ERIOGONUM SOCIETY NEWSLETTER

VOLUME 3 NO. 1 March 2011

***Eriogonum diatomaceum*, Churchill Narrows Wild Buckwheat**

Endemic to Lyon County, Nevada

Involucres close-up photo - Steve Matson

Insight into the Involucre[1]

involucre: A whorl of compact, spiral bracts immediately subtending the usually pedicellated flowers. Involucral features are of *paramount* importance in determining a genus [within the Polygonaceae subfamily Eriogonoideae]. The involucral features are also important, in many cases, when separating the species of *Eriogonum*.

In "Notes on *Eriogonum*" in the March, 2009, *Eriogonum* Society Newsletter, Dr. James Reveal observes that "*Eriogonum* itself is defined as those members of the subfamily [Eriogonoideae] that have their numerous flowers clustered into a tube-like structure or **involucre** that protects the buds and immature flower. In this genus the involucres lack spines, awns or short mucros, features that characterize other genera" [such as the genus Mucronea, seen below].

***Mucronea californica*, San Luis Obispo County, CA; photo by Christopher Christie. Mucronea is a genus in the subfamily Eriogonoideae that has spine-tipped involucres.**

***Eriogonum flavum*, as an example of the genus *Eriogonum*; note that the involucres lack spines, awns or short mucros.** http://www.eol.org/pages/585252

Accordingly, "the number of flowers in *Eriogonum* is mostly six to around 45 in each involucre, but there can be more than 200 in some species. Flowers are continuously produced inside the involucres so that while only a few may be exposed at one time from a single involucre, other flowers can be found inside the involucre as buds or immature, unopened flowers."

The photo to the right shows a close-up of an involucre and the perianths of *Eriogonum umbellatum* var. *umbellatum* from the Blue Mountains of Oregon taken by Paul Slichter. (Note the spreading lobes of the involucres and the many flowers in the involucres)
http://science.halleyhosting.com/nature/basin/3petal/buck/eriogonum/umbellatum.htm

[1] Most of the information in this article is taken directly from various publications by Dr. James Reveal, including past Eriogonum Society newsletters.

Changing Climate, Uncertain Future for Native Plants[2]

Climate change is a natural phenomenon that has occurred throughout the history of the earth. However, it is the predicted that the rate of temperature change poses the greatest threat to biodiversity. An analysis for over 15,000 native vascular plant species in North America was conducted by The Nature Conservancy on the potential effects of climate change on the native vascular flora of North America provides a preliminary assessment of patterns of plant species' vulnerability.

The principal assumptions for the analysis were that climate determines the range of plant species; mean annual temperature adequately approximate climate; species distribution appears to be in equilibrium with present climate; and a species' current climate envelopes equivalent to its tolerance of climate variation. Together, these assumptions state that the current distribution of each species is greatly influenced by climate and that temperature adequately represents climate. Although these are simplified envelopes, they allow the initial identification of broad patterns of species' vulnerability to climate change.

It is hypothesized that the survival of species during periods of changing climate will be determined in part by their abilities to disperse to new sites or to persist in place. Characteristics important to species mobility include pollination mechanisms, dispersal mechanisms, reproductive characteristics, degree of self-compatibility, growth form, trophic type, and number of populations.

According to Walter Fertig (http://www.fs.fed.us/wildflowers/plant-of-the-week/eriogonum_ovalifolium.shtml) nearly one-third of all recognized species and varieties of *Eriogonum* (in the broad sense) have limited distributions and are fairly rare. The results of analysis by Morse, Kutner, and Kartesz imply that numerous rare vascular plant species could be further threatened by climate change. They also theorize that temperature extremes and changes in the frequency and severity of local disturbances may have a greater influence on the survival of plant species at particular

[2] This article is an abridgement of "Potential Impacts of Climate Change on North American Flora," by Morse, Kutner and Kartesz. The full article can be found at: http://www.colorado.edu/geography/virtdept/module/biosphere/appendix/morse/morse.html

locations than small shifts in the average climate.

Additionally, most native plant species – including wild buckwheats - exist in a highly fragmented landscape that further separates appropriate habitat patches, increasing the dependence of many species on relatively rare events of long-distance dispersal. This requires that the species must disperse across hostile habitats, including roads, cities and suburbs, farmland, and extensive areas of non-native weedy plant species.

For example, see the map below for Las Vegas buckwheat. Within its restricted range, many of the occurrences of Las Vegas buckwheat are considered extirpated within the city limits of Las Vegas.

