



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)

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



Melissa's Arctic, Slate Peak. (M. Weiss)

In Jon Pelham's words: Melanie's photo of *Oenis melissa* is awe inspiring! Seeing one is kewl enough. Catching one is no mean feat. Getting that photograph? No words!



Arctic Blue, Slate Peak. (Keith Brady)

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Please Note if you receive this as paper through regular mail: this is the last issue sent as hard copy. Make sure we have your email address for future delivery.

Upcoming Programs

Sept. 2, Seattle: TBD. The CUH is closed at least through October. Meetings meanwhile will be by Zoom.

Sept. 16, Spokane: Share the Wealth by Zoom.

Oct. 7, Seattle: TBD

Oct. 16, Spokane: TBD

President's Message from Mary Schu

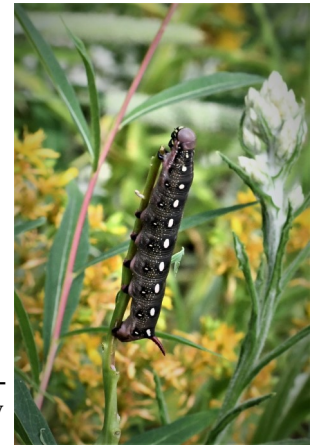
As the new Washington Butterfly Association (WBA) President, I have exceptionally large shoes to fill with David Jennings as our last President and John Baumann having served as our President before that. They ran such a great WBA, both possessing lots of experience and expertise. David and John have been very wonderful mentors for me. I would like to say Thank You to both of you guys.

A little about me, my whole life I have always leaned towards being a naturalist. I have always been fascinated and interested in butterflies and dragonflies and was absolutely thrilled when I discovered the WBA organization. John Baumann was able to convince me in 2017 to become the Secretary of WBA, which I was for 2 years. Last year, I was Vice President of WBA and now I am ready to embark on this next journey of being the President of this wonderful organization for the 2020-2021 year. This upcoming year will be challenging to say the least with the pandemic looming. It has changed the way our meetings, fieldtrips, and outreach are being run. However, we are a strong organization with lots of terrific members and a fantastic Board who are up for the challenge. Going forward at least for a while, things may be different, but the WBA mission will always remain the same.

This summer, just because the fieldtrips and the annual Butterfly Study Weekend were cancelled, we still have been encouraging our members to go out and butterfly, in the field alone or with a friend or family. During this pandemic and with the stay at home orders, it is important to get outside, even if it is just in your own neighborhood. While out, count the butterflies you see. Another option is to go somewhere within the county you live and count the butterflies. Take pictures if you can and submit your data if you are comfortable doing that. We have been and still are collecting data by using the [eButterfly](#) website for the County Big Days-WBA Citizen Science Project for the months of June, July, August, and September. We hope by the next G'Num we will have data and statistics for our members to see that will be of the different data that was submitted, such as location, butterflies seen, etc.....so stay tuned for that. Also, Jon Pelham is still collecting butterfly data for the Washington State database he is building, and you can email him that data at zapjammer@comcast.net.

Currently the WBA Board is planning our WBA year ahead, with possibly starting out the year by using Zoom to broadcast the monthly meetings until we are able to meet in person.

As for my summer, it has been extremely busy, but I have managed to get out as much as I can visiting places including Rutter Canyon, Douglas Canyon, Ferry County, etc. I have seen butterflies, moths, bees, dragonflies and many more wonderful insects and wildlife. I have even seen 2 black bears in two different areas, as well as 2 Golden Eagles which was absolutely amazing. I saw one of the coolest caterpillars I have ever seen, the *Hyles gallii* or Bedstraw Hawk-Moth, which I had WBA's very own Carl "the Moth Man" help me identify.



Hyles gallii. (Mary Schu)

Until next time,

Mary Schu – WBA's new President



Edith's Copper. (M. Schu)



Western Tailed Blue. (M. Schu)

Trip Reports for a Pandemic Year

While there were no official group field trips since—well, all of them were cancelled—some members have gone out individually to some of our regular sites and reported back.



Meadow Fritillary. (Cheryl Bellin)

Okanogan County, June 19, Cheryl Bellin and Jim Rauh

A roadside seep prior to the main meadow was where Jim netted the main goal for the visit, a Meadow Fritillary, *Boloria bellona*! I thought I'd share the exciting news to keep the interest up for our trip to the area next year! This is the first time we'd seen this fritillary in Washington state. Interestingly, this butterfly was a resident in our yard back in Maryland. I saw one other lesser fritillary in the meadow area within a fenced off wetland so unable to confirm.

