



Washington Butterfly
Association

G'nun*

The newsletter of the Washington Butterfly Association

P.O. Box 31317 Seattle WA 98103

<http://wabutterflyassoc.org>

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



Mariposa Copper, Chinook Pass. (M. Weiss)

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Upcoming Programs by Zoom
First Wednesday at 6 PM

Wednesday November 3, 6pm: Bob Pyle on **The Mariposa Copper Butterfly in Washington and Beyond**. Over a period of many years, I have studied certain distinctive populations of Mariposa Coppers in Northwest Washington. This investigation led to a review of the entire species, across much of the West, with Paul Hammond. We compared the butterflies throughout their range and concluded that there are twelve distinctive subspecies, nine of which we described as new. In this talk I will introduce all twelve and discuss their variation, distribution, historical biogeography, hypothetical evolutionary patterns, ecology, and conservation, emphasizing the five subspecies occurring in Washington. A charmer and a favorite butterfly of many, *Lycaena mariposa* turns out to have much more to its natural history than we ever realized before.

Wednesday December 1, 6pm: Dr. Lynn Riddiford on **Metamorphosis**. Dr. Riddiford is an entomologist and developmental biologist. She was the first female faculty member in the Harvard Biology Department, where she served as an assistant and associate professor. Currently she is an emeritus professor at the University of Washington. In 1997, she was the first awardee of the Recognition Award in Insect Physiology, Biochemistry, and Toxicology from the Entomological Society of America. She studies the endocrinology of insects, specifically the tobacco hornworm.

President's Message from Jim Reed

Season's Greetings lepidophiles! Autumn provides us the opportunity to reflect upon the year. It is our chance to think of the good times we had and the moments of disappointment. We remember seeing Mourning Cloaks and Lorquin's Admirals floating through the air while on patrol. We rejoiced in seeing the smaller Lepidoptera from Green Hair-streaks, to Pygmy Blues, to Clearwing Moths, and so many more. With the Holidays ahead, it is also time to reflect upon our family and friends. Some we lost, others we reconnected with, and others we are anxiously waiting to see for the holidays.

For myself, as I reflect upon the year, I look forward to visiting family as we will gather at my brother's house down in sunny Arizona. Not only will I be able to reconnect with brothers and sisters, nephews and nieces, and all their families; but I may be able to sneak in a visit or two to some prime butterfly locations. I hope to see a few hardy Arizona Sisters or large Two Tailed Swallowtails nectaring on winter-time bloomers. Of course, there is no guarantee that I will see any Lepidoptera at all, given the weather this year has brought.

The last year, especially early summer in the PNW was blistering hot! It was tough on so many species of wildlife and the plants that they depend upon. With host plants and nectar providers alike struggling to survive, the butterflies and moths that depend on them also struggled. Yet, some species did well as it seems to have been a very good year for Viceroy's and other warmer weather flyers.

We have exciting news from the world of *Euphilotes* that will be released a little later. To me, one of the most satisfying aspects of the discovery was the role played by WBA members from "amateur" observers, to "professional" field work and of course our resident science advisor in Mr. Jonathan P. Pelham. Indeed, in our time of reflection, we need to appreciate all that they do for us and all that we do for them.

In continued diapause, Jim

Mourning Cloaks. (M. Weiss)



Pygmy Blue. (D. Droppers)

Lorquin's Admiral. (D. Droppers)



Species Profile: Coronis Fritillary, observations through the seasons

By Melanie Weiss (and all photos)

In visiting a new shrub steppe site this spring, I found a bountiful array of early blooming flowers, including several buckwheats and the sagebrush violet, *Viola trinervata*. The latter is a host plant for the Coronis Fritillary, *Argynnis coronis*. I made a mental note of this for later reference.



Sagebrush Violet.

The Coronis is one of Washington's first fritillaries to emerge in the spring after overwintering as first instar larvae in the shrub steppe and lower canyons. In areas that I frequent in central Washington, they burst onto the scene with fresh orange coloring and high energy in early May. Their appearance is celebrated by many in our WBA community. I've marveled at their arrival each spring and their remarkable journey as the season progresses.



Fresh Coronis Fritillaries.

After emergence Coronis begin an altitudinal migration to higher elevations where nectar is more plentiful as the shrub steppe soon becomes hot and dry. During the summer they may be seen in high mountain meadows surrounding the Columbia Basin and beyond. Some years they are seen in the subalpine meadows of Mt. Rainier National Park. In late summer the species returns to the shrub steppe for egg laying. Their seasonal migration has been documented by David James and Jon Pelham (*The Journal of the Lepidopterists' Society*, 2011).

