



# NEWS

of the LEPIDOPTERISTS' SOCIETY

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## Season Summary 1993



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FROM  
EUROPE  
W. O. De Prins



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## ZONE 1: THE FAR NORTH: ALASKA, YUKON/NORTHWEST TERRITORIES.

Coordinator: Kenelm W. Philip (KWP)

Contributors: Norbert Kondla (NK), Alan Royer (AR), and collectors for the Alaska Lepidoptera Survey. Previously unreported localities or species are emphasized; collecting by ALS volunteers unless noted. Species names follow Lep Soc. Memoir #3. Note regarding ALS: K. Philip spent 17-23 Jun collecting in the southern Yukon Territory, including Nickel Crk, Lk Laberge, and Carmacks. An exceedingly early spring resulted in a very advanced season... at Lk Laberge ♀ Parnassius phoebus were flying 21 June. A planned reconnaissance of the North Canal Road had to be cancelled because of vehicle problems. There were no moths reported.

**NORTHWEST TERRITORIES.** Weather: AR reports that the season was normal at Coppermine, with sunny weather 14 out of 15 days.

**BUTTERFLIES:** Coppermine, 26 Jun-9 Jul (AR), additional species (see 1984, 1988, 1966 SeaSum), Pyrgus centaureae, Pieris napi, Euchloe creusa, Celastrina argiolus, Glaucopsyche lygdamus, Clossiana natazhati, Polygonia gracilis. Coppermine now has 32 recorded species of butterflies, 30 of which AR found in 1993. Inuvik (Marine Bypass Rd, and 4 km N of Inuvik), 18 Jun (NK), Erynnis persius, Colias canadensis, Celastrina argiolus, Glaucopsyche lygdamus, Clossiana freija, Erebia lafontainei (common), Oeneis bore (common).

**YUKON TERRITORY.** Weather: In the southern Yukon spring was very early, and the entire butterfly season was advanced 2 - 3 weeks ahead of normal. At Lk Laberge, ♂ Parnassius phoebus were flying on 6 Jun (NK).

**BUTTERFLIES:** **DEMPSTER HWY (NK)- Km 148-9, 11-17 Jun, Pyrgus centaureae, Parnassius eversmanni, Pieris napi, Colias philodice, C. pelidne, Euchloe creusa<sup>1</sup>, Lycaeides idas, Glaucopsyche lygdamus, Everes amyntula, Agriades rusticus, Clossiana polaris, Erebia rossii, E. disa, E. discoidalis, E. theano, Oeneis bore. Km 146-7, 15-17 Jun, Erynnis persius, Hesperia comma, Pyrgus centaureae, Papilio machaon, Pontia occidentalis, Pieris napi, Colias philodice, C. pelidne, Euchloe creusa<sup>1</sup>, Lycaeides idas, Glaucopsyche lygdamus, Everes amyntula, Agriades rusticus, Clossiana polaris, C. freija, C. chariclea, Erebia rossii, E. disa (common), E. fasciata, E. mackinlevensis, E. discoidalis, E. youngi, E. theano. Km 130-130.5, 7-14 Jun, Hesperia comma, Parnassius eversmanni, Pontia occidentalis, Pieris napi<sup>2</sup>, Euchloe creusa<sup>1</sup>, Colias philodice, C. canadensis, Glaucopsyche lygdamus, Everes amyntula, Clossiana polaris, C. freija, Erebia rossii, E. disa, E. mackinlevensis, E. discoidalis, Oeneis bore, O. philipi? Oeneis excubitor was flying at Windy Pass. **YUKON HWY 2 (Klondike Loop) - Midnight Dome (Dawson), 9 Jun (NK), Papilio machaon, Euchloe creusa<sup>3</sup>, Agriades rusticus, Celastrina argiolus, Oeneis chryxus. Bonanza Crk Rd, just E of Dawson, 9-10, 12 Jun (NK) Pyrgus centaureae, Erynnis persius, Pieris napi<sup>2</sup>, Colias philodice, Euchloe creusa<sup>3</sup>, Incisalia polia, Glaucopsyche lygdamus, Celastrina argiolus, Clossiana eunomia, C. polaris, C. frigga, C. freija, C. chariclea, Phyciodes campestris, Polygonia gracilis, Erebia disa, E. epipsodea, Oeneis bore, O. jutta, O. chryxus (common), O. philipi (common). Carmacks, 6 Jun (NK), additional species (see 1973/79/90 SeaSum) Erynnis persius, Euchloe creusa<sup>3</sup>. Lk Laberge, additional species (see 1987-89/90 SeaSum), 6 Jun (NK), Incisalia polia, Euchloe creusa<sup>3</sup>, Erebia discoidalis; 21-22 Jun (KWP), Basilarchia arthemis. Parnassius phoebus was flying 6 Jun (NK), and very abundant 21-22 Jun, with a good proportion of females seen (15%).****

**ALASKA.** Weather: Interior Alaska had an exceedingly early spring, with good weather through much of May and June. The butterfly flight season was two to three weeks ahead of normal, and numbers appear to have more or less recovered from the crash of 1992.

**BUTTERFLIES:** KENAI PENINSULA - Summit Crk Tr (off Seward Hwy), mile 0.5-3.3, 22 Jun, 8 Jul, Carterocephalus palaemon, Parnassius phoebus, Pieris napi, Colias palaeno, Boloria napaea, Clossiana chariclea, Speyeria mormonia, Oeneis polixenes.

1. Reported as Euchloe creusa and E. sp., presumably another variety of creusa.
2. Reported as Pieris angelika.
3. These specimens were reported as Euchloe ogilvia. I am withholding judgement about this new taxon, not having seen specimens or the description.

## ZONE 2: THE PACIFIC NORTHWEST: IDAHO, OREGON, WASHINGTON, BRITISH COLUMBIA.

Coordinator: Jon H. Shepard (JHS)

Contributors: Sue Anderson (SA), Chris Guppy (CG), Patty Ensor (PE), Lary Everson (LE), C.D. Ferris (CDF), John Hinchliff (JH), Lloyd Janz (LJ), John Jordison (JJ), Doug Knight (DK), Ellen Lewis (EL), Norbert Kondla (NK), W. Neill (WN), Robert M. Pyle (RMP), Harold Rice (HR), Paul Severns (PS), Sigrid M. Shepard (SMS).

General Collecting Conditions: 1993 will probably go down in PNW lore as the year there were no butterflies. Despite the poor summer conditions OR, WA, and ID produced 20 County/State records, mostly in the southern parts of ID and OR. Most observers/collectors gave up on collecting and a large contingent left for the Ft Collins meeting to be met with snow enroute. As an example, JHS and SMS got only 81 specimens in five days enroute to Fort Collins from combined daytime butterfly searching and evenings at the blacklight.

**MIGRATORY SPECIES:** The only migratory reported is V. cardui which was in fair numbers at Pullman, WA in late May (JHS) where it had undoubtedly arrived via the Snake Rvr Cn. Only scattered observations were noted elsewhere.

**IDAHO (ID):** Contributors: CDF, JJ, JHS, SMS. CDF, JHS, and SMS found good population numbers and diversity in extreme SE ID in Franklin and Bear Lake Cos. JHS and SMS recorded 41 species of butterflies in two days along the Franklin-Bear-Bear Lake Co line. See the two localities below. JJ reported poor conditions east of Boise in early Aug.

**MOTHS:** Sphinx dollii Albert Moser Cg., 5200', 16 Jul FRANKLIN CO STATE RECORD (JMS, SMS).

**BUTTERFLIES:** P. phoebus sayi, Cache NF, E of the community of Mink Crk, 5600-7200', 16 Jun FRANKLIN CO (CDF); P. enoptes, Emigration Crk Cg, 7200', 15 Jul BEAR LAKE CO (JMS, SMS), Willow Flats Cg, 6400', 17 Jul FRANKLIN CO (JMS, SMS).

**OREGON (OR):** Contributors: SA, LE, CDF, JH, EL, WN, HR, PS. Collecting and observations report low numbers of species and individuals. Still ten COUNTY records of butterflies were reported.

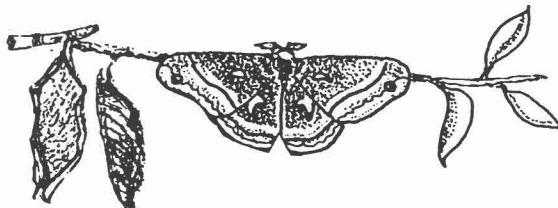
**BUTTERFLIES:** H. ericetorum, Redmond, 24 Sep DESCHUTES CO (EL); C. occidentalis, Dugout Lk, 29 Jul DESCHUTES CO (EL); I. polia, 20 May UNION CO (JH, WN); B. exile, Big Summit Prairie, 29 Sep CROOK CO (EL), Hwy 26, 10 mi. W John Day, 10 Sep WHEELER CO (HR); L. marina, Metolius Rvr, 30 May JEFFERSON CO, STATE (LE), Diamond Lk, 1 Aug DOUGLAS CO (PS); V. virginianensis, Redmond, 29 Jul DESCHUTES CO (EL); J. coenia, FR 11, E of Metolius Rvr, 10 Jul JEFFERSON CO (SA).

**WASHINGTON (WA):** Contributors: PE, RMP, JHS. Same conditions as OR.

**BUTTERFLIES:** A. campestris Kennewick, 26 Oct BENTON CO, (PE); E. ausonides, E of Hooper Jct, T15N R37E Sec27, 25 May ADAMS (JHS); I. erphyon, Lick Cr., 700 m., T9N R44E Sec.18, 10 May ASOTIN CO (JHS); E. amyntula, Holcomb substation, Green Cr. Rd., 29 May PACIFIC CO (RMP); G. lygdamus, E. of Hooper Jct., T15N R37E Sec.27, 25 May ADAMS (JHS); G. piasus, e. of Hooper Jct., T15N R37E Sec.27, 25 May ADAMS (JHS).

**BRITISH COLUMBIA (BC):** Contributors: CG, LJ, DK, JHS, SMS. Poor summer weather from the southern border north to Prince Rupert, Prince George, and McBride meant the same poor diversity and numbers as WA, N.ID, and N.OR. NK had good collecting in the Peace River District and nr. Tumbler Ridge in NE. BC. In the S, JHS and SMS report recovery of the classic B. selene site at Krestova Bog, nr Crescent Vy. B. selene, O. garita, and P. mystic were present in fair numbers despite the generally poor year. This one year after cattle grazing was stopped.

**BUTTERFLIES:** P. s. smintheus, C. meadii, B. a. astarte all N records, L. phlaeas District Record, C. a. christina, L. cupreus both SE records all from Mt Spiecker, nr Tumbler Ridge, 2 and 5 Aug (NK).



## ZONE 3: THE SOUTHWEST: ARIZONA, CALIFORNIA, NEVADA

Coordinator: Robert L. Langston (RLL)

Contributors: George T. Austin (GTA), Bruce Boyd (BB), Brent Boyd (BrB), Jim P. Brock (JPB), Kirby W. Brown (KWB), Ray Coyle (RC), Ken Davenport (KD), Thomas E. Dimock (TED), Clifford D. Ferris (CDF), Ron H. Leuschner (RHL), Lauritz Muehlbach (LM), Scott North (SN), John G. Pasko (JGP), William D. Patterson (WDP), Kelly M. Richers (KMR), Ron Robertson (RR), Arthur M. Shapiro (AMS), Oakley Shields (OS), Ray E. Stanford (RES), William L. Swisher (WLS), Paul M. Thompson (PMT), J. D. Turner (JDT) and Ralph E. Wells (REW).

**ARIZONA:** Contributors: JPB, KD, CDF, RHL, LM, RES AND WLS. Included are 13 COUNTY records for butterfly species. Five of these were in the 1993 season, the remainder are old records (1911 - 1955). These records are from specimens in the University of Colorado Museum, Boulder--found and det by RES, Apr 1993. Few moths were reported, with none determined as range extensions.

In Yavapai Co, the winter and early spring was mild and VERY wet; first 3 months of 1993 had more than double the normal annual ppt (LM). Early season (Dec - Mar) rainfall was well above average in the Sonoran Desert (WLS). In Yavapai Co Apr Jun and Jul altogether dry; Aug had 14 days with rain, mostly as very localized thundershowers; Oct with 5 days of rain, but too late to influence the 1993 season (LM). Spring - early summer herbs and most trees benefited from the early rains; grassland and native perennials being dependent on midsummer rain had poor growth and flowered sparingly (LM). The 1993 season was the poorest that CDF had ever experienced because of the peculiar weather patterns; from 10 to 15 Aug in SE AZ and SW NM diurnals and nocturnals few and far between due to the spotty monsoon (CDF).

**MIGRANTS and STRAYS:** *L. bachmanii larvata*, Yuma, YUMA COUNTY, 17 Sep 1955 (H.G. Rodeck fide RES). *E. claudia*: Chino Vy, 4750', Yavapai Co, worn 8 Apr thru May; fresh Jun to 5 Jul; a few worn, very faded *claudia* occasional in Sep (LM)--suspected that early migrants came from southern AZ or Sonora, Mexico. *V. cardui*: No migration, few seen all year in Chino Vy, worn singles 13 Apr, 11, 16 Aug (LM). *D. plexippus*: No migration observed in Chino Vy, fewer than 20 seen from 17 Aug thru 20 Sep (LM). *D. gilippus strigosus*: Migrated north EARLY from the Lower Sonoran desert region to Chino Vy, Yavapai Co by 15 May (LM); larvae on *Asclepias subverticillata*, Garden Cn, Huachuca Mtns, Cochise Co, 22 Jul (JPB).

**MOTHS:** CHOREUTIDAE--*Prochoreutis pernix*, sweeping flowers by day, Greer, 8200', White Mtns, Apache Co, 1-3 Jul (RHL). PYRALIDAE--*Vitula coconinoana* and GEOMETRIDAE--*Meris patula* and *Somatolophia incana*, Flagstaff KOA, Coconino Co, 16 Jul; *Hydriomena albimontana* and *H. cyriadoides*, Greer, 1-3 Jul (all RHL). SPHINGIDAE--*Erinnyis ello*, Sycamore Cn, Santa Cruz Co, 10 Aug (CDF)--the only moth that was slightly out of the ordinary. NOCTUIDAE--*Ascalapha odorata*, *Apamea commoda* n ssp (Dr. K. Mikkola naming it) and *Polia vau-orbicularis*, Greer, 1-3 Jul (RHL).

**BUTTERFLIES:** *E. afranius* larvae on *Lotus wrightii*, South Fk Guest Rch nr Eager, Apache Co, 8 Jun--adults Jul (JPB). *O. garita*, W slope Mingus Mtn, 8 Jul & School House Gulch nr Prescott, 9 Jul, both YAVAPAI COUNTY (KD, Kevin Davenport). *B. philenor* larvae in large numbers along Harshaw Crk Rd, Patagonia Mtns, Santa Cruz Co, 11 Aug (CDF). *P. multicaudatus* larvae on *Prunus serotina* var *valens*, Molino Basin, Pima Co, 24 Apr--adults Jun (JPB). *A. pima*, hill 4320', US 70, 5.3 mi NW of Duncan, GREENLEE COUNTY, 25 Mar (WLS), with the crucifers *Descuraria*, *Lepidium* and *Lesquerella* present. *E. hyantis lotta*, same data, GREENLEE COUNTY (WLS). A single ♂ *A. clorinde nivifera*, Tex Cn, Chiricahua Mtns, Cochise Co, 14 Aug (CDF). *C. ferrisi*, Greer, 8200', White Mtns, Apache Co, 1-3 Jul (RHL). *A. halesus estesi*, Ft Apache, NAVAJO COUNTY, 18 Mar 1911 (J.P. Harrington fide RES). *I. augustinus annettae* larvae on fruits of *Arctostaphylos pungens*, Post Cn, 12 mi S of Sonoita, Santa Cruz Co, 13 Apr (JPB). *E. quaderna sanfordi* common, W slope Mingus Mtn, Yavapai Co, 8 Jul (KD). *C. argiolus cinerea* larvae on *Ceanothus fendleri*, Garden Cn, Huachuca Mtns, Cochise Co, 20 Apr...and larvae on *Rhamnus crocea*, Molino Basin, Pima Co, 1 May (JPB). *E. spaldingi*, NF rd 117, 3 mi S of US 60, APACHE COUNTY, 7 Jul (JPB). *I. icarioides bucholzi*, Greer, 8200', White Mtns, Apache Co, 1-3 Jul (RHL). *C. nemesis* larvae on *Baccharis glutinosa*, 1 mi S of Sabino Cn, Tucson, 30 Jun (JPB). *E. ares* larva on *Quercus emoryi*, Garden Cn, Cochise Co, 13 May--adult 2 Jul (JPBH). *T. theona thekla* abundant, Tex Cn, Cochise Co, 14 Aug (CDF). *T. fulvia coronado* ♀ sympatric/w *T. cyneas*, Garden Cn, Cochise Co, 3 Jun...and larvae by the hundreds! on *Cordylanthus wrightii* (NEW HOST), Peppersauce Cn, Pinal Co, 17 Jul (JPB). *C. californica*, Tonto Basin, 3000', GILA COUNTY, 30 Mar - 2 Apr 1933 (D.K. Duncan fide RES). *C. lacinia crocale*, 2 mi S of Ash Fork, Yavapai Co, 10 Jul (KD). *A. texana*, Quartzite, LA PAZ COUNTY, 30 Jun 1952 (J.W. Tilden fide RES). *E. anicia hermosa*, Tonto Basin, 3000' & Christmas townsite, GILA COUNTY, Mar - early Apr, 1931-33 (D.K. Duncan fide RES). Significant numbers of *J. coenia* and *J. nigrosuffusa*, Tex Cn, Cochise Co, 14 Aug (CDF). *J. nigrosuffusa*: 2 mi W of Jerome, 8 Jul & Little Hell Cn, 10 Jul, both Yavapai Co (KD); Hualapai Mtns, Mohave Co, 11 Jul (KD); Ash Fk and vic COCONINO COUNTY, 10 JUL (KD). [These records document *nigro*. more widespread in north-central AZ than previously known.] [The R.P. Meyer 2 mi S of Ash Fk record in the 1991 SS was in Yavapai Co (RLL).] *A. bredowii eulalia* adults unusually EARLY for north-central AZ, 13 May in Chino Vy, 4750', Yavapai Co (LM)...and larva on *Quercus toumeyi*, Garden Cn, Cochise Co, 22 Jul (JPB). *C. pertepida dorotha*, Oak Flat, Pinal Mtns, PINAL COUNTY, 18 May 1933 (D.K. Duncan fide RES). *C. ochracea subfusca*, Pinetop, NAVAJO COUNTY, 27 Jun 1936 (L. Hulbirt fide RES). *O. alberta daura*, Blue Ridge Mtn, 7600', 4 mi E of Lakeside, NAVAJO COUNTY, 2-8 June 1933 (D.K. Duncan fide RES)--long series from where eastward into McNary region.

**CALIFORNIA:** Contributors: KWB, RC, KD, TED, RLL, RHL, SN, JGP, WDP, KMR, AMS, OS, RES, WLS, PMT AND REW. Included are 14 COUNTY records for butterfly species. Seven of these were in the 1993 season, the remainder are old records (1918-1990), mostly from specimens in the University of Colorado Museum, Boulder--found and det by RES, Apr 1993. Numerous moths reported, with a single COUNTY record and NORTH range extension.

The Mojave Desert had 2.5 times normal rainfall in the early season (Dec-Mar) based on 40 years of records, whereas it was close to normal in the great Basin (WLS). Winter in northern CA the wettest since 1987, with 120% of a 30 year mean (AMS). At Jerseydale, 3500', Mariposa Co, rain & snow in Jan-Feb, comparatively mild in Mar, Apr, May (OS). Spring mostly cold, cloudy & wet, with rains as late as 3-6 Jun in the Bay Area (RLL) and the Central Vy, plus snow down to 5000' (AMS). Summer had several hot spells in the lowlands, but generally cool, the Sierra incredibly dry with few thunderstorms all summer (RLL, AMS). However, soil moisture held up due to late snowmelt--snow persisted on NE slopes above 7500' into Aug, with a few patches unmelted by Oct (AMS). Autumn briefly hot, but with snow again above 8500' on 4 Oct and down to 6000' on 15 Oct (AMS). At Jerseydale, 2" of rain mid-late Nov, rather mild in Dec, except for 5" of snow in mid-month (OS). Early winter rains about average, with early onset of tule fog (AMS), but becoming generally dry, windy and cold by year's end (RLL).

**MIGRANTS and STRAYS:** *P. protodice*: Eradicated from AMS sites W of the Sierran Crest over the winter, colonized late (Sep, Oct), but little breeding (AMS); by the thousands in Merced Co, 17-18 Aug (RLL); made it to the COAST, Pacifica, San Mateo Co, 24 Aug (RLL). *L. marina*: The big migration news was the Marine

Blue which exploded in central & northern CA: nr Sivals Mtn, 11 Jun (Kevin Davenport) and Coarsegold, 9 Aug (KD), both MADERA COUNTY; Sierra Vy, Sierra Co, 8 Jul; West Sacramento, Yolo Co, 17 Jul-19 Nov, LATE, breeding; Castle Peak, Nevada Co, at tree line, 9100', 20 Jul; Donner Pass, 7000', Nevada Co, 21 Jul-2 Oct, breeding; Suisun Marsh, Solano Co, 22 Jul-27 Aug; North Sacramento, Sacto Co, 25 Jul-3 Oct, breeding (all AMS). L. bachmanii larvata ♂ nr Foshay Pass, Providence Mtns, S Bdn Co, 20 Sep (KD)--no migrations or other reports for 1993. N. californica: Surprisingly numerous in Mar [northern CA], then collapsed, very few seen remainder of year (AMS); not uncommon in Kern/Tulare Cos well into summer (KD); at Jerseydale, Mariposa Co, several late Jan-early Feb; light migration of hibernants to SE-SSE early Mar-mid Apr; one fresh 29 May and 2 fresh 25 Sep; common in late Oct (not migrating); singletons in mid-Nov (OS); Butts Cn, Napa Co, 9 Jun (PMT); outbreak, thousands at Fresno Dome, 11 Aug (KMR), huge numbers, 14 Aug (KD), Madera Co; common in Tehachapi Mtns, Kern Co, 3 Nov, LATE (KD). A. milberti, Clark Fk of Stanislaus Rvr, 6200', 24-26 Jun (PMT)...and 1 ♀ at Suisun Marsh, 1 Nov, LATE, 2nd for Solano Co (AMS). V. cardui: ca 20 worn flying NW, Buttonwillow/McKittrick areas, Kern Co, 5 Apr; NW of Hector, SE of Newberry Spgs & NW of Afton, all S Bdn Co, 20-40 each loc flying N & NW, 6 Apr; 20 mi along Greenwater Vy Rd, Inyo Co, 40-60 migrating NW, 7 Apr (RLL, WLS); very scarce in northern CA despite good rains in the desert winter-early spring (AMS); scarce in Napa Co, only 20, 19 Apr-13 Sep (WDP); W of Kerman, Fresno Co, 30-40 migrating NNW, 9 Apr, decreasing to 3 or 4 by 20 Apr (OS); light migration to NNW, Fresno, 15 Apr; several flying N & NW, Jerseydale, Mariposa Co, 8 May and only singles at flowers late Sep-late Oct (OS). D. plexippus: Only 53 sightings recorded in all of 1993, plus only 2 larvae, despite normal field activity of 212 days (AMS); only singles in Merced Co, 17 Aug, San Benito Co, 18 Aug & San Joaquin Co, 6 Sep (RLL); very low numbers at Jerseydale, Mariposa Co, 3 on 30 Aug, 7 on 18 Sep, and one on 5 Oct (OS); gathering on Eucalyptus and Cypress for small winter aggregation at Fort Baker, Marin Co, 2, 29 Sep, 16 Nov (RLL); none in the usual inland wintering site at Suisun City, Solano Co in Nov (AMS); large winter aggregation at Pinole Point, early Dec, article & pix in Contra Costa Times (RLL).

