



Washington Butterfly
Association

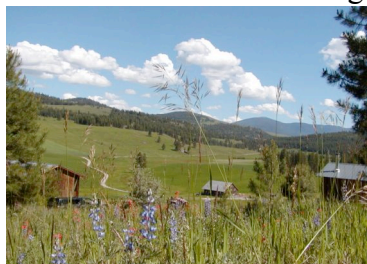
G'n^{*}um

The newsletter of the Washington Butterfly Association

P.O. Box 31317 Seattle WA 98103

www.naba.org/chapters/nabaws

G'n^{}um is the official greeting of WBA. It is derived from the name of common Washington butterfly food plants, of the genus *Eriogonum*.



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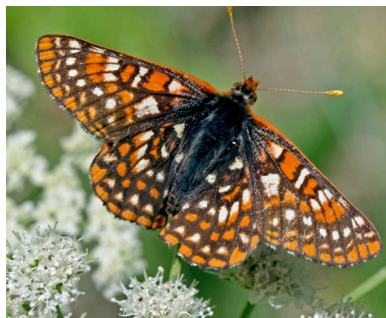
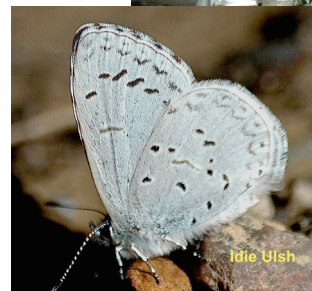
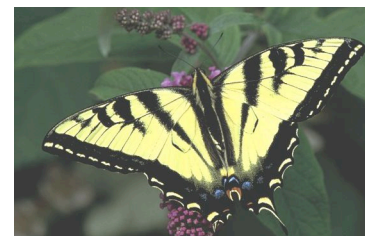
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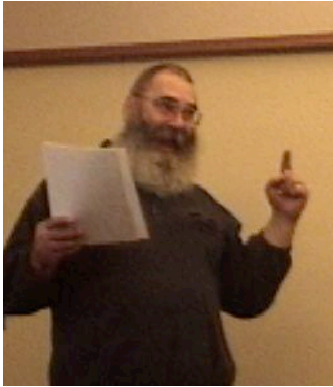
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Jonathan Pelham Doubly Honored

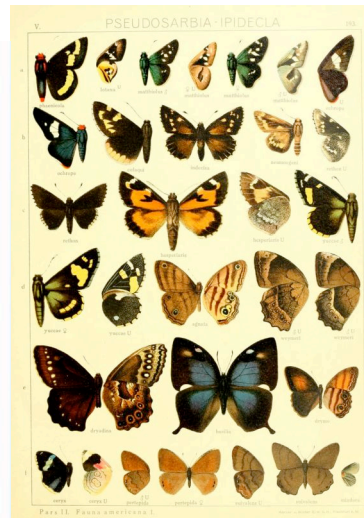


Jonathan has been named a Research Associate for the McGuire Center for Lepidoptera and Biodiversity in Gainesville, Florida. This is the second largest Lepidoptera collection in the world. The Natural History Museum of London is first. As part of this position he will review Lepidoptera research papers for the Museum.



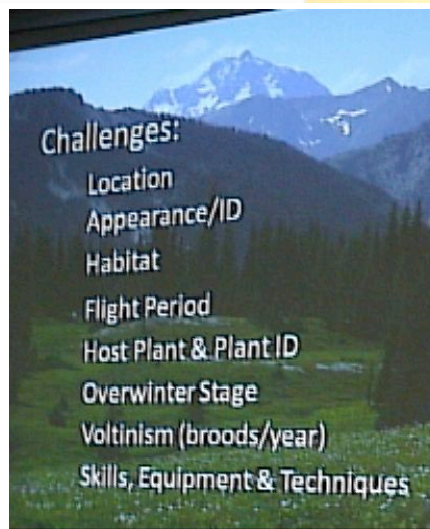
Further, a Peruvian lepidopterist has named a Chinese butterfly for Jonathan, the Buddha Arctic *Oeneis buddha pelhami* (Lamas, 2010).

