



Washington Butterfly
Association

The newsletter of the Washington Butterfly Association

P.O. Box 31317 Seattle WA 98103

<http://wabutterflyassoc.org>

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

A selection from WBA member Bob Hardwick's 7,000+ butterfly collection, which was donated to the Oregon State Arthropod Collection at OSU after his death in 2014 (R. Johnson). Bob Pyle talks about the importance of collections and records in this issue. See also a note about Bob Hardwick's collection on back page.



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

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Upcoming Programs by Zoom

(so you can attend either Seattle or Spokane or both! Does not matter anymore.)

Wednesday March 3: Susan Waters, Quamash EcoResearch. Pollinators, native prairies, and conservation: using plant-pollinator networks to examine the effects of restoration on pollinating insect communities and the interactions that affect rare plant and insect species. (Seattle)

Wednesday March 17: David Jennings on native bees. (Spokane)

Wednesday April 7: Dr. Moria Robinson on caterpillars. (Seattle)

Wednesday April 21: TBA (Spokane)

Wednesday May 5: TBA (Seattle)

Wednesday May 19: Glenn Marangelo from the Missoula Butterfly House and Insectarium will do a presentation on bugs. (Spokane)



Ever heard of "the Loup"? Field Report from Cheryl Bellin

An excellent report for Slate Peak was provided by Jim Reed in the previous G'Num. Venturing to the Methow Valley for most field trip participants is a multi day adventure, spending a few days in the Hart's pass area and perhaps stopping by Whistler or Rainy Pass Meadows.

Another option would be to explore mid elevation forest roads off Highway 20 east of Twisp between the Methow and Okanogan valleys. Why? you might ask. Because, the forest roads are quite tame compared to Hart's Pass, the area offers a different habitat and species than Slate Peak, and the lower elevation shrub steppe is the western most range for some of the species found here. (This is a mix of Okanogan National Forest and Loup Loup State Forest.)

The area, called the "Loup", or Loup Loup Pass, is predominantly ponderosa pine, western larch and aspen. Seasonal creeks and meadows provide puddling and nectaring opportunities to facilitate differentiating butterfly species and take a few photos. Melanie Weiss, camera in hand, joined me midday August 2 after the "it did not disappoint" Slate Peak trip. I was hoping for the same kind of day.

Good weather was with us and area specialties were flying in abundance: Northwestern Fritillaries, Pink-edged and Christina's Sulphurs; Zerene, Mormon, and Western Meadow Fritillaries were also present as were eriphyle sulphurs so nets and jars were helpful for identification. A couple of Field and Northern Crescents were seen.

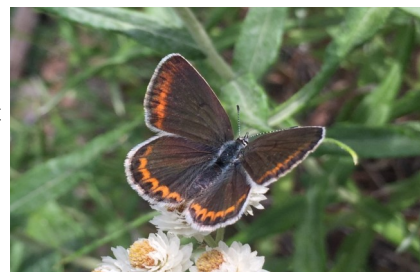
The title of most photogenic butterfly of the day was a toss up between the Mariposa Coppers, Melissa's Blues and the Sylvan Hairstreaks all nectaring on stands of Pearly Everlasting. Boisduval's and Greenish Blues were nectaring on asters and clover, respectively. Several nymphalids were flying in and out of the forested areas along the meadows, including California Tortoiseshell, Mourning Cloak, Common Wood Nymph, Common Ringlet and Satyr Anglewing.

As we were leaving, I noticed a heavily defoliated willow and actually found a L5 Mourning Cloak caterpillar wandering about. Long story short I brought it home and within 24 hours it had made a "J". The next morning I happened to see the metamorphosis begin and watched the caterpillar wriggle about and the chrysalis transform. Eleven days later I noticed the darkening chrysalis before I went to bed. The adult was waiting for me the next morning and it was happily released a few hours later.

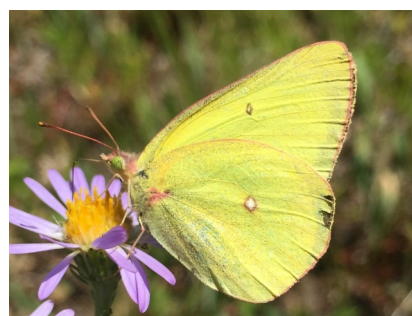
Thinking about future field trips, if there's interest, I could lead one here in 2022 piggybacking with Slate Peak. Email



Melissa's Blue (M. Weiss)



Melissa's Blue (C. Bellin)



Christina's Sulphur (C. Bellin)



Mourning Cloak caterpillar. (C. Bellin)

President's Message from Mary Schu

With it being the middle of winter there is not much new to report with the Washington Butterfly Association. The Winter Party via Zoom went wonderfully and was very well received from everyone that I talked to about it. A big thank you to Carolyn, Paulette and Melanie for putting so much hard work and time into this Winter Party so we members at WBA could still attend (even virtually) a social gathering that many of us are missing because of COVID.