**MOTHS:** INCURVARIIDAE--Tridentiforma fuscoleuca, Cobb Mtn, 2000', Lake Co (RHL). TINEIDAE--Acrolophus kearfotti, Mt Pinos Rd at 6200', Kern Co, 17 Jul (KMR). Tinea pallescens, Pixley, 235', Tulare Co, 14 Sep (KMR). COSSIDAE--Givira cleopatra, Lake of the Woods, 5200', Kern Co, 24 Jul... and Comadia suaeivora, Pixley, 22 Jun, Type Loc; Tipton, Tulare Co (KMR). TORTRICIDAE--Petrova sabiniana, Mt Pinos Rd at 7480', 24 Jun (KMR). Cydia colorana, Frazier Mtn Rd, 5750', Ventura Co, 19 Jun (KMR). Decodes bicolor, Cobb Mtn, 2000', Lake Co, 1 May (RHL). PRYRALIDAE--Hellula rogatalis very common, Milagra Ridge, Pacifica, San Mateo Co, 9, 27 Sep (RLL). Uresiphita reversalis, Cambria, San Luis Obispo Co, 14 Jun (KMR)...and larvae defoliated about 1% of the French Broom at Fort Baker, Marin Co, adults May, Jul, Sep (RLL). Udea berberalis, Griffith Park, Los Angeles, 25 Aug (RHL). Diorcytia auranticella & Acroncosa albiflavella, Tom's Place, 7200', Mono Co, 6-7 Aug (RHL). PTEROPHORIDAE--Bandera virginella, Cambria, SLO Co, 13 Jun (KMR). GEOMETRIDAE--Chesiadodes longa, nr Mountain Center, S Bdn Co, 21-22 Apr (RHL). Drepanulatrix quadraria, Mt Pinos, 7560', 24 Jul ... and Neoterpes trianguliferata, Mt Pinos, 7480', 26 Jun, Kern Co (KMR). Plataea diva common, Corral Hollow Rd NW of Black Butte, SAN JOAQUIN COUNTY & NORTH, 17 May (RLL). Synaxis furcata, Milagra Ridge, San Mateo Co, 27 Sep (RLL). Hydriomena nevadae, Frazier Mtn Rd, 5750', Ventura Co, 19 Jun (KMR). H. muscata, Cobb Mtn, 2000', Lake Co, 1 May (RHL). SATURNIIDAE--Hemileuca eglanterina, Milagra Ridge, 3, 24, Aug (RLL). Saturnia albofasciata, Knob Peak Rd, 2.8 mi W of Platina, Shasta Co, 26, 31 Oct (REW) ... and 0.5 mi S of Midpines Summit, 3000', 1 Nov, 2nd Mariposa Co record (OS). ARCTIIDAE--One ♂ Platyrepia virginalis, Jerseydale, 3500', Mariposa Co, 30 Jun--last observed here in 1961 (OS). Lophocampa argentata, Mt Pinos Rd at 6200', Kern Co, 17 Jul (KMR). Ctenucha brunnea adults feeding on dried, dead heliotrope flowers, Amsinckia intermedia, Point Mugu, Ventura Co, 15 May, 5 pm & 3 Jul, 11 am (TED)--Julian Donahue believes these to be the first North American observations of these moths feeding in this manner (TED). NOCTUIDAE--Tarachidia fumata, Butts Cn Rd, Lake Co, 1 May (RHL). Ponometa megocula, 4 mi W of Boron, Kern Co, 5 Apr (RLL). Apamea occidentis & Andropolia diversilineata, Mt Pinos Rd, 6200', Kern Co, 17 Jul (KMR). Xanthotrix neumoegei, Oak Grove, 4000' (nr Riverside Co line), San Diego Co, 10 Apr (RHL). Axenus arvalis ochreatea (very different from Kern or N CA nom arvalis), above Aguanga, 2500', Riverside Co, 10 Apr (RHL). Oncocnemis primula & O. ciliata, 4 mi W of Boron, Kern Co, 5 Apr (RLL). O. wilsonensis, Oligia laevigata & Polia piniae, Mt Pinos Rd at 7560', Kern Co, 24 Jul (KMR). Homoglaea californica, 19 Nov, Agrotis venerabilis arida, 15 Oct, Euxoa serricornis, 15 May and E. pallipennis, 15 Oct, Pixley, 235', Tulare Co (KMR). Scotogramma hirsuta & Neogrotella citronella, nr Mountain Center, S Bdn Co, 21-22 Apr (RHL). Heliothodes fasciatus, Pixley, 14 Sep (KMR).

**BUTTERFLIES:** T. mexicanus nevada, Castle Peak, 9000', Nevada Co, fresh on 4 Sep, LATE (AMS). S. zampa, nr Foshay Pass, Providence Mtns, S. Bdn Co, 20 Sep (KD). E. persius apparently breeding on Lotus purshianus, Suisun Marsh, Solano Co, 27 Aug, LATE (AMS). P. catullus, Suisun Marsh, 6 Nov, LATE (AMS). N. julia, Needles, SAN BERNARDINO COUNTY, 1 Apr 1918, EARLY (J.C. Bradley fide RES). H. comma dodgei, Milagra Ridge, Pacifica, 29 Jun, EARLY, common Aug, 9 Oct, LATE--NEW Population for San Mateo Co (RLL). A. vialis, a colony in Wragg Cn S of Lk Berreyessa, Napa Co, 22 Apr-23 May (WDP)--few records for Coast Ranges of CA (RLL). M. coloradensis martini, Rock Corral, 3900', S Bdn Co, 3 Apr (PMT). P. phoebus sternitzkyi, Salmon Mtn & Red Cap Lk, 6000-6900', HUMBOLDT COUNTY, 12 Aug (SN). B. philenor hirsuta, Golden Gate Park, San Francisco, 2 Apr, May, Oct, 12 Nov (RLL)--2nd population within city limits. P. indra, I-V instar larvae on Lomatium marginatum, Butts Cn, Napa Co, 9 Jun (PMT). P. indra nr fordi, hill 2154', 3.5 mi SE of Newberry Spgs, S Bdn Co, 6 Apr (RLL, WLS). P. eurymedon: Hospital Cn, 14 May 1975, 1 ♂ (J. Westphal) and Taylor Ridge, 3030', Tracy Hills, 1 May 1980, 1 ♀ (J. Avila), both SAN JOAQUIN COUNTY (det R. M. Brown fide KWB); very numerous at West Idria Mine, San Benito Co, 4 May (RC). N. menapia in outbreak at Donner Pass, Nevada Co, 9 Sep--1st in 22 yrs there (AMS). P. beckerii high on Sierran E slope, reaching above tree line repeatedly all summer (AMS). P. napi venosa, nr Navajo Cg, 9 Mar, and common Cerro Alto Cg, 6 Apr--both NEW locs in San Luis Obispo Co (KD)...and mostly white summer brood common in the 1993 wet season: Kirby Cove, 25 May, 2 Jun & Bobcat Tr, 10, 24 Jun, Marin Co (RLL); Grizzly Peak, Contra Costa Co, 22 Jun, XERCES count day (RLL). A. cethura: Hwy 38 in Eureka Vy, 3100', Inyo Co, 10 Apr (RLL, WLS); 2.25-2.75 mi NE of Chalifant, 4350', MONO COUNTY, 21 Apr, NORTH & in Great Basin habitat (WLS). A. cethura (white, inter, yellow pop), Box Cn Rd, 1200', 3 mi S of I-10, Riverside Co, 8 Mar (WLS, J.B. Vernon)... and all yellow, hill 1800', 4.2 mi NW of Afton off-ramp, S Bdn Co, 6 Apr (RLL, WLS). A. sara, coastal bluffs N of Shelter Cove, Humboldt Co, 15 May--WEST for the lower 48 (SN). A. sara stella, Clark fk of Stanislaus Rvr, 6200' and Dardanelles, 6550', Tuolumne Co, 24-26 Jun (PMT). A ♂ A. sara & a ♀ Z. eurydice on the VALLEY floor! West Sacramento, Yolo Co, 21 Mar (AMS). T. arota, Lang Crossing, 5000', Nevada Co, common and fresh 26 Sep, LATE--6 wks later than average (AMS). L. cuprea, floor of Sierra Vy, Sierra Co, 3 Jun (AMS). G. editha Castle Peak, 9000', Nevada Co, fresh on 29 Sep, LATE (AMS). C. rubida, 1 mi N of Showers Lk (N of Carson Pass), EL DORADO COUNTY, 5 Sep, LATE (WDP), sympatric/w C. heteronea. Blue ♀ heteronea, 25 mi NW of Orleans, 4000', 5 Aug (SN)--confirms 1986 record for Del Norte Co. C. heteronea, Donner Pass, 7000', Nevada Co, still emerging fresh on 8 Oct, LATE, having started 5 wks late (AMS). A single H. grunus lorquini, Wragg Cn, Napa Co, 26 Aug, but no Canyon Live Oak found (WDP). A. halesus estesi, nr Ukiah, MENDOCINO COUNTY, 13 Jun 1953 (J.W. Tilden fide RES). S. californicum, first ever on U.C. Davis campus, Yolo Co, 2 May, EARLY (AMS). Four species of Satvrium nectaring on Eriogonum: californicum, sylvinum dryope, auretorum spadix & tetra, rd to Lk Hughes, Los Angeles Co, 9 Jun (RHL). S. auretorum fumosum: Santa Monica Mtns, S of Westlake Village, Los Angeles Co, 29 May -- ♂♂ & ♀♀ on Quercus agrifolia, but NOT on its usual recorded host of Q. dumosa growing in the vicinity. (JGP) C. lemberti, Bishop Cr, 8000', INYO COUNTY, 18 May (KD). S. avalona Hermit Gulch Cg, Catalina Is, Los Angeles, Co, 3 Jun (KMR). P. sonorensis: Kelso Vy Rd, Kern Co, 3 Apr (KMR)--first on desert side of Piute Mtns as per KD; last instar larvae on Dudleya cymosa, Briceburg, Mariposa Co, 2 May (PMT). E. battoides nr ellisii common nr Foshay Pass, Providence Mtns, 20 Sep (KD)--NOT new for S Bdn Co at the species level. I. lupini breeding on foothill serpentine in El Dorado Co, below 2000', VERY LOW...and Castle Peak, 9000', Nevada Co, fresh on 29 Sep, LATE (AMS). S. cybele leto, Big Mdws, CALAVERAS COUNTY, 2 Aug 1932 (R.G. Wind fide RES). P. orseis, Patterson Cg, S Warner Mtns, MODOC COUNTY, 16 Jul 1990 (Greg Kareofelas, det AMS). P. orseis herlani, Big Mdws, CALAVERAS COUNTY, 2 Jul 1932 (R. G. Wind, fide RES). E. chalcidona kingstonensis nr Foshay Pass, S Bdn Co, unusual fall brood, several on 6 Oct. LATE for this subsp (KD). Long series of E. editha aurilacus, Juniper Lk, 7200', NEVADA COUNTY, 4 Jul 1931 (R.G. Wind, fide RES). A single E. editha luestherae hilltopping, Quail Ridge SW

of Lk Berreyessa, Napa Co, 9 Jun--stray from the W? (WDP). T. leanira nr alma: NW of Homestead of Hwy 14, Kern Co, 9 Apr (JGP). P. satyrus: Big Mdws, CALAVERAS COUNTY, 9 Jun 1930 (R.G. Wind, fide RES); Fogarty Vineyards, Santa Cruz Mtns, San Mateo Co, 20 Nov, LATE (RES). P. zephyrus, Jerseydale, 3500', Mariposa Co, 20 Oct, LATE (OS). A. milberti, Big Mdws, CALAVERAS COUNTY, 9 Jul 1931 (R.G. Wind, fide RES). C. pegala boopis, Butts Cn, 9 Jun (PMT), and scarce Wragg Cn, 16 Jun-26 Aug (WDP)--both INLAND Napa Co. O. nevadensis, Castle Lk, 1800', Siskiyou Co, 14, 21 Jul (PMT)--odd year! Long flight season for O. ivallda, Castle Peak, 9000', Nevada Co, 29 Jun with only 20% of habitat melted out, and still flying on 4 Sep (AMS).

NEVADA: Contributors: GTA, BB, BrB, RLL, RR, AMS, RES, JDT and WLS. Two COUNTY records for butterfly species. A single butterfly COUNTY record for specimens back in 1933, plus current NORTH range extensions within the moths.

Most of Nevada had average to above average precipitation which somewhat eased the effects of six drought years. The majority was during the first four months of the year. The spring was cool to cold, even through early Jul when collecting was curtailed in White Pine and Elko counties over the July 4th weekend. The following week, standing water had early morning ice in Central Nevada. Very little was flying in northern Nevada during early Jul, possibly because of the colder than normal temperatures. Ten or fewer species were found at localities in Elko and Humboldt counties which should produce daily lists of 30 or more species at that time of the year. The Mojave Desert had 2.5 times the normal rainfall in the early season (Dec-Mar), based on 40 years of records, whereas close to normal in the Great Basin (WLS). Late spring--summer were dry, with 105 consecutive days with no measurabl ppt at Reno--the 2nd longest such stretch of record (AMS)--due to the diversion of the Mexican monsoons into the Midwest, causing the great Mississippi Valley floods (AMS). Warm to hot in Nye Co in early Apr, "ideal" for surveying (RLL, WLS), whereas cloudy, showers and rain, Elko, Eureka, Humboldt and Pershing Cos, 22-23 Jul (RLL).

MIGRANTS and STRAYS: The number of "southern" species noted in the state were fewer than in 1991 and 1992 yet some interesting records were obtained. Zerene cesonia: three records north of the Mojave Desert where the species is regular: Lincoln Co, US 93, Pioche, 26 July; White Pine Co, Steptoe Valley, Warm Springs, 26 July (only 2 previous county records); Elko Co; 2.6 mi S Currie, 27 July (only 1 previous county record) (all GTA).

Phoebis sennae marcellina, Clark Co, several records from mid April through early June and August (BB, BrB). Eurema mexicana, Lincoln Co, US 93, 4.7 miles S of White Pine County line, 26 Jul (very rare in Nevada, second county record [the first was last year]), Nathalis iole--only 1 Great Basin record: Elko Co, Skull Crk, 3 mi S Owyhee, 5 Jul (GTA). Battis philenor, Clark Co, Henderson, 7, 11 Jun; Moapa Valley, 9 Aug (all BB, <BrB). Junonia coenia: common at several localities in White Pine Co, (where usually rare to absent) during Jul; additional other scattered records for eastern Nevada at the same time in Elko, Lincoln, and Nye counties (GTA). Clouds of P. beckerii, P. protodice & C. eurytheme migrating N across I-80, in sun between showers, 3 mi SE to Beowave Rest Area, Eureka Co, 22 Jul (RLL). L. marina, Mt Rose above tree line, Washoe Co, 18 Jul (AMS) [Northerly migrations from the Southwest in 1993--see CA section]. A. milberti very abundant at high altitudes in Jun, swarming on Mt Rose and flying over snow (AMS). V. cardui: Moderate numbers, Ash Mdws Rd NW of Panhrump, Nye Co, 7 Apr; double digits flying N over ridges, Big Dunes Sand Dunes, SE of Hwy 95, Nye Co, 8 Apr; and 15 mi N of Beatty, Nye Co, 10 Apr (all RLL, WLS).

MOTHS: PYRALIDAE--Pogonogenys proximalis common, Ash Mdws at 2500', 8.2 mi NW of Pahump, Nye Co, 7 Apr (RLL). GEOMETRIDAE--Semiothisa excurvata, I-80 Fernley Rest Area, Washoe Co, 23 Jul (RLL). Animomyia smithii nigris & Archirhoe neomexicana, Pahump, 7 Apr (RLL). Synchlora frondaria avidaria, I-80 Beowave Rest Area, Eureka Co, 22 Jul (RLL). NOCTUIDAE--Ponometia macdunnoughi, Winnemucca, Humboldt Co, NORTH, 13 Jul (RR). Escaria clauda, 14 mi NE of Mill City, Pershing Co, 23 Jul (RLL). Matigramma metaleuca, 9 Apr & Protogyria biclavis, 7 Apr, Pahump, Nye Co (RLL). Aseptis characta, Triochemis saporis & Hadenella pergentilis, I-80 Fernley Rest Area, Washoe Co, 23 Jul (RLL). Euxoa aurelenta, Winnemucca, Humboldt Co, 13 Jul (RR).

BUTTERFLIES: Ochlodes yuma, Clark Co, Moapa Valley, Logandale, 20 May (EARLY, previous earliest for Clark Co, = 7 June) (GTA, JDT). Euchloe ausonides, PERSHING Co, Humboldt Range, Star Creek Cn, 28 May (GTA). E. hyantis lotta & A. cethura (mostly white, some inter, few all yellow), Big Dunes Sand Dunes, 2550' and Little Cones, 2850', Steves Pass Rd, Nye Co, 8 Apr (RLL, WLS); white, few inter, Nellis AF Range Rd, 3750', E of Hwy 95, 10 Apr, Nye Co (RLL, WLS). All white A. cethura, Teels Marsh Rd, 4950', 1.8 mi NW of Hwy 360, Mineral Co, 2 May (WLS)... and the NORTH record for a yellow phenotype, Silver Peak Mtns, 5300', 2.5 mi SE of Lida, Esmeralda Co, 1 May (WLS)--25 white ♂♂, 1 inter ♂ and 1 yellow ♂. S. fuliginosum, Virginia Peak, 7440', above Virginia City, STOREY COUNTY, 12 Jul 1933 (George Malcolm, fide RES). Strymon melinus pudicus, relatively common at several localities in Lincoln, Nye, and White Pine counties in Jul where it is usually rare or absent. Chlosyne lacinia crocale WHITE PINE COUNTY, Spring Vy, Minerva (S of Shoshone), 26 Jul (GTA). T. leanira cerrita, Hwy 265, 4500', 7 mi N of Silver Peak, Esmeralda Co, 2 May (WLS).

## ZONE 4: THE ROCKY MOUNTAINS: ALBERTA, MONTANA, WYOMING, UTAH, COLORADO, NEW MEXICO.

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State co-ordinators: Steve Cary (NM), Steve Kohler (MT). Contributors: Larry Beutler and family (LDB), Bart Brinkman (BBB), the late F. Martin Brown (FMB), Karolis Bagdonas and the flying circus (BFC), Steve Cary (SJC), L. E. Chadwick (LEC), G. R. deFoliart (GRD), Yves-Pascal Dion and Danielle (YPD), Steve Dolansky (SED), Don Eff (JDE), Scott Ellis (SLE), Cliff Ferris (CDF), Mike Fisher (MSF), Clyde Gillette (CFG), Paul Grey (LPG), Chuck Harp (CEH), Jack Harry (JLH), Dick Holland (RWH), Maurice Howard (MLH), Joel Johnson (JMJ), Sam Johnson (SAJ), Abran Kean (AJK), Steve Kohler (SJK), Bob Langston (RLL), Url Lanham (UNL), Dave Leatherman (DL), Cliff Miles (CAM), Bob Mower (RCM), Jack Odor (JLO), Paul Opler (PAO), June Preston (JDP), C. D. Rector (CDR), Hugo Rodeck (HGR), the late Bernard Rotger (BR), Patrick Savage (PJS), James Scott (JAS), Charles Slater (CPS), Steve Sommerfeld (SWS), us guys (RES, KAS), Bea Vogel (BV), Andy Warren (ADW), Byron Weber (BW), Mike Weissmann (MJW). Total 43, including a few who have departed but who have achieved a measure of immortality by their good works; compaare 44 in 1980, 42 in 1991, and 35 in 1992. RES reported from 4 Zone 4 States in 1993, FMB and RLL from 3, and 5 others from 2. CDF, SJK, JAS, and RES have reported for 15+ consecutive years. The season was mainly wet, cold, and delayed, but it saw county dot maps published for all butterflies, skippers, saturniid and sphingid moths of Western North America after many years of preparation. This summary is dedicated to Brownie (FMB), who died in May, but his influence will persist for generations to come; he was truly the premiere Rocky Mountain Lepidopterist. For the past 15 years combined we have recorded 399 butterfly species, 373 of them with new county records. The avg bf spp/co in Zone 4 is finally over 100 if averaged by state, but 99.47 if averaged by county (need 109 CRs for 100!), compared with 118.01 in Zone 3 (AZ, CA, NV) and 67.53 in Zone 2 (ID, OR, WA). There were 7 STATE bf records (cf 17 in 1991 and 9 in 1992) and 662 COUNTY bf records (cf 358 in 1992, 326 in 1991, 1305 in 1985, 901 in 1986) among the 812 data received, and

nearly 90 moth data, many also STATE or COUNTY records. The year for all records is 1993 except as noted.

ALBERTA. No reports.

MONTANA (MT). Contributors: CEH, SJK, RES, BV, BW. Late May was quite nice, but the summer was one of the coldest and wettest in history (average July high 59.4 in Missoula).

MOTHS: Two diurnal butterfly-look-alikes: Euclidia cuspidea (Noct.), flying with Erynnis icelus and E. persius, and Lomographa semiclarata (Goem.), flying with Celastrina ladon, Ekalaka Hills, 3900', CARTER Co, 31 May (RES).

