

AN EXTRAORDINARY SWARM OF BUTTERFLIES IN COLORADO

The summer of 1966 was for me a busy season which provided little opportunity for extensive collecting; hence every free weekend saw a hurried attempt to reach fruitful locales. On one such outing *Speyeria cybele charlotti* (Barnes) was sought near Somerset, Gunnison County, Colorado, where it had been taken in 1961. Jo Anne Pyle, Mrs. Helen L. Lemmon, and H. W. Pyle accompanied me on the trip.

We left Denver on July 2, spending the following day in the vicinity of the Rocky Mountain Biological Laboratory near Gothic, hiking to the alpine basin of Copper Lake. This six-mile journey took us through Canadian and Hudsonian forests and was punctuated by the capture of a striking aberration of *Agriades glandon rustica* (Edwards) and numerous other specimens, and at Copper Lake, *Erebia magdalena magdalena* (Strecker), *Microtia damoetus* (Skinner), and *Lycaena cupreus snowi* (Edwards) were taken. *M. damoetus* was flying in great profusion.

Between Kebbler Pass and Somerset on July 4, *Speyeria callippe* ssp. and *S. atlantis* ssp. were visiting thistles (*Cirsium* sp.), but *S. c. charlotti* was represented by a solitary male, thus marking my second failure to guess this species' emergence mechanism. One year earlier, the thistles and butterflies had vanished by August 1, although on that date in 1961 both sexes in fair condition had been abundant. As moisture conditions varied considerably between occasions, this was likely correlated with the insect's inconsistent appearance.

Next, we traveled to the Black Canyon of the Gunnison in Montrose County. In August, 1964, Charles Dudley and I had fine collecting at the South Rim of the Canyon; species taken included *Euptychia dorothea* (Nabokov), *Neominois ridingsi stretchii* (Edwards), *Cercyonis behri masoni* (Cross), and many Lycaenids, including *Hypaurotis crysalis citima* (Hy. Edwards) which fluttered above the oaks in the canyon lips.

Unfortunately, few butterflies were present during our 1966 visit, and we left somewhat disappointed with the day's results. Thus somewhat dulled to our late afternoon surroundings, we were supremely shocked when, as we drove along the canyon rim road, nearing the highway access, we were confronted with the largest aggregation of butterflies that I have yet encountered. Alerted first by the flicker of blue wings, we scrutinized a tiny arroyo by the roadside, which was lined with blooming milkweed (*Asclepias* sp.). Here, within 100 feet of the car, were myriad blues and other small butterflies. We stirred them, and found ourselves in the midst of an azure fog, as thousands of blues took flight. When they resumed their flower visitation in a minute or two, the milkweed could not be recognized for the heaped butterflies. Those which were not imbibing nectar perched still on the leaves. Effective collecting was accomplished only with forceps, as a swing of the net yielded only battered wings. Following is a list of species comprising this astounding assemblage, in order of relative abundance. (*Icaricia icarioides* accounted for 50–60% of the individuals present): *Icaricia icarioides lycea* (Edwards), *Lycaena heteronea heteronea* (Boisduval), *Lycaeides melissa melissa* (Edwards), *Callophrys apama apama* (Edwards), *Philotes enoptes ancilla* (Barnes and McDunnough), *Lycaena dorcas floridus* (Edwards), *Phyciodes campestris camillus* (Edwards), and *Agriades glandon rustica* (Edwards).

In all cases, males were at least twice as abundant as females, except for *L. m. melissa*, in which the females dominated. Each species ranged from fresh to very worn, with the exception of *L. h. heteronea*, which was freshly emerged.

We remained in this amazing locality until past 6:00 P.M. (M.D.T.), selecting specimens but never losing our initial astonishment. Driving home we juggled estimates, trying to arrive at a reasonably accurate interpretation of the phenomenon we had observed. Our consensus could not be finalized to a greater degree of precision than "many thousands," although my own estimate proclaimed "At least ten thousand, and perhaps a hundred!"—ROBERT M. PYLE, 6015 N.E. 64th St., Seattle, Washington.