

NEWS

of the LEPIDOPTERISTS' SOCIETY

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SEASON

Moth eats Butterfly Shirt !

SUMMARY

for

1977

IN THIS

ISSUE

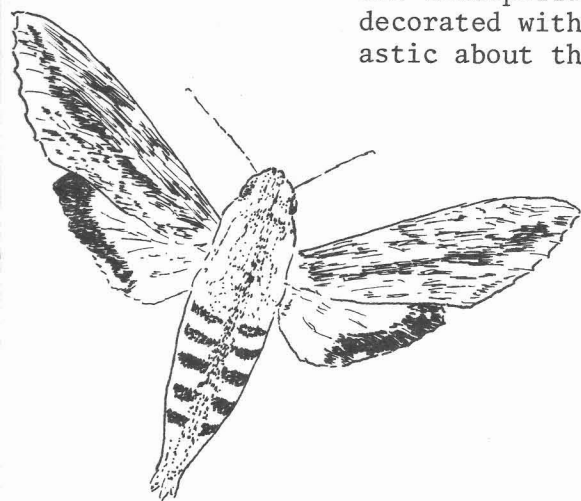
On October 12, 1977 I found a large green hairless caterpillar with a dark eyespot dorsally on the 3rd or 4th segmen . It was about 3 feet from the ground on the trunk of a palm tree in a public park on Hallendale Blvd., Hollywood Beach, Broward County, Florida. I brought the caterpillar to my hotel room, and in the rush of leaving, loosely packed her away in my clothing bag with some laundry. I had hope that it was in the pre-pupal wandering stage and might pupate without its foodplant. During the next 5 days I travelled to New York and home to Ohio before unpacking.

When my wife came to unpacking my bag after we returned home, she had an unforgettable expression on her face as she showed me the holes the caterpillar had eaten in my 100 % white cotton T-shirt, a shirt decorated with gaudy butterfly decals! She was also not overly enthusiastic about the frass on the shirt.

With no further nourishment, the caterpillar pupated on October 19th, and an excellent Hawkmoth --a female *Erinnyis ello* --hatched on November 20th. Pupation occurred in our basement in Toledo Ohio (65-70°)

I imagine this report provides a new and not-likely-to-be-repeated food (plant?) (shirt?) record for this species.

Paul H. Brand, Phd., Assistant Professor,
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C.S. No. 10008, Toledo, OH 43699.



NEW MEMBERSHIP LIST IN PREPARATION

MEMBERS WHO WISH TO ALTER THEIR LISTS OF INTERESTS AS THEY NOW APPEAR IN THE 1976 membership list, or as stated on their applications for membership, should immediately notify the Secretary, Julian P. Donahue, Natural History Museum, 900 Exposition Boulevard, Los Angeles, California (CA) 90007 U.S.A.

ANNUAL MEETING NEWS

The gavel will fall on the 29th Annual Meeting of the Lepidopterists' Society at 9:00 AM on Friday, July 7 at the University of Louisville, Louisville KY.

The meeting of the Board will be held on Thursday afternoon, July 6, and there will be a reception that evening at the home of the Covells, for early arrivals.

An innovation will be introduced into the order of the meetings this year, in the form of 2 workshops --one on scientific illustrating, and one on the preparation of genitalia for taxonomic determination. If you are acquainted with either the microscope or the drawing board, here is your chance to put some really fine tools to work for you.

In order to make it possible for more members to attend the annual business meeting, it will be held on Saturday rather than Sunday.

There will be 2 symposia --one concerning butterflies, and the other moths. Aspects to be discussed have not been determined as yet. There will also be a field trip, and a session devoted to submitted papers. Anyone wishing to submit a paper is asked to send the title and a very short summary for publication to Dr. Charles V. Covell Jr., Dept. of Biology, University of Louisville, Louisville, KY 40208.

More information will be available in Louisville, regarding the 30th ANNUAL MEETING in FAIRBANKS, ALASKA next year which will mark the 30th anniversary of the Organization of the Lepidopterists' Society, and the Adoption of By-Laws and a Constitution. At that time the Society had 441 members. Now it has over 1600.

NOTICE. In response to several requests from members of the Society who have retired and are no longer able to afford the annual dues, the Executive Council has ammended the By-Laws so that, on written request to the Treasurer, dues will be waived for members who: a) have retired from work; b) are at least 65 years old; c) have been members of the Society for at least 10 years; and d) are unable to pay the regular dues. Members in this dues free status will continue to receive the NEWS of the Society but not the JOURNAL.

Article I, Section 10 has been added to the By-Laws, and reads as follows:

"Beginning 1 January 1978, annual dues will be waived for retired members who are unable to pay their dues, who have been members for at least ten (10) years, and who are 65 or more years of age, upon written request to the Treasurer. The President of the Society must approve each transfer to retired status, and will be given by the Treasurer an annual list of all members so carried. The names of retired members will be carried on the Membership List, but no further dues will be collected. Subscription to the News (but no other Society publications) will be continued upon request."

Article II, Section 1 of the By-Laws has been amended, and now reads as follows: (new language is underlined):

"The Society shall not make gift memberships to individuals or subscriptions to institutions, except as provided in Article I Section 10. Society members are encouraged to sponsor gift memberships to deserving lepidopterists in foreign countries whose monetary policies prohibit sending currency out of their countries"



ASSOCIATION POUR LA PROMOTION DE LA SCIENCE ENTOMOLOGIQUE

This year's International Insect Fair in Paris will be held on the 29th & 30th of April, in the huge "Auber" facilities of the Paris Subway, near the OPERA. The first table will be offered by the Association. Additional tables @ 40.00 FF each for the entire duration of the fair. Associations & Laboratories will be given the space they require without charge. For reservations, write to A.P.E. -27 Villa Chaptal -92300 LeVallois-Perret, FRANCE. (Tel: 758 - 57 - 31).

FIELD SUMMARY FOR 1977

ZONE 1: SOUTHWEST: ARIZONA, NEVADA, CALIFORNIA. Coordinator: R.L. Langston (RL). Contributors: G.T. Austin (GA), R.A. Bailowitz (RAB), J.P. Brock (JPB), J. Brown (JB), K. Davenport (KD), W.R. Dawes (WD), J.F. Emmel (JE), C.D. Ferris (CDF), G.A. Gorelick (GG), D. Hawks (DH), H.F. Koopmann (HK), R.H. Leuschner (RHL), B.A. O'Hara (BO), C.G. Oliver (CO), S.K. Peoples (SP), C.A. Sekerman (CS), A.M. Shapiro (AS), M.J. Smith (MS), F.T. Thorne (FT), R.E. Wells (REW), R.S. Wielgus (RSW) & W.D. Winter (WDW).

COUNTY, STATE (in caps.) = New county, state records. NORTH, SOUTH, etc. = Northerly, Southerly, etc. range extensions.

ARIZONA: The season started with most parts of the state generally dry. Torrential rains in parts of Cochise Co. early July with blacklight collecting hampered by showers (CDF). First good rains of season in mid-July for the White Mts., Apache Co., but collecting good between downpours (RHL). Warm weather into early Dec. with 27 diurnals still flying at Patagonia on 3 Dec. (RAB).

MIGRATORY SPECIES: *Nymphalis californica* present at Neal Spring, Grand Canyon Nat. Park, Coconino Co., 15 July, but no migrations noted (RSW).

MOTHS: SATURNIIDAE: *Anthea polyphemus oculate* common, Cave Creek Cyn., Chiricahua Mts., Cochise Co., week of 5 July (CDF). **NOCTUIDAE:** *Graphiphora bolteri*, *Abagrotis bimarginalis*, *Morrisonia n. sp.*, *Dysocnemis borealis* & *Catocala grotei*, Greer, 8600', White Mts., Apache Co., 17-18 July (RHL). **GEOMETRIDAE:** *Hydriomena forculoides* & *Meris disputata*, Greer, 17-18 July (RHL). **SESIIDAE:** *Carmenta prosopis*, Pena Blanca, Santa Cruz Co., 23 July, on *Acacia* (RSW). *Ramosia arizonensis*, 5 mi. NW. Flagstaff, Coconino Co., 16-30 June, adults assoc/w juvenile *Pinus ponderosa* less than 10 ft. tall (RSW). *Zenodoxus rubens*, Pueblo Del Sol, Huachuca Mts., Cochise Co., 15-22 Oct., 85 of both sexes attracted to Old Spice Musk! (RSW).

BUTTERFLIES: *Lerodea arabus*, Patagonia, Santa Cruz Co., 3 Dec., LATE (RAB). *Amblyscirtes exotera*, *cassus* & *aenus* together below East Turkey Cr., Cochise Co., 22 July (CS). *A. cassus* & *fimbriata*, Cave Creek Cyn.-Rustler Park area, Cochise Co., 5 July (CDF). *A. nysa*, Elkhorn Cyn., Baboquivari Mts., Pima Co., 10 Sept. (CS). *Atrytonopsis cestis*, Elkhorn Cyn. 14 May (RAB). *Oarisma edwardsii*, Pinery Cyn., Cochise Co., 20 July, assoc/w tall bunchgrass (CS). *Lerema accius*, Molino Basin, Pima COUNTY & NORTH (4th. state record), 16 Oct. (JPB). *L. accius* (5th. state record), *Hesperia pahaska williamsi*, *Systasea zampa* & *Chioides catillus albofasciatus*, Patagonia, 3 Dec., all LATE (RAB). *Pholisora alpheus* very common near Safford, Graham COUNTY, 23 July, assoc/w *Atriplex canescens* (CS). *Heliopetes domicella*, Patagonia, Santa Cruz COUNTY, regular 11 Sept.-3 Dec. (RAB). *Autochton cellus*, Cave Creek Cyn.-Rustler Park area, 5 July (CDF). *Aguna asander*, Nogales, Santa Cruz COUNTY, STATE & NORTHWEST, 1 Sept. (RAB). *Pieris occidentalis*, Agassiz Peak, 12,000', Coconino Co., 1 July (RSW)--♂♂ & ♀♀, confirms RSW July 1971 record on same peak. *Hypaurotis crysalus*, Miller Cyn., Cochise Co., 16 Sept. (JPB). *Phaestrymon alcestis osleri*, Elkhorn Cyn., Pima COUNTY, 9 June (RAB). *Lycaena ferrisi*, Greer, 8600', White Mts., Apache Co., 17-18 July (RHL). *Everes amyntula herrii*, Sycamore Cyn., Santa Cruz COUNTY, 9 June (RAB). *Shij. rita spaldingi*, Neal Spring, Grand Canyon N.P., Coconino Co., 15 July (RSW). *Glaucopsyche lygdamus* unnamed ssp., Cerbat Mts., Mohave Co., 6 April (RAB). *Anthanassa texana*, Patagonia, still abundant on 3 Dec., LATE (RAB). *Thessalia leanira alma*, Virgin Mts., Mohave COUNTY, 5 Apr., 2 + 1 larva on *Castilleja* (D. Mullins, CS) [True *alma*, not *fulvia* according to D.L. Bauer]. *I. fulvia*, Hack Springs, SW. of Fredonia, Mohave COUNTY, 20 June (RAB). *Microtia elva*, 3.5 mi. SW. Patagonia, 4 Sept. (JPB). *Euphydryas anicia* closest to *alena*, 1/4 mi. NE. of Walnut Canyon Nat. Mon., Coconino Co., 2-25 June (RSW). *Paramecera allyni* fresh♂♂, Cave Creek Cyn.-Rustler Park area, Cochise Co., 5 July (CDF).

NEVADA: Mostly dry with some late rain in April, but not amounting to much (GA). Mt. Charleston area very dry by mid-July (BO), too late, too dry end of July (RHL). In southern Nevada (Clark Co.) there was sufficient rain in August to promote large fall flights of some potentially bivoltine species (i.e. *Papilio polyxenes rudkini*, *Chlosyne neumoegeni*, *C. californica*, etc.). Flight seasons were long, with about 30 species in Nov. and 15 species still flying into Dec. (GA).

MIGRATORY SPECIES: Scattered individuals of *Libytheana bachmanii* larvata flying north to northwest over the southern deserts during Oct. & Nov. (GA); first record 14 Sept., Grapevine Cyn., Newberry Mts., Clark Co., increasing Oct. & Nov., and present until at least 11 Dec.; many taken 22 Oct. near Blue Diamond and above 7000' in Kyle Cyn. (GA). *Danaus plexippus* noted from 6 Febr. to late July, Clark Co. (GA); a few in Mt. Charleston area 31 July (RHL); appeared in numbers early Aug., reaching a peak in early Oct. with over 200 counted in Pine Creek Cyn., 5 Oct.; some were seen thru 22 Nov. in the Las Vegas area (GA).

NOTE: (Npr) = No published records--for some COUNTY & STATE citations, but previous specimens exist in museum and private collections. 1977 records only in this Summary.

BUTTERFLIES: *Agathymus alliae*, near Mt. Springs Summit, Clark Co., fall thru 2 Nov. (GA). *Atalopedes campestris*, Logandale, 4 July plus 18 from Moapa & Las Vegas Valleys, Clark COUNTY & STATE (Npr), 2-23 Oct. (GA). *Pholisora graciellae*, large colonies in Moapa Valley (Hidden Vy., Bowman's Res., Logandale), Clark COUNTY & STATE (Npr), 15 dates, every month, 17 Apr. to 29 Sept. (GA). *Heliopetes domicella*, Grapevine Cyn., Newberry Mts., Clark COUNTY & STATE, 12 Oct. (GA). *Polygonus leo arizonensis*, Logandale, 9 Oct. (GA) [2nd. state record, 1st. also Clark Co., 1972 Summary]. *Papilio indra* ssp., White Rock Springs, Clark Co., 30 May, ova uncommon (BO). *N. menapia*, Kyle Cyn., 1 Aug.--rare in southern Nev. (GA). *Colias alexandra*, Kyle Cyn., 9 mi. W. of U.S. 95, Clark COUNTY, 15 Oct. (GA). *Caliphelis nemesis californica*, Logandale, Clark COUNTY & STATE (Npr), 16,23 Oct. (GA). *C. wrighti*, Grapevine Cyn., Clark COUNTY & STATE, 3 Nov. (GA). *Ministrymon leda*, Lovell Wash, 22 June; many in Paradise Vy., Las Vegas, July-Aug.; Hidden Vy., 12 July & Cold Creek, Spring Mts., 19 Aug., all Clark Co. (GA); from "ines", Hidden Vy., Clark COUNTY & STATE, 16 Oct. (GA). *Atlides helesus corcorani*, large fall brood in Grapevine Cyn. (GA). *Satyrion sylvinus putnami*, *Lycaena rubidus* & *L. helloides*, Truckee R. near Wadsworth, Washoe Co., 27 July (MS). *L. helloides*, Moapa Vy., Clark Co., 7 June-23 Oct., long season (GA). *Hemiargus isola alce*, Kyle Cyn., 6900-7200', 15 July (BO). *Lycaeides melissa*, Moapa Vy., Clark Co., 16,23 Oct.--only 3 prior county records (GA). *Plebejus icarioides* nr. *ardea* & *P. acmon texana*, Kyle Cyn., 15 July (BO). *Shij. battoides martini*, 3 locs. in Newberry Mts., 31 Mar.-5 May & Pine Cr., Spring Mts., Clark COUNTY (Npr), 2 May (GA). *S. enoptes dammersi*, Grapevine Cyn., Newberry Mts., Clark COUNTY, 27 Sept., 4 Oct. (GA) [1st. STATE record Lincoln Co., 1968 Summary]. *Glauc. lygdamus* (eastern Mojave Desert race), nr. Cottonwood Pass, Clark COUNTY, 16 Apr. (GA). *G. lyg.* (montane population), above Cathedral Rock Cpgd., Kyle Cyn., Clark COUNTY & STATE, 17 June (GA). *Limenitis archippus obsoleta* with at least 2 broods in Moapa Vy., Clark Co., June-early Aug. & late Aug.-Oct. (GA). *L. a. lahontani* & *L. torquini* larvae, mid to late instars on dark green *Salix*, Truckee R. near Wadsworth, Washoe Co., 27 July (MS). *L. weidemeyerii nevadae* uncommon & worn, Kyle Cyn., 6900-7200', Clark Co., 15 July (BO). *Nymphalis milberti furcillata*, Cold Creek, Clark Co., 27 Apr. (GA). *Chlosyne palla* nr. *vallismortis*, Deer Creek Rd., Spring Mts., 2 July (D. Mullins) & Kyle Cyn. Cpgd., 5,7 July (GA). *Phyciodes phaon*, Las Vegas, Clark COUNTY & STATE (Npr), 16 Sept., 8,13 Oct. & 7 Nov. (Ent. Class, Univ. Nev., Las Vegas). *P. m. mylitta*, Kyle Cyn. Ski Run, Clark COUNTY (Npr), 30 June (C.S. Lawson). *Thessalia leanira alma*, 23 taken, 16 Apr.-2 May, mostly Cottonwood Pass Rd. S. of Pahump Rd., others W. of Blue Diamond, E. of Mt. Springs Summit, Cold Cr., Pine Cr. Cyn. & Kyle Cyn.--all Clark Co. (GA). *Poladyras arachne*, 20 from W. slope of Spring Mts. in 2 broods, 14-22 June & 18 Sept.-11 Oct. (GA) [2nd. Clark Co. record, 1st. in 1969 Summary as *pola monache*]. *Speyeria zerene carolae*, nr. Mt. Charleston Rec. Area, 6900-7200', 15 July, both sexes, but not common (BO) & 1 seen on 11 Oct., very LATE (GA).

CALIFORNIA: 1976-77 winter was very dry, with essentially no winter rains in so. Calif. until Feb. (JE). Jan. warm with temps. in 80's in San Diego Co., hence, very early flights (FT). Though some showers, drought continued in central and no. Calif. (RL, AS). Coast Range and foothills with many species in late Feb. & March (RL). Light snowpack and warm days started season in April higher in the Sierra Nevada, but bad weather in May set it back almost

to normal timing (AS). Central and north dry and hot through summer (RLL), but in the south for the second year in a row tropical storms brought unusual rains--Doreen 16 Aug. & Glenda 6 Oct. (FT). Hence, fall flights of many species (JF, FT). High elevation collecting excellent, Central Valley good except for a slump in Aug.-Sept. when even the star thistles dried up (AS). Significant winter rains did not start until mid-Dec. in the north (RLL), and late Dec. in the south, so a number of species had "late" flights (JE).

MIGRATORY SPECIES: *Phoebis sennae marcellina*, Hemet, Riverside Co., 30 Jan., EARLY & 19 Feb. (JE); Presidio Park, San Diego, 12 Feb., Seven Oaks Resort, 5400', S. Bdn. Co., 21 May & road to Frazier Mtn., Ventura Co., 25 June (all BO); 3 males passing through Fairfield, Solano COUNTY & NORTH, 6 April (C.A. Palm, AS) [No reports of a Sept. to Dec. mass migration as occurred in 1976.]. *Cynthia cardui* in low numbers all season, no mass movements except a S-ward drift in the Sierra during Sept.-Oct. (AS); worn hibernants *C. Costa* Co., 23 Jan., Alameda Co. late Jan.-Feb., and few fresh Sonoma Co., July (RLL). *Nymphalis californica* virtually absent from central and no Calif. except in Shasta, Trinity and Siskiyou Counties (AS); Small numbers Napa Co., late Mar. and few, worn Sierra Co., 22 April (HK, RLL). *Danaus plexippus*, earliest noted nectaring 12 Feb., Santa Clara Co.; March-May in Bay Area; Sierra Co., late Apr.; San Joaquin Co., 29 June; Tuolumne Co., 13 Aug.--all in low numbers (RLL). Adults, ova, larvae on milkweed north of Mission Dam, San Diego Co., May thru July (DH). Fall migrants in Bay Area by Sept., increasing thru Oct., and last noted 26 Nov. (RLL).

MOTHS: SPHINGIDAE: *Erinnyis obscura*, 1 mi. NE. Lake Murray, 7 Nov. 76 & near Cowles Mtn., San Diego COUNTY, 9 Oct. 77 (DH). *E. juba*, Pinyon Crest, 4400', Riverside Co., 1 July (RHL). SATURNIIDAE: 22 *Saturnia walterorum* attracted to reared , Dictionary Hill, S. D. Co., 22 Mar. (DH). *Hemileuca electra*, near Lake Murray, S. D. Co., mid-Dec. 76 & 14 Jan. 77, 2-3 months LATE (DH). *H. nevadensis* ova on *Salix*, San Joaquin R. NE. of Los Banos, Merced Co., 12 Nov. (MS).

