ESPECIALLY FOR FIELD COLLECTORS

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A TRIP INTO CALIFORNIA AND OREGON FOR SPEYERIA

by Oakley Shields

The Speyeria-rich states of California and Oregon can provide many an enjoyable day's collecting for those seeking the argynnids, as we soon discovered. For forty days in the summer of 1961 DAVID DIRKS and I visited many productive localities in this territory and returned to home base (La Mesa, California) with collecting boxes bulging. Not only the Speyeria but also other butterflies, including skippers, made exciting collecting. Now that L. PAUL GREY has determined and commented on the Speyeria taken, and now that the rest of the catch has also been properly evaluated, I feel that the trip is one worth describing.

From June 20 to July 8 (18 days) we stayed on California soil. We drove right on by the Tehachapi and Greenhorn Kern County ranges which we believed too burned up from the dryness. However, we later heard from NOEL LA DUE that he braved a scorcher on June 24 and took nets full of mostly-unsilvered *Speyeria callippe laurina* in the Greenhorns and plucked the choicest ones from flowers by forceps.

Our first stop was from June 21 to 23 at Jersevdale, a valley surrounded by a handsome pine-oak forest at about 3,500 feet elevation near Mariposa in Mariposa County. We did not have to search for profitable spots here because I had already located some after many summers' collecting. There Callophrys nelsoni were everywhere on the Bear-clover blossoms and always near Incense Cedars, numerous male Habrodais grunus were flushed from thickets along a stream, and Satyrium californica were on most every Yarrow. Other familiar species of the region, such as Speyeria zerene and S. hydaspe, were downright scarce. The *Ceanothus* blooms, usually teeming with *Saturium saepium* and some S. auretorum and S. adenostomatis, yielded only a very few saepium. Dried-up lupines attracted only some battered Plebejus icarioides. The area supposedly received 30% to 40% of its normal rainfall. We did round up a handful of Erynnis propertius and several E. persius, determined by JOHN M. BURNS. Some Cercyonis sthenele and several Pieris napi castoria were flying. We found S. callippe inornata, chiefly unsilvered with disks pale brown to dark brown, in a minor flight on the mints and under the Ponderosa Pines near Jerseydale on June 24. We stayed just enough to get a case of Poison Oak chasing H. grunus.

I have often collected in the Tioga Pass area (above 10,000 feet) of Yosemite National Park, but never as early as June 25. Most of the season's snows here had fallen during April and May, so that we expected the pass to be still under snow. But an early warm-weather thaw had brought out a small wealth of specimens that morning before it became overcast. For a time Philotes battoides thronged to Sulphur-flowers on the ridge saddle at 11,000 feet, where some fresh male Oeneis chruxus ivallda patrolled the rock outcroppings. Lycaena cupreus flashed over the bare slopes in the same places we scoured for the green Callophrys lemberti, lately named by J. W. TILDEN. We managed to catch two pairs of *Papilio indra* after some furious net-swishing. The season at Tioga Pass was indeed progressing rapidly, for Pieris sisymbrii were already ragged and two fresh Chlosune damoetas malcolmi were seen flying. STERLING MATTOON later told me that by July 9 the P. battoides were still riding the saddle; however, by then he was too late for much else except Euphydryas editha nubigena. Though MATTOON found no Colias behrii then, three weeks later he ran into numerous behrii there.

We worked at Lee Vining and Mono Lake in Mono County on June 26th and 27th. Though we could find a few *Coenonympha tullia mono* in most of the meadows checked, a particular lush, grass-iris meadow west of Lee Vining produced great numbers of a fresh hatch. Momentarily we mistook the mono for a *Colias eurytheme* cloud. Along the west shore of Mono Lake, *Hesperia harpalus* (determined by C. Don MACNEILL) and *Phyciodes campestris* were in moderate flights along with a few of the very localized *E. editha monoensis*, and at mud were male *Plebejus icarioides ardea* and *Philotes battoides glaucon*. Typical *Limenitis weidemeyerii nevadae* and the *L. w. nevadae* \times *lorquini* hybrid (*fridayi*) were scarce but worth all the slogging under the willows necessary to snag them. *O. chryxus stanislaus*, like the Tioga Pass *ivallda*, were just emerging the next day at Sonora Pass in Stanislaus County; however, strong winds made netting them nearly impossible. Later (July 8), MATTOON bagged a terrific series of *stanislaus* there.