Recent Programs

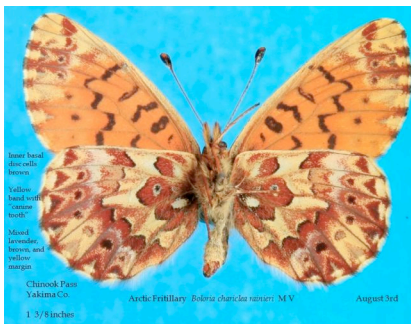


In November Jonathan Pelham gave us Part 2 of the history of butterfly study and those who did it, including the change from somewhat fanciful representations of species up to recent books with photographic detail and now, of course, actual photographs

Then, in December,



Dave Nunnallee discussed his book co-authored with David James (*Life Histories of Cascadia Butterflies*), including the many challenges they faced such as knowing the flight periods and habitats of little-studied species, finding eggs, larvae, or gravid females, rearing species that had never before been reared in captivity, finding the right forage plants, getting some species through a winter diapause, avoiding diseases, parasites, and the like.



In February, Bob Hardwick showed us in detail how to identify the lesser fritillaries and crescents of Washington. He used the vivid photos from his book *Butterflies of Washington*, noting that characteristics of the ventral hindwings are especially useful for identifying these species.



Upcoming Programs

March 7 – Dr. Dennis Paulson: Dragonfly Identification

Each year we have one program which strays outside of lepidoptera. This year we return to odonata as by popular demand we have Dennis back to help us with the dragonflies we see as we are butterflying. Dennis is an excellent teacher and brings his delightful humor into his programs.

April 3 – Dr. Tom Daniel, Komen Endowed Chair, University of Washington. Reverse Engineering Insect Flight – Winging it at UW

Within the blink of an evolutionary eye, flight appeared on the planet, transforming the earth and giving rise to incredible diversification of the insects. As fundamental as this process is to the basic biology of the insects, understanding how insects fly still remains a considerable challenge. From the aerodynamics of flapping flexible wings to the ways in which insects use diverse sensory cues to regulate flight and navigation, we are trying to unravel the complex physics of flight control.

May 2 – Project Butterfly at Snow Mountain Ranch. By Dr. David James.

This Yakima property, owned by Cowiche Canyon Conservancy, involves Dr. James heading the development of a nature preserve for butterflies. A butterfly garden is planned but the major thrust will be to learn more about the butterflies found there and to develop/implement strategies for conservation. This exciting project is very rare for this part of the world...come and get in on the ground floor!!! Dr. James is co-author of the "Davids" book.

June 6. Butterflies of China. Dr. Bob Pyle. During much of May, 2010, Bob and Thea Pyle had the remarkable opportunity to take a natural history trip to China, with in-depth visits to several nature reserves. Along with Janet Chu, Paul Opler, and Evi Buckner, they paid particular attention to the butterflies. Bob will introduce many of the nearly 100 species encountered, compare them to our own fauna, and place them in context with the culture, terrain, plants, and other animals, including giant panda and the giant red flying squirrel. Thea's photographs of some remarkable wildflowers complement those of the butterflies and landscape.

Idie Ulsh Teaching Butterfly Class in May

Back by popular demand, Idie is giving this class on Tuesdays May 15, 22, and 29, 7:00 – 9:00 pm in CUH Douglas Classroom, with field session Saturday May 19 (rain date June 2). Over the years, many people have joined WBA after taking this class.

This photo-based course includes natural history, butterfly gardening, and butterfly photography with superb photos of all species and topics, plus several handouts. Participants will learn to identify and attract 30 of the most common butterfly species of the Puget Sound area. Proceeds support Seattle Audubon Society and Washington Butterfly Association.

Cost: \$75 for SAS or WBA members, \$90 for nonmembers. (Lecture only: \$40 for SAS or WBA members; \$55 for nonmembers. **Limits:** 15 for lecture and carpool field session. 20 for lecture only.



