



*G'nun**

The newsletter of the Washington Butterfly Association

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Facebook: Washington Butterfly Association. Instagram: #washingtonbutterflies (anyone can use this hashtag)

*G'nun is the official greeting of WBA. It is derived from the name of common Washington butterfly food plants, of the genus *Eriogonum*.



Carl Barrentine with a Giant Silk Moth.
Photo by Carl Barrentine.

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Upcoming Programs

February 21, Spokane: Bea Harrison, Bringing Nature Home. This local naturalist and gardener explains what to plant and how to care for yards or other property in which we try to give back to nature.

March 7, Seattle: Dr. Hans Kelstrup: Evolution of wasps.

March 21, Spokane: James C Bergdahl will speak on Grylloblatids, on his research into the life cycle of what might be a Mt. Spokane endemic insect!

April 4, Seattle: Carl Barrentine – Much Ado About Mothing: Confessions from the Dark Side.

April 18, Spokane: John Baumann: A Humbly Unscientific and Non-comprehensive Guide to Local Fritillaries.

May 2, Seattle: David James – What Can We Do For Butterfly Conservation? Things that we as individuals or as a group can do, to help understand and conserve our butterflies in the Pacific Northwest.

May 16, Spokane: Jon Pelham, Basic Butterfly Biology. The latest iteration of Jonathan Pelham's highly engaging and provocative introduction to the science of butterflies, tailored by this leading curator and taxonomist for the Spokane area butterfly enthusiast.

Idie Ulsh Young Naturalist Scholarships for 2018

This coming July 13-15, WBA members attending our annual Weekend with Butterflies will have a great opportunity—you can meet and encourage the three winners of the 2018 Idie Ulsh Young Naturalist Scholarships! This won't happen though unless you help get the word out.

After our WBA founder, Idie Ulsh, passed away in 2015 her family approached WBA to work with us to put together a program geared towards children, that would educate them about our natural world, encourage their interest in natural history and foster a passion for the outdoors. The final decision was for three scholarships, given to qualifying children between the ages of 10 and 17 years old and residents of Oregon, Washington or Idaho, to attend our annual conference (Weekend with Butterflies). Along with one adult family member or guardian, each child's weekend expenses are covered (Sat. & Sun. field trips, Fri. & Sat. speakers, meals for Fri. & Sat. eve., lunches for Sat. & Sun, two nights lodging, round trip gasoline, one year WBA family rate membership) . These are GREAT Scholarships that we hope will inspire future conservation through these young people.

The Scholarship Committee hereby issues a call to action for all WBA members. Let's ensure that we have a good selection of candidates by getting the word out about WBA's truly amazing Scholarship program! It's easy! [Click on this link](#) and print a few posters. Talk with your librarian, or the secretary at your local elementary, middle or high school. Maybe even talk to their science teacher about displaying this poster. See if you can show off our Scholarships Poster at your Community Center. How about talking with your kid's (or grandkid's) Scout Master, etc. to pass the word on to families with eligible children. Share it with your friends, families and neighbors. Keep in mind that we want to get the poster displayed quickly so interested children have time to meet the May 4th deadline. Find the application [here](#).

WBA and the Ulsh Family created a great Scholarship program to offer our communities' 10 -17 year old nature lovers. It is exactly what Idie would have loved to see. Let's get the word out to children on how to become an Idie Ulsh Young Naturalist Scholarship winner!

President's Message from David Jennings

Happy New Year!

Winter solstice is behind us and the days are growing longer once again. Butterflies will soon be gracing our gardens and wild meadows with their presence. We are finalizing the details for our upcoming summer field season, including field trips and our summer study weekend July 13-15. White Salmon is the location for the evenings, and lodging can be found in Hood River, OR and Stevenson, WA. WBA will not be reserving a block of rooms this year as there is no price break in this location at that season so **make your reservations NOW, for the July 13-15 Butterfly Study weekend/Conference**. You will get better rates individually than the hotels are willing to give to a group. More formal registration details are to come, but grab your lodging early—you can always cancel if your plans change.

I am about halfway through my term as president of Washington Butterfly Association after having served on the board of directors last year. As I spend more time with all of you and the WBA board, I increasingly appreciate the community we have in WBA.