The appearance of Coronis once again at lower, now dry, locations is a sign to me that the season is drawing to a close. Rabbitbrush is the primary nectar source remaining and is a butterfly magnet at this time. Coronis and other late season species may be seen in large numbers on the plant. Nectar is critical to sustain Coronis for the last and most important job of egg laying. Their abundance this past September was a marvel to observe.

When I reported to Jon Pelham the large number of Coronis I was seeing this fall, he nudged me to search for egg laying activity. The mental flag I planted in the spring when observing the sagebrush violets started waving.

On returning to the "new" shrub steppe site, the dry bushes and desiccated plants presented a very different landscape than what I had seen earlier in the season. The sagebrush violet, critical for Coronis larvae, had senesced by this time with only pale dry leaves remaining. But I was amazed to see Coronis flying in the area. Fueled with nectar from nearby rabbitbrush, individuals were on the wing as I walked out to the site and at the location itself where within an hour I detected 10 female Coronis exhibiting egg laying behavior. (Additional individuals were seen after the first hour.) Females flew several feet above the ground, periodically dropping to the substrate composed of dirt, dry plants, twigs, rocks, dried grasses and the senesced violets. After a brief amount of time at one site, another location would be visited a short distance away. It was fairly easy to follow these females from site to site for observation and photos. Through their own means they located the desiccated violet plants that would provide fresh spring growth for larvae after leaving diapause in the spring. David James suggests, "It must be volatiles given off by the dead and drying violets...it couldn't be a visual thing." Although I didn't see each individual ovipositing, I observed a few doing so. I'm confident that either egg laying or surveying for a potential site is what was occurring. The behavior of the females was enthralling, and I let them lead me around the area as they went about the important task of laying this season's eggs. I visited the area on two additional dates and observed the same behavior, but with fewer and more worn



Shrub-steppe in spring.

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individuals present. The eggs hatch soon after being laid, and the first instar seeks a place of safety for diapause during the cold season ahead. Needless -to-say, I was excited to be able to observe this final act of the adult Coronis which also marks the beginning of next year's brood!

Butterfly abundance in the warmer months is celebrated and enjoyed by many of us. Seeing the rabbitbrush in full bloom and alive with activity every fall is a marker for me that the season is once again changing. Although mostly out of sight, the fall season's quieting for the next stage of metamorphosis is also remarkable. A wealth of life rests in the detritus of steppe and forest, under rocks, in tree bark, and other concealed locations during the cold season. The rabbitbrush party is a great way to celebrate this annual transition. And for Coronis, egg laying seals the deal for the emergence of a new generation next spring.



Ovipositing Coronis among dessicated vegetation.



Worn, end-of-season Coronis.

As always, I am grateful to our experts who so generously share their wealth of knowledge. And also, thanks to Vicki and Mike Elledge who excitedly directed me to the shrub steppe site above.

Shrub-steppe in fall.



Meandering masses of marvelous migrating Coronis munch methodically on mounds of rabbitbrush!



Watching Washington Butterflies with Bob Pyle

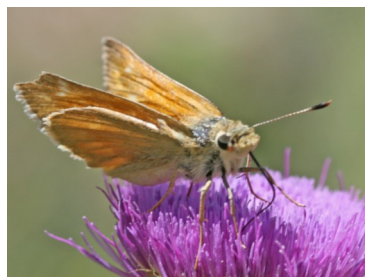
Number Forty-six

The Last Hurrah: Journey to Outermost Asotin

The time comes each fall when we must accept that the opportunities for any more butterfly outings have grown thin ... when the leaves are coloring up, the temperatures dropping, and the autumn rains not far behind. I'd been holding out for an autumn excursion to the extreme southeast corner of the state, for yet one more looksee after Hackberry Emperor butterflies (see several previous columns) before the season shut down for the duration. The extreme drought this year had left Asotin County crispy and dead and the temperatures had remained punishing well into September. But a little precipitation had finally fallen, the days become temperate, and a narrow window of opportunity opened up.

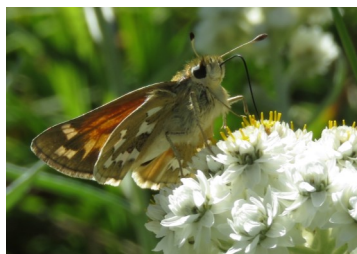
So, intent upon that one final field trip for the season, I drove to Alpowa Summit, east of Pomeroy, on October 4, and camped there. The next day was forecast to be the last of the warm ones in southeastern Washington before cool air moved in. The fifth dawned hazy, cloudy, and cold, but improved from there. I continued to Clarkston, then south along the Snake River to Asotin and beyond.