BUTTERFLIES: Maybe the weather didn't get hot but the lepidopterists certainly did (see my exhortation in last year's Summary)! There were 231 COUNTY records (CRs) including a few from earlier years, and 3 STATE records (SRs) for prairie skippers in the "far east" of the State, raising the avg spp/co to 79.18 or 72.38% of projection. The State species total is now 190, compared with 197 in NE and 212 in WY. Just for interest, the total number of CRs reported from MT in 1987-1992 inclusive was 235; should we pray for more Julynowstorms?! Only 1508 more CRs are needed to catch CA at 97% of projection, but they plan to be busy out there too. Epargyreus clarus, FR 118, 3700', Long Pines, Carter Co, 31 May, EARLY (RES); Drummond, GRANITE Co, 14 Jun (SJK); nr Cyr, MINERAL Co, 3 Jun (SJK); 17 mi NE of Ashland, POWDER RIVER Co, 25 Jun (SJK); Columbus, STILLWATER Co, 22 Jun (SJK); nr Bighorn, TREASURE Co, 22 Jun (SJK). Erynnis icelus, nr Camp Needmore, 3900', Eklaka Hills, CARTER Co, SE, 19 May (SJK); Hellgate Gulch, 5600', 26 mi N of Townsend, BROADWATER Co, 25 Apr, EARLY (BV); W of Anaconda, DEER LODGE Co, 17 Jun (SJK). E. pacuvius lilium, E Rosebud Lk, 6200', CARBON Co. SOUTH, 2 Jul 1989 (BV, det SJK); nr Neihart, CASCADE Co, 28 May (CEH, det CEH/RES). E. persius (several revisions based on SJK genit. det.s.; some deletions from E. afranius pending), Bear Paw Mts, nr Lloyd, BLAINE Co, 4 Jun 1986 (SJK); E of Canyon Ferry Rsvr, BROADWATER Co, 9 Jun 1986 (SJK); Kila, FLATHEAD Co, 20 Jun 1978 (SJK); Little Snowy Mts, Golden Valley Co, 29 May 1986 (SJK); E Butte, Sweetgrass Hills, LIBERTY Co, 17 Jun (BW, det SJK); Bull Lk, LICOLN Co, NW, 26 May 1988 (SJK); Tobacco Root Mts, MADISON Co, 29 Jun 1977 (SJK); 1 mi S of Clancy, JEFFERSON Co, 25 May (SJK); nr Stanford(!), JUDITH BASIN Co, 26 May 1978 (SJK); Long Pines, CARTER Co, SE 31 May (RES); Wilbur Crk Rd, 10 mi NE of Ashland, POWDER RIVER Co, 20 May (SJK); W Fk Stillwater Rvr. SW of Nye, STILLWATER Co, 6 Jun 1986 (SJK); W of Choteau, TETON Co, 23 May 1985 (SJK); Sweetgrass Hills, 10 mi E of Sunburst, TOOLE Co, 14 May 1980 (SJK); 5 mi W of Hysham, TREASURE Co, 21 May (SJK); Roberts Crk, W of Judith Gap, WHEATLAND Co, 30 May 1986 (SJK); others pending review. E. afranius, Klein, MUSSELSHELL Co, 21 May (SJK); 10 mi NE of Ashland, POWDER RIVER Co, 20 May (SJK); Divide Crk, SILVER BOW Co, 6 Aug 1975, fresh second generation male in RES colln (SJK, det RES in 1978 and verified 1993); other old records pending review, but it seems likely that all extreme W MT (?ID, ?WA, ?OR, ?BC, etc) are persius; mine and all others the I have examined in great detail are. Pyrgus centaureae, Big Horn Mtn, Gravelly Rg, MADISON Co, 19 Aug (SJK). Pholisora catullus, Medicine Rocks, 3380', CARTER Co, SE, 31 May (RES). Cartocephalus palaemon, Moose Crk, S of Butte, SILVER BOW Co, 21 Jul (SJK). Oarisma garita, 2 mi N of Dunmore, BIG HORN Co, 7 Jul (SJK); Columbus, STILLWATER Co, 22 Jun (SJK); Hwy 89 NW of Choteau, TETON Co, 19 Jun (CEH); nr Bighorn, TREASURE Co, 22 Jun (SJK); nr Waco, YELLOWSTONE Co, 22 Jun (SJK). Yvretta rhesus, fresh female taken on wallflower, Medicine Rocks, 3385', CARTER Co, STATE (gotta be all over the "far east" with the host grass Bouteloua gracilis), 31 May (RES). Hesperia uncas, 1 mi S of Chinook, BLAINE Co, 28 Jun 1989 (SJK); 8 mi NE of Cardwell, 5000', JEFFERSON Co, 24 Jun 1989 (BV); 10 mi N of Chester, LIBERTY Co, 20 Jun 1990 (SJK); SW of Volborg, POWDER RIVER Co, SE, 25 Jun (SJK). H. juba, E Rosebud Lk, 6200', CARBON Co, 1 Sep 1988 (BV); 2-Mile Crk, 3 mi W of St. Regis, MINERAL Co, 7 Sep (SJK); nr Mosby, PETROLEUM Co, 14 May 1987 (SJK); SW of Volborg, POWDER RIVER Co, 3 Sep (SJK). H. leonardus pawnee, 4 mi S of Great Falls, on Liatris flowers as late as 8 pm, CASCADE Co, WEST (will be found in every Co E of there!), 22 Aug and later (CEH). H. pahaska, Bass Crk, S of Florence, RAVALLI Co, 200 mi WEST, 18 Jul 1992 (SJK); I may have to eat crow on this, but I'll take H. comma and give ya 17 points! H. nevada, Hughes Rch, TETON Co, 18 Jun (CEH, det CEH/RES). Polites peckius, Boulder Rvr Rd, SW of Basin, JEFFERSON Co, 8 Sep, LATE (SJK). P. sabuleti, will be the next skipper SR, and all over SW MT at lower elevations. P. draco, Kings Hill, Little Belt Mts, CASCADE Co, 7 Aug 1991, ?LATE (SJK); Red Butte, S of Great Falls, Cascade Co, 30 May, EARLY (CEH); Ninemile Prairie, MISSOULA Co, WEST, 29 Jun 1991 (SJK). P. themistocles, Baker railyard, FALLON Co, 31 May, EARLY (RES); SW of Volborg, POWDER RIVER Co, 25 Jun (SJK). P. mystic, 13 mi E of Crow Agency, BIG HORN Co, EAST, 7 Jul (SJK). P. sonora, 4 mi W of Elliston, POWELL Co, NORTHEAST, 17 Jul 1991 (SJK). Ochloides sylvanoides, 10 CRs In 1993; Camp Needmore, 3900', Ekalaka Hills, CARTER Co, SE, 2 Sep; Blacktail Crk, Snowcrest Rg, BEAVERHEAD Co, SW, 13 Sep, LATE; 15 mi NW of Powderville, CUSTER Co, 2 Sep; nr Georgetown Lk, DEER LODGE Co, 8 Sep; 5 mi S of Baker, FALLON Co, 2 Sep; Boulder Rvr Rd, SW of Basin, JEFFERSON Co, 8 Sep; Mill Crk, Tobacco Root Mts, MADISON Co, 10 Sep; Cow Crk Rd, W of Ft. Hawes, POWDER RIVER Co, 1 Sep; Divide Crk, S of Butte, SILVER BOW Co, 10 Sep; nr Hysham, TREASURE Co, 31 Aug (all SJK). Anatrytone logan, 13 mi E of Crow Agency, BIGHORN Co, WEST, 7 Jul (SJK). Euphyes vestris, same data, BIG HORN Co; 15 mi E of Miles City, CUSTER Co, 2 Sep, LATE (SJK). Atrytonopsis hianna, fresh male taken perching in swale after typical circling flight, assoc Andropogon gerardi, Medicine Rocks, 3380', CARTER Co. STATE, WEST, 31 May (RES). Amblyscirtes simius, Musselshell Rvr bluff, N of Mosby, GARFIELD Co, STATE, WEST, 10 Jun 1987 (SJK); should be found in same places as Y. rhesus 2 weeks later. A. oslari, Wilbur Crk Rd, 17 mi NE of Ashland, POWDER RIVER Co, 3rd STATE, 25 Jun (SJK); should be widespread in prairie gullies assoc Bouteloua curtipendula (fide JAS). A. vialis, nr Camp Needmore, 3900', Ekalaka Hills, CARTER Co, SE, 19 May (SJK) and 31 May (RES); Swamp Crk Rd, E of Seeley Lake, POWELL Co, 18 Jun (SJK); should prove to be widespread but local in pine woods. Papilio zelicaon, 15 mi N of Hardin, BIG HORN Co, 21 May; nr Camp Needmore, 3900', CARTER Co, SE, 19 May; Bull Mts, 17 mi S of Roundup, MUSSELSHELL Co, 21 May; Wilbur Crk Rd, 10 mi NE of Ashland, POWDER RIVER Co, 20 May; 8 mi W of Myers, TREASURE Co, 18 May; blk fm "nitra", 5 mi W of Hysham, TREASURE Co, 21 May (all SJK). P. rutulus, Wilbur Crk Rd, 10 mi NE of Ashland, POWDER RIVER Co., SE, 20 May (SJK); nr Ashland, ROSEBUD Co, NE, 25 Jun (SJK). P. multicaudatus, Wilson Rch, 5000', 4 mi SE of Pryor, BIG HORN Co, 17 Jun 1953, in U Colo Museum, det RES (confirmed by SJK in 1993); Wilbur Crk Rd, 17 mi NE of Ashland, POWDER RIVER Co, SE 25-Jun (SJK). Neophasia menapia, Blacktail Crk, Snowcrest Rg, BEAVERHEAD Co, SW, 13 Sep (SJK); Mill Crk, Tobacco Root Mts, MADISON Co, 10 Sep (SJK); first new records in years. Pieris napi, nr Camp Needmore, 3900', CARTER Co, SE, 19 May (SJK); Breed Crk, Sweetgrass Hills, LIBERTY Co, 18 Jun (BW); Wilbur Crk Rd, 10 mi NE of Ashland, POWDER RIVER Co, 20 May (SJK). P. rapae, Warm Spgs Crk, 1 mi S of Clancy, JEFFERSON Co, 25 May, now all MT and Zone 4 counties (SJK). Pontia sisymbrii, cline toward nordini, nr Camp Needmore, 3900', Eklaka Hills, CARTER Co, SE, 19 May; 15 mi E of Miles City, CUSTER Co, 19 May, N of Cushman, GOLDEN VALLEY Co, 21 May; 10 mi S of Volborg, POWDER RIVER Co, 20 May (all SJK). P. protodice, Baker railyard, in accordance with the Shapiro Principle, FALLON Co, 31 May (RES); Beaver Crk Park, Bearpaw Mts, HILL Co, 18 Sep (CEH); Boulder Rvr Rd, SW of Basin, JEFFERSON Co, 24 Aug and 8 Sep (SJK); 2-Mile Crk, 3 mi W of St. Regis, MINERAL Co, 7 Sep (SJK); above Swift Rsvr, PONDERA Co, 29 Jul (SJK); 3-Mile Crk, SE of Florence, RAVALLI Co, WEST, 25 Aug; Divide Crk, S of Butte, SILVER BOW Co, 10 Sep (SJK); this species less common than P. occidentalis in MT but perhaps extending its range. Euchloe ausonides, nr Camp Needmore, 3900', Eklaka Hills, CARTER Co, SE, 19 May; 15 mi E of Miles City, CUSTER Co, 19 May; Bull Mts, 17 mi S of Roundup, MUSSELSHELL Co, 21 May; Wilbur Crk Rd, 10 mi NE of Ashland, POWDER RIVER Co, 20 May; 5 mi W of Hysham, TREASURE Co, 21 May (all SJK). E. olympia, 10 mi S of Volborg, POWDER RIVER Co, 20 May (SJK); Cow/Birney Crk Rd, 10 mi E of Birney, ROSEBUD Co, 20 May (SJK). Anthocharis sara, Wilson Rch, 5000', 4 mi SE of Pryor, BIG HORN Co, 17 Jun 1953, in U Colo Museum, det RES. Colias eurhythme, Warm Spgs Crk, 1 mi S of Clancy, JEFFERSON Co, 25 May, now all MT and Zone 4 counties (SJK). C. alexandra, nr Camp Needmore, 3900', Ekalaka Hills, Carter Co, 31 May, EARLY (RES); PONDERA and WHEATLAND counties, cited in Ferris CD, Bull Allyn Mus 138, 1993, but please read the entire paper before adding more western dots because some authorities place them with C. occidentalis. C. occidentalis, probably including some populations treated as alexandra by CDF, Boulder

Rvr Rd, SW of Basin, JEFFERSON Co, 8 Sep (SJK); Dry Wolf Crk, Little Belt Mts, JUDITH BASIN Co, EAST, 14 Aug (CEH). *C. christina*, 3 mi NE of Raynesford, JUDITH BASIN Co, 14 Aug (CEH); BEAVERHEAD, FLATHEAD, GLACIER, LAKE, POWELL, TETON, YELLOWSTONE counties in above CDF paper, probably non-controversial. *C. gigantea*, FR 683, 2 mi E of Silver Lk, DEER LODGE Co, 19-27 Jul (SJK); Lincoln, LEWIS & CLARK Co, (R. Typinski/SJK 1993); Moose Crk, S of Butte, SILVER BOW Co, 21 Jul (SJK). *C. meadii*, above Swift Rsvr, PONDERA Co, NE and ?LOW, 29 Jul (SJK). *Lycaena dione*, 2 mi N of Dunmore, BIG HORN Co, 7 Jul (SJK). *L. rubida*, Boulder Rvr Rd, SW of Basin, JEFFERSON Co, 24 Aug (SJK); 8-Mile Crk, Florence, RAVALLI Co, WEST, 9 Sep, LATE (SJK). *L. heteronea*, 2-Mile Crk, 3 mi W of St. Regis, MINERAL Co, WEST, 7 Sep, LATE (SJK). *L. mariposa*, Elk Park Pass, 6372', 10 mi N of Butte, JEFFERSON Co, 4 Aug 1961 (J. K. Newlin), in U Colo Museum, det RES; Indian Crk, SW of Basin, Jefferson Co, 24 Aug (SJK). *Satyrium titus*, 1 mi W of Ashland, ROSEBUD Co, 2 Aug (SJK). *S. saepium*, nr Georgetown Lk, DEER LODGE Co, 8 Sep, LATE (SJK). *S. sylvinum*, same data, DEER LODGE Co; cg S of Marias Pass, PONDERA Co, NE, 20 Aug (CEH); Divide Crk, S of Butte, SILVER BOW Co, 10 Sep, LATE (SJK). *Mitoura spinetorum*, Warm Spgs Crk, 1 mi S of Clancy, JEFFERSON Co, 25 May (SJK). *M. siva*, 2 mi N of Clark Cn Dam, BEAVERHEAD Co, SW, 28 May; nr Camp Needmore, 3900', Eklaka Hills, CARTER Co, SE, 19 May; Lakeside, FLATHEAD Co, NORTH, 1 Jun; N of Cushman, GOLDEN VALLEY Co, 21 May; Clark Fk Rvr, 1 mi W of Superior, MINERAL Co, WEST, 3 Jun; Klein, MUSSELSHELL Co, 21 May; 10 mi S of Volborg, POWDER RIVER Co, 20 May (all SJK). *M. byrnei*, Ward Crk, 7 mi W of St. Regis, MINERAL Co, 3 Jun (SJK). *Incisalia augustinus*, Warm Spgs Crk, 1 mi S of Clancy, JEFFERSON Co, 25 May (SJK). *I. polia*, *I. mossii* and *I. eryphon*, Warm Spgs Crk, 1 mi S of Clancy, JEFFERSON Co, 25 May (SJK). *I. eryphon*, nr Camp Needmore, 3900', Eklaka hills, CARTER Co, SE 19 May; 15 mi E of Miles City, CUSTER Co, (validates old record), 19 May; 1 mi N of Medicine Rocks, FALLON Co, 19 May; 10 mi S of Volborg, POWDER RIVER Co, 20 May (all SJK). *Strymon melinus*, 40 mi S of Miles City, CUSTER CO (validates old record), 3 Sep (SJK). *Celastrina ladon*, nr Camp Needmore, 3900', Eklaka Hills, CARTER Co, SE 19 May; 15 mi E of Miles City, CUSTER Co, 19 May; Bull Mts, 17 mi S of Roundup, MUSSELSHELL Co, 21 May; 10 mi S of Volborg, POWDER RIVER Co, 20 May; Columbus, STILLWATER Co, 22 Jun (all SJK). *Glaucopsyche lygdamus*, nr Camp Needmore, 3900', Eklaka Hills, CARTER Co, SE 19 May (SJK); Wilbur Crk Rd, 10 mi NE of Ashland, POWDER RIVER Co, 20 May (SJK). *G. piasus*, nr Cyr, MINERAL Co, 3 Jun (SJK). *Euphyllotes enoptes*, FR 638, 2 mi E of Silver Lk, DEER LODGE Co, 19 Jul (SJK). *Plebejus idas*, above Swift Rsvr, PONDERA Co, 29 Jul (SJK); there is a 1986 record by RLH for which I have misplaced the data, PONDERA Co. *P. saepiolus*, N of Cushman, GOLDEN VALLEY Co, 21 May; Wilbur Crk Rd, 10 mi NE of Ashland, POWDER RIVER Co, 20 May; cow/Birney Crk Rd, 10 mi E of Birney, ROSEBUD Co, 20 May; 5 mi W of Hysham, TREASURE Co, 21 May (all SJK). *P. rusticus*, 1 mi W of Montana City, JEFFERSON Co, 25 May (SJK). *P. icarioides*, N of Cushman, GOLDEN VALLEY Co, 21 May; Bull Mts, 17 mi S of Roundup, MUSSELSHELL Co, 21 May; Cow/Birney Crk Rd, 10 mi E of Birney, ROSEBUD Co, 20 May; 5 mi W of Hysham, TREASURE Co, 21 May (all SJK). *P. acmon*, 40 mi S of Miles City, CUSTER Co, 1 Sep; above Swift Rsvr, PONDERA Co, 29 Jul (both SJK). *Euptoieta claudia*, Hwy 87 N of Loma, CHOUTEAU Co, 16 Sep, LATE (CEH). *Speyeria callippe*, 13 mi E of Crow Agency, BIG HORN Co, 7 Jul; Medicine Rocks, CARTER Co, SE, 24 Jun; 5 mi S of Baker, FALLON Co, 24 Jun (all SJK). *S. zerene*, Wilbur Crk Rd, 17 mi NE of Ashland, POWDER RIVER Co, EAST, 25 Jun (SJK). *S. hydaspae*, Mill Crk, Tobacco Root Mts, MADISON Co, 10 Sep, LATE; Divide Crk, S of Butte, SILVER BOW Co, 10 Sep (both SJK). *S. atlantis*, Wilbur Crk Rd, 17 mi NE of Ashland, POWDER RIVER Co, 25 Jun; Divide Crk, S of Butte, SILVER BOW Co, 10 Sep, LATE (both SJK). *S. egleis*, Boulder River Rd, SW of Basin, JEFFERSON Co, 24 Aug (SJK). *Boloria selene*, Otter Crk, E of Ashland, POWDER RIVER Co, 2 Aug (SJK). *B. bellona*, East Butte, Sweetgrass Hills, LIBERTY Co, 17 Jun (BW/SJK). *B. freija*, nr Black Butte, Gravelly Rg, MADISON Co, WEST and astronomical range extension (may we expect *B. frigga* next? YES!), 30 Jul (SJK). *Euphydryas gillettii*, FR 683, 2 mi E of Silver Lk, DEER LODGE Co, 19 & 27 Jul (SJK); there is a 1989 record by PJS for which I have misplaced the data, DEER LODGE Co; Moose Crk, S of Butte, SILVER BOW Co, 21 Jul (SJK), first new record since 1989. *E. anicia*, Medicine Rocks, CARTER Co, 19 May (SJK); nr Camp Needmore, 3900', Carter Co, 31 May (RES; mine are *bernadetta*); 1 mi N of Medicine Rocks, FALLON Co, 19 May (SJK); Bull Mts, 17 mi S of Roundup, MUSSELSHELL Co, 21 May (SJK); 10 mi S of Volborg, POWDER RIVER Co, 20 May (SJK); 5 mi W of Hysham, TREASURE Co, 21 May (SJK); 5 mi W of Custer, YELLOWSTONE Co, 21 May (SJK). *Chlosyne palla*, Fr 683, 2 mi E of Silver Lk, DEER LODGE Co, 19 & 27 Jul; Moose Crk, S of Butte, SILVER BOW Co, 21 Jul (both SJK). *C. acastus*, Medicine Rocks, CARTER Co, SE, 19 May; 15 mi NW of Powderville, Custer Co, 2 Sep (2nd generation); 15 mi SW of Volborg, POWDER RIVER Co, 20 May; 10 mi N of Ashland, ROSEBUD Co, 20 May; 5 mi W of Hysham, TREASURE Co, 21 May (all SJK). *C. gorgone*, N of Cushman, GOLDEN VALLEY Co, 21 May (SJK). *Phyciodes mylitta*, nr Georgetown Lk, DEER LODGE Co, 8 Sep, LATE (SJK). *P. pallidus*, Wilson Rch, 5000', 4 mi SE of Pryor, BIG HORN Co, EAST, 17 Jun 1953, in U Colo Museum, det RES. *Polygonia progne* (?oreas), SW of Volborg, POWDER RIVER Co, 3 Sep (SJK). *Vanessa atalanta*, 15 mi E of Miles City, CUSTER Co, 19 May (SJK). *Basilarchia archippus*, on aspen in Great Falls, CASCADE Co, 2 Aug (CEH). *B. weidemeyerii*, Republican Gulch, Little Belt Mts, JUDITH BASIN Co, 14 Aug (CEH); Wilbur Crk Rd, 17 mi NE of Ashland, POWDER RIVER Co, SE, 25 Jun (SJK); nr Ashland, ROSEBUD Co, 25 Jun (SJK). *Coenonympha haydeni*, nr Hughes Rch, SW of Bynum Rsvr, TETON Co, NORTH, 10 Jul (CLH/CEH), first new record since 1986! *C. inornata*, 15 mi N of Hardin, BIG HORN Co, 21 May (SJK); nr Camp Needmore, 3900', Eklaka Hills, CARTER Co, SE (also new for *tullia* CPX), 19 May (SJK) and 31 May (RES); Breed Crk, Sweetgrass Hills, LIBERTY Co, (also new for *tullia* CPX), 17 Jun (BW/SJK). *C. ochracea*, 2 mi N of Kiowa, GLACIER Co, NORTH, 17 Jun (CEH); Hwy 89 NW of Choteau, TETON Co, 19 Jun (CEH). *Cercyonis sthenela*, 1 mi S of East Glacier, 4650', GLACIER Co, NORTH, 20 Aug (CEH); this is surely widespread in W MT, albeit local. *C. meadii*, 15 mi E of Crow Agency, BIG HORN Co, 31 Aug (SJK). *C. oetus*, 5 mi S of Baker, FALLON Co, 24 Jun, EARLY (SJK). *Erebia epipsodea*, Wilson Rch, 5000', 4 mi SE of Pryor, BIG HORN Co, SE, 17 Jun 1953, in U Colo Museum, det RES). *Oeneis chryxus*, same data, BIG HORN Co, EAST; Indian Crk, SW of Basin, JEFFERSON Co, 24 Aug (SJK). *O. alberta*, Crown Butte, 4400-4800', 5 mi S of Simms, CASCADE Co, SW, 15 May (BV); would someone please find this species in WYOMING?!!! *O. uhleri*, same data as *chryxus*, BIG HORN Co (also 21 May 1993 SJK); Medicine Rocks, CARTER Co, SE, 19 May; Cow/Birney Crk Rd, 10 mi E of Birney, ROSEBUD Co, 20 May; 10 mi S of Volborg, POWDER RIVER Co, 20 May; 8 mi W of Myers, TREASURE Co, 18 May, EARLY (all SJK). No records for Danaidae. Footnote: MT watchers, note that Choteau is NOT in Chouteau Co; also that there are 3 "valleys": plain VALLEY, GOLDEN VALLEY, and RIVALLI counties! A great year, folks!