CTENUCHIIDAE: *Ctenucha rubroscapus*, 2 mi. W. Occidental & Plantation, Sonoma Co., 9 July (HK, RLL). NOCTUIDAE: *Euxoa satis* & *Septis genialis*, Big Bear L., 6800', S. Bdn. Co., 6 Aug. (RHL). *Abagrotis henei*, 23 May, EARLY & *Catocala californiensis*, 1 July, Pinyon Crest, Riv. Co. (RHL). *Proannaphila danistica*, Downieville, 13 mi. W., Sierra Co. 22 Apr. (RLL). *Annaphila arvalis*, Auburn, 3 mi. SE., Placer Co., 26 Feb. (RLL). *A. casta*, Briceland, 3 mi. W., Humboldt COUNTY, 28 May (RLL). *Autographa pasiphaea*, Kernville, 3000', Kern Co., 16 Apr. (RHL). GEOMETRIDAE: *Nothopteryx veritata* & *Tornos erectarius fieldi*, Aguanga, 2000', Riv. Co., 20 Feb., EARLY (RHL). *Semiothisa sirenata*, Pinyon Crest, 27 Nov., LATE (RHL). PYRALIDAE: *Desmia funeralis* assoc/w grapevines, Merced, 6 July (RLL). *Helilua undalis*, Silver Creek Hills, S. Clara Co., 12 Feb., EARLY & 26 Nov., LATE, Pt. Richmond, C. Costa Co. (RLL). *Gyros muiri*, Del Puerto Cyn., Stanislaus Co., 11 Mar. (RLL). ETHMIIDAE: *Ethmia brevistriga* & *minuta*, Pinyon Crest, 20 Feb., EARLY (RHL). *E. arctostaphylella* common around *Eriodictyon*, Del Puerto Cyn., 11 Mar. (RLL). SESIIDAE: *Aegeria pacifica* taken using "Musk for Men", Big Bear Lake, 6800', S. Bdn. Co., 6 Aug. (RHL). ADELIDAE: 3 species of *Adela* incl. *thorpella*, Kern River Cyn., Kern Co., 17 Apr. (RHL). *A. septentrionella*, Stonybrook Cyn., Alameda Co., 4 May (RLL).

BUTTERFLIES: *L. eufala*, Hemet, Riv. Co., 22 Aug., larvae on corn, *Zea mays* & 1♂, 25 Nov., LATE (JE). *E. vestris* & *P. themistocles*, Alcoma, nr. Bartle, Siskiyou Co., 28 June (SP). *O. agricola* new to Donner Pass at 7000', Nevada Co., 13 July (AS). *O. yuma*, Ladd's Marina, Stockton, San Joaquin Co., 30 June, assoc/w *Phragmites* (RLL) & Merced R. at Santa Fe Rd., Merced COUNTY, 7 Oct. (MS). 2nd. brood of *P. sabuleti tecumseh*, Lang Crossing, 5000', LOW ELEV., Nevada Co., 11-22 Sept. (AS). *H. lindseyi*, Occidental, 2 mi. W., Sonoma Co., 9 July (RLL). *H. juba*, Pinyon Crest, Riv. Co., 30 Apr. (RHL). *C. aurantiaca*, Walker Pass, 2 mi. E., Kern COUNTY & NORTHWEST, 8 Aug. (KD). *P. libya* (Central Vy. ssp.), Oildale, 5 mi. E., Kern Co., 5 May (JPB). *P. communis albescens*, Orocoopia Mts., Riv. Co., ova on *Eremalche rotundifolia*--Malvaceae, 7 Mar. (JE). *E. persius* new to Donner Pass, 13 July (AS). *S. zampa*, La Puerta Vy., San Diego Co., 20 Feb., very common after Jan. rains (CS). *T. drusius*, Scott Camp Creek, Sisk. Co., 28 June (CS). *P. leo arizonensis* on lantana in residential yard, San Diego, Aug. (R.W. Breedlove). *E. clarus*, Rancho Cordova, Sacramento COUNTY, 14 May (AS); White Azalea Cpgd. 3 mi. W. of Salt Springs Dam, Amador COUNTY, 14 June (REW); very common, many worn, Balch Park, ca. 8000', Tulare Co., 29 July (KD). *P. clodius*, Bair Rd. N. of Hwy. 299, Humboldt Co., 29 May (HK, RLL); Adm. Standley Rec. Area, 1500', Mendocino Co., 30 May (HK, RLL); & Plaskett Mdns., Glenn Co., common in July + 21 Aug., LATE (WD). *P. polyxenes rudkini*, Bonanza King Mine Cyn., S. Bdn. Co., 6,7 Apr., incl. forms "clarki" & "comstocki" (BO); 21 wild rudkini larvae on *Foeniculum vulgare*, Hemet, Riv. Co., 17 Oct. (JE) [Nearest *Thamnosia* on E. side of San Jac. Mts.--only *P. zelicaon* larvae on *F. v.* for past 2 yrs.]. *P. bairdii*, ridge nr. Moonridge Ski Area, 8000', S. Bdn. Co., 19 June, 17 July (BO). *P. indra fordii*, NE. slope Granite Mts. SW. of Rice, Riverside Co., EAST, ova on *Cymopterus panamintensis acutifolus*, 27 Mar. (JE). *P. i. martini*, Bonanza King Mine Cyn., 5600', 15 June (WD). *P. i. phyllisi*, Tom's Hill, 5028', Kern Co., 15 May (BO). *P. multicaudatus*, 3 mi. up rd. to Frazier Mtn., Ventura Co., 25 June (BO) & Cherry Cr. Cpgd., 5400', San Emigdio Range, Kern Co., adults + young larvae on leaves of *Prunus virginiana demissa*, 5 July (JE). *P. cresphontes* adults fairly common at lantana in residential areas, Imperial Co., 5 Sept. (BO). Fresh *P. rutulus*, Donner Pass area, 19 Aug. & fresh ♂, Davis, Yolo Co., 23 Oct., LATE (AS). *N. menapia* in outbreak numbers, Balch Park, ca. 8000', Tulare Co., 29 July (KD); common Camp Richardson, Eldorado Co., 13 Aug. (BO); & Sonora Pass, 7 mi. W., 7100', Tuol. Co., 14 Aug. (RLL). *P. protodice*, Sonora Peak, 10,000', HIGH ELEV., 11 Aug. (S.R. SIMS) & trail S. of Sonora Pass, 9700', Mono Co., 14 Aug. (RLL). *C. philodice eriphyle*, Donner Pass, 7 Aug.--1st. since Emmel & Emmel, 1960 (AS). *C. harfordii*, Cave Spring, W. slope San Jac. Mts., 3 Feb., EARLY & 17 Nov., LATE, San Jacinto River at 1700', Riv. Co. (JE); & unnamed ssp., Scissors Crossing, S. D. Co., 17 Feb. (BO). *Z. cesonia*, Hemet, Riv. Co., 18 Apr. (JE) [Most records from the desert side.]. *E. nicippe*, Hemet, 22 Jan. EARLY & 16 Dec., LATE (JE); Bonanza King Mine Cyn., 4000', Providence Mts., S. Bdn. Co., 15 June (WD); & Walker Pass, 2 mi. E., Kern COUNTY AND NORTH, 8 Aug. (KD). Numerous fresh *N. iole*, Borrego Palm Cyn., S. D. Co., 9-11 Dec., LATE (GG)--Dec. flights in prior years (GG). *A. cethura* ova on *Caulanthus cooperi*, Willow Spr., Old Woman Mts., S. Bdn. Co., 4 Apr. (JPB, JE). *A. c. pima*, desert floor 2 mi. E. of Mitchell Caverns, S. Bdn. Co., 27 Feb. (BO). Ovu coll. by C.G. Oliver on *Arabis drummondii* 19 June 75 nr. Lang Crossing, 4500', Nevada Co.--larva reared in Pennsylvania on *Sisymbrium altissimum*, pupa diapaused two winters (exposed several times to temps. as low as -26°C), emgd. 13 May 77 as ♀ *A. lanceolata* (CO). *A. lanceolata*, Adm. Standley Rec. Area, 1500', Mendocino Co., 30 May (RLL). *A. l. australis* common, Seven Oaks Resort, 5400', S. Bdn. Co., 21 May (BO) & Fish Creek, 8000', HIGH ELEV., S. Bdn. Co., ova on *Arabis perennans*, 28 June (JE). *E. h. hyantis*, Baker Lookout nr. Tobias Peak, Greenhorn Mts., Tulare Co., SOUTH, 7 July (JPB) [ca. 25 air miles to nearest desert lotta pops.]. *A. mormo*, Highland Way S. of Mt. Loma Prieta, 13 Aug.--new colony for Santa Cruz Co. (MS). *H. grunus* abundant, Sierra Madre, 1000', LOW ELEV., L. A. Co., all of July (GG). *H. g. lorquini*, nr. Big Basin, S. Cruz Co., 31 July (WDW) & Felton - Mt. Herman areas, 23 Aug. assoc/w *Lithocarpus densiflora* (RLL). *S. a. auretteum*, Balch Park, ca. 8000', Tulare Co., 29 July (KD). A fine colony of *S. a. spadix*, Otay Mtn., S. D. Co., 17 June, COASTAL--only 16 mi. from ocean (JB, FT). *S. sylvinus dryope*, Lake of the Woods W. of Frazier Park, Kern Co., 4 July (BO). *M. leda* by several collectors in Sept., form "ines" early Oct. to 30th.--near Yaqui Wells & Scissors Crossing, S. D. Co., 30 Oct. (CS). *M. ioki*, Gavilan Hills, Riv. Co., 10 Mar. (BO) & Bee Cyn., 2150', SW. slope San Jacinto Mts., Riv. Co., 7 Apr. on *Juniperus californica* (JE). *M. spinetorum*, Del Puerto Cyn. at mouth of Adobe Cr., Stanislaus Co., 27 Feb. (MS), 11 Mar. (HK, RLL); Mokelumne R. Cpgd., Amador Co., 24 Apr. (REW); Providence Mts., S. Bdn. Co., 6,7 Apr., 30 May (BO); & Donner Pass, Nevada Co., 13 Sept. (AS). *M. siya juniperaria*, Juniper Hills, L. A. Co., 20 Apr. & rd. to Piute Peak, Kern Co., 3 June (BO). *M. johnsoni* Snell Valley Rd., Napa Co., 27 Mar. (RLL), plus White Azalea Cpgd. & Beaver Creek (3 & 4 mi. W. Salt Springs Dam), both Amador COUNTY, 24 Apr. (REW). *I. fotis* & *C. sheridanii* comstocki, canyons of Providence Mts., 6-7 Apr. (BO). *C. lemberti* (LOW ELEV.) sympatric with *C. dumetorum*, Lang Crossing, 5000', Nevada Co., 15 June (AS). *A. halesus corcorani*, hilltop at Granite Pass NE. of Amboy, S. Bdn. Co., 27 Feb., EARLY (BO) & San Jacinto River bed at 1700', Riv. Co., 24 Nov., LATE (JE). *L. heteronea clara* common, fresh & worn, Lake of the Woods & 1 mi. E. of Frazier Park, Kern Co., 4 July (BO). *B. exilis* adults numerous & larvae on sea blite, *Suaeda californica* (Chenopodiaceae), NEW HOST, mud flats at Catalina Harbor, W. end Santa Catalina Island, L. A. Co., 27 May 76, 28 May 77 (GG). *H. ceraunus gys*, Mission Gorge, S. D. Co., 28 July (WDW) [COASTAL, few records, generally on desert side of mts.], *B. exilis*, *L. marina* & *P. acmon* same data (WDW). *P. emigdonis*, Santa Clarita Wash 1 mi. W. of Sand Cyn., L. A. Co., 16, 28 Apr. (BO). *P. shasta*, Tuolumne Mdns., Tuol. Co., common on 4 July (WD) & trail S. of Sonora Pass, 9700', Mono Co., sparingly at treeline 11 Aug. (BO), common, but worn, 14 Aug. (RLL)--*L. argyrognomon anna* scarce, worn (BO) (RLL). *E. comyntas*,

Turtle Bay, Redding, Shasta COUNTY & NORTH, 26 June (AS). *E. amyntula*, along Black Mtn. Rd., S. D. Co., 12 Feb., EARLY (BO) & Hoopa, 2 mi. SW., Humboldt Co., 29 May (RLL). *S. battoides glaucus* (on *Eriogonum umbellatum*) & *S. b. bernardino* (on *E. fasciculatum*) adults within several hundred yards, vic. Grays Meadow Cpgd., W. of Independence, Inyo Co., 20 June (JE). *S. b. bernardino*, Dictionary Hill, S. D. Co., 20 Feb., very EARLY (DH). *S. battoides* nr. *ellisii* assoc/w *E. heermanni* and sympatric with *S. enoptes dammersi*, Macedonia Cyn., Mid Hills, S. Bdn. Co., 13 Sept. (JE). *S. enoptes* nr. *smithi*, Highland Way. S. of Mt. Loma Prieta, Santa Cruz COUNTY & NORTH, 13 Aug. (MS)--assoc/w *E. latifolium nudum* and flying with *A. mormo* & *P. acmon* (MS). Low numbers of *S. e. mojave*, Rock Corral, S. Bdn. Co., 13 Apr. (BO). *Z. speciosa*, Cherry Hill Rd., near Johnsondale, Tulare Co., 14 June (JPB) [Closer to true *speciosa* than *bohartorum*--O. Shields]. *G. lygdamus columbia*, Lord-Ellis Summit, 2260' & Hoopa, 2 mi. SW., Humboldt Co., 29 May (HK, RLL). *G. pius*, Havilah, 1 June & atypical at Cedar Creek, Greenhorn Mts., Kern Co., 18 June (KD). *P. coenia*, Hoopa, 2 mi. SW., Humboldt Co., NORTH, 29 May (HK, RLL). Several dozen fresh *N. milberti* furcillata, Shasta Ski Bowl, S. slope Mt. Shasta, 16 Aug. (AS). *P. faunus rusticus*, N. Yuba River W. of Downieville, Sierra Co., 22 Apr. (HK, RLL); nr. Bartle, Siskiyou Co., 28 June (SP); & Mokelumne R. at Moore Cr. Cpgd., Calaveras COUNTY & SOUTH, 23 Apr. (REW). *P. silvius*, Branscomb, 2 mi. W., Mendocino Co., 30 May (HK). *P. zephyrus*, nr. Upper Richbar, 1500', LOW ELEV., Kern River Cyn., Kern Co., 12 Apr. (KD). Fall brood of *C. neumoegeni*, 12 Sept., Granite Mts. N. of Amboy & Providence Mts., S. Bdn. Co. (JE). *C. californica*, Bonanza King Mine Cyn., 5600', Providence Mts., 15 June (WD) & Hill 2 mi. NE. of Lakeside, S. D. Co., 10 Oct. (FT) [Another desert species at this coastside ecological island!], with *M. dymas imperialis* in heavy flight, 10 Oct. (FT). *T. leanira alma*, Gold Valley, Black Mts., 12 Apr. & Symmes Cr., 5200', E. slope Sierra Nevada, 20 June, both Inyo Co. (JE). *P. o. orseis* & *E. chalcona* nr. *dwinellei*, Algoma nr. Bartle, Siskiyou Co., 28 June (SP). *E. c. sierra* & *B. epithore sierra*, Niagara Cr. Cpgd., Hwy. 108, Tuol. Co., 25 June (MS). *B. e. chermocki*, Bair Rd. N. of Hwy. 299, Humboldt Co., 29 May (HK, RLL) & Adm. Standley Rec. Area, Mendocino Co., 30 May (RLL). *S. nokomis apacheana*, Mono County Park, NW. corner Mono Lake, 28 July (MS); *apacheana* common & *S. cybele leto* rare, Devil's Gate Pass, 7500', 10 mi. SW. Bridgeport, Mono Co., 11, 14 Aug. (BO). Also *leto* with *S. coronis snyderi*, Snowshoe Springs Camp, Hwy. 89, Alpine Co., 7 Sept. (AS). *S. hydaspe viridicornis*, Balch Park, 8000', Tulare Co., 29 July--identical with Greenhorn Mts. pop. (KD). *S. mormonia arge*, trail S. of Sonora Pass, 9700', Mono Co., 11 Aug. (BO), 14 Aug. (RLL). *D. gilippus strigosus*, Chuckwalla Mts., 23 Feb., EARLY & 24 Nov., LATE, 60-70 adults nectaring on *Lepidospartum squamatum*, San Jacinto River bed at 1700', both Riverside Co. (JE); adults, ova, larvae on tall narrow-leaved milkweed, May-July, cyn. N. of Mission Dam, S. D. Co., COASTAL breeding colony--usually breeds on desert (DH); Havilah, Kern Co., 26 July (KD); Shingle Mill Flat Camp, Hwy. 395, Mono Co., NORTH, 8 Sept. (AS); & larvae on *Asclepias erosa*, Granite Pass, SW. end of Providence Mts., 12 Sept. (JE). *O. ivalida* in enormous numbers above 8500', nr. Donner Pass, only 1 ♀ Donner Pass at 7000', LOW ELEV., 13 July (AS).

ZONE 2: PACIFIC NORTHWEST: OREGON, WASHINGTON, IDAHO, BRITISH COLUMBIA. Coordinator: Jon H. Shepard (JS).

Contributors: C.D. Ferris (CF), J.H. Masters (JM), C.A. Sekerman (CS). General Conditions: Weather good and collecting good in all regions except northern British Columbia wet with poor collecting in July. Extreme dry soil due to light snow pack did not seem to greatly effect numbers of species, only advance emergence dates.

MIGRATORY SPECIES: No report of *C. cardui* or *D. plexippus*. *Nymphalis californica* again seen near Nelson, B.C. in April (JS). *Vanessa atalanta* apparently all over B.C. Collected at Nelson, Bridge Lake, Chetwynd, Pink Mountain, nr. Steward (all JS). This is the first time in at least six years that *V. atalanta* has been recorded in B.C.

IDAHO: Blaine Co., Corral Creek, 14 July (JM) *P. rutulus* COUNTY RECORD, *P. indra* COUNTY RECORD, *Cercyonis oetus* COUNTY RECORD, *E. anicia* common, *L. weidemeyerii* COUNTY RECORD, *Boloria selene*, *C. eryphon* COUNTY RECORD. Custer Co., Park Creek, Big Lost Canyon, 13 July (JM) *H. juba* COUNTY RECORD, *P. napi*, *P. occidentalis*, *E. ausonides*, *C. philodice*, *S. egleis*, *S. hydaspe*, *N. milberti*, *P. satyrus*, *E. anicia*, *L. melissa*; Willow Creek Summit, 12 July (JM) *P. phoebus*, *O. chryxus*, *C. tullia*, *P. mylitta*, *P. saepiolus*, *P. icariodes*.

OREGON: Jackson Co., Mt. Ashland, ca. 5000', 29 June (CS) *Hesperia columbia*. [MacNeill, 1964, has a single Oregon record: Butte Falls, farther north in Jackson Co.]

WASHINGTON: Whitman Co., Steptoe Canyon, nr. Wawawai, 24-25 May (CF). The traditional Wawawai site was flooded in 1968. This is the first collection since. It yielded all the more interesting species except *Parnassius clodius*; i.e. *E. clarus*, *H. juba*, *P. catullus*, *P. eurymedon*, *P. indra*, *P. oregonius*, *P. multicaudata*, *C. eurytheme*, *P. beckerii*, *P. rapae*, *G. lygdamus*, *S. pius*, *P. acmon*, *P. icariodes*, *L. melissa*, *L. helloides*, *S. melinus*, *Euphydryas* sp., *L. archippus*, *L. lorquini*, *P. campestris*, *P. pallida*, *C. tullia*.

BRITISH COLUMBIA: Vancouver Island Region: Hornby Island, 3 Apr. (JS) last instar larvae of *E. editha taylora* common on native *Plantago* sp. Kootenay Region: Galena Bay, Arrow Lakes, 16 June (JS) *P. glaucus*. Caribou Region: Heffley Lake and Creek, 17 June (JS) *A. vialis*, *P. pallida* REGION RECORD, *L. arethemis*, 8-12 mi. S. Wells Grey Prov. Park, 17 June (JS) *P. themisticles* REGION RECORD, *B. selene*, Lone Spoon Creek, Wells Grey Prov. Park, 18 June (JS) *P. glaucus* (common), *P. icariodes*. Bridge Lake, 19 June (JS) *O. macouni*, *B. bellona* (exceedingly common, usually rare in PNW), *P. glaucus*, *C. palaemon*, *P. napi*, *C. philodice*, *E. ausonides*. Northern Region: Pink Mt., Ataska Hwy., 9-12 July (JS) the following species were added to the 1976 list: *E. persius*, *C. palaemon*, *E. creusa*, *C. nastes*, *C. palaeno*, *L. argyrognomen*, *P. saepiolus*, *G. lygdamus*, *E. comyntula* [sic]. *V. atalanta*, *P. progné*, *P. campestris*, *P. tharos*, *E. anicia*, *B. toddi*, *B. titania*, *B. freija*, *O. jutta*, *O. macouni*, *O. chryxus*. Mile 392.5 Alaska Hwy., el. 4400-5500', 14-15 July (JS) *E. theano* PROVINCIAL RECORD, *E. rossi*, *E. epipsodea*, *O. polixenes*, *O. melissa*, *B. eunomia*, *B. titania*, *B. improba*, *B. napea*, *B. freija*, *C. palaeno*, *P. occidentalis*, *P. eversmani*, *P. centuræ*. Monarch Mt. 3 mi. SE. Atlin, 18 July (JS) *Lycaena mariposa*, *C. palaeno*. Hudson's Bay Mt., nr. Smithers, 25 July (JS) *B. improba*, *B. titania*, *O. melissa*.

ZONE 3: ALBERTA, MONTANA, WYOMING, UTAH, COLORADO, NEW MEXICO. Coordinator: J. Donald Eff (DE). Contributors: Bagdonas' Flying Circus (BFC) * see note, Wm. H. Baltosser (WHB), Jim Brock (JB), Peter L. Eades (PLE), Scott Ellis (SLE), David Ferguson (DF), C.D. Ferris (CDF), Steve Fratello (SF), L.P. Grey (LPG), David F. Hess (DFH), Jonathon Hoffman (JH), Richard Holland (RH), F.E. Holley (FEH), Steve Kohler (SK), Ron Leuschner (RHL), John H. Masters (JHM), Steven J. Mueller (SJM), B.A. O'Hare, Dr. (BAO), James Scott (JAS), Ray Stanford (RES), David Wagner (DW), Ralph E. Wells (REW), Wm. D. Winter (WDW) & Wm. Zemanek (WZ).

