THE LEPIDOPTERISTS' SOCIETY EST. 1947

NEWS of the LEPIDOPTERISTS' SOCIETY

Number 4

July/August

EDITOR: Jo Brewer, 257 Common Street, Dedham, MA 02026 U.S.A.
Spreading Board: Dr. Charles V. Covell, Jr., Dept. of Biology, Univ. of Louisville, Louisville, KY 40208, U.S.A.

Addition to the 1976 Field Summary

OHIO STATE RECORDS. Acronicta falcula Walker; Vinton County, Richland Township, 30 May, 1976. Oligia semicana Walker; Vinton County, Knox Township, 14 June, 1976. Amolita roseola Smith; Champaign County, Urbana Township, 24 July, 1976. Catocala gracilis Edwards; Portage County, Brimfield Township, 17 July, 1976. (several specimens taken). Zale duplicata Bethune; Vinton County, Lake Hope State Park, 1 May, 1976. Oxycilla mitographa Grote; Vinton County, Richland Township, 4 July, 1976. Parahypenodes quadralis Barnes and McDunnough; Franklin County, Jefferson Township, 16 August, 1976. (at bait). Dyspyralis nigellus Strecker; Champaign County, Urbana Township, 24 July, 1976. Epizeuxis sp. (near aemula. Forbes calls it E. concisa Walker, but Dr. Ferguson says that it really has no name, that concisa is a syn. of aemula and that Dr.Franclemont plans to describe the new one someday.) Portage County, Brimfield Township, 17 July 1976. OTHER MOTHS RARE IN OHIO (all except Z. bethune are county records). Adita chionanthi Smith and Abbot; Vinton County, Richland Township, 4 September, 1976. Euxoa scandens Riley; Lake County, 18 July, 1976. Lithophane disposita Morrison; Franklin County , Jefferson Township, 19 March 1976 Eupsilia devia Grote; Franklin County, Jefferson Township, 10 Feb thru April (30 specimens all at bait). Catocala connubialis Guenee; Vinton County, Richland Township, 3 July, 1976. Zale bethunei Smith; Hocking County, Hocking Hills State Park, 4 & 23 July, 1976.

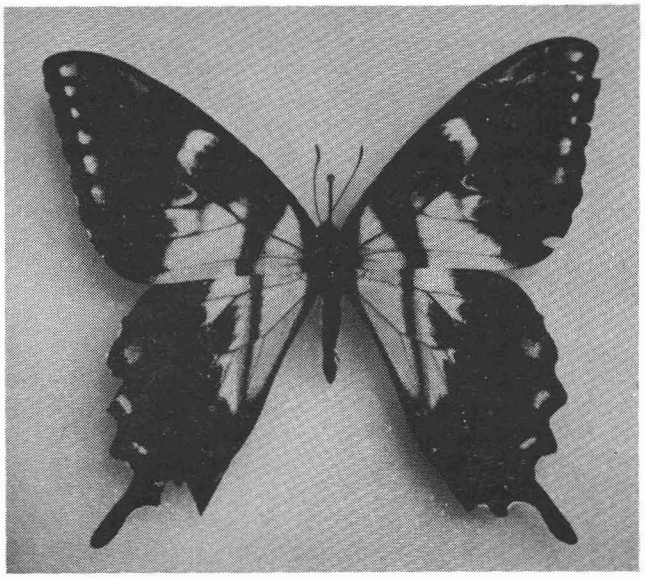
Safari: Plans are underway for a Butterfly Collecting Safari in Southern Africa this coming September. The safari will be under the auspices of the Allyn Museum of Entomology in Sarasota, FLorida, and Lee Miller, Curator of the Museum, will be the leader and host of the trip. Further information may be had by writing to to Lee : Allyn Museum of Entomology, 3701 Bay Short Rd., Sarasota, FL 33580, or to Michael P. Basel, President of Fun Safaris Inc., through whom the arrangements are being made.

Ripples

Dear Editor:

The March-April 1977 edition NEWS of the Lepidopterists' Society contained a semi-melanic *Papilio Glaucus* rather similar to one which I collected in Penland, North Carolina in August 1975 (photograph enclosed). A number of other collectors with whom I have communicated have seen similar melanic papilios. Sincerely, R. Peter Rosier, M. D., P.O. Box 1625, Fort Myers, Florida 33902.

Ed."s note: Our candidate for Nonconformist butterfly of the year is being challenged. Warren Kiel of Whitefield, N.H. also reported having take- a similar specimen in late May of this year. So far it has not been made manifest whether these butterflies are ♂♂ or ♀♀ and therefore the question of a possible semi-melanic gynandromorph remains unresolved. Dr. Rosier's specimen has the added distinction of having a bird beak bite out of its left HW.



Rosier's Candidate

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ENDANGERED SPECIES: RANDOM ALTERNATIVES

In 1965, Dr. Frederick H. Rindge, then President of the Lepidopterists' Society, penned an apt description in the Jour. Lep. Soc. of the destruction of butterfly colonies by the 20th century civilization sprawl and the need for broad-spectrum collecting of natural habitats before much of it is lost. Fortunately, public awareness of endangered species and whole habitat destruction is increasing, partly due to farsighted efforts of some of our brethren (Paul Ehrlich, Paul Opler, Bob Pyle, etc.).

Occasionally one reads of castigation of the collecting methods - i.e., to hang up the old butterfly net, take up notebook and camera, and go out into the field as a "birder" sans cyanide jar. Purveyors of thie "truth" fear man as a primitive, killer ape-being. However, it would be in the best interests of science to grant that man basically has some aggressive killer-instincts and that he be allowed to take it out on butterfly populations rather than his fellow humans. Already some of us are asked not to clobber, say, the *Apodemia mormo langei* colony at Antioch for fear of legal reprimands, but other hills beckon. Here in the populated state of California there are still many unexplored regions.