A few photos shows it was quite fresh and bodes well for this timing next year all things being equal.

We saw 21 species for the day. New for us this year beyond what we've seen in the Methow were several Northern Checkerspots, *Chlosyne palla*.

Mount Townsend, NE Olympics, July 30, Regina Johnson

The last 5 times WBA has scheduled a field trip to this site for the first weekend in August, it has rained. So of course this year it did not rain in the first weekend of August. But not wanting to bet on that, I went on the preceding Thursday—not just because of the weather curse but also overwhelming use of the trail and parking area on weekends in even normal times. It. Was. Glorious. The trailhead parking was full by 9 am but there weren't that many people on the trail, and the people I did see, all masked up and stepped aside to pass. Wildflowers were peaking. Butterfly numbers were not huge but species diversity was good with 13 species I felt confident identifying on the wing. Noteworthy is the Spangled Blue, numerous just below the summit on just-blooming Cushion Buckwheat. There were Mountain Parnassians, Vidler's Alpines, and a flyby of what must have been a Chryxus Arctic. Along with dozens of fritillaries, mostly Arctics and Hydaspes but there could have been other species too. For some reason, most people's goal for this hike is seeing Seattle from the summit. I don't get it. You're in the Olympics! People come from all over the world to see them! Endemic butterflies and wildflowers! And you want to see Seattle??



Spangled Blue. (R. Johnson)

And She Kept Coming Back ... or What You Can Learn by Repeated Visits of a Butterfly Site.

by Melanie Weiss

Queen Alexandra's Sulphur.



This was a difficult summer for traveling long distances where you would need overnight lodging. As a result, I visited several butterfly sites multiple times and observed changes in the species and plants over time. My favorite this season was a location introduced to me many years ago by Dave Nunnallee who often did an early June field trip to the area: Upper Umtanum Creek outside of Ellensburg. This is shrub steppe habitat at around 2,600 ft. elevation. The area has many species of nectar and host plants, including a variety of buckwheats. On that first trip with Dave, we stopped at several spots along the roadside with great mudding places and many species enjoying themselves: sulphurs, nymphalids, lycaenids. That was early in my butterflying days. It seemed to me this must be what it was like traveling to Africa and seeing large numbers of butterflies along rivers and streams. Unfortunately, since that time they have begun a program of road grading. But there are still wonderful areas and species to be seen.

I made four visits over six weeks and saw additional species each time as the abundance of others decreased. On my first visit in early June I focused on roadside wet areas, seeing 18 species. Six species of blues were present including Acmon, Lupine, Boisduval's, two Euphilotes, Greenish. There were many Western Sulphurs, but the prize was the Queen Alexandra's Sulphur, lime-yellow, mudding with one group. This individual stood out by both size, being a bit larger, and color. Coronis Fritillaries were also present in good numbers.



Common Roadside Skipper.

On my second visit to most of the same areas, the day was cool the temperature around 60 degrees. Plus there was cloud cover from time to time. And still I had 12 species, four species of blues, some Western Sulphurs and Coronis Fritillaries being the most abundant. In addition, beautiful Blue Copper males were now on the scene in good numbers. And as a surprise, one Roadside Skipper flew out of a grassy area and began nectaring on *Convolvulus arvensis* (Field Bindweed) growing along the roadside. This butterfly species is uncommon for the area. Total season species are now at 20.

A warm day with high clouds greeted me on my third visit. I stopped at several spots as you drop down from the ridge. *Eriogonum heracleoides* was blooming abundantly throughout this particularly area. Many species were nectaring on this lush plant. I was photographing a species on one plant, and within 30 minutes six species visited it! I stayed in this area for quite a while. Coronis were flying by and chose other flowers for nectar. Female Blue Coppers were present in this area along with two new species, Behr's Hairstreak and Halfmoon Hairstreak. Lower down Zerene Fritillary were flying. I had been waiting for this species to appear. The final two new species were the Western Branded Skipper and the dependable Cabbage White. With these five new species the season total rises to 25.

My final visit was the beginning of the second week of July. The area was beginning to show signs of drying with many plants senescing. The several species that I had seen earlier on the *E. heracleoides*, had now moved to Yarrow. Surprising to me, they were having a 'Yarrow feast' in this area. I saw 10 species on this day, and only one species of blue remaining of the original six seen on my first visit. And again, there were new species: the Becker's White seeming to favor *Chaenactis douglasii* (Hoary False-yarrow, or Dustymaidens) as a nectar source, and the California Hairstreak. The latter preferred thistle, and it was just

Becker's White.



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emerging. So often there would be several on one bloom. These two new species bring the grand total for the site, after four visits in a variety of weather conditions, to 27.