As an organization, we are in transition from a Seattle based group to a statewide organization. One of the ways we are doing this is increasing our use of internet technology. We now have a board of directors distributed across the state. Monthly board meetings are conducted using the conference software "ZOOM". We are also learning how to use this software to make our membership meetings accessible to members and interested individuals across the state-not just those living in Seattle and Spokane. I think the use of technology such as ZOOM can be a game changer for us, both in terms of recruiting speakers from across the US and beyond, but also because it makes WBA more meaningful to you, our members, in that you can login from the comfort of your own home and participate in high quality presentations. Learn with us as we move into this new frontier!

Watching Washington Butterflies with Bob Pyle

Number Thirty-two

What Does A Butterflier Do in Winter?

It has ever been a problem for lovers of Lepidoptera resident in cold climes, come wintertime: how to pass those months between the asters of autumn with their anglewings, and the first painted ladies on the dandelions of April? (Or whatever the hangers-on and harbingers are in your locale.) If one cannot find a suitable substitute activity that is topic-relevant, there is always the danger of some other enthusiasm stepping in and usurping one's energies to the extent that it's difficult to switch back again to butterflies come spring. So what to do to weather those months, while keeping the love of leps alive and enthusiasm keen for the next field trip?

Back when most of us were collectors, it was easier. Winter was the time to attack that horde of papered material, to relax, spread, dissect, and label specimens; to catch up on correspondence and swaps; and otherwise to curate the collection. Direct contact with butterflies, albeit lifeless, brought back the joy and excitement of the field and vastly aided the learning curve for ID of similar species. But what about the watcher? Since most butterfly watchers are also photographers, they too have their curatorial tasks stored up for the shut-down months. Sorting and labeling color slides has been replaced by sorting and labeling digital files, eliminating second-rate duplicates, and second-guessing identifications, often through sharing with friends, experts, [BugGuide](#), and so on.

But it doesn't stop there. The imaginative naturalist can come up with all sorts of ways to keep the love alive, and advance the learning in the meantime, so the next season will be that much more enjoyable and productive. In addition to the basic curatorial and maintenance tasks mentioned above, here is a bouquet of butterfly-friendly activities to keep your winter bright:

Garden Prep: If you are a butterfly gardener, you'll easily find many jobs that can occupy a hiatus between the squalls to make your premises even more welcoming come spring. And don't forget, if you still have fertile butterfly bushes, to dead-head them as early as possible.

Habitat Survey of the Neighborhood: This is a good time, on your local walks, to pinpoint plants, stands, and general habitats that might hold potential you didn't notice in the full flush of seasonal bloom. Keep a map or log of these, and be sure to go back during flight-time to check to see whether your winter predictions and rainy-day recon hold up in actual springtime.

Search for Chrysalides, Cocoons, and Other Winter Stages: This is not easy and not frequently successful. But once you gain the search image, you might have increasing success in finding swallowtail and white chrysalides, Polyphemus cocoons, admiral hibernaculi in willow tips, or other cold-season receptacles for hibernating leps. Bring these in, keeping them cold and moist, to increase survivorship and enjoy the spectacle of fresh emergers in springtime.

Study Google Earth & Topo Maps for Potential Field Sites: There is no better time than before a cozy fireplace with the rain dripping or snow drifting outside to play with your actual paper maps and lap-tops with butterflies in mind. Google Earth is fun for this. Try to find accessible high points and passes, balds or meadows, canyons and southern exposures, clearings and streamsidess heretofore unknown for butterfly records; make plans!



White Admiral caterpillar in hibernaculum. (Guy Padfield)

Read!: There exists a plethora of wonderful butterfly and moth literature, in the library, bookshops, and on-line. Some of it helps to understand the creatures better, while other entries share the vicarious adventures of going afield in pursuit of our mutual *amour*. Now's the time to catch up on those unread periodicals. As for books, I especially recommend *Butterfly People* by William Leach and *The Butterfly Isles* by John Barkham. I might immodestly suggest that many have found reading my book *Mariposa Road* to be a serviceable way of ditching the winter butterfly blues, and getting psyched up to chase them again come spring.