With vaccines rolling out at an awfully slow pace and COVID cases still raging, and with the months of planning ahead it takes, we are possibly looking at postponing the Blue Mountains WBA Butterfly Weekend another year to 2022. We haven't decided definitely yet, but this is starting to look like might be the outcome.

I have not seen any butterflies lately, even though the temperatures here on the eastside of the state have been mild at best. There has been a good amount of moisture but mostly rain instead of snow, so on a sunny day one would hope to see a maybe a California Tortoiseshell or something else that might be overwintering. I have not been so lucky, even though there have been some sunny days. In December, I was able to go over to Coeur d'Alene and see the many eagles that come down from Canada for the salmon in Lake Coeur d'Alene. It is an amazing experience, to see as much as 50 to 70 eagles in one day, from juveniles still with their eagle parents to juveniles on their own just getting their white feathers to adults.

Just a reminder, Jon Pelham is still collecting butterfly data for the Washington State database he is building; you can email him that data at zapjammer@comcast.net.

Until next time,

Mary Schu
WBA President



A Bald Eagle, not a butterfly. It's winter! (M. Schu)

Cascades Butterfly Project 2021

The Cascades Butterfly Project (CBP) is recruiting volunteers for summer 2021! The CBP is a National Park Service Citizen Science Project that is entering its 11th season. Our goal is to document the influence of climate change on sub-alpine ecosystems by documenting butterfly abundance and plant flowering times. We have nine survey routes distributed from Skyline Divide & Sauk Mountain in Mount Baker-Snoqualmie National Forest, south through Cascade and



Silver Blue at Sunrise Ridge, Mt. Rainier National Park. (R. Rochefort)

Easy Pass in North Cascades National Park, Maple Pass in Okanogan-Wenatchee National Forest and four sites in Mount Rainier National Park. We survey once a week between snowmelt (about July 4) and Labor Day. Volunteers are asked to survey a minimum of 3 times and it is helpful if you have a partner to volunteer with. Currently, we are holding monthly Zoom study groups with volunteers in anticipation of warm weather!

If interested, please contact Regina Rochefort at: Regina_Rochefort@nps.gov

The Adaptable Monarch is Making Big Moves in California

David G James Dept of Entomology, WSU

Overwintering Monarchs.
(D. James)



On January 19, the official announcement of the number of monarchs seen during the annual Thanksgiving counts at California overwintering (OW) sites in 2020 was made. The news was not good. After our routine family visit to selected overwintering sites at Thanksgiving, I made the prediction that there would be less than 2000 total butterflies at the sites. Unfortunately, I was correct. The official number counted was 1914. This is down from around 30,000 in 2018 and 2109 and about 220,000 in 2017. While this is undeniably shocking and cause for concern, the picture may not be as bleak as the raw numbers suggest. There is apparently, this winter, a much larger population of breeding Monarchs in southern California and also in the San Francisco Bay Area. Evidence for this is harder to obtain of course but I will provide some here.

I have been involved with Monarchs for 43 years, and the single, overriding thing that I have learnt is that the Monarch is a highly adaptable creature! It has an incredible ability to adjust to changing environmental circumstances. In Australia, it took less than 100 years after its introduction to change its core physiology as part of adaptation to a different climate. Adapting to man-made environmental challenges may take Monarchs a while but I believe it can happen. I believe that the widespread and intensive use of neonicotinoid insecticides is one likely factor behind the current Monarch population decline. But even with insecticides, insects can develop resistance over generations. The few Monarchs that are alive and well in California currently are the 'survivors', those that have beaten the perils stacked against them. Clearly, we need to try and make life as fruitful as possible for these survivors, to aid in their population recovery. These Monarchs will produce progeny that are also 'fitter' than the general population and we need to ensure that milkweed is there for them, particularly during spring in California.

The Monarch as a species is particularly good at 'trying different things'. Thus, while the majority of the population does one thing (like migrate and overwinter), there is always a significant subset exposed to the same environment, that 'decides' to do something different, like not migrate. Most of these of course will die but in some circumstances, some locations, the outcome may be good, giving another option for continuation of the species, should it become necessary. We may be seeing this now with the rise in winter breeding of Monarchs in warmer parts of California like the LA Basin and SF Bay Area. There is also evidence for the first time of breeding winter Monarch survival in far south-western Oregon.

