30 November 2012

Dear Friends and Family,

I am starting to write this letter on my birthday, on a rainy day (5.5 inches so far, at 5 p.m.). One novelty this year is that I am attempting to type this up on a homemade treadmill desk. This all began when we read A. J. Jacobs' "Drop Dead Healthy". You may recall that AJ wrote a favorite book of ours, "The Know-It All", about his quest to become the smartest man in the world (unsuccessful) by reading the entire encyclopedia (successful). In "Drop-Dead Healthy" he spends about a year and a half learning about and practicing healthy living, including an eclectic sampling of all the fringe movements. One of the changes he made in his lifestyle was to add a work surface to his treadmill and write most of the book while walking on it, racking up over a 1000 miles in the process. So far I have covered a quarter mile, at the sedate pace of 1.5 miles per hour. My working surface at the moment is a bookshelf attached to the handlebars by a belt, and resting on top of a chair at the other end, but a cheap hobbyist drafting table has been ordered, though I am a bit unclear how I will attach it when it arrives.

It has been a year of walking. Although Eileen's knee has healed well from the operation last October, on the advice of the surgeon, she has switched from running to walking for exercise. We bought some good pedometers (they have improved dramatically in the last few years), and she made it a goal to average 10,000 steps per day (about 4 miles with her stride), which she has consistently achieved or exceeded. The guidance of 10,000 steps per day, frequently seen in the popular press, is not a scientifically rigorous or well-documented value – even if correct on average, it should be higher for children and probably could be lower for older adults. But it's a reasonable goal. I've never liked running much, but felt it was the most time-efficient exercise on weekdays when I am generally short of time. However, when Eileen settled into her routine and was enjoying it, I decided to make the switch, too. To insure that I was not quitting at a low point, I required that I have a week of running at approximately my historical best distances and times, to go out on a high note. This I finally accomplished, and since then I have averaged 9000 steps per day walking, about 4.5 miles. It is nice to be able to squeeze in a mile or two at work if a meeting will keep me there late, and Eileen and I can walk together on weekends when we are at home. So it has been nice.

I am pleased to report that unlike last year, with its continuum of medical crises in the latter half of the year, 2013 was singularly uneventful. In 2012, we hit the out-of-pocket maximum, so that our health insurance was covering 100% of every new expense; in 2013, we barely used up our pre-tax health care reimbursement account. What a relief!

Eileen continues to enjoy volunteering at the UC Santa Cruz Arboretum; doing jigsaw puzzles; and reading voluminously. Some of her favorite books this year, in addition to "Drop-Dead Healthy", were "Lee's Lieutenants: A Study in Command" (3 volumes); "Three Among the Wolves: A Couple and their Dog Live a Year with Wolves in the Wild"; and "The Hunger Games" trilogy (we both especially liked the first volume). Looking at last year's letter, I see I forgot to mention favorite books in 2011; we both enjoyed the Harry Potter series immensely, and Eileen liked "Around the World with General Grant" by his traveling companion John Russell Young, as well as the entire, frivolous Shopaholic series.

With a one-month birding trip to Thailand coming up in January (Asia will be our last continent!), and packing space at a premium, we decided the time had come to get a Kindle electronic reader. It arrived a month ago, and is quite marvelous – the new "Paperwhite" version has effective screen illumination so that it can be read in the dark with no ancillary lighting, but the battery life is still weeks. Although newly published e-books from well-known authors usually run $10 or more, there are quite a few classics that are available free from Project Gutenberg, as well as a number of newer books that range from free to $3 at Amazon.com. It is fun to hunt through the offerings on these websites.

Having tamed our 20 resident Merriam's Chipmunks, who pretty much cover her when she sits outside with her coffee, a book, and a cup of seeds, Eileen has moved on to the birds. She sits at our deck table, seeds on the railing two feet away, and a water dish a foot away on the table, and enjoys the parade of Chestnut-backed Chickadees, Pygmy Nuthatches, and Dark-eyed Juncos, with occasional Lesser Goldfinches, Pine Siskins, and wary Steller's Jays (not to mention the omnipresent chipmunks). Speaking of birds, we added just two species to our yard list this year, Barn Owl and Red Crossbill, the latter having staged a small invasion to the coast this year.