*...Karolis Bagdonas again led a group of students and friends in a large scale survey of moths and butterflies. They referred to themselves as "Bagdonas' Flying Circus" and were composed of Karolis, Sylvia, William and Lynell Marie Bagdonas, Ira Heller, Theresa Clifford, Richard Nuzzi, Lisa Felippi, Lori Lee, Larry Ferrandiz, Christine Starito, Chuck Lanham and Marilyn Lanham, as Field Team Members.

The Rocky Mt. Region winter of 1976-77 went on record as one of the driest in history. In Colorado for example, a snow measuring course near Boulder showed only 2.2 inches and a water content of 0.3 inches at the end of May compared with a 20 year average of 21.8 inches and moisture content of 8.9 inches. The picture throughout the region was comparable. Warm and dry conditions the end of March caused early emergence of some species, but some rain and snow in April brought things back nearer normal. Unfortunately many collectors enroute to or from the Lep. Soc. Meeting in Boulder, Colo. in July encountered stormy weather.

ALBERTA: Jim Brock collected *E.* of Hinton, 13 July taking 13 species. Included were *Oeneis jutta*, *macounii*, *Papilio glaucus canadensis*, *Limenitis arthemis rubrofasciata*, *Boloria selene* and *Polites coras*. On July 15 he collected

at Crow's Nest Pass in southern Alta. where Parnassius phoebus, Speyeria hydaspe, callippe, atlantis, O. chryxus and Harkenclenus titus immaculosus were taken. In late June DE drove the MacKenzie Hwy. north to Hay River, NWT. Most collecting was done in the far northern part of the province in the vic. of Paddle Prairie and Meander River. Nothing exciting, some Phyciodes, Glaucopsyche lygdamus, Evers amyntula the main species seen and captured plus an occasional Coenonympha ochracea (nr. mackenziei).

MONTANA: RES' work on distributional maps for the proposed book on RMB yielded COUNTY RECORDS too numerous to include; listed are STATE RECORDS: Colias gigantea harroweri Gallatin Co., 2 Aug. 1931 F.M. Brown (det. JAS), and P. pallida barnesi Sweetgrass Co., Swamp Cr. Rd., 2 July 1966 (JAS). DFH recorded from Little Powder Horn Riv. nr. Broadus, 2 July 1976, Atrytone logan lagus (det. J.R. Heitzman). Despite Montana's size and variety of terrain, there have been few records and collectors. Lately Steve Kohler, a USFS entomologist, has been active and many of his captures are at least COUNTY RECORDS; skippers, collected by SK and identified by CDF (specific data not furnished): Amblyscirtes vialis Lake Co., Erynnis afranius Fergus & Lake Co., Hesperia comma manitoba Carbon Co., H. nevada Fergus & Glacier, Oarisma garita Lewis & Clark, Ochlodes sylvanoides Broadwater Co., Poanes mystic dacotah and Pyrgus ruralis Lincoln Co., and P. draco Beaverhead Co. Also Carterocephalus palaemon was taken for the first time Lincoln Co., nr. Whitefish Divide, NE. of Fortine, 23 June (SK), as well as on the upper North Fork Rd. in Flathead Co. Lincoln Co. yielded further new COUNTY RECORDS, all local denizens, including P. rutulus, C. philodice, Euchloe ausonides, Plebejus aquilo, P. icarioides pimbina, P. acmon lutzii, E. amyntula, Vanessa atalanta, Nymphalis milberti, Polygonia satyrus, Euphydryas a. anicia, P. c. campestris, S. zereue and Erebia epipsodea. Other records included Pieris sisymbrii elivata Jefferson Co. nr. Pipestone Pass, 9 May (SK) & Coffee Gulch, E. of Grantsdale, 25 June (FEH); Anthocaris sara julia Broadwater Co., Avalanche Cr. nr. Canyon Dam, 25 Apr., Silver Bow Co., Thompson Park S. of Butte, 9 May & Madison Co., Mill Creek, Tobacco Root Mts., E. of Sheridan, 29 June; E. hyantis Ravalli Co., Coffee Gulch, E. of Grantsdale, 9 May (FEH); Calliphrys polios obscurus, fotis schryveri & s. sheridanii, all Silver Bow Co., Thompson Park, S. of Butte, 9 May & Ravalli Co., Sweeney Cr. nr. Florence, 5 May. The other record for C. s. sheridanii is the same as that for E. hyantis above (FEH). L. archippus was taken Ravalli Co. nr. Florence, 2 Aug.: Chlosyne palla Madison Co., Mill Cr., Tobacco Root Mts., E. of Sheridan, 29 June; C. damoetas Flathead Co., Logan Pass, Glacier NP, TO Aug. and Neominois ridingsii, Beaverhead Co., nr. Badger Pass, 10 mi. SW. of Dillon, 28 June (all SK). Records for FEH of Hamilton were supplied by SK. LPG also spent some time in the state pursuing Speyeria and having good success with the egleis subspecies. CHOICE COLLECTING AREA: LPG found Porphyrus Peak in the Little Belt Mts. to be a hot spot. Hilltoppers there included P. nitra, S. e. albrighti, Parnassius, O. chryxus, O. jutta reducta and lots of Boloria titania, darker than the usual ingens, and in fact the darkest he has ever seen. These, in addition to the other usuals, were in an easily accessible area around the ski lift and fire tower, with a pretty good road.

WYOMING: Ferris notes that western Wyoming suffered from severe drought conditions with many areas on water rationing. Information for this state consisted this year mainly of a number of small reports from collectors there only briefly, plus CDF's residential report. SLE was the only one who collected in June. Apparent COUNTY RECORDS included C. s. siva (in assoc/w Juniperus acopulorum) Sheridan Co., Little Young's Creek, vic. Tongue River, 17 June. Campbell Co., Confluence of Antelope and Porcupine Creeks, 22 June, Pyrgus communis, H. uncus, A. arogos, C. eurytheme, Danaus plexippus, Cercyonis oetus, N. ridingsii, V. atalanta, Euptoieta claudia, Lycaena xanthoides, Plebejus shasta and at the same location on 12 July...Neophasia menapia (SLE). Another COUNTY RECORD was Satyrium fuliginosum Albany Co., Hwy. 34 @ Morton's Pass, 3 July (SLE). In Johnson Co., 6 mi. W. of Buffalo, 18 July, JB took 15 species, including P. multicaudata, L. weidemeyerii, H. titus, S. fuliginosum and 7 species of Speyeria. JHM collected 4 days, 8-11 July in Sublette Co. at Granite Hot Spgs. and the Gros Ventre Slide area and (10 July) Togwotee Pass area in Teton Co. where he found O. j. reducta abundant and other good captures of C. haydenii and B. kreimhild. The Gros Ventre Slide area was poor, but Granite Hot spgs. was good with 27 species taken. Among the more abundant were P. rutulus, P. cl. montanus, C. palla, B. kreimhild, E. anicia (very fresh) and E. gillettii (worn & faded). Steve Fratello's collecting trip into the Wind River Mts. was the kind of collecting we all dream about. Previous collectors trying for Boloria napaea halli have come from the west on Double Top Mt. trail. Steve followed Klots' original trip hiking in from Green River Lakes. C. haydenii was fairly common at Upper Green River Lake, 2 Aug. From there he hiked to Green River Pass, staying 5 days. Butterflies were everywhere...a veritable Paradise with scenery out of this world, but with 5 rain and hail storms in those 5 days. In the vicinity of Green River Pass, 3-6 Aug., of the 30-40 species taken, he particularly notes E. callias, scarce above and below the Pass, B. n. halli, common at the Pass, some fresh males and females below the Pass, B. titania ingens, C. meadii, C. pelidne skinneri, all common at, above and below the Pass. Lyc. mariposa penrosae, a few in the meadows among the pines at the Pass (SF). Two COUNTY RECORDS representing a NW. EXTENSION for Epargyreus c. clarus were received...Big Horn Co., Five Spgs. C.G., 17 July (RW) and Hot Spgs. Co., Hwy. 431, 20 mi. W. Hwy. 20, 26 June (CDF). C. a. affinis, Albany Co., Pole Mt. E. of Laramie, 21 June (CDF), plus a number of Thorybes m. nevada last seen here in 1968. Members of the Univ. of Wyo. Entomology Dept. Faculty contributed specimens while recording 35 new COUNTY RECORDS. STATE RECORDS: Satyrium calanus falacer, nr. heathi, Carbon Co., West slope of Sierra Madre Mts., 18 July (CDF). Tharsalea arota schellbachi, same data, but taken 1-2 Aug. MOTHS: Light-trapping improved slightly over '76. At CDF's home east of Laramie the usual noctuids, geometrids, pyralids and micros, plus three sphingids; one Pachysphinx modesta, 21 June and several Smerinthus cerisyi taken during June. In May and June some Hyalphora gloveri were taken, with mature larvae on cultivated Gooseberries in August; Apentesis williamsi in June and A. nevadensis in Sept., a specimen of Diacrisia vagans taken 8 June, the second in 10 years. Sugar-baiting not very productive at either Pole Mt. or the west side of the Sierra Madres. A few Catocala taken in both localities including a few specimens of the briseis/groteiana complex.

UTAH: Nine different reports for this state reveal new STATE RECORD and a goodly number of new COUNTY RECORDS. STATE RECORD: Neophasia menapia, Kane Co., Cougar Hollow, 20 Aug., also Garfield Co., Badger Cr., White Bridge, & Mammoth Cr., 21-22 Aug. (SJM). COUNTY RECORDS: Epargyreus clarus, downtown Ogden 9 July, on a Mimosa tree in front of the county library (RW). Parn. cl. menetresii, Euphy. a. maria and Pap. rutulus Juab Co., Mt. Nebo, 6 July (JHM); Danaus g. strigosus, Utah Co., Payson Canyon, 21 July (JB); Incisalia f. fotis Utah Co., Olmstead, 1 mi. E. of Orem, 23 Apr. and Juab Co., Hwy. 132, 2 mi. E. of Nephi, 23 Apr. (JB). Thessalia leanira alma, larva collected Juab Co., 10 mi. S. of Levan, 10 June '76, adults emerged March '77 (JB). BAO recorded a number of COUNTY RECORDS for Juab Co. Included were the following: P. multicaudata, Bear Cyn., NE. of Nephi, 17 July; P. n. macdunnoughi, Bear Cyn., 17 July; L. weidemeyerii latifascia, S. a. wasatchia, S. c. letona, S. e. utahensis, Hypaurotis c. citima and Lyc. nivalis browni, all Bear Cyn., 17 July (BAO). Also L. n. browni and P. n. macdunnoughi, Juab Co., graded dirt road connecting Payson and Santaquin, 20 July. P. b. bairdi, San Juan Co., Piute Knoll, 7052', 4 Sept.; Apodemia m. mormo, Grand Co., Colorado River, 3 Sept.; Leptotes marina, San Juan Co., Montezuma Cyn. (common in alfalfa fields), 25 Aug.: Polydryas arachne, San Juan Co., Horsehead Spg., 4 Sept., all (JAS). On 17 June, K. Bagdonas took his BFC into Crouse Canyon in Daggett Co., in the very NE. corner of the state. This county is virtually unknown so everything taken was a record. Some of the captures were P. rutulus, P. eurymedon, C. philodice, Celestrina argiolus, Nymphalis antiopa, Polygonia zephyrus, V. atalanta and E. anicia ssp. GOOD CATCHES & NOTES: E. a. nr. carmentis, Iron Co. (very abundant), Chessman Ridge, N. of Cedar Breaks Nat. Mon., 5 July; Pleb. saepiolus and aquilo taken, Juab Co., Mt. Nebo, 6 July (JHM). Conditions dry, season retarded and butterflies very scarce, Summit Co., E. Fork Bear Cr., 7 July (JHM). S. atl. chitone and Ple. s. gertschi, Iron Co., in and about wet marsh at Jct. Hwy. 14 & 143, 16 July (BAO). SJM collected mainly in Garfield, Kane, Iron & Sevier Counties and took a series of Cercyonis m. mexicana from four Garfield Co. localities, Neominois ridingsii (dionysis?) also from four Garfield Co. sites, 20 June-6 July, Lyc. a. schellbachi, Garfield Co., White Bridge, 22 Aug.; a long series of P. s. gertschi, 4 June-31 July, in Garfield & Kane counties. Philotes spauldingii, 10 & 17 July and S. n. nokomis, 25 July & 22 Aug. from two Garfield Co. localities. One specimen of nokomis was aberrant. RES spent an hour in the Henry Mts. of Garfield on 5 May but saw and took only one butterfly...a specimen of Euphy. a. alena. MOTHS: At blacklight in Uintah Co., along Hwy. 44 N. of Vernal, 27 July, on a rainy, windy night RL took 40 Macros and

40 Micros. Next night near Tooele he put light in scrawny field and was inundated with 200 Micros and 40 Macros, including good *Acronicta* and *Dicentria*. Beaver Co., nr. Beaver, 28 July took 50 Micros and 80 Macros including *Apantesis tooele*, *A. brucei*, *Crambida* and *Cisthene*. Iron Co., Cedar Breaks area, 30 July, where beautiful meadows produced nothing in butterflies, he got the nice Noctuid moth *Syngrapha hohenwarthi*. BFC collected twice in Daggett Co., 17 June when *Sphinx dollii* fm. *colorada*, *Paonias myops*, *Halisidota maculata*, *Turuptiana permaculata* and *Cossus undosus* were taken, and on 13 Aug. when *Catocala stretchi* and *Lycomorpha grotei* were recorded.

COLORADO: As the site of the 1977 Lep. Soc. Meeting the state had more than the usual quota of transient collectors and many, I am pleased to report, contributed their observations. Those involved ranged from Jonathon Hoffman, an 8 yr. old with 3 years of experience from Vermillion, S.D. to Bagdonas' Flying Circus. STATE RECORD: *Panthiades m-album*. Larimer Co., Stove Prairie, 23 May. (BFC) fresh specimen with piece (bird?) out of the wing. COUNTY RECORDS: *Pyrgus xanthus*, Jefferson Co., nr. Kelsey C.G. and Pine Jct., 30-31 May (JAS); *H. juba*, Park Co., nr. Pine Jct., 30 May (JAS) and Gilpin Co., nr. Blackhawk, 29 May (RES). *Polites m. dacotah*, Gilpin Co., site of Forks Cr. RR Sta., 4 July (RES); *Poanes t. taxiles*, Pitkin Co., Aspen, 25 July (B.H. Landing/RES); *Atalopedes campestris*, Cheyenne Co., 11 mi. N. of Arapahoe, 18 July (Mike Young/RES); *A. oslari*, Gilpin Co., N. Clear Cr., 29 May (RES); *E. c. clarus*, Logan Co., Sterling, 2 June (WZ) and *Thorybes mexicana*, Moffat Co., 16 June (BFC). *Pap. poly. asterius*, was extremely common and widespread throughout the state this year resulting in new records for Delta Co., 3 mi. N. of Lazear, 15 Aug. (SLE); Logan Co., very common on dill and celery in garden at Sterling, 24 May (WZ); and (JH) reports 3 specimens captured but doesn't say which county they were taken in, but he collected in Routt, Moffat, Jackson, Grand and Rio Blanca, but it would be a record for any of these counties. La Plata Co., 20 May (JAS); *Pap. thoas*, Logan Co., SW. of Sterling, 2 June (WZ). Identification of specimen in need of verification as it is more likely a *Pap. crespontes*. *Zerene c. caesonia*, Grand Co., Jim Creek, 9 Aug. (JAS); Arapahoe Co., Piney Cr. 5 June (Marc Epstein/RES). *Eurema nicippe*, Garfield Co., Glenwood Cyn., 8 June (RES); *E. mexicana*, Logan Co., alfalfa field SW. of Sterling, 1 July (WZ); *Lyc. rubidus sirius*, Rio Blanca Co., between Rifle and Meeker, 27 July (RL); *Hemiargus isola alce*, Garfield Co., Glenwood Cyn., 6 June (RES), also Phillips Co., vic. Amherst, from May-Aug. (DF). *Leptotes marina*, Montezuma Co., Dolores River Cyn. & McElmo Cr., 25 Aug. (JAS), also along Hwy. 550, La Plata Co., 27 Aug. (JAS). *Danaus g. strigosus*, Gunnison Co., Crested Butte, 23 June (Larry Gall/RES) and Logan Co., Sterling, 17 June (WZ); *V. a. rubria*, Garfield Co., Glenwood Cyn., 8 June (RES), *Chlosyne damoetas* and *Erebria magdalena*, Garfield Co., 2 mi. W. of Stillwater Res., 1 July, 11,500' (SLE)...a relatively easy 2 mi. hike to this isolated alpine area (I also have *E. theano* from near this area-DE). *B. s. tollandensis*, Summit Co., nr. Keystone, 6-8 Aug. (JAS); *Phy. picta*, Crowley Co., Henry Lake, 3 Aug. (JAS) and Archuleta Co., nr. Pagosa Spgs., 28 Aug. (JAS); *O. u. uhleri*, Gilpin Co., N. Clear Cr., 29 May (RES); *Junonia coenia*, Larimer Co., NW. of Horsetooth Res., 25 Sept. (DF). *Ple. acmon*, Sedgwick Co., abundant in varied grasslands and along gravelly or sandy draws, May-Aug., esp. on wild onion flowers (DF). Also reported was *Lycaeides argy. longinus*, a most doubtful determination of a Rio Blanco Co. specimen, but if correct would be a STATE RECORD, 27 July (RL). *Pholisora libya lena*, Rio Blanco Co., between Meeker and Rifle, 27 July (RL) and *Polites sabuleti chusca*, Mesa Co. nr. Grand Jct. Airport (RES). GOOD CAPTURES: *Pap. glaucus* dimorphic ♀ turnus, extreme NE. corner of state in a grove of ash and boxelder, fairly fresh but bird damaged, 28 July...2nd record for state (DF). *Parn. ph. pseudorotgeri*, Huerfano Co., Apishapa Pass, 9 July (CDF); *C. m. meadii*, albino female, Clear Cr. Co., Loveland Pass, 25 July (WDW), this record of particular interest because although the TL is not far distant, it is only about the 2nd or 3rd instance of an albino meadii being taken in Colorado. By contrast they are relatively common in the Bartooth Mts. of Wyo.-Mont. *Callophrys a. affinis*, Grand Co., Beaver Cr., 8 June (DE); *Mitoura spinetorum*, Larimer Co., Lory State Pk., various dates late May and early June (DW); *Lyc. thoe*, Larimer Co., 1 mi. S. of La Porte, 17 June (DW); *Libytheana bachmanni larvata*, Larimer Co., S. of Bellvue, 17 June (DW) and El Paso Co., USAFA, 17 June (SF); *Asterocampa cellis*, Larimer Co., Ft. Collins, in June taken during the month on bait (DW); *V. caryae*, Larimer Co., Buckhorn Gulch... common on blossoms of *Chrysothamnus nauseosus* in fall (DW); *N. californica*, Boulder Co., Gregory Cyn., 14 May (PLE) and (RES) missed one in Jefferson Co., on Mt. Zion, 4 July (fresh male). *Chlosyne damoetas*, Clear Cr. Co., Loveland Pass, mid-July (PLE) reports it fairly common at edge of rockslides and the BFC notes an exceptional year of this on the talus slopes, with several hundred seen and 40 captured in Summit, Gunnison, Chaffee, Park, Lake, Boulder and Larimer counties. *Euph. a. alena*, Rio Blanco Co., SW. Meeker, 10 June (DW); *E. editha* and *O. u. reinthali*, Grand Co., Beaver Cr., 8 June (DE); *Eupty. p. dorothea*, Larimer Co., SW. of Bellvue, 12 June (DW) and Boulder Co., Gregory Cyn., late July (PLE); *Lyc. editha montana*, Grand Co., Tabernash, 11 July (PLE). RELATIVE ABUNDANCE: Following in fewer numbers than normal...*O. chryxus*, *E. olympia*, *Pap. zelicaon*, *Pleb. acmon* and *S. c. halcyone*. The following were more plentiful than usual...*Atrytone argos*, Larimer Co. (DW); *P. poly. asterius* (DW-JH); *P. glaucus*, Sedgwick Co. (DF); *P. n. macdunnoughi* (BFC)...their best year ever with it common in the montane zone of the eleven counties collected. *Eurema c. caesonia*, *Eurema nicippe*, *E. mexicana*, *Phoebis s. sennae* (PLE, SLE, BFC & others) all commenting and reporting an exceptional number of specimens. *Apodemia nais*, Boulder Co., Flagstaff Mt., common in late May & June (PLE); *Lyc. snowi*, Clear Cr. Co., Loveland Pass, mid-July (PLE-BFC); *Leptotes marina*, Sedgwick Co., early Aug. (DF); *Brephidium exilis*, Crowley Co., Lake Henry, 3 Aug. (BFC)...several hundred seen flying with *Phy. picta*. *V. atalanta*, common and migratory (south to north) (RES) and virtually all collectors noted the increase in numbers of this as well as *V. virginensis*, which had a most unusual year with many, many records (BFC, DW, PLE). *Polygonia interrogationis* also had an outbreak in numbers. It is usually scarce, but not this year! (DW, DF, PLE). *Phy. picta*, Julesburg to Nebraska, mid-May on (DF). *Speyeria c. charlottii* also had a big year, especially in Delta and Gunnison counties (BFC). I happen to also know that John Legge found it plentiful on Grand Mesa and Lowell Harris likewise in Routt Co. *Danaus plexippus* very common over most of the state. The BFC group reports the best collecting they've had for *E. magdalena* and *E. callias*. *Satyrium behrii crossi* (Larimer Co.), *Ple. saepiolus*, and *P. shasta minnehaha* (now pitkinensis). LIFE HISTORY: *Satyrium l. aliparops*, ex larva on *Prunus hort. var. cistena*, Larimer Co., Ft. Collins (SLE); *Call. behrii crossi* oviposition on *Cercocarpus montanus*, Gilpin Co., 7 July (JAS); *P. t. taxiles* oviposition on *Agropyron smithi*, Larimer Co., July (JAS). MOTHS: *Sphinx cersysi*, *Odontotia elegans*, *Phoebis portlandia*, and *Geometridae* and *Noctuidae*, at light, 9000', Gilpin Co., mid-June to early July (RES). *Cuchara C.G.*, Huerfano Co., 8 July, very little due to low temperature and drizzle; of interest *Apantesis williamsi*, and *Turuptiana parmaculata* (CDF). Along I-70 W. of Denver, 24 July, 150 Micros, 40 Macros, including *Polia purpurrisata*, *Pseudanarta flavula* and *Spargania aurata*, Loveland Pass, 25 July, 10 Micros, also Leadville same date in pouring rain, 35 Macros and 30 Micros, some really good things! Basalt, 6600', 26 July, swarms of caddis flies, 35 Micros and 50 Macros (RL). The big news in Moths, however, is the continuing study by K. Bagdonas and his Field Team. This year they recorded well over a half million specimens and hundreds of species. The results are to be published in the near future. Some of the choicer items taken in Colo. in '77 were *Agapema homogena*, only the 3rd specimen from Colorado; *Antheraea polyphemus olivacea*, first specimen of this ssp. in over 50 years, both taken 7 June, Fremont Co. *Gloveria arizonensis*, first specimens taken in Colorado, COUNTY and NORTHERN EXTENSION RECORDS (Larimer Co.). *Pachysphinx occidentalis* from Moffat Co. only. *Smerinthus jamaicensis*, five only in three previous years, this year 43 specimens! *Darapsa myron*, only second verified record for Colo. *Hemihyalaea labecula*, COUNTY RECORD for Larimer Co. with additional specimens from nr. Somerset in Gunnison Co. on sugar baits, first Arctiids they've ever taken on bait. *Bertholdia trigona*, always rare; *Arachnis picta*, very rare; *Diacrisia vagans*, Colo. RECORD (Moffat Co.); *Apantesis phyllira*, Colo. RECORD (Larimer Co.); *Arctia caia*, RECORD (Mt. Audubon, Boulder Co.); *Copidryas gloveri*, first for this (Lake Henry, in Crowley Co.). In the *Catocalinae*...*C. relictia* fm. *clara*, 5 specimens from 5 scattered locations, *C. unijuga*, *C. luciana*, *C. amatrinx*, *C. faustina*, all uncommon in Colorado. *C. verrilliana*, RECORD (Gunnison Co.) and *C. micronympha*, STATE RECORD. WDW reports *Hemaris diffinis* captured by ambush bug, *Phryganea fasciata*, on alfalfa, Boulder, 22 July. Since *Hemaris* hovers while feeding, *Phryganea*'s hunting prowess merits great respect!