Here is some circumstantial evidence for the notion that Monarch butterflies this winter are behaving differently in California than normally seen. That is, more of them seem to be engaged in breeding activities and fewer are overwintering in a non-breeding state at overwintering sites.

We have been running our WSU-PNW Monarch-tagging program since 2012 and each year we have tagged between 1000 and 6000 Monarchs. During 2012-19, a total 122 tagged Monarchs were recovered and the majority of these (63%) were found at overwintering sites in California.

In 2020, we tagged nearly 1300 Monarchs, and to date, zero have been found at overwintering sites! This is despite the tagged 1300 Monarchs representing around 65% of the total number of Monarch butterflies seen this year at overwintering sites!

Since 2014, our overall annual average recovery rate for tagged Monarchs has been 0.66%. In 2020, this recovery rate was 0.77%. That is, we recovered as many tagged Monarchs as we could expect to. The difference was that they were all found during migration instead of at overwintering sites. The number of tagged Monarchs we recovered during migration in 2020 was eight times greater than the average for the previous six years.

Most tag recoveries in 2020 were made in inland Northern CA and in the Bay Area. Unlike other years, tagged Monarchs apparently did not move coastward to overwintering towns like Santa Cruz and Pacific Grove. I suspect many stayed in the Bay Area and joined reproductive populations. In 2019, we obtained photographic evidence of a tagged migrant from Oregon laying eggs on milkweed in a Bay Area back yard. In 2020 a male tagged Monarch from Oregon was photographed (see below, credit Teresa Chang) feeding on milkweed at Benicia in the Bay Area.



Oregon Monarch in Benicia. (Teresa Chang)

These data from our tagging program suggest that in this year at least, many migrating Monarchs that were headed to overwintering sites contributed to a Bay Area breeding population that is, from a number of reports, quite substantial this winter.

Assessing the extent of the winter breeding population of Monarchs in the SF Bay Area is not an easy thing to do. It is far easier to go to overwintering sites where the monarchs conveniently gather en masse so they can be counted! A breeding population is distributed across the landscape. However, just like we have done with the WSU-PNW tagging program, it is possible to harness data collected by citizen naturalists.

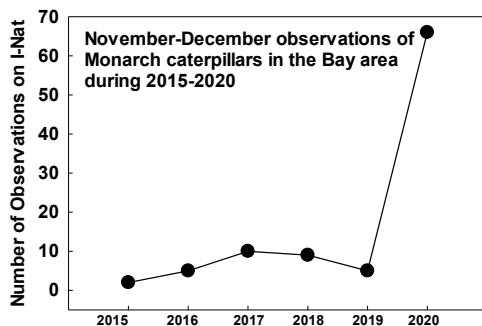
iNaturalist is an online resource that anyone can use to record their observations of fauna and flora. Established in 2008 by the California Academy of Sciences in San Francisco, it now has more than a million users worldwide, many of them in California. It is possible to extract data from iNaturalist collected on the occurrence of Monarch larvae and pupae in the SF Bay Area going back almost a decade. This is what I did, focusing on the winter months of November/December looking at the observations made annually in these months since 2015.

During 2015-2019, there were 2-10 observations each year of larvae/pupae during November-December in the Bay Area (average: 6.2). In 2020, there were **66** observations of Monarch larvae/pupae in the Bay Area during November/December! This is shown graphically below. Of course, the use of iNaturalist likely has increased this year due to Covid and the related growth of interest in natural history, but I doubt this dramatic increase in Monarch observations is solely due to this.

Again, this evidence is circumstantial and clearly some serious scientific monitoring of Bay Area milkweed patches, both wild and domesticated, is needed in future winters to obtain hard data. Anecdotally, native Showy milkweed is also remaining viable longer and is being used in some instances by winter Monarch larvae in the Bay Area. Combining the data on tagged Monarch recoveries in the Bay Area with the above observations from iNaturalist presents a signal, I believe, of a changing dynamic in Monarch butterfly overwintering ecology in the western US. I think the primary driver for this change is likely to be increasing temperatures in California particularly in the 'urban heat island' areas of Los Angeles and San Francisco. Instead of seeing a shift northward of overwintering sites, perhaps we will see a sustained increase in winter breeding in California.

Brookings, Oregon is nestled in the far SW corner of Oregon. If adult Monarchs were able to survive the winter in the Pacific Northwest, Brookings would be the place to find them. Freezing temperatures are rare and average daily maxima for December-January hover around the mid-fifties which is the minimum temperature at which monarchs can fly. With a little bit of sunshine, Monarchs can rapidly elevate their body temperatures way above the ambient temperature. However, it's the relative lack of sunshine during winter in Brookings which may be the limiting factor.