Aside from the obvious need to stockpile specimens into museums so that future taxonomic and bionomic work can be possible, the amateur butterfly enthusiast can also aid by publishing complete lists with dates of all the species he has taken over the years from his favorite spots. In this way, ecological surveys of the habitat can be made, such as that which Bill Patterson has been doing in Auburn Canyon (before the dam destroys it). Taking color photographs of eggs, larvae and pupae that one rears also serves a useful purpose. I am aware of the opinion, however, that lists of species taken only on one date at a locality are scientifically nearly worthless to publish. Oakley Shields, Dept. of Entomology, University of California, Davis, Calif. 95616.

SCIENTIFIC VALUE OF A BUTTERFLY COLLECTION

At one time or another, most of us have probably felt frustrated in our attempt to make a real scientific contribution with our butterfly collections. Those of use living in the temperate zones, for instance, have little chance of discovering an undescribed species. Further, flight periods, foodplants, and ranges of many butterfly species seem to be well known. As a result, there is a tendency to seek the unknown in the tropics or among the less conspicuous moths. For those of us, however, who do not have time and money for the tropics and who never felt much fondness for moths, I would like to suggest alternatives for increasing the value of our butterfly collections.

The primary scientific value of a butterfly collection is measured by the amount of information it contains and the ease with which this information can be retrieved. We all dutifully label "when and where" we collected each specimen, but by selectively searching for butterflies which provide extra biological information, we can increase the value of our collections. I describe below four examples of such specimens, and then propose a method for making the information provided by these more easily retrievable.

One group of specimens of biological interest is ovipositing females. Even if the larval foodplants of a species are known, collecting the female and labeling that she oviposited on a specific part (leaf, bud, stem, etc.) of a plant species is often valuable for three reasons. First, females of a species which use several different larval foodplants may oviposit on only one plant species at a given locality (e.g. Euphydryas editha, J. Lepid. Soc. 28:103, 1974) or, alternately, may oviposit on many of the available foodplant species at each locality. Which of these alternative strategies a species uses may be revealed by oviposition records, and is of great biological interest. Second, older larvae may wander onto and feed on plant species on which adult females do not oviposit. Indeed, a fair number of the foodplant records repeated in "butterfly books" may actually be secondary foodplants. Third, occasionally, morphologically similar species may use, and be most easily of foodplant identified adults, morphological differences between species may become evident.

A difficulty with collecting ovipositing females is that instead of collecting a female butterfly at firstsight, you must observe her for a while and she may "get away". Also, you may seemingly waste a lot of time watching a female which does not oviposit. These difficulties are real, but you may find that the rewards outweigh the lost specimens and "wasted" time.

A second group of specimens of biological interest is copulating pairs. Where and when (the date and time of day) courtship and copulation occur is often as characteristic of a speeies as its wing pattern. By labeling specimens with this information, it may then be possible to compare mating behaviors among closely related species, and perhaps to begin to understand how such behavior has evolved.

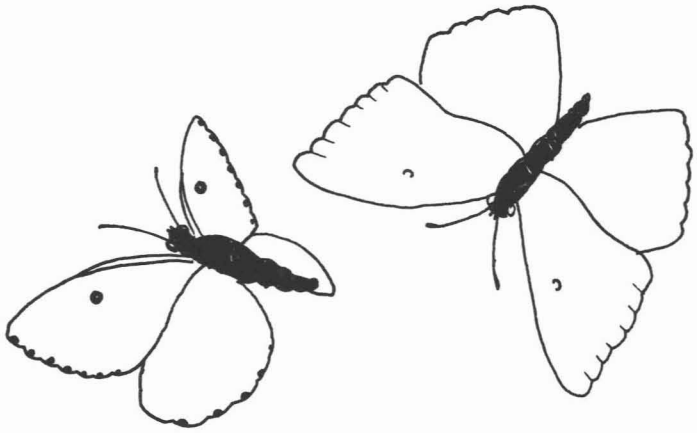
A third group of specimens of biological interest are specimens with aberrant wing patterns or morphology. Such aberrations may be genetic or developmental, and may be of interest to population geneticists or developmental biologist, respectively. Of particular interest are gynandromorphs (part male and part female) and melanic forms. Aberrant individuals, however, tend to be infrequently encountered, and thus will probably have little effect on increasing the value of your collection.

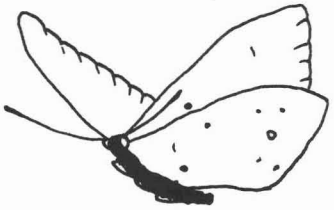
A fourth group of specimens of biological interest are specimens which show evidence of having been attacked by predators. In contrast to the low frequency of aberrant individuals, I have found that predator-damaged specimens are rather commonly encountered (2%-3% of all specimens) if one looks for such specimens. A butterfly which has been attacked by a predator is unlikely to be in good condition and thus we are likely to overlook such specimens in our search for esthetically pleasing perfect insects. The next time you are out collecting, try catching a few specimens with torn wings and examining them carefully for beak marks. Beak marks are often smudged in the escape struggle, but they should be clearly visible on both upper and lower surfaces of a wing. Ask yourself how a predator might have attacked the butterfly? Was the butterfly landed or flying when attacked? What part of the wings did the predator attack? It may be impossible to determine whether a specimen with wing damage was attacked or is simply worn, but with experience it will be clear in many cases whether a predator inflicted observed wing damage. Such specimens are of great interest.

After you have mounted a specimen of biological interest, ut the biological information on a label on the specimen's pin. Hopefully, your collection will eventually be donated to a museum, where your accompanying notebook will probably get separated from your collection and where your specimens will probably be rearranged. Thus,the only information that will definately stay with your specimens are the labels on the pin. In addition, I am sure that I am not the first person to have lost a collecting notebook. It makes sense to label your specimens completely.