WYOMING (WY). Contributors: FMB, BFC, GRD, CDF, RLL, UNL, PAO, JAS, RES, ADW, EHW. The season was described by most as cold, wet, rainy, snowy, and miserable, but RES found 73 bf CRs and a few moths on 4 short trips totalling 9 days, with entirely warm and sunny days in May, June, July, and Aug. Lucky, I guess.

MOTHS:GEOMETRIDAE: *Marmopteryx marmorata*, Battle Mtn, 7500', CARBON Co, STATE, 20 Jun 1973 (RES, det PAO). ARCTIIDAE: *Cisthene barnesi*, Glendo SP, PLATTE Co, STATE, 15 Jul (PAO). NOCTUIDAE: *Magusa orbifera*, same data, STATE, NORTH (PAO). *Lacinipolia olivacea*, High Park lookout, 9450', WASHAKIE Co, HIGH, STATE, 1 Aug (RES, det PAO). *Feltia jaculifera*, 3 mi E of Buffalo, JOHNSON Co, STATE, 1 Sep (RES, det PAO).

BUTTERFLIES: About 100 records are available, including 2 STATE and 91 COUNTY records for 55 spp in 23 counties (all except Lincoln Co). The avg spp/co is now 96.42 or 86.73% of projection, and we hope to reach 100/90% next year! Twelve spp are now known from all 24 counties, with the addition of *P. rapae*, *C. tullia*, and *D. plexippus* in 1993. Only 2 counties remain under 60 spp, cf 5 last year and 20 a decade ago. Sweetwater Co [sic] may never make it! WY now sports 212 bf spp, cf 267 CO and 190 MT, but *O. alberta* and several others should be found easily. Hint! *Erynnis afraninus*, Lone Tree Cn, 4650', 10 mi WSW of Hawk Spgs, GOSHEN Co, EAST, 29 Jul; Pine Bluffs rest area, 5300', LARAMIE Co, SE, 27 May; WY 313 at Chugwater Crk, nr Chugwater, 5300', PLATTE Co, 29 Jul (all RES). *Pyrgus scriptura*, Pine Bluffs rest area, 5300', LARAMIE Co, SE, 27 May (RES). *Oarisma garita*, pine hills, 6 mi SSW of Rozet, 4950', CAMPBELL Co, 31 Jul (RES); Ft. Laramie, 4230', GOSHEN Co, 30 Jul (RES). *Yvretta rhesus*, Wy 59, 57 mi S of Gillette, 4950', CONVERSE Co, hard to find among many many many many many cows (RES); 16 mi NE of Grover, CO, 5280', breaks 1 mi W of Rds 122/105, LARAMIE Co, SE, 27 May (RES). *Hesperia uncas*,

Gooseberry Crk Rd (WY 431), 6 mi E of jct WY 431/120, 5050', HOT SPRINGS/WASHAKIE Co line, 1 Aug (RES); Murphy Draw Rd, 6.5 mi NNW of previous loc, 5200', HOT SPRINGS/PARK Co line, 1 Aug (RES). *Poanes taxiles*, Ft. Laramie, 4230', GOSHEN Co, EAST, 30 Jul (RES). *Anatrytone logan*, US 85 at Horse Crk, Meriden, 4950', LARAMIE Co, SE, 29 Jul (RES). *Euphes vestris*, Battle Crk Cg, CARBON Co, 7 Jul 1980 (CDF); Guernsey Dam, GOSHEN Co, 7 Jul 1966 (R. L. Hardesty/CDF). *Amblyscirtes vialis*, Palmer Cn Rd, 15.3 mi W of Wheatland, 5280', PLATTE Co, 1 Jun (RES). *Papilio polyxenes*, Pine Bluffs rest area, male on hill, 5300', LARAMIE Co, SE, 27 May (RES). *P. machaon "brucei"*, hilltop with water tank, fresh male flying with worn *zelicaon*, Gillette, 4910', CAMPBELL Co, NE, 31 Jul (RES); hilltop in Lusk, 5150', NIOBRARA Co, EAST, 30 Jul (RES). *P. zelicaon*, same spot, CAMPBELL Co, 31 Jul (RES). *P. eurymedon*, male on hill, Happy Jack Rd, 25 mi W of Cheyenne, 7500', LARAMIE Co, SE, 20 Jun (RES). *P. multicaudatus*, 2 sighted clearly high in trees in town, Gillette, 4550', CAMPBELL Co, 31 Jul (RES); Lone Tree Cn, 4650', 10 air mi WSW of Hawk Spgs, GOSHEN Co, 29 Jul (RES). *Pieris rapae*, common, Gillette, 4550', CAMPBELL Co, 31 Jul (RES) (also sighted 1 Jun) (RES), now all WY and Zone 4 counties. *Pontia beckerii*, Mayoworth, N Fk Powder Rvr, JOHNSON Co, NE, 12 Aug 1949 (FMB, in U Colo Museum); US 20, 5650', 2 mi W of Natrona (site), NATRONA Co, 2 Aug (RES); with *H. uncas* on rabbitbrush (q. v.). *P. occidentalis*, hilltop in Lusk, 5150', NIOBRARA Co, 30 Jul (RES). *Euchloe hyantis*, Woods Landing, 7430, ALBANY Co, EAST, 2 Jun 1972 (UNL, in U Colo Museum). *Colias alexandra*, Lone Tree Cn, 4750', 10 air mi WSW of Hawk Spgs, GOSHEN Co, 29 Jul (RES); Gooseberry Crk Rd (WY 431), 6 mi E of jct WY 431/120, 5050', HOT SPRINGS/Washakie Co line, 1 Aug (RES); Green Rvr Lakes, SUBLETTE Co, Aug 1980 (JAS); fresh 2nd generation, Converse/Natrona counties, mid-Aug (JAS); CROOK, WESTON, TETON, YNP, NE & NW, Bull Allyn Mus 138(1993-CDF). *C. christina astraea*, TETON Co (same publication). *Phoebis sennae*, fresh male taken, 1 mi W of I-25 on Terry Rch Rd, 4 mi N of CO SL, 6350', LARAMIE Co, 27 Jun (ADW). *Eurema nicippe*, Medicine Bow NF, Snowy Rg, 9100', ALBANY Co, 2nd STATE, 20 Jul (CDF). *Lycaena (xanthoides) dione*, Lone Tree Cn, 4750', 10 air mi WSW of Hawk Spgs, GOSHEN Co, EAST, 29 Jul; US 85 at Horse Crk, Meriden, 4950', LARAMIE Co, SE, 29 Jul; U 20, 5650', 2 mi W of Natrona (site), NATRONA Co, SW, 2 Aug; Gooseberry Crk Rd (WY 431), 6 mi E of jct WY 431/120, 5050', WASHAKIE/HOT SPRINGS Co line, WEST, 1 Aug (all RES). *L. (dorcias) florus*, Aspen Crk Tr, S of Wood River GS, 15 rd mi SSW of WY 290, 7900-8400', HOT SPRINGS Co, 1 Aug (RES). *Satyrion acadicum*, US 20 at Badwater Crk, nr Boysen Rsvr, 4750', FREMONT Co, WEST, 2 Aug (RES); WY 170, 5420', 16 rd mi W of jct WY 120/170, HOT SPRINGS Co, WEST, 2 Aug (RES), both det MSF/CDF/PAO/JAS. *Mitoura siva*, 16 rd mi NE of Grover, CO 5280', Rds 122/105, breaks 1 mi W of SL, LARAMIE Co, SE, 27 May (RES). *Strymon melinus*, Murphy Draw Rd, 6.5 rd mi NNW of Gooseberry Crk spot (see *H. uncas*), PARK Co, NW, 1 Aug; Sheridan, 3858', SHERIDAN Co, 31 Jul; Gooseberry Crk spot (see), WASHAKIE Co, 1 Aug (all RES). *Euphilotes rita*, Lone Tree Cn, 4650-4800', 10 air mi WSW of Hawk spgs, GOSHEN Co, NE, 29 Jul (RES); det confirmed CDF/PAO/JAS. *Plebejus acmon*, Wagonhound rest area, I-80, Carbon Co, 21 Jul (RLL); Aspen Crk Tr, S of Wood Rvr GS, 8100', HOT SPRINGS Co, 1 Aug (RES); shaly hills, 6200', 16 air mi W of Baggs, common and fresh, assoc yellow-flowering *Eriogonum* (prob. *E. brevicaulis* fide JAS), SWEETWATER Co [sic], 17 Aug (RES). *P. shasta minnehaha*, common at spot where the *Phoebis sennae* was taken (q. v.), Laramie Co, 27 Jun (ADW). *P. rusticus*, same data as *acmon*, HOT SPRINGS Co (RES). *Libytheana (carinenta) bachmanii*, Ft. Laramie NHP, 4230', GOSHEN Co, EAST(!), cloe sighting in head ranger's garden, 30 Jul (RES); Wheatland City Park, 4650', PLATTE Co, net-release in presence of 150 garden-club women (keep might have resulted in barbecue!), 30 Jul (RES). *Speyeria cybele charlottii* [sic], FR 225, 8550', Medicine Bow NF, Carbon Co, first WEST slope record in WY, 20 Jul (CDF). *S. aphrodite*, Lone Tree Cn, 4650', 10 air mi WSW of Hawk Spgs, GOSHEN Co, 29 Jul (ES). *S. coronis*, pine hills 6 air mi SSW of Rozet, 4950', CAMPBELL Co, 31 Jul (RES). *Boloria titania*, Canyon Crk Rd (FR 25), 0.5 mi S of US 16, 9500', WASHAKIE Co, 1 Aug (RES). *Euphydryas gillettii*, absent (?extinct) in usual Park Co habitats (EHW); Blacks Fk, 8600', 25 air mi SE of Evanston, Uinta Co, SOUTH range extension and close to UTAH (would be a SR), 14 Jun 1958 (GRD, in U Colo Museum, det RES). *Chlosyne gorgone*, Powder Rvr rest stop, I-90, 3850', JOHNSON Co, 31 Jul; US 20, 5650', 2 mi W of Natrona (site), NATRONA Co, WEST, 2 Aug; Murphy Draw Rd (see *H. uncas*), PARK/Hot Spgs Co, NW, 1 Aug; Gooseberry Crk (see *H. uncas*), WASHAKIE/Hot Spgs Co, 1 Aug (all RES). *Phyciodes tharos* (type A), Lone Tree Cn, 4650', 10 air mi WSW of Hawk Spgs, GOSHEN Co, 29 Jul (RES). *P. batesii*, same data, GOSHEN Co, SE, 2nd STATE (RES, det CDF/PAO/JAS). *P. mylitta*, Teton Mts, TETON Co, NW, 12 Aug 1930, R. G. Wind (male in U Colo Museum, det RES). *Polygonia satyrus*, Lone Tree Cn, 4650', 10 air mi WSW of Hawk Spgs, GOSHEN Co, SE, 29 Jul (RES). *P. fuanus hylas*, Penrose Park, 7800', Big Horn Mts, JOHNSON Co, NE, 7 Jul 1951 (FMB, in U Colo Museum, det RES). *Vanessa annabella*, alfalfa field along Little Snake Rvr, 6100', 16 air mi W of Baggs, SWEETWATER Co, 17 Aug (RES). *Basilarchia archippus*, WY 170, 5420', 16 rd mi W of jct WY 120/170, HOT SPRINGS Co, 2 Aug (RES). *B. weidemeyerii*, W Hidden Basin Cg, BIG HORN Co, 17 Aug (JAS); Aspen Crk Tr, S of Wood Rvr GS, 15 rd mi SSW of WY 290, 8200', HOT SPRINGS Co, 1 Aug (RES). *Satyrodes eurydice*, US 85 at Bear Crk/WY 151, 4600', GOSHEN Co, STATE, 29 Jul (RES); US 85 at Horse Crk, Meriden, 4950', LARAMIE Co, SOUTH(!), 29 Jul (RES); WY 313 at Chugwater Crk, 5300', PLATTE Co, WEST, 29 Jul (RES). *Megisto cymela*, US 85 at Horse Crk, Meriden, 4950', HIGH (for entire range?), LARAMIE Co, STATE, WEST, 2nd Zone 4 State, 29 Jul, worn female (RES). *Coenonympha ochracea*, Aspen Crk Tr, S of Wood Rvr GS, 8100', 15 rd mi SSW of WY 290, HOT SPRINGS Co, 1 Aug (RES); Palmer Cn Rd, 15.3 rd mi W of Wheatland, 5280', PLATTE Co, 1 Jun (RES), now all WY counties. *Cercyonis pegala*, US 20 at Badwater Crk, nr Boysen Rsvr, 4750', FREMONT Co, 2 Aug (RES); US 20, 5650', 2 mi W of NATRONA (site), NATRONA Co, 2 Aug (RES). *C. sthenele*, WY 70, 1 mi E of Savery, 6850', HIGH, CARBON Co, SE, 17 Aug (RES); Murphy Draw Rd (see *H. uncas*), HOT SPRINGS/PARK Cos, 1 Aug (RES); US 20 at Badwater Crk, nr Boysen Rsvr, 4750', FREMONT Co, 2 Aug (RES); US 20, 5650', 2 mi W of Natrona (site), NATRONA Co, EAST, 2 Aug (RES); Emigrant Gap Ridge, 12 mi SE of Natrona, Natrona Co, further EAST! and almost to potential meeting point with *C. meadii*, 25 Aug (JAS, calling it the Case of Casper the Ghost!). *C. meadii*, 2 mi W of Glenrock, Converse Co, (note proximity to previous entry), 18 Aug (JAS). *C. oetus*, Lusk, 5015-5150', NIOBRARA Co, 30 Jul (RES). *Erebia epipsodea*, Aspen Crk Tr, S of Wood Rvr GS, 8100', 15 rd mi SSW of WY 290, HOT SPRINGS Co, 1 Aug (RES). *Neominois ridingsii*, abundant and fresh, many localities, Converse and Natron Cos, 18 and 25 Aug (?2nd generation - JAS). *Oeneis chryxus*, hill, 7500', Happy Jack Rd, 25 rd mi W of Cheyenne, LARAMIE Co, SE, 20 Jun (RES); PAO recorded it there in 1986 but the data are misplaced; Canyon Crk Rd (FR 25), 9500', 0.5 mi S of US 16, WASHAKIE Co, 1 Aug (RES); FMB took a series nearby on 7 Jul 1953, in U Colo Museum. *O. uhleri*, Arlington, CARBON Co, WEST, 31 May 1972 (UNL), in U Colo Museum. *O. jutta*, US 16 and W Tensleep Crk, 7900', 0.5 mi S of Big Horn Co line, WASHAKIE Co, 1 Aug (RES). *Danaus plexippus*, Hat Rch, 6000', nr Mayoworth, N Fk, Powder Rvr, JOHNSON Co, 12 Aug 1949 (FMB, 3 males in U Colo Museum); 0.5 mi E of Lusk, 5015', NIOBRARA Co, 30 Jul (RES); now all WY counties.

**UTAH (UT).** Contributors: LDB, FMB, CFG, JLH, JMJ, RLL, CAM, RCM, PJS, SWS. The season was described as cold, wet, and nearly disastrous. BYU lost in the Holiday Bowl, Utah Univ lost in the Freedom Bowl, and everyone lost in the Lepidoptera Bowl, but UT remains the best-known Rocky Mtn State in terms of butterfly and moth distribution.

**MOTHS:** Noctuidae: *Peridroma saucia*, St. George, Washington Co, 8 Apr (RLL). Arctiidae: *Cisthene barnesii*, Maple Grove Cg, 14 mi S of Scipio, Hwy 50, MILLARD Co, 23 Aug (RM). *Grammia williamsii*, same data (RCM). *G. nevadensis*, 2.7 mi S of UT/WY SL, Hwy 150, SUMMIT Co, 3 Sep; Deer Crk Rsvr at Wallsburg turnoff, WASATCH Co, 10 Sep. *G. virguncula*, Randolph, RICH Co, 4 Sep (all RCM).

**BUTTERFLIES:** Only 21 data points are available, mainly from decades ago, and it seems that the flow of information has nearly ceased. The avg spp/co is now 106.14, or 91.77% of projection; work is needed on skippers especially. We show 11 of 29 counties still under 100 species, and that MUST go to ZERO soon or it will be too late. Better numbers are available, and all of us hope to see them before long. *Erynnis icelus*, Rilda Cn, 7400', EMERY Co, 20 Jun (JLH). *E. brizo*, 1.1 mi E of Jeremy Rch golf course, 6600', SUMMIT Co, NE, 26 Apr 1992 (SWS). *Pyrgus scriptura*, 0.7 mi E of Corinne, Bear Rvr, 4220', BOX ELDER Co, NW, 26 Jul; jct I-215/Redwood Rd, 4215', DAVIS Co, 5 Jul; 8 mi SW of Plain City, SE side Little Mtn, 4225', WEBER Co, 5 Jul (all JLH). *Polites draco*, 1.6 mi NW of Delano Peak, 11000', HIGH, BEAVER Co, 31 Jul (JLH). *Megathymus streckeri*, emg 1 Jun, 1.2 mi N jct I-70/UT 10, 6400', SEVIER Co, NW (JLH). *Papilio coloro fm clarki*, 0.3 mi S of Welcome Spgs, Beaver Dam Mts, WASHINGTON Co, 21 Apr 1990 (LDB). *P. machaon nr oregonius*, 0.2 mi W of Portage exit, I-15,



BOX ELDER Co, NW, 27 Jul 1979 (JMJ). Pontia occidentalis, Summit West Black Ridge, 3100', WASHINGTON Co, SW, 26 Feb (LDB), now all UT counties. Colias pseudochristina = wasatchia, Willow Crk Cn, Mt Nebo above Mona, JUAB Co, 10 Jun 1987 (JMJ). C. scudderii, Elkhorn Lk, 10600', WASATCH Co, 27 Jul 1935 (FMB, in U Colo Museum, det RES 1993). Eurema mexicana, Green Valley Sports Village, 2500', St. George, WASHINGTON Co, 6 Jul 1992 (LDB); there is at least 1 earlier record from Wa UT, but I am not privy to the data. Nathalis iole, Lost Lk, 9900', WASATCH Co, 29 Jul 1935 (FMB, in U Colo Museum, det RES 1993). Satvrium californicum, Deer Crk, nr Heber, WASATCH Co, 8 Jul 1963 (JDE, fresh female in U Colo Museum, det RES 1993). Hemiargus ceraunus, 11 mi E of Beaver, Beaver Cn, 7900', HIGH, BEAVER Co, 3rd county, 31 Jul (JLH). Euphilotes battoides ssp., Deer Crk, nr Heber, WASATCH Co, 9 Jul 1957 (JDE, fresh female in U Colo Museum, det RES 1993). Plebejus (melissa) annetta, Mill Crk, SALT LAKE Co, 16 Jul 1973 (KBT, series in U Colo Museum, det RES 1993); not really new, but this ssp is closely related to longinus (as pointed out by Nabokov) and may be better placed in P. idas even though the genitalia are intermediate. Euptoieta claudia, Poison Crk, 10760', HIGH, 1 mi W of Delano Peak, BEAVER Co, 31 Jul (B. J. Beutler/LDB); Lost Lk, 9900', WASATCH Co, 29 Jul 1935 (FMB, worn female in U Colo Museum, det RES 1993). Oeneis chryxus, Mt. Peale, 12100', HIGH, La Sal Mts, SAN JUAN Co, SE, 4-8 Jul 1936 (FMB, in U Colo Museum, det RES 1993). *Invicem, res bona est non plus dentharparagarum!*

COLORADO (CO). Contributors: BBB, FMB, LEC, YPD, SED, JDE, SLE, MSF, LPG, CEH, JLH, MLH, SAJ, AJK, RLL, DL, JLO, PAO, JDP, CDR, HGR, BR, JAS, CPS, RES, ADW, MJW, a few of the above deceased. A cool, wet spring was followed by very dry summer and early fall snow and freeze. JAS reported over 150 new larval food plant/oviposition data, which will be published separately. The Lepidopterists' Society annual meeting in Ft. Collins should have generated a few reports from lepidopterists outside Zone 4, but only the 2 or 3 usual ones have been received. Collecting is now illegal in Boulder Co, but not yet in Larimer Co where the meeting was held.

