



G'num*

The newsletter of the Washington Butterfly Association

P.O. Box 31317 Seattle WA 98103

www.naba.org/chapters/nabaws

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

Recent Programs

For our September program, **Sarah Moore**, Life Sciences Manager at the Pacific Science Center, described the world behind the scenes at the Tropical Butterfly House. She shared information such as how the pupae are raised on butterfly farms and cared for once they arrive here. She also related stories about the different ways in which people connect with the exhibit. It's a great place for photographers, families, and anyone interested in learning about butterflies — or perhaps simply enjoying their beauty in a tropical environment on a gray Seattle day!



Butterfly ID at the Tropical Butterfly House



Colubra dirce ♦ Terry Pagos

In October, **David Droppers** shared his knowledge of Sphinx Moths. There are 19 confirmed species in Washington, distributed amongst 4 subfamilies. Sphinx Moths have very elongate forewings which allow them to hover. The adults are commonly called hawkmoths and the larvae are known as hornworms for the horn-like projections that are prominent on some species. The two most likely to be seen in Seattle are the One-eyed (*Smerinthus cerisyi*) and Blinded Sphinx (*Paonias excaecata*) Moths. David took the photos below at the 2007 WBA conference in Leavenworth.



Small-eyed Sphinx (*Paonias myops*)



Wild Cherry Sphinx (*Sphinx drupiferarum*)

Upcoming Programs

WBA meetings are held the first Wednesday of each month at the UW Center for Urban Horticulture (3501 NE 41st Street, Seattle) and begin at 7:00 p.m. The first fifteen minutes are used for social reception and viewing of displays.

December 7 – Dave Nunnallee: Life Histories of Cascadia Butterflies

At last this invaluable new book will be available and Dave will present photos and share adventures from creating the book *Life Histories of Cascadia Butterflies* with David James. It includes photos of eggs, all instars, chrysalids and adults of butterflies of the Northwest. A first such publication in the nation (perhaps world) to show all stages! Ten copies of the book will be available for purchase at the meeting... first come first served.

February 1 – Bob Hardwick: Learning to Identify Lesser Fritillaries and Crescents

Bob has done such a wonderful job in teaching us butterflies by families. His tips on comparing similar species have been very helpful to all. Bob is a skilled teacher and has helped bring us all to a more advanced level of butterfly identification.

March 7 – Dr. Dennis Paulson: Dragonfly Identification

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

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

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

May 2 – To be announced

June 6 – Dr. Robert Pyle: Butterflies of China

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

Winter Party

The date is set for Saturday, January 21, 2012 for the annual WBA Winter Party! The fun begins at 6:00 p.m. at Jon Pelham's house. Enjoy fun, food, a white elephant gift exchange and camaraderie. Please bring something for a potluck dinner. The food table will be excellent and it always goes perfectly with the traditional smoked turkey provided by WBA. Also bring something for a white elephant gift exchange (an unexpectedly fun activity). Look for the invitation to come with directions and other details.

Wanted: Newsletter Editor

WBA is seeking a volunteer to serve as the newsletter editor for G'Num. This involves gathering the content, such as announcements and articles, and laying out the document for publication four times per year. It's fun to do and you can be the first to know about upcoming programs and field trips! If you have questions or think you might be interested, please get in touch with Richard Youel or Robin Lewis (please see contact information on page 10).

Available: DVDs

DVDs for most talks given at our member meetings during the last two years are available for borrowing. Please see our website for the current list. Also available are two discs of Dave Nunnallee's species profiles, each with two profiles.

Announcement: *Life Histories of Cascadia Butterflies*

After some 15 years in preparation, *Life Histories of Cascadia Butterflies* is finally on the verge of availability. David James and I have received one advance copy each of the final product, and I have to say that OSU Press has done an outstanding job. I am very pleased.

