sep-05	5.3	4	1	21.0
ovalifolium	NV Lamoille C.	Sep-05	4.3	6		
ovalifolium	NV Lamoille Canyon @ 6500'	Sep-05	5.3	4	1	9.0
ovalifolium v. depressum	OR Steens Mountain @ 8000'	Sep-05	5.3	4	1	20.7
ovalifolium v. depressum	OR Steens Mountain @ 8000'	Sep-05	4.3	6	1	10.0
ovalifolium?	WY South Pass	Sep-05	4.3	6	1	10.0
ovilifolium	ID Double Springs Pass	Jun-07	3.5	3	1	14.1
ovilifolium	OR Steens Mountain @ 8000'	Sep-09	1.3	4	1	15.3
pauciflorum, v. gnaphal.	CO Pawnee Buttes. ES-09	Dec-09	1	3	1	16.7
shockleyi	CO Moffat County	Sep-09	1.3	3	1	18.3
shockleyii	NV, White Pine Co.	Sep-08	1.3	6	1	5.7
shockleyii	NV, White Pine Co.	Sep-08	1.3	6	1	9.8
unbellatum	CO Mt. Sherman	Aug-05	5.4	4	1	15.9
unbellatum	CO Moffat County	Sep-05	5.3	4		
unbellatum	CO Moffat County	Sep-05	4.3	6	1	9.6
unbellatum	CO Laramie River	Sep-09	1.3	4		
unidentified	CA, upper Rock Creek	Sep-06	3.3	6	1	10.8
unidentified	garden, near mail box.	Sep-08	2.3	4		
unidentified	NV Angel Lake	Sep-07	3.3	3	1	16.4
unidentified	NV Conner Pass, fluff	Sep-05	5.3	4	1	20.4
unidentified	NV Angel Lake	Sep-07	2.3	6	1	9.8
unidentified	UT Bear Creek Pass	Sep-04	6.3	4	1	23.0
unidentified	UT Indian Creek Road	Sep-04	6.3	4		
unidentified	WA Manastash Ridge on I-82	Sep-09	1.3	4	1	14.4
unidentified	WY Powder River Pass	Sep-05	4.3	6		

One of the first things I noticed is that the eriogonum seed I used that was collected in 2004 and 2005 was noticeably less viable than the younger seed. I used 19 groups of seed from the earlier time and 20 gathered from 2006 and later. Fifty-eight percent of the earlier groups germinated while eighty-five percent of the later groups germinated. When I mention germination, I mean that at least one seed in the group germinated. In the earlier groups the individual group germination rate was also significantly lower than the same in the later groups.

Due to my lack of information on stratification requirements several of the species started germinating in the frig. These included *E. brevicaulis*, *corymbosum*, one group of *ovatifolium* from Idaho, *shockleyi*, and one unidentified group from Angel Lake in Nevada. They probably didn't need any stratification at all. In fact, do any of the eriogonum seed require stratification?

The table above also gives information on timing from starting to soak the seed until the first plant appears. I don't know how this compares with others results but would be interested to find out.

We did have a very wet summer this past year and the amount of water the plants received was quite a bit more than the watering they received from me. However, the loss of young plants was not too great and compared well with other types of plants I was growing. It seems like they can take a great deal of moisture as long as the drainage is good.

There may be other useful information that can be gleaned from these results but mostly I wanted to introduce the subject to our members and try to see if we can't build a data base of useful germination and cultivation information. Please let me hear from you.

