BUTTERFLY COLLECTING IN WYOMING, 1952

by VLADIMIR NABOKOV

A visit to Wyoming by car in July-August 1952 was devoted to collecting in the following places:

Southeastern Wyoming: eastern Medicine Bow National Forest, in the Snowy Range, up to approximately 10,500 ft. alt. (using paved road 130 between Laramie and Saratoga); sage brush country, approximately 7,000 ft. alt., between Saratoga and Encampment, east of paved highway 230; marshes at about the same elevation between eastern Medicine Bow National Forest and Northgate, northern Colorado, within 15 miles from the Wyoming State Line, mainly south of the unpaved road 127; and W. Medicine Bow National Forest, in the Sierra Madre, using abominable local road from Encampment to the Continental Divide (approximately 9,500 ft. alt.).

Western Wyoming: sage brush, approximately 6,500 ft. alt. immediately east of Dubois along the (well-named) Wind River; western Shoshone and Teton National Forests, following admirable paved road 26, from Dubois towards Moran over Togwotee Pass (9,500 ft. alt.); near Moran, on Buffalo River, approximately 7,000 ft. alt.; travelling through the construction hell of the city of Jackson, and bearing south-east along paved 187 to The Rim (7,900 ft. alt.); and, finally, spending most of August in collecting around the altogether enchanting little town of Afton (on paved 89, along the Idaho border), approximately 7,000 ft. alt., mainly in canyons east of the town, and in various spots of Bridger National Forest, south-western part, along trails up to 9,000 ft. alt.

Most of the material collected has gone to the Cornell University Museum; the rest to the American Museum of Natural History and the Museum of Comparative Zoology.

The best hunting grounds proved to be: the Sierra Madre at about 8,000 ft. alt., where on some forest trails I found among other things a curious form (not *S. secreta* dos Passos & Grey) of *Speyeria egleis* Behr flying in numbers with *S. atlantis hesperis* Edw. and *S. hydaspe purpurascens* H. Edw., a very eastern locality for the latter; still better were the forests, meadows and marshes about Togwotee Pass in the third week of July, where the generally early emergences of the season were exemplified by great quantities of *Erebia theona ethela* Edw. and *E. callias callias* Edw. already on the wing; and also very good were some of the canyons near Afton.

Here are a few notes on what interested me most in the field: *Boloria, Colias,* certain Blues, and migratory or at least "mobile" species.

Of *Boloria* I got seven species, of the eight (or possibly ten) that occur within the region. Plunging into the forest south of route 130 on the western slopes of the Snowy Range, I found *B. selene tollandensis* B & McD. not uncommon on a small richly flowered marsh at about 8,000 ft. alt.; also on marshes north of Northgate and on Togwotee Pass. On July 8, I spent three hours collecting a dozen fresh specimens of *B. eunomia alticola* B. & McD., both sexes, on a tiny very wet marsh along the eastern lip of the last lake before reaching Snowy Range Pass from the west, possibly the same spot

where KLOTS had taken it in 1935 (*Journ. N. Y. Ent. Soc.* 45: p. 326; 1937). I met with the same form on a marsh near Peacock Lake, Longs Peak, Colorado, in 1947. Forms of *B. titania* Esp. (mostly near ssp. *helena* Edw.) were abundant everywhere above 7,500 ft. alt. By the end of July *B. freija* Thunb. was in tatters near Togwotee Pass (it had been on the wane in June 1947 on marshes near Columbine Lodge, Estes Park; and on Hoback River, Tetons, in early July 1949). Of the beautiful *B. frigga sagata* B. & Benj. I took two ♂ ♂ (fresh but frayed) near Togwotee Pass. Of *B. toddi* Holland ssp. I took a very fresh ♂ in early July in the Snowy Range at 8,000 ft. alt. and a couple of days later, acting upon a hunch, I visited a remarkably repulsive-looking willowbog, full of cowmerds and barbed wire, off route 127, and found there a largish form of *B. toddi* very abundant — in fact, I have never seen it as common anywhere in the west; unfortunately, the specimens, of which I kept a score or so, were mostly faded — and very difficult to capture, their idea of sport being to sail to and fro over the fairly tall sallows that encompassed the many small circular areas (inhabited only by *Plebeius saepiolus* Boisd. and *Polites utahensis* Skin.), into which the bog was divided by the shrubs. Another species I had never seen to be so common was *B. kriemhild* Strecker which I found in all the willow-bogs near Togwotee Pass.