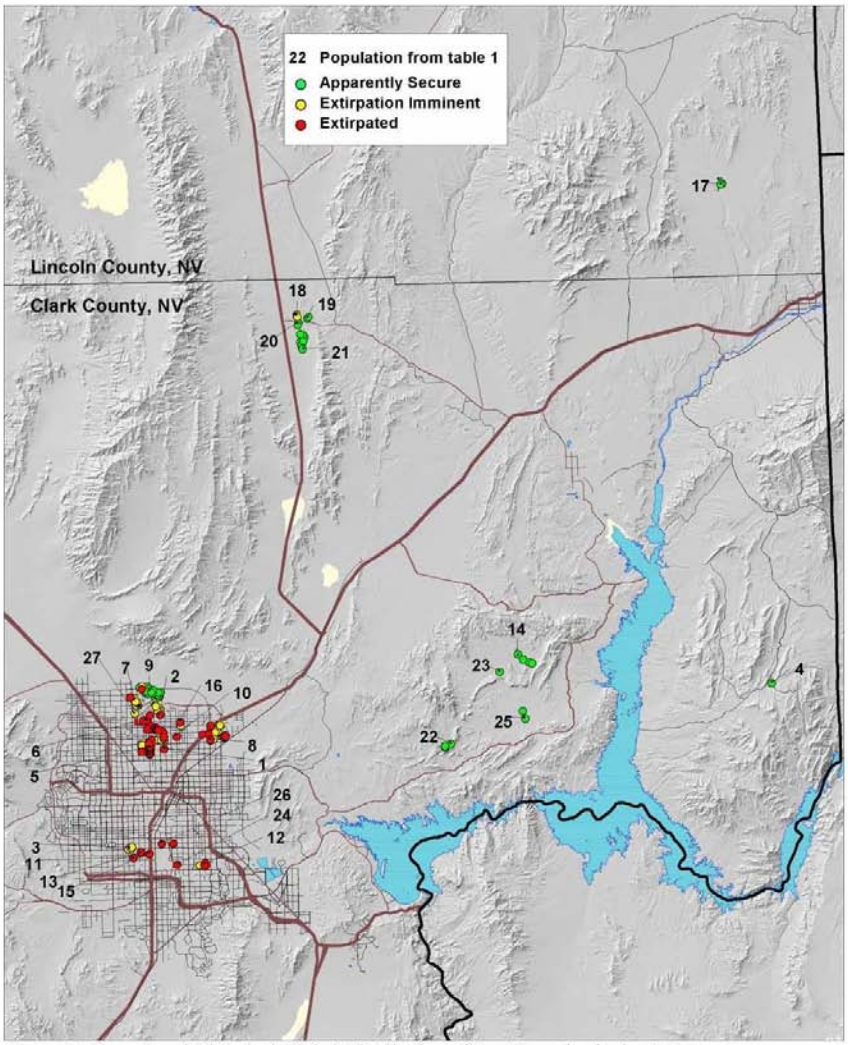


Figure 1. Current and Historical Global Distribution of Las Vegas buckwheat, *Eriogonum corymbosum* var. *nilesii*. Compiled by the Nevada Natural Heritage Program, September 2007.

This taxon is considered 'imperiled' by the Nature Conservancy, and is a Candidate for listing as Threatened or Endangered with the US Fish & Wildlife Service. Additional pressure from climate change could cause this species to become extinct.

SECOND ANNUAL MEETING
BISHOP, CALIFORNIA
August 11-14, 2011

The second annual meeting of the Eriogonum Society will be held in Bishop, California from the 11th to 14th of August. The highlights will be a full day seminar and keying workshop on identifying Eriogonum species in the field, three escorted field trips in the Whites and Sierra Nevada to see Eriogonums and other plants, presentation of a manual prepared by Jim Reveal providing keys and instructions on how to identify all varieties of Eriogonum, a dinner meeting with speaker.

Based upon the attendance at our first annual meeting last June in Reno and the growth in our membership since then, we expect that we might have as many as 60 attendees at this meeting. We will plan to divide the group in half for all field trips and the keying workshop in order for all to keep the groups at reasonable size. The registration for the meeting will be $135 per person and only members of the Society are eligible to attend. The registration will cover the cost of the seminar and workshop, the manual, one lunch on the day of the keying workshop, a welcoming get together and one dinner meeting with speaker.