Eileen has always doodled pictures of birds and animals in her diaries and the margins of her crossword puzzles, and wished she were better at it, but we have been searching for years without success to finds a book or course that would help her. Finally, I saw a notice for a talk in San Francisco by John Muir Laws, a well-known California artist, and it mentioned his brand new book, "The Laws Guide to Drawing Birds". We could not make the talk, but bought the book, and it is terrific -- Eileen has loved working her way through it, and the improvement in her drawings, in just two months, has been dramatic!

We purchased several new courses from "The Great Courses" (formerly "The Teaching Company"), one on the Civil War, Eileen's favorite historical period; another on current anthropological debates, which we will probably both watch; a third on earth science and geology, which we have both found fascinating; and the last on 30 great orchestral works, by one of our favorite lecturers, Professor Greenburg. The music ones are nice because you can listen to them in the car.

A major project for the year was completing the conversion of our film slides to digital imagery. As I mentioned in last year's letter, I started by sorting the 8000 slides in our collection, culled from about 100,000 captures over 20 years. I organized the 2700 best into roughly 30 programs and had these professionally scanned and uploaded to Picasa, with CDs and thumbnail albums sent to us. Eileen then worked over many months to type in captions, and I finally proofread these a few weeks ago. You can see the results of our labors at this link. Now we just need to get the digital photos we have taken since 2006 into similarly good shape!

Work has been a mixed bag for me. On the positive side, most of this year was spent on a very interesting project that has become the most critical research and development activity in the company, and I do have the satisfaction of having had a large impact on its success to date. On the negative side, the company still struggles to become profitable, so money is tight and everyone has more to do than they can handle.

Early in January, Eileen visited El Paso and had a great time seeing her parents; brother Paul and partner Rosie; brother Rob and wife Mahrla, and their son Enzo. Rob gave everyone a behind-the-scenes tour of the Plaza Theatre, where he does the sound, and Eileen got to see Mahrla playing her bagpipes at a pipe and drum rehearsal. Enzo, who is Eileen's god-son, was then 3½ years old, and was as adorable as ever. His favorite game at that time was "Mad Birds" (as he called the very popular video game "Angry Birds"). Eileen could identify, rather liking the game herself!

Later in January, I attended the Electronic Imaging Conference in San Francisco, and gave two papers related to digital camera image quality, both of which were well-received. Eileen went with me and we both enjoyed the annual Kodak reunion, which had about 10 people in attendance. Our hotel was on the bay, so there was good shore-birding, and on a day-time walk, Eileen located a lovely roosting Barn Owl in an area we had heard one the night before.

I was chairman of our second corporate technical conference, held in March, which went very well – three days with somewhat over 100 attendees. We also had our annual meeting of the organization I run, which contains the top 4% of the technical staff. In addition to the business-related activities, we took in a hockey game (where the San Jose Sharks won handily) and visited the Monterey Bay Aquarium when our whale-watching trip was weathered out. It takes seven months of work to put this event on, so I am grateful that we decided to hold the 2013 event in the fall instead, giving us a longer break in between.

My primary project at home from January to mid-March was to plan out the year's botanical activities. Having had a lot of fun a few years ago trying to track down the native families of plants that we had not yet seen in California, we decided to take the plunge and try to do much the same thing for native genera. Now this is quite a different proposition. There are 162 native families in the state, and the year we tried tracking down our omissions, we started with about 130 already seen, and so only about 30 targets. In contrast, there are 992 native genera, of which we had seen 743 (75%), leaving about 250 genera to research. We decided on a long-term goal of seeing 90% of the native genera, requiring that we find another 150 genera; this I estimated would take four or five years. We find this type of project to be fun and interesting for three primary reasons: there is the challenge of the chase, trying to track down the new plants; the pleasure of seeing the new plants, which are likely to be fairly different from things we have seen before (as they are in new genera, though some we have seen out of state); and the adventure of visiting so many new sites, which often include fascinating places like hot springs and bogs, often on unusual geological substrates.