The main shipment of books from the printers should arrive at OSU Press on November 1 and should be available shortly after that date. We do not know at this point exactly where, other than at OSU Press, the book will be available but it appears it will be carried at several book sale outlets. It can be ordered on-line, price \$35, at the OSU Press web site at <http://osupress.oregonstate.edu/book/life-histories-of-cascadia-butterflies>

As most of you know, the book details the life histories of virtually all of the species of butterflies occurring in Washington and adjacent fringe areas of BC, Idaho panhandle and Oregon. Photos of every immature stage and the adult are included, together with supporting text. Physically the book is paperback with 447 pages, measures 7x10", contains over 1300 photos and has considerable heft.

Dave Nunnallee

President's Message - from Richard Youel

WBA Annual Conference 2012

The board has selected the Okanogan Valley as the site for our next conference. Okanogan County is one of the best areas in Washington for butterfly diversity so the field trip destinations will be exceptional. The date and venue have not been determined yet, but Omak and Oroville are candidate locations. The time will be in June or July - depending on the winter and spring season we will have between now and then. Specific information will be forthcoming. We did a conference there seven years ago and went to great sites at Moses Meadow in the Colville Reservation on the east side of the Okanogan River and the Sinlahekin Valley west of the Okanogan River. This time equally classic butterfly sites such as Mount Hull, east of the Okanogan River, and Long Swamp, in the high elevation country west of the Okanogan River, may be field trip destinations. This will be something you won't want to miss. The area should be appealing to members from all parts of the state. We hope it will also be attractive to local folks as well who may not be aware of the great butterfly world in their backyard. Keep an opening clear in your summer calendar for a great conference in the Okanogan!

The 2011 Field Season

This year's field trip schedule started with a whimper, a rather cold, wet whimper. And, while not exactly ending with a bang, managed a pretty good pop.

The Schnebley Coulee trip, both original and rain date, was cancelled for lousy weather, as was the Elk Heights trip in May. Our first field trip, and a winner organized by Louise Kulzer, was our joint trip to Reecer Creek with the Washington Native Plant Society and Scarabs. June 4 was the first day of wonderfully warm sunny weather, and both butterflies and participants basked with delight! Also in June, the Camas Meadows trip led by David Droppers went ahead as did the annual Chumstick Mountain butterfly count coordinated by Al Wagar. Unfortunately, the trip to Upper Manastash Ridge had to be cancelled because of unsuitable weather.

July was better. The July 9 Hairstreak Blitz with Dave Nunnallee turned out to be more of a quest than blitz. But we saw lots of butterflies, including coral hairstreaks and a Ruddy Copper, both firsts for some of us. The conference trips were great, with the foursome of John Baumann, Brenda McCracken, Carol Mack and John Stewart scouting and leading a great trip to North Baldy on Saturday with lots of butterflies and fabulous views of northern Washington and western Idaho. John Baumann took us to Hog Lake on Sunday where we saw frogs and a lovely waterfall in addition to more butterflies.

On July 19, Idie Ulsh provided a butterfly component for a mid-week trip to Hurricane Ridge, sponsored by the Olympic Peninsula Audubon Society with participants also from the Washington Native Plant Society. The three groups plan another joint trip next year.

Our only August trip was planned for the Skyline Divide Trail which was still under snow, with next choice being Schreiber Meadows, again under snow. So, we went to Sauk Mountain with big snow drifts at the top but the trail up and back nicely melted out with lots of flowers.

On our final trip, September 10, to the Ellensburg Overlook, we didn't find the hoped-for Mormon Metalmark. And some earlier scouting had shown that we'd not find much in the Snoqualmie Pass area on the way back. Instead, we went to Reecer Creek, an excellent substitute where we saw a good number of butterflies, including Hedgerow Hairstreaks. Considering how late it was in the season, this was especially good fortune.

Despite the slow start, overall it was a satisfying season. As usual, everyone learned a lot, made some friends, and had a great time.