For those of you who will be attending with non-registering guests may wish to invite them to our Saturday evening dinner and speaker at the Whiskey Creek Inn on Main Street in Bishop. The cost for this is $25.00 per guest and may be paid for with your registration. It may not be possible to reserve a dinner for a guest after we reach Bishop since space is quite limited at the restaurant. Also, please note that guests may not attend the seminar since space there is even more limited.

As most of you know there are a great number of Eriogonum species resident in the Inyo and Mono Counties where we will be. The altitude range will be from about 4000' to 11,000' so we should be able to find many plants in bloom.

The field trips are being planned for both the White Mountains and the Sierra Nevada by Scott Hetzler of Bishop who probably knows more about where the Eriogonums are in this area than anyone. The first field trip will be on Friday, the day of the keying workshop. In the morning while the first half of the group is attending the workshop the other half will take a one-half day field trip. In the afternoon each group will change - the morning workshop group will go on the same field trip while the morning field trip group will attend the workshop.

On Saturday and Sunday we will split up the group once again and each will go on an all day field trip. One group will be led by Scott and the other by Jim Reveal. On Sunday we will change around again and redo the same field trips with the leaders switching trips. It will be necessary on each of the three field trips to carpool in order to reduce the number of vehicles in each group to about six since some of the stopping spots have limited parking.

On Saturday evening we will hold a dinner meeting and John Weiser, who led one of the field trips at our last meeting, will be our speaker.

The Registration Form and detailed meeting agenda can be found on our website at www.eriogonum.org. We look forward to seeing you in Bishop.

Schedule:
11 Aug - Thursday: Noon to 2pm: registration and socializing 2pm - 6pm: A brief introduction to *Eriogonum* including history of its discovery, distribution, ecological settings, habit, duration, and morphological characteristics. Joint keying out and identifying of select species of *Eriogonum*. This session is designed to introduce structures and terminology used in keys and descriptions. This session will be for all registered members.

12 Aug - Friday morning: One group attends the classroom session focused on the identification of fresh *Eriogonum* specimens by the participants. We will provide a large number of different species for which distribution will be provided but not names. The point of this exercise is to allow participants to become familiar with keys and descriptions, and to introduce several different species, some of potential horticultural importance. The second group will go for a half day field trip
Both groups will gather for lunch (paid by the society).
In the afternoon the groups switch; the first group will go for the half day hike and the second group will attend the classroom session (described immediately above).

13/14 Aug - Saturday/Sunday: Organized fields trip around the Bishop area. Saturday night we will gather at the Whiskey Creek Inn for a banquet (paid by the society), a speaker presentation, and a very brief business meeting.

The classroom sessions and registration will be held at the UC White Mountain Research Station, 3000 E. Line Road, about 3 miles east of downtown Bishop. **Only members of the Eriogonum Society in good standing are eligible to register for this event.** Participants will be responsible for arranging their lodging and most of their meals. We will plan to carpool on the field trips.

Seed Exchange

Special thanks go to Cecile Shohet who headed up the Seed Exchange this past year. About $109 was made on the exchange. Thank yous also go to those who contributed seed and those who purchased it!

!Penstemon Society Announces Grant Availability!

Who: American Penstemon Society **Call for Grant Requests:** 2011-2012
Awards: $200-$1,000 **Contact:** www.apsdev.org