The research was very interesting, but I had to be quite disciplined to avoid it taking six months instead of the two I had available. For each genus, I would search on-line in the California Consortia of Herbaria database of specimens in plant collections around the state, to see if I could find any records with precise location information, preferably with accurate coordinates. GPS units have only been available to the public for about 20 years, and it seems to have taken botanists a while to adopt them, so few records from prior to the new millennium have good coordinates. Even today, many coordinates with records are surprisingly inaccurate. Anyway, I would search the native species in the genus, sorting by date, and looking at recent specimens first, given the greater likelihood of good coordinates, and the site still existing. If a location

sounded promising, I'd map it using Google Maps, including checking topographical contour and satellite photo views. I'd even use "Street View", a collection of ground-level photos taken from moving cars, to check for fences, "no trespassing" signs, etc., though this method was far from infallible.

If I could not find promising locations, I would also check a different database of records not associated with specimens, called CalFlora, as well as CalPhotos, a huge collection of photographs. Although these databases contain a higher proportion of more recent records, remarkably few have good location information, though I assume that will improve over time. And I don't have much right to complain, as I still have not bitten the bullet and started uploading our 6500 records or our photos – that will be another winter's project. Once I had chosen the most promising available records (if any), I cut and pasted the info into a Microsoft Word file, with the records sorted by county and sometimes by season as well. I set a timer and tried not to spend more than 20 minutes per genus, so I would get done before the field season ramped up. The final file was about 250 pages long, and was loaded onto our field tablet, which also contains the entirety of the new Jepson Manual, released almost a year ago (the hardcopy occupies a prime position in the truck's book box, but I use my electronic version over 95% of the time).

Once the file was complete, I analyzed the results, looking for areas with particular concentrations of records within a single season. Some of the prime potential trips were the eastern Mojave Desert, in both spring and fall, the Modoc Plateau (northeastern corner of state) in summer, San Diego Co. in spring, and the San Bernardino Mountains in summer. We ended up doing the first three trips this year, each about 10 days long. We also took a large number of weekend trips to areas closer to home, tracking down smaller numbers of genera.

While perhaps not in the best story-telling tradition, I'll spill the beans now and tell you how it all turned out. We spent a total of 84 days in the field botanizing in 2012, during which we made a rather staggering 185 targeted searches for 132 new genera, finding 84 of these. So we were successful on 45% of the individual searches, and thanks to multiple searches for some genera, eventually found 64% of those sought. In addition, we discovered, on our own (in other words, not at known locations), another 23 genera, bringing the new genera this year to 107, and moving our total up from 75% to 85.5%, quite a jump. Although it may seem like our goal of 90% should be easy now, we did three of the five prime trips identified, and also found most of the genera occurring within weekend-distance of home – fewer than 20 genera (2%) remain in our file within a 5-hour drive of home.

On unsuccessful searches we tried to assign probable causes, and in about half of cases thought we could do so with some confidence. The two most frequent causes of failure were low rainfall this year (really quite a disastrous winter rainfall in fact – not enough and with long gaps in between, a terrible combination) and finding the location to be inaccessible (usually because of posted private property). Other reasons were location too imprecise, date too early or too late, plants found but not in positively identifiable condition (often flowers or fruit are needed), needed more time, habitat changed over time, and original identification wrong. To wrap up on statistics, I should mention that we found 249 new taxa (species, subspecies, and varieties),

almost three per day, bringing our total to 2901, which is 44.5%. Our goal there, 50%, looks to be two or three years away. Progress on native families is mentioned later.

Despite the activities described above, we did do our usual favorite winter trips, going on local California Native Plant Society (CNPS) walks in the redwoods and sandhills; visiting the series of refuges near Los Banos (where a Sora swimming in the open, at close range, was a treat), exploring the Panoche Valley area (wintering Sage Thrasher was neat to see), and canoeing at Point Reyes and on Elkhorn Slough (where we saw Bat Rays with 3-foot "wingspans"). Botanical trips started in March. An early April trip to the Carrizo Plain gave us an idea just how awful the annuals would be this year because of the poor winter rainfall, but finding a den of Kit Foxes and seeing the pups well was some compensation. About the only good displays we saw the whole year were lupines and poppies in the mountains of western Santa Barbara Co., in areas that burned a couple of years before. (A highlight of that trip, on the Burton Mesa, was following a long mountain lion trail with lots of very clear tracks and scat.)