I had only visited this area once per season in the past. Observing the changes over six weeks at Umtanum Creek was quite remarkable. There is an interdependence to be seen and appreciated in the delicate balance between plants and butterfly species.



Western Branded Skipper.



Behr's Hairstreak on *E. heracleoides*.



Blue Coppers.

Zerene Fritillary.



Acmon blue on yarrow.

Bumblebee ID Help

We would like to let folks know about a new website to help with field ID of bumble bees.

The URL is <https://www.washingtonbumblebees.org>

We are getting it out a bit late for this field season, but are hoping folks will review it and give us feedback on what would make it more useful.

We will be upgrading and improving it over the winter--based on your feedback-- with the expectation that it will be a useful guide to help better appreciate the diversity of our bumble bees here in Washington.

While targeted specifically at Washington state, the guild may be useful for folks in Idaho, Oregon and British Columbia as well.

Please send any feedback about the site to: bombus.franklini@gmail.com

Watching Washington Butterflies with Bob Pyle

Number Forty-one

A Blast from the Past:

John Hopfinger's Lepidoptera of North Central Washington, 1956. Part 2.

AUTHOR'S NOTE: John Hopfinger was one of our great pioneer Washington lepidopterists. He lived in Brewster, Douglas County, where he was an orchardist. He often hunted butterflies with his friend Andy Anderson from Pateros, across the Columbia River. Hopfinger and Anderson accounted for many county and a few state records, such as the first *Astarte fritillaries* and *Melissa arctics*, both of which they found at Cooney Lake in the Sawtooth Range in the 1930s. What follows is a significant historical document which is still useful today: Hopfinger's "Lepidoptera of North Central Washington," prepared for Charles L. Remington of Yale University in 1956, and never published until now. We correct that here, with the last of two parts. His comments concerning conservation are interesting, implicating sheep grazing and insecticides. Oddly, Hopfinger didn't report Mormon Metalmarks or Cabbage Whites, and omitted any notes on skippers, but a few moths are mentioned. I have edited only very lightly, adding common names and contemporary equivalents for species and a few subspecies names. It is intriguing to see how he coped with nomenclature in those days, and to read the names of a number of major lepidopterists with whom he communicated, two of whom described patronyms in his honor. As a teen in Colorado I corresponded with John Hopfinger, and consider him an important early influence on my own studies. We should remember him as a major figure in the history, field work, and knowledge of Washington butterflies. He was the true amateur: one who does what he does out of sheer love.



Blues: Columbia, Boisduval's, Arrowhead, Cascadia. (M. Weiss)

Euphydryas colonia [= *E. editha*, Edith's Checkerspot]: From 4000 to 8000 feet. Cooney Mountain, Crater, Harts Pass, Tiffany Lake, etc. Not sure of this name. Gunder identified this "temporarily" as *E. colonia*.

E. anicia hopfingeri [the author modestly typed this as *E. anicia hopf.*] [*Anicia* Checkerspot]: Lower valleys, Black Canyon, Gold Creek, Alta Lake, up to Camp Gilbert.

Melitaea sterope [= *Chlosyne acastus sterope*, Great Basin Checkerspot]: Upper Sonoran, Alta Lake, Indian reservation along Columbia in April-May. Female varies greatly in color. Getting scarce the last few years. Sheep over the range.

M. segregata [*C. hoffmani*, Hoffman's Checkerspot]: From 3500 feet, west of the Methow River. Camp Gilbert, Mazama, Patterson Lake. Seems to be around snowberry if found at all.

Phyciodes mylitta [*Mylitta* Crescent]: Lower valleys, from river valley to some 2500 feet. Alta Lake, Black Canyon.

P. campestris [= *P. pulchella*, Field Crescent]: From Columbia up to 7000 feet, Harts Pass, Gilbert, etc.

Nymphalis californica herri [*California* Tortoiseshell]: Main breeding grounds seem to be around 3500 feet, in buckbrush country. At Camp Gilbert, and on Crater Creek, I saw acres of brush eaten by the larvae of this, and safe to say, a million of the adult. On top of Crater Mountain, we saw a steady stream coming across the range from the Lake Chelan country. Some years, none are to be seen.

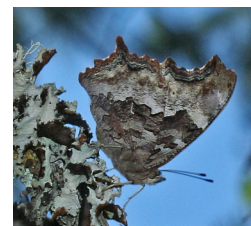
N. milberti [*Milbert's* Tortoiseshell]: Rather scarce any time, found this from home up to Salmon Meadows.

N. antiopa [*Mourning* Cloak]: More common in the lower valleys than higher. Never common. Have not seen it above some 3000 feet.