One mile north of Buffalo Eddy, a large, bright orange butterfly flew past me heading north. It seems likely it was either a Monarch (if so, one of very few seen in Washington this year) or a Viceroy. Then about five miles north of Heller's Bar, just beyond Captain John's Rapids, a broad sandy bar above the river glowed with three large, prime-bloom rabbitbrushes, and a number of smaller ones. They were teeming with pollinators, including Lepidoptera: many species of diurnal moths, and several each of Yuma Skippers, Orange Sulphurs, Western Whites, Gray Hairstreaks, and Purplish Coppers, and one each of Western Branded Skipper, Mormon Metalmark, and what I believed to be a male Checkered White—a great rarity in Washington. The branded skipper is formally *Hesperia colorado idaho*, found here just a couple of hundred yards from Idaho across the Snake River.



Yuma Skipper. (J. Baumann)

Juba Skipper. (M. Weiss)



As you continue south toward Heller Bar, you come to a series of three lush green seeps coming down the dramatic basalt cliffs from irrigation above on the plateau. The recent rain had refreshed the seeps, and watercress, goldenrod, and an autumn-blooming tall aster bloomed around them. These attracted Cabbage Whites, Western Whites, Mylitta Crescents, Gray Hairstreaks, and a pair of worn skippers that flummoxed me at first but turned out to be Yuma Skippers (see below). Some of the seeps supported stands of Western Giant Reed (*Phragmites australis*, native genotype), which is the hostplant of the Yuma Skipper.

As I reached the stretch where hackberry trees (*Celtis reticulata*) line the roadside above the river, I noticed that a large percentage of them, maybe half, looked dead, and



Snake River with Hackberries, Asotin County. (D. Branch)



Purplish Copper. (M. Weiss)



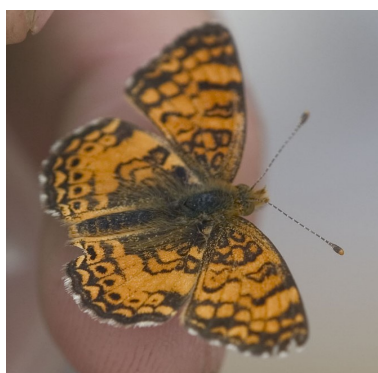
Viceroy. (J. Baumann)

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many of the rest were in bad shape. Tapping them produced clouds of a tiny insect, and at first I thought it might have been a defoliating micro-moth. But they were a hatch of a very small caddis, and the trees were not actually defoliated—they simply had dead, shriveled and dried leaves. It must have been heavy stress from the extreme drought, and perhaps also from the intense heat in June, that had caused such a severe response.

After midday, now around 80 degrees F. and mostly sunny, I passed Heller's Bar at the confluence of the Snake River with the Grand Ronde River. As usual, this place was crowded with fishers, boats, trailers, and RVs, noisy and smelly. But once you turn west and head up the Grand Ronde, you're mostly on your own. Here I have searched for hackberry butterflies (*Asterocampa celtis*) many times, especially since Ray Stanford and Charles Rogers reported sightings just north and just south along the Snake. The Grand Ronde hosts many dense stands of hackberry, and lacks the fishing traffic of Heller's Bar. However, I was disappointed to find that my own favorite grove was preoccupied by a trailer, so I carried on a little

way to my favorite river access and a nice stretch of the small dirt road that I call "Hackberry Alley," where I may have had a sighting on one previous expedition with David Branch.



Mylitta Crescent. (Rod Gilbert)

By now the day was quite hot, and still. Over lunch in the shade, I made two dramatic observations. First, over the top of a hackberry across the road appeared a big black swallowtail! Or so it looked. But we have only small black swallowtails, and only in the spring. This was a bat! A small one, maybe a Little Brown or a Pipistrelle. It flitted back and forth over the road, over the tree, over me, hunting, in broad daylight: I saw it go for a fly, and miss. Of course, bats do sometimes hunt by day...I have seen it several times, but always in winter, never in summer or fall, or on a hot, bright day.

Second, an obvious nymphalid butterfly appeared, motoring down the middle of the road right toward me...and then right over me, and disappeared! Unfortunately, I had a beer in my hand instead of a net. The whole way it was in the shade of Hackberry Alley, so I didn't get the color well, but I could tell it was neither black nor orange. Nor was the flight pattern like a lady, either Red Admirable or other. Just before it shot over me, I got a quick image of its shape as it flapped at eye level. The forewings looked somewhat *produced*, which means slightly drawn out, but rounded, not angled like a falcate lady or a comma—in fact, just like a male Hackberry Emperor! The size, flight, brown-gray shade, and that shape were all correct for *Asterocampa*. Does this mean I've seen it at last? No...I might have, but it leaves me still an agnostic...much as for Bigfoot! But it's the best I've seen yet.