Editors Note: "Chilling requirements for seed germination of 10 Utah species of perennial wild buckwheat "by Susan Meyer and Alisa Paulsen, can be found at:
<http://npj.uwpress.org/content/1/1/18.full.pdf>

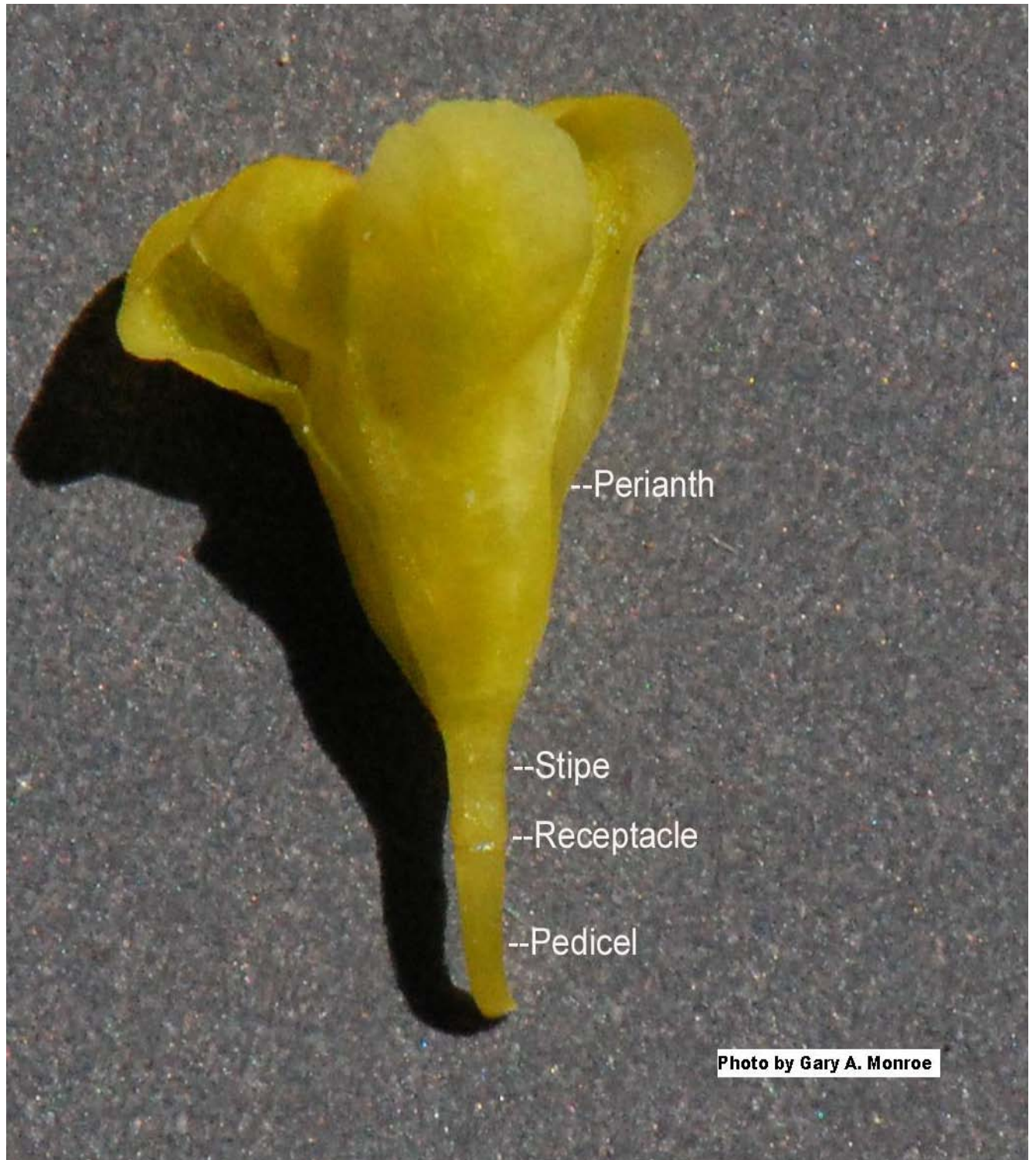
STIPES

Are you looking for a clearer understanding of a 'stipe,' the structure found in some species of the genus *Eriogonum*? Stipes can be as small as 0.1 mm! From The Flora of North America Vol. 5:

"In some genera of [the family] Polygonaceae, the outer tepals are connate and form a slender, stipelike hypanthium base above the articulation with the true pedicel. In the Polygonoideae [subfamily] treatments [eg in the genus *Polygonum*], pedicel refers to the true pedicel plus the stipelike hypanthium above the articulation; in Eriogonoideae [subfamily], stipe refers only to the stipelike hypanthium base, and pedicel is applied only to the true pedicel (eg in some species of the *Eriogonum* genus)."