N. c-album [*l-album*, Compton Tortoiseshell]: In 40 years of collecting here, I have taken exactly three specimens: Lake Chelan, Gold Creek, and above Mazama, at Gate Creek.

Vanessa cardui, *caryi* [sic: *carye*=*annabella*], *atalanta* [*Painted* Lady, *West Coast* Lady, *Red Admiral*/*Admirable*]: A few scattered specimens taken up to Harts Pass, no definite location.

Basilarchia lorquini [= *Limentitis lorquini*, *Lorquin's* Admiral]: from home up to 4500 feet, along creeks and rivers. Lake Chelan, Salmon Meadows, Gold Creek. (From 1908 to 1912, there were some 3000 acres of land planted in young apple trees. *L. lorquini*, and the then-common *L. archippus*, took to this new foodplant with enthusiasm, and many is the overwintering larva I found on the tip of a leaf, all snug and rolled up. About 1914, spraying with lead ar-



Compton Tortoiseshell. (J. Baumann)

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senate commenced, which wiped them all out, and none are to be found around the orchard country now.)

Strymon melinus, *acadica* [= *sylvinus*], *titus*, *chalcis* [= *saepium*] [= Gray Hairstreak, Sylvan Hairstreak, Coral Hairstreak, Russet Hairstreak]: From river level to 2000 feet. Any patch of “dogbane” in May-June will yield some of these. Gold Creek, Tar Creek, Alta Lake.

Satyrrium fuliginosum [= *S. semiluna*, Halfmoon Hairstreak]: 1200 feet to the top of Harts Pass, scarce, higher country tends toward Klotz’s *lunata*.

Incisalia iroides [= *Callophrys augustinus iroides*, Brown Elfin]: One of the first to come out in the spring. Lower country mostly, feeds on coyote berry (adult).

I. eryphon [*C. eryphon*, Pine Elfin]: Edges of timber, May-June, from 1000 to 2500 feet.

Callophrys sheridanii, *C. affinis* [Sheridan’s, Western Green Hairstreaks]: Early in the spring, around a small yellow aster on rocky knobs around Alta Lake. Believe *C. sheridanii* to be the first thing on the wing, specimens taken in March always old, ragged. Rare any time.

Lycaena mariposa [Mariposa Copper]: At some 5000 feet common on yarrow, below Rogers Lake, scarce at Salmon Meadows. East of the Okanogan River on the road to Republic, seems to run into the form *penrosi* [sic. *penrosae* = *L. m. cascadia* running into *L. m. thea*].

L. nivalis browni [Lilac-bordered Copper]: Same range as *P. anna* [below], much rarer. Gilbert, Twisp Pass, Harts Pass, Upper Methow River at Mazama, Early Winters Creek.

L. heteronea [Blue Copper]: From river level to Harts Pass, 7000 feet. Any patch of yarrow will turn up some of these. At higher altitudes, the undersides tend to become spotted, close to Klotz’s *gravenotata*. June-July.

L. helloides [Purplish Copper]: Same range as the last, nearly all females tend toward *flora*, being much darker than typical *helloides*.

L. sirius [= *L. rubidus*, Bronze Copper]: Low valleys along the Columbia, rather scarce.

Plebejus melissa [Melissa’s Blue]: Nabokov has some name for this, it flies from Alta Lake up to Salmon Meadows, 1000 to 4500 feet. Female very hard to find.

Pl. anna ricei [Anna’s Blue]: 3000 to 7000 feet, Harts Pass, Cooney Lake, etc., Salmon Meadows, varies greatly.

Pl. aquilo megalis [= *Agriades glandon*, Arctic Blue]: On top of Cooney Mountain, along trail at some 5000 feet, common on tip of the peak, hard to catch as it flies a couple of inches off the ground, and hardly ever rises above this. A bird came from under a rock when I made a swipe at one of these little butterflies, and went right through my net.

Pl. [=Icaricia] saepiolus [Greenish Blue]: 4000 to 5000 feet. Salmon Meadows, and east of the Okanogan River.

Pl. montis [*I. icarioides*, Boisduval’s Blue]: Not sure of this name, believe to be three-four different things from home to Harts Pass, Twisp Pass, etc., too many different colors and shapes. Some three months ago, I sent some 50 specimens from different localities to J. F. Gates Clarke at his request, for [William] Field to look over [at the USNM, Smithsonian Inst.]. Never heard any more about it. Always near lupines.

Pl. acmon [= *I. lupini*, Lupine Blue]: Same range as *Pl. montis*. Taken on tip of Cooney Mountain, 8000 feet.