Have Butterfly Dreams!: As the season wears on and the reality of butterflies goes from seeming remote to even questionable, I find that my subconscious takes over and populates my night-time visions with delicious imaginary habitats and their equally delicious denizens. These dreams never fail to include butterflies way out of their range (great records!) or new altogether. It goes without saying that reading a good dose of lep lit before lights out can help to stimulate such sweet dreams.

Work on ID Skills: While you're at it hitting the books for pleasure and diversion, don't forget to pore over your field guides and digital tools such as butterfliesofamerica.com to sharpen your sense of field marks prior to the coming season. This is also a great time to visit available collections to examine actual specimens for their variation.

Write Up Your Field Trip Notes: Remember, everything you see and identify in the field has the power of becoming a part of our growing state data base, if your ID is backed up and documented in journal or other usable form. This is also a good time to extract and deposit data with [BAMONA](#), [eButterfly](#), [iNaturalist](#), and especially the Northwest Lepidoptera Survey (submit records to Jon Pelham, Bob Pyle or Ann Potter).

Study Winter Moths: Even though butterflies cease to be active in winter (except the odd hibernant tortoiseshell or comma on an unseasonably warm day), a number of species of moths remain active through the moderate Northwest excuse for winter. The introduced European Winter Moth (*Operophtera brumata*) comes to our lights in November; the native *Operophtera bruceata* more commonly in December. There are some nice winter owlets, and a handsome little maroon snouted micromoth emerges in February. And don't forget the great masses of handsome, polymorphic Tissue Moths (*Triphosa haesitata*) hibernating in the battery tunnels at Fort Worden in Port Townsend.



European Winter Moth.
(Wikipedia user Entomart)

Go Where the Butterflies Are!: More and more, people in butterfly withdrawal just head out to where they can get a hit regardless of the season. Besides Central and South America and austral points even farther afield such as Vietnam and Thailand, the obvious cheaper choices include Hawaii for Kamehamehas and the Lower Rio Grande Valley, where Malachites and Zebras abound. It's a wonder how a week of bright fluttering wings can pick you up from the Duwamish Doldrums or the Ellensburg Ennui.

Get a Jump on Spring: Short of going to such lengths, you can at least hasten the season by a drive down the northern California coast, where much is abloom and a few things are already flying in late January; and maybe into the desert Southwest, especially if a superbloom is forecast, as it was last year.

Finally, Get Ready: Make sure to prime your equipment well before the first field trip. Depending on your approach, this may mean mending your nets, cleaning or servicing binoculars, juicing up camera batteries, cards, and file systems, or whatever other equipment you might find a use for. Don't forget the umbrella or Sou'wester for fending off the false alarm of an El Niño spring.

...and then, just get out there!

*Monarch Butterflies in the Pacific Northwest: An update on this
Citizen-Science based Research Program
Dr David G James, Associate Professor, Dept of Entomology, WSU*

Monarch Butterflies in the Pacific Northwest, an unfunded citizen science research project investigating the migration dynamics of Monarchs in the PNW, was established in 2012 and is now an important player in Monarch science in the US.

<https://www.facebook.com/MonarchButterfliesInThePacificNorthwest/>

The Facebook page associated with the project has more than 4000 followers and provides regular updates on Monarch news and tagging recoveries. The project has been featured in one recent book on citizen science and will feature in others to be published in the next year or so. Much attention has been given to the original citizen scientists who worked on the project who happen to be incarcerated in Washington State Penitentiary in Walla Walla!

<http://stage.cahnrs.wsu.edu/news-release/2012/07/02/wsu-monarch-butterfly-project-underway-with-help-from-washington-state-penitentiary-offenders/>
https://www.youtube.com/watch?v=mFH4_j-84FA .



Annabella with a tagged Monarch. (Linda Kappen)

Tagging Results from our First Five Years

Six years after the project commenced, we have a solid foundation of data on fall Monarch migration in the PNW. A scientific paper detailing the results obtained during our first 5 years of tagging will be published shortly in the Journal of the Lepidopterists Society. If you are interested in getting a copy of this paper, email me and I'll be sure to send you a PDF once it's available (david_james@wsu.edu).