Winter Party



Once again our winter gathering at Jonathan's place was great, with 17 of us enjoying outstanding food and camaraderie. As usual the white elephant gifts ran from the ridiculous to the sublime (sometimes with the distinction hard to make). The evening's most coveted item, exchanging ownership more than once, was a shirt covered with gorgeous butterflies and moths.



President's Message – from Richard Youel

Get your calendar out and make plans - this issue has the dates you need.

Please review the Field Trip schedule. You will see favorite destinations and some new ones. Field trips are a good way to get out to really great spots you wouldn't normally know about - and with great people for company. The first will be our traditional start of the season to Schnebly Coulee in quest of the Green Hairstreak. It is always a good feeling to get out there for that first trip.

The annual Conference is the big item. Please see the registration form and other important information in this issue. The dates are June 22 - 24; the solstice weekend. Celebrate the longest days in a beautiful butterfly-rich setting, including species you won't find in other parts of the state. Eden Valley Guest Ranch has 10 cabins which will probably fill quickly but also allows camping. Oroville and Tonasket are the nearby towns. Oroville is the closest and appears to have the better options. Reserving well in advance is advised. If you are not familiar with this part of Washington you are in for a treat. You may want to come over early or stay longer to explore this exceptional part of our state.

Idie (our founder) will give her Butterfly Class again this spring. See page 3 for schedule. It is fun as well as educational and happens to be the way many of us came to be interested in butterflies. Anyone interested in natural history should take this classic class and get to know Idie while they get to know butterflies. She is a classic too.

(continued on next page)

A reminder: we are still in need of someone to edit the G'num. Al graciously stepped up to fill the gap for this issue, but we really need a volunteer to fill this spot. Please think about it and contact me if you can help us with it. It is all done electronically so you can do it from any location where you have a computer, Word software and email.

Richard

2012 Field Trip Schedule

Non-consumptive appreciation of butterflies is central to our purpose, basic to our approach, and the guiding principal behind general membership field trips. Collecting of adult butterflies is not allowed on these trips. Collecting of eggs and larval stages for rearing is accepted on condition that individuals raised to adult stage are released at their original location.

Date	Destination/Description	Difficulty	Trip Leader/Contact
March 31	Schnebly Coulee	2 - 3	Dave Nunnallee
May 19	Umtatum Ridge (4WD required)	2	Dave Nunnallee
June 2 (9)	Snow Mountain Ranch	2 - 3	David James, David Droppers
June 22-24	Oroville Conference (probably Mt. Hull)	1 - 2	Dave Nunnallee, Bob Hardwick
June 30	4 th of July Count - Chumstick Mountain	2	Al Wagar
July 14	Reecer Creek Canyon	2	Bob Hardwick
July 24 (Tues)	Hurricane Ridge (with Olympic Peninsula Audubon & Washington Native Plant Society)	1 - 2	Idie Ulsh
August 4	Quartz Mountain	3	Maureen Traxler
August 11	Sauk Mountain	4 - 5	Colin Doan
August 18	Pelham's Boneyard (near Swakane Wildlife Area)	1 - 2	David Droppers
August 25	Ellensburg Overlook & Snoqualmie Pass	1 - 2	Al Wagar
Sept 1 (8)	Sheep Lake	2 - 3	Bob Hardwick

HOW TO SIGN UP: Anyone can sign up at a WBA monthly meeting or by contacting the trip leader. (See Board and Committee list in this issue for contact information)

RAIN DATES SHOWN IN PARENTHESIS

DIFFICULTY RATINGS:

- 1 Easy, mostly by car, minor walking along roads
- 2 Fairly limited walking, some slopes involved.
- 3 Moderate, up to 1.5 miles walking with moderate slopes.
- 4 Difficult, hiking required, trails or terrain are steep in places
- 5 Very difficult, extended hiking on trails or steep terrain.

WHERE & WHEN TO MEET: Trips depart from the north half of the Ravenna Park & Ride at 7:00 a.m. unless expressly stated otherwise. The park & ride is located under I-5 at Ravenna Blvd between NE 50th & NE 65th St. On request we also stop at the Issaquah Park & Ride at 7:30 a.m. To reach the Issaquah Park & Ride: going eastbound on I-90 take Exit 15 (1st Issaquah exit). At exit stoplight turn right (south) and drive 0.45 mile to Newport Way intersection (traffic light). Turn left (east) on Newport Way and drive 0.1 mile to another light, and turn right (south) into the Park & Ride.