Finally, I suggest that butterfly specimens of biological interest be labeled on colored paper with the information which makes these specimens valuable. For years, museums have been labeling type specimens with red paper to make them readily identifiable. I suggest that specimens of biological interest should be treated similarly, except that red labels should not be used (to avoid confusion with type specimens). For instance, we might use grey for ovipositing females, green for specimens caught in copula, blue for predator-damaged specimens, etc. Using such a labeling method will maximize the usefulness of your collection. You and anyone else looking at your specimens can quickly pick out those specimens of particular biological interest.

Robert Robbins, Dept. of Biology, Tufts University, Medford, MA 02155





Notes on Migrating *Phoebis sennae eubule* Linn. *(Pieridae)*

Every September and October for the last 15 years I have taken trips to Cape May Point, the southernmost tip of New Jersey. There *Danaus plexippus* and *Junonia coenia* concentrate in large numbers before going south across Delaware Bay. Besides collecting skippers and variations of the buckeye, I have netted the rare *Phoebis sennae eubule*. I call the latter rare because in all those years I have collected only four specimens.

Chris Adams, coming home from his vacation through Virginia in August, 1975, informed me that he had seen some concentrations of the cloudless culphur in that state and also some specimens in Cape May County, New Jersey. Therefore I visited Cape May Point on August 28 and saw my first *Phoebis* for this season. Because there were no flowers there, all specimens were flying too high and fast to catch. From here I drove somewhat further north to Eldora, still in Cape May County, to Dr. B. Worth's farm. This consists principally of extensive woods but also of a good sized flower garden and an eight-acre field with all kinds of wild flowers. To my surprise I found *Phoebis* butterflies as common as the cabbage butterfly up north. In a short time I collected six of them. My second trip to the same place was on September 10 with my companion Frank Rutkowski. I found *eubule* more numerous than before. In the space of a few hours both of us had a nice series. They were easily caught on the garden flowers and the wild ones in the field, where their favorite blossom was the small red morning glory *(Ipomoea coccinea)*.

All specimens were in perfect condition, the sexes evenly divided. They were all light greenish yellow except for one that was whitish green. Not every butterfly was feeding. Many travelled northward over the field with great speed. If we missed one it doubled its speed. The northern end of the field is bordered by big oak and pine trees. Reaching this barrier, the butterflies flew straight up and over without hesitation. In ten minutes I saw six specimens carry out that maneuver.

Three females with heavy abdomens were put into containers to oviposit. They were offered clover, *Cassia fasciculata* and *C. marilandica*. Although they were fed every day, no eggs were deposited. Don Adelberg experimented with two females, but he too had negative results.

From September 15 to 20 Hurricane Eloise swept through New Jersey, leaving 6-8 inches of rain on the ground, but this did not decrease the numbers of *Phoebis*. Dr. Worth kept counts up to November 5, while walking through his garden and field, and counted up to six *eubule* a day on Sept. 24, Oct. 8, 13, 16, 22, 23, 29, and Nov. 5. Most specimens were seen in the morning. I saw one specimen at Stockton on the Delaware River. Don Adelberg saw 15 at Brigantine Wildlife Refuge and one on Nov. 3 at Johnsonburg, a mountainous area, (a record for that part of New Jersey.) The main migration route seemed to be the Delaware Valley and along the seashore, from where they fly as far north as Massachusetts according to Klots. Many years may pass before we observe another such large migration of *Phoebis sennae eubule* in New Jersey.

Joseph Muller
R. D. 1, Lebanon, N. J. 08833

Drawing: "Eubele Jubilee"
by Anita Barbour

F R A S S R A I N

(A Population Explosion)

While on a spring collecting trip (4 Apr 77) to Utah's small portion of the Mojave Desert, I dropped down into Littlefield (elev 500m/1800 ft) on Beaver Dam Wash, Mojave County, Arizona. *Populus fremontii* (Fremont Cottonwood) was just beginning to leaf out and while checking along the streambed, I heard the constant pitter-patter of tiny raindrops on last season's dried cottonwood leaves. As the sound was very continuous, I looked up to spot the approaching rain cloud, only to find a bright sun and a sky full of blue. Having only heard the "raindrops", I checked carefully to determine the cause of the sound and saw millions of tiny frass pellets literally covering the ground, with more falling constantly.

Further on I stopped under a giant cottonwood whose leafing had progressed much more, and began hearing even heavier rain. It sounded "plink, Ping, plink, punk", having an uneven rhythm with the Pings being a sharp staccato and the punks a short dull thud. This time it was the nearly fully matured larvae (up to 49mm) literally falling out of the trees, again mostly landing on the brittle cottonwood leaves. Each larva would remain partially curled and motionless as if momentarily stunned, but within a minute would begin to straighten out and slowly move. A few needed up to three minutes' recuperation time as some landed on rocks, fallen wood, and bare dirt. (Although for some, the falling height was at least up to 33m/100ft, I observed none that seemed fatally injured from the fall by having a punctured epidermis.) They would crawl only a short distance before stopping, seemingly to enjoy sunning themselves in each other's company by lining up nearly parallel in groups of three and upward.

They so covered the ground that only by careful choosing, could I avoid crushing one or more larvae with each step as I slowly walked. If I stopped for any time, the larvae would be crawling all over my boots. A shallow, fast flowing, one meter wide ditch brought two to three larvae past me per minute, each of which in turn I flipped out of the water and onto dry ground. Those taking the water ride had fallen from the trees, and though their numerous fine hairs held them high enough to prevent their drowning, I don't know what would have been their fate had I not rescued them, or the fate of those hundreds still floating by after I left. I had probably temporarily interfered with just one of nature's mechanisms for reducing population explosions. When I arrived at my car, I counted seven that had fallen onto my pants just while walking back.

This "falling" behavior definitely seemed to be the normal, standard way for getting to the ground! I could find no larvae crawling down the trunks of the cottonwoods, nor could I ever find any hanging down on silken threads. Not a breeze was stirring and yet dozens of larvae were dropping out of the trees while I observed them. It was occurring upstream from my location also, as witnessed by the numerous larvae floating past me in the small ditch.