The first of three 10–12-day botanical forays for the year was to the east Mojave Desert, primarily in southeast Inyo Co. and northeast San Bernardino Co., departing on April 27. The desert camping was great as always, but the Inyo Co. portion of the trip was a complete bust because of the winter drought. My field notes say that the day we spent in the Pahrump Valley was our worst day of California botanizing ever; virtually no green foliage was seen on any perennial species, and not a single annual species was seen! But the trip still was a lot of fun; some of the more exciting things we saw were 19 Bighorn Sheep at Zzyzx (a new subspecies for us); Solitary Sandpiper at Tecopa; a Poorwill waddling on the ground in the daylight in the Kingston Mountains; two Desert Tortoises; and a nice collection of plants that grow only on limestone, including the spectacular Bear Poppy, in a remote area northeast of Baker.

We also were able to try for two of the four native families we still had not seen in the state. A total of seven Koeberlinia (a spiny desert shrub rarely possessing leaves) in three sites had been reported in 2011 northwest of Desert Center, north of its known range in the Chocolate Mountains, in an area being converted to solar power. We found that one of the three sites, with two plants, had escaped the solar development, and we hiked directly to the coordinates. I had nearly finished scanning 360 degrees with binoculars when I saw them – two magnificent examples, perfectly symmetric, probably seven feet high and fifteen feet across – the only problem being that they were Castela, a different rare, spiny shrub! Fortunately, one other report on public land had surfaced in 2011, on the lovely Chuckwalla Bench, just north of the Chocolate Mountains. So we headed there, where, finally, our multi-year search came to an end in a small stand of the yellow-green shrub, which rarely bears leaves, photosynthesizing mostly with its stems and thorns.

On the drive home, we went a little out of the way to look for a remnant woodland of native walnut trees. There are two native walnut species in the state, both of which we had seen before, but research over the winter suggested that the stands we had seen previously were planted (probably by Native Americans), rather than being entirely natural occurrences, so we struck the family from our list and were trying again. The trees were easily found on the Cal Poly Pomona campus; in fact, they are individually countable in satellite photos! This left us only two unseen native families of the 162 in the state.

Many interesting weekend trips followed. We visited Plumas Co. over Memorial Day weekend, camping the first night in a snowstorm, but enjoying good birding and botanizing the rest of the weekend. A favorite site was Marble Hot Springs Rd. in an isolated valley with Great Basin habitat; birds here included breeding Sandhill Cranes and American Bitterns. The star botanical find of the weekend was Floerkea, a tiny plant of wet areas, which I have wanted to see for over 15 years – since the roughly 30-volume Flora of North America series began being published, with this plant as its emblem. A trip to Fresno Co. yielded some interesting alkali sink plants and breeding Lesser Nighthawks, which occasionally gave a soft warbling call I have never heard before. A trip to El Dorado Co. in early June was great fun. On the drive up, we stopped in Plymouth, where we had dinner with Eileen's sisters Lizzie and Susie (with friend Father Tom), and nieces Colleen, Christina (with friend Ian), Mary, and Megan (with baby Maeryn). The next day, Eileen located Adder's-Tongue Fern, Ophioglossum, which I had not seen in 30 years. We also found Five-Spot, a stunning white flower with an indigo spot on each of its five petals, which is not uncommon, but which we had not seen since 2003. One day, as we were eating lunch in the truck, a large Black Bear with beautiful pelage calmly stepped out of the woods about 30 yards away, pausing to rub against a telephone pole, then sauntered across the road – a fantastic look at a gorgeous animal! Other fine trips this spring included CNPS trips to Montgomery Woods, led by Peter Warner; Walker Ridge, organized by Carol Ralph (ending with viewing of the annular solar eclipse); and to the Mt. Pinos area, with David Chipping and Dirk Walters of the San Luis Obispo Chapter.