Mariposa Copper (*Lycaena mariposa*) ♦ Idie Ulsh



Scalloped Onion (*Allium crenulatum*) ♦ Idie Ulsh



Argynnis zerene picta ♦ Bob Hardwick

Watching Washington Butterflies with Bob Pyle

Number Seven: A Letter to Hannah

Last fall, on my book tour for *Mariposa Road*, I gave a reading at Elliott Bay Books. I was delighted to have some children in the audience. But afterward, during the book signing, one young girl seemed pretty sober when I signed her mother's copy of the book. She shrank back a bit, and had no smile for me when she left, though her mom was warmly polite. This encounter troubled me. A little later I received a letter from the girl's mother, asking me (on her daughter's behalf) if I really killed butterflies sometimes, and if so, why?

Dear Bob,

My daughter Hannah (my 9 year old butterfly enthusiast) and I enjoyed your reading from Mariposa Road at Elliott Bay bookstore last month...In the interests of promoting mutual understanding, I feel compelled to apologize for and explain her sullen tone when I introduced her to you. I thought perhaps she was bored and not listening at the reading, but as I later found out, that was not at all the case.

Being young and passionate as she is, she apparently was upset by a passage in your reading which she interpreted to conclude that you were taking specimens of butterflies. It disturbed her to think that anyone might kill a butterfly for the purpose of taking specimens. That is why she was unfriendly when introduced to you. (I'm thankful at least she kept her feelings to herself until we were out of the room, and did not start a debate on the spot!)

I am taking the liberty of emailing you to clarify this issue, in hopes of improving her understanding and feelings about the experience. If you don't mind my asking, do you take specimens from live butterflies, and if so, can you please tell me, so that I may explain to my daughter, why you feel that is justified for the purpose of scientific inquiry? I am trying to help her to see things in shades of grey, and not always black and white.

Last year, she had to do a report on an explorer or discoverer for school. I thought she might be interested in Darwin, but she rejected him because he took samples of insects.

Sincerely,

Lauren

Aha! So that was it. I had mentioned during my reading that I occasionally took voucher specimens during the Butterfly Big Year, and this had disturbed my young listener. Hannah had earlier sent me some splendid monarch drawings she had made, and now I had let her down. I hated to leave her upset. So I wrote back to Lauren, hoping to help her explain to Hannah why we sometimes kill the butterflies we love. Here is my letter, modified for younger readers, in case it helps anyone else to understand this difficult question.

Dear Lauren and Hannah,

Thank you so much for writing me, Lauren, and please forgive me for taking so long to reply. I have been traveling a lot for my book. Thank you too for your very kind words about my writing and reading. I so appreciate you both coming to Elliott Bay to hear me, and to visit.

I did notice Hannah's unhappy expression, and I suspected the reason might be exactly as you have explained. Thank you for taking time to confirm it; no apologies are necessary. Hannah's feelings are entirely understandable, and not so distant from some I have felt myself. I knew that she was paying me close attention throughout the reading, and I appreciate her restraint.

Yes, Hannah, I do sometimes take specimens of butterflies. Not very often, but sometimes. We call them "vouchers," because they vouch for the fact that a particular kind of butterfly has been found in a certain place at a certain time. I explain this in a paragraph in the chapter "Dumpster Diver" in my book *Mariposa Road*, and also discuss my reluctance about killing butterflies.



Catching Bugs at the 2011 WBA Conference
Photo by Richard Youel



Pink-edged Sulphur (*Colias interior*)
Photo by Bob Hardwick

This is a great big subject that is often debated among butterfly lovers. The North American Butterfly Association (NABA), publishers of *American Butterflies*, believes that people should enjoy butterflies through cameras and binoculars, rather than with nets. On the other hand, most members of the Lepidopterists' Society, the main study group for butterflies and moths, like to use nets. It's lots of fun, and most of us started catching bugs young. I joined "the Lep Soc" when I was only twelve years old, and like most of its members I was a collector. Years later, I started the Xerces Society, a world-wide club for people who care about butterfly and bug conservation. Xerces is against collecting only when it threatens a whole colony of insects, which is really hard to do, since they make so many more of themselves. Harming a population of butterflies with a net is about as likely as eliminating mosquitoes with a fly swatter.