These same *Malacosoma incurvum discoloratum* Neum. (Southwestern Tent Caterpillar)s, family *Lasiocampidae*, were seen all over Washington County, Utah, though not in such prodigious numbers as this oasis banquet provided for. I couldn't help marvelling at the contrast some of their brethren faced, feeding on the dry-bones pickings of *Prunus fasciculata* (Desert Almond) found in some locations, (though in a few favored areas this plant was lush.)

On 20-21 Apr I returned to the location and though a very few mature larvae were still around, no cocoons were visible, no adults were flying, and all other obvious evidence of such prodigious numbers of larvae was gone! Most of the (4 Apr) larvae taken home formed a yellowish white cocoon within three to four days (pupation date unknown) and emerged an average of three weeks later (28 Apr).

Col. Clyde F. Gillette
3419 El Serrito Drive
Salt Lake City, Utah 84109

Excretions of insects called *frass*,
Soon drop from the leaves to the grass
And helped by the rain
Are re-cycled again
To more leaves for more bugs --and more frass.

from: The Alphabet Butterfly Coloring Book for Limerick Loving Lepidopterists.

IMPORTANT ANNOUNCEMENTS

A BIOLOGICAL SURVEY OF THE INSECTS OF CANADA: The Entomological Society of Canada has been awarded a contract by the Canadian Government to conduct a Pilot Study for a Biological Survey of the Insects of Canada. This project is intended to establish the foundations for a continuing biological survey, and a major aim is to assess the resources and needs of Canadian research in the identification, distribution and biology of insects (including arachnids and other related forms).

Four types of questionnaire have therefore been distributed. If any readers have information to contribute on relevant resources or needs and were overlooked in the original mailing, we would be very pleased to receive requests for the applicable questionnaires as listed below.

(1) Questionnaire to individual entomologists, to ascertain the location of personnel and programs, and seek information on the state of knowledge in Canada of their taxonomic or ecological groups of interest.
(2) To resource managers, environmentalists and other users of information on insects, to ascertain their present and future needs for entomological information.
(3) To directors of institutions conducting entomological research in Canada, to ascertain programs and facilities.
(4) To curators of collections in Canada and elsewhere, to ascertain the whereabouts of significant holdings of Canadian arthropod material.

Secretariat, Biological Survey Project
202 - 1316 Carling Avenue
Ottawa, Ontario K1Z 7L1

INSECT ZOO: The staff of the Denver Museum of Natural History, Denver, CO, has been working on an Insect Zoo which was completed on June 1, and will be open throughout the summer. The Zoo, located on the 3rd floor in James Hall, features Colorado insects, and live demonstrations are held on a daily basis.

Species of insects on exhibit will be constantly changing, due to seasonal progression, and to the short life spans of some species. People who visit the Zoo regularly will be able to observe a variety of insect species which illustrate similar types of structure and function and diverse habits.

Any members of the Lepidopterists' Society or the Xerces Society stopping in Denver en route to or from Boulder this summer will be welcome at the Insect Zoo - one of the first to be established in this country to date.

NATURE PHOTOGRAPHY WORKSHOPS: John Shaw and Larry West are conducting two field workshops in all aspects of nature photography (including Lepidoptera), July 24-30 and August 21-27. Tuition $225: with room and board $330. Write PHOTOGRAPHY, P.O. Box 44, Houghton Lake, Michegan 48629, or call (517) 422-3648 or (517) 676-1890.

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RESEARCH REQUEST

WANTED: Information, data, papered adults, pickled larvae, empty cocoons, etc. of the genus *Attacus* *(Saturniidae)* Loaned material will be returned promptly. This is needed for revision of the genus for doctoral dissertation. Richard S. Peigler, Dept. of Entomology, Texas A & M University, College Station, TX 77843. U.S.A.

SUPPLEMENT TO THE FIELD SUMMARY

ZONE 8: THE FAR NORTH: ALASKA, NORTHERN CANADA, AND GREENLAND. Coordinator: Kenelm W. Philip. Contributors: J. Ebner, C.S. Guppy, D. Oosting, P. & S. Russell, K. Philip and collectors for the Alaska Lepidoptera Survey.

Previously unreported localities or species are emphasized; collecting is by ALS volunteers unless noted.

Note regarding Alaska Lepidoptera Survey: An apparently new taxon of Oeneis had been brought in by ALS volunteers in 1970-71 from a few remote sites on the east central North Slope. Additional data were needed, so an expedition was arranged (with logistic support from the Anthropology Dept., U. of Alaska) to Itigaknit Mountain (a northern foothill of the Brooks Range, about 20 miles NNW of Galbraith Lake) in the hope of finding this butterfly. The field party consisted of K. Philip and D.P. Oosting.

The first week was spent on a northern spur of the mountain, near a bench mark (VABM Aruk, 30 miles NNW Galbraith Lake) which produced a series of the new Oeneis in 1971. Due to an exceedingly late spring, no butterflies whatever were seen at the bench mark - so the camp was then moved back to the main body of the mountain. Cold weather and very late emergence continued to hamper collecting, but eventually the new Oeneis was found flying over scree near the summit and a few specimens were taken.

Later in the season operations were transferred to the Seward Peninsula. With aid from the Alaska Highway Dept. and the Dept. of Fish and Game it was possible to cover three of the four roads radiating out from Nome: the Nome-Teller Road, the Glacier Road (ending in Mt. Distin), and the Kougarok Road. The Council Road was still under repair after having been washed out the previous summer. The weather was cooperative (for a change) and collecting was quite good in the mountains NW and N of Nome despite the late date.

A long-awaited batch of 540 specimens from the Okhotsk-Kolyma Plateau, far eastern Siberia, arrived courtesy of the Institute of Biological Problems of the North, Magadan (collected 1974). Determinations are in progress. ALS volunteers were active again, ranging from Alaska to Baffin Island. Input to date for the season from all sources is 4500 specimens.