NEW MEXICO: Better coverage than usual. While names are usually limited to those found in dos Passos' Checklist, I am including a couple of new names in the STATE RECORDS: Anthocaris pima, Dona Ana Co., Las Cruces, 2 mi. E. of NMSU, Tortugas Mt., 22 Mar. (WHB). One definite pima taken along with numerous sara. Philotes battoides ellisi, San Juan Co., E. of Aztec, 27 Aug. (JAS): P. rita emmeli, San Juan Co., E. of Shiprock (JAS). COUNTY RECORDS: Achalarus c. casica, Burro Mts., S. of Silver City, Grant Co. (CDF). Ochlodes snowi, Grant Co., E. side of Black Range (CDF), 8 Aug.: Polites s. chusca, San Juan Co., Rio Florida, 27 Aug., Rio Arriba Co., Canada de Ojo Sarco, 11 Sept., Santa Fe Co., El Sanctuaris, 9 Sept. and Taos Co., Rio Grande nr. Pilar, 10 Sept. (all JAS). From RES distribution maps the following are shown: Ery. p. fredericki, Pholisora alpheus, Anaea andria, all Sandoval Co., Pap. polyxenes, San Juan Co., Lept. marina & Breph. exillis, Rio Arriba Co., Hemiargus isola alce, Mora & Taos Co. (JAS). Chlosyne lacinia, Valencia Co. (PLE). E. hyantis, Sierra Co., Ash Cyn., Elephant Butte Dam, 10 Apr. (RH)... strange ssp. and first record from E. of Rio Grande. C. definitiva, same data and notation. Sandia macfarlandi, Valencia Co., Zuni Cyn., 2 May. western EXTENSION (RH). GOOD CATCHES, RELATIVE ABUNDANCE, NOTES: David F. Hess collected in the state in early August and sent list of material taken. It underscored the above average abundance of many of the commoner species plus observation of a migration of Danaus plexippus seen flying north on the plains by the score, 3 Aug. San Miguel Co., W. of Las Vegas. Eurema proterpia, Hidalgo Co., Guadalupe Cyn., 3 Sept. (WHB). Erora quaderna, Grant Co., Mimbres River valley along SR 61, fresh on 3 July indicating an apparent second brood. CDF collected a number of localities in late June and early July. He makes note that special permits were required by the USFS because of the extremely high fire hazard. A few of the choicer items shown would be Parn. ph. pseuderotgeri, Taos Co., Carson NF, Cabresto Cyn., 8 July: a large number of skippers, Ple. icar. buchholzi, A. nais, P. mylitta arizonensis and Cylopsis p. dorothea from Valencia Co., Cibola NF, Zuni Mts., 24-26 June. This trip was with RH who was conducting a survey of the Zuni Mts. and who in his report recorded a total of 98 species including Yvretta rhesus, Stinga morrisoni, Pyrgus xanthus, Philotes spauldingi, Neominois ridingsii, Ministrymon leda, Incisalia f. fotis, Callophrys apama (swarming), Ambly. oslari and cassus and Hesperia h. susanae. He has a complete list of Zuni Mt. material available to anyone requesting same. He also conducted a survey of Hesperia woodgatei and lists it from Jemez Mts., Sandoval Co., NE. of San Mateo, Valencia Co., Tohatchi (Chuska Mts.) and S. of Fort Wingate (Zuni Mts.) both in McKinley Co. All captures were in Sept. and a second brood of Apodemia mormo was also taken at Tohatchi (RH). MOTHS: Hemileuca hera magnifica swarming at Jct. NM 46 & NM 528, nr. Corrales, Sandoval Co., 29 Aug. (RH): Hemileuca nevadensis, 3rd & 4th instar larvae in great numbers on Salix at Jct. of I-40 & NM 400 nr. Ft. Wingate, McKinley Co., 22 June (RH). CDF light trapped in the Pinos Altos Mts. and 10 mi. E. of Silver City from 29 June-3 July. Of interest in the larger moths...Eumorpha achemon, Apantesis f-pallida, Haploa lecontei, Arachnis zuni, Phyllodesma americana, Gloveria arizonensis, and Coloradia luski.

ZONE 4: GREAT PLAINS: SASKATCHEWAN, MANITOBA TO TEXAS. Coordinator: H.A. Freeman. Contributors: George W. Busby III, Don W. DuBois, C.D. Ferris, H.A. Freeman, James H. Norwood, Stephen Peterson Jr., Russell A. Rahn, Larry Robinson, and Steve Spomer. General Conditions: Throughout most of this zone collecting conditions were above to normal. No reports were received from Canada this year. In the Dallas, Texas area collecting was above average with many species being present in large numbers.

SOUTH DAKOTA: Russell A. Rahn reported: Meade Co., 13-14 June, all species encountered were small in numbers with one exception, a large flight of Vanessa atalanta on the evening of June 14. In smaller numbers Pyrgus communis, Papilio multicaudatus, Colias eurytheme, Pieris protodice, Lycaeides melissa, Nymphalis antiopa, and Vanessa cardui. Black Hills region, Lawrence and Pennington Co., 15-16 June, collected at several localities, including Mt. Theodore Roosevelt where a fresh male Parnassius phoebus dakotaensis was taken. Also collected were Erynnis martialis, which strictly limited its flight to the sunshine periods, Amblyscirtes vialis, Oarisma garita, Poanes hobomok, Polites themistocles, Papilio eurymedon, P. glaucus ssp., Euchloe ausonides, Plebejus saepiolus, Everes amyntula, Glaucopsyche lygdamus, Vanessa atalanta, Nymphalis antiopa, and a freshly emerged male Speyeria atlantis lurana. Most commonly observed and collected moth was Drasteria hudsonica (det. E.L. Todd, USNM). C.D. Ferris reported: Side canyons (west side) of Spearfish Canyon, nr. Tinton, Black Hills, Lawrence Co., 5700', 27-28 July. The following endemics were taken: Polites mystic dacotah, Pyrgus communis, Colias alexandra krauthii (scarce), Colias eurytheme, Colias philodice, Pieris rapae, Lycaeides melissa, Plebejus icarioides lycea, P. saepiolus, Strymon melinus nr. atrofasciata, Euptoieta claudia, Limenitis weidemeyerii overfoelii, Phyciodes campestris ssp., Polygonia zephyrus, Speyeria atlantis lurana, Speyeria atlantis Appalachian form, Speyeria aphrodite nr. alcestitis, Speyeria coronis nr. snyderi, Speyeria mormonia eurynome, Vanessa cardui, Cercyonis oetus charon. Light-trapping and sugar baiting were extremely poor because of a cloudless sky, full moon and low evening temperatures. One Catocala aholibah was taken along with two other undetermined Catocala. A few smaller noctuids were taken and one specimen of Apantesis williamsi. Lawrence Co., along US Hwy. 85 adjacent to Wyoming border, Black Hills Nat. Forest, 6200', 27-28 July. In addition to many of the species listed above, the following were taken: Pieris protodice, Nymphalis antiopa, Cercyonis pegala ino, Coenonympha tullia benjamini.

NEBRASKA: Steve Spomer reported: Indian Cave State Park, Nemaha-Richardson Cos., Papilio cresphontes, 11 May; P. glaucus, May-July (common on clover, about 80% of females dark); Graphium marcellus, May; Zerene cesonia, 11 May; Colias philodice, May; C. eurytheme, May; Eurema lisa, July; E. nicippe, May; E. daira, 24 July, one female; Epargyreus clarus, May; Thorybes pylades, May; Lycaena thoe, May; Strymon melinus, May; Lycaenopsis argiolus, May and July; Limenitis archippus, May; L. astyanax, May and July; Vanessa atalanta, May; V. cardui, May; Phyciodes tharos, May; Polygonia comma, May and July; Asterocampa celtis, May and July; Precis tavinia, July; Speyeria idalia, May; Danaus plexippus, May, July and September; Euptychia cymela, May. Lancaster Co., one mi. SW. of Martell, Euptoieta claudia, 11 Sept. Two species of moths were reported: Pholus achemon, Lancaster Co., Lincoln, larvae on grape, 11 Sept.; Adelocephala bicolor, Indian Cave State Park, 24 July, common at blacklight.

OKLAHOMA: Larry Robinson reported: Most lepidoptera were slow in emerging due to severe winter. The first species observed was Pieris rapae, 15 March, Tulsa Co. During April the following species were more abundant than usual near Jenks, Tulsa Co.: Nymphalis antiopa, Anthocaris midea, and Euchloe olympia. In the same area the first observed specimen of Atides halesus was found, 3 Apr. on a hilltop 4 mi. S. of downtown. On 15 May, 6 mi. W. of Skiatook, on Hwy. 20 in Osage Co., Euristrymon ontario autolytus, Strymon edwardsii and one Panthiades m-album (fresh), which is a STATE RECORD. On 22 May on Hwy. 88 nr. Colagah Lake, Rogers Co., Robinson & Pete Loy found a colony of Lycaena xanthiodes dione, nectaring on Asclepias tuberosa. During June, Tulsa Co., several specimens of Harkenclenus titus mopsus were collected as well as Strymon melinus franki. Also during June at the same area Eurema mexicana, Phoebis sennae eubule and a worn Danaus gilippus strigosus, which was a new Tulsa COUNTY RECORD. During August two specimens of Speyeria idalia were collected in Tulsa Co., on the 13th and 14th. Several good moths were collected by Robinson & Pete Loy during August; Actias luna, Antheraea polyphemus, Pholus pandorus, Pachysphinx modesta, Darapsa pholus, and several other common sphinx. All of these were collected within the city limits of Claremore, Rogers Co., around street lights.

TEXAS: Larry Robinson reported that on 15 Oct. 1 mi. E. of Sugarland, Ft. Bend Co., he collected a female specimen of Atides halesus. James H. Norwood, III, Weatherford, Parker Co., reported the following Sphingioidea collected in the Weatherford area: very common, H. lineata, D. myron, C. juglandis, X. tersa, C. hageni, M. sexta, and C. undulosa. Common, M. quinquemaculata, P. plebeja, A. cingulatus. Uncommon, C. amyntor, D. phlois, S. jamaicensis, E. vitis, E. obscura, E. achemon, H. diffinis, P. occidentalis, and S. libocedrus which may be northeasternmost record of range. Steven Peterson Jr. reported the following information: Hesperidae, Lerema accius, one male, 16 Oct., Hondo, Medina Co.; Nastra l'herminier, 23,24 Oct., San Antonio, Bexar Co.; and Lerodea eufala, Oct. & Nov., San Antonio.

Lycaenidae, Callophrys gryneus castalis, one female, 28 Aug., Helotes, Bexar Co.; Riodinidae, Calephelis guadeloupe, one male, 9 Oct., nr. San Antonio. Nymphalidae, Anaea andria, one female, 16 Oct., Hondo; Chlosyne janais, 16 Oct., common at Hondo. Don W. DuBois reported the following: Euptychia rubricata, 27 Aug., Uvalde Co., common on hillsides in scrub cedar; Adelpha bredowii, 27 Aug., Uvalde Co.; Mestra amymone, 25 Nov., Hidalgo Co., common; Chlosyne janais, 25 Nov., Hidalgo Co.; Heliconius charitonius, 5 Nov., San Patricio Co.; Dryas julia, 25 Nov., Hidalgo Co.; Dione moneta, 25 Nov., Hidalgo Co.; Papilio glaucus, 24 July, Nueces Co.; P. troilus, 14 Aug., Uvalde Co.; P. palamedes, 5 Nov., San Patricio Co.; and Battus polydamus, 5 Sept., Nueces Co. George W. Busby III reported the following information: Dryas julia delia, 19 Aug., Beeville, Bee Co.; Biblis hyperia aganisa, 5 & 7 Aug., Bentson State Park, Hidalgo Co.; Marpesia chiron, 5 & 20 Aug., Bentson State Park; Adelpha bredowii, 10 Apr., Herman Park, Houston, Harris Co.; Doxocopa laure, 22 Aug., Bentson State Park; Calycopis isobeon, 9 Apr., Rice Univ., Houston; Chlorostymon simaethis sarita, 5 & 20 Aug., and 30 Sept., Bentson State Park; Papilio astyalus pallus, 5 Aug., Bentson State Park; and P. ornithion, 20 Aug., Bentson State Park. H.A. Freeman reports that in the Dallas area collecting was above normal with many of the species being very abundant such as: Lerema accius, Amblyscirtes belli, A. nysa, Atalopedes campestris, and two specimens of Euphyes dion alabamiae were collected on the L.B. Houston Golf Course during August. There was a fair emergence of Megathymus coloradensis stallingsi at Vickery and Cedar Hill, both in Dallas Co., despite the fact that most of the habitats where this species has been found in past years have been destroyed due to (?) progress.

ZONE 5: Report not yet received.

ZONE 6: SOUTH: ARKANSAS, LOUISIANA, TENNESSEE, MISSISSIPPI, ALABAMA, FLORIDA, GEORGIA, S.&N. CAROLINA, VIRGINIA. Coordinator: Bryant Mather. Contributors: Wm. F. Boscoe, Vernon A. Brou, Robert W. Cavanaugh, Jr., Terhune S. Dickel, Fred Eichelman II, Frank D. Fee, Robert C. Godefroi, John A. Hyatt, Ron Leuschner, Bryant Mather, John Nordin, Leo J. Paulissen, Dale F. Schweitzer, Amos H. Showalter, Jeff Slotten, Richard H. Smith, Jr., Stephen Spomer, Paul Tuskes, Charles N. Watson, Jason Weintraub, Dave Winter.

ARKANSAS: Paulissen reported that Washington Co. experienced a very severe winter with low -20°F, causing severe plant damage. In one area over 90% of Gerardia grandiflora, foodplant of E. phaeton ozarkae, was wiped out and the flowers of the farkleberry, so favored by hairstreaks, were practically nonexistent. June & July were unusually dry, stunting the teasel by a foot or more. Aug. to Oct. wet, but the year's total precipitation was 5 inches short. The first butterfly was seen 24. Feb., the last 3 Dec. 85 of the 116 species reported for the county were seen. P. s. eubule was abundant and A. vanillae was more frequent than the last few years. 2nd brood C. nycteis outnumbered all other concurrent species. P. phaon was back after a year's absence. On 21 Aug., P. coras was taken after 20 years lapse, and 2 Amblyscirtes carolina (STATE RECORD): ? relation to severe winter. 22 Aug., J. Hunter (Univ. Ark. grad. stud.) took ♀ S. diana (COUNTY RECORD). One stray P. texana was taken 21 Oct. Monarch migration was lighter than '76; many were headed south, rather than west as they were last year.

LOUISIANA: Brou reported the following PARISH RECORDS: St. John Parish: A. delaware, P. t. seminole, D. g. berenice; Lafourche Parish: B. pseudofea, P. panoquinoides. Leuschner took ten moths on the Holiday Inn in Slidell on 11 July; the largest was Parallelia bistriaris. Rindge determined about 65 species of Geometridae from a group of about 850 collected by Brou at Edgard, submitted by Mather. Among these was Spacelodes vulneraria Hbn.

TENNESSEE: Boscoe at Pickwick Dam State Park, Coonce, on 12-13 Apr. took: D. inscriptum, D. virginica, A. impleta, E. festivoides, P. quernaria, M. obfirmaria, A. clemataria, M. duaria, E. pectinaria, and L. pellucidaria. Hyatt took the following in Sullivan Co.: Apr., L. a. pseudargiolus, I. henrici, I. nippon, M. gryneus, A. midea, E. olympia, P. virginensis, G. marcellus, P. asterius, P. glaucus; June, H. titus, S. falacer, S. melinus, L. phleas, P. coenia, C. pegala; Aug., E. gemma, E. h. sosybia; Sept., E. lisa, E. nicippe, P. coenia; Oct., P. communis. In Hawkins Co. he took: Apr., E. laeta (2), P. virginensis, B. philenor, A. nessus, D. inscriptum, L. a. pseudargiolus; May, M. nycteis, S. cecrops, A. celtis; June, S. falacer, S. cybele, L. phleas, V. atalanta, L. portlandia, P. asterias; July, L. bachmannii, P. comma; Aug., F. tarquinius, L. creola, L. archippus, L. astyanax, A. clyton, P. interrogationis, P. comma, E. claudia, B. bellona, E. lisa, A. numitor; Sept., E. nicippe. Watson submitted 29 pages of detailed data on the occurrence of 47 species in 10 counties in Tenn. Many of these records duplicated those of Hyatt as given above; the following are of particular interest: F. tarquinius in Anderson Co., P. virginensis in Anderson Co., and A. cellus in Campbell Co. Showalter took the following on 17 Apr. at Cedars of Lebanon St. Pk., Wilson Co.: A. vialis, A. c. belli, A. hianna, A. midea, C. henrici, and E. gemma; and on 8 Sept. in Putnam Co. he found E. nicippe abundant.

MISSISSIPPI: Spomer reported as follows: P. polyxenes asterius, Laurel, Jones Co., 20 June; P. troilus, Laurel, 19-20 June, 1 July; P. palamedes, Moss, Jasper Co., 20 June; P. glaucus, Laurel 19-20 June, 1 July (dark ♀); B. philenor, Hattiesburg, Forrest Co., 21 June; A. andria, Laurel & Moss, 20 June; L. astyanax, Laurel, 18 June; V. atalanta, Laurel, 20 June; V. cardui, Laurel 20 June; P. tharos, E. nicippe & E. lisa, Laurel, 19-21 June; A. luna & A. nessus, Ellisville, Jones Co., 30 June; C. catalpae, Laurel, various stage larvae on catalpa 18-30 June. On 22 Aug. at Vicksburg, Mather took the first S. kalmiae reported so far from central Mississippi.

ALABAMA: No reports.