This year, for the first time, Monarchs have been reported flying in Brookings in January! One was sighted on January 5 (photo below) and two others seen a few days later. Two were tagged and had been reared and released in Brookings in late October. They were part of a late generation of caterpillars eclosing into conditions that were not strongly inductive for migration. The prime cue for inducing southerly migration is most likely the rate of daylength decline, and this rate in late October is sub-optimal for migration. Thus, these butterflies remained in Brookings to attempt survival as breeding adults. In most years this likely ends in failure because of cloudy, cool and wet weather, but this year, apparently some have survived. In addition, it is possible that immature stages may also be able to survive with milkweeds (mostly tropical milkweed) remaining green.



It is uncertain whether the small population of Monarchs will ultimately survive the winter in

Brookings this year, but I think we are edging closer to a time when they will. The Brookings situation is an excellent example of Monarch adaptability, whereby there is a small proportion of the fall population that spurns migration, in favor of gambling on winter breeding. The Monarch is one of nature's big gamblers, and in the quest for continued survival of the species in the chaotic casino of the 21st Century, this must be a good thing!

Tagged Monarch in Brookings. (Nate Staller)



Watching Washington Butterflies with Bob Pyle

Number Forty-three, Part 1

Put Another Dime in the Record Machine

Wop
Wop, wop, wop wop, adada dada) (Wop
Wop, wop, wop wop, adada dada) (Wop
Wop, wop-, wop wop, adada dada) (Wop
Wop, wop-, wop wop, adada dada) (Shout

Shout, knock, yourself out) (Come
On yell, yell, loud, and swell) (You
Gotta scream, scream, you, know what I mean) (Put
Another dime in the record machine) Hey

We're, havin' a party now it's just begun We're
All over here and havin' fun Joe's
All alone and he wants to be kissed While
Mary's in the corner and she's doin' the twist So

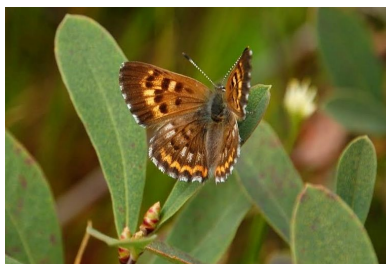
Let's (Shout, Shout, knock, yourself out) (Come
On yell, yell, loud, and swell) (You
Gotta scream, scream, you, know what I mean) (Put
Another dime in the record machine) Hey

Whether you remember this snappy doo-wop song or not, or even record machines that took dimes, you probably recall actual records, as opposed to tapes, CDs, and iTunes. In fact, *real* records—vinyl LPs and EPs, if not singles—are making a big comeback (see butterflylaunch.com for an example, shameless self-advert dept.). This is because many people appreciate the real thing, and many aficionados believe that direct-cut records give a purer, cleaner, warmer sound than digital.

So what has this to do with butterflies? Just this: as much as we treasure our personal encounters with individual butterflies, moths, and other organisms, and the photographs we may obtain and share, these make up only a part of the value of the experience. From a scientific, intellectual, conservation, and overall satisfaction standpoint, any biological observation may be vastly enhanced if a proper *record* is kept of it. And even more so, when those records are reported to the right place to do some good.

I know I've said much the same before, but it is worth repeating and enlarging upon, as I fear not everyone in our community fully appreciates the power they have—and, I would add, responsibility—to help expand our collective picture of our butterflies' whereabouts in both time and space. Everything we can add to our overall wisdom will likewise expand our ability to maintain a rich natural heritage of butterflies, and to enjoy them. And the basis of this wisdom is the lowly record.

Female June's Copper (*Lycaena mariposa junia*). (John Fleckenstein)



So, what do we mean when we say "record?" Well, think about the phonograph record: and what it does. By cutting a distinctive pattern of grooves into a receptive vinyl base, as the music and words are delivered up live, the recordist manages to preserve modulations, nuances, and the overall auditory experience of the performance. This can now be reproduced ad infinitum, shared, listened to, danced to, and broadcast, every doo-wop-doo and sha-na-na-na. In other words, the experience is not lost, no matter how ephemeral. In our case, we are talking about the experience of encountering a particular butterfly in a particular place—not a different one somewhere else, not

(Continued on page 8)

(Continued from page 7)

approximately, but *that* one, exactly *there*. And what could be more evanescent than a butterfly's visit? Like a song caught on vinyl, that momentary lilt of a butterfly on a breeze or a flower need not be lost to the ages, if a proper record is kept.