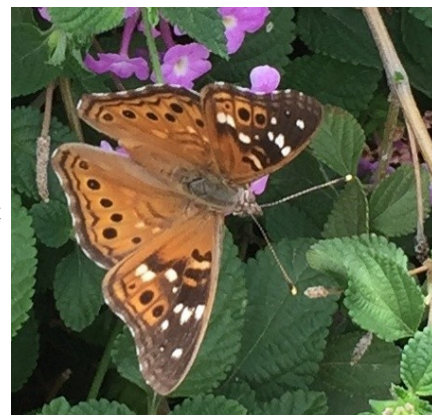
Sachem. (Ken Thomas)



I waded the stream, usually good for Viceroy and various others, but too late and autumnal now. Ditto for the other spots I checked through the cooling afternoon. And so, back to Alpowa Summit, a literal "high point" for Lewis & Clark on their return journey, as for mine. A good Walla Walla wine, a book, and my field notes kept me company into the starry night.

The next day, October 6, came cloudless and blue, but considerably cooler, as forecast. I intended to work the golden ocean of rabbitbrush all the way down the Gorge toward home, and so I did. Autumn rabbitbrush can make a great pretext for an autumn outing, magnet that it is for all comers. There is always the chance of finding rare visitors from the south, as well as the last of the resident species. But there was a cool wind off the Columbia, and not much shaking. Nothing like the diversity of moths on the rabbitbrush as in Asotin, and almost no butterflies. I checked *many* adjacencies of rabbitbrush and Russian thistle for Western Pygmy Blues, but no cigar! At a dead-end entrance to McNary

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Hackberry Emperor, Tucson.
(D. Branch)



Western White. (M. Weiss)

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National Wildlife Refuge off SR 12, there were a few of yesterday's species. And then at Madame Dorion Memorial Park, near the mouth of the Walla Walla River, a field of rabbitbrush was hopping with whites and sulphurs. I spotted a yellow, and netted it—an Eriphyle (=Western Clouded) Sulphur, the only one of the trip. And then, scanning a long row with my binoculars, I spotted a single skipper. Hoping for a Sachem, I hunted and found it, and it was!—a bright male

Sachem with its huge stigma-ta. Two species not sighted yesterday. And that was that.



Checkered White (*Pieris protodice*) male, dorsal (left) and ventral (right). Fifth record from Washington, Snake River Canyon, Asotin County, October 5, 2021. (RM Pyle)

There remained only the long drive home down the Gorge and out the Columbia to Gray's River, and the vaguely sad feeling of the trip, and the season, ending—much as I used to feel as a boy on Sunday nights, and at the end of Summer Vacation. But there were fine things to contemplate over the miles. The pair of Yuma Skippers were the third record for the Snake Canyon (I'd found another

October female years ago, and Jim Dillman has found it there since), and only the third locality for the whole state. The Checkered White, if confirmed, would be one of a handful of known Washington records. I'd been seeking it in Washington for fifty years.

In fact, once the voucher (a male who had lived his life and done his business) was spread and photos circulated, it was indeed confirmed—both by Jonathan Pelham and by Arthur Shapiro of UC Davis, the accepted authority on this species and the often confoundingly similar Western White. Yay! This was one of only six or seven of our butterflies I'd not seen within the state. And really, fifteen species total? Not bad for this latitude at this late date, especially after a trying drought. So, definitely a worthwhile field trip—not to mention how good it was to get OUT, in the warmth and sun and wild, among the butterflies, one more time before the rainforest winter.



Eriphyle (Western Clouded) Sulphurs. (USFWS)

As for *Asterocampa celtis*, if (and when!) it can be confirmed, it will be a state and regional record. You can bet I'll be back next year, hoping it won't be so stinking hot and dry, and that the hackberry trees will recover. For, as Jon Pelham wrote me afterward: "That emperor 'sighting' promotes your further questing! I hope you never capture one only so's you keep searching so hard! On the other hand, if you catch one...Hoorah! Win-win!!!"

Over the years, the actual numbers of my columns and those published with the titles have gotten out of sync two or three times. Since this could cause some confusion for anyone seeking to revisit or cite a particular column, I have prepared a concordance. In the list below, the correct number is followed by the published number, the date of the issue, and the title of the essay. I'll take care to keep the numbers straight from here on out! RMP

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