FLORIDA: Nordin on 19 March took a female Callophrys hesseli (STATE RECORD) in a cedar swamp on Alligator Creek, Blackwater River St. Forest, Santa Rosa Co. Spomer reported as follows for 22-27 June: P. troilus & B. philenor, Orlando, Orange Co., and Torreya St. Pk., Escambia Co.; P. palamedes, Live Oak, Suwanee Co.; G. marcellus, Orlando; L. archippus floridensis, S. favonius, & S. m-album, Torreya St. Pk.; A. vanillae, Live Oak; E. imperialis, Quincy, Gadsden Co., newly emerged ♂. Winter reported the following for Sanibel & Captiva Is., Lee Co.: D. eresimus roosting in heat of day, 24-25 Sept.; C. tripunctus, 14 Jan. & 25 Sept.; M. brontes, 18 Apr. at UV; P. strigillis, 28 Sept. at incand. light (Ben Williams has taken many the last few years, at light and flowers.); E. obscura, 18 Apr. at UV; E. imperialis last instar larva found on road 16 Jan. emerged 3 Aug.; A. io lilith, ♂, 28 Sept. at incand. light, color consistent with "spring form"; U. ornatix v. terminalis, white HW, 16 Jan. flying in sunlight; R. gaurae, 18 Apr. in sunlight; M. indomita, 16 Apr. at UV. Godefroi reported: S. steneles, 22 March Matheson Hammock, Dade Co.; E. arpa, 11 Mar. Big Pine Key, Monroe Co.; A. andria and H. attalus, 9 Oct. Levy Co.; P. t. seminole and E. dukesi (COUNTY RECORD), 14 Sept. Gainesville, Alachua Co. Slotten noted that H. charitonius was not seen in Gainesville in 1977 in contrast to previous years; he found the following on bidens on woods borders near Gainesville: S. cecrops, L. accius, U. proteus, E. दौरa, A. vanillae, A. halesus, P. syrictus, P. s. eubule, E. nicippe, P. phaon, P. tharos, C. t. seminole, P. ocola, P. hayhurstii, E. lugubris, C. myrodora, A. campestris, E. lisa, S. melinus, P. vibex, and C. minima; along trails in woods: L. portlandia, A. textor and E. sosybia; in wet meadows: C. virginensis, E. sosybia, G. marcellus, P. asterius, B. philenor, E. areolata, A. d. alabamiae, P. yehli, P. aaroni. Dickel wrote: "It appears that the severe freeze which we had on 19-20 Jan. had little or no effect on some of our more tropical species", and reported: E. d. helios, common through the year but local, Dade Co.; P. androgeus, fairly common, Broward Co., five males taken in Apr.; E. angelia, abundant but very local, Dade Co., May; D. eresimus tethys, abundant through the year, Dade, Broward, and Collier Counties; S. steneles, several seen in Dade and Broward; fewer than in '76. C. s. simaethis, a few seen in May on Key Largo. Tuskes reported the following from Plantation Key, Monroe Co.: A. tantalus, Aug.-Nov.; P. ficus, Oct.; E. lugubris, Oct.; X. pluto, Sept.-Dec.; X. tersa, Aug.; A. cingulatus, Nov.; P. carteri, Dec.; E. ello, July-Dec.; E. imperialis, Nov.; A. io, July-Dec.; C. fidelissima, July-Dec.; S. epilais, July-Dec.; U. bella, Dec.; E. tatila, M. petreus, H. charitonius, D. julia, A. vanillae, P. frisia, K. castalia, Aug.; P. philea, A. drusilla.

GEORGIA: No reports.

SOUTH CAROLINA: Schweitzer collected at black light, MV, incandescent lights and bait 23-28 Feb. at the Wedge Plantation 7 mi. NE. of McClellanville, 28th too cold but other nights good, especially 23rd and 25th; except for 28th, daily maxima were at least 65-72°F. Winter had been extremely cold, with some snow and several subfreezing maxima, ground froze part of January. Minimum +14°F (Tania Dominick). Spring was hardly noticeable on 23rd but by 28th peach, quince, red maple and elm were in full bloom, *Vaccinium atrococcum* started, and *Prunus serotina* beginning to leaf. Outstanding catches were *Pyreferra ceromatica* ♂ 25 Feb. bait, *Lithophane patefacta*? (identical to sp. common in S. NJ, taken in free flight 25th), *L. signosa* ♀ 25 Feb (spot lights), *Ceratomyx satanaria*, 24 & 27 Feb (spot lights). Other good catches included *Feralia major* (3), *Iodopepla u-album*, *Zale submediana* (bait), *Z. horrida* (bait), both *Cleora*, *Thysanopyga intractata* (both forms, mostly on bait), *Catophyrrha sphaeromacharia* (bait), *Stenaspilotes antidiscaria* (1♀), *Eupithecia herefordaria*. All species 23-27 Feb., moths at Peabody Museum, Yale Univ.
BUTTERFLIES: *P. interrogatoris* numerous in woods and on bait, a few *Celastrina* and *Pieris rapae* seen. Also saw one *Phoebis s. eubule* in downtown Charleston 25th. (*means not previously taken there: not in Wedge collection and not taken there by Franclemont or Ferguson.)

NORTH CAROLINA: Boscoe collected 1-7 Aug. at Cape Hatteras and took *D. myron*, *X. tersa*, *E. imperialis*, *A. vittata*, *I. isabella*, *L. crispata*, *D. latipennis*, *A. zeae* (abundant), *P. palamedes*, *S. melinus*, *P. phaon*, *P. tharos*, *P. coenia*, *A. campestris*. Cavanaugh reported *P. palamedes*, *E. lisa*, and *E. nicippe* uncommon on the Coastal Plain until late Aug.; *P. s. eubule* first seen on 4 Sept.; *P. asterius* and *E. cymela* were more abundant than usual. Earliest records were 14 March: *C. a. argiolus*, *P. rapae*, and *E. nicippe*, next was *P. glaucus* on 15 March and next *G. marcellus* on 17 March; *P. palamedes* flew into Oct.; *D. plexippus* was seen on 25 March, fall migration was in the week of 2 Oct.; *P. f. smythi* was taken on 2 July in Transylvania Co., where *S. diana* was abundant. *S. kingi* was taken in early June in Carteret and Craven Cos.

VIRGINIA: Hyatt reported for Lee Co.: Apr., *I. henrici*, *P. virginensis*, *P. glaucus*; May, *L. astyanax*, *G. marcellus*, *N. antiopa*, *P. comma*, *B. bellona*; July, *S. liparops*; Oct., *B. bellona*, *E. claudia*, *E. nicippe*; 24 Nov. (a record late occurrence) *P. coenia*. Scott Co.: May, *E. phaeton*, *L. astyanax*; June, *A. clyton*; Montgomery Co.: July, *S. diana*, *S. idalia*, *S. liparops*; Aug., *S. aphrodite*, *P. progne*. Leuschner visited Manassas Nat. Battlefield nr. Centerville, Fairfax Co. and saw many *C. pegala* on 19 Aug. and on 18 Sept. he collected *S. puber* and *Sparganothis sulfureana*, among others. Eichelman submitted a list of 33 species with collecting dates for "SW. Virginia", including *L. borealis*, 27 June, *G. lygdamus*, 24 Apr., *A. hegon*, 22 May, *T. lineola* (?), 21 June, *S. kalmiae*, 20 Aug., 4 Sept. Weintraub reported as follows: Fairfax Co., 16 July Leighs Corner at UV, *H. clymene* many, *E. deflorata*, *A. vittata* many, *H. miniata*, *A. io*, *E. hortaria*; 17 & 23 July vic. Great Falls, *P. glaucus*, *troilus*, *polyxenes*, *G. marcellus*, *B. philenor*, *L. astyanax*, *S. cybele*, *B. bellona*, *P. comma*; *H. thysbe* nectaring at *Epilobium*; Kire, Giles Co., 6-7 Aug., most of same plus worn ♂♂ *S. diana*, *N. antiopa*, *C. argiolus*; Poverty Hollow, Montgomery Co., 7 Aug., *S. aphrodite*, *F. tarquinius*, and one ♂ *S. diana*. At this locality 2 July Fee found numerous ♂♂ and 1 ♀ *S. diana* visiting *A. syriaca* and ♀ *S. idalia* visiting *A. incarnata*. Smith reported *G. marcellus* f. *lecontei*, 26 Aug., Aqua Po Beach, 3 Sept., Brent Point, both Stafford Co.; *A. celtis*, 3 Sept., Leeland, Stafford Co.; *P. tharos* ♀ aberrant, HW mostly dark above and mostly white beneath, 25 June, Colvin Run Pk., Fairfax Co.; *C. nycteis*, 13 June, Thoroughfare Gap, Fauquier Co. and 23 June, Fritters Corner, Stafford Co.; *P. protodice*, 10, 17 & 24 Sept. in Daingerfield Is., Alexandria Co., Wakefield Pk., Fairfax Co., and Aqua Po Beach, respectively; *S. calanus falacer* common 13 June, Fauquier & Prince Wm. Cos.; *F. tarquinius*, 3 Sept., Daffan, Stafford COUNTY RECORD; *A. cellus*, 13 June, Thoroughfare Gap; *T. lineola*, 4 June, Reston, Fairfax COUNTY RECORD, possibly introduced on straw used to stabilize soil after grass seeding; also 13 June, Thoroughfare Gap, Fauquier COUNTY RECORD; *P. viator*, 26 Aug. & 5 Sept., Aqua Po Beach, Stafford COUNTY RECORD; *S. hayhurstii*, 23 July, Widewater, Stafford Co., 26 Aug., Aqua Po Beach, and 10 Sept., Daingerfield Is., Alexandria COUNTY RECORD; *E. dion*, 3 Sept., Aqua Po Beach, Stafford COUNTY RECORD.

ZONE 7: NORTHEAST: QUEBEC (to 50th parallel), MARITIMES, NEW ENGLAND, NEW YORK, NEW JERSEY, DELAWARE, PENNSYLVANIA, MARYLAND. Coordinator: Dave Winter (DW). Contributors: Wm. A. Andersen (WA), A.E. Brower (AEB), Charles Burkhart (CB), Howard P. Boyd (HB), Richard W. Boscoe (RB), Wm. M. Boscoe (WB), Annie Carter (AC), Francie Chew (FC), Linwood C. Dow (LD), Frank D. Fee (FF), John H. Fales (JF), Tom Franks (TF), Karl R. Gardner (KG), David F. Hess (DH), Edward Jennejohn (EJ), Warren Kiel (WK), R.A. Layberry (RAL), Ron Leuschner (RL), Paul Miliotis (PM), J.P. Muller (JPM), Charles G. Oliver (CO), Gary B. O'Shea (GO), John Prescott (JP), Steven Passoa (SP), Dale F. Schweitzer (DS), A.W. Thomas (AT), T.N. Taft (TT), C.B. Worth (CW), Jo Brewer Winter (JBW), Jason Weintraub (JW).

QUEBEC: Only reporter RAL, largely for Gatineau Co., found *O. chryxus strigulosa* scarce and worn at Luskville Falls 26 May; *Coenonympha inornata* abundant, Gatineau Pk., 3 & 11 June: *C. nipisiquit* (det'n HKClench) taken there 7 Aug., new PROVINCIAL RECORD. (Retrospective records: Pointe Claire, Montreal Is. 28-31 Aug. '68, 15-30 Aug. '69; and Deschenes, Gatineau Co., 29 Aug. '70, 28 Aug. '75.) A few *L. anthedon* were taken in Buckingham Twp., Papineau Co., and in Gatineau Pk. 30 June & 27 July, along with worn *L. eurydice* the latter date. Infrequent were *N. antiopa* & *vau-album*, *P. progne*, *interrogatoris*, & *comma*, *C. virginensis*, *B. selene* & *bellona*, *P. tharos*, and *L. arthemis* & *archippus*. One *Chlosyne nycteis* was taken 26 May in Gatineau Pk. *V. atalanta* was at a 10-year high late May to early Sept., and *N. milberti* was abundant 3 June to 8 Sept., larvae 3 June-7 Aug. A single batch of ova had larval stage 10-14 days, hatch to eclosion of adults 25.5 days average (n=215). *C. nippon*, abundant but worn at Fildegrande R. 22 May, nectared solely on choke-cherry, ignoring other flowering *Prunus* present. *C. argiolus* scarce. *G. lygdamus* was present at Fildegrande R. 22 May and abundant in Gatineau Pk. 3 & 11 June. *H. titus* 21 Aug. and *L. phlaeas americana* 4 Sept. (both new for RAL) and *L. hyllus* 4 Sept. were all taken in Gatineau Pk. *P. napi oleracea* was taken fresh in the same area 7 May-4 Sept., clearly in 3 generations in '77. *Euchloe olympia* at top of King Mt., 1100', Gatineau Pk. 3 May was first for Ottawa area and 2nd PROVINCIAL RECORD. Hundreds of *P. glaucus* were congregated on damp campfire ashes at mid-day 23 May by Demoine R., Pontiac Co. Of the skippers, the two broods of *E. lucilius* flew early May & late July, and *T. lineola* the majority of July. Branded skippers except *P. hobomok* were infrequent.

PRINCE EDWARD ISLAND: RAL reported 9 new records (based on Gregory checklist), 11-20 July: *L. eurydice*, Kings & Prince Cos.; *Chlosyne harrisii*, K.C., P.C.; *P. tharos*, Queens Co., K.C. & P.C.; *S. cybele* & *atlantis*, P.C.; *Euphyes vestris* & *Erynnis icelus* near Murray R., K.C.; *P. mystic*, K.C. & P.C.; and multitudinous *T. lineola* s. of Brackley Beach, Q.C.

NOVA SCOTIA: Near Tatagamouche, 21 July, WA took *E. phaeton*, and a *P. tharos* consistent with ssp. *arctica*, as well as *P. themistocles* & *mystic*. AT recorded *H. comma laurentina* at Dingwall, Victoria Co., C.B.I. 23 Aug. (? COUNTY RECORD). WA took an extensive representative list (available from DW) of local moths.

NEW BRUNSWICK: Near Plaster 10 July RAL remarked on large concurrent flights of fresh *L. arthemis* & *P. glaucus*, contrasting with the very slight overlap of these two species (*glaucus* earlier) around Ottawa in early June. In addition to citing *L. anthedon*, *P. batesii*, and *L. argyrognomon* 27-29 July nr. Fundy Nat. Pk., Albert Co. AT noted dung-feeding by *N. vau-album*, *P. satyrus*, and *P. faunus* 13 Aug. nr. Mt. Carleton Prov. Pk., Restigouche Co., and by *P. gracilis* 27 Aug. nr. Frederickton, Sunbury Co. In early Aug. he found numerous *S. edwardsii* nectaring only on tristite, despite

abundance of other flowers. A wet June washed out earlier collecting.

MAINE: In 2-5 field trips per week through the whole of Maine and the whole season (which included 27 days of cloud & rain in June), AEB recorded only 95 butterflies of the season, plus 2 hibernators and 7 migrants, 22 species in all, with only *L. epixanthe* and *P. rapae* exceeding 10 specimens. He saw only two *V. atalanta* and LD in Kennebunk reported none. Dow reared *L. astyanax* ex pupa 19 June and took *B. bellona* 21 May, Punky Swamp, York Co.; *P. glaucus* was flying by 22 May; *A. hegon* taken 9 June and *P. origines* 20 June in Kennebunk. DH noted a 60:40 ratio of *C. pegala* f. *alope:nephele* in Rumford, Oxford Co., 19 Aug., while DW noted over 95% *nephele* at Islesboro (Waldo Co.) 7 Aug. WK again found *C. eryphon* at the Wilson's Mills bog (Oxford Co.) in small numbers 21 May; in contrast to *augustinus*, it did little nectaring and tended to perch 2-3' up on black spruce tips. He found *B. eunomia dawsoni* scarce here, 1 ♀ 19 June. Pupae of *Exyra rolandiana* were collected 27 May; he recommends removal of pupa from pitcher-plant leaf-base, to avoid shrink-damage when leaf dries; he has an ichneumonoid parasite from this species on file.
MOTHS: LD took *C. pistaciaria* at blueberry 6 May in Kennebunk, and numerous *Isturgia truncataria* in a cranberry bog, Saco Heath, York Co., ? 20 May.

NEW HAMPSHIRE: An early-warming spring and hot dry May were followed by a totally wet June in northern NH; balance of season was normal. *Oeneis jutta* barely persists in the Bray Hill Bog, Whitefield, Coos Co. (29 May, 4 June: WK. Bog is going over to brush), but is prevalent in the larger NH bog across the road from the Wilson's Mills, ME, bog (v.s.), collected 5 & 19 June (WK). *L. anthedon* seen commonly 1 July in Jefferson, Coos Co., and many other localities. *O. melissa semidea* was numerous on Monticello Lawn, Mt. Jefferson, fresh ♂♂ & ♀♀, 10 July (WK). *C. inornata* was increased in Jefferson in early July and taken at 5500' on Mt. Washington 2 July (WK). [Need for a collecting permit cited; see 1976 NH summary.] *B. titania montinus* was common 21 Aug. at latter site (WK), and *B. bellona* was taken 17 Aug. in Durham, Strafford Co. (DH). WK noted a scarcity of *S. aphrodite* again, but great abundance of *L. arthemis*, and saw large numbers of *V. atalanta* on nettles, along with *N. milberti*. FF took *Polygonia satyrus* on *Eupatorium* in Scott Bog, Coos Co., 11 Aug. *E. laeta* was "common", taken x3 by WK along a beech woods road nr. Gorham, 22 & 27 May. *S. liparops*, always scarce, taken at Whitefield 16 July. *H. comma laurentina*, nectaring on (flat-top) *Solidago graminifolia*, worn ♀ ♀ common 19 Aug., Jefferson, greatly increased since first appearance 11 years ago (WK).
MOTHS: An extensive list of micros was recorded from Grafton Co. by SP (list available, many food-plant records): a few *S. argenteomaculatus* and *Hepialus gracilis* were taken at UV light. WK took the former at white light at Milan, Coos Co., 16 July. Abundant *Elopiia fiscellaria* in Grafton Co. on June (SP) suggest an earlier brood than the two listed for Aug. & Oct. *T. laricis* was frequent, late August. He also noted *P. furcilla* in a 50:50 ratio with its melanic form, June-Aug. Larvae of *Lithophane antennata* were found commonly on *Acer saccharum* & *pennsylvanicum*, *Betula lutea*, and *Fagus grandifolia*, June & July. Other moths, noted by WK, were *Lycomorpha pholus* on *S. graminifolia* 5 Aug. (Bartlett, Carroll Co.), *Syngrapha montana* visiting *Ledum groenlandicum* 4 June (Bray Hill Bog), *Anarta melanopa* sitting on moss and rocks in overcast weather 2 July (Mt. Monroe), *Hemipachnobia monochromatea* (NH "Wilson's Mills bog"), and a ♂ *Catocala relicta* nectaring on goldenrod in mid-afternoon 19 Aug. (Whitefield). *Oncocnemis piffardi* came to light 31 Aug. (Jefferson); *Byrdia rossi* taken 10 July above treeline, Mt. Jefferson, and *Carsia paludata* v. *boreata* among dwarf birch 21 Aug., Mt. Monroe.

VERMONT: *C. inornata* (cf. range note, end of Zone) was common and fresh 3 July in Washington & Caledonia Cos. (cf. dates of 5 June & 17 Aug. in '76 VT summary) and *L. anthedon* taken (DW). The *V. atalanta* outbreak reached Wolcott (Lemoyne Co.), enough to attract notice of laymen (FC). JBW saw 57 *L. arthemis* nectaring at once on a 50-yd. roadside strip of unidentified *Umbellifera*, Wolcott, 4 July. CN in southern Windham Co., late June, saw many blend-zone *arthemis* and *astyanax* and intermediates. *L. hyllus* was taken there 21 June, and on 4 July in a Wolcott marsh DW took an aberrant *L. hyllus* ♀, orange replaced by cream-color. *A. hegon* was prevalent 20 June, Windham Co. (CB).

MASSACHUSETTS: An April heat-wave leafed trees out two weeks early; an 8" snowstorm May 9 severely damaged young vegetation (and ? its foragers); heat and drought in July further reduced collecting. But *V. atalanta* were over-abundant in July in eastern Mass., including larvae on almost every nettle. A few *N. antiopa* were found feeding in their last instar on *Spartanium* sp. (burr-reed), whence they had wandered from *Salix* (Concord, Middlesex Co., DW).
MOTHS: TF took *P. modesta* 1 July and *S. kalmiae* 9 Aug. in Hopkinton, Middlesex Co. *H. lucina* was abundant in Sturbridge, Worcester Co., 18 Sept. (DS, TF), and *H. maia* occasional at Plymouth (Plymouth Co.) 8-18 Oct. (TF). ♂ & ♀ *A. io* like *lilith* were taken in Hopkinton, 5-6 June, and *Haploa confusa* were frequent there early July (TF). *Catocala* were scarce, especially the small yellows, but DW took four species for the first time (Dedham, Norfolk Co.); *innubens*, 18 Aug. & 18 Sept.; *piatrix* 5 Sept.; *subnata* 25 Aug., and *amatrix* 29 Aug.-9 Sept. TF in Hopkinton found *C. residua* common 23 July-4 Sept.; a few obscure mid-Aug.; *dejecta* late Aug.; one *relicta* 28 Aug. He found *Papaipema leucostigma* there mid-Sept. and *speciosissima* 22 Oct., and on 5 Oct. took *P. marginidens* in Falmouth (Barnstable Co.); *Zale submediana* 15 Apr., Hopkinton. *Dichorda iridaria* ♂ was taken 28 July-14 Aug. (Hopk.); 2 *D. magnarius* 20 July in Dedham (DW) were over 2 months early. *Lasiocampa chiridota*, ♂ at UV, Dedham 19 June (DW); *Olceclostera angelica* in Hopkinton 7 July (TF).