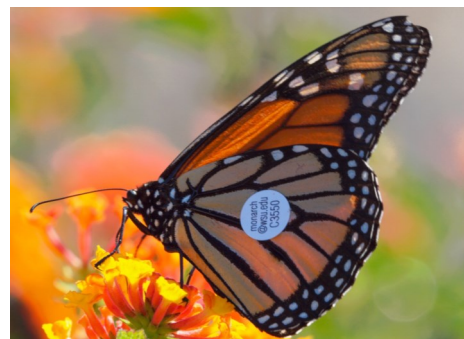
A total of 13,778 Monarchs were reared and tagged by myself and citizen scientists in WA, ID and OR during 2012-16. In addition 875 wild Monarchs were also tagged. Sixty (0.41%) of these Monarchs were re-sighted or recovered from distances greater than 10km. The majority were found in California with an average distance flown of 792.9 km. The greatest distance traveled was 1360 from Yakima, WA to Goleta, CA. While most Monarchs flew SSW, S or SSE, one flew 724 km SE to Brigham City in Utah. This one was clearly not heading to California for overwintering and may have instead been heading towards the Mexico overwintering sites. Curiously, no Idaho-tagged Monarchs were found in California and none of the wild-tagged Monarchs were recovered. All of the recoveries were of reared Monarchs. Thirteen Monarchs were recovered en route to California during migration showing a mean travel rate of 35.1 km/day. Forty nine tagged Monarchs from OR and WA were found in 24 overwintering colonies in California, located from Bolinas in the north to Carpinteria in the south. While our tagging focused on fall movements, a limited tagging effort on wild spring migrants in northern CA resulted in one recovery in Twin Falls, Idaho, 707 km ENE from the release point along the Trinity River.

In 2014 the Federal Government was petitioned to protect the Monarch butterfly under the Endangered Species Act. This petition (while still pending) has raised awareness of the Monarch and the problems it faces among the general public. To a great extent, the Monarch has become the flagship species for pollinator conservation (warmer and friendlier than bees!) and more people than ever before are now growing Milkweed and trying to help Monarch populations rebound from their current low levels. This increased public awareness of Monarchs is evident in the increased number of tag recoveries we have observed since 2012. In our first two years we recovered just 0.06-0.12% of the 1700-2400 butterflies we reared, tagged and released. By 2016 the recovery rate had grown to 0.91% of 3500 butterflies released. This has increased even further in the current tag recovery season (not yet ended) which stands today at 1.3% of 6500 tagged and released.

Tagging Results From 2017

After waiting five years to accumulate enough tag recovery data to publish, I find it somewhat ironic that in the current 6th tagging year, I have more data from this year alone than from the previous five years combined! No matter, the new

data will appear in a follow up paper! As I write this, I have had 84 tag recoveries of Monarchs tagged and released in Washington and Oregon during August-October 2017. And there is still time for more to be reported! Seventy two of the recoveries are from distances greater than 10km and qualify as definite migratory movements. Seventeen originated in Washington and one of these released in Redmond flew to Avila Beach near San Luis Obispo, CA, claiming the award of longest flight recorded to date by a Washington Monarch (1392 km). Forty six Monarchs tagged in Oregon have been recovered in CA to date, but again as in the previous 5 years, no Idaho-tagged Monarchs have been found in CA. Many of the tagged Monarchs released in 2017 were released into smoky and unhealthy (for humans) air. We were all concerned that the smoke might interfere with navigation and/or survival of migrating Monarchs. Happily this appears to have been an unfounded fear with many happy, healthy tag recoveries that had been released during major smoke episodes.



The Redmond/Avila Beach Monarch. (Lyle Rains)

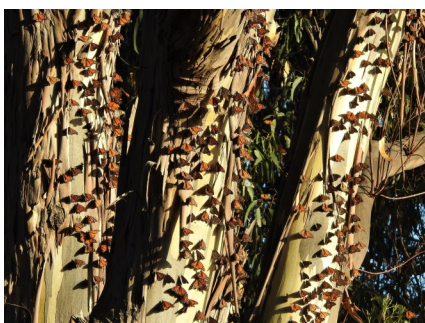
Monarch Advocacy

Participation in this project by citizen scientists has grown incredibly over the past few years, particularly in southern Oregon where we now have 30 people who annually rear and tag Monarchs. We also have growing numbers of taggers in central and northern Oregon and in Idaho. Monarch advocacy groups have been established in southern Oregon (SOMA: Southern Oregon Monarch Advocates) and Idaho (AIM: Advocates for Idaho Monarchs). Curiously, less interest has been shown by citizen scientists in Washington aside from our core incarcerated citizens who still annually rear 500-1500 Monarchs, and a small group of Cowiche Canyon Conservancy members in Yakima. I think it's time to get some more WA citizen scientists on board!