Philotes enoptes columbiae [= *Euphilotes columbiae* and *E. “on heracleoides”*, Columbia and Cascadia Blues]: This is the name Mattoni put on what I used to call *P. battoides oregonensis*.

Lower valleys. I have one specimen from Salmon Meadows which is much darker than any other *Philotes* I have, will try for more this summer, then you can describe it.

Glaucopsyche lygdamus columbia [Silvery Blue]: Skinner described this from specimens I took along the Columbia, in 1917. Material from high country is different enough to warrant a name.

Phaedrotes [= *Glaucopsyche*] *piasus* [Arrowhead Blue]: Generally in the lower country, May-June, but I have one small specimen from Salmon Meadows.

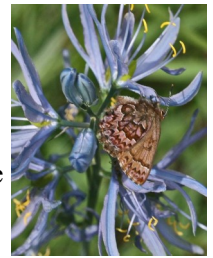
Moths

Samia kasolensis [= *Hyalophora euryalis*, Ceanothus Silk Moth], *Teia* [*Antheraea*] *polyphemus* [Polyphemus Moth], *Pachysphinx modesta* [Poplar Sphinx Moth]. A specimen of these moths turns up now and then, scarce any time. A colony of the sphinx used to live on the big tree at my old house, but believe the air spraying killed them all off.

Pseudohazis washingtonensis (Medlar) [= *Hemileuca nuttali*]: In the sagebrush flats in the lower country. Larva feeds on greasewood, winters in the egg on the tip of small branches, flies about August 15. Cold springs in the last five years hurt this badly, and have not seen it in years.

Ps. hera [= *Hemileuca hera*]: Same range as above, flies a couple of weeks later, believe this to feed on sage and rabbit brush, scarce.

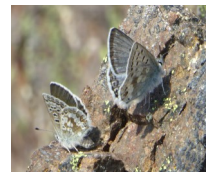
Ps. eglanterina [*Hemileuca eglanterina*]: Flies around Gilbert in July, varies greatly, probably feeds on buckbrush or wild roses. [Sheep or Day Moths, going by various common names.]



Pine Elfin. (J. Baumann)



Purplish Copper. (M. Weiss)



Arctic Blues pair. (J. O'Donald)



Hemileuca hera.
(J. Baumann)

INAUGURAL E-BUTTERFLY SURVEY

By David Jennings

And the winners are:

Wait, I am not going to reveal the answers that quick.

First, thank you to all who participated!

Second, we are still in August and there is also September: get out there and start reporting! We would love to add your name in our next report.

We were hoping for a fair number of our members to participate in June and July. The numbers were a bit low and 33% of participants were from outside of Washington. I think we can do better than that!

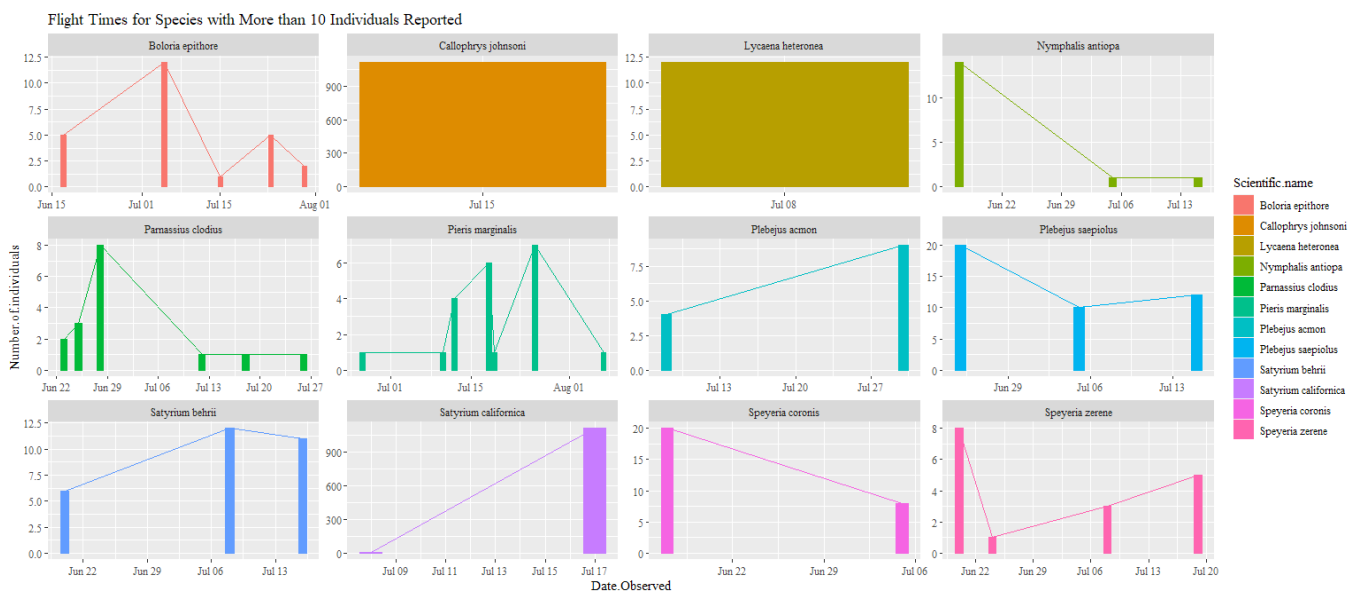
As a rough predictor, we were hoping AT LEAST half of the folks who went on a WBA field trip or participated in the Study weekend last year would submit at least one survey. That would have at least 25 different surveys submitted. And once you figure out how to upload the info, then your future submissions will start pouring in—at least that is our hope!