On June 29 we briefly visited the Lake Tahoe region. A morning's footwork along the ridge at Echo Lake rewarded us with a fair series of *Euphydryas chalcedona sierra*, nearly all fresh males. *Erynnis propertius* and *E. lilius*, determined by Dr. BURNS, flew in the scrub and were difficult to collect. That afternoon near Fallen Leaf Lake *Pyrgus communis* and *Phyciodes campestris montana* were thick in the meadows, but we worked on the *Chlosyne palla whitneyi* in the forest.

Entering Sierra County on June 30, we collected along the road through Sattley, Yuba Pass, Sierra City, and Downieville. We picked up small numbers of *Speyeria hydaspe*, S. zerene, S. coronis, and S. egleis, but the real prizes were a few S. callippe (near juba and sierra) that came to

the mints and Pussy Paws. E. propertius and E. lilius were fairly plentiful. Near Downieville flew some Parnassius clodius sol, markedly larger than the high-Sierran baldur I am familiar with. The collecting at Gold Lake in Sierra County was very poor on July 1, so we drove down the grade to Graeagle, picking off a few S. zerene, S. coronis, and S. hydaspe as we went. We inspected a bed of sunflowers in a wood at Quincy in Plumas County late that afternoon and swept up small series of S. zerene, S. hydaspe, S. cybele leto, and S. coronis. We also netted some S. callippe (near juba), mostly silvered with yellowish undersides. These callippe sometimes closely paralleled the brown-disk coronis on undersurfaces, one specimen being a real coin-flipper. Surprisingly, the callippe sexes flew quite apart from each other. I went one way and took mostly $\varphi \varphi$, while DAVE went another and got \Diamond callippe. A few Cercyonis boopis incana and Coenonympha tullia ampelos were flying here.

We worked along a road to Silver Lake from Westwood in Lassen County on July 2nd and 3rd. The mints beneath the Ponderosa Pines were loaded with *Speyeria*. Roughly three-fifths of these were *egleis* (near *oweni*), the rest being *zerene conchyliatus* and occasionally a *coronis*. The variable *egleis* were at or near their peak, and the *zerene*, chiefly males, were just appearing. This was our first big *Speyeria* catch of the trip, but by no means proved to be the last. With the *Speyeria* were a few worn *E. editha*, which S. G. JEWETT called close to *aurilacus*.

On the 4th of July we caught a few S. hydaspe and S. zerene conchyliatus near Viola in Shasta County, on the way to the Mt. Shasta region. The next day we collected near Bartle in Siskiyou County in hopes of netting some of the weird S. callippe blends there. Despite all the large mint beds, we found no callippe but did bag 20 fresh \ddagger S. atlantis (near dodgei) from a wood. Dark Limenitis lorquini were plentiful, and we took many variable E. chalcedona dwinelli from a clearing. Dr. MACNEILL tentatively identified a Polites from here as themistocles turneri, pending genitalia check; probably a new California record.

Along the road to Castle Lake in Siskiyou County on July 6 and 7, we gathered a generous supply of S. zerene conchyliatus and S. hydaspe purpurascens which were filling up on mint and milkweed nectar. Hesperia harpalus oregonia (determined by MACNEILL) were also common on the milkweed. Chlosyne palla were fairly numerous, and a few beat-up S. callippe rupestris showed they were the tag ends of an earlier flight. Several Philotes from here TILDEN called battoides intermedia. Also, some C. boopis incana were flying beneath the trees.