In regard to *Colias* I could not discover what I wanted — which was some geographical intergradation between *C. scudderi* Reakirt, which I suggest should be classified as *C. palaeno scudderi* (Reakirt) (common everywhere in the Medicine Bow National Forest), and *C. pelidne skinneri* Barnes (locally common near Togwotee Pass and above Afton). I was struck, however, by the identical ovipositing manners of *C. scudderi* and *C. skinneri* ♀ ♀ which were common in the densest woods of their respective habitats, laying on *Vaccinium.* I found *C. meadi* Edw. very common on Snowy Range Pass. It was also present at timberline near Togwotee Pass and east of it, below timberline, down to 8,000 ft. alt. in willow-bogs, where it was accompanied by another usually "Hudsonian" species, *Lycaena snowi* Edw., the later represented by undersized individuals. (In early July 1951, near Telluride, Colorado, I found a colony of healthy *Colias meadi* and one of very sluggish *Pyrgus centaureae freija* Warren in aspen groves along a canyon at only 8,500 ft. alt.) On a slope near Togwotee Pass at timberline I had the pleasure of discovering a strain of *C. meadi* with albinic ♀ ♀. The species was anything but common there, but of the dozen ♀ ♀ or so seen or caught, as many as three were albinic. Of these my wife and I took two, hers a dull white similar to *C. hecla* "pallida", mine slightly tinged with peach (the only other time I saw a white *C. meadi* was at the base of Longs Peak, 1947, where the species was extremely abundant).

In 1949 and 1951, when collecting *Lycaeides* in the Tetons, all over Jackson Hole, and in the Yellowstone, I had found that to the north and east *L. argyrognomon (idas) longinus* Nab. turns into *L. argyrognomon scudderi* Edw. but I had not solved the problem of the *L. melissa* strain so prominent in some colonies of *L. argyrognomon longinus (i. e.,* Black Tail Butte near Jackson). I had conjectured that hybridization occurs or had occurred with wandering low elevation *L. melissa* (the rather richly marked "Artemisian" *L. melissa* — probably in need of some name) that follows alfalfa along roads as *Plebeius saepiolus* does clover. In result of my 1952 quest the situa-

tion appears as follows. The most northern point where typical *L. longinus* occurs is the vicinity of Moran, seldom below 7,000 ft. alt. and up to 11,000 at least. It spreads south at those altitudes for more than a thousand miles to the southern tip of Bridger National Forest but not much further (I have not found it, for instance, around Kemmerer). I have managed to find one *L. melissa,* a fresh ♂, in August 1952 in a dry field near Afton, less than a mile from the canyon into which both sexes of *L. argyrognomon longinus* descended from the woods above. At eastern points of the Bridger and Shoshone Forests, *L. longinus* stops definitely at The Rim, west of Bondurant, and at Brooks Lake (about 7,500 ft. alt.) some twenty miles west of Dubois. Very small colonies (seldom more than half-a-dozen specimens were taken in any one place) of *L. melissa* were found around Dubois at 6,500 ft. alt. or so (agricultural areas and the hot dry hills). A colony of typical (alpine) *L. melissa melissa* as described by Edwards, was found just above timberline in the Sierra Madre. The search for *L. melissa* in various windy and barren localities in the sage brush zone in mid-July led to the finding of a rather unexpected Blue. This was *Plebeius (Icaricia) shasta* Edw., common in the parched plain at less than 7,000 ft. alt. between Saratoga and Encampment flying on sandy ground with *Phyciodes mylitta barnesi* Skinner, *Satyrium fuliginosa* Edw., and *Neominois ridingsi* Edw. It was also abundant all over the hot hills at 6,500 ft. alt. around Dubois where nothing much else occurred. I have not yet been able to compare my specimens with certain series in the Museum of Comparative Zoology, Harvard, but I suggest that this low-altitude *P. shasta* is the true *P. minnehaha* Scudder while the alpine form which I found in enormous numbers above timberline in Estes Park (especially, on Twin Sisters) and which collectors, following Holland's mislead, call *"minnehaha",* is really an undescribed race.