Gary Monroe has photographed and labeled an *Eriogonum* flower with the stipe, receptacle, and pedicel, to illustrate these terms for us (see photo below). Thank you, Gary!

Labeled illustration of *Eriogonum* flower, with perianth, stipe, receptacle, and pedicel:



Ode to the Stipe

I really like those 'ogonums,
Of all the plants, they are the 'plums,'
Their cheery colors –yellow, pink, white, red,
Adorn the hills when other flowers are dead.

Annuals, perennials, shrubs – they're the ones
Lovely to view, but to key - the doldrums!
Their involucre are fine, but I have one gripe,
To key them out, you need to look for a stipe.

-Cheryl Beyer

Rare *Eriogonum* Brings Adventure

Cheryl Beyer

Twice before, I had attempted to climb the peak that boasted the healthiest and largest population of Donner Pass buckwheat, *Eriogonum umbellatum* variety *torreyanum*, a rare endemic to the area north of Lake Tahoe in California.

My first attempt was a plan to mountain bike up the forest road to a place just north of the peak, then ditch my bike, cross Pole Creek, and 'easily' summit the peak while I dreamily took in a vista of yellow *Eriogonum* blooms. After pedaling uphill several miles, I concealed my bike, shouldered my backpack, and proceeded to head uphill on foot in the direction of 'the' peak, or 'a peak that looked like the peak.' After about an hour of heavy bushwhacking through thick brush, I turned back, relocated my bike, hopped on, and, with a sigh of relief, enjoyed a fast ride downhill and back to my car.

My second attempt, after studying the map in closer detail, was to *drive* up the same forest road to a barely discernable intersection where a small spur road behind a locked gate promised easier access to my peak. I parked at the gate, shouldered my backpack, and started walking up the gated spur, formerly a logging road. All seemed fine and in good order until I reached a point where the old logging road, now barely detectable under the invasion of shrubs, swung to the north and headed up the side drainage that would take me to the base of my peak. Again, impenetrable brush closed in – manzanita, huckleberry oak, ceanothus, gooseberry, and other formidable species with inflexible stems or prickly parts. I made the decision to retreat (again), and felt a palpable sense of relief as going *downhill* through the brushy fortress was a smidgen easier than forcing my way through it uphill.

Once again (will I ever learn?), on September 19, 2009, I gave it one last go. This time I had located directions on the internet on how to summit my peak (www.tahoebackcountry.net). Instead of approaching from the north, I would approach my quarry from the south. Directions had me start at Squaw Valley USA. There is no trail to the summit. The website warned that the biggest initial challenge in gaining the ridge was to find a route through the, yes....., again, 'persistent, dense brush.' I headed up and out to find my peak, trying to avoid the heaviest brush, contouring around and about, and then turning up a broad gully that is – largely brush-free! But, the gully contains some tedious scree. Just before gaining the main Shirley-Silver ridgeline, several volcanic rock gendarmes guarded the way.



Weighing my options, I chose to rock scramble the largest gendarme (class 3) to reach the ridge. Then, stretching before me was a long ridge-walk, with the peak in the distance. With brush, scree, and gendarmes behind me (at least for now), I began the final hike up the treeless ridge. It was a lovely fall day, and I took my time to enjoy the scenery. Then, in a little swale, bright red leaves caught my eye. Donner Pass buckwheat! Most of the leaves on the plants had turned a bright fall red, although yellow inflorescences still topped a lot of the plants. However, many of the flower clusters had been snapped off, probably by high winds across the ridge, and they could be seen rolling downhill of the

parents.



After taking some photos, I continued up to the summit of Silver Peak to enjoy the fantastic views of Granite Chief Wilderness and Lake Tahoe!