NORTHWEST TERRITORIES: Weather: Ebner reports the latest and coldest summer in recent memory at Frobisher Bay, Baffin Island. Conditions were good, on the other hand, at Sachs Harbour, Banks Island.

Baffin Island:

Frobisher Bay, 11 July to 19 August. Additional species (see 1975 A.S.): Oeneis melissa. In addition, Ebner reports Colias pelidne, which appears to be a new species for the area since what had been called C. pelidne from Frobisher Bay in past years is probably a race of C. palaeno.

Banks Island:

Sachs Harbour, 3 July to 3 August. Colias hecla, C. thula, C. nastes, Agriades aquilo, Boloria frigga, B. improba, B. polaris, B. chariclea, Oeneis melissa, O. polixenes, Erebia fasciata.

District of Mackenzie:

Cape Parry, 21-22 July. Colias hecla, Boloria improba, B. polaris, B. freija.

Heart Lake, near Hay River (mile 81 Mackenzie Highway, 60°45'N, 116°40'W), 25 April to 20 September. Additional species (see 1975 A.S.): Carterocephalus palaemon, Papilio glaucus, Pieris sisymbrii, Incisalia eryphon, Polygonia faunus, P. gracilis.

YUKON TERRITORY:

Kluane Lake, mile 1053-1093 Alaska Highway, 26 June to 19 July 1975 (Data came in too late for the 1975 A.S.). Colias necla, C. philodice, C. palaeno, Lycaena dorcas, Lycaeides argyrognomon, Plebejus saepiolus, Agriades aquilo, Everes amyntula, Boloria napaea, B. frigga, B. freija near natazhati, B. chariclea, Oeneis melissa, Erebia theano.

The remaining localities in the Yukon Territory were collected by C.S. Guppy:

Spencer Creek, mile 694.9 Alaska Highway, 27 June. Erynnis persius, Carterocephalus palaemon, Euchloe creusa, E. ausonides, Phyciodes campestris, Boloria freija, Oeneis taygete (common), Erebia disa.

Kilometer 1211 Alaska Highway (W of Swift River), 27 June. Colias philodice, Euchloe creusa, Boloria frigga, B. freija, Oeneis taygete, Erebia disa, E. epipsodea.

Bear Creek Pass, W of Haines Junction between Alaska Highway and Mt. Decoeli, 4000-5000 feet, 30 June to 1 July. Papilio machaon, Pieris napi, P. occidentalis, Colias palaeno, C. nastes, Glaucopsyche lygdamus, Boloria imporba, B. freija, B. titania, B. eunomia, Oeneis taygete, O. polixenes, Erebia fasciata, E. youngi.

Nines Creek, vicinity Destruction Bay, 2 July. Colias hecla (alba female), Boloria polaris, Erebia fasciata (not the usual facies), E. youngi.

ALASKA: Weather: Exceedingly late spring on North Slope and Seward Peninsula. Unusually light snowpack over much of Interior, which is suspected to be the key factor in producing very low abundances of usually common species of butterflies.

RANGE EXTENSIONS: Erebia mackinleyensis from Ogotoruk Creek, near Cape Thompson (250 miles north and 535 east of previous records near Nome and Lake Schrader). Boloria distincta from Itigatknit Mt. and the Hulahula River, which begins to fill in the gap between Anaktuvuk Pass and the Richardson Mts, and also from Crow Creek trail near Girdwood, the first record for this species from the Chugach Mountains. Arctiid near Orodemnias from Mt. Distin and mile 18-21 Nome-Teller Road, and also from Okhotsk-Kolyma Plateau, Siberia - apparently conspecific with earlier ALS records from Noluck Lake and Toolik Lake.

STATE RECORDS: Polygonia satyrus from Haines.

NEW COLLECTING LOCALITIES: Itigaknit Mountain, 20 miles NNW Galbraith Lake, is part of a long E-W ridge which runs parallel to the Brooks Range about 20 miles out on the North Slope. A more eastern part of the ridge (Slope Mt.) is accessible via the pipeline haul road, but Itigaknit Mt. is a 10-mile hike from the nearest point on the haul road (Toolik Lake) or a 20-mile helicopter ride from Galbraith Lake camp. A large variety of habitats is available on the mountain, and had spring come earlier or our stay been longer the species count might have tied Lake Schrader (30 species of butterflies). As it was, 25 species were obtained (see below).

NORTH SLOPE:

Meade River, 7 July to 13 August. The usual species, including another Acerbia alpina.

Hulahula River, 69°04-55'N, 144°03-38'W, 13 June to 2 August. Papilio machaon, Colias hecla, C. boothii, C. nastes, Lycaeides argyrognomon, Phyciodes campestris, Boloria improba, B. polaris, B. freija, B. distincta, B. chariclea, B. eunomia, Oeneis bore, Erebia rossii, E. disa, E. fasciata, E. youngi, E. theano, Apanthesis quenselii, Acerbia alpina.

Sadlerochit Springs, 20-25 June. Pieris napi, Colias boothii, Boloria freija, Erebia disa, E. fasciata.

Okpilak River, 69°45'-70°03'N, 143°42-47'W, 24-28 July, Colias hecla,

C. palaeno, C. nastes, Lycaena phlaeas, Boloria napaea, B. improba, B. frigga, B. polaris, B. freija, B. chariclea, Oeneis melissa, O. polixenes, Erebia rossii, E. disa.

Ogotoruk Creek, near Cape Thompson (the Project Chariot site), 10 July to 20 August. Parnassius eversmanni, Colias hecla, C. thula, C. nastes, Lycaena phlaeas, Agriades aquilo, Boloria napaea, B. improba, B. polaris, B. freija, B. chariclea, Oeneis melissa, O. polixenes, Erebia rossii, E. disa, E. fasciata, E. mackinleyensis, E. youngi, Apantesis quenselii.