If you live in another part of the state, contact the trip leader to arrange where to meet the field trip group.

Please tend to personal matters such as getting coffee or lunch food before departure time so others are not delayed.

Bring your own beverages, snacks and lunch for a day in the field.

All field trips are conducted by carpool. Without the volunteer participation of drivers, the trips are not possible. If you have a car that you are willing to drive, please have the gas tank full and ready to go.

All WBA-sponsored field trips are fully insured through our parent organization, NABA.

COSTS: Passengers are expected to share gasoline expenses. Typically this is \$10-20 each. Each rider should also pay a share of any park entry fees, ferry fares, etc. The trip leader will collect a voluntary donation of \$5 per person (children under 12 are free) for each field trip to help offset expenses of the organization.

Watching Washington Butterflies with Bob Pyle

Number Seven:

Mold Butterflies: The Rot Factor

It is no secret to any Washington butterflyer that we do not exactly live in Butterfly Nirvana. Oh, those east-side canyons can be awfully good in May, and the subalpine Cascades and Olympics in July or August may throb with four-winged color, not to mention the Blue Mountains and the Okanogan. But for much of the time, over much of the state, especially on the West Side, butterfly abundance and diversity are all too noticeably subtle, if not absent. Now, why is that? On first examination, our rich array of plants and habitats would seem to offer great amplitude for dependent Lepidoptera, and so they do. But I don't know anywhere else where one has such a good chance of walking into seemingly inviting habitat, only to find it depleted, or even entirely innocent of butterflies. Lepidopterists from out of state often comment about this fact, shaking their heads in wonder at finding themselves skunked in such a butterfly barrens. I just shrug, and say, "Well, it *is* Washington, after all!"



We can easily list the proximate factors for butterfly scarcity in many places: development, chemical spray, overgrazing, or other human activities that diminish habitat quality; extensive rainfall, fog, and cool temperatures during the flight period; the relative youth of flowery pastures and other open areas (usually less than a century since release from forest cover), allowing insufficient time for maturation of habitat and concomitant development of a fauna such as Britain's ancient grasslands have acquired. But even where no obvious cause applies, and various species do in fact occur, their number is often few and unreliable from year to year. Is there something else going on here?

I have long considered it part of my life's work to come to a solid understanding of the modest butterfly numbers and variety in my adopted homeland--sort of a Unified Field Theory of Western Washington Butterfly Crappiness. I think I am getting close. Apart from the causes listed above, and the fact that we live well out in the biogeographical corner of the country, one further element rises to the top of my hypothesis. I call it The Rot Factor.

The breakthrough came when Jonathan Pelham quipped to me one time years ago, "Are you still down there studying those *mold butterflies*?" Something clicked, and I realized he was right: the few species of butterflies that manage to thrive here in the temperate rainforest must somehow cope with extreme rainfall, and the molds they sponsor: hence, *the Rot Factor*.

You see, butterflies do well in terms of abundance and diversity when conditions are hot and dry (desert), cold and dry (arctic), or hot and wet (tropics); but they do poorly in zones that are cold and wet--like ours. I believe that is because they can survive long, very cold but dry periods in winter diapause, or extended hot and dry periods by aestivating; while in the tropical rainforest, continual broods dispense with the need to diapause. Whereas in the Maritime Northwest, *some* life stage has to make it through the cool, damp, mold-inducing months of winter; and whether that be egg, caterpillar, chrysalis, or adult, its chances are much reduced by the adverse climate.