We crossed into Oregon on July 8 and spent the day on the slopes of Mt. Ashland in Jackson County. At the lower elevations were some *Chlosyne leanira*, mostly females, and an occasional *Cercyonis boopis*.

Plebejus argyrognomon anna came to wet places in the meadows. On Mt. Ashland, areas of Speyeria concentration could plainly be determined. Faithful hydaspe and zerene were on mints on the well-forested slopes, although a given mint patch was likely to yield exclusively zerene or exclusively hydaspe. But the few egleis (near oweni) and callippe elaine were confined to the Pussy Paws higher up on the peak's exposed shoulder, in cahoots with Philotes battoides oregonensis (TILDEN determination). Mr. GREY says his records suggest that Speyeria behave this way in many places. He thinks that Speyeria species forming rough "layers" on a mountainside like this indicate ecologic banding and thus possible breeding-ground differences between the species. We were later to see this ecologic banding of Speyeria again in the Ochoco Mountains.

We tried the road along Illinois River Valley in Josephine County on July 9 and 10. This is the type locality for MOECK'S S. zerene gloriosa, supposedly dead center in appearance and geography between zerene zerene and zerene bremneri. The gloriosa were fairly common on mints, at water seeps, and on the wing, though difficult to net on the steep slopes. Most were fresh males, with a few S. hydaspe and several S. coronis among them. As in the Bartle locality, the extensive mint beds were surprisingly lacking of butterflies. C. boopis and C. sthenele were sympatric here. Some dark, worn E. chalcedona Dr. JEWETT found closest to chalcedona by genitalia but indistinguishable from colon in pattern.

We drove to O'Brien in Josephine County on the afternoon of July 10th, where several S. coronis, a few S. hydaspe, and many S. zerene gloriosa came to a thistle patch. The gloriosa here averaged slightly larger and lighter than Illinois River Valley specimens. They also had an apparently earlier hatch, since fresh and flown males were together in equal numbers. The undersurfaces of the coronis closely paralleled those of gloriosa. Again, we found C. boopis and C. sthenele flying together. On July 11 at Butte Falls in Jackson County, the type locality for S. callippe elaine, we took a few of the ever-present S. hydaspe but only a worn elaine.

We collected between thunderstorms on Mt. Thielson in Douglas County on July 12. High on the slopes we found the little *E. editha lawrencei* fresh and netted a fair series. Also a few *Plebejus acmon lupini* and a single green *Callophrys lemberti* were flying.

The next day we dropped down east of the Cascades to a wide, pine valley that stretches to the Walker Rim Plateau. Here we drove along dusty logging roads east of Beaver Marsh in Klamath County. We met with many *Cercyonis oetus* on the sage-pine flats. Some lupine attracted a few male *Plebejus shasta*, and some *E. editha remingtoni* (JEWETT determination) at mud were an unexpected prize. *P. campestris* were fairly plentiful on the milkweeds. The smallish *S. zerene* and the red,

dwarfed S. egleis, which came to blue pentstemons, were our first taste of the "east slope Cascade" Speyeria. Both were highly variable. We also caught some Satyrium behrii, which is evidently a good Oregon record.

The Crescent area in Klamath County showed no obvious difference in terrain or vegetation from the Beaver Marsh area. Near Crescent on July 15 we again discovered many *C. oetus*, and the *S. behrii* were fairly numerous. We also took a short series of *H. harpalus oregonia* (MACNELL determination), *C. palla*, and *P. shasta*. But the big catch was many more of the dwarfed, variable *S. eglieis* and *S. zerene* that came to the blue pentstemons. *S. egleis* had been out for a while, but only the freshest male *zerene* appeared. (See the reference by TILDEN to the Sand Creek area *Speyeria*, of which these Klamath County *Speyeria* are a part.) *S. egleis* and *zerene* seemed to be a happy combination in the Ponderosa Pine flats here, at Beaver Marsh, and at Westwood.