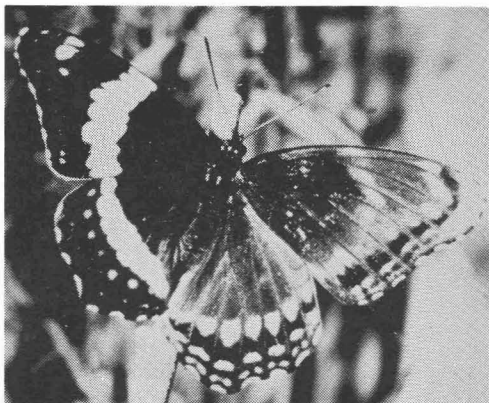
RHODE ISLAND: No report.

CONNECTICUT: Winter with seven weeks of continuous cold, but good snow cover; very early warm spring split by cold spells well into May; dry heat-wave in July, then increasingly wet, to twice-normal rain September on. Mid-summer had record cold, November quite warm. (All CT notes DS.) Many *A. midea*, 17 Apr., and *C. gryneus*, 30 Apr. (early) at West Rock, New Haven Co. Early records there: *P. saucia* & *L. unipuncta*, 10 March; *O. hibisci*, 11 March; *L. bethunei*, many mated one month early, 11 March; *E. rolandi*, 16 March. *Catocala* were average to high, but early species finished prematurely (heat); early dates: *blandula*, 29 June; *ilia*, *grynea*, *epione*, 30 June; *ultronia*, 5 July; *mira*, 12 July; *parta*, 19 July only; *cara*, 26 July; *piatrix*, 5 Aug. Highest were *ilia*, *relecta*, & *paleogama*, with *vidua* & *robinsoni* absent past 3 yrs. Saturniidae: *cynthia* common, *promethea* & *cecropia* increasing, *luna* and *polyphemus* present, but no *Citheroniinae* in New Haven area. *H. lucina* seen in flight 18 Sept. (Union, Tolland Co.), new STATE RECORD, ? stray from nearby Massachusetts colony. Larvae: *L. bethunei* on *Pyrus* & *Sorbus* late May & June; *L. petulca* on *Betula lenta*, and *C. grynea* on *Pyrus*.

NEW YORK: Early spring very warm in central and western part; then cool, wet, until July: hot & dry; very wet and warm in fall. EJ found *C. nipisiquit heinamani* common 3 Sept. nr. Alexandria Bay (Jefferson Co.), *L. eurydice* common in McLean (Cortland Co.) in July, and, reporting for *Minoa* & *Manlius* (Onondaga Co.) in central NY, found many *V. atalanta* larvae but few adults; most of the usual *Nymphalidae* were very low; *P. batesii* nearly gone in Syracuse colony. *E. phaeton* was normal, with late larvae found feeding on *Solidago* sp. In *Manlius* *S. caryaevorus* was abundant in late June-July, and *S. acadica* & *L. epixanthe* common in McLean Bog early July; *L. p. americana* & *E. comyntas* were not seen. EJ hosted some 40 *P. rapae* larvae in his broccoli patch, and took one *P. virginianensis* late May at *Manlius*. *Hesperidae* were low in numbers and diversity: *P. coras* low and *themistocles* absent (frequent elsewhere in zone), *P. catullus* occasional, but *T. lineola* was prolific. McLean Bog yielded *P. massasoit*, *E. bimacula*, and *E. dion* in early July...By contrast, TT in the westernmost NY County (Chautauqua) reported very large numbers of *P. glaucus* (by 20 May) & *polyxenes*; *troilus* low, & *G. marcellus* absent since late 50's). *V. atalanta*, *N. antiopa* and *milberti*, & *interrogationis* were extremely abundant. He reported *Speyeria* very scarce (yet cf. Erie Co., PA, only 50 mi. W.). *M. harrisi* was found 4 June at Cherry Ck Twp. *P. napi* was common 10 Apr., Allegheny St. Pk., Cattaraugus Co.
MOTHS: In Chautauqua Co. TT noted flights of all native Saturniidae including *angulifera* by mid-May, over two weeks early. He took a full assortment of the more northern *Catocala*, including many *amatrix* (2 forms) and *innubens* (incl. *scintillans*).

CULT OF THE DARKLING BUTTERFLIES REFUSES TO DIE!

INTRODUCING
THE
NONCONFORMIST
BUTTERFLY
OF THE
YEAR
1978



Dear Jo,

I enjoyed Bob Silbergleid's note on *Papilio glaucus* dimorphism. I have recently reared a unique lateral mutant of *Limenitis* spp. in the laboratory by backcrossing a white banded ♀ female interspecific hybrid (♂ *L. lorquini* from Oregon x ♀ *L. arthemis arthemis* from Massachusetts) to a partially banded (heterozygous) male (*L. arthemis* form *proserpina*), also from Massachusetts stock. The specimen is a female, although the smaller white banded left side wings are of male size and shape. The right (female) wings exhibit the partial banding of the male parent, the apical orange forewing tip of *lorquini*, and the iridescent hindwing blue-green mimetic coloration of *L. arthemis astyanax*. Both hindwings, as well as the right forewing only, exhibit the marginal red-orange spots characteristic of many specimens of *arthemis*. These spots are believed to function as deflection marks, thus conveying some protection to such admiral butterflies, from predators. All of these wing traits are inherited independently, and involve multifactorial autosomal genes. The insect was reared on weeping willow (*Salix babylonica* L.) and enclosed on 18 Nov. 1977.

The insect appeared to be a "bilateral gynandromorph" but we bred it to a ♂ and it produced 6 eggs (indicating that it was functionally ♀), none of which hatched. I suspect that the abdomens of many of the purported "bilateral" gynanders may, in fact, be either 1 sex or the other. If this is true, then only the wing discs may be involved in the observed changes.

Dr. Austin P. Platt, Dept. of Biological Sciences, UMBC, 5401 Wilkens Ave, Catonsville, MD 21228.

Dear Jo,

I have a possible explanation for the origin and formation of "The Winner" (NEWS: 1,1978 p.4), which is fairly simple and on an elementary level.

"The Winner" might well have been formed from a ♀ (XY) *P. glaucus* carrying the full correct genetics for the dimorphic, melanic or "semi-melanic" ♀ form. At the second mitotic cell division, after the XY sex chromosomes split (XX YY), there probably was on the right side, a failure of the split XX chromosome to separate thus going to one daughter cell making it ♂ (XX Y/Y). XX is in excessive balance for maleness as against its autosomes carrying genes for femaleness, and the Y chromosome is non-functional, at least in determining the sex of a cell.

All other cells of this individual continued in their "regular" melanic ♀ XY pattern. The genetics within the XXY ♂ cell plus its autosomes either failed to carry genetics for melanism or were dominant over the genetics for melanism and therefore this cell phenotypically appeared in the normal ♂ *P. glaucus* facies. Further mitotic splitting of this XXY ♂ cell continues to produce normal appearing ♂ cells until the right hindwing was completely formed as a ♂ wing.

I would like to know who, if anyone is tabulating detailed data on bilateral gynandromorphism. Most of those I have seen were ♂ in the right and yet on 11 July '77 on Gobbler's Knob ridge 31/102 (3100m/10,200 ft) in the Wasatch Mts. E of Salt Lake City, I caught an *Oeneis chryxus* gynandromorph with its ♂ half on the left.
Col. Clyde Gillette 3419 El Serrito Dr. Salt Lake City 84109

To the Editor:

To add a little fuel to the fire, I would like to report on a semi-melanic *Papilio glaucus canadensis* I have in my collection. The specimen was caught by Ross Layberry

in June 1976 in Gatineau Provincial Park, Quebec, near Ottawa. It appears to be a ♀. There are no black form ♀♀ recorded for the *canadensis* subspecies in this region. It is unlikely, therefore to be gynandromorph. The specimen also has the distinction, as did Rosier's, of having marks of a bird's beak on the hindwings.

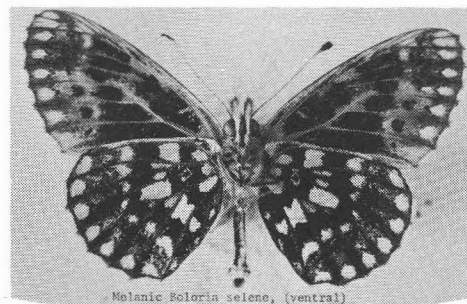
Dr. Eugene Munroe in Ottawa showed me several semi-melanic specimens of *P. glaucus canadensis* in the collection of the Canadian Dept. of Agriculture. These appeared to be ♂♂. Dr. Munroe also had a number of color plates of similar specimens from Ontario, Quebec & New Brunswick, so the phenomenon appears to be fairly widespread north of the border. In general all the specimens conform to a semi-melanic *canadensis* pictured in an article by Austin Clark "The Swallowtail Butterflies" in the Annual report of the Smithsonian Institution, 1935. I will send along a b/w print of my semi melanic *canadensis* when the film has been developed.

Peter Hall, 1212 Meadowlands Dr. E. #5, Ottawa, Ont. K2E 6J7

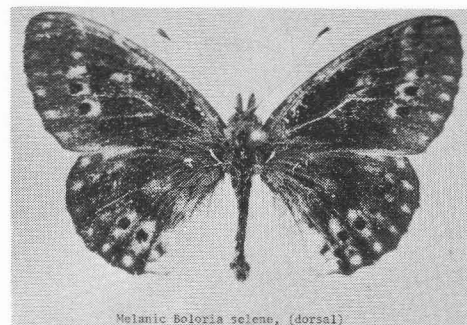
Dear Jo Brewer,

In response to your request for examples of melanic butterflies, I am sending you some slides of 2 captures (actually 3 as you will note): 1) a melanic ♂ *Boloria selene*, & 2) a melanic ♂ caught in copula by my brother while we were collecting together at Kluane Lake, SW Yukon. This ♂ was either *Boloria titania* or *B. chariclea*. In the same spot we caught many specimens of these species(?). While some looked like good *chariclea*, others looked like *titania*. I am hesitant about identifying our specimens as one or the other. If you or any of your associates could be sure of the identity based on the slides, I would like to hear from you.

Douglas E. Scovell, 7 Felicity Dr. Scarborough, ONT M1H 1E2.

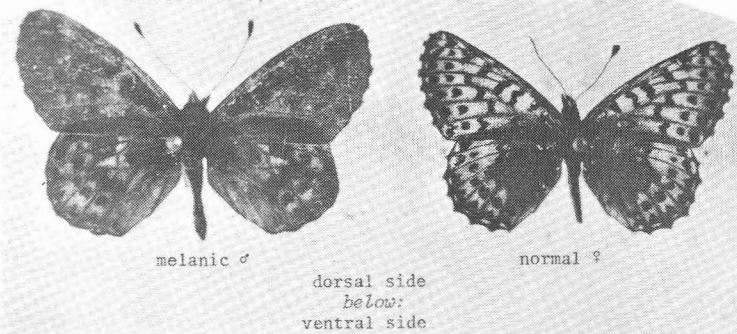


Melanic *Boloria selene*, (ventral)



Melanic *Boloria selene*, (dorsal)

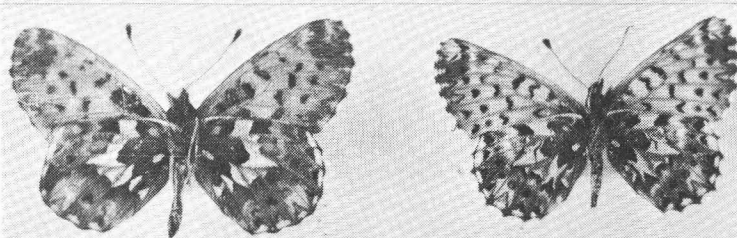
Unidentified pair of *Boloria* caught in copula



melanic ♂

normal ♀

dorsal side
below:
ventral side



To the Editor:

Concerning Monarch clusters --on the New England coast there are numerous local sites with overnight clusters, each containing thousands of individuals by late afternoon for a few weeks during the migration peak. Our observations over 25 years, mainly in Connecticut and Rhode Island, show that the exact same spots (even the same individual trees) have clusters year after year. The *isolated* observations, like Mr Sharp's (see Leps' NEWS Nov/Dec 1977), at least some of the time must be due to the person being there only *infrequently* at the right time of season & day. But of course the wind patterns and larger weather masses have something to do with flight direction, height & sociality on any given day, so the location may get shifted and allow an unusual massing at times. The Sharp description reminds me of the behavior and intensity I regularly see late in the day as Monarchs are assembling for sleep clustering, apparently associated by means of a gregarizing pheromone. My feeling is is that the major research need is for lepidopterists and other naturalists to scout the entire coastline (and possibly other accumulation terrain such as peninsulas on shores of large lakes) during the migrational peak and map the normal cluster sites. While concentrating on Monarchs they should also keep notes on whether any individuals are present of the more desultory migrants here --*Vanessa* spp., *Phoebus sernae*, and possibly others. Among the spinoffs of such knowledge would be a Xerces Society or local campaign to have some of the best cluster sites set aside and the vital roost trees kept uncut. I doubt that the Monarchs need protection, but the necessary roosting trees do.

C. G. Remington Dept of Biology, Yale University, New Haven, CT 06511.

Ed. Note: There are well known sites on Prout's Neck and Pemaquid Point in Maine, and at Eastern Point in Gloucester, Mass. If members have knowledge of other coastal congregating or roosting sites, please send information to Jo Brewer, Editor, the NEWS of the Leps. Soc. Congregating sites are apt to have stands of goldenrod & New England Aster. Roosting trees are, among others, oak, pitch pine, and maple.

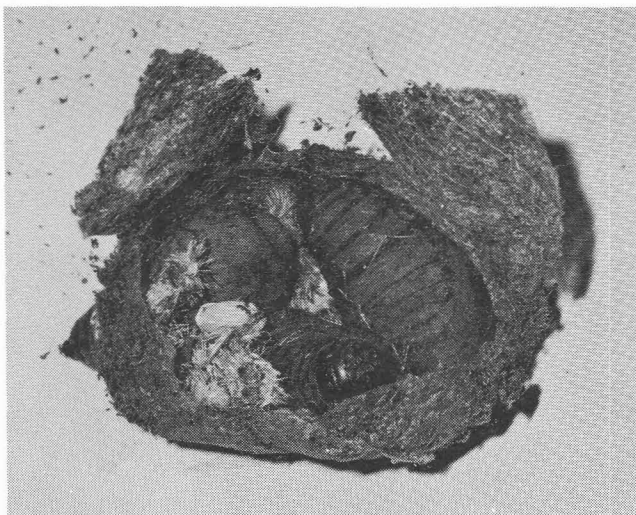
A Short Lived Phenomenon

To the Editor:

On collecting the cocoons of the *Automeris io* that I had reared in late summer I noticed one cocoon that was particularly large. On returning home I decided to cut it open and look at the huge pupa destined for my collection when it emerged. It turned out that there were 3 pupae and 3 larval skins in the single cocoon.

I have reared quite a few *Automeris* but never before have I witnessed this oddity. I would be interested in knowing whether or not anyone else has discovered this type of behavior.

John M. Coffman, Rt. 1, Box N153, Timberville, VA 22853.



Triplets yet!

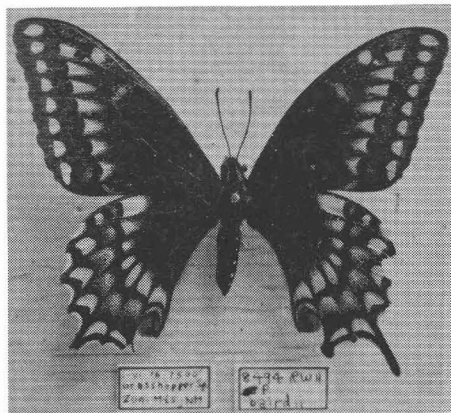
Dear Jo,

I have been in the process of preparing an article on aberrant butterflies from New Mexico. One of the specimens in question is illustrated in the enclosed photograph. It is a *Papilio bairdii* with a ♂ wing pattern and a ♀ abdomen. The question has arisen as to what the proper term for this particular type of intersex specimen is, in view of the recent flurry of interest in Gynandromorphs in the NEWS, I thought that :

- 1) Someone might be able to give me the correct term for what this critter is;
- 2) you might want to illustrate it in the NEWS.

I am more interested in knowing the proper term than in having my specimen illustrated if there is a choice.

Richard Holland, 1625 Roma NE, Albuquerque, NM 87106



LIFE HISTORIES ANONYMOUS

In reading through several recent general texts, we have been struck by the fact that the life histories of a number of Lepidoptera appear still to be unknown or incompletely worked out. Since an extensive search of the literature has not been made, there are doubtless some species so listed on which more recent observations have been made, although information on such observations may not be readily available to many members.

Amateur observers have always played an important role in the study of Lepidoptera, and as a stimulus to further investigations we plan to create a new department in the NEWS starting with the next issue, in which we shall publish lists of species for which complete life histories appear not to be available.

If such is the case, we hope that those members interested in life histories will try to fill in the gaps. If readers can provide references in instances where the gaps in knowledge have been filled, these references will be printed in the NEWS in succeeding issues.

Any correspondence (or brickbats) resulting from the aforesaid lists should be sent to:

Dave Winter, Editor of Life Histories Anonymous
257 Common St, Dedham MA 02026.

Ceratonia hageni: A NEW RECORD & A SECOND CAPTURE

C. hageni Grote (Sphingidae) has been recorded from Arkansas, Illinois, Kansas, Mississippi, Ohio, Pennsylvania & Texas. (Hodges, The Moths of Amer.N. of Mexico, Fascicle 21, 1971: Franklin, J. Lepid. Soc. 26:198 1972; Selman, Ohio St. Univ. Biol. Notes 9:31 p). eight ♂♂ of this species were taken from 12 July - 3 August 1975 at lights at Tech Aqua Biol. Stat., DeKalb County, TN. As mentioned by Hodges & Franklin, *C. hageni* is a late flier. All my specimens were collected after 10:00 p.m. The specimens are deposited in the collection of the Dept. of Entomology, VA Polytechnic Institute & St. University. BORIS C. KONDRATIEFF, Dept. of Ent., VA Polytechnic Inst. & State Univ., Blacksburg, VA 24061.

Between July 22 & August 20 1977, 4 adult *Ceratonia hageni* Grote were taken at a UV light trap operating at a golf course in Terrace Park, Clermont CO., Ohio. According to Selman (1975, Biol. Notes #9, Ohio Biol. Survey, Ohio St. Univ.), the only other recorded capture of *C. hageni* in Ohio was made by Mrs. Rose Blanchard of the Ohio St. Univ. at Cincinnati, OH on August 25, 1973. One specimen has been retained by the author and is accessible through him.

GERALD S. WEGNER, Dept of Entomol., Ohio St. Univ, Columbus, OH 43210.

PENNSYLVANIA, Northwest: JP, for Erie and adjacent Crawford & Warren Cos., had boundless enthusiasm for a banner collecting year which added up to snowiest, wettest, latest, but bestest!: 110" snowfall, 56" total precip., 23" June-Aug. precip., collecting season starting one month late, ending one month early, with some very good days in between. (Yet cf. adjacent Chautauqua Co. NY) He reports most *Nymphalidae* very common, esp. *S. cybele* (which in one area nectared in swarms, on *Apocynum medium* only), *N. milberti*, *N. antiopa* ("marginal borders very wide"), *B. bellona* (single brood in July); *V. atalanta* & *C. cardui* extremely abundant all of June & July; *L. arthemis astyanax* very high (10 June-peak 22 July-15 Aug.); he notes that in McKean Co., where *astyanax* was abundant, *L. a. arthemis* was not seen this year, and usually the two fluctuate together; *E. phaeton* (Erie Co.) & *C. harrissi* (McKean Co.) were low. *L. p. americana* & *E. comyntas* were extremely common (cf. central NY); hairstreaks were not outstanding. *P. glaucus* was very common, but first date 14 July (cf. adjacent western NY); *polyxenes* and *troilus* down. *Hesperidae* were average and limited in variety, esp. the branded skippers.

Southwest: CO reported a prosperous colony of *P. virginensis* mid-May, Ohiopyle St. Pk., Fayette Co., with ♀♀ showing apparent oviposition interest in *Barbarea vulgaris*.

North-central: Hundreds of *L. anthedon* taken mid-June to mid-July at Black Moshannon St. Pk. (Centre Co.) by RB, where he also took many *Speyeria*, esp. *atlantis*, some in bait traps, early June thru July; *C. harrissi* mid-June. *N. milberti* flying by mid-March, Benner Twp., Centre Co., larval colonies 1 May; *N. vau-album* in bait-traps, Nittany Mt., Centre Co., late June into July. RB found *F. tarquinius* larvae feeding on *Neoprociphilus aceris* on *Acer sacharinum* early July, Benner Twp. *C. niphon*, confined, oviposited on *Pinus strobus*, reared to pupae. *S. liparops* confined with *Quercus*, *Prunus*, & *Crataegus*, oviposited only on *Crataegus*. FF took *P. m-album* in Black Moshannon St. Pk., 1890', 27 May, on moist earth, shady wood road (COUNTRY RECORD). RB saw *P. virginensis* ovipositing on *Cardamine pensylvanica* 6 May (Oleona, Potter Co.); reared to pupae.