Do You Want to Rear and Tag Monarchs?

Monarch Butterflies in the Pacific Northwest and the Washington Butterfly Association are planning to partner in a Monarch rearing and tagging program in 2018 for WBA members residing in the Seattle and Spokane areas. So this will be your opportunity to rear some Monarchs and share the wonder with your family and friends while participating in a citizen science project that will help inform future conservation efforts for Monarchs. You will also be helping to increase the Monarch butterfly population by rearing Monarchs indoors that might otherwise have succumbed to natural mortality factors outdoors. Details are still being worked out and will be announced later but rearing will take place in August and early September. If you are in Seattle, milkweed availability may be an issue, but many nurseries now stock various milkweed species so if you are potentially interested in being part of this Monarch rearing program, you should obtain and propagate some milkweed plants as soon as possible.

Other Monarch-related activities for WBA members this year include our annual tagging of wild Monarchs at Crab Creek in Grant Co. in August and a possible field trip over the Memorial Day weekend to the Trinity National Forest in northern California to tag Monarchs migrating north along the Trinity River. This location also offers a large and diverse butterfly fauna usually numbering 30-40 species.



Monarchs overwintering on eucalyptus in California. (D. James)

Woodman, spare that tree! Touch not a single bough! (George Pope Morris)

Reversing the Monarch Decline

Sadly, the Monarch overwintering populations in California have further declined this year. Official numbers from the Thanksgiving Count have not yet been released but are likely to show a significant drop from 2016-17. While we still don't know the precise cause of Monarch decline, it is likely that reductions in the availability of milkweed in the western US, is an important factor. Natural (from weather) and unnatural damage to overwintering sites is not helping: at least one overwintering site, formerly home to 5-20,000 Monarchs each winter, has recently been chain-sawed. Clearly, Monarch conservation still has a long way to go before we can claim to have reversed the downward trend in numbers. The great and increasing awareness of Monarchs and associated participation in activities designed to help sustain and increase breeding populations, is a hopeful sign that we can bring back Monarchs to their former abundance in our western landscapes.

Species Profile: *Euphydryas colon*

By Melanie Weiss

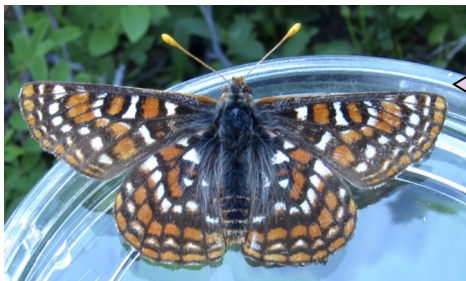
On our field trips I have seen a bewildering variation in checkerspots. Fortunately I take many photos, so I have visual records to study and compare at greater length when I'm home. Being puzzled by the color variations, I sent photos to Jon Pelham for explanation. Now I'm reiterating as best as I can what he has explained to me in great detail.

Washington has two genera of checkerspots, the *Chlosyne* and the *Euphydryas*. These are easy to tell apart as the fore wings of the *Chlosyne* leave the body of the butterfly in a slight upward arch, while the fore wings of the *Euphydryas* leave the body in a straight line. You can check this out in [The Butterflies of Cascadia](#), [Life Histories of Cascadia Butterflies](#) or online.