We met with a terrific flight of Speyeria between Paulina Lake and East Lake in Deschutes County from July 16 to 18. The pentstemons among the Lodgepole Pines attracted the *callippe semivirida* literally by the thousands. Most were fresh females, with the males on the decline; the sex ratio was lopsided, with about one male to every seven females. We took nearly 800 callippe before calling it quits, and they still covered the pentstemons when we left. The name *semivirida* is used here as a catchall for some remarkable variation: from pale greens to dark browns, and from wide, pale bands to solid suffusion. Yet none ever approached the red-brown of our Mt. Ashland elaine. We were surprised to learn that JEWETT, MOECK, and RAY ALBRICHT had previously found the Paulina area to be poor collecting. Among the myriads of *callippe* were some worn S. coronis and a few of the red-dwarf S. egleis and S. zerene. This small catch of zerene turned out to be quite important. Most of the twenty-five were the typical "east slope Cascade" reds except for three of the brown *picta*-type of *zerene*. Thus we had located a blend zone between two distinct clines of zerene, namely the garrettii browns (including picta, the reddish-disk extremes) from the Ochoco and Maury ranges and the zerene reds of the "east slope Cascade" country. (See the recent discussion by GREY and MOECK in this journal on a similar subspecies clash between cynna and zerene.) GREY had long suspected that these two clines would meet in that vicinity.

From July 19 to 22 we collected in Canyon Creek Canyon in the Ochoco Mountains, a range well-known for its great numbers of Speyeria. Many C. boopis were flying, along with an occasional C. oetus. After much chasing we captured some Colias alexandra edwardsii and C. occidentalis; most of the female occidentalis were albinic, but only one of the female edwardsii was albinic. The Speyeria in this canyon, as on Mt. Ashland, exhibited ecologic banding. S. hydaspe, the predominant

butterfly, was distributed throughout the canyon on the mint beds in the forest meadows. A few female coronis were scattered among the hydaspe. Some callippe semivirida were in the canyon's lower portions on the mints. The large flight of *zerene* (near *picta*) was in the canyon's upper parts; they were often with *hudaspe* at the mints but were off on their own mint patch at times. Numerous cybele leto flew at mid-canyon and lower canyon levels to the thistles. The atlantis dodgei, which sometimes closely paralleled the hudaspe on the undersurfaces. flew with hudaspe at the upper canyon levels but were scarce. S. mormonia (near erinna) were just emerging and came to asters in the higher meadows. And finally, the few egleis sought the highest parts of the canyon. Again, *zerene* proved to be the important catch. Among the *picta* browns were a few of the "east slope Cascade" red *zerene*, indicating gene exchange, with the Paulina material at the other end of this blend zone. The difference was quite striking between the large, brown-green *egleis* and the "east slope Cascade" red-dwarf egleis we had just left. Sometimes our field boxes became so full, we had to pause to empty them.

During a pleasant, restful stay with RAY ALBRIGHT we netted, on July 24, some S. cybele pugetensis along a forest road north of Willamina in Yamhill County. These were considerably darker than Ochoco leto. On July 25 Mr. ALBRIGHT drove us to some of his collecting spots near Mt. Hood. We took a small catch of S. coronis and S. zerene (near picta) on thistles and mints in the forest along the Mt. Wilson Lookout Road in Wasco County. The brown coronis and zerene paralleled each other on the undersides, making identifications difficult. Again with Mr. ALBRIGHT July 26 we tried for S. zerene hippolyta at several localities along the Oregon coast but took only several P. napi castoria.

We started homeward in July 27. Returning to Crescent, we found the pentstemons dried up, and the small catch of *S. zerene* and *S. egleis* was worn. We briefly visited Sand Creek in Klamath County on July 28. Some of the usual dwarf *S. egleis* and *S. zerene* were landing on a yellow-flowering bush in the pine clearings. From Sand Creek we drove home. We were quite satisfied with the 6,000-specimen catch, two-thirds of which was *Speyeria*. This certainly was far more material both in quantity and importance than we had anticipated collecting.

References

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