So, PLEASE, walk around your neighborhood or park, safely, and take a picture or get a good look at one or more butterfly species and report using [eButterfly](#). The power of citizen science is our large numbers. We can generate large amounts of data quickly, if we get out there, make observations and report them.

WE GOT NO SURVEYS from KING COUNTY. Be the FIRST!

We got NO SURVEYS from SPOKANE COUNTY. Be the FIRST!

As an example of what reporting our data can do, look at some of the graphics resulting from the small amount of data we submitted:



The number of observations is low. The analysis is only as good as the data it is based on. I hope you can see the potential once the volume of observations grows. And as this continues over time we will also be able to start looking at trends over time—but it takes a robust dataset to get there. And that depends on us to go out, observe and submit!

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In June:

We had a total of four (4) individuals submit observations. The top three submitters were all WBA board members (go team!). The fourth was an individual from Los Angeles, California, with a single observation from her neighborhood.

The top surveyor in June was **Melanie Weiss**, with a total of 7 field days submitted.

Melanie was the only submitter for **Yakima and Kittitas** counties and also had a survey in **Mason County**. Melanie also reported a total of **27 species** across all of her surveys, for the species reported.

In 2nd place we find **Regina Johnson** and **Regina Rochefort**. Both conducted two (2) surveys with **Regina Johnson** reporting **4 species** total and **Regina Rochefort** reporting **3 species**.

Regina Johnson did her surveys in **Mason and Jefferson Counties** and **Regina Rochefort** did her surveys in **Skagit County**.

Aiko Nguyen submitted a single survey with a single species from Los Angeles County, California.

In July:

We had a total of three submitters: **Regina Johnson, Melanie Weiss** and **Evelyn Sheer**.

Regina Johnson gets the gold star for most surveys and also most species! She reported seven (7) field days and a total of 23 species detected. **Regina Johnson also gets the award for most counties surveyed**, with a total of four (4): Grays Harbor, Jefferson, Pierce and Thurston. Regina was the only submitter for these counties.

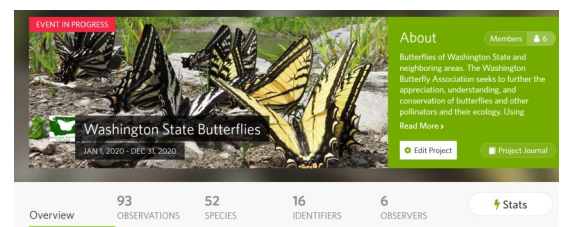
Melanie was close behind on species, with a total of twenty-two (22) species across three (3) surveys, all in Kittitas County.

Evelyn Sheer was the third contributor. She reported three (3) observations over three days, in Deschutes County, Oregon (Bend).

Odds are high you can be a winner if you go out and start observing. Submit your findings! Lots and lots of counties do not have a single submission. You can change that! You can be #1.

Washington State Butterflies on iNaturalist

By Regina Johnson



WBA also has a Project on iNaturalist for those who don't want to do an actual survey. As of publication time, we have 6 project members, and 52 species posted. Three quarters of our observations are Research Grade, which means they are included in the iNaturalist Research-Grade Observations dataset. Anyone on iNat can download this data as a .csv file, and iNat data is used by researchers worldwide. Anyone on iNaturalist can join the Project, and anyone on iNaturalist can help to verify identifications posted to the Project. One of my hopes for this Project is that we can get help with our identifications. I have posted photos of caterpillars and of moths, hoping that someone will know what they are. There are other moth observations in the Project, as well as butterflies, also waiting for a verification. Browsing through the Project page also lets us get an idea of who's seeing what, where and when.