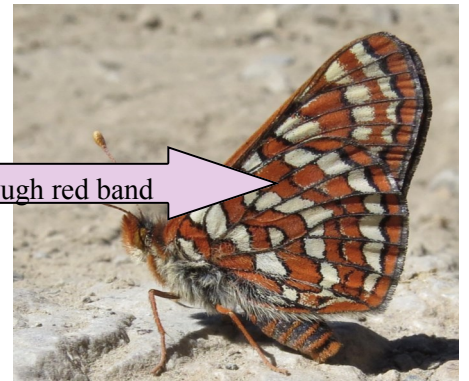
Chlosyne hoffmanni, the Hoffmann's Checkerspot, is found along the east slopes of the Cascades in forested areas. It is often seen at Reecer, at Chinook Pass and other locations. *Chlosyne acastus*, the Sagebrush Checkerspot, is found in the shrub steppe in canyons and along creeks in central and eastern Washington such as at Waterworks Canyon or Schnebley Coulee. *Chlosyne palla*, the Northern Checkerspot, was seen by our group in the Okanogan.



Chlosyne hoffmanni



Euphydryas editha dorsal.



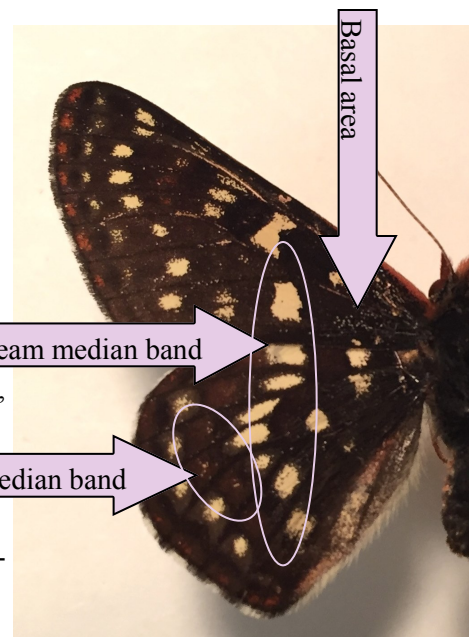
E. editha ventral.



E. colon typical.

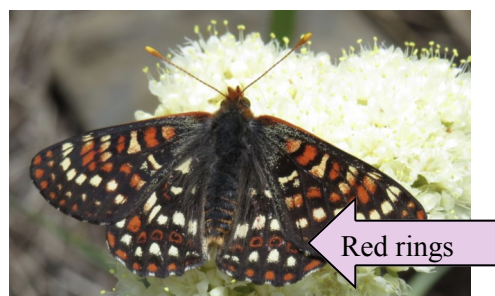
Our most common species of *Euphydryas* checkerspots are: *E. anicia*, the Anicia Checkerspot; *E. editha*, Edith's Checkerspot; and *E. colon*, the Snowberry Checkerspot. We have seen the Anicia Checkerspot on some of our field trips to the Okanogan, Swakane Canyon, and Reecer Canyon in the early spring. The Edith's Checkerspot can be easily recognized by the black line running through the red post median band of the ventral hind wing. We saw it last summer on Quartz Mountain during our conference. The Snowberry Checkerspot is widespread and seen on many of our trips.

My conundrum was that I thought I was seeing a variety of checkerspots in the field, but Jon assured me the photos I sent were all *E. colon*, the Snowberry, with many variations. In general, *E. colon* larvae prefer snowberry, or *Symphoricarpos*, as their host plant. The typical dorsal hind wing band markings of the *E. colon* begin with an irregular grouping of spots close to the body in the basal area. After this there are a series of bands. The first one moving out toward the wing, called the median band, will be cream or light in color. The band after that is the critical band, the post median band. It will be dark in *E. colon* in most of its range. However, I was seeing a variety of colors: red, orange, and dark bands ... even dark bands with red circles in them. It seems there is an interesting phenomenon in this species in our state - in the central Cascades the Snowberry Checkerspot tends to use *Penstemon* instead of Snowberry as its host plant. This identified “central Cascades segregate” occurs in central Washington in Kittitas, Yakima, King, Pierce and a bit of Lewis Counties. In addition to using a different, unrelated host plant, many individuals in this segregate have variations in coloring of the post median band ranging from touches of red to dark red. Some may have red and orange over the entire surface of the wing. Regarding the several individuals with red rings in the dark post median band, Jon referred to those as “one of the many avatars available at Reecer”. Differences in *Euphydryas* can also be determined by examining genitalia.