In late June, my sister Cathy's daughter Sara visited after presenting, at a conference in San Francisco, a research paper on alcoholism, using functional magnetic resonance imaging. It was great fun to see her again and catch up on news. We went whale-watching one day with notable success (three species seen well), toured redwoods another day, and ate a lot of good food. After dropping her off at the San Francisco airport, we continued northeast on our second botanical foray of the year, to the Modoc Plateau in the northeast corner of the state, near the boundaries with Oregon and Nevada. This is Great Basin sagebrush habitat, and it has a number of plants that do not occur elsewhere in the state. Highlights of this trip were the lovely remote camping spots; our first Pronghorn in the state (at our campsite near Clear Lake refuge, they approached Eileen to within 50 yards, unusual for this wary species); Black Swifts at MacArthur-Burney Falls (they nest under the cascading water of the falls); beautiful canoeing at Ahjumawi Lava Springs State Park (where Eileen saw a weasel, probably Long-tailed, in our campsite); a magical day hiking in Lava Beds National Monument to see a tiny plant, Dimeresia, in Caldwell Butte (actually a pumice caldera); and Dusky-footed Woodrat, our only life mammal of the year, in "The Triangle" region of Modoc National Forest.

After the mega-dusty Modoc Plateau trip, I decided that the camper required some real attention. Now 10 years old, having endured about 140,000 miles on the road, and nearly 700 nights of camping, it is showing a little age, though most of the wear and tear has been since getting the new truck two years ago, with its more brutal rear suspension. After studying where dust seemed to getting in, and making a number of measurements, I could see that the camper was out of square, especially in the back. A call to Alaskan Campers, who have provided the most wonderful support over the years, identified a potential problem – when the camper was mounted in the new truck, its perimeter overhung by a few inches the 4x4 lumber on which it rests,

allowing the periphery to sag slightly (especially under the stresses incurred while bouncing along on four-wheel-drive roads). Adding some more 4x4 lumber, which went right to the edge of the camper, squared things up pretty well. With that issue addressed, I spent several more days working on repairs and upgrades, and also had the after-market suspension adjusted for a softer ride. Modifications have continued since, but the work seems to have rejuvenated the camper quite a bit.

My friend Elaine at work asked if I could help her son, Adam, and his classmate, Ruchika, study for the Forestry competition of the Science Olympiad, in which they had both done well early this year, but hoped to do even better in 2013. We did a one-day summer field trip here in Santa Cruz Co., tracking down trees that were on the list that they needed to be able to identify, and practicing pressing specimens to study. Elaine and Adam collected more specimens in Yosemite and on a trip to Zion, Bryce, and the North Rim of the Grand Canyon, and Eileen and I grabbed samples as we encountered them during our work. In the fall, we did a Sunday afternoon session at our workplace, reviewing specimens and partially constructing a dichotomous key to the species they needed to recognize for the regional competition. We wish Adam and Ruchika well in the competition!

We took a trip in August to visit our friends Jennifer and David, their son Pablo, and brand new daughter Sabrina, in Santa Barbara. For a year they rented a house just down the road from us, and Eileen, Jennifer, and Pablo had a lot of fun together. We found them doing fine in a nice house in Goleta, with the job that brought David there working out well. We spent a very enjoyable day at the Santa Barbara Zoo, and watched a bit of the Olympic coverage in the evening.

Most weekends from late July to late September were spent in the Sierras, looking for mid- to high-elevation montane species. We found a number of interesting plants in scenic places on these trips, and particularly appreciated advice from Barry Breckling, a photographer in the very friendly Sierra Foothills CNPS chapter, who directed us to several great locations and plants. One weekend we crossed the mountains at Tioga Pass and continued down to the Mono Lake area, where we camped the first night at dusk at remote Sulphur Pond, at this time of year just a small surface overflow from a hot spring. In the morning, we looked all over this fascinating spot for two target genera, Carsonia and Micromonolepis, without success. As we were about to leave, I squatted down next to the truck to pick a rock out of a tire tread, and my line of sight over the tire revealed a flowering Carsonia, right under the camper! Needless to say, when we left, we pulled out quite gingerly.

Our last botanical foray of the year was back to the East Mojave Desert to look for fall annuals. On average, once every few years, monsoonal storms make their way up the Sea of Cortez (between Baja and mainland Mexico) and typically curve northeastward, bringing summer rains to the deserts of southeastern California and Arizona. If there are enough of these storms in July and August, a small number of specialized fall annual plant species will flower in September and October. We have never seen this phenomenon, so I have been watching the weather anomaly maps for a few years, hoping for such a summer. This year it finally happened -- you may have heard of the serious flooding in Las Vegas this summer, which came from the same storms in whose wake we would travel.