I suspect that a great deal of mortality occurs during the moist months, even more so when our wet winters stretch into spring, as happens all too often, such as the "spring" of 2011. This explanation could help to account for why species that occur here right enough, such as Mourning Cloaks, do so in small numbers; while over on the dry, cold side of the Cascade Crest, they abound. The extensive willow brakes near the coast should, it seems, be great habitat for *Nymphalis antiopa*. In reality, they appear in such locations only sparsely. This pattern appears to repeat itself in Europe. In Great Britain, *N. antiopa* is known as the Camberwell Beauty, having once shown up in some numbers in the village of Camberwell, now a London suburb. On the whole, Cloaks/Beauties are exceedingly rare in Britain, with its Pacific

Northwest-like climate; but much more common on the drier Continent. Perhaps we share the Rot Factor with the perennially damp English, just as we do our regional preference for India Pale Ale.

The inhibiting effects of a cool, damp winter increase, I believe, in direct proportion to the actual rainfall in a given district. For example, a relatively arid location such as Seattle (average precipitation ~ 37 inches) has less rot (hence more butterflies) than Forks, in the Olympic rainforest, which may receive 150 inches of rain or more. Here in western Wahkiakum County, where I have been struggling for over thirty years to record fifty species of butterflies, precipitation ranges from 110-120 inches; yet just twenty miles to the east, the county seat of Cathlamet receives less than eighty inches. That makes a difference for the butterflies. There seems to be a ceiling somewhere right around eighty inches that limits the westward expansion of some species along the Lower Columbia River valley. For example, Sara Orangetips occur in the eastern part of the county, but not the western; ditto for Silvery Blues. The same is true for a number of plants, including poison oak and ceanothus. Also, some species may be found on the Oregon side of the Lower Columbia, where the rainfall remains at or below eighty inches, but not on the rainier northern shore of the river. An example would be the Ochre Ringlet, common in Clatsop County, Oregon, but virtually absent from Pacific County, Washington.



Happily, certain species have adapted well to the Rot Factor, and manage to thrive in Western Washington in spite of all that our sodden rainforest winters can throw at them. The most successful of these include the Woodland Skipper, the Clodius Parnassian, the Western and Pale Tiger Swallowtails, the Margined and Cabbage Whites, the Purplish Copper, the Echo Azure, the Mylitta Crescent, and Lorquin's Admiral. It would be interesting to know their anti-rot strategies.

The Rot Factor is a function of both precipitation and temperature, so it can be ameliorated by warming trends. For the first decade and a half I was here, we found the Common Wood Nymph only east of the Gray's River Divide (our local version of the Cascade Crest, separating the drier east and wetter west sides of the county). Then in the hot, sunny summers of the early 1990s, *Cercyonis pegala* began to appear on the west

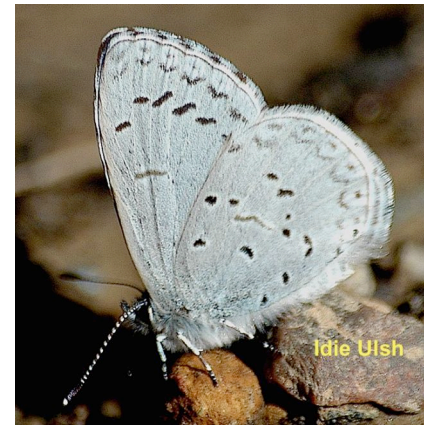


side of K-M Mountain: the first was caught by a 4-H insect club member, Katriina Ervest. These days, wood nymphs flip-flop over our yard every August. So this species apparently jumped the Rot Factor to expand. It should be expected that if climate change continues to elevate our average temperatures in winter, or cause drier conditions, the Rot Factor will diminish in influence. But, if repeated La Niña years cause even wetter winters and springs, the R. F. may only exacerbate, along with its challenges for butterflies. Even if they make it through the bleak midwinter alive, butterflies must be able to fly, feed, mate, and oviposit when spring finally arrives, or all is lost.

Though many butterflies (including those subject to rot, like Mourning Cloaks and, I suspect, Milbert's Tortoiseshells) possess the antifreeze necessary to withstand deep winter, such hiemal survival depends upon staying dry. We certainly have more frosts here now than when I wrote

Wintergreen in the early eighties, and nothing trumps the Rot Factor like very wet weather followed directly by a frost--which is what befalls overwintering Monarchs in Mexico when they get soaked by heavy snowfall, then succumb when the temperature drops below freezing.