Itkillik River, about 30 miles NNW of Galbraith Lake, 20-26 June. Pyrgus centaureae, Parnassius eversmanni, Papilio machaon, Pieris napi, Colias thula, Euchloe creusa, Glaucopsyche lygdamus, Boloria polaris, B. freija, Oeneis polixenes, Erebia rossii, E. disa, E. fasciata.

Itigaknit Mountain, 28 June to 11 July. Pyrgus centaureae, Parnassius eversmanni, Papilio machaon, Pieris occidentalis, Colias thula, C. palaeno, Euchloe creusa, Vacciniina optilete, Agriades aquilo, Glaucopsyche lygdamus, Boloria frigga, B. improba, B. polaris, B. freija, B. distincta, B. chariclea, B. eunomia, Oeneis bore, O. melissa, O. sp., O. polixenes, Erebia rossii, E. disa, E. fasciata, E. youngi.

Barter Island, 20-22 July. Guppy reports: Colias hecla, Boloria frigga, B. improba, B. polaris, B. chariclea, Oeneis polixenes.

West Central Alaska, Seward Peninsula:

18 mile Nome-Teller Road, 21-22 July. Parnassius phoebus, Papilio machaon, Pieris napi, P. occidentalis, Colias hecla, C. thula, C. philodice, C. palaeno, C. nastes, Vacciniina optilete, Agriades aquilo, Boloria napaea, B. improba, B. polaris, B. freija, B. distincta, B. chariclea, Coenonympha kodiak, Erebia dabanensis?, Orodemnias? sp.

one A 21 mile Nome Teller Road, 22 July [This is the only place I know of where can drive an ordinary 2-wheel drive vehicle right onto Boloria distincta habitat!]. Papilio machaon, Pieris napi, P. occidentalis, Colias hecla, C. thula, C. palaeno, C. nastes (common), Agriades aquilo, Boloria napaea, B. improba, B. distincta, B. chariclea, Coenonympha kodiak, Oeneis melissa, Erebia dabanensis?

Both 18 and 21 mile Nome-Teller Road are dry, rocky ridges; fellfield and scree.

28 mile Nome-Teller Road, 22-23 July (tundra meadow with solifluction terraces, Sinuk River Valley). Parnassius eversmanni, P. phoebus, Colias hecla, C. thula, C. philodice, C. palaeno, Vacciniina optilete, Boloria napaea, B. freija, B. chariclea, B. eunomia, Coenonympha kodiak, Oeneis bore, O. polixenes, Erebia rossii, E. disa.

42 mile Nome Teller Road, 23 July (another rocky hill). Parnassius phoebus, Pieris occidentalis, Colias thula, Colias nastes, Agriades aquilo, Boloria napaea, B. improba, B. distincta, B. chariclea, Oeneis bore.

Mt. Distin, 25 July. Parnassius phoebus, Papilio machaon, Pieris occidentalis, Colias hecla, C. thula, C. philodice, C. palaeno, C. nastes, Agriades aquilo, Vacciniina optilete, Boloria napaea, B. polaris, B. distincta, B. chariclea, Coenonympha kodiak, Erebia youngi.

50 mile Kougarok Road, 26 July. Colias hecla, C. thula, C. philodice, C. palaeno, C. nastes (common), Agriades aquilo, Boloria napaea, B. chariclea, Coenonympha kodiak.

Shishmaref vicinity (mouth of Arctic River), 9 July to 8 August. Parnassius phoebus, Colias hecla, C. palaeno, Boloria frigga, B. chariclea,

Coenonympha kodiak, Oeneis bore, Erebia rossii, E. disa, Pararctia subnebulosa.

Cape Espenburg, 31 July to 29 August. Parnassius phoebus, Colias hecla, C. palaeno, C. nastes, Vacciniina optilete, Boloria frigga, B. chariclea.

Interior Alaska:

Mount Fairplay, 3500-5000 feet, 4-6 July. Guppy reports: Parnassius eversmanni, Papilio machaon, Pieris napi, Colias philodice, C. palaeno, C. nastes, Vacciniina optilete, Boloria improba, B. titania, B. eunomia, Oeneis melissa, Erebia fasciata, E. youngi.

Eagle Summit, 13-14 July. The Russells and Oosting obtained the usual species (see past Summaries). No sign of B. distincta, which appaars to be following an odd-year pattern at this site.

Delta Junction, 12 July. The Russells report: Colias philodice, C. gigantea, C. palaeno, Euchloe ausonides, Lycaena dorcas, Lycaeides argyrognomon, Everes amyntula, Vacciniina optilete, Limenitis arthemis, Phyciodes campestris, Boloria titania.

Highway Pass, McKinley Park, 18 July. Guppy reports: Parnassius eversmanni, Lycaena phlaeas, Boloria improba, B. chariclea, B. eunomia, Oeneis polixenes, Erebia fasciata, E. youngi. An ALS volunteer who collected the same locality on the same day added the following species: Colias hecla, Agriades aquilo, Boloria napaea, B. freija.

South Central Alaska:

Mentasta Mountains, 30 miles S of Tok Junction, 1 June to 14 July. Carterocephalus palaemon, Erynnis persius, Papilio machaon, Pieris napi, Colias philodice, C. palaeno, Euchloe ausonides, Lycaeides argyrognomon, Plebejus saepiolus, Agriades aquilo, Everes amyntula, Oeneis jutta [the first even-year record in Alaska since the 1920's!], O. bore, Erebia disa.

Tangle Lakes, 10 June to 6 August. Pieris napi, Colias palaeno, Vacciniina optilete, Boloria napaea, B. freija, B. chariclea, B. eunomia, Coenonympha kodiak, Erebia rossii.

Denali Highway, mile 11-13, 11 July. The Russells report: Carterocephalus palaemon, Pieris napi, Colias hecla, C. palaeno, Plebejus saepiolus, Vacciniina optilete, Boloria napaea, B. chariclea, B. eunomia, Coenonympha kodiak, Oeneis bore, Erebia rossii.