The great lepidopterist-poet Vladimir Nabokov was always concerned throughout his life with reconciling art and science, and walking the "high ridge" where they meet. In a very real sense, we do this every time we bring back from the field a butterfly record. We combine the poetry of the sighting with the science of the record to make something new: a fresh quantum of human knowledge, never before recorded just like this. In other words, we have captured a DATUM (plural, DATA). We have no way of knowing how our data may influence future studies, understanding, management, or any other extension of field research. But we can say this for sure: absent those data, no such understanding, etc., would be possible. For example: Dr. Paul Hammond and I recently reviewed the systematics and biogeography of the Mariposa Copper (*Lycaena mariposa*) through its large western range. This study, based on more than six thousand records and their traits, enabled us to conservatively describe nine new subspecies of these coppers, to propose hypotheses for their origins, and to make informed recommendations for their conservation.

Supposing we agree on their utility and intrinsic value, then, what constitutes an acceptable record, and how may we go about keeping and lodging them in the appropriate places? Good questions! It used to be that butterfly records came primarily from the pin labels on specimens, without which they would be mere curios. Responsible, scientific collecting has always meant affixing a label to the pin beneath the specimen giving the basic details of its provenance. It is these data labels, as much as the insects themselves, that enable and ennoble private collections to become the backbone of the great museum collections upon which our field guides, atlases, checklists, and conservation plans are all dependent. Nowadays, as catching grows rare in favor of watching and photography, there are fewer and fewer pin labels to consult for new records of occurrence under modern environmental conditions. This places a great onus on the nonconsumptive butterflyer to become a sound record-keeper as well.

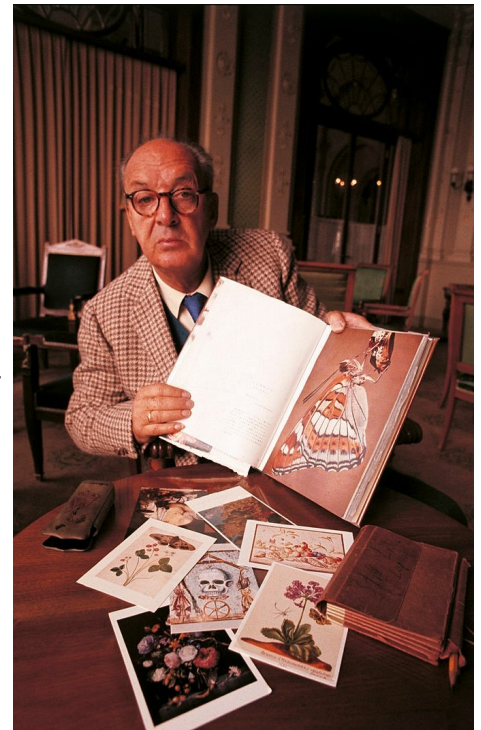
Here, then, are the basic elements of an acceptable field record;

- 1) State and county, followed by the precise locality at which the butterfly was encountered.
- 2) The exact date of the encounter, given as day/month/year.
- 3) The name of the person responsible for the record.
- 4) The voucher: traditionally a specimen, but these days more commonly a good, recognizable photograph; or in the absence of a photo, clear notes of observed, diagnostic field marks.
- 5) Any additional field notes.

In Part Two of this essay, next issue, we will consider how records might best be kept, stored, and shared, and how their proper care and feeding will enrich our butterfly knowledge and numbers in the challenging years ahead.

Vladimir Nabokov, Montreux, Oct. 1969

[Giuseppe Pino (Mondadori Publishers)]



Field Trips

No field trips are scheduled at this time. As conditions allow, we may try to have some of our usual field trips so stay tuned.

On the Value of Labeled Collections

WBA member Bob Hardwick (1942-2014) collected butterflies from all over the world. Here's a quote from a newspaper article about his collection, from March 26, 2015:

One thing that makes Hardwick's collection so valuable is the accuracy and thoroughness with which he labeled each specimen, said Chris Marshall, the OSU curator. "His labels are great because they show where and when the specimen was collected and by whom," he said. "We're thankful that people like Bob Hardwick take an active role in helping everyone learn about earth's biodiversity. It's collections and collectors like his that have filled the planet's research museums with the material scientists use to describe, document and monitor the many diverse species on Earth. Without those specimens — and the people who got them and safe-guarded them — we'd know so much less about our local biodiversity."

<http://archive.kitsapsun.com/news/local/gig-harbor/gig-harbor-mans-butterfly-collection-on-display-before-leaving-for-oregon-ep-1006780211-354829581.html>

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