But I know that none of this makes you feel much better about it. You probably wonder, after all, why do we kill ANY butterflies, anyway? And why would a butterfly conservationist support butterfly collecting?

People have always gathered insects, as they have other beautiful objects from nature such as shiny pebbles, autumn leaves, or seashells. Some merely assemble and sort them, like stamps. Many others are curious about how butterflies live in nature. Their collections, over the past 300 years, have been important for our knowledge about what kinds of butterflies actually exist, where they live, and what they do. Our field guides, coloring books, and other butterfly books depend in a big way on the great university and museum collections to get their facts right.

Those public collections are made up of many private collections that have been donated to the museums by ordinary butterfly collectors. Even today, we are still learning many amazing new things about our butterflies. For example, there is a little blue butterfly in eastern Oregon and Washington that we have always called "the dotted blue." It turns out to really be half a dozen or so different kinds of closely related blues, whose caterpillars feed on different types of wild buckwheat plants. They all look alike to us. Only through scientific examination of specimens in the laboratory can we be sure that they are separate species of butterflies.



Euphilotes on E. strictum – A butterfly in the "dotted blue" complex
Photo Dave Nunnallee

And why does this matter? Because of conservation! We cannot know how to protect a creature and its habitat unless we know just where it lives. Maps of butterfly ranges are used to help develop regional conservation plans, and to show whether particular places are healthy or hurt. But none of this works unless the butterfly identifications are accurate. In the Butterfly Big Year, I furnished all of my records of butterflies across the country to the various state data bases for conservation purposes. But, as scientists say, "garbage in, garbage out": unless ID is correct, the maps are junk. Making sure the IDs are reliable sometimes takes lab analysis or dissection. And so, as much as I dislike killing them, this is why I collect some specimens--so that we can know exactly who lives where, and so that we may then protect those places. By sacrificing a few, we may save all the rest. The museum collections also give us the opportunity to study how butterflies are changing under all the alterations that human beings make in the landscape.

A bigger, harder lesson for us to learn, Hannah, is that we *all* take lives in order to live ourselves, or to make our own lives more comfortable. We swat mosquitoes and flies, spray wasps and ants, and squish or freeze slugs in the garden, but their lives are no less significant than those of butterflies. We pay for people to raise and kill cows, sheep, pigs, and chickens for us to eat, to catch fish, and to cut down trees for lumber and paper. Even if we are vegetarian, we kill plants that have animals living on them; and by raising crops, we kill countless butterflies and other small wildlife by replacing their habitat with fields. We also kill many bumblebees, dragonflies, and butterflies with our car windshields when we go out for a drive--many more than collectors ever do! All this is sad, but it is also natural. Every kind of animal takes other lives in the course of living, and since we are animals, we do too. Each one of us, as we grow up, must decide (within the law) just what we are willing to kill. Some people decide that killing a few ducks, deer, bass, or butterflies is worth it for them. As for me, I enjoy butterflies much more alive than dead. But because of what we can learn from them, especially about conservation, I decide to take some voucher specimens now and then.



Butterfly Faces
Photos by Robin Lewis

Mostly, Hannah, I like to watch butterflies, or catch and then release them after a good look. Often I let the butterfly go, unharmed, onto a child's nose--that tickles! Sometimes, what we can learn from a butterfly specimen means that we decide to make its short life a little bit shorter. But nobody has to do this. Many butterfly lovers just enjoy them alive, watching, taking photographs, or drawing them, as you did with your wonderful monarch pictures. The butterflies and their habitats need both kinds of admirers, the catchers and the watchers. You are free to decide just how you want to enjoy butterflies. Whatever you choose, I hope you will always keep butterflies close to you in your life.