So even global warming might not bring relief for starved West Side butterflyers, unless it produces a combination of conditions inhospitable to the molds and other agents of death and decay that attack the helpless winter stages of our butterflies. It may be that until *Metasequoia* and ginkgos once again grow at Vantage and Seattle resembles the Neotropics, we will be stuck with our faithful Mold Butterflies. It could be worse.



Species Profile: Anicia Checkerspot *Euphydryas anicia* (E. Doubleday) by Dave Nunnallee



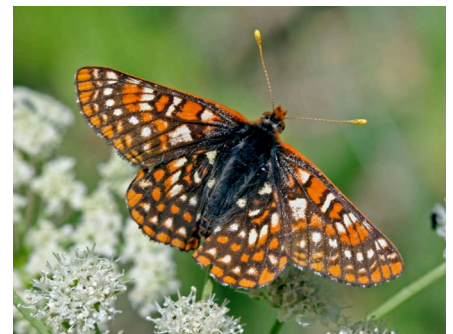
Our species profile for this issue is the Anicia Checkerspot, *Euphydryas anicia*.

In Washington State we have ten species of butterflies which are loosely categorized as checkerspots because of the cancellate or squarish patterning of intersecting lines on the ventral wings. Our checkerspots are placed in three separate genera, *Euphydryas*, *Phyciodes* and *Chlosyne*. The genus *Euphydryas* includes three species in our area and can be distinguished by straight leading edges of the forewings. *Phyciodes* and *Chlosyne* include four and three species respectively, and have strongly curved forewings; *Phyciodes* has a distinct light crescent mark on the ventral hindwing while *Chlosyne* lacks this mark.

The Anicia Checkerspot occurs throughout most of Washington east of the Cascades but is absent from the driest parts of the Columbia Basin. Beyond Washington it ranges from Alaska to Mexico and east to Wyoming, but is absent west of the Cascade Mountains. *Euphydryas anicia* is locally common, occupying a wide range of habitats including shrub-steppe, high grasslands, conifer forest edges, canyons, alpine meadows and mountain summits. Larval hosts include *Penstemon* (beardtongue), *Castilleja* (paintbrush) and in at least one area *Symphoricarpos* (snowberry).

Single brooded, *E. anicia* flies mid April-mid Aug, a little earlier in Oregon. After mating, females lay eggs in masses on the ventral surfaces of host plant leaves. Eggs hatch after ~12 days; L1-L2 are gregarious, constructing web nests in which they feed. When food is exhausted the communal nests are expanded, abandoned or reconstructed on fresh leaves. Larvae consume leaves which are skeletonized; abandoned nests are blackened with frass and plant remains, surrounded with bare stems. Larvae develop to L3 in about two weeks, then feed slowly without growing, gradually entering diapause and overwintering in L3. The following spring, growth begins with new growth of the host plant. Post diapause larvae are solitary, do not build nests and feed openly on host plants. There are 5 larval instars. Dark and pale forms are common in all populations although the palest larvae are more prevalent in northern Washington. The immature stages of *E. colon* are virtually indistinguishable from *E. anicia*, although their larvae are not as pale as the palest *E. anicia*. Protection is based on concealment during L1-L3. Later instars have spines and are likely protected by chemicals and all instars react to disturbance by squirming and falling to the ground.

Our three *Euphydryas* checkerspots are very similar in appearance; Anicia and Snowberry Checkerspots are reliably separated only by dissecting the male genitalia, while the Edith's Checkerspot is more easily identified by the presence of a black line ("Editha line") across the ventral hindwing, this line bordered by orange on both sides. Both sexes visit flowers, and males mud puddle, hilltop and cruise corridors searching for mates.



Details for 2012 Annual Conference in Oroville

This year's annual conference will headquarter at the Eden Valley Guest Ranch, 10 miles east of Oroville. (See registration form at the end of this newsletter.)