We left on Oct. 5 and spent most of the time within a triangle perhaps 60 miles on a side, in which the most rain had fallen, and which, fortunately, included some of our favorite areas, such as the Mojave National Preserve. One day we spent cross-country hiking up Forsellesia Canyon, on the north slope of Clark Mountain, to a limestone headwall where we found the rare shrub Glossopetalon pungens, which grows in only two places in the world. At the top of the headwall, a Cooper's Hawk caught a Northern Flicker, and screaming, they tumbled 75 feet through the air before hitting the ground near Eileen. The flicker scrambled under a rock, and the hawk flew away, seeming pretty shaken up – quite an incident! A suite of other interesting limestone plants were encountered on Clark Mountain and in the New York Mountains. In Caruthers Canyon, we found Mojave Green Rattlesnake, a new reptile for us, and the evening we camped there, had a thunderstorm sunset that was one of the most dramatic we have ever seen. In the Rock House area of Mojave NP, we saw how the wash had been completely rearranged by the summer storms and flooding – the power of the flowing water was remarkable.

We did a long, rambling hike there, looking for several rarities, including a native annual Portulaca, the sole native representative of its family in the state, and one of only two families we were still missing. Eileen saved the day by finding one of these Portulacas in a slightly muddy area where she was investigating mammal tracks – excellent spotting on her part! The few plants were each under an inch high, and though none were in bloom, one had a highly distinctive fruit, thank goodness. The only remaining native family we have not seen has one representative, Water Stargrass (Heteranthera dubia), for which I have not been able to find any records in the state in the last 30 years, and only two records since the 1950s. We have already spent a couple of days searching in the most likely places, and probably will make no further attempts unless new information becomes available.

Our last field trip of the year was up to Napa Co., where we stayed with Mike Parmeter and had a great first weekend of November. On Saturday we were joined by Juanita, Margaret, and Jake, with whom we have done many wonderful trips before, to search drying lakeshores of Lakes Hennessey and Berryessa. We found our three target genera readily, and many other interesting plants as well. A Bobcat and Lewis' Woodpeckers were bonuses. On Sunday Mike took us to a location Jake had mentioned for a scarce aquatic plant, Sagittaria sanfordii, after which Eileen and I hiked to Lake Marie in Skyline Park (where the trailhead sign warned us against wild pigs, rattlesnakes, and poison oak; but, hey, enjoy the hike!), finding our last new genus of the year, Viburnum, at its only location in the county. It was a fine way to wrap up the year of botanizing!

One last project this fall, once the field season was winding down, was to revamp the garden. We live on a sandstone bedrock, and the soil is like coarse beach sand. We got local advice and added loads of nutrients when we put in the small garden (roughly 12x25 feet, fenced-in against deer and rabbits), and some plants have done well, but many have not. Our feeling was that although we added plenty of nutrients, we had not changed the soil moisture capacity much, and rainwater percolated through quickly, washing them away. So we cleared most of the garden, leaving selected plants, added amendments 3 inches deep, and worked them into the sandy soil to improve moisture retention and boost nutrients again. Since then, Eileen has planted scores of annuals and perennials, taking advantage of the fall rainy season. One more round of planting and the garden should be ready for the drip irrigation to be put back in place. It is looking very

nice. [Birds and chipmunks are also contributing to the planting effort. I know this because: 1. I don't plant birdseed. 2. The seeds I do plant don't germinate as well as theirs do. 3. When my seeds do germinate, the plants are at polite, respectable distances from each other and not crammed happily together with 8 or 9 plants sprouting out of one planting hole. In addition to the garden itself, there is not one pot on the deck that doesn't have a handful of birdseed coming up in it. ~ Eileen]

As I finish this letter on Sunday (having started Friday evening), it is still raining, with the total for the last 72 hours being 10.5 inches. We lost power briefly both of the last two nights, and were without power for 4 hours this morning, pretty typical for a storm of this magnitude, which drops many branches onto power lines. We were close to heading out to the camper, our refuge in longer power failures, but did not have to do so.

We're looking forward to our trip over Christmas to El Paso, to see Eileen's folks; we'll also have a few days in Big Bend National Park, always a delightful place to visit. And we'll be continuing to study the birds and mammals of Thailand, using flash cards to practice the mammals, and a heavily annotated field guide to learn (some of) the birds.