Hatcher Pass, Talkeetna Mts., 2500-3400 feet, 18 July. The Russells report: Colias palaeno, Boloria napaea, B. chariclea, Erebia theano. They add that the area looked very promising indeed - I suggest it should be tried again earlier in the season.

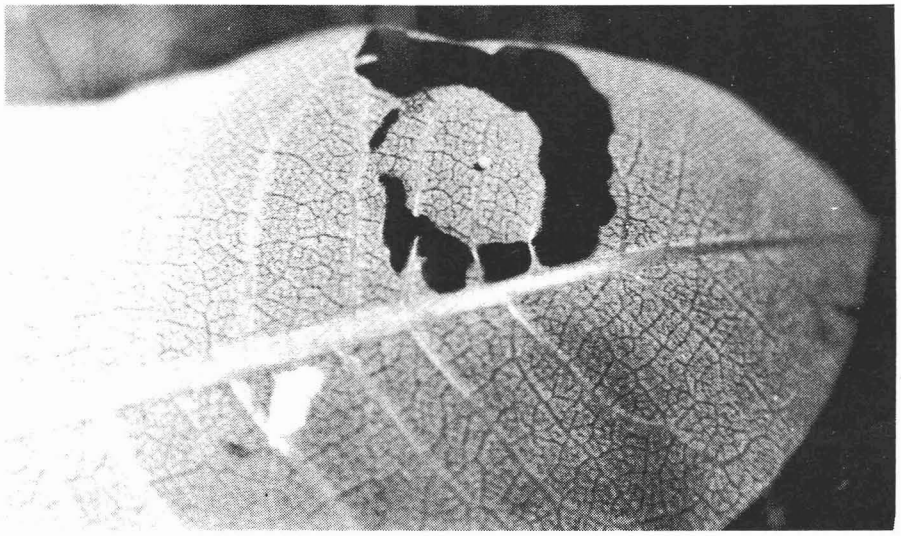
Sheep Mountain area, mile 113-121 Glenn Highway, 10 July. The Russells report: Hesperia manitoba, Pieris napi, Colias gigantea, C. palaeno, Lycaeides argyrognomon, Plebejus saepiolus, Vacciniina optilete, Boloria chariclea, B. eunomia, Coenonympha kodiak, Oeneis bore, Erebia theano.

Crow Creek trail, N of Girdwood (E of Anchorage), 8-9 July. Guppy and the Russells report: Carterocephalus palaemon, Pieris napi, Colias nastes, Lycaeides argyrognomon, Agriades aquilo, Boloria napaea, B. distincta, B. chariclea, Erebia mackinleyensis, E. theano.

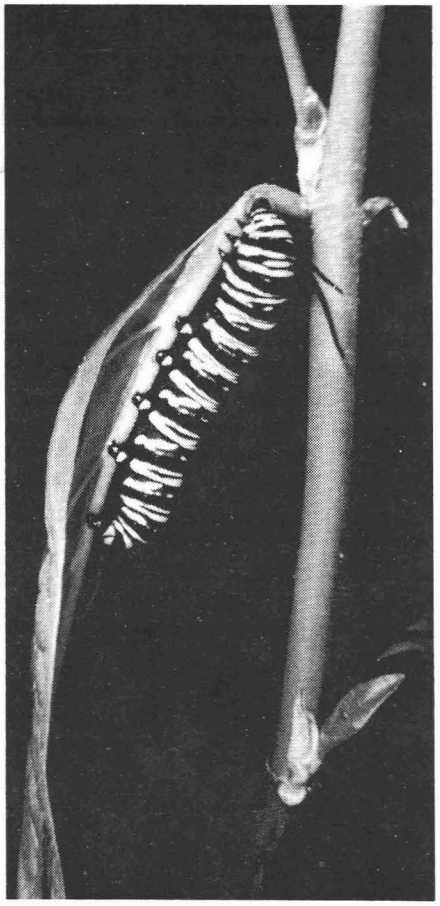
Karluk Lagoon, Kodiak Island, 22 May to 11 October. Carterocephalus palaemon, Pieris napi, Nymphalis milberti, Pararctia lapponica.

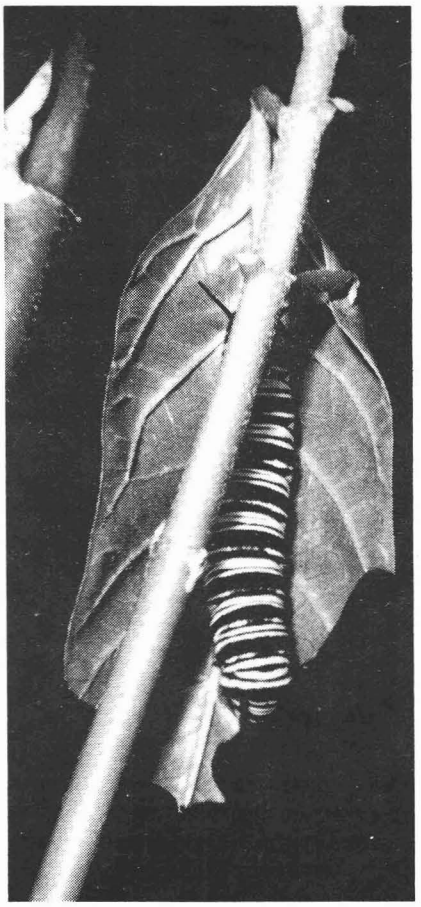
Southeastern Alaska:

Haines, 8 June to 7 August. Papilio glaucus, Pieris napi, Anthocaris sara, Celastrina argiolous, Polygonia satyrus, Nymphalis milberti, Hyles gallii.



Exponents of the theory of cannibalism take note: Two eggs were laid on this milkweed leaf. When the first one hatched, the caterpillar not only avoided eating the other egg, but left it safely on an island with four bridges to the mainland.