Map of our Observations
on iNaturalist.



Instructions for using the 'Butterflies of America' website

By Jonathan Paul Pelham

This site can and has proved to be difficult for the uninitiated. I intend that this introduction can remedy that. First of all, navigate to the site - <https://www.butterfliesofamerica.com/>
There are four buttons (links) on the home page:

Introduction - explore authors and the website, a 'spare time' endeavor.

All America pages - this is where you will want to go; we will get back to it. And it means All Americas – North, South and Central.

Interactive List - this is an essentially antiquated (2012) link; don't bother...unless your muse drives you!

Catalogue - this is my baby. It is an updated version of Pelham, 2008, current to 7 August 2020. It is technical but some may find it interesting.

Click on the [All America](#) button. You will see the six butterfly families across the top. You will need to click on the family of interest; so you will need to know butterfly families!

Let us, for example, click on '[Papilionidae](#)' – Swallowtails.

This is where a little 'net-tech' knowledge is very useful to search through the maze of names. PC users ctrl+F; Mac users Command+F. You will see a search box in the lower left. The authors at BOA use common names as well as scientific names so you can search either way. As an example, type 'Western Tiger Swallowtail.' This will take you to the link for that species, which you will need to click on. See Figure 1.



Figure 1

This takes you to a page of images and you can link to each one but I never do. See Figure 2. Instead, in the upper left there is a link in small type that takes you to a page where you can 'pick and choose' what image categories you would like to review: Type Specimens, Pinned Specimens, Live Adults, Immatures, and Habitats. See Figure 3.

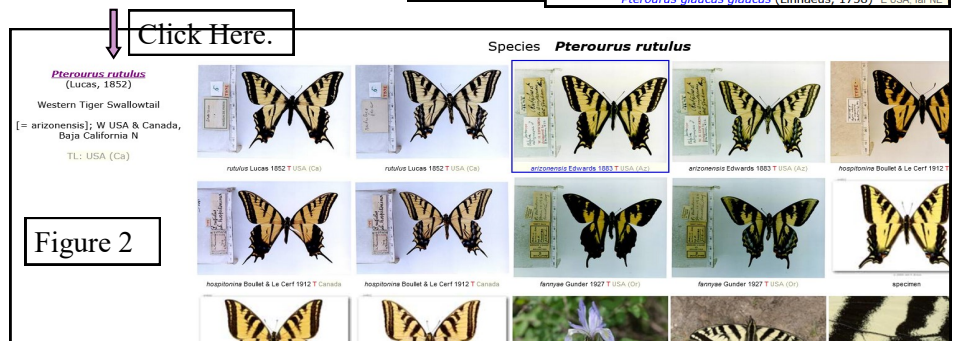


Figure 2

In our example, click on [Live Adults photo collection Page 2](#), and enjoy!

There is one more thing I find useful and, again, it is a little 'net-techy.' I always 'right click' (on a PC) and open links to a new tab or new window. This has the advantage of letting you go back without having to back out of each link.

There is a wealth of imagery here! Museum specimens, live shots...etc. My conversations with people suggest that many have not been comfortable enough with the site to use it. I hope this ameliorates this problem. Have fun!

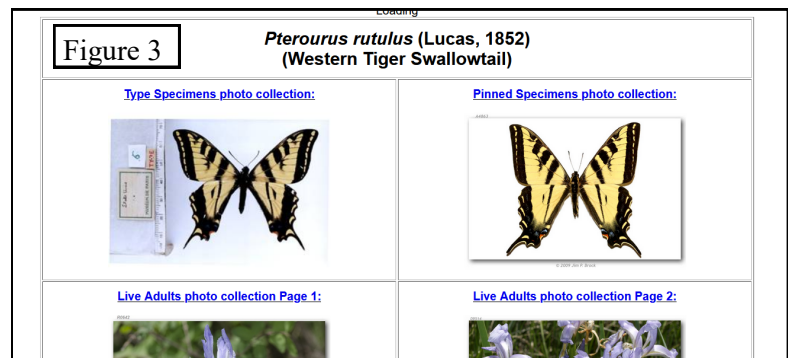


Figure 3

(Please note that photos on this website require written permission for re-use. So don't just copy them.)

My Experiences with e-Butterfly and iNaturalist

By Regina Johnson

Our project is here. Thanks to Regina Rochefort for working with e-B to set this up.