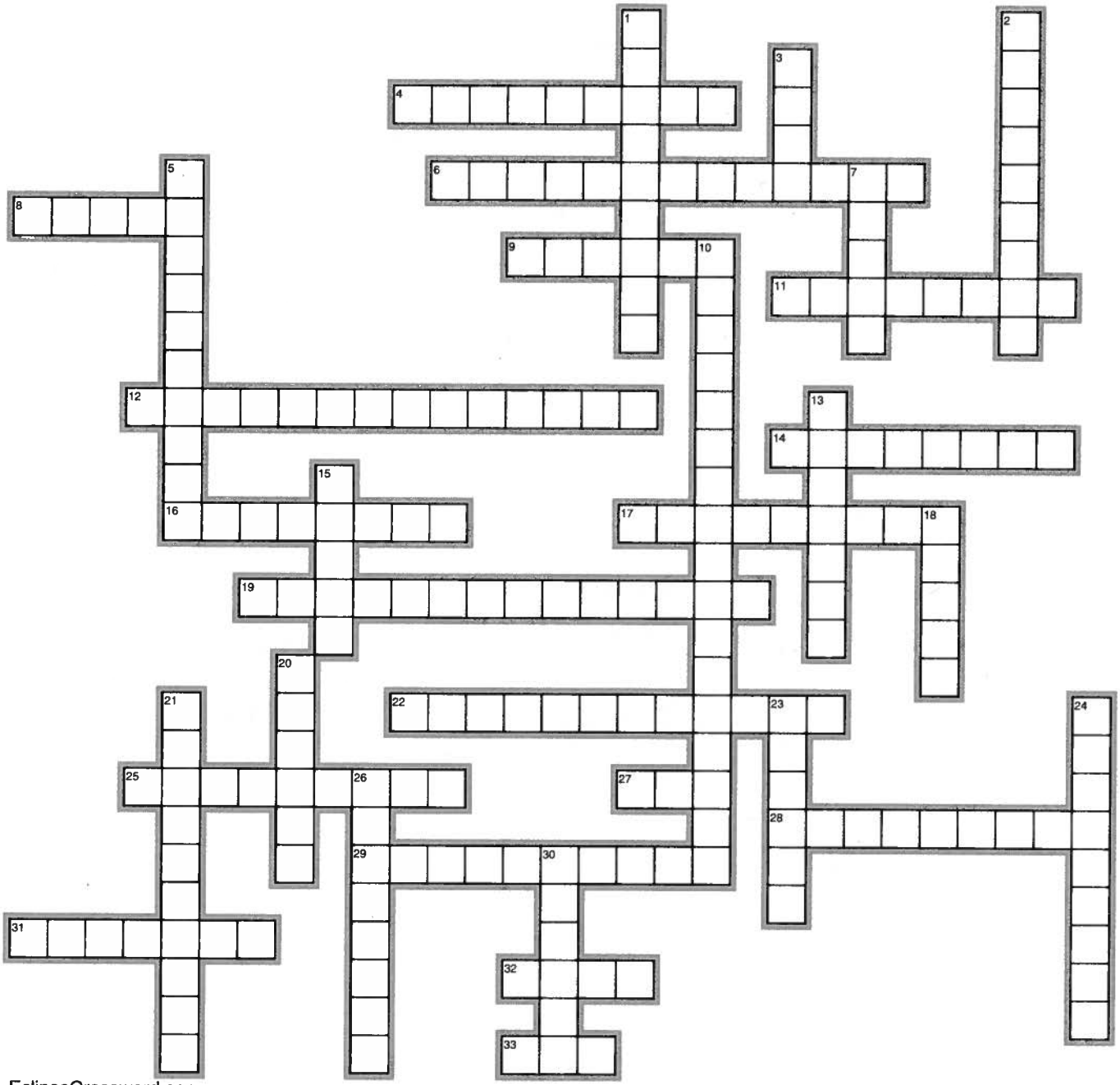
ERIOGONUM PUZZLE - try your luck! No peeking at the answers on the last page!

Across

4. Eriogonum is tied for third place for number of species in North America with which other genus of flowering plants
6. The flowering part of a plant
8. Receptacle of a flower (where flowers detach from the pedicel)
9. Location of the second meeting of the Eriogonum Society
11. Normally living 2 years
12. Order to which the genus Eriogonum belongs
14. Stalk of a solitary flower or of an infloresence
16. Plant having a woody caudex above ground
17. Flowers imperfect, the staminate and pistillate flowers borne on different plants
19. Male and female genders occur within the same flower
22. Plant family to which the genus Eriogonum belongs
25. A whorl of compact, spiral bracts immediately subtending pedicellated (usually) flowers
27. In the 'strict' sense, the subgenus Eriogonum has how many species?
28. Having all branches arise at a single point
29. Unisexual and bisexual flowers on the same plant
31. Pertaining to the stem
32. Location of the first Eriogonum Society meeting
33. Often the color of the female flowers in the genus Eriogonum following pollination

Down

1. Having 2 forms
2. Common name for plants in the genus Eriogonum
3. Meaning of the Greek word 'gony'
5. The flowering plant genus with the second largest number of species
7. The flowering plant genus with the largest number of species
10. Essentially dioecious, but having some bisexual flowers present in some or all plants
13. The stalk of a single flower in an inflorescence
15. Ringlike arrangement of similar parts arising from a common point or node
18. Abruptly attenuated base of flower in some species of the genus Eriogonum
20. Meaning of the Greek word 'erion'
21. Flowers imperfect, the staminate and pistillate (unisexual) flowers borne on the same plant
23. Normally living one year or less
24. Normally living more than 2 years
26. Headlike, or in a head-shaped cluster
30. The seed-like fruit of the family to which the genus Eriogonum belongs to