Short Lived Phenomena

by
Jo Brewer

Some (but not all) of the 5th instar caterpillars of the monarch butterfly (*Danaus plexippus*) exhibit a rather unusual behavioral pattern. Before beginning to eat a fresh leaf, these caterpillars chew through the stem of the leaf just far enough to cause it to droop, but not far enough to cause it to wither or to drop from the plant. At some apparently predetermined point, after the leaf has drooped, the caterpillar turns around, crawls to the tip of the leaf and begins to eat it horizontally, standing head down. In the two pictures below, taken about 15 minutes apart, the caterpillar is performing this strange ritual.

In order to take these pictures it was necessary to pinch off several leaves, as the drooping leaf effectively concealed the caterpillar from most angles. In fact it seemed to be serving not only as a full course meal, but as a hide-out as well! After seeing the pictures, Dave Winter added his observations of the situation.

"I have observed the same phenomenon In fact, one evening while I was searching for moths in a milkweed patch, I actually saw 4 milkweed leaves droop down in fairly rapid succession. As I watched, these 4 larvae of *D. plexippus* also turned around, proceeded to the leaf's end and began to feed.

"I then noticed that where the leaf edges were being eaten, no "milk" appeared. I took out my scissors, and as an experiment, I cut bits from the ends of several intact leaves. Immediately there was the expected copious outpouring of milky juice. I then repeated the experiment after first cutting through the under surface of the main rib as the larvae had done. This time no juice flowed."

Obviously this cutting and drooping operation is in some way advantageous to the caterpillars. If it improves the nutritional value of the ingested leaves, the caterpillars which engage in it deserve as A+ in organic chemistry and hydrolic engineering. If it just happens that the caterpillars don't like too much gravy with the main course, they still deserve some credit for learning to turn off the faucet.

♀ ♂ ♀ ♂ ♀ ♂ ♀ ♂ ♀

(Members are cordially invited to contribute to this column.)

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Serendipity

PANTOUM ON LEPIDOPTERS

As child is father to the man,
The caterpillar sires the moth.
The butterfly, they tell me, can
Arise from such, who move with sloth.
The caterpillar? Sires, the moth
Assuredly is parent here!
Arise! From such who move with sloth,
How can this vibrant soul appear?
Assuredly, is parent here?
A chrysalis has intervened.
How can this vibrant soul appear,
A crawling pawn abruptly queened?
A chrysalis has intervened--
Can this dissolve the paradox:
A crawling pawn, abruptly queened,
Appearing from a magic box?
Can this dissolve the paradox,
As: "Child is father to the Man"?
Appearing from a magic box,
The butterfly, they tell me, can.

E. Scumas Rory

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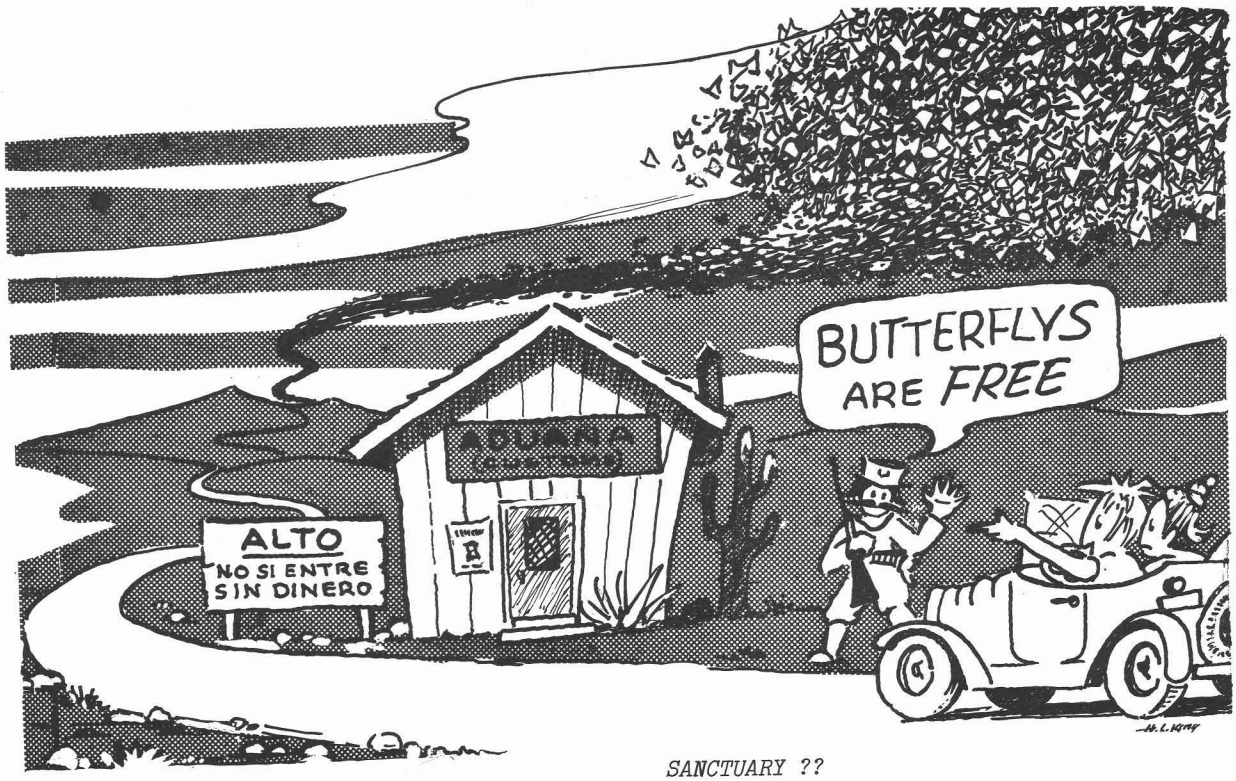

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