MOTHS: County-dot atlases for the West were published in 1993 for Saturniidae and Sphingidae, and others are nearing publication under the leadership of PAO. Most of the following 60 or so records are based on his determinations. SESIIDAE: Synanthedon exitiosa, Ft. Collins, Larimer Co, 11 Jul (leg/det RLL). TORTRICIDAE: Eucosma hyponeutana, CSU Field Station, OTERO Co, 13-27 Aug (PAO). Choristoneura rosaceana, Cherry Crk, 5350', Denver Co, 24 Jun 1974 (RES). ZYGAEINIDAE: Harrisina sp., Purgatoire Cn, 4500', LAS ANIMAS Co, 26 May 1974 (RES). PYRALIDAE: Pyralis farinalis, Denver, 5300', 26 Jun 1991 (RES). Sarata sp., abundant on prairie hills, 7020', nr Elbert, ELBERT Co, 24 Mar (RES). GEOMETRIDAE: Alsophila pometaria, Johnson Park, 5500', Jefferson Co, 20 Mar 1992 (RES). Eumacaria latiferrugata, nr Parker, 5900', DOUGLAS Co, 19 Jun 1974 (RES). Stenoporpha macdunnoughi, at light, Dory Hill, 9000', GILPIN Co, 12 Jul (RES). Lomographa semiclarata, Peaceful Vy Rch, 7080', zELBERT Co, 21 May (RES). Snowia montanaria (a "cool" sp?), RMNP, Larimer Co, 22 Jul (PAO). Eusarca confusaria, 10 mi E of Holyoke, 3540', PHILLIPS Co, STATE, WEST, 16 Jul (RES). Prochoerodes forficaria, at light, Denver, 5300', 1 Apr 1974; , at light, Dory Hill, 9000', GILPIN Co, 6 June (RES). Mesothea viridipennata, Flagstaff Mtn, 7300', Boulder Co, 11 May 1974 (RES). Haematopsis grataria, Limon, 5365', Lincoln Co, 20 Sep, LATE (RES). Hydriomena perfracta, at light, Dory Hill, 9000', GILPIN Co, 6 Jun (RES). H. furcata, diurnal, Apex Tr, 6500', Jefferson Co, 30 Mar 1992 (RES). Rheumaptera ?hastata, Frazer Mdw Tr, 8400', GGCSP, GILPIN Co, 7 Jul 1984 (RES). R. subhastata, Idlewild Cg, 9000', GRAND Co, 20 Jun 1974 (RES). Stammodes topazata, Glacier Cg, RMNP, 11500', LARIMER Co, 31 Jul (PAO). LASICAMPIDAE: Phylodesma americana celsivolans, at light, Dory Hill, 9000', GILPIN Co, 6 Jun (RES). Malacosoma americanum, Colorado Spgs, 6050', EL PASO Co, STATE, WEST, 14 Jul (RLL). M. californicum, at light, Dory Hill, 9000', GILPIN Co, 8 Aug (RES). SPHINGIDAE: Agrius cingulata, Grand Jct, 4587', MESA Co, STATE (an earlier BFC record is apparently an error), 31 Aug 1991 (PAO). Erynnis obscura, CSU Field Station, OTERO Co, STATE, NW, 15 Aug (PAO). Proserpinus juanita, Piney Crk, 6000', Arapahoe Co, 8 Jun (ADW). Hyles lineata, the porchlight saga continues (see previous year SeaSums) with a fresh male at our cabin, Dory Hill, 9000', GILPIN Co, 8 Aug (RES); hill 5480', CO 71, 25 rd mi N of Limon, WASHINGTON Co, 3 May (RES); common all over W Colorado, nectaring at anything available, ARCHULETA, DOLORES, MESA, MONTROSE, MONTEZUMA, SAN MIGUEL Cos, 5200-7400', 18 Aug (RES); Vail, 8100', EAGLE Co, 24 Sep 1988, LATE (ADW); Peaceful Vy Rch, 7060', ELBERT Co, 4 Jun 1987 (ADW); Vasquez Mtn, 10000', HIGH, GRAND Co (TSD may have earlier records, 30 Jun (ADW); we still need records from 13 counties (Al, Cn, Cs, Cu, Lk, LA, Lo, Mi, Ou, RB, Sa, SJ, SE). NOTODONTIDAE: Furcula scolopendrina, at light, Dory Hill, 9000', GILPIN Co, 6 Jun (RES). ARCTIIDAE: Holomelina ferruginosa, Empire Rsvr, 4516', MORGAN/WELD Cos, 15 Jul (RES). H. fragilis, Wadsworth/98th Av, 5350', ADAMS Co, 14 Jul (RES). Leparcia californiae (= lena), breaks W of CO 71, 5400', 21.8 mi N of Limon, LINCOLN/WASHINGTON Cos, 23 May (ADW). Estigmene acrea, Lakewood, 5450', Jefferson Co, 8 Aug (RES); SE of Crook, LOGAN Co, 15 Jul (RLL). Grammia virguncula, Vasquez Mtn, 10000', HIGH, Grand Co, 1 Jul (ADW). Cycnia oregonensis, Bonny Rsvr, 3720', YUMA Co, EAST, 16 Jul (RES). Ctenucha cressonana, Coal Crk Cn, 6900', Jefferson Co, 12 Jul (RLL). NOCTUIDAE: Litocala sexsignata, Indian Crk Cg, 7600', Douglas Co, 4 May, EARLY (RES). Melipotis indomita, Empire Rsvr, 4516', MORGAN/WELD Cos, 3 Jul (RES). Drasteria mirifica, 5 rd mi E of Kiowa, 6700', ELBERT Co, 5 May 1992 (RES). Synedoida inepta, Gregory Cn, 5800', BOULDER Co, 25 May 1969 (RES). S. hudsonica, Burnt Mill Rd, 5300', 11 air mi SW of Pueblo, PUEBLO Co, 7 Jun 1969 (RES). Ascalaphus odorata Greenwood Vg, ARAPAHOE Co, 5700', 30 Jul (ADW). Caenurgina crassiuscula, nr Franktown, DOUGLAS Co, 21 Jul 1992; Apex Tr, 6500', JEFFERSON Co, 28 Feb 1992, EARLY; Peaceful Vy Rch, 7080', ELBERT Co, 25 Apr (all RES). Autographa californica, common nectaring on dandelions, N Rush Crk, 5480', 13.6 rd mi S of Limon, CO 71, 3 May (RES); Limon, 5365', Lincoln Co, 17 Apr 1992 (RES). Anagrapha falcifera, US 40, 4800', 22.1 rd mi WNW of Kit Carson, CHEYENNE Co (probably first county record for ANT moth!), 20 Sep (RES); Kelsey Cg, 8100', 7.7 rd mi NW of Deckers, Jefferson Co, 25 Jun (RES). Syngrapha ignea, Snowmass Crk, 7000', PITKIN Co, 16 Jun 1973 (RES). Allypia octomaculata, Springfield, 4360', BACA Co, SE, 18 May (RES); Horsetooth Rsvr, 5700', Larimer Co, 26 Jun (RES). Androloma maccullochii, Idlewild Cg, 9000', GRAND Co, 20 Jun 1974 (RES, KAS, our 10th wedding anniversary!). Polia purpurissata, at light, Dory Hill, 9000', GILPIN Co, 8 Aug (RES). Perigonica fermata, Escalante Cn, 5300', 12 mi W of Delta, DELTA Co, STATE, 4 May 1974 (RES). Eurois stricta, at light, Dory Hill, 9000', GILPIN Co, 8 Aug (RES). Xestia oblata, at light, Dory Hill, 9000', GILPIN Co, 12 Jul (RES). Heliothis phloxiphagus, Escalante Cn, 5300', 12 mi W of Delta, DELTA Co, 4 May 1974 (RES). H. oregonicus, Steamboat Spgs, 7200', ROUTT Co, STATE, EAST, 20 Jun 1973 (RES, KAS). Schinia villosa, East Portal, 9400', GILPIN Co, 13 Jul 1980 (RES). S. persimilis, Crystola Crk, 8200', TELLER Co, 26 May (RES); Gold Crk Tr, 9100', Mt. Zirkel area, ROUTT Co, 25 Jul (RES). S. jaguarina, Empire Rsvr, 4516', MORGAN/WELD Cos, 29 Jun 1985 (RES); Indian Gulch, 5980', JEFFERSON Co, 3 Jul 1992 (RES).

BUTTERFLIES: Nearly 270 records were received for 144 species in 56 of the 63 counties, including 189 CRs for 113 spp in 53 counties. No STATE records were found. There are now 109.37 avg spp/co, or 91.62% of projection (the projections had to be raised slightly, so we actually lost ground in 1993!); 370 additional CRs are needed to achieve the degree of current knowledge in AZ, CA, and NV, and even UT is ahead of "the best-known Rocky Mtn State", so let's get to work while there is yet time! The seventh species to be known from all counties was obtained in 1993 (E. claudia), and there won't be many more since the continental divide is such a high barrier here compared with WY, MT, and NM, all of which could reach 40 spp in every county fairly easily (not exactly the same 40 in each State, obviously). Seven counties remain under 60 spp, and most will never reach that number without a 30-year resident collector/observer. Visit those places, and you will understand why that will never happen: no water, little remaining soil, native plants gone, ghost towns, abandoned farms--but you can listen to the Broncos and Rockies on KOA out there!! Epargyreus clarus, Limon, 5365', LINCOLN Co, EAST (in central prairies), 19 May (RES). Thorybes pylades, Clear Crk, just above tunnel 4, US 6, 7300', CLEAR CREEK Co, 15 Jun (RES); gulch N of US 160, 8500', 5.2 rd mi E of N La Veta pass, HUERFANO Co, 22 Jun (RES). Erynnis icelus and 17 other skipper spp, both sides of N La Veta Pass, Huernano and Costilla Cos, 22 Jun (RES). E. brizo, gulch N of US 160, 8400', 5.2 rd mi E of N La Veta Pass, HUERFANO Co, 14 May (RES). E. horatius, same data as pylades, 8600', HIGH, HUERFANO Co (RES). E. martialis, N Clear Crk, 7300', 0.5 mi NW of US 6, GILPIN Co, 15 Jun (RES). E. pacuvius pacuvius, same data as pylades, CLEAR CREEK Co (RES); same data as pylades, HUERFANO Co (RES). E. p. lilii, Cottonwood Pt, 10000', Vasquez Mtn, GRAND Co, NW, 13 Jul (ADW); Blue Rvr Cg, CO 9, 8600', SUMMIT Co, 1 Jul (MSF); these are only the 2nd and

3rd STATE records, and there was no apparent *Ceanothus* nearby. *E. afranius*, Sand Crk, 5350', Aurora, Adams Co, 19 Jul, EARLY for 2nd gen (RES); N Rush Crk at CO 71, 5480', Lincoln Co, slightly SOUTH, 10 May (RES). *E. persius*, Peaceful Vy Rch, 7080', 6 air mi SE of Elbert, ELBERT Co, EAST, 21 May (RES). *Pyrurgus xanthus*, same locality, ELBERT Co, EAST, 13 May (RES); Waterton Cn, 5800'. LOW, Jefferson Co, flying with *scriptura*, 4 May 1975, EARLY (MSF). *P. scriptura*, Muir Srgs Park, Rd 16, 4315', 2 mi WNW of Ft. Morgan, MORGAN Co, NE, 3 May (RES). *Pholisora meicanus*, fresh male, gulch W of Pryor, 6500', 10 air mi SE of Walsenburg, Huerfano Co, 14 May, EARLY (prev 24 May)(RES). *Piruna pirus*, Salida, 7050', CHAFFEE Co, 30 Jul 1969 (JAS). *Oarisma garita*, Ft. Garland, 7900', Costilla Co, 22 Jun (RES). *Yvretta rhesus*, studied intently in 1993 (see also WY, MT, SD, ND); small hills W of fairground, 5100', ADAMS Co, 11 May (RES); several along hogback nr Horsetooth Rsvr, 5500', Larimer Co, 22 May and earlier (JAS, ADW); 63rd at Valmont, Boulder, 5450', BOULDER Co, 6 May (RES); also seen in Arapahoe (JAS), Morgan (RES), and Weld (PAO) counties. *Stinga morrisoni*, Crystola Hill, 8600', Teller Co, 26 May (RES, ADW); again absent north of El Paso Co. *Hesperia juba*, 3-Forks Rch, 6900', 5 rd mi SE of Milner, ROUTT Co, 25 Jun 1973 (LPG, male in CDF colln, det RES). *H. uncas*, small hills along US 385, 3750', 7.7 mi S of Holyoke, PHILLIPS Co, 28 May (RES). *H. comma*, 1 female, Barr Lk, 5100', LOW, ADAMS Co, NE, 21 Sep (JAS); a rare stray on the plains, but it should occur regularly on the higher hills nr Limon. *H. ottoe*, Westminster University Hill, 5600', ADAMS Co, 14 Jul (RES); Horsetooth Rsvr, 5500', Larimer Co, 10 Jul (JAS); in both locs assoc *Andropogon gerardi*. *H. leonardus pawnee*, US 40, 4800', 22.1 rd mi WNW of Kit Carson, CHEYENNE Co, SOUTH, 20 Sep (RES); CO 115, 6400', FREMONT/EL PASO Co line, and hill along Oak Crk Rd (CR 143), 6800', FREMONT Co, (Wet Mts), 1 Sep (JAS, RES). *Hesperia leonardus pawnee*, town of Sheridan Lake, 4100', female taken on garden marigolds, KIOWA Co, further SOUTH, 21 Sep (RES); it could occur even farther south, but excellent habitat at Two Buttes Dam in Baca Co with lots of *Bouteloua* and *Liatris* has failed to yield a *pawnee* over 25 years (RES). *H. pahaska*, hill (with cross), 6350', 0.2 mi S of Cucharas Rvr, Walsenburg, HUERFANO Co, 22 Jun (RES); microwave tower E of Cedar Pt, 6.5 mi W of CO 71, 5850', LINCOLN Co, EAST, 30 Jun (RES). *H. viridis*, breaks W of CO 71, 5300-5400', 21.6 rd mi N of Limon, Lincoln/WASHINGTON Co line, NE, 30 Jun (RES). *H. nevada*, hill N of US 160, 8800', 5.5 rd mi W of N La Veta Pass, COSTILLA Co, 23 Jun (RES); hill at jct CO 67/Dg 70, 8200', 1.1 rd mi E of Westcreek, DOUGLAS Co, 25 Jun (RES). *Polites peckius*, Holyoke, 3720', PHILLIPS Co, and alfalfa field 1 mi SE of Julesburg, SEDGWICK Co, 3450', NORTHEAST, 4 Sep (RES). *P. sabuleti*, alfalfa field, CO 368, 7600', CONEJOS Co, 23 Jun (RES). *P. draco*, S entrance Rainbow Falls Park, FR 348, 7800', LOW, DOUGLAS Co, EAST, 25 Jun (RES). *P. themistocles*, same data as *peckius*, PHILLIPS and SEDGWICK Cos, NORTHWEST (RES). *P. origenes*, Dry Gulch E of Sheridan Blvd, 5350', DENVER Co, 1 Jul (RES). *P. mystic*, Star Rch and Rock Crk, 8000', EL PASO Co, 23 Jun 1962 (SLE); Flagler SWA, 4800', 4 mi E of Flagler, KIT CARSON Co, SE, 16 Jul (MSF); Dailey, 4110', 22 rd mi W of Holyoke, LOGAN Co, and Frenchman Crk at NE State line, 3540', PHILLIPS Co, 4 Jul (RES); worn female, Cub Crk Tr, 8800', PARK/Jefferson Co line, WEST, HIGH, 21 Jul (RES); Messex SWA, 4090', 1.5 mi SE of Messex, WASHINGTON Co, 3 Jul (RES). *P. sonora*, common but worn, Keystone, 9300', Summit Co, 16 Aug (RES). *Atrytone argos*, nearly absent in 1993. *Anatrytone logan*, same data as *origenes*, 2nd DENVER record and 1st on W side; same data as *mystic*, PHILLIPS and Logan counties; S Platte Rvr at Sedgewick, 3570', SEDGWICK Co, NORTHEAST, 4 Jul; common in wetlands, Weld, Morgan, Washington, Larimer, Boulder, and Jefferson Cos, early-mid Jul (all RES). *Ochlodes sylvanoides*, 1 male Cherry Crk SRA, 5600', 2nd Arapahoe Co record, 30 Jul (ADW). *Ochlodes sylvanoides*, CO 115 at El Paso Co line, 6400', FREMONT Co, SOUTH, 25 Aug (RES); search further south in the Wet Mts on 1 Sep fails to turn it up, as in previous years (JAS, RES). *O. yuma*, W Unawep seep, 5500', Mesa Co, and Pardo Crk seep, 5300', Montrose Co, 1 female in each loc, 18 Aug (RES). *Paratrytone snowi*, Blanca Peak Tr, ALAMOSA Co, 18 Jul 1961, 1 fresh male in U Colo Museum (BR, det Res). *Poanes hobomok wetona*, same data as *pylades*, 8600', HIGH, HUERFANO Co; Raton Mesa, LAS ANIMAS Co, SOUTH, 4 Jul 1973 (MLH, in U WY colln, det RES). *Euphyes vestris*, same data as *mystic*, PHILLIPS Co, (RES). *E. bimacula*, wat place nr Marshall, 5800', visited dozens of times over 25 years previously and never seen before so newly-established, BOULDER Co, SOUTH, 30 Jun (JAS); searched for but not found in similar places in Jefferson and Weld Cos (RES, YPD). *Atrytonopsis hianna*, same data as *rhesus*, Larimer Co (JAS, RES, ADW); remnant prairie with *Andropogon gerardi*, Major Rch, 10 mi E and 2 mi S of Jct US 385/Yu 7/ss. 3700', YUMA Co, EAST, 28 May (RES). *Amblyscirtes oslari*, same data as *pylades*, CLEAR CREEK Co, WEST; gulches 0.5 mi E of CO 207, 4300'. 1.5 mi N of Manzanola, CROWLEY Co, 19 May; breaks W of CO 71, 5300-5400', 21.6 rd mi N of Limon, LINCOLN/WASHINGTON Co line, NE, 23 May (all RES). *A. vialis*, same data as *martialis*, GILPIN Co; same data as *pylades*, 8600', HIGH, HUERFANO Co; Julesburg SWA, S Platte Rvr at US 385, 3490', SEDGWICK Co, NORTHEAST, 28 May (all RES). *Amblyscirtes vialis*, S Fk Republican Rvr, 3800', 5.0 km W of US 385, YUMA Co, SOUTH, 23 Jul 1978 (M. Epstein, in DMNH colln, det ADW). *A. phylace*, Piney Crk/Smokey Hill Rd, 6000', Arapahoe Co, 20 May, EARLY (prev 21 May)(ADW). *Megathymus yuccae*, ex pupa, 2nd Arapahoe Co record, emg 20 May, dug up nr Quincy Rd, 2 mi E of Box Elder Crk, 6100'; one fresh adult seen, same data as *rhesus*, LARIMER Co, NORTH; larval tent and pupal case found in *Yucca glauca* (det RES), N Rush Crk at CO 71, 13.6 rd mi S of Limon, 5480', LINCOLN Co, 23 May (all ADW). *M. streckeri texanus*, Iron Spgs Arroyo, 4850', 2-3 mi S of Bloom Siding, OTERO Co, NE for spp, 19 May (RES). *Parnassius phoebus*, several *pseudorotgeri* paratypes (oops!), Ophir Pass, 12200', SAN MIGUEL Co, 3 Aug 1960 (BR); Sharkstooth Pass, 12100', La Plata Mts, MONTEZUMA Co, SW, 4 Aug 1938 (BR); specimens in U Colo Museum, det RES 1993. *Battus philenor*, Empire Rsvr, 4516', N of dam, WELD Co, 3 Jul (RES). *Papilio polyxenes*, female nectaring on marigolds, Eads, 4250', KIOWA Co, 20 Sep; reared with school kids many times on dill and other garden host plants by a teacher/librarian interviewed on 4 Sep, Holyoke, PHILLIPS Co; Two Buttes, 4620', Prowers Co, 18 May and 21 Sep (all RES). *P. machaon "brucei"*, Rock Crk, 7000', EL PASO Co, 25 Aug, fresh female nectaring on asters (RES); fresh male hilltopping, microwave tower E of Cedar Pt, 5850', 6.5 mi W of CO 71, LINCOLN Co, EAST, 19 May (RES). *Papilio machaon "brucei"*, Mesa Verde, 8200', MONTEZUMA Co, SW, 26 May 1972 (SLE). *P. zelicaon*, La Plata townsite, LA PLATA Co, 20 Jun 1952 (JDE, in U Colo Museum, det RES 1993). *P. glaucus*, male taken, Limon, 5365', LINCOLN Co, 3 Sep (RES). *P. glaucus x rutulus*, male net/release, mainly *rutulus*, Walsenburg, 6250', Huerfano Co (not plotted as *glaucus*), 22 Jun (RES); *rutulus*, Great Sand Dunes, ALAMOSA Co, 24 June 1955 (HGR, in U Colo Museum, det RES 1993). *P. eurymedon*, E Fk, San Juan Rvr, 8000', MINERAL Co, 5 Jun 1961 (BR, in U Colo Museum, det RES 1993). *P. multicaudatus*, Terrace Rsvr SWA, jct FR 250/255, 8600', CONEJOS Co, 23 Jun (RES). *P. cresphontes*, one tattered individual taken, Chatfield Rsvr, 5350', 2nd Jefferson Co record, 18 Jul (ADW); 2 seen, one a fresh female, Denver Botanic Gardens, 5320', Denver Co, 19 Jul (RES); 1 seen, Wray, 3635', YUMA Co, 3 Sep (RES). *Pontia occidentalis*, spring form common on hills W of Adams Co fairground, 5100', and even down along the S Platte Rvr to the east, 22 Mar thru 18 Apr (RES); fresh male taken, Wray, 3635', YUMA Co, 3 Sep (RES); Frenchman Crk, 3720', 0.6 mi E of Holyoke, PHILLIPS Co, 17 Jun 1992 (RES); Julesburg SWA, S Platte Rvr, 3511', SEDGWICK Co, NORTHEAST, 17 Jun 1992 (RES). *Pieris napi*, Great Sand Dunes, ALAMOSA Co, 20 Aug 1958 (JDE, in U Colo Museum, det RES 1993). *Euchloe ausonides*, Lieutenant Crk, N of Alamosa Crk Cg, 8800', RIO GRANDE Co, 23 Jun (RES). *E. olympia*, hill 5 mi W of Ninaview (site), 4680', BENT Co, 18 May (RES). *Colias eurymede*, first seen on 19 Jun (RES) and rare all season (JAS, RES, ADW). *C. alexandra*, hills W of fairground, 5100', ADAMS Co, 11 May (RES); breaks W of CO 71, 5300-5400', 21.6 mi N of Limon, LINCOLN/WASHINGTON Cos, assoc with abundant *Thermopsis*, EAST, 23 May (RES, ADW). *Phoebis sennae*, Messex SWA, 4090', 1.5 mi SE of Messex, WASHINGTON Co, EAST-CENTRAL, 3 Jul, fresh yellow-orange female missed (RES). *P. agarithe*, 2 different males seen (1 missed, 1 wished), Cherry Crk SRA, 5600', ARAPAHOE Co, NE, 28 and 29 Jul (ADW); nr E Norwood development, E Colo Spgs, 6100', EL PASO Co, (now 195 spp, best of any county not bordering Mexico), 22 Jul (SED/ADW). *Kricogonia lyside*, along creek 2 mi S of Castle Rock, 6300', DOUGLAS Co, 24 Jul, 1st seen in many years (MSF). *Eurema lisa*, nearly fresh male taken, Stoney Pass, 8500', HIGH, 2 mi SE of Wellington Lk, Jefferson Co, 21 Jul (RES); below Two Buttes Dam, 4250', Prowers Co, 23 Jul (RES), fresh male flying and perching inside bushes; so my first 2 *lisa* ever in CO are ho-hummers! *E. nicippe*, Rocky Ford, 4137', OTERO Co, sitting on a garden flower at 8:30 AM, 23 Jul (RES). *E. mexicana*, 7 seen in 1 hour, nr Rock Crk, 7000', El Paso Co, 28 Jun (ADW); Two Buttes Dam, S of crk, 4300', BACA Co, SE, 23 Jul (RES); breaks W of CO 71, 5300', 21.8 fr mi N of Limon, WASHINGTON Co, 30 Jun (RES). *Nathalis iole*, nearly absent in 1993; 1 in Woodmen Vy, El Paso Co, 8 Sep (JAS) and 1 in Burlington, Kit Carson Co, 3 Sep (RES), period! *Lycaena helleoides*, low-elevation type, alfalfa fields along CO 368, 7600', San Luis Vy, ALAMOSA, CONEJOS, RIO GRANDE Cos, 23 Jun (RES); same data as *pawnee*, CHEYENNE Co, (RES); Owl Crk Rd, 4 mi E of US 550, OURAY Co, 24 Aug 1970 (JDE, in U Colo Museum, det RE 1993); CO 141, 1.5 mi N of Egnar, 7400', SAN MIGUEL Co, 18 Aug (RES). *Satyrium behrii*, same data as *pahaska* Huerfano Co (RES). *S. calanus*, 1 male, Wheat Ridge, Jefferson Co, 31 Jul (JAS); nr Parker, Douglas Co, on *Prunus* with *S. liparops* (MSF), both