EclipseCrossword.com

Submissions to the newsletter

Do you have a favorite Eriogonum you would like to write about and submit to the **Eriogonum Society Newsletter?** Or would you like to write an essay on a pertinent topic? Do you have corrections to a past newsletter, or have a letter to the editor you'd like published? Please 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://eriogonum.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-_____

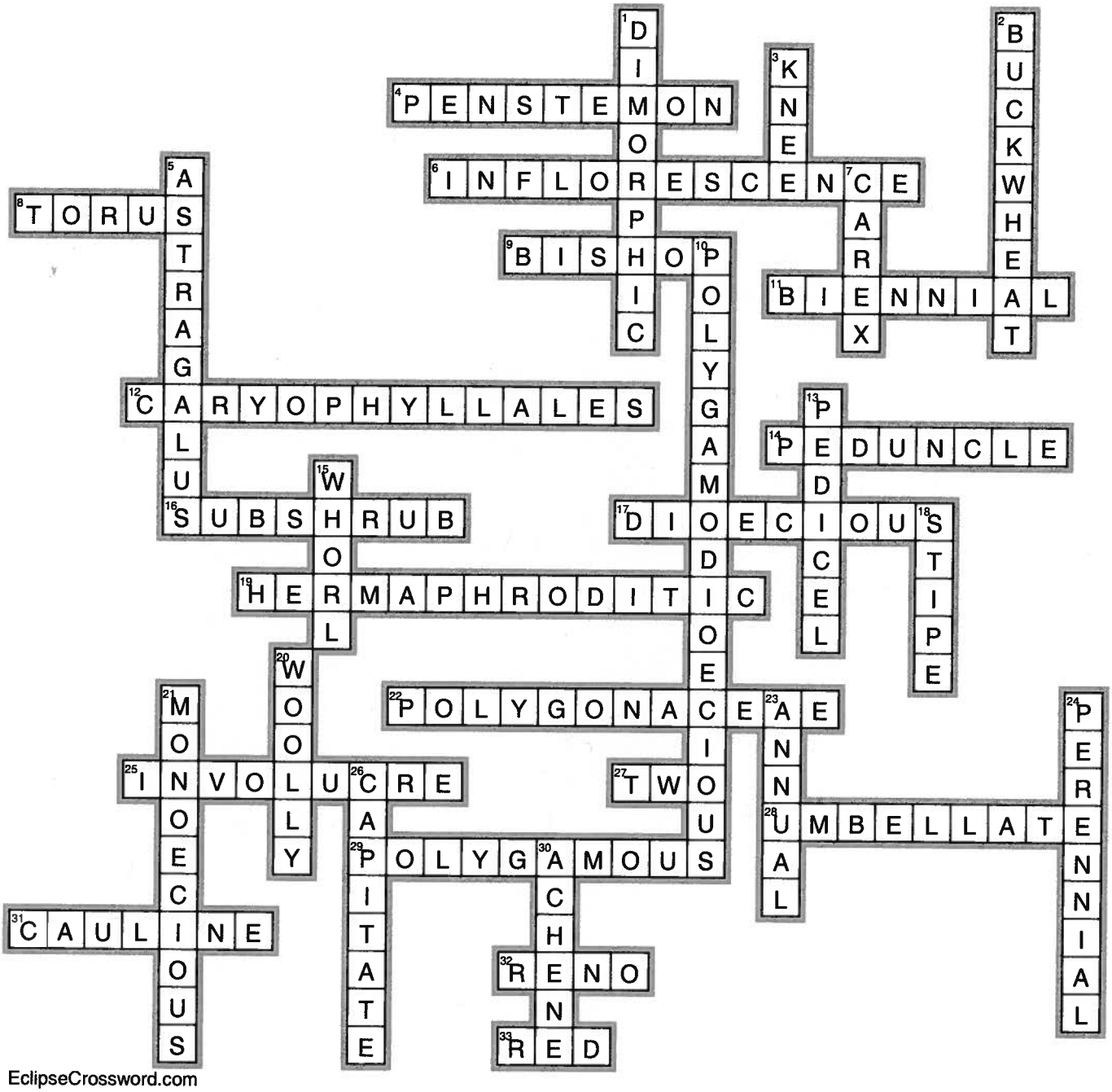
Address-_____

_____

Phone #-_____

E-Mail-_____

We do not sell, share or distribute member data in any manner.



EclipseCrossword.com