Eileen and I hope that you and your families are doing well. We always like to hear from people or have them visit if in the area; our contact info is given below. Happy holidays!

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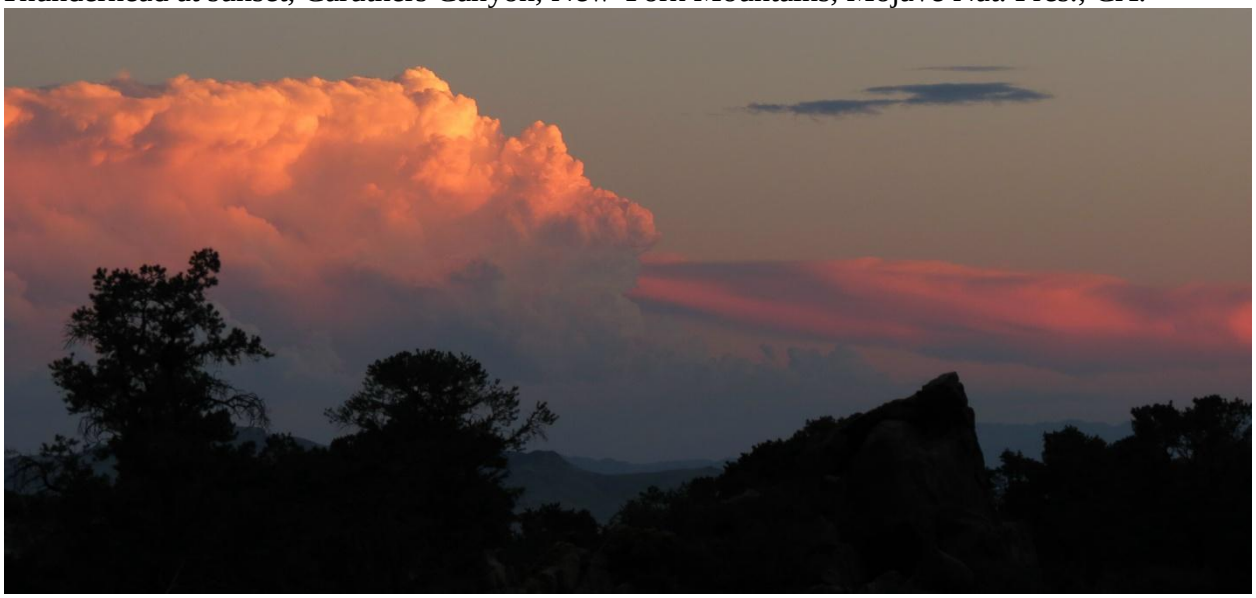
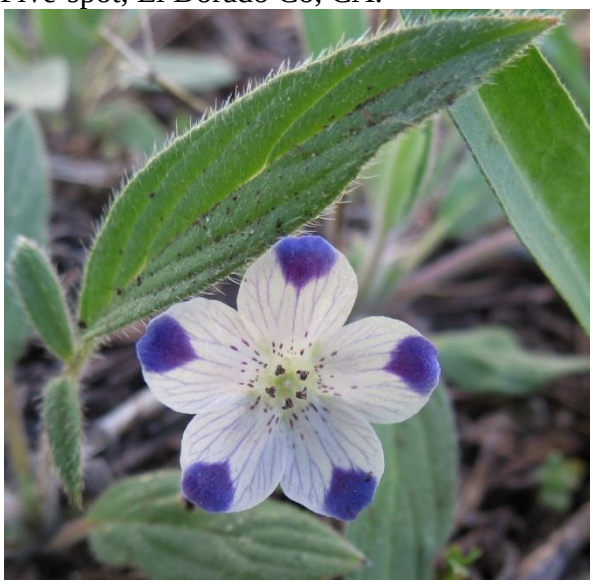
Home Page
Photos

Thunderhead at sunset, Caruthers Canyon, New York Mountains, Mojave Nat. Pres., CA.



Five-spot, El Dorado Co, CA.



Sagebrush Mariposa Lily, Lave Beds NM, CA.

Yellow-headed Blackbird, Plumas Co., CA.

Bighorn Sheep, Zzyzx, CA.

Chocolate Lily, Santa Barbara Co., CA.

Canyon Wren, drawn by Eileen.