miles from oaks and odd phenotypes somewhat resembling *S. caryaeorum* (since they are obviously strays, could they be that for STATE records? Naaaahhhhh, but. . . .). *Callophrys sheridanii*, hill 7020', 2.9 mi WNW of Elbert (SW corner of El 21/106), ELBERT Co, 16 mi EAST, 24 Mar (RES, ADW); worn female, Vasquez Mtn, 10000', HIGH (prev 9700'), Grand Co, 1 Jul (very LATE, prev 18 Jun) (ADW). *C. affinis*, same loc, HIGH (prev 9700'), 30 Jun - 13 Jul (ADW). *C. apama*, having read of its discovery in NE, I searched possible habitats (breaks with junipers or other shrubs) on the CO plains with some success: same data as *pylades*, HUERFANO Co; breaks N of microwave tower, 5750', Cedar Pt, 6.5 rd mi W of CO 71, LINCOLN Co, 30 Jun; breaks W of CO 71, 5300', 21.8 rd mi N of Limon, LINCOLN/WASHINGTON Cos, EAST, 30 Jun; same loc as *A. oslari*, CROWLEY Co, SE 22 Jul (all RES). *Mitoura spinetorum*, CO 103 at CC/Je county line, 8200' (lots of kinnikinnick but no elfins), 19 Jun (RES); hill 1 mi W CO 105, 0.2 mi N of El Paso Co line, 8400', DOUGLAS Co (AT LAST!), 8 Jun (ADW, RES). *M. siva*, Northglenn, ADAMS Co, May 1992; scrub "sheridanii" listed that year (BBB). *Incisalia*, very poor flights all spp; ?parasitism. *I. polia*, Peaceful Vy Rch, 7069', Elbert Co, 5 Apr, EARLY for area (RES). *I. mossii schryverii*, same data, ELBERT NCo, 23 miles EAST (but not a surprise - stonecrop and *P. phoebeus* are common there)(RES). *I. augustinus* nr *annettae*, Arboles, ARCHULETA Co, 2 May 1972 (BR, in U Colo Museum, det RES 1993 - probably on serviceberry there as it is nearby). *I. eryphon*, Alamosa Crk Cg, 8800', FR 250, CONEJOS Co, worn female, 23 Jun (RES); same data as *P. mejicanus*, HUERFANO Co, assoc piñon (RES); same data as *pylades*, Huerfano Co, worn female, assoc ponderosa/spruce/douglas fir (RES); E Fk, San Juan Rvr, 8000', MINERAL Co, 28 May 1968, fresh female (BR, in U Colo Museum, det RES 1993). *Strymon melinus*, CO 141, 7400', 1.5 mi N of Egnar, SAN MIGUEL Co, 18 Aug, dwarf male (RES); 0.5 rd mi W of Loveland Pass, 11500', HIGH, SUMMIT Co, 16 Aug, very rare at higher elevations of the west slope (RES). *Brephidium exile*, Cherry Crk SRA, 5600', only second year seen there (common in 1991), Arapahoe Co, 29 Jun (ADW); CO 141 at Slick Rock, 5400', SAN MIGUEL Co, 18 Aug (RES); base of Berthoud Pass skiff, 11450', VERY HIGH, GRAND Co, 23 Jul 1992 (AJK). *Leptotes marina*, an average year here, but look what it did in the East (fide Jeff Glassberg) with 3 generations in parts of Canada, OH and NY, and SRs on OR (q.v.); it is still unreported from W Canada, ID, MT, ND, and only a single ancient record in WY; NL and TAM records are also needed; several CO records, from 22 Jun (Huerfano Co, several worn ones seen RES) through the end of Sep (JAS) incl Dn, El, EP, Fr, Je, Ph, Yu (JAS, RES, ADW) but only 1 CR; breaks W of CO 71, 5300', 21.8 rd mi N of Limon, WASHINGTON Co, 30 Jun (RES), now all CO prairie counties but not yet all on the east slope let alone the entire State. *Everses amyntula*, Alamosa Crk Cg, 8800', FR 250, CONEJOS Co, 23 Jun (RES); E Fk, San Juan Rvr, 8000', MINERAL Co, 10 Jun 1960 (BR, long series in U Colo Museum, det RES 1993). *Celastrina ladon sidara*, same data as *pylades*, HUERFANO Co, SE, 22 Jun; small creeks N of US 160, 9100', 4.8 rd mi W of N La Veta Pass, Costilla Co, 22 Jun; Alamosa Crk Cg, 8800', FR 250, RIO GRANDE/Conejos Co line, 23 Jun (RES); these high-elevation populations show features of eastern *ladon*, with "lucia", "marginata", and "violacea" forms present, and may not be referable to *sidara*. *Celastrina* "hops-ecotype", Rock Crk, 8000', EL PASO Co, SOUTH, 24 Jun 1962 (SAJ, in U Colo Museum, det RES 1993); fresh female, Cherry Crk SRA, 5600', 2nd from Arapahoe Co, 26 Jun (ADW); unusual phenotype female taken, same loc, 29 Jul, perhaps a stray *ladon* (?neglecta; ?neglecta - maior; !HELP!)(ADW). *Euophilotes rita coloradensis*, breaks at CO 94, 6400', 12 mi E of Colo Spgs, El Paso Co, 21 Jul, EARLY for plains (RES); low hills along CO 13, 6580', 7 mi S of Baggs, WY, assoc both yellow and white blooming *Eriogonum* spp (*brevicaule* and ?*effusum*, to be pressed and sent to Jim Reveal next year for det), MOFFAT Co, first WEST slope rec (RES, det verified by JAS/PAO/CDF). *Glaucopsyche piassus*, same data as *H. nevada*, COSTILLA Co (RES). *G. lygdamus*, Ruby Hill, 5390' (highest point in Denver, and my first *lygdamus* in the city in 28 years), 5 Jun (RES); E Fk, San Juan Rvr, 8000', MINERAL Co, 10 Jun 1960 (BR, in U Colo Museum, det RES 1993). *Plebejus icariodes*, breeding population confirmed, CO 71, 5480', N Rush Crk, 13.6 rd mi S of Limon, Lincoln Co, EAST, 23 May (RES, ADW). *P. acmon*, same data as *pylades*, HUERFANO Co; breaks WEST of CO 71, 5300', 21.6 mi N of Limon, Lincoln/Washington Cos, 23 May; common, assoc. yellow-blooming *Eriogonum* sp (?*E. brevicale*), same data as *rita*, Moffat Co; CO 13 along Goodspring Crk, 7000', assoc same *Eriogonum* sp, 7 mi SSW of Axial, RIO BLANCO Co, 17 Aug (all RES). *P. shasta pitkinensis*, fresh males, Loveland Pass, 12000', Clear Crk/Summit Cos, 18 Jul (RES). *P. s. minneha*, Cottonwood Pt, Vasquez Mtn, 10000', HIGH, GRAND Co, 30 Jun; Jct Gr 550/55, 8300', Grand Co, 13 Jul (J. Peacock, ADW); this prairie ssp is now known from Moffat, Rio Blanco, Jackson, Grand, Larimer and Weld Cos, and a single stray record by JDE in Jefferson Co many years ago (ADW; dets confirmed by CDF). *Apodemia mormo*, N St. Vrain Crk, BOULDER Co, 1 Aug 1952 (JDP, in U Colo Museum, det RES 1993; same data as *rita*, El Paso Co, and I expect to find populations on *E. ?brevicaule* on the West slope next year, probably about Labor Day! *Libytheana carinenta bachmanii*, a nearly incredible invasion from the east and south in 1993, mainly 3-30 Jul and mainly on the East Slope, also into NE and WY; it was recorded in nearly every county east of the divide below 7100', with the following highlights: Tinytown, 7000', Jefferson Co, 26 Jul (JAS); Flagler SWA, 4800', 4 mi E of Flagler, KIT CARSON Co, 16 Jul (MSF); Poudre Cn, 5500', Larimer Co, 10 Jul (MSF); over 150 seen, and about a dozen vouchers taken, showing mainly *bachmanii* phenotype but some *larvata* and 2 *mexicana*, Cherry Crk SRA, 5600', Arapahoe Co (seen only one year earlier, 1985), 27-30 Jul (ADW); 1000 individual adults counted on sweet clover in 8 minutes (with clipboard and stopwatch), 11:30 AM, 23 Jul, below Two Buttes Dam, 4250', BACA/PROWERS Cos, 60% *bachmanii*, 40% *larvata* (RES); also recorded in ADAMS, BENT, CROWLEY, ELBERT, Kit Carson, LOGAN, PHILLIPS, WASHINGTON, Lincoln and Yuma Cos, full data on request (RES). *Heliconius charitonius*, Poudre Rvr, Ft. Collins, 4980', LARIMER Co, NORTH, 9 Jul (DL); Baculite Mesa, PUEBLO Co, SOUTH(!), Jul 1990, sighting (W. Camack/JAS). *Dione vaillae*, fresh male seen clearly, W Kiowa Crk, 6850', HIGH, 1.9 rd mi SW of Elbert, ELBERT Co, 22 Jul (RES). *Euptoieta claudia*, Great Sand Dunes, ALAMOSA Co, 18 Jul 1934 (LEC, in U Colo Museum, det RES 1993); Lieutenant Crk, 8800', N of Alamosa Crk Cg, FR 250, RIO GRANDE Co, 23 Jun (RES); now all 20 counties (hooray!). *Speyeria idalia*, on roadside milkweed and thistle flowers, US 24, 8 mi SW of Limon, 5700', ELBERT Co, 15 Jul 1990 (R. S. Twarbins and SED); Flagler SWA, 4800', Kit Carson Co, 16 Jul (MSF). *S. nokomis*, W Unaweep seep, 5500', Mesa Co, 18 Aug, 1 male seen (RES); seep along US 666, 6350', MONTEZUMA Co, SW, 18 Aug, 1 fresh female followed and photos attempted, with permission (RES). *S. edwardsii*, fresh male seen closely, Two Buttes, 4550', PROWERS Co, SE, 18 May (RES). *S. zerene*, Blue Rvr Cg, 8600', Summit Co, 16 Aug (RES). *S. atlantis hesperis*, Great Sand Dunes, ALAMOSA Co, 12 Jul 1934 (LEC, in U Colo Museum, det RES 1993). *S. hydaspe*, Gold Crk Tr, 8700', Routt Co, 25 Jul (ADW, RES). *S. mormonia*, same data as *atlantis*, ALAMOSA Co. *B. titania*, 3.1 mi E of CO 13, 7600', Elkhorn Rg, Moffat Co, NW, 8 Jul (JLH); aberrant male taken, Gibson Lk Tr, 11500', Horseshoe Mtn, Park Co, 15 Jul (YPD). *Euphydryas anicia "brucei"*, Wilson Peak, 11500', SAN MIGUEL Co, 17 Jul 1962 (SLE); common, ridges above Loveland Pass, 13500', Cl Crk/Summit Cos, 18 Jul (YPD, RES, CPS). *Thessalia fulvia*, same data as *olympia*, BENT Co (RES); worn male taken, hill just E of Flagler SWA, 4960', 5.6 mi E of Flagler, KIT CARSON Co, EAST-CENTRAL, 30 Jun (RES); hills 2 mi S of Julesburg, 3750', US 385, SEDGWICK Co, NNORTHEAST, 28 May (RES); breaks w of CO 71, 5400', 21.8 mi N of Limon, LINCOLN/WASHINGTON Cos, 23 May (ADW). *Chlosyne palla calydon*, swale NE of Loveland Pass, 11500', HIGH, Clear Creek Co, 18 Jul (YPD). *Phyciodes tharos ricolorado*, 2 mi NW of Montrose, 5650', MONTROSE Co, 30 Jul (JAS). *P. selenis*, Gregory Cn, 5800', Boulder Co, 20 May, EARLY; Alamosa Crk Cg and northward along lieutenant Crk, 8800', CONEJOS/RIO GRANDE Cos, 23 Jun (all RES). *P. campestris*, Flagler SWA, 4800', 4 mi E of Flagler, KIT CARSON Co, EAST-CENTRAL, 3 Sep (RES). *P. mylitta*, below Two Buttes Dam, south of crk, 4250', BACA Co, EAST, 18 May (RES); SW of Greenwood, Hardscrabble Crk, 6800', HIGH, CUSTER Co, NORTH, expanding its range, 16 Jul (JAS); Gonzales Cn, 0.5 mi W of Aguilar, 6550', LAS ANIMAS Co, SOUTH(!), 14 May (RES); see NM for more new records. *P. pallidus*, 1 chowdered male taken, Peaceful Vy Rch 7080', ELBERT Co, 23 mi EAST, 23 May (RES). *P. comma*, Barr Lk, 5100', ADAMS Co, 3 Sep (JAS); Wheat Ridge, Jefferson Co, 14 Jul (JAS). *P. satyrus*, Johnson Park, 5550', I-70/Wadsworth, Jefferson Co, 7 Mar, VERY EARLY (RES); same data as *selenis*, RIO GRANDE Co (RES). *P. faunus hylas*, strong spring showing, CO 67, 7600', 1.2 rd mi E of Indian Crk Cg, Douglas Co, 4 May (RES). *Polygonia gracilis zephyrus*, Great Sand Dunes, ALAMOS Co, 21 May 1954 (JDE, one slightly worn male in U Colo Museum, det RES 1993). same data as *satyrus*, RIO GRANDE Co (RES); Clear Crk Cn, 5900', Jefferson Co, 19 Oct, last regional bf of the year (it's now New Years Eve!)(RES). *P. oreas nigrozephyrus*, Starvation Crk Rch, 7600', T35W, R??N, S3, LA PLATA Co, SOUTHWEST, 13 Apr 1990 (C. D. Rector, in U Colo Museum, det RES 1993). *Nymphalis milberti*, breaks W of CO 71, 5400', 21.8 mi N of Limon, LINCOLN/WASHINGTON Cos, 23 May (RES); Chicago Basin, 12000', LA PLATA Co, SW 13 Jul 1934 (Davenport & Whitmer, U Colo Museum, det RES 1993); CO 149, Clear Crk, 9000', MINERAL Co, 31 Aug 1995 (JDE, in U Colo Museum, det RES 1993). *Vanessa virginianensis*, rare in 1993, with single sightings in Jefferson Co 25 Jun, Sedgwick Co 4 Sep, and Cheyenne Co 20 Sep; fresh male, La Junta, 4100', OTERO Co, 21 Sep (RES); Independence Pass, 11500', LAKE/PITKIN Cos, HIGH 10 Jul 1954, fresh female (JDE, in U Colo Museum, det RES 1993). *V. cardui*, sighting along 6th Ave,

Denver, 7 Mar, EARLY (if Cockerall's 1 Jan 1934 sighting is considered a LATE record)(RES). *V. annabella*, Golden, Jefferson Co, 4 Oct, only one seen all year (JAS); RES saw singles in WY, NE, KS, NM and CA, but none in CO! *Junonia coenia*, US 666, 6350', 8.5 mi NNW of Cortez, MONTEZUMA Co, 1st WEST SLOPE record, 18 Aug (RES); same data as *philenor*, WELD Co (RES). *J. nigrosuffusa*, 1 taken, same data as *coenia*, MONTEZUMA Co, 1st WEST SLOPE record and 3rd STATE record (RES). *Basilarchia archippus*, Springfield, 4360', BACA Co, SE 23 Jul (RES); Frenchman Crk at CO/NE State line, 3540', PHILLIPS Co, 4 Jul (RES). *Asterocampa celtis*, Fr 77/80, 5600', 2 mi S of Brookside, Fremont Co, 1 Sep (JAS, RES). *Satyrodes eurydice*, same data as *archippus*, PHILLIPS Co, EAST(!), 3rd county (RES); Bonny Rsvr SRA at US 385, 3720', YUMA Co, SE 4th county, 16 Jul (RES); Jefferson Co and Larimer Co populations still extant, 8-30 Jul (JAS). *Megisto cymela*, same data as *archippus*, PHILLIPS Co, 3rd county (RES); see NE and WY also. *Cylopsis pertepida*, Chandler Crk, 5900', 5-6 rd mi S of Brookside, Fremont Co, 1 Sep (JAS, RES). *Coenonympha ochracea*, same data as *P. meicanus* (14 May almost EARLY). *Cercyonis sthenele*, CO 141, 3 mi S of Egnar, 7000', DOLORES Co, 18 Aug (RES). *C. meadii*, CO 115 at El Paso Co line, 6400', FREMONT Co, 25 Aug (RES); Chandler Crk, 5900', 5-6 rd mi S of Brookside, Fremont Co, SOUTH and 1st Wet Mtns record, 1 Sep (JAS, RES). *Erebia epipsodea*, same data as *B. titania*, MOFFAT Co, NW (JLH); now please explain to me why it is absent in northern UT! *E. magdalena*, rockslides nr Red Dirt Pass, 11400', Mt Zirkel area, ROUTT Co, 1st record in Park Range (CPS has an earlier record, in litt), 25 Jul (ADW). *Neominois ridingsii*, same data as *fulvia*, KIT CARSON Co, EAST (RES). *Oeneis uhleri*, highest point, 7089', Peaceful Vy Rch, ELBERT Co, EAST, 21 May (RES); *O. chryxus*, fresh male sighted in "off" year, Coal Crk Cn, 6600', Jefferson Co, 9 Jun (RES). *O. melissa*, same data as *magdalena*, ROUTT Co, NW, 1st record in Park Range (ADW). *O. polixenes*, probable record from HINSDALE Co, and 1st from San Juan Mts, withheld temporarily for legal reasons and not plotted at this time has anyone ever seen this species there? *O. taygete*, Pyramid Mtn, RIO GRANDE Co, SE, 4 Aug 1941 (BR, fresh female in U Colo Museum, det Res 1993). *Danaus plexippus*, rare in 1993 (ADW); same data as *zeephyrus*, Jefferson Co, nearly freezing in the first serious snowfall (RES). *D. gilippus*, a very good year with many records; Great Sand Dunes NM, 8200', seen closely on Canada thistle, ALAMOSA Co, 1st record from San Luis Vy, 28 Jul (MJW); Crowley, 4350', CROWLEY Co, 22 Jul (RES); 1 mi W of Limon, 5300', ELBERT Co, 30 Jun (RES); Limon, 5365', 1 taken and 2 others seen, LINCOLN Co, 30 Jun (RES); Rocky Ford, 4250', OTERO Co, 22 Jul (RES); above treeline on Horseshoe Mtn, 12300', VERY HIGH, PARK Co, 14 Jul (YPD); many records Jun-Jul in the Denver corridor including Adams, Arapahoe, Denver, Jefferson, and Larimer Cos (JAS, RES, ADW).

NEW MEXICO (NM). Coordinator SJC; other contributors CDF, RWH, RES. The season was either good (RES) or abysmal (CDF) depending on the observer.

MOTHS: LASIOCAMPIDAE: *Malacosoma californicum*, Aspen PG, 10200', HIGH, SANTE FE Co, 10 Jul 1992 (RES, det PAO). SATURNIIDAE: *Hemileuca oliviae*, incredibly common, with millions of flying females obscuring the sun on 5 Oct, and both sexes perching on rabbitbrush and other plants, 30 Sep-5 Oct, Colfax, Union, Mora, Santa Fe, San Miguel, Guadalupe, Harding and QUAY (Ute Lk St Park, 3800', 5 Oct) counties (RES). NOCTUIDAE: *Euxoa auripennis arizonensis*, I-25 at SAN MIGUEL/SANTA FE county line, 7200', 30 Sep (RES). *Heliothis zea*, same data (RES, det PAO). *Catocala junctura*, several (but almost no other moths) at blacklight, Mimbres Rvr, Grant Co, 6 Aug (CDF).