Field trips are planned for Mount Hull. Alternatives, depending on whether we have an early or late season, are the Mary Ann Creek area of the Scotch Creek Wildlife Area a bit further east and the Sinlahekin Wildlife Area to the west. Mary Ann Creek is generally higher than the Mt. Hull area, and the Sinlahekin is lower, providing some flexibility in adjusting for an early or late season. Since the habitat may well be past its prime by July, we scheduled in June, recognizing a somewhat increased risk of rainy or cool weather. Some of the June species we might see are Peck's Skipper, Garita Skipperling, Tawny-edged Skipper, Common Alpine, Chryxus Arctic, and the Silver-bordered Fritillary, as well as many other species. Also, consider visiting Moses Meadows, Long Swamp, or 30-mile Creek on way to or from the conference for more chances of seeing the Meadow Fritillary and Freija Fritillary.

Lodging

Eden Valley Guest Ranch (conference site) 509-485-4002 <http://www.edenvalleyranch.net/>
31 Eden Valley Lane, Oroville, WA 98844 USA
10 cabins with kitchens; \$99/night for a two-night stay, plus tax

Camaray Motel. 509-476-3684 <http://www.oroillemotel.com/index.html>
1320 Main St., Oroville WA 98844
38 rooms with microwave & minifridge; \$60-80 w/tax
12 miles, 26 min. from Eden Valley

Camping

Eden Valley Guest Ranch (conference site) 509-485-4002 <http://www.edenvalleyranch.net/>
Reserve in advance

31 Eden Valley Lane, Oroville, WA 98844 USA

Camping available, with access to a bath in the Lodge with shower, toilet, sink, and towels; also access to a second bathroom without a shower. Campers may have morning coffee and tea in the Lodge.

- \$25 plus tax per person for tents and RVs that either share the shower, etc., in a friend's cabin, or use the shower in the Lodge
- \$15 plus tax per RV for self-contained RVs that do not use any Eden Valley facilities

USFS Tonasket Ranger District Campgrounds

<http://www.fs.fed.us/r6/oka/recreation/toncamp.shtml>

\$12/night, \$5/extra vehicle; listed campgrounds are on Chesaw Rd.

- **Lost Lake**, 19 sites. 18 miles, 47 min. from Eden Valley
- **Beaver Lake**, 11 sites. 20 miles, 40 min. from Eden Valley
- **Beth Lake**, 15 sites. 20 miles, 38 min. from Eden Valley

Osoyoos Lake Veterans Memorial Park

Park Office: 509-476-3321 City Hall: 509-476-2926

2207 Juniper St.; Oroville, Washington

http://oroville-wa.com/index2.php?option=com_docman&task=doc_view&gid=423&Itemid=111

\$25/day plus registration fee. 13 miles, 27 min. from Eden Valley.

Some users have found this to be a noisy campground.

Board Members

Richard Youel	President
David Droppers	Vice President
Donna Schaeffer	Secretary
Al Wagar	Treasurer
Jon Pelham	Science Advisor
Kim Kendall	At-Large
Louise Kulzer	At-Large
Reg Reisenbichler	At-Large
Melanie Weiss	At-Large

Committees

Marty Hanson	Membership
Joyce Bergen	Annual Conference
David & Jo Nunnallee	Field Trips
Idie Ulsh	Programs
Carolyn Heberlein	Publicity/Website
Open	Newsletter

Membership Application

Washington Butterfly Association

The Washington State Chapter of the
North American Butterfly Association (NABA)

Yes! I want to join WBA/NABA and receive *American Butterflies*, *Butterfly Garden News* and *WBA Newsletter*, as well as other member privileges.

Name: _____

Address: _____

City, State, Zip _____

Phone: _____ Email Address: _____

Special Interest (circle): Listing, Gardening, Observation, Photography, Conservation, and Other _____

Dues enclosed (circle): Regular \$30 (\$60 outside U.S., Canada, Mexico)

Family \$40 (\$80 outside U.S., Canada, Mexico)

Payment must be in U.S. dollars.

Mail application form to: NABA, 4 Delaware Rd., Morristown, NJ 07960

Further information: wabutterflyassoc@earthlink.net or call Idie Ulsh at (206) 364-4935.