Southeast: A record cold February preceded a heat-wave late March, another in late April, followed by a normal summer with ample rain. So-called "summer" forms of *Polygona* were disordered: *P. interrogationis* ova 11 May produced 50:50 *umbrosa*:*fabricii* in early July, both "mixed" brood and early light form being unusual (GE). He saw *L. astyanax* 11 May (Lancaster Co.) & *A. clyton* ♂ 12 June. GO recorded *B. bellona* 29 May in cop. (Fairbanks Co.) & DH 4 June in Mountop (York Co.) & 11 Aug. in Durham (Bucks Co.). GE saw no *E. claudia*, but took *L. arthemis v. albofasciata* late July in Schuylkill Co., after 22 yrs. lapse. TW saw large numbers of *V. atalanta* in Flouertown (Montgomery Co.) 10 July, along with fewer *P. comma f. dryas*. KG took *C. niphon* 16 Apr. at Oley (Berks Co.). GE first sighted *P. m-album* 8 May but no more until late Aug.; peak in mid-Sept., up to 7 in an area, nectaring on *Solidago* and *E. perfoliatum*; last record 7 Oct. (Lebanon & Lancaster Cos.). KG found *A. midea* again in his backyard after a 6-yr. absence, late April, ovipositing on unidentified crucifer. And GE took a fresh ♂ *P. protocide* in late Aug. (Schuylkill Co.), not seen for 20 yrs. DH took a worn *G. marcellus* 4 June (York Co.). He saw many *T. lineola* there early July, vs. a single record by GE in Lancaster Co. *H. leonardus* was present late Aug. in Schuylkill Co. but not taken in Lancaster Co. KG took *A. hegon* 21 May in Oley.

MOTHS: In Quakertown (Bucks Co.) WB (who has 7-yr. records of UV catches available) reported (without dates) *S. chersis*, *Apantesis arge*, *Catocala serena*, *obscura*, *residua*, *vidua*, *parta*, *minuta*, and *connubialis*. He has been free of *P. excaecatus* for 2 years!

NEW JERSEY, North: *V. atalanta* was very numerous mid-June to late Aug. in Union Co., *L. arthemis astyanax* appeared as early as 22 May; in Gillette (Somerset Co.) numerous *B. bellona* were reported 24 July. *E. lisa* was first seen 13 June in Summit (Union Co.), where *P. polyxenes* was at a 15-yr. high. One *A. hianna* taken 22 May (all GO). CB saw *A. lyciades* in numbers 5-20 July in Englewood (Bergen Co.).

MOTHS: GO reared *Balsa malana* from larval nest 16 July on *Apocynum androsaemifolium*, and *Epimecis hortaria* from larvae 16 July on *Rhus typhina*, Berkeley Hgts., Union Co.

South: After a severely cold open winter (to -10°F), spring came early (71° on 27 Feb.); very hot July, with summer and fall very dry. *S. falacer* and *L. epixanthe* quite worn by 20 June, Batsto, Burlington Co. (DS), latter first seen 12 June; TW still saw fresh ♀♀ 3 July, Lebanon St. For. RB reared *E. ontario* on *Quercus alba* (ova kept over in refrig., from Lakehurst, Ocean Co., 24 June '76). TW noted *Pyxidantha barbulata* as preferred nectaring plant for *C. augustinus* 12 Apr. (Burlington Co.).

MOTHS: (DS records except as noted.) *P. macmurtrei* 22 May (early) Batsto; *Inguromorpha basalis* (southern) 20 June, Batsto. *A. luna* & *A. polyphemus* 23 Apr. (early), Tabernacle Twp. (Bur. Co., HB); 2nd brood of both present 6 July. Eldora (Cape May Co.); *H. cecropia* numerous, *C. promethea* scarce; *E. imperialis* 19 June (early & increasing), *C. sepulchralis* 19-20 June. Batsto; despite severe winter southern *Geos Sterrha violacearia* (Batsto 7 July) & *Anacamptodes defectaria* (Eldora 16 Apr. JPM, & 6 July DS) persisted; *Heterocampa subrotata* taken 6 July in Cape May *Celtis* forest. *Orthosia hibisci* numerous 9-11 March (early) at bait, Eldora CW; *Acronicta tritona*, *Leucania litina*, & *Caenurgia convallescens* taken at bait late Oct. (late). *Catocala maestosa* hung on, but barely: 1 at bait, Eldora, late Oct. (JPM); *C. ilia* (19 June) & *sordida* (20 June) were early at Batsto; *C. connubialis* numerous late June in Eldora. Prize was *C. praetiosa* at bait: JPM Eldora 23 June, ♂ & ♀; DS Cape May, 6 July, ova obtained. And to close the season DS took 15 *E. vinulenta* and 1 *E. morrisoni* at *Acer negundo* sap flow at 35° in rain just after dark, 30 Dec. "Nor rain, nor sleet, nor black of night shall keep this collector from his appointed rounds".

DELAWARE: No report.

MARYLAND & D.C.: JF reported 178 collecting days (and took 71 species of butterflies, including 31 skippers) despite weather extremes: record cold spells in early months, excessive heat July-Sept., double normal rain in autumn. (Following records are JF's for Prince George, Calvert & St. Mary's Cos., except as noted.) *Satyridae* were low, also *L. bachmani*. WA found a new colony of *E. phaeton* near Edgewood Arsenal, Harford Co., late May. *E. claudia* occurred 11 days in JF's area; *C. cardui* was absent. Abundant *Lycaenids* were limited to *S. melinus*, *E. comyntas*, & *C. a. pseudargiolus*; plus *S. edwardsii* (WA) in Baltimore Co. Near Sandy Hook, Washington Co., WA took *G. ebenina* ♀, *E. laeta* (STATE RECORD), and *C. henrici* (Apr.-May). *P. m-album* was taken by RL in Darnestown, Montgomery Co., 11 Sept., and by WA at Port Deposit, Cecil Co. *P. orotodice* was taken in P.G. & Calvert Cos. after many years absence, *Phoebis sennae* taken only once; the scarce *E. nicippe* was taken in D.C., and also taken by WA in Port Deposit (Cecil COUNTY RECORD), Sept., along with an albino ♂ *E. lisa*. *G. marcellus* and *P. polyxenes* were very common in the peninsula. WA reported *A. hegon* in Washington Co. (May). FS reported reduced incidence of *P. panoquin* & *ocola*, *A. hianna*, *P. zabulon* & *aaroni*, *L. accius*, *N. lherminier*, *E. icelus* & *T. bathyllus*. *A. lyciades* continued down, *S. hayhurstii* taken: D.C. RECORD.

MOTHS: RL took *Dichomeris ligulella* at Darnestown. JW saw abundant *E. imperialis* at street lights late July, 1-4 A.M., Montgomery & Howard Cos., with a few *A. luna* & *A. polyphemus* and numerous sphingids: *pandorus*, *sexta*, & *myron*. He noted bats preferring the smaller moths, but making a few unsuccessful passes at *P. pandorus*. *C. regalis* late instar larvae were common late July.

MIGRATORY SPECIES: As noted for the individual areas, *V. atalanta* had a big year, spreading and reproducing in large numbers thru the entire zone, except for Maine, as AEB's extensive negative observations attest, and the Maritimes. '77 was a "Monarch year" in the northeast; JF saw first return 18 Apr. in MD. Above average to extremely abundant reproduction was noted in July & Aug. in Quebec (RAL), Erie area (JP & TT), northern NH (WK), and Islesboro, ME (JWB: averaged over one dozen ova per second-growth plant, early Aug.). In Erie area maximum migration was about 4 Sept. Massive numbers (est. 10⁴-10⁵) of SW. migrating *D. plexippus* were recorded in Squantum, MA, p.m. 18 Sept. (Lep. News Nov. 77) and Huntingtown, MD, a.m. 22 Sept. (JF). Airline distance is approx. 400 mi., suggesting that these were two sightings of the same flight. Last straggler was noted by JF 15 Nov.

RANGE EXTENSION: *C. inornata*, which has spread in northern N.E. in the past decade, this year reached south to Jacksonville, Windham Co., VT (CB 27 June), and Hollis, Hillsborough Co., NH (PM 19 Aug.), both locales being adjacent to the Massachusetts border.

URBAN COLLECTING: CB took *N. antiopa* 3 March in Inwood Hill Pk., New York City, snow still present; *P. zabulon* 7 Aug. & *P. protodice* 4 Sept. in Riverside Pk. He sighted several *S. Cynthia* 5-6 Sept. (? partial 2nd brood) in upper West Side, one ovipositing on the roof of a sports car on Broadway!

ZONE 8: THE FAR NORTH: ALASKA, NORTHERN CANADA, NORTHEAST SIBERIA. Coordinator: Kenelm W. Philip. Contributors: J. Ebern, 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: During the period 1959-61 the Cape Thompson area (Chukchi Sea coast, NW. Alaska, 30 miles SE. of Point Hope) was extensively investigated in connection with the Atomic Energy Commission's Project Chariot: a proposal to excavate a harbor at the mouth of Ogotoruk Creek using nuclear explosives. Project Chariot was (fortunately) cancelled, but the bio-environmental data obtained were published in 1966 (Environment of the Cape Thompson Region, Alaska). Surprisingly, no mention of Lepidoptera was made even in a chapter on terrestrial invertebrates which included lists of beetles, flies, wasps and several of the smaller orders of insects--although collecting in 1976 by an ALS volunteer indicated that the area had a diverse lepidopteran fauna. Logistic support from Renewable Resources Consulting Services, Inc. made it possible to remedy this omission. Two weeks in July were spent collecting in near-ideal weather (not usual for this area!) at the Project Chariot camp on Ogotoruk Creek (field party: K. Philip). The season was far advanced owing to the unusual weather conditions, but 687 butterflies and 51 moths were obtained (see below) before the effective collecting season ended. Only 20 or so ALS volunteers were active this year, ranging from Baffin Island to Magadan, Siberia. The season's input to date is 2100 specimens.

Northwest Territories: Weather: Eber reports a late and cool early summer at Frobisher Bay, Baffin Island with an unusually warm but unproductive August.

Baffin Island: Frobisher Bay, 7-31 July. Eber reports one additional species (see 1975/76 A.S.): *Anarta richardsoni*.

Cumberland Peninsula (Sunneshine, Moonshine, Mermaid Fjords), 11-20 Aug. *Colias hecla*, *Boloria frigga*, *B. frieja*, *B. chariclea*, *Oeneis polixenes*.

District of Keewatin: Rankin Inlet, 4-6 July. *Oeneis melissa*, *O. polixenes*, *Erebia rossii*, *Aspilates* sp.

Yukon Territory: Elsa/Keno, 28 May-19 Aug. Eber reports: *Erynnis persius*, *Parnassius phoebus*, *P. evermanni*, *Papilio machaon*, *P. glaucus*, *Pieris occidentalis*, *P. napi*, *Colias hecla*, *C. boothii* (new southern record for Y.T.), *C. philodice*, *C. palaeno*, *Euchloe ausonides*, *Lycaena dorcas*, *Lycaeides argyrognomon*, *Vacciniina optilete*, *Agriades aquilo*, *Glaucopsyche lygdamus*, *Celastrina argiolus*, *Limenitis arthemis*, *Nymphalis antiopa*, *Polygonia gracilis*, *P. hylas/faunus*, *Boloria napaea*, *B. frigga*, *B. improba*, *B. polaris*, *B. frieja*, *B. distincta*, *B. chariclea/titania*, *B. eunomia*, *Speyeria mormonia*, *Oeneis bore*, *O. melissa*, *O. polixenes*, *Erebia disa*, *E. discoidalis*, *E. theano*, *E. epipsodea*.

ALASKA: Weather: Interior Alaska had an unusually rainy June, followed by warm dry weather. NW. Alaska and the Seward Peninsula had clear and very hot weather during most of July, with severe tundra fires in many locations. Range Extensions: Arctiid near *Orodemnias* from Ogotoruk Creek (see '76 A.S. for earlier records). *Boloria distincta* from Ogotoruk Creek and Cape Lisburne. Notable Captures: *Vanessa atalanta* from Pelican (Lisianski Inlet, Chicago of Island) and Auke Bay (near Juneau). This species occasionally turns up in Alaska, always (except for one Palmer record) in SE. Alaska which appears to be its northwestern limit in favorable years. New Collecting Locality: Ogotoruk Creek (the Project Chariot campsite) is easily accessible by bush plane from Kotzebue (permission to use the camp buildings should be obtained from the Naval Arctic Research Laboratory, Barrow, Alaska). The creek valley is 2 miles wide, bounded to the northwest by Saligvik Ridge (a limestone formation ending in the cliffs of Crowbill Point on the seacoast) and to the southeast by the Telavirak Hills. The cliffs of Crowbill Point support a dense population of *Boloria distincta* (and every scree slope in the area appears to have some *B. distincta*, even 200 yds. from the beach at 150' elevation), while *Erebia mackinleyensis* flies in the scree along the southeast side of the ridge. A lush tundra meadow habitat restricted to a small area on the seaward face of Crowbill Point had a thriving colony of *Lycaena phlaeas*, which was seen nowhere else in the area. Two week's collecting yielded 28 species of butterflies despite the advanced season--a good number for a tundra site.

North Slope: Hulahula River, 4-10 mi. from mouth, 11 July. *Acerbia alpina*. Chandler Lake, 24 June, *Acsala anomala*. Singilik (E. of Meade River, about 60 mi. from the arctic coast), 27 June-12 July. *Boloria napaea*, *B. frigga*, *B. polaris*, *B. frieja*, *B. chariclea*, *Oeneis melissa*, *Erebia rossii*, *E. fasciata*, *Aspilates*, sp.

Northwest Coast: Ogotoruk Creek, 7-19 July. *Parnassius evermanni*, *Papilio machaon*, *Pieris occidentalis*, *P. napi*, *Colias hecla*, *C. thula*, *C. philodice*, *C. palaeno*, *C. nastes*, *Lycaena phlaeas*, *Agriades aquilo*, *Boloria napaea*, *B. frigga*, *B. improba*, *B. polaris*, *B. frieja*, *B. distincta*, *B. chariclea*, *Coenonympha kodiak*, *Oeneis bore*, *O. melissa*, *O. polixenes*, *Erebia rossii*, *E. disa*, *E. fasciata*, *E. mackinleyensis*, *E. youngi*, *E. dabanensis?*, *Orodemnias?* sp., *Barrovia fasciata*, *Aspilates* sp. Cape Lisburne, 7-18 July. *Colias hecla*, *C. nastes*, *Boloria frigga*, *B. improba*, *B. distincta*, *B. chariclea*, *Erebia dabanensis?* Seward Peninsula: Kitluk River, 66° 32'-35' N., 164° 22'-26' W., 13 June-26 July. *Parnassius phoebus*, *Colias hecla*, *C. palaeno*, *Boloria frigga*, *B. chariclea*, *Coenonympha kodiak*, *Oeneis bore*, *O. polixenes*, *Erebia rossii*, *E. disa*, *Pararctia subnebulosa*, *Aspilates* sp. Wales/Tin City, 19-30 July. *Parnassius phoebus*, *P. evermanni*, *Colias hecla*, *Boloria napaea*, *B. chariclea*, *Erebia dabanensis?*

Interior Alaska: (Clearwater Fork of Toklat River, E. side of Kantishna Hills), 18-25 June. *Carterocephalus palaemon*, *Pyrgus centaureae*, *Papilio machaon*, *Pieris napi*, *Glaucopsyche lygdamus*, *Polygonia gracilis*, *Boloria polaris*, *B. chariclea*, *Oeneis polixenes*, *Erebia disa*. Karluk River, Kodiak Island (at portage to Larsen Bay), 23-27 June. *Pieris napi*, *Nymphalis milberti*, *Oeneis polixenes*, *Parasemia plantaginis*. Karluk Lagoon, Kodiak Island, 1 & 14 July. *Pieris napi*, *Boloria selene*, *Coenonympha kodiak*.

MAGADANSKAYA OBLAST', NORTHEAST SIBERIA: Chaun Lowland, vic. Ust' Chaun, 20 July-5 Aug. *Papilio machaon*, *Colias hecla*, *C. palaeno*, *Euphydryas iduna*, *Boloria napaea*, *B. chariclea*, *B. eunomia*, *Oeneis bore*. This site is at the south end of a large bay in the arctic coast, and is roughly comparable to localities on the Alaskan North Slope at the interface between the Arctic Coastal Plain and the outer foothills of the Brooks Range. Snezhnaia Dolina ["Snowy Valley"], 15 km NW. of Magadan, 2-5 Aug. *Colias palaeno*, *Vacciniina optilete*, *Boloria chariclea*, *Coenonympha kodiak*, *Erebia ligea*. This site, nr. the north coast of the Sea of Okhotsk, would be analogous to localities in southcentral Alaska. Cape Telanskii, Taigonos Peninsula, 16 Aug. *Parnassius phoebus*. This site would be comparable to the Kenai Peninsula.

ZONE 9: Report not yet received.

ZONE 10: Report not yet received.

ZONE 11: ONTARIO. Coordinator: Quimby F. Hess (QFH). Contributors: Paul M. Catling (PMC), Sidney M. Daniels (SMD), W.J.D. Eberlie (WJDE), Nick Escott (NE), A.M. Holmes (AMH), R.A. Layberry (RAL), Jack E. Pilkington (JEP), Walter Plath Jr. (WP), Darryl Stewart (DS), Ken Thorne (KT), Norman A. Tremblay (NAT), Jim Troubridge (JT), David H. Eider (DHE), Gregory C. Daniels (GCD).

GENERAL: The Province of Ontario extends from the Great Lakes N. approx. 1000 miles to Hudson and James Bay and east-west a distance of approx. 1500 miles. The southernmost point in Canada, Pelee Island in Lake Erie, is in Ontario

NOTICES

PLANNING COLLECTING EXPEDITION to Afghanistan late June and July. Plan to do Life History studies, etc. in the Koh-I-Baba Mountains and western Hindu-Kush. Interested in contacting parties desiring to participate in the venture. Am investigating firms to provide porters, gear, security. R. Mattoni, 2122 Granville Ave., Los Angeles, CA 90025.

JOURNAL OF RESEARCH ON THE LEPIDOPTERA. The Lepidopteran Research Foundation is soliciting members. Volume 17 forthcoming in 1978. Annual dues \$15.00 for four issues. Write for sample copy. Back issues of all volumes available. Write: Journal of Research on the Lepidoptera, Santa Barbara Museum of Natural History, 2559 Puesta Del Sol Road, Santa Barbara, CA 93105.

FUTURE EMPLOYMENT: Seeking applicants with background and interests in mass rearing of Lepidoptera for biological control programs including sterile release and virus production; also pheromone R & D. Openings will be in Oregon, Arizona, and the Northeast. Please send resume to R. Mattoni, AGRESEARCH, Inc., 2122 Granville Ave., Los Angeles, CA 90025.

THE XERCES SOCIETY will hold its 5th Annual Meeting from May 19-21 at the Oakland Museum, Oakland, CA. Highlights of the meeting will include a symposium and field trip jointly sponsored by the XERCES SOCIETY and the CALIFORNIA NATIVE PLANT SOCIETY, an illustrated talk on Lepidoptera life and its conservation in Papua-New Guinea, and a banquet talk by Dr. Edward S. Ross, noted insect photographer, world traveler/collector, and author of several articles which have appeared in NATIONAL GEOGRAPHIC MAGAZINE. The meeting will be open to the public, and a special invitation is extended to interested Lepidopterists. For further information, please contact: Larry Orsak, Program Chairman, Dept. of Entomology, University of California, Berkeley, CA 94720.

CORRECT ADDRESS of the JOURNAL OF RESEARCH ON THE LEPIDOPTERA is: c/o the Santa Barbara Museum of Natural History, 2559 Puesta Del Sol Road, Santa Barbara, CA 93105, USA. Using any other address may result in mail loss.

ERRANT ASTERISK. The * after my name in the new commemorative volume indicates that I am no longer a member of the Leps' Soc. Since my name heads the list of Indiana members, this is obviously not the case. I AM still a member. Also, I have NOT moved, although my address has been changed by the P.O. Dept. from Granger to South Bend. I still live at 17145 Cherokee Drive, South Bend, IN 46635. Ray W. Bracher.