BUTTERFLIES: Slightly over 200 records were received, including 2 STATE and 131 COUNTY records for 91 species in 28 of the 33 counties. Some are not listed here because the supporting full data are not readily available, but they are valid per RWH. There are also some range extensions within certain counties (Co, Un), and only 2 EARLY compared with 8LATE records telling something about the spring and fall seasons. The avg spp/co is now 111.39, or 90.56% of projection, over 90% for the first time and close to Co and UT. Twenty-one species are now known from all counties, with the addition of *P. catullus*, *P. rapae*, *Z. cesonia*, and *V. virginensis* in 1993. *Zestusa dorus*, Sugarite SP, Colfax Co, EAST, 15 May (SJC, RES). *Thorybes pylades*, Burnt Mesa, LOS ALAMOS Co, 30 May (SJC). *T. mexicanus*, NM 550, 6700', 5.0 mi W of Raton/I-25, Colfax Co, EAST, 15 May (SJC). *E. afranius*, Burnt Mesa LOS ALAMOS Co, 30 May (SJC); Folsom Falls, 6130', 4 mi NE of Folsom, UNION Co, 16 May (SJC). *Pyrgus scriptura*, Bueyeros Cn, HARDING Co, EAST, 4 Jul (SJC,RH). *R. communis/albescens*, several possible CRs pending genitalic study (RES). *Heliopetes domicella*, Cooke's Rg, LUNA Co, STATE, 23 Sep (SJC). *Celotes nesus*, Road Cn, 4530', NM 406, 6.5 mi SSW of Kenton, OK, and 11 mi S of CO SL, UNION Co, NE, 17 May (Sjc). *Piruna pirus*, Clayton Lk, 5200', Union Co, EAST, 5 Jul (SJC,RH). *Ancylomypha numitor*, same data, confirmatory Co and STATE (SJC,RH). *Oarisma edwardsii*, Ute Crk, Union Co, EAST, 4 Jul (SJC,RH). *Copaeodes aurantiacus*, Hobbs, 3650' LEA Co, SE, 4 Oct (RES). Mills cn, 8 mi W of Mills, 5300', HARDING Co, 5 Oct (RES); *Adopaeoides prittwiti*, Gray Rch, conf Co and STATE, 22 May (SJC); same loc (Hidalgo Co), 24 Sep, LATE (SJC,RH). *Hylephila phyleus*, Clovis, 4244', CURRY Co, 4 Oct (RES); *Y. carus*, Road Cn, 4530', NM 406, 6.5 mi SSW of Kenton, OK, and 11 mi S of CO SL, UNION Co, NE, 5 Jul (SJC,RH). *Hesperia woodgatei*, N. McKittrick Cn, Eddy Co, SE, 1 Oct 1983 (SJC); 12 mi SE of Santa Fe, 7490', SANTA FE Co, 11 Sep (SJC); Rowe Mesa, SAN MIGUEL Co, NE, 18 Sep (SJC); one female seen closely, E of Pecos, N side of Pecos Rvr, San Miguel Co, more NE, 16 Oct (RES). *H. nevada*, Camp May, LOS ALAMOS Co, 26 Jun (D. Hoard/SJC). *Anatrytone logan*, Rio Hondo, 3980', below Two Rvrs Dam, 19.5 rd mi WSW of Roswell, Chaves Co, fresh male taken, 3 Oct, VERY LATE (prev 28 Aug) (RES); Canadian Rvr Cn, HARDING Co, 3 Jul (SJC,RH). *A. vierecki*, 1 fresh male, same data as *horatius*, COLFAX Co (RES). *A. oslari*, same data as *horatius*, COLFAX Co, (RES); Canadian Rvr at US 54, 3800', QUAY Co, 5 Jun 1987 (SJC/RES); same data as *esus*, UNION Co, NE (SJC). *A. phylace*, New Cn, 7500', HIGH, Manzano Mts, VALENCIA Co, 77 Jun 1979 (CDF). *Megathymus streckeri*, same data as *nesus* SJC). *Battus philenor*, Clovis, 4244', CURRY Co, 4 Oct (RES). *Pontia sisymbrii*, 6500', 9 mi NNE of Folsom, UNION Co, NE, 16 May (SJC). *P. occidentalis* Dilia, 5200', LOW, GUADALUPE Co, EAST, 2 Oct, LATE (RES); so unusual in NM as to raise eyebrows except above treeline nr Taos, but one was taken also at 6100' in San Miguel Co on the same date, so it may be establishing itself in NE NM as it has for 2 decades in E CO. *Pieris napi*, Tesuque Crk, Santa Fe Co, 12 Sep, LATE (prev 9 Sep) (SJC). *P. rapae*, Roswell, 3557', CHAVES Co, 3 Oct (RES); Ft. Sumner, 4060', DE BACA Co, 3 Oct (RES); now all NM and Zone 4 counties. *Zerene cesonia*, Dilia, 5200', GUADALUPE Co, 2 Oct (RES). *Phoebis sennae*, Folsom Falls, 6130', 4 mi NE of Folsom, UNION Co, NE, 1 Aug (SJC); Clovis, 4244', Curry Co, 4 Oct, LATE (prev 28 Sep) (RES). *P. agarithe*, Canadian Rvr Cn, HARDING Co, NORTH, 3 Jul (SJC,RH). *Eurema lisa*, Tucumcari, 4100', QUAY Co, NE, 5 Oct LATE (prev 28 Sep)(RES). *Lycaena (xanthoides) dione*, Clayton Lk, 5200', UNION Co, STATE, SOPUTH, 5 Jul (SJC,RH). *Phaestrymon alcestis*, Gray Rch, Hidalgo Co, 20 May, VERY EARLY (prev 15 Jun)(SJC). *Leptotes marina*, same data as *nesus* (SJC); Hells Cn, 6100', 16 mi E of Sleta Pueblo, Valencia Co, 1 Oct, VERY LATE (prev 2 Sep) (SJC). *Glaucopsyche lygdamus*, Tollgate Cn, 6200'; 9 mi NNE of folsom, Union Co, EAST, 16 May (SJC). *Plebejus melissa*, alfalfa field nr Clovis, 4244', CURRY Co, 4 Oct LATE (prev 29 Sep) (RES); alfalfa field nr Lovington, 3915', LEA Co, SE, 4 Oct (RES). *Emesis zela*, Whitewater Crk nr Glenwood, 4800', CATRON Co, NORTH, 9 Aug 1974 (CDF). *E. area*, Clanton Draw, Hidalgo Co, 24 Sep, VERY LATE (prev 4 Sep) (RH/SJC). *Libytheana (carinenta) bachmani*, Sumner Lk, 4200', DE BACA Co, 2 Oct (RES); 8 mi W of Mills, HARDING Co, 31 Jul (SJC); Ribera, 6100', jct NM 3/I-25, SAN MIGUEL Co, 2 Oct (RES). *Dione vanillae*, Clayton Lk, 5200', UNION Co, NE, 4 Jul (SJC,RH). *Poladryas (minuta) arachne*, 12 mi SE of Santa Fe, 7490', Santa Fe Co, 2 Oct, LATE (prev 24 Sep) (SJC,RES). *Thessalia fulvia*, Pine flats PG, Manzano Mts, BERNALILLO Co, 13 Jul 1963 (M. Tolliver/RH). *Chlysne definita*, NM 88 6 mi W of Portales, ROOSEVELT Co, NORTH 12 Sep 1965 and later dates (M. Toliver/RH). *C. gorgone*, Guaje Cn, 8000', LOS ALAMOS Co, 14 Jun 1936 (in U Colo Museum, det Res 1993). *Phyciodes phaon*, Ute Crk, UNION Co, NE, 4 Jul (SJC, RH). *P. tharos* (type A), same data as *horatius*U, COLFAX CO, NW (RES); Clovis 4244' CURRY Co, 4 Oct (RES); Pecos Rvr, S of Ribera, 6100', SAN MIGUEL Co, 2 Oct (RES). *P. selenis* (type B), Gallinas Cn, 7000+', SAN MIGUEL Co, Jul 1882 (F.H. Snow); confirmed 10 Jul 1966 (RH). *P. campestris*, 8 mi W of Mills, HARDING Co, EAST, 31 Jul (SJC); 12 mi SE of Santa Fe, 7490', Santa Fe Co, 2 Oct, VERY LATE (prev 12 Sep) (SJC,RES). *P. mylitta*, same data as *horatius*, COLFAX CO (RES); same data as *nesus*, UNION Co, NE (SJC). *Nymphalis milberti*, I-25 at SM/AF county line, 7200', 30 Sep, VERY LATE (prev 4 Sep)(RES). *Vanessa atalanta*, Lovington, 3915', Lea Co, 4 Oct, VERY LATE (prev 19 Sep) (RES). *V. virginensis*, 1 ragged male taken among thousands of *cardui* seen on rabbitbrush, same data as *pahaska*, VALENCIA Co, now all NM counties (RES). *V. annabella*, Ft. Sumner, 4060', DE BACA Co, 3 Oct; Dilia, 5200', GUADALUPE Co, 2 Oct; Rpswell, 3557', CHAVES CO, SE 3 Oct (all RES). *Junonia coenia*, Ft. Sumner, 4060', DE BACA Co, 3 Oct; Dilia, 5200', GUADALUPE Co, 2 Oct; Mills Cn, 5400', 8 mi W of

Mills, HARDING Co, 5 Oct; Ribera, 6100', jct NM 3/I-25, SAN MIGUEL Co, 2 Oct; same data as pahaska, VALENCIA Co, 1 Oct (all RES). J. nigrosuffusa, often with coenia and intermediates, Pecos Rvr, 6 mi N of Pecos, SAN MIGUEL Co, NORTH, 19 Apr 1962, EARLY (JAS, confirming 1881 Snow record); Dilia, 5200', GUADALUPE Co, 2 Oct (RES); same data as pahaska, VALENCIA Co, NORTH (RES); all forms common, Wall Lk, Catron Co, 9 Aug (CDF). Basilarchia archippus, Villanueva SP, SAN MIGUEL Co, 18 Sep (SJC); Road Cn, 4530', NM 405, UNION Co, NE, 5 Jul (SJC, RH). Adelpha bredowii, Valle Cn, LOS ALAMOS Co, Sep 1992 (D. Hoard/SJC). Myscelia cyananthe, Dry Cn, nr Alamogordo, Sacramento Mts, OTERO Co, STATE, ZONE 4, NORTH, 12 May 1902m (H.L. Viereck, cited by Skinner and later by Toliver/RWH). Mestra amymone, several fresh males, same data as aurantiacus, CHAVES CO (RES). Asterocampa celtis, same data as amymone, 3 Oct, LATE (RES); Trinchera Crk, COLFAX Co, NW, 6 Jul (SJC); Canadian Rvr Cn, MORA Co, 3 Jul (RH). Cyllopsis pertepida, Clayton Lk, 5200', Union Co, EAST, 4 Jul (SJC, RH). Megisto rubricata, North Cn, 6800-8000', Magdalena Mts, SOCORRO Co, NE for ssp chenevorum, 7 Jul 1968 and subsequent years Jun-Aug (RH); Bueyeros Cn, UNION Co, NORTH, 4 Jul (SJC, RH). Coenonympha ochracea, Sugarite SP, Colfax Co, 15 May EARLY (RES); Burnt Mesa, LOS ALAMOS Co, 30 May (SJC). Cercyonis meadii, Sunrise Spg, nr Santa Fe downs, 7000', SANTA FE Co, 9 Aug 1986 (RH). Neominois ridingsii, US 54, 6 mi NE of US 60, GUADALUPE Co, SE 13 Jun 1988 (P.J. Savage/RH). Danaus plexippus, moving S in small numbers, all over SE NM, 1-5 Oct (RES). D. gilippus, Clayton Lk, 5200', UNION Co, NE, 4 Jul (SJC, RH); 8 mi W of Mills, Harding Co (not new), 31 Jul (SJC); Tucumcari, 4100', Quay Co, 5 Oct, LATE (prev 28 Sep) (RES); common Ch, DB, Le, Ro, Cos, 3-4 Oct (RES).

## ZONE 5: THE PLAINS: SASKATCHEWAN, MANITOBA, NORTH DAKOTA, SOUTH DAKOTA, NEBRASKA, KANSAS.

Coordinator: Ronald Alan Royer (RAR).

Contributors: R. Anderson (RA), Robert Beiringer (RB), Tanya Bray (TEB), Neil Dankert (NED); Jeff Germer (JCG), Colin Hawkins (CH), Henry Hensel (HH), Ronald R. Hooper (RRH), John Jordison (JJC), Abran J. Kean (AJK), Paul Klassen (PK), John Koziol (JK), Tom E. Lee (TEL), Ron Leuschner (RHL), Doug Long (DRL), Gary M. Marrone (GMM), Jim Mouw (JM), Anne Nagel (ANN), Harold Nagel (HGN), Barbara Padelford (BKP), James Reiser (JMR), James Scott (JAS), Dayton Spomer (DTS), Steve Spomer (SMS), Ray Stanford (RES), Peter Taylor (PT), Missy Tholund (MT), Steve Williams (SGW). Abbreviations: NVP = Niobrara Valley Preserve; ; > = more than; c = collected; s = seen; . Capital letters indicate first record of occurrence.

**SASKATCHEWAN.** An unusually cool, wet summer was reported. Most butterfly species were scarce, although Oarisma garita and Everes amyntula were present in fair numbers. There was a poor migration of Vanessa cardui, and no Danaus plexippus were seen at all. Most evenings were reported to be "too cool for good moth collecting." Provincial Coordinator: RRH. Contributor: JK.

**MOTHS:** NOCTUIDAE - Renia flavipunctalis, Fort Qu'Appelle (WEST), 22 Jul (RRH). Argyrostroma anilis, Stockholm (NORTHWEST), 28 Jul (RRH). Polia nimbosa mystica, Tisdale (NORTH), 7 Jul (RRH). Euticropis nexilis, Bjorkdale (NORTHEAST), 7 Jun (JK). Schinia cumatilis, Punnichy (NORTH), 11 Aug (RRH).

**BUTTERFLIES:** Ancyloxypha numitor, Katepwa (WEST), 20 Jul (RRH). Oeneis chryxus carvi, White Fox (EAST), 24 May (JK).

**MANITOBA.** In southern Manitoba spring was "normal," but from late June onward the summer was cool and the wettest on record. Most species consequently were even more scarce than in 1992. "I've never experienced such a dismal summer," PK reported. "Weather was seldom conducive to collecting, but even in good weather few butterflies were seen." In the south, the only species found in "normal" numbers were Pieris rapae and Thymelicus lineola. For Churchill, HH reported a somewhat more normal season. Unless rare or northern, the only species reported here are those of which >5 individuals were encountered. Provincial Coordinator: PK. Contributors: RA, CH, HH, PT. Records NOY otherwise indicated are attributable to PK.

**MIGRATORY SPECIES:** There was a very weak flight of Danaus plexippus, with only one record after June (Culross, 19 Sep).

**MOTHS:** HH reports the following moth species for Churchill (30 Jun to 12 Jul & 27 Jul to 8 Aug): Holarctias centinaria, Arctia caja parva, Apantesis quenseli, Syngrapha alticola, S. u-aureum, Sympistis zetterstedti, Apamea zeta, Lasionycta phoca, L. leucocycla, L. taigata, L. subdita, Polia rogenhoferi, P. richardsoni, Euxoa churchillensis, Xestia okakensis, X. ursae, X. quieta, X. imperita, X. mixta, X. perquiritata, X. atrata

**BUTTERFLIES:** Thorybes pylades, 8s, Elm Creek, 17 Jun. Pyrgus centaureae, Churchill, 30 Jun-12 Jul (HH). Oarisma powesheik, 7c, 21s, Tolstoi, 12 Jul. Thymelicus lineola, very common (too many to count), Northwest Angle PF, 20 Jul. Papilio canadensis, less common than usual, but long flight period. Pieris napi, 7s, Pinawa, 6 Aug (PT). P. rapae, the only species with a major flight in southern Manitoba, being abundant through 19 Sep (PT, PK). Colias alexandra, 40s, Ashern, 1 Jul (PT). Agriades franklinii, Churchill, 30 Jun-12 Jul (HH). Plebejus saepiolus, 7s, Pinawa, 22 Jun (PT). Euptoieta haegesia (PROVINCE), Sandy Hook, 9 Jul 1980 (CH). Speyeria aphrodite, 1c, 7s, Sandilands PF (date?). Clossiana eunomia, Churchill, 30 Jun-12 Jul (HH). C. frigga, Churchill, 30 Jun-12 Jul (HH). C. polaris, Churchill, 30 Jun-12 Jul (HH). C. freija, Churchill, 30 Jun-12 Jul (HH). C. titania, Churchill, 30 June-12 Jul (HH). Limenitis arthemis, 1c, 5s, Northwest Angle PF, 29 June; 14s, Pinawa, 20 Jul. Coenonympha tullia, 27s (in 45 mins.), Pinawa, 18 Jun (PT). Cercyonis pegala, 9s, Sandilands PF, 29 Jul; 11s, Culross, 7 Aug. Erebia rossii, Churchill, 30 Jun-12 Jul (HH). E. disa, Churchill, 30 Jun-12 Jul (HH). E. discoidalis, Churchill, 30 Jun-12 Jul (HH). Oeneis jutta, Churchill, 30 Jun-12 Jul (HH). O. melissa, Churchill, 30 Jun-12 Jul (HH). O. polixenes, Churchill, 30 Jun-12 Jul (HH). Danaus plexippus, Thompson (NORTH), 30 Aug 1986 (CH).

**NORTH DAKOTA:** Little fieldwork was reported for the season, which was cool and much wetter than normal statewide. Included are several recently discovered but significant historical records. State Coordinator: RAR. Contributors: TEL, RES. Most records attributable to RES.

**BUTTERFLIES:** Pholisora catullus, ADAMS Co, 29 May (RES). Yvretta rhesus, ADAMS Co, 29 May (RES). Papilio bairdii, Buffalo Lodge Lk, McHENRY Co, 22 Jul 1951 (TEL). Artogeia rapae, GOLDEN VALLEY Co, 31 May (RES). Euchloe olympia, uncommon, Klein's Prairie nr Karlsruhe, McHENRY Co, 16 May; abundant nr Buffalo Lodge Lk (NORTHEAST), McHENRY Co, 31 May (RAR); ADAMS Co, 29 May (RES); GOLDEN VALLEY Co, 31 May (RES). Colias philodice, ADAMS Co, 29 May (RES); GOLDEN VALLEY Co, 31 May (RES). Mitoura siva, BOWMAN Co, 20 May 1957 (pair in CU Museum, Boulder, fide RES). Strymon melinus, Buffalo Lodge Lk, McHenry Co, 22 Jul 1951 (TEL). Glaucopsyche lygdamus, ADAMS Co, 29 May (RES); GOLDEN VALLEY Co, 31 May (RES). Lycaeides melissa, ADAMS Co, 29 May (RES); GOLDEN VALLEY Co, 31 May (RES). Speyeria edwardsii, Minot, WARD Co, 28 Jun 1949 (TEL). Charidryas gorgone, ADAMS Co, 29 May (RES); GOLDEN VALLEY Co, 31 May (RES). Phyciodes tharos tharos, ADAMS Co, 29 May (RES); GOLDEN VALLEY

Co, 31 May (RES). Nymphalis antiopa, GOLDEN VALLEY Co, 31 May (RES). Vanessa cardui, ADAMS Co, 29 May (RES); GOLDEN VALLEY Co, 31 May (RES). Vanessa atalanta, GOLDEN VALLEY Co, 31 May (RES). Coenonympha inornata, ADAMS Co, 29 May (RES). Cercyonis meadii, BOWMAN Co, 10 Aug 1958 (pair in Museum, Boulder, *file* RES). Oeneis uhleri, ADAMS Co, 29 May (RES).

**SOUTH DAKOTA.** GMM reports that a preoccupation with silphid beetles precluded his usual extensive lepidoptera fieldwork. Early spring rainfall produced apparently ideal conditions for leps, but very little collecting activity made for a lean 1993 SeaSum report for the state. State Coordinator: GMM. Contributors: AJK, MT, RES. All records not otherwise indicated are attributable to GMM.

**MOTHS:** Smerinthus cerisyi, c at blacklight nr Terry Peak, Lawrence Co, 10 June. Ascalapha odorata, Comanche Cg, Black Hills NF, CUSTER Co, 6 Jul (MT).

**BUTTERFLIES.** Yvretta rhesus, PERKINS Co, 29 May (AJK, GMM, RES). Pieris rapae, DEWEY Co, 31 May. Euchloe olympia, CAMPBELL Co, 31 May; DEWEY Co, 31 May; PERKINS Co, 29 May (AJK, GMM, RES). Colias philodice, CLARK Co, 5 Jul. Colias eurytheme, CLARK Co, 5 Jul. Epidemia helloides, DEWEY Co, 31 May (AJK). Strymon melinus atrofasciatus, JACKSON Co, 3 Sep (AJK). Everes c comyntas, CAMPBELL Co, 31 May (AJK). Glaucopsyche lygdamus oro, CAMPBELL Co, 31 May (AJK); DEWEY Co, 31 May (AJK); PERKINS Co, 29 May (AJK, GMM, RES). Icaricia acmon, PERKINS Co, 29 May (RES). Charidryas gorgone carlota, DEWEY Co, 31 May (AJK); PERKINS Co, 29 May (AJK, GMM, RES). Phyciodes tharos, CAMPBELL Co, 31 May; CORSON Co., 30 May (RES, GMM, AJK). Coenonympha tullia, DEWEY Co, 31 May (AJK). Oeneis uhleri, PERKINS Co, 29 May (AJK, GMM, RES).

**NEBRASKA.** A wet winter carried over into spring and summer. While butterfly numbers were somewhat higher than in 1992, they remained below par. NED reported that summer flights in the Pine Ridge area "bordered on abysmal." Despite these facts, Satyrrium spp. were well represented and Papilio bairdii produced a "bumper crop" of overwintering larvae. A total of 118 butterfly species were encountered in 1993, including 111 county and one state record. RES now lists 198 spp. for the state, with an average of 46 spp. per county. JCJ reported moderate success with Catocala spp., but moth records were generally down. Four moth spp. were added to Rosche's 1989 "partial list," bringing the state total to 615. Special thanks to Ron Leuschner for moth determinations. State Coordinator: NED. Contributors: RB, TEB, JCG, JCJ, RHL, DRL, JM, ANN, HGN, BKP, JMR, JAS, DTS, SMS, RES.

**MIGRANT AND STRAY SPECIES:** Hylephila phyleus, Furnas, Lancaster, THAYER Cos, 19 Aug to 7 Oct (JCG, DRL, SMS). Atalopedes campestris, common, Buffalo Co, 13 Aug to 25 Sep (NED). Zerene cesonia uncommon after two years of abundance; only record CHASE Co, 4 Jul (RES). Phoebis sennae, occasional to common in S and SE, 6 Aug to 23 Oct (JCJ, DRL, BKP). Eurema mexicanum, CHASE Co, 4 Jul (RES). E. nise, FURNAS Co, STATE, 8 Jul (DRL). E. lisa, STANTON, THOMAS, HAMILTON Cos, 20 May 24 Jul (TEB, NEDSMS). E. nicippe, Saunders Co, 29 Jun (SMS). Nathalis iole uncommon statewide (NED). Leptotes marina, common on alfalfa, Furnas Co, after early Jul (DRL); PERKINS Co, 4 Sep (RES). Hemiargus isola, occasional, 4 Jul to 7 Oct (TEB, DRL, SMS). Libytheana bachmanii, individuals statewide, 4 Jul to 4 Sep (NED, DRL, JMR, SMS, RES). Junonia coenia, numerous, Furnas Co, 29 Aug to 28 Sep (DRL); late and uncommon or absent elsewhere. Danaus plexippus, "normal year," with migration peak in early to middle Sep. D. gillippus, only two records, CHASE and PERKINS Cos, 4 and 16 Jul (RES).

**MOTHS:** PYRALIDAE - Stegea eripalis, BUFFALO Co, STATE, 1 Aug 1992 (NED). NOTODONTIDAE - Peridea angulosa, BROWN Co, STATE, 25 Jun (NED). NOCTUIDAE - Panthea virginaria, BROWN Co, STATE, 25 Jun (NED). Schinia persimilis, SIOUX Co, STATE, 29 Jun (NED). JCG reported the following Catocala records, all from Otoe Co: At bait: C. innubens, C. piatrix, C. epione, C. neogama, C. amatrux, C. nuptialis, 19-27 Jul At light: C. luciana, C. meskei, C. illecta, C. abbreviatella, C. whitneyi, C. coccinata, C. ultronia, 8-27 Jul. At light and bait by JCJ, SMS and JM, the following records from Calamus SRA, Loup Co, on 23 Aug: Thysania zenobia, Catocala innubens, C. neogama, C. luciana, C. meskei, C. concumbens, C. amatrux, C. abbreviatella, and C. nuptialis.

**BUTTERFLIES:** Erynnis horatius, 8 c/s, NVP, Brown, KEYA PAHA Cos, 26 Jun (Xerces Count). E. baptisiae, Sowbelly Cyn, SIOUX Co, 24 Aug (JAS). Erynnis martialis, 1c nr Branched Oak Lake, SEWARD Co, 25 Jul (SMS). Erynnis afranius, KIMBALL Co, 27 May (RES). Yvretta rhesus, 2 c/s nr Potter, CHEYENNE Co, 22 May (NED, JMR). Hesperia ottoe, 1c, ROCK Co, 24 Jun (NED); 1c nr Hebron, THAYER Co, 20 Jul (JCG). H. leonardus pawnee, c, CHASE, PERKINS, MORRILL, BOX BUTTE Cos, 3,4 Sep (RES). H. pahaska, 1c, I-80 rest area nr Sidney, CHEYENNE Co, 6 Jul (SMS). Polites origenes, 1c, Scotia Mines SWA, GREELEY Co, 4 Jul (NED, JMR). Wallengrenia egeremet, c nr Hebron, THAYER Co, 20 Jul (JCG). Megathymus texanus, 2 c/s, ROCK Co, 25 Jun (NED). Papilio bairdii larvae abundant after several years of scarcity, Dawson and Furnas Cos, Sep (JMR, DRL). Satyrrium acadicum, WASHINGTON (1992) KNOX, CHASE PERKINS, SHERMAN, HOWARD Cos, 4-16 Jul (RB, NED, JMR, RES). S. calanus, 5 c/s nr Ravenna, BUFFALO Co, 3 Jul (NED, JMR); 3c, nr Dannebrog, HOWARD Co, 4 Jul (NED, JMR); 1c Scotia Mine SWA, GREELEY Co, 4 Jul (NED, JMR). S. liparops, 7c while beating oaks for S. calanus, Scotia Mine SWA, GREELEY Co, 4 Jul (NED, JMR). Callophrys apama, 1c, I-80 rest area nr Sydney, CHEYENNE Co, 6 Jul (DTS, SMS). Mitoura siva, 3c/s nr North Platte, LINCOLN Co, 21 Jun (JCG, NED). Mitoura grynea, 1s, Buffalo Co, 14 Aug (LATE-normal is 4 Jul) (NED). Incisalia eryphon, nr Bushnell, KIMBALL Co, 27 May (RES). Plebejus acmon, 1c, nr Potter, CHEYENNE Co, 22 May (NED, JMR). Speyeria idalia, abundant in local colonies, Hall and Buffalo Cos (NED), newly discovered in OTOE Co, 9 Jul (JCJ). S. edwardsii, 1c, NVP, BROWN Co (EAST), 26 Jun (Xerces Count). Phyciodes pratensis, 1c, nr Bushnell, KIMBALL Co, 27 May (RES); 1c, Bull Cyn, Banner Co, 23 May (NED). Polygonia progne, loners, nr Dannebrog, HOWARD Co, 4 July (NED); Scotia Mine SWA, GREELEY Co, 4 Jul (NED); nr Norfolk, MADISON Co, 27 Jun (RB). Satyrodes eurydice, 4 c/s, Hwy 10 nr Middle Loup River, SHERMAN Co, 4 Jul (NED, JMR); nr Verdigre, KNOX Co, 9 Jul (RB); Hwy 61 at North Spring Creek, PERKINS Co, 16 Jul (RES). C. inornata, 1c, ROCK Co, 25 Jun (NED). Cercyonis meadii, Sowbelly Cyn, Sioux Co, 24 Aug (JAS). Neominois ridingsii, common for second consecutive year, Crescent Lake area, Garden Co, 12 Jun (NED, JMR).