Washington Butterfly Association 2012 Conference Registration

Eden Valley Guest Ranch, Oroville, Washington – June 22 - 24, 2012

Reservations for Saturday dinner and Saturday & Sunday sack lunches must be received by Tuesday, June 12. It's very helpful if conference registration is received by June 12, but registration will still be available at the conference. Partial refunds available in case of emergency through June 12. **No refunds** after that date. **Note** that gasoline and restaurant meals are not available at Eden Valley. Be sure to top off your tanks, and tummies, before arriving.

Make your check payable to Washington Butterfly Association, and mail it with this form to: **WBA, Attn: Al Wagar, P.O. Box 31317, Seattle, WA 98103**. Your registration will be confirmed by e-mail, telephone, or mail. For questions about the conference, please contact

Name(s) _____

Address _____

City / State / Zip _____

Telephone _____ E-mail _____

Please print

clearly

CONFERENCE REGISTRATION – Does not include lodging or meals.

Enter number of people and, if chosen, any meals below with totals and grand total in the right-hand column.

WBA MEMBERS

Full Registration includes Friday evening social hour, light refreshments, & lecture;

Saturday field trip & lecture; & Sunday field trip How many? ____ @ \$75.00 = ____

- Children 12 and under free but must be accompanied by a registered adult How many? ____ @ \$0.00 = ____

Partial Registration

- Friday evening social hour, refreshments, & lecture only How many? ____ @ \$20.00 = ____

- Saturday field trip only How many? ____ @ \$30.00 = ____

- Saturday evening lecture only How many? ____ @ \$20.00 = ____

- Sunday field trip only How many? ____ @ \$25.00 = ____

SPECIAL OFFER! This year we offer **special discounted conference rates** AND a year's free WBA-only (not NABA) membership to these attendees:

- First-time WBA members; does not apply to renewals or lapsed memberships

- Juniors, 13 –17 years

- Students enrolled in academic programs

Please note that anyone under 18 must be accompanied by an adult registered for the conference.

Special-Rate Full Registration includes Friday evening social hour with light refreshments, & lecture;

Saturday field trip & lecture & Sunday field trip How many? ____ @ \$40.00 = ____

- Children 12 and under free but must be accompanied by registered adult How many? ____ @ \$0.00 = ____

Special-Rate Partial Registration

- Friday evening social hour, refreshments & lecture only How many? ____ @ \$10.00 = ____

- Saturday field trip only How many? ____ @ \$20.00 = ____

- Saturday evening lecture only How many? ____ @ \$10.00 = ____

- Sunday field trip only How many? ____ @ \$15.00 = ____

OPTIONAL MEALS – not included in registration fees If you have special dietary needs, contact Al.

Saturday dinner includes homemade roll, brownie, and tea or decaf coffee. Pick one entrée per person.

- Hickory-smoked baked ham, scalloped potatoes, and green salad How many? ____ @ \$25.00 = ____

- Vegetarian stir-fry with tofu and rice How many? ____ @ \$25.00 = ____

Children's plates – no charge for infants in arms or carriers

- Toddlers up to 5 years; choose ham ____ OR vegetarian ____ How many? ____ @ \$ 3.00 = ____

- Children 6 – 11 years; choose ham ____ OR vegetarian ____ How many? ____ @ \$ 9.00 = ____

Saturday and Sunday sack lunch

Saturday includes sandwich with lettuce, tomato, mustard & mayonnaise; with garnish, fruit, and cookie

- Turkey on wheat with Swiss cheese How many? ____ @ \$10.00 = ____

- Vegetarian cheddar with avocado on wheat How many? ____ @ \$10.00 = ____

Sunday includes sandwich with lettuce, tomato, mustard & mayonnaise; with garnish, fruit, and cookie-

- Beef on wheat with Swiss cheese How many? ____ @ \$10.00 = ____

- Vegetarian mozzarella with avocado on wheat How many? ____ @ \$10.00 = ____

Total, including conference fees and any meals \$ ____