MIGRATORY SPECIES OBSERVED IN WYOMING, 1952

I distinguish two groups: (1) latitudinal migrants — moving within their zones of habitat mainly in a west-east (North America) or east-west (Europe) direction and capable of surviving a Canadian Zone winter in this or that stage. Mobile, individually wandering species of *Plebeius* and *Colias* belong to this group as well as our four erratically swarming *Nymphalis* species which hibernate in the imaginal stage. In early August the trails in Bridger National Forest were covered at every damp spot with millions of *N. californica* Boisd. in tippling groups of four hundred and more, and countless individuals were drifting in a steady stream along every canyon. It was interesting to find a few specimens of the beautiful dark western form of *N. j-album* Boisd. & Lec. among the *N. californica* near Afton. (2) longitudinal migrants — moving early in the season from subtropical homes to summer breeding places in the Nearctic region but not hibernating there in any stage. *Vanessa cardui* L. is a typical example. Its movements in the New World are considerably less known than in the Old World (in eastern Europe, for instance, according to my own observations, migratory flights from beyond the Black Sea hit the south of the Crimea in April, and females, bleached and tattered reach the Leningrad region early in June). In the first week of July 1952, this species (offspring mainly) was observed in colossal numbers above timberline in the Snowy Range over which the first spring flock had passed on May 28. according to an intelligent ranger. A few specimens of *Euptoieta*

claudia Cramer were in clover fields around Afton, western Wyoming, in August. Of *Leptotes marina* Reakirt, one ♂ was near Afton in August, with *Apodemia mormo* Felder and *"Hemiargus" (Echinargus) isola* Reakirt. Both *A. mormo* and *E. isola* plant very isolated small summer colonies on hot hillsides. The *H. isola* specimens, which I took also in Medicine Bow National Forest, are all tiny ones, an obvious result of seasonal environment, not subspeciation. *H. isola* [incidentally, this is not a Latin adjective, but a fancy name — an Italian noun originally — and cannot be turned into *"isolus"* to comply with the gender of the generic name, as done by some writers] belongs to a neotropical group (my *Echinargus)* with two other species: *E. martha* Dognin, from the Andes, and a new species, described by me but not named, from Trinidad and Venezuela [see *Psyche,* 52: 3-4]. Other representatives of neotropical groups *(Graphium marcellus* Cramer, *"Strymon" melinus* Hübner, *Pyrgus communis* Grote, *Epargyreus clarus* Cramer — to name the most obvious ones) have established themselves in the Nearctic more securely than *H. isola.* Among the migratory Pierids, the following were observed: single specimens of *Nathalis iole* Boisd. all over Wyoming; one worn ♂ of *Phoebis eubule* L. in the Sierra Madre (Battle Lake), July 9; one worn ♂ of *Eurema mexicana* Boisd., between Cheyenne and Laramie (and a worn ♀ near Ogallala, Neb.), first week of July.

Cornell University, Ithaca, N. Y., U. S. A.

COLLECTION OF SOUTH AMERICAN LEPIDOPTERA

The city museums of Villa Mirabello, in Varese, Italy, announce that a collection of almost 4,000 Lepidoptera has just been studied and classified by the engineer MARIO SIMONDETTI. The collection was given, fifty years ago, to the famous Italian tenor FRANCESCO TAMAGNO, during his stay in South America (he died in Varese in 1905). Only the family Geometridae and the few microlepidoptera are still to be studied. Visits by American specialists, as well as letters, would be very welcome. Write to: Direzione dei Civici Musei di Villa Mirabello, Varese, Italy.