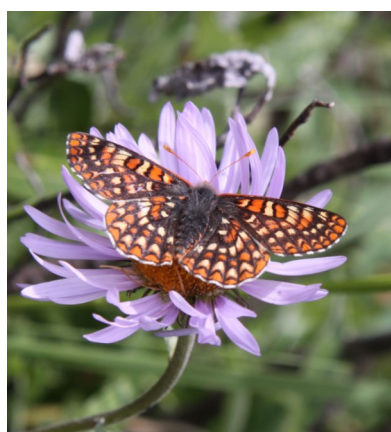


E. colon from the Burke collection.

I will add this quote of Jon’s that points to the reason why all these variations may have occurred. He suggests that “...the central Cascade segregate are the result of past ‘interaction’ with *anicia* (introgression). This may account for the ‘redness’ and also account for the food plant switch. Maybe not; D. Nun-nallee has found *E. anicia* using Snowberry as a host plant in Okanogan County.”



E. colon “Reecer avatar”



E. anicia Canadian Rockies.
(Wikipedia user dfaulder)

I find that I have a new appreciation for checkerspots since Jon shared this information with me. I look more closely and better enjoy what I’m seeing. And I have a deeper understanding of the importance of host plants and location and the critical role they play in identification.

So, the question is, did Jon explain it well enough to me to explain it to you? Cast your vote now!

***Thank you to Jon Pelham for the information in this article and to our other WBA experts who so generously share their knowledge with those members still in the larval stage.



E. colon Central Cascades

All photos by Melanie Weiss except the Anicia Checkerspot.

2018 Field Trip Schedule (Subject to Change)

Date	Destination/Description	Difficulty	Trip Leader/Contact
April 21	Cowiche Canyon. A joint Cowiche Canyon Conservancy/ Washington Butterfly Association Earth Day Hike .	2	David James
May 12	Glacial Heritage Preserve, Thurston County. Annual Prairie Appreciation Day (Center for Natural Lands Management). An opportunity to see early spring butterflies on the prairie.	1-2	prairieappreciationday.org
May 12	North Fork Cowiche: Continuing butterfly inventory of newly acquired Cowiche Canyon Conservancy/WDFW lands with grazing rights.	2	David James
May 19	Yakima Training Center: Beginning a butterfly inventory on this military training land. No examination of the butterfly fauna of this vast shrub-steppe landscape has been conducted.	3	David James
May 26-27	Trinity National Forest, Northern California: Weekend trip to Eagle Creek to tag northward-migrating Monarchs. Also a rich area for butterflies (30-40 species) .	2	David James
June 2	Rocky Ford, Lincoln County: WBA/WDFW Species of concern: Silver-bordered Fritillary, recently discovered by John Baumann to be present on this shrub-steppe site.	3	David James
June 9	Big Meadow, Bonner County, Idaho, a lesser fritillary and spring butterfly extravaganza.	1-2	John Baumann
June 23	Big Springs, Umatilla National Forest, Blue Mountains: WBA/WDFW Species of concern: Meadow Fritillary.	3	David James
June 30	Red Top Lookout, Teanaway area.	2-3	Melanie Weiss and Dan Dunphy
June 30	4th of July Butterfly Count, Little Pend Oreille NWR.		Mike Munts
July 13-15	Annual Conference, White Salmon.		
August 11/18	Monarch Tagging Day at Lower Crab Creek. Date to be determined by late July and will depend on Monarch abundance.	2	David James
August 25	Toppenish, Yakama Nation: Search for Silver-bordered Fritillary (SBF) and violets as part of our Moxee Bog SBF project.	3	David James

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 larvae for rearing is accepted on condition that individuals raised to adult stage are released at their original location.

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)

Check our website and Facebook page for last-minute additions (Flash Field Trips!).

DIFFICULTY RATINGS:

- 1 Easy, mostly by car, minor walking along roads.
- 2 Fairly limited walking, some slopes involved.
- 3 Moderate, 3-4 miles walking with some slopes.
- 4 Difficult, hiking required off road, may have short steep sections, total of 4 miles or so.
- 5 Strenuous, extended hiking on trails with steep terrain, 4-8 miles..

Field Trip Instructions

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.

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 on each field trip to help offset expenses of the organization.

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Field Trips	Available	
Programs	Available	
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Newsletter	Regina Johnson	
Trip Leader, Central WA	David James	