Donner Pass buckwheat occurs in a narrow band about 21 miles long and only 4 miles wide along the Sierra crest. Elevations range from 7,200 to 8,200 feet.



Summit of Silver Peak with Lake Tahoe in the background.

There are 16 known occurrences of Donner Pass buckwheat, estimated to number over 7,000 individuals. The number of individuals per occurrence varies widely from over 3,000 to only one. Twelve out of the 16 occurrences support fewer than 200 plants.

If YOU have a story to tell about YOUR adventures

with wild buckwheats and would like to share it with other 'wheat-heads,' send your story to the newsletter editor, whose email address is at the end of this newsletter.

Eriogonum Ethnobotany

Cheryl Beyer

Ethnobotany is the study of relationships that exist between people and plants. Ethnobotany can include plants that supply food, shelter, dyes, fibers, medicines, and aesthetical and spiritual inspiration to people around the world. Dr. Reveal, in the *Eriogonum* section of Flora of North America at www.efloras.org, mentions that "*Eriogonum* has a long history of aboriginal use. "

Daniel Moerman's Native American Ethnobotany (1998) lists 43 *Eriogonum* taxa used by native North American tribes. An example from that volume is *E. compositum*, used by the Okanagan-Colville tribe as a cold remedy, dermatological aid, antidiarrheal, and in toys and games.

Daniel F. Austin, in Florida Ethnobotany (2004), discusses uses for *E. longifolia*, a southern U.S. species. He says that the Kiowas ate the roots, and the Comanche took an infusion of them as a remedy for stomach trouble.

Michael Moore, in Medicinal Plants of the Pacific West (1993) lists a variety of uses including: it shrinks and soothes membranes that are inflamed and slows secretions from irritated membranes; the isotonic tea is a good eyewash; tea for washing newborn babies; teas is a soothing douche, gargle, and enema, as well as a good sitz bath; the dried flowers make a simple diuretic, and it is also useful for decreasing the mucus irritation of simple cystitis and urethritis [if you know that's what you've got!].

If you would like to comment or add information on the ethnobotany of *Eriogonums*, or if you have used wild buckwheat in a cultural way and would like to tell us about it, send your story to the newsletter editor, whose email address is at the end of this newsletter.

"Favorite *Eriogonums*"

Do you have a favorite *Eriogonum* you would like to write about? Walter Fertig likes *E. ovalifolium*, "tufted wild buckwheat." You can read what he wrote about the species (in general) at: http://www.fs.fed.us/wildflowers/plant-of-the-week/eriogonum_ovalifolium.shtml. That website is the national 'celebrating wildflowers' website, put up by the U.S. Forest Service.

If you would like to write an article about YOUR favorite *Eriogonum* to put in the **Eriogonum Society Newsletter**, send your article to the newsletter editor, whose email address is below.

Eriogonum Society Contacts:

Membership	Bob McFarlane	denvrbob@gmail.com
Website	Hugh MacMillan	humanator@yahoo.com
Seed Exchange	Cecile Shohet	cshohet@gmail.com
Newsletter	Cheryl Beyer	cbeyer@fs.fed.us

Articles for the Newsletter: If you are interested in writing or submitting an article to future newsletters, please notify one of the above contacts. Thank you!

Membership Renewal

The Eriogonum Society has attracted over 100 people who love eriogonums and are interested in learning more about them. A number of our members had a great time at our first annual meeting in Reno and we look forward to our next one in the White Mountains of California next August (2011). Our 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.

Dues for all except students are \$10. Dues for students are \$5. Life Membership is \$150. In addition, members may pay two years in advance and receive the third year free. Please do not send cash.

You may pay either by check or by PayPal on our website at <http://erigonum.org>. Make checks payable to Eriogonum Society. Mail a completed form and check to:

Bob McFarlane, Membership
5609 S. Locust St., Greenwood Village, CO 80111

Please update any current info with new phone numbers or e-mail addresses. Thanks for your enthusiastic support of the Society

Name- _____

Address- _____

Phone #- _____

E-Mail- _____

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