*With deep regret we announce that
one of the Society's Charter Members,*

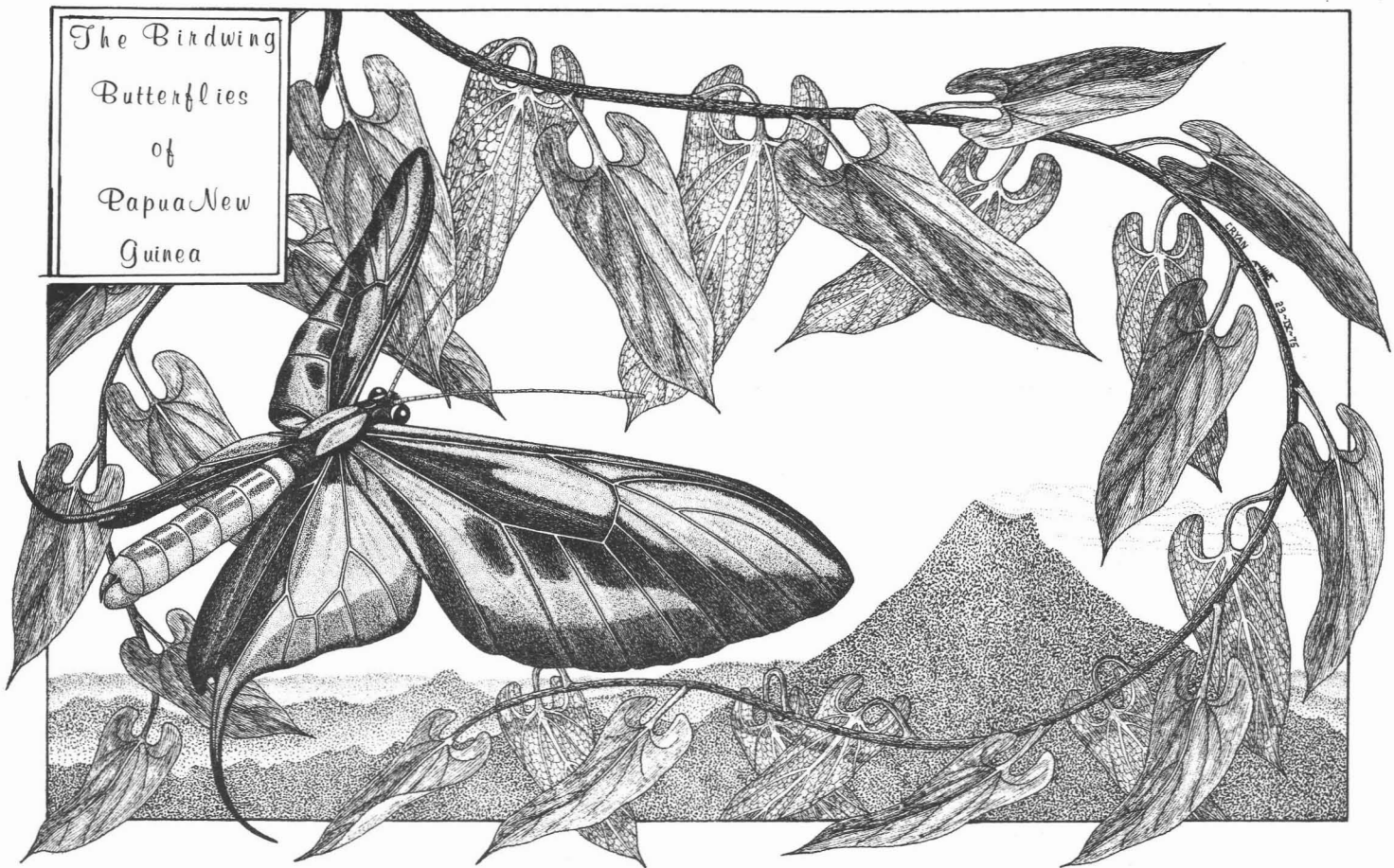
DR. RALPH L. CHERMOCK

*died suddenly on 11 November 1977
after a prolonged illness.*

ATTENTION FLORIDA COLLECTORS

I had lived in Orange Park, FL for 3 years, and found a colony of albinic *Heliconius Charitonius tuckeri*. The insects were albinic in that the yellow wing markings were either wholly or partially replaced with white. I had every intention of studying the colony the following year, as I had found it late in the season of 1972, but military obligations soon took me overseas and then here to North Carolina.

Being unable to return to Florida, I wonder if the colony still exists. It may have been absorbed by the surrounding population. I'm not even sure that the mutation was genetic. It might have been caused by the heavy use of herbicides along the railroad tracks a short distance away. I will gladly furnish information regarding the location of the colony to anyone interested in pursuing this study.
Robert W. Cavanaugh, Jr. PO Box 489, Newport, NC 28570.



Ornithoptera paradisea Stgr. Pen & Ink by Artist-Naturalist John Cryan. (reduced 1/3. Original in the collection of the Editor)

The giant birdwing butterflies, *Ornithoptera*, of New Guinea have usually brought visions of tropical splendor and breathtaking beauty to butterfly collectors. Actually, few will ever have the opportunity to collect these butterflies in their native habitat, or to obtain them through exchange or purchase because of their scarcity or high cost. Many of the areas where these magnificent 'birdwings' fly are now off limits for general collecting. The demand for specimens and the gradual encroachment into their prime habitat have created a situation such that the recently declared island nations have placed these insects on their protected and restricted species lists. One such nation is Papua New Guinea which occupies the eastern half of the island of New Guinea, lying just north of Australia.

"THE NATIONAL BUTTERFLIES OF PAPUA NEW GUINEA", by G. A. Mitchell, is a colorful 16-page booklet, published by the Wildlife Branch, Dept. of Natural Resources, PNG. It illustrates in full color and life sized photographs both sexes of the 7 species of *Ornithoptera* now on the protected list: *O. alexandrae*, *O. allotei*, *O. chimaera*, *O. goliath*, *O. meridionalis*, *O. paradisea*, *O. victoriae*. This interesting little publication briefly describes the range and altitude of each species and has an introduction printed in Pidgin, Motu and English.

In addition to this publication, the Wildlife Branch has compiled "WILDLIFE IN PAPUA NEW GUINEA" by Fred Parker, 1977. This pamphlet deals with the collecting, export, research and filming of wildlife in Papua New Guinea, including the regulations for protected species and exportation of non-protected insects. Both publications may be obtained by writing to: Conservator of Fauna, Wildlife Branch, Dept. of Natural Resources, PO Box 2585, Konedobu, Papua New Guinea.

I wish to thank Dr. Jeffrey N. L. Stibick, Senior Entomologist, Dept. of Primary Industry, Konedobu, PNG, for sending the above publications.

M. C. Nielsen, 3415 Overlea Dr. Lansing, MI 48917.

/R E S E A R C H R E Q U E S T S/

- I WOULD LIKE CORRESPONDENCE with anyone who has collected Louisiana Lepidoptera. Am compiling data for future publication. Must be able to authenticate all records. Vernon Brou, Rt.1 Box 74 Edgard, LA 70049.
- I NEED INFORMATION about *Rothschildia lebeau forbesi* Benjamin (Lepidoptera: Saturniidae). I need mainly biological data & data on parasitotes or predators, for PhD thesis in Biology. Send information to: Jose A. del Toro Gonzalez, c/o Biol. Jose J. Ortiz H. Apartado postal 2820, Monterrey, Nuevo Leon, MEXICO.
- I NEED ANY INFORMATION (distributional, field observations, life history, or any material collected) or specimens of *Hesperia woodgatei* and/or *H. attalus*. Desired for work on these members of the genus, including revisionary studies. Bill McGuire, P.O. Box 29884, San Antonio, TX 78229.
- NEED MALES OF *Satyrium caryaevorus* for study of variations in pattern & genitalia. A-1 specimens not necessary, provided the abdomen is undamaged and the wings in reasonably good shape. Need 5-10 specimens from as many areas within its range as possible. All from the same colony, if possible. Can offer New York Rhopalocera & Heterocera in exchange. State your needs when replying. Will pay shipping. Edward Jennejohn, 111 Lyford Land, Minoa, NY 13116.
- EGGS OF *L. antennata*, *O. rubescens* or *O. hibisci* or *H. guttivitta* needed for studies on nitrogen accumulation rates. Good prices paid. S Passoa, c/o Dr. R.T. Holmes, Dept. of Biology, Dartmouth College, Hanover, NH 03755.
- BIOGRAPHICAL or other information wanted on O. C. Poling, early field collector in the southwest U.S. Field notes, letters, newspaper accounts or pictures, personal recollections, etc. would be welcome. All correspondence will be acknowledged. G. Forbes, Box 3AF, Dept. of Entomology, New Mexico University, Las Cruces, NM 88003.
- WANTED- *Dahlia hesperoides* of New Ireland, a 'moth with clubbed antennae'. for venational study. Also 1st day pupae of South American butterfly moths, *Castnia* spp., preserved in Bles or similar fluid. Send data on availability to: Dr. N.B. Tindale, 2314 Harvard St, Palo Alto, CA 94306.
- WANTED - *Trans. Amer. Ent. Soc., Volume 1-5*
Cyril Dos Passos, Washington Corners, Mendham, NJ 07945
- I NEED INFORMATION regarding the history of *Phoebis sennae marcellina* in southern California. Especially need records of abundance and sightings, etc. from the 1930's, 40's & 50's, for possible correlation with photochemical air pollution increases during this period. All information, even casual observations badly needed. Ron Vanderhoff, 21921 Seaside Lane, Huntington Beach, CA 92646.
- WANTED--INFORMATION ON EXAMPLES OF WING (AND OTHER) HOMEOSIS IN LEPIDOPTERA. I am so far aware of published records of 17 examples of wing homeosis in butterflies: *Pieris brassicae*, Frohawk, T.W.: Varieties of British Butterflies. Ward, Lock & Co, London (1938).
Aglais urticae, Ford, E,B, : Butterflies. Collins, London.
The remaining sources are Japanese, including 8 published in Tyō to Ga (Trans. Lep. Soc. Japan). Most represent a unilateral pattern conversion of the posterior half of either forewing or hindwing into the posterior half of the other wing. The conversion occurs usually on one surface only, either above or below, of the wing and may be complete or mosaic within its coverage of the wing part. I believe that surely more examples of this sort do exist and are known, and would highly appreciate any reference as to published records, or any photographs of unpublished material, of homeosis in Lepidoptera. Homeosis in *Drosophila* (Diptera) is now being looked upon with a renewed interest in the context of modern theories in developmental biology. Please send any information to A. Sibatani, CSIRO Genetics Laboratories, Unit of Molecular & Cellular Biology, P.O. Box 184, North Ryde, N.S.W. 2113, AUSTRALIA.

NOTICES - Buy, Sell, Exchange

Members of the Lepidopterists' Society are invited to use this section free of charge to advertise their offerings in Lepidoptera. We cannot guarantee any notices, but all are expected to be made in good faith. By decision of the Board, prices of specimens offered for sale will not be published henceforth. Please be brief, clear, and check spelling. Notices will be limited to two appearances. The Editor reserves the right to alter or reject unsuitable copy.

- FOR SALE: North American (including arctic) lepidoptera. Papered and livestock. Lists for 1978 free upon request. Write to Ken Thorne, Mill Street, Delaware, Ontario, Canada. NOL 1E0.
- FOR SALE: Pupae of *Papilio troilus*, *Actias luna*, *Pachysphinx modesto*, *Darapsa myron* and *Saturnia pavonia*. Reasonable prices. Write for prices. William Houtz, R.D.#4, Box 477, Pine Grove PA 17963.
- EXCHANGE: Have Penna. Lepidoptera for trade. Would like exchanges from the west, midwest and Canada. Write for list. All letters answered promptly. Frank Bodnar, R.D.#2, Apollo, PA 15613.
- FOR SALE: Large selection of worldwide lepidoptera. For price list send 50¢ to Philip A. Holzbauer. Also wish to exchange with any member of the Society, especially members of Central or South America or other tropical localities. Philip A. Holzbauer, Rt. 1, Box 331, Palmyra, WI 53156.
- EXCHANGE: One pair of the reportedly extinct *Eumaeus atala* (Lycaenidae) in excellent condition. I am interested in various hard to obtain U.S. Saturniidae and Sphingidae (particularly *Hemileuca grotei*). All letters will be answered. Jim Tuttle, 2691 W. Temperance Rd., Temperance MI 48182.
- FOR SALE: New finished Cornell Drawers, hardboard bottoms, pine, drawer pull only, tops lightly loose. \$10.00 each plus UPS. R. Mattoni, 2122 Granville Ave., Los Angeles, CA 90025.
- FOR SALE: From Western Ecuador 500 papered Lepidoptera, mostly Sphingidae and Saturniidae, undetermined, but with data. From South Florida 1200 papered butterflies, determined and with data. Sell to highest offer. Write for details. Morris Spelman, 6505 Winfield Blvd. B-15, Margate, FL 33063.
- WANTED: *Urania* (= *Alcides*) *zodiaca*, *U. aurora*; *Kallima jacksoni*; *Morpho tenaris schoenbergi*; *Ornithoptera croesus*; *Papilio rumanzovia*?; *Papilio gundlachianus*, and *P. ascanius*. Will buy or exchange. Bruce E. Ellis, 3817 Schiller Ave., Cleveland, OH 44109. U.S.A.
- WANTED: Contact with Southern Arizona collector willing to tie out female *Eupackardia calleta* (Saturniidae) in season. I will send pupae of Arizona stock to anyone who might be interested. Jim Tuttle, 2691 W. Temperance Rd., Temperance, MI 48182.
- WANTED: Livestock. I am interested in all species, temperate and tropical. Especially interested in *Callosamia angulifera* and *Papilio palamedes*. Please send price lists to Brett Barrett, P.O. Box 107, Alvaton, KY 42122.
- FOR SALE: Papered Saturniidae, most in A-1 condition and with complete data, including *Coloradia pandora lindseyi*, *Hemileuca electra electra*, *H. nevadensis*, and *H. eglanderina* from So. California, *R. forbesi* from Texas, and *A. luna* from Missouri. Will also exchange for other nearctic Saturniidae, particularly *Hemileucinae*. David Hawks, 6466 Cowles Mtn. Blvd., San Diego, CA 92119.
- FOR SALE: Lepidoptera livestock - over 100 species of Sphingidae including *Acherontia atropos*, *Hippotion celerio*, *Daphnis nerii*; Saturniidae including *Actias selene*, *Attacus atlas*, *Attacus lorquini* and *Attacus caesar*; Rhopalocera including Canary Island endemics. Please send one U.S.\$ note to Ray Adams, F.R.E.S. Carretera Principal 139, Tamaraceite, Las Palmas de Gran Canaria for full list.
- WANTED: Almost any common colourful North and South American lepidoptera. Will buy, or exchange wide range of European, Asian, and African. Brian Wurzell, 47 Rostrevor Ave., Tottenham, London, N.15, England.
- WANTED: Living pupae of *Cretonotus* species (if possible with a note on the larval food plant). Prof. Dr. D. Schneider, Max-Planck-Institut, D-8131 Seewiesen/Obb., West Germany.
- WANTED: Sponsor required for a one month insect collecting trip in SABAH (North Borneo). All insects collected will be sent to the highest offer. Collecting expedition Apr. to May, 1978. All other enquiries pertaining to the SABAH collecting trip welcome. Write to K.C.Liew, Scientific Entomological Emporium, P.O.Box 56, TAIPING, Perak, Malaysia.
- FOR SALE: Small quantities of unlisted insects of Malaysia, and neighboring countries available. Will sell all in one order. K.C.Liew, P.O.Box-56, TAIPING, Perak, Malaysia.
- WANTED: Recherche Parnassius et Colias de l'Himalaya et Colias des Andes. Offre en échange nombreux papillons des Alpes, Provence et U.R.S.S. (wanted: *Parnassius* and *Colias* of the Himalayas and *Colias* of the Andes, in exchange for many butterflies of the Alps, Provence and U.S.S.R.) C. Payan, Pré-Lagrange, 05500 Saint Bonnet, FRANCE.
- FOR SALE: Large quantities of identified papered specimens with full collecting data in perfect condition available. Catalog at US\$1/- toward cost of air postage and printing. K.C.Liew, Scientific Entomological Emporium, 103 Taman Aun Say, P.O.Box-56, TAIPING, Perak, Malaysia.
- EXCHANGE: I will exchange any Southern Californian Butterfly for Papilios of your area. Robert Wuttken, 2710½ Highland Ave., Santa Monica, CA 90405.
- EXCHANGE: N.American Rhopalocera for species from outside N.America. R.Rahn, 411 W.Stewart Ave., Wausau, WI 54401.
- WANTED: Correspondence with members who would be interested in trading North American Lepidoptera for Michigan Lepidoptera. Species such as *Euptychia mitchelli*, *Speyeria cybele krautwuzzi*, *Nymphalis milberti* & *vau-album*, *Calephelis muticum* and many others! Available this spring. Send self-addressed stamped envelope for 3-page list. Marc W. Grocoff, 1050 Cottrill Lane, Westland, MI 48185 U.S.A.
- FOR SALE OR TRADE: Have moderate number of Sphingidae, Saturniidae and others from central Illinois. Write for price list or information regarding trade. Charles K. Swank, 500 N.12th St., Mattoon, Illinois, 61938, U.S.A.

- POSITION WANTED: Entomology graduate of The University of California, Davis, with extensive collecting experience seeks position as collecting assistant anywhere in the world. I ask only payment of expenses and the opportunity to pursue my own interests (Lepidoptera especially diurnal) in exchange. Alvin Ludtke, 6524 Stoneman Drive, North Highlands, CA 95660.
- FOR SALE: Magnificent Lepidopteras including world's rarities from Moluccas and West Irian. Inquiries cordially invited. Please write with 31¢ stamps for detailed listings. S.K.Ong, Box 2, Simpeitou, TAIWAN 112, Rep. of China.
- FOR SALE: Insect pins, Standard black, \$8.50 per thousand; prompt service. Clair Armin, 191 W. Palm Ave., Reedley, CA 93654. WRITE FOR COMPLETE PRICE LIST.
- WANTED: This fall, cocoons of polyphemus, cecropia, rubra, gloveri, promethea, advena, etc. Please write and offer in advance approx. quantities, price and month of delivery. Also wanted overwintering Papilio pupae, all species. Interested at all seasons in offers of ova and pupae of most Lepidoptera. Robert Goodden, Worldwide Butterflies Ltd., Sherborne, Dorset, ENGLAND.
- EXCHANGE: Will trade North & Central American moths and butterflies for Odonata (Dragonflies) from anywhere. Will buy Odonata from any area outside of the USA. I especially want material from the Neotropical region. Carl Cook, Box 16, Center, KY 42214.
- CORRECTION: Mr. Richard L. Halbert has pointed out that in his notice in the Jan/Feb NEWS, there was an error, and that the word "*Epiphana*" should have been *Epiphora*. The notice should have read as follows:
- WANTED: Correspondence with collectors of Central & South America with access rarer species of *Rothschildia*, especially *R. condor*, *R. betis*, *R. roxana*. Need also *E. gallata* ova and/or material of African genus *Epiphora* & *Argema*. Have interesting exchange material, or will buy. Richard L. Halbert, 1085 Hoffman Ave.-Apt. 14, Long Beach, CA 90813.
- WANTED: Contact with people in North America who would like to exchange lepidoptera. Write to: Helge Finnøy, c/o Bakke Flandenberg 5, 7460 RØROS, NORWAY.
- WANTED: Live pupae of the following: Dryocampa rubicunda, Hyles lineata, Agrius cingulatus (pink spotted hawkmoth), and any native Pseudohazis (Hemileuca). I am interested in live material only. Stanley Temple, 111 Stratford house, 3120 Naamans Rd, Wilmington, DE 19810.
- EXCHANGE: Rhopalocera from Canada for Lycaenidae of world-wide distribution. W.W. Gregory, 1373 Hixon St, Oakville, ONT L6L 1R9 CANADA.
- FOR SALE: Glass-topped display cases, for pinned specimens. Riker mounts, 6 sizes. Covered insect boxes. High quality colored tropic Lepidoptera & Coleoptera stationary, 8 kinds. Papered butterflies. For free list, send to Mark P. Sitter, 12915 NE Morris Ct., Portland, OR 97230.
- WANTED: US Lepidoptera. Papered A1 material. All families. Seeking collectors of such material. Will buy or trade. Send information to: Mark P. Sitter, 12915 NE Morris Ct. Portland, OR 97260.
- WANTED to BUY: North American butterflies in papers, Esp. Papilios, Nymphalidae & Colias. Species, also livestock. Valerie Stockley, 1 Marsh St, Warminster, Wiltshire, England BA12/9PG.
- FOR SALE: Surplus butterflies, mostly Peruvian, from my personal collection. Please write for a list, specifying families and/or genera desired, L.W. Harris, c/o CALLOIS, Apartado 11510-Jesus Maria, Lima 11, PERU.
- WANTED: Comstock's BUTTERFLIES OF CALIFORNIA. Please state condition and price; also, any other out of print books on North American Lepidoptera. John G. Manesis, Fargo Clinic, Fargo, North Dakota 58102.
- WANTED: Diana Fritillary; one pair in good condition. Also SILK MOTHS OF THE U.S. by Collins & Weast. Send offering price to: James Burris, 4030 Calvert St N.W., Washington DC 20007.

* * * * *

P U B L I C A T I O N S

D'Abbrera, BUTTERFLIES OF THE WORLD: Australia, \$87.50
(not a reprint of Butterflies of the Australian Region, a few
copies still available @ \$29.95)

For a complete list of Lepidoptera books available, please ask for a copy of List No. 13. Entomological Reprint Specialists, P.O. Box 77224, Dockweiler Station, Los Angeles, California 90007, U.S.A.

NEW MEMBERS

ADAIR, W. Lee Jr, 507A Plantation Ct N, Temple Terrace, FL 33617
 ADAMS, James K, 135 N. Missouri St, Liberty, MO 64068
 ALLYSON, Suzanne, Biosystematics Research Inst., Neatby Bldg, Expt Farm, Ottawa, Ont, CAN KLA OC6
 AUSTIN, Dr. John D, Medical Center, 1313 N. 2nd St, Phoenix, AZ 85004
 BARLOW, Dale L. 505 Marine St, Boulder, CO 80302.
 BENNET, Robert Alton, 3831 Blythwood Circle, Powder Springs, GA 30073
 BENYAMINI, DUBY, 26 Baraket St, Neve Monoson, ISRAEL 60986
 BRUSO, Joseph, International House, 1414 E. 59th St, Chicago, IL 60637
 CAMPBELL, Clinton L., Rt.8 Box 458-C, Olympia, WA 98502
 CARPENTER, Phil, 2058 Hollywood Dr, Tallahassee, FL 32303
 CHURCH, Lynn, 19 South St, Brocton, MA 02401.
 CROWE, Ray, 2020 S. Holladay, Seaside, OR 97318.
 CONNOR, George M, 3016 I St, Apt C, Sacramento, CA 95816
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