Your friend,
Bob Pyle



Monarchs
Illustration by Hannah



Our species profile for this issue is the California Hairstreak, *Satyrrium californica*.

Hairstreaks belong to the large worldwide family Lycaenidae, which also includes all blues, coppers and metalmarks. Hairstreaks are small butterflies, often with tail-like extensions or "hairstreaks" on their hindwings, particularly in members of the genus *Satyrrium*. In Washington State there are eighteen species of hairstreaks, six of them in the genus *Satyrrium*. Butterflies in the genus *Satyrrium* fly in mid-summer, peaking in July.

Satyrrium californica occurs throughout the intermountain west from BC to Baja. A single generation flies in mid-summer, early Jun-early Aug, in low and mid elevation shrub steppe habitats of ID and E WA and OR along the flanks of the Cascade Mtns, plus a few outlier localities. It is rather scarce throughout its range but is sometimes common locally, often found with other *Satyrrium* hairstreaks. The most commonly used host plants in Cascadia are *Purshia tridentata* (Bitterbrush) and *Ceanothus velutinus* (Mountain Balm). Beyond the Pacific Northwest *Amalanchier* (serviceberry), *Prunus virginiana* (Chokecherry) and *Salix* (willow) are reported. Both sexes visit buckwheats, milkweeds and mints for nectar.

After mating the females lay eggs in small clusters, usually about 4 eggs per cluster. The eggs are sometimes stacked like partially offset pancakes, typically in small crevices, under loose bark or in a narrow crotch on a woody part of the host plant. Shiny, clear glue securely anchors the eggs in place and helps camouflage and protect them. Eggs overwinter; the following spring the emerging larvae chew a small exit hole but leave the egg shells uneaten and still encased in the thick glue binding them together. Eggs hatch about 5 days after "daylighting" in the spring and the larvae develop to pupae in about two weeks, the adult eclosing another twelve days later. On Bitterbrush larvae feed on leaf buds early, switching to young terminal leaves later. On *Ceanothus* the larvae likewise feed on buds, beginning growth before any leaves have sprouted. *Ceanothus* may be the commonest host here but little is known about it, probably because the larvae develop early in the season. Larvae do not construct nests at any stage

and are cryptic, matching the buds and woody parts of the host plant. Protection is based on camouflage and concealment. The larvae are solitary and develop through four instars. *Satyrrium californica* larvae are unique and should not be confused with other species; the magenta color and dark dorsal spots are very distinctive. The same hosts are used by *Satyrrium behrii* and *S. saepium*, however larvae of these species are green and are easily differentiated. California Hairstreak larvae are difficult to find due to their camouflage and general scarcity. Beating larvae from host plants such as *Purshia* can be productive for other species, but *S. californica* larvae cling so tightly to the host that this technique is less successful. It is difficult to obtain oviposition in captivity; females which appear to be gravid are often either unfertilized or devoid of eggs. Eggs are strongly glued to the woody substrate, but if left attached the wood will promote mold growth during overwintering.

Adult California Hairstreaks are easily separated from all Washington hairstreaks except *Satyrrium sylvinus*, the Sylvan Hairstreak, particularly the dark *nootka* subspecies. The Sylvan Hairstreak is generally less heavily marked on the ventral hindwing. *Satyrrium sylvinus* has fewer marginal orange spots above the blue 'thecla' spot (usually only one, sometimes a second pale one) than *S. californica* which has several such spots. A black spot occurs on both species proximal to the blue thecla spot. In *S. californica* this spot is distinctly chevron shaped but in *S. sylvinus* it is nearly straight.



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Membership Application

Washington Butterfly Association

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

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

Name: _____

Address: _____

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

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

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

Payment must be in U.S. dollars.

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

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