I am using both platforms for butterflies this summer, in the absence of organized field trips. Being on the edge of Pugetopolis I have plenty of places to go in the great outdoors where there won't be crowds, so long as I don't go anywhere popular. I'm using David Jennings's County Big Day Challenge as an excuse to explore, but avoiding the Cascades altogether this weird summer—too many people from the big cities with nothing else to do wandering around everywhere. I've seen the videos of parking at Tipsoo Lake. The Olympics, however, are a different story, and near home, though not known for good butterflying, with reason. I told David Jennings that I would win the June challenge for Jefferson county with a single butterfly, a Margined White, and I did.

E-Butterfly is very similar to eBird—if you've used that, you can figure out e-Butterfly pretty well. Two big differences: there are no public Hot Spots, you have to make and name all your own locations; and there's no local checklist to scroll through, you enter the butterfly name in a text box on the right and it pulls up what's available for your area. Once you pull that up and enter a number in the box on the left of the species name, then more data fields show up and a photo upload link.

Enter # seen here second.

Type in name here first.

Photos are not required but they do help verify that you know what you're talking about. The Data Usage box lets you control how public your information will be. I've only had 2 observations out of 60 verified so far, one without a photo—don't know how that works, except that it's a common species in the right place at the right time. Observations are verified by e-Butterfly's group of regional experts, not just anyone. If you feel that you are a regional expert, you can apply to be included.

E-Butterfly asks for metadata about your survey, like eBird does—date, time, duration, distance covered, survey effort. You also check a box to state whether you recorded every butterfly you identified or not; this allows researchers using the data to infer abundance, phenology, or absence of species. If you didn't skip anything, then any species you don't include might not occur there at that time. If you did skip species, because you object to Cabbage Whites for instance, or you listed some species in that location earlier, then no inferences can be made from your survey about absence, abundance or phenology.

Observations in WBA's Project on iNat.

iNaturalist is commonly used by citizen science groups and school groups for bioblitz surveys, but it's not specific to butterflies (covers all biota) and it doesn't ask for metadata about your survey like numbers of individuals or survey effort or completeness. And, iNaturalist is photo driven. Yes you can post an observation without a photo, but there isn't much point to that. Identifications are vetted by any other iNat user; it's crowd-sourced rather than a closed group of selected experts. You can be part of that crowd. Also iNat has AI software that allows it to attempt to give you an identification from your photo and

location. So it can be helpful if you're not sure what something is—post the photo and see if iNat has suggestions! I've found that iNat's AI is pretty good with wildflowers, reptiles and birds, helpful but not foolproof with butterflies, and dismal with non-gilled mushrooms. It all depends on what people post, and apparently most people post wildflowers and reptiles. Though there is a very active group of Washingtonians, mostly in the Pullman area, posting observations of little brown or gray moths.

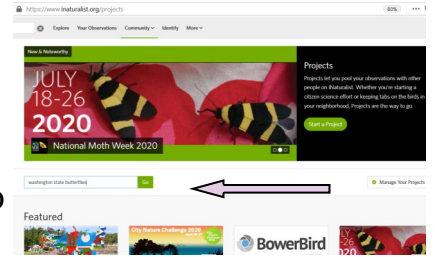
WBA has "projects" on both platforms. When creating an observation in e-Butterfly, there's a drop-down list under Time and Party Size for projects, where you choose WBA. On iNat, you first have to join the WA State Butterflies

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project from the Community—Projects tab. Then, all your qualifying observations will be automatically included (Lepidoptera, in WA OR ID BC, 2020). You can look at the Project page any time to see what others have posted, and any iNat user can look here too and help with identifications. There's observations of moths and caterpillars and butterflies that need second and third opinions, and some have no ID at all beyond Lepidoptera. You could help! Every observation has to be seconded by someone other than the original poster, even obvious ones like Cabbage White. I

find that e-Butterfly is good when you make a determined effort to see, identify and count butterflies, while iNat is good for casual sightings, help IDing something, or just to show off a good photo or unusual sighting. You can, and I have, put the same butterfly on both platforms. Also iNat does moths, and everything living, where e-Butterfly only does butterflies. iNat works on both a web browser and on smart phones, so you could post sightings right in the field. E-Butterfly only works on a web browser at this time. Both platforms allow you to search observations by location, but both use Google Maps, and Google doesn't seem to know that there's a state called Washington. Type in "WA, USA" exactly; it will not appear in the drop down list of place names. "Washington" is just a county in different states.

Both platforms are used as a data source by researchers. If you see "RG" on an iNat observation, that means it's Research Grade—it has date and location data, and the identification has been verified from a photo. Not everything on iNat is RG. On e-Butterfly it's a little orange "Verified" label. Both platforms also automatically obscure the location of threatened or endangered species and give you some control over how much location info to make public. Researchers have the option of contacting you through the website to ask for more precise location info.



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