**KANSAS.** State Coordinator: None. Sole contributor: SGW, to whom all the following records are attributable.

**MOTHS:** ARCTIIDAE - Haploa reversa, Lindsborg, McPherson Co, 29 Jul. Spilosoma virginica, nr Wellington, Sumner Co, 28 Jul. GEOMETRIDAE - Haematopis grataria, Lindsborg, McPherson Co, 29 Jul. NOTODONTIDAE - Datana ministra, Lindsborg, McPherson Co, 28 Jul.

**BUTTERFLIES:** Pyrgus communis, common nr Minneapolis, Ottawa Co, 29 Jul. Hesperia uncas, Russell, Russell Co, 29 Jul. Papilio polyxenes, Lindsborg, McPherson Co, 28 Jul. Colias philodice nr Minneapolis, Ottawa Co, 29 Jul. Colias eurytheme, common to abundant, Harvey, McPherson, Ottawa, Russell, Saline Cos, 29 Jul. Phoebis sennae eubule, nr Wellington, Sumner Co, in Wichita, Sedgwick Co, and in Lindsborg, McPherson Co, all 28 Jul; in Salina, Saline Co, 29 Jul. Speyeria cybele, Lindsborg, McPherson Co, 28 Jul. Asterocampa celtis, Lindsborg, McPherson Co, 28 Jul.



# ZONE 6: SOUTH CENTRAL: OKLAHOMA, TEXAS, ARKANSAS, LOUISIANA.

Coordinator: Ed Knudson (ECK)

Contributors: Charles Bordelon Jr. (CB), Steven Bransky (SB), Joseph F. Doyle III (JD), Charles Ely (CE), Cecil Harp (CeH), Chuck Harp (CH), Robert Harp (RH), Joann Karges (JK), Ed Knudson (ECK), Michael LeFort (ML), Steve Pickett (SP), Mike Rickard (MR), Charlie Sassine (CSS), Charles Sekerman (CS), Ray Stanford (RS), Robert Warren (RW), Steve Williams (SW). Additional abbreviations: USA = new US record, bait = bait or pheromone attractant, ? = questionable record or det., (O) = observation (no specimens collected or saved, or no photo). NOTE: Except in the case of new state records or rare or unusual species, butterfly reports herein do not distinguish between collected or observed specimens. Moth reports indicate collected specimens unless otherwise indicated.

OKLAHOMA. Reporting: CH, CeH, RH, RW, SW.

Butterflies: Achalarus lyciades, Thorybes pylades, MURRAY Co., 1 m. E. of Dougherty, 22 Apr. (CH, RH); Thorybes bathyllus, PUSHMATAHA Co., nr Clayton, 19 June, (SW); Erynnis brizo, E. horatius, LINCOLN Co., 3 m. SW of Wellston, 26 Apr. (CH, CeH); Erynnis baptisiae, KIOWA Co., Great Plains SP, 17 Apr. (CH, RH), MURRAY Co., 1 m. E. of Dougherty, 22 Apr. (CH, RW), OKLAHOMA Co., 1 m. S. of Arcadia, 26 Apr. (JK, CeH); Celotes nessus, Murray Co., 1 m. E. of Dougherty, 22 Apr., on Blackberry blooms, (CH, RW); Poanes zabulon, MURRAY Co., 1 m. E. of Dougherty, 22 Apr. (CH, RW); Amblyscirtes vialis, LINCOLN Co., 3 m. SW of Wellston, 26 Apr. (CH, CeH), MURRAY Co., 1 m. E. of Dougherty, 22 Apr. (CH, RW); Megathymus coloradensis stallingsi, KIOWA Co., Great Plains SP, 17 Apr. (CH, RH); Papilio polyxenes, KIOWA Co., Great Plains SP, 17 Apr. (CH, RH), Euchloe olympia KIOWA Co, Great Plains SP, 17 Apr (CH, RH), GARVIN Co, nr Paoli, 28 July (SW); Colias eurhythme, POTTAWOTTAMIE Co., Shawnee Lk., 27 Mar, (CH); Phoebis sennae, KAY Co, nr Blackwell, 28 July, LOGAN Co, Guthrie, (SW); Feniseca tarquinius, LINCOLN Co, 3 m. SW of Wellston, 26 Apr. (CH, CeH); Parrhasius m-album, Celastrina argiolus, POTTAWOTTAMIE Co, Shawnee Lk, 27 Mar, (CH); Speyeria cybele, LEFLORE Co, nr Poteau, 19 June, (SW); Charidryas gorgone carlotta, Vanessa cardui, V. atalanta rubria, Anaea andria, KIOWA Co, Great Plains SP, 17 Apr. (CH, RH); Nymphalis antiopa, Oklahoma Co, Arcadia, 19 Apr. (CH); Cercyonis pegala, LeFlore Co, Talihina, 19 June, (SW).

Moths: Citheronia regalis, Malacosoma disstria, Cerma cerintha, LeFlore Co., Talihina, 19 June; Lobocleta ossularia, Galleria mellonella, Choctaw Co., Hugo, 18 June, all (O) (SW).

TEXAS: Reporting: CB, JD, CE, JK, ECK, SP, MR, CS, CSS, RS, SW. Other collectors: James E. Gillaspay (JG), D. Marqua (DM), Douglas C. Ferguson (DF). Except in the case of new records, date and locality will be given only once for each county. Permit Info: (ECK): Texas Parks & Wildlife # 35-93; Guadalupe Mt. NP (GUMO) #93-07. For the first time, moth reports from Texas exceeded butterfly reports, including 18 new state records. There was one new state butterfly record reported. The numbers of tropical strays and temporary residents have continued to increase following the 3rd mild winter in a row (in SE Texas).

BUTTERFLIES: Phocides polybius lilea, Chiooides catillus albofasciatus, Hidalgo Co., Bentsen SP, 28 Apr. (O) (SW); Chiooides zilpa, UVALDE Co., Concan, 13 Oct. (CB); Epargyreus clarus, GREGG Co., Longview, 18 Sept., MORRIS CO, W. of Daingerfield, 10 July, TRINITY Co, nr Sebastopol, 2 Oct. (SW); Astraptus fulgerator azul, Starr Co., Fronton, 14 Nov. (CB,CSS); Urbanus proteus, TARRANT Co, Ft. Worth, 26 Aug. (JK); Achalarus jalapus, ?UVALDE Co, 6 m. SW ConCan, 14 Oct. (O) (CB); Thorybes bathyllus, ANGELINA Co, Angelina NF, 5 June, (CB); Thorybes confusus, TYLER Co, Kirby SF, 18 Apr. (CB); Cabares potrillo, STARR Co, Fronton, 12 Nov. (CB); Achylodes mithridates tamenund, TYLER Co., 15 Aug. (CB); Erynnis horatius, Ancyloxypha numitor, TRINITY Co., 2 Oct. (SW); Grias stigmatica, Fronton 12 Nov. (CSS); Pyrgus philetas, UVALDE Co, ConCan, 13 Oct. (CB); Pyrgus oileus, ANGELINA, TYLER Co's (CB); Pyrgus communis, Trinity Co, POLK Co, 23 July, (SW); Gorgythion begga pyralina, STARR Co, Santa Margarita Ranch, 10 Dec. (CB); Monca telata tyrtaeus, Cymaenes odilia trebius, Fronton, 10, 11 Dec. (CB, ECK, MR); Hesperia meskei, ANGELINA CO, 13 Sept. (CB), Tyler Co, 25 Sept. (CB, CS); Polites origenes, Atrytone logan, ANGELINA Co, 3-5 June (CB); Pompeius verna, TRINITY Co, 2 Oct. (SW); Hylephila phyleus, MORRIS CO, (SW); Poanes viator zizaniae, RUSK Co, 1 m. S. Kilgore, 23 Apr. (CB); Poanes aaroni howardi, STATE, JEFFERSON Co., Sabine Pass, 30 Sept. (CB); Poanes zabulon, RUSK Co., 1 m. S. of Kilgore, 23 Apr. (CB); Euphyes dion, JEFFERSON Co, Sabine Pass, 21 May, (CB); Amblyscirtes hegon, Sabine Co, 10 Apr. (CB); Amblyscirtes alternata, Kirby SF, 27 Mar. (CB); Lerodea eufala, ANGELINA Co, (CB); Oligoria maculata, ANGELINA Co, (CB), TRINITY Co, (SW); Papilio polyxenes, DUVAL Co., nr San Diego, 29 Aug., BROOKS Co, Falfurias, 29 Aug., JIM WELLS Co, Alice, 29 Aug. (SW); Heraclides ornithion, STARR Co, Fronton, 14 Nov. (CB, CSS); Pterourus glaucus, TITUS Co, 10 JULY, (SW); P. palamedes, GREGG, JACKSON, TITUS, TRINITY Co's (SW); Appias drusilla, JEFFERSON Co, Sabine Pass, 14 Sept. (O) (CB); Pieris rapae, Pontia protodice, Colias philodice, C. eurhythme, Zerene cesonia, Eurema lisa, E. nicippe, Nathalis iole, COCHRAN Co, 4 Oct. (RS); Ganyra josephina josepha, Fronton, 12-14 Nov. (CB,CSS); Anteos chlorinde, Medina Co, Hondo Cr, 7 Aug. (JD); Anteos maerula, Fronton, 13 Nov. (CB); Phoebis agarithe, ANGELINA Co, (CB), FT. BEND, NEUCES, POLK, MONTGOMERY CO'S (SW); Eurema mexicanum, E. proterpia, Fronton, 12-14 Nov. (CB, CSS), 10-11 Dec. (CB, CSS, ECK, MR); Satyrium kingi, S. liparops strigosum, TYLER Co, 1-3 June, (CB); Ministrymon elytie, UVALDE Co, ConCan 13-15 Oct. (CB); Calycopis isobeon, TYLER Co, 2 Oct (CB); Mitoura grvnea, ANGELINA, JEFFERSON Co's, Sept. (CB); Parrhasius m-album, JEFFERSON Co, Beaumont, 16 Sept. (CB); Strymon yojoa, Hidalgo Co, La Lomita, 12 Oct. (CSS); Strymon rufofusca, Fronton 10 Dec. (CB); Brephidium isopthalma pseudofea, Sabine Pass, 30 Sept., (CB); Celastrina argiolus ladon, TYLER Co., 3 June, (CB); Calephelis rawsoni, PECOS Co, Ft. Stockton, 23 Sept. (JK); Emesis tenedia, Fronton, 10 Dec. (ECK); Dione moneta, Fronton, 11 Dec. (CSS); Siproeta stelenes, Anartia fatima, Euptoieita hegesia, Biblis hyperia, Myscelia ethusa, Starr Co., 12-14 Nov, 10-11 Dec, (CB, CSS, ECK, MR); Adelpha fessonia, Epiphile adrasta, STARR Co, Fronton, 13, 14 Nov. (CB); Hamadryas februa, STARR Co, Fronton, 13 Nov. (CSS); Anaea pithyusa, Hidalgo Co., Penitas, 11 Oct, (CB); Doxocopa pavon, Starr Co, Salineno, 13 Oct. (CSS); Enodia creola, Neonympha areolata, Cercyonis pegala abbottii, ANGELINA Co, (CB).

MOTHS: Tineidae: Opogona arizonensis, Presidio Co, Terlingua Ranch, 21 Mar, (ECK); Psychidae: Zamopsyche commentella, STATE, HARRIS Co, Spring Vy, 6 Oct. (ECK). Decophoridae: Menestomorpha oblongata, El Paso, Franklin Mt. SP, 17 Sept. (ECK). Gelechiidae: Sriferia cockerella, Presidio Co, Big Bend Ranch SNA, 23 Mar. (ECK); Filatima depuratella, STATE, EL PASO Co, 18 Sept. (ECK). Sesiidae: Paranthrene simulans, Synanthedon sapygaeformis, Spring Vy, 7-14 Apr. (ECK); Vitacea admiranda, Travis Co, Austin, 3 June, (JG coll.); Carmenta mimuli, El Paso Co, 1-18 Sept., bait- (ECK); Carmenta flaschkai, Jeff Davis Co, Davis Mt. Resort, 9 Oct (DM coll) given to ECK by Hermann Flaschka). Cossidae: Cossula magnifica, Nacogdoches Co, Nacogdoches, 29 May (CE). Tortricidae: Suleima cinereodorsana, STATE, Tyler Co, Kirby SF, 2 Oct. (ECK); Cydia candana, STATE, NAGOGDOCHES Co, 24 Mar. (CE); Rhyacionia neomexicana, STATE, Jeff Davis Co, Madera CN, 25 Mar. (ECK); Argyrotaenia hodgesi, Jasper Co, Martin Dies SP, 13 Nov, (ECK). Megalopygidae: Lagoa crispata, Nacogdoches Co, 4 m. S. Nacogdoches, 21 June (SW). Alucitidae: Alucita hexadactyla, Jefferson Co., Beaumont, 7 June (CB). Epipyropidae: Fulgoraacia exigua, Nacogdoches,

6-8 Aug. (CE); Pyralidae: Sameodes albigitallis, Martin Dies SP., 13 Nov., (ECK), Nacogdoches, 22 June (CE); Pantographa limata, Nacogdoches, 25 July (CE); Scirpophaga perstrialis, Beaumont, 2 Sept. (CB); Microcrambus biguttellus, M. kimballi (STATE), JASPER Co, Martin Dies SP, 13 Nov. (ECK); Stylopalpia minusculalis, Spring Vy, 15 Oct. (ECK); Anadelosemia texanella, Martin Dies SP, 13 Nov. (ECK); Cactobrosia strigalis, Culberson Co, Guadalupe Mt. NP, 8 Oct. (ECK). Thyrididae: Thyris sepulchralis, TYLER, SABINE, RUSK Co's, 10-23 Apr. (CB). Pterophoridae: Oidaematophorus cineraceus, Guadalupe Mts. NP, 15 Aug., (ECK). Geometridae: Semiolitha promiscuata, Nacogdoches, 10Jul-8 Aug. (CE); Phrygonis incolorata restituta?, Nacogdoches, 3 July (CE) (2nd Tex. & US record); Melanchroia cephise, ConCan, 15 Oct., Fronton, 13 Nov. (CB); Parapheromia lichenaria, El Paso 18 Sept., (ECK); Cymatophora approximaria, Kirby SF, 2,3 Oct. (CB, ECK); Dichorda iridaria, Nacogdoches, 23 July, (SW); Heterusia atalantata, Fronton, 14 Nov., (CB); Spargania bellipicta, STATE, CULBERSON Co, Guadalupe Mt. NP, 15 Aug., (ECK); Horisme intestinata, Nacogdoches, 27 May, 9 Oct. (CE). Lasiocampidae: Tolyte minta, Beaumont, 19 July, (CB). Saturniidae: Eacles imperialis, Anisota discolor, TYLER Co, Warren, 15 Sept. (CS, CB); Anisota fucosa, Dryocampa rubicunda, NACOGDOCHES Co, 23, 24 July, (SW); Sphingicampa heiligbrodtii, Kenedy Co, 14 Sept. (SW); Sphingidae: Agrius cingulatus, MOORE Co, Middlewell, 14 July (SP); Ceratonia amyntor, MOORE Co, larva on Elm, (SP); Ceratonia catalpae, Nacogdoches, 13-18 July, (CE), Tyler Co, Warren, 15 Sept. (CB, CS); Ceratonia hageni, Nacogdoches, 13-15 July, (CE); Isoparce cupressi, Tyler Co, Colmesneil, 13 Sept. (CB, CS); Sphinx drupiferarum, MOORE Co, Dumas, (SP); Paonias myops, Nacogdoches, 17 Sept. (SW); Erynnis ello, Bexar Co., San Antonio, 6 Sept. (JD). Notodontidae: Datana angusii, Nacogdoches, 17 Sept. (SW); Furcula cinerea, Nacogdoches, 12 July, (CE), Schizura concinna, Spring Vy, 1-20 Oct. (ECK). Arctiidae: Cosmosoma myrodora, Beaumont, 3 Aug. (CB). Noctuidae: Zanclonatha obscuripennis, Nacogdoches, 13, 14 July, (CE); Pangrapta decoralis, Kirby SF, 15 Sept. (CB); Anomis flava fimbriago, ConCan, 12-15 Oct., (CB); Goniocarsia electrica, Lesmone formularis, Fronton, 13 Nov., Panopoda repanda, Zavalla Co, Crystal City, 26 Mar. (ECK); Thysania zenobia, Cameron Co, Harlingen 18 Dec., (SW), San Antonio, 17 Aug. (JD); Zale metatoides, Sabine Co, Sabine NF, 10 Apr. (CB); Caenurgia togartaria, STATE, JEFF DAVIS Co, Madera Cn, 25 Mar, (ECK); Catocala aholibah, STATE, CULBERSON Co, Guadalupe Mts. NP, 15 Sept. (ECK); Catocala grynea, Nacogdoches, 27 July, (CE); Allagrapha aerea, Nacogdoches, 18 Sept. (SW); Paectes nubifera, STATE, HIDALGO Co, McAllen, 10 Dec. (ECK); Cobubatha lixiva, Uvalde Co, ConCan, 12-15 Oct. (CB); Agriopodes fallax, Sabine NF, 10 Apr. (CB); Cerma cerintha, Nacogdoches, 17 July-8 Aug. (CE); Ponometa tripartita, STATE, EL PASO Co, El Paso, 18 Sept. (ECK); Acronicta ovata, Nacogdoches, 21 July, (CE); Harrisimemna trisignata, Nacogdoches, 12 July-6 Aug., (CE), 24 July (SW); Bellura obliqua, Beaumont, 26 Mar., (CB); Spodoptera hipparis, STATE, EL PASO Co, 7 Oct. (ECK); Elaphria agrotina, Fronton, 13 Nov., (CB); Stiria blanchardi, S. rugifrons, S. sulphurea, El Paso, 17, 18 Sept., (ECK); Lithophane longior?, STATE, JEFF DAVIS Co, Madera Cn, 25 Mar. (DF), Davis Mt. SP, 25 Mar., (ECK); Pyreferra pettiti, Metaxaglaea violacea, Martin Dies SP., 13 Nov., (ECK); Oncocnemis terminalis, O. melalutea, (STATE), O. laticollis (STATE), O. obscurata, EL PASO Co, 7 Oct. (ECK); Properigea suffusa, STATE, EL PASO Co, 18 Sept. (ECK); Egira variabilis, Madera Cn, 25 Mar. (DF, ECK) Achatia distincta, Nacogdoches, 23 Mar. (CE); Lacinipolia implicata, Beaumont, 11 Apr., (CB); Proteiniana trilineata, STATE, CULBERSON Co, Guadalupe Mt. NP. 15 Aug. (ECK); Marilopteryx caranchua, Crystal City, 26 Mar. (ECK); Tricholita baranca, ConCan, 12-15 Oct., (CB); Agrotis dollii, Euxoa olivina, E. melana, El Paso, 7 Oct., (ECK); Spaelotis clandestina, El Paso, 17 Sept. (ECK); Pyrrhia umbra, Kenedy Co, 14 Sept. (SW); Rhodoccia aurantiago, conf. STATE, TRAVIS Co, Austin, 25 Sept. (JG coll.); Schinia septentrionalis, STATE, EL PASO Co, 10 Oct., (ECK); Schinia ar, Kirby SF, 25 Sept., (CB); Schinia ultima, S. nundina, Beaumont, 1-5 Oct., (CB); Schinia accessa, ConCan, 12-15 Oct., (CB); Schinia parmeliana, Kirby SF, 22 Oct., (CB); Schinia trifascia, Nacogdoches, 24 Sept., (SW); Schinia reniformis, El Paso, 14 Aug., (ECK); Schinia argentifascia, S. ciliata, S. luxa, El Paso, 18 Sept., (ECK).

ARKANSAS: Reporting: SB, SW. Other collectors: Martin Off (MO). (Co. & loc. listings as for TX)

MOTHS: Oecophoridae: Ethmia trifurcella, Marion Co, Bull Shoals Lk., 30 May, (SB). Tortricidae: Argyrotaenia alisellana, Bull Shoals Lk., 23, 24 May (SB); Zygaenidae: Pyromorpha dimidiata, Bull Shoals Lk. 24 May, (SB); Megalopygidae: Lagoa crispat, Carroll XCo, Eureka Spr., 19 June, (SW). Limacodidae: Packardia geminata, Pope Co, Ill, Bayou R, at SR 27, 27 May, (SB). Pyralidae: Blepharomastix ranalis, Eureka Spr. (SW). Thyrididae: Thyris sepulchralis, Van Buren Co, Brock Cr.Cg., 27 May, (SB). Drepanidae: Oreta rosea, Bull Shoals Lk., 23 May, (SB). Geometridae: Heliomata cyclodata, Heterophleps refusaria, Ill. Bayou R. at SR 27, 27 May, (SB); Semiolitha multilineata, Bull Shoals Lk., 23 May, (SB), Eureka Spr., 19 June, (SW); Anacamptodes vellivolata, Euchlaena johnsonaria, Brock Cr. Cg., 27 May, (SB); Plagodis alcoalaria, Country Life Mobil Pk, 22 May, (MO); Anavitrinella pampinaria, Lobocleta ossularia, Scopula inductata, Eureka Spr, 19 June, (SW); Haemotopis grataria, Carrol Co, Green Forest, 20 June, (SW). Epiplemidae: Callizzia amorata, Bull Shoals Lk, 30 May, (SB). Saturniidae: Dryocampa rubicunda, Franklin Co, Ozark, 20 June, (SW). Notodontidae: Misogada unicolor, Bull Shoals Lk, 23 May, (SB). Arctiidae: Cisthene plumbea, Eureka Spr, 19 June (SW); Grammia anna, Ill. Bayou R., at SR 27, 27 May, Bull Shoals Lk, 23-30 May, (SB); Grammia figurata, Country Life Mobil Pk, 15, 21 May, (MO). Noctuidae: Zale horrida, Country Life Mobil Pk, 1,15 May, (MO); Celiptera frustulum, Bull Shoals Lk, 23 May, (SB); Euplexia benesimilis, Eugrotis lubricans, Ill. Bayou R., at SR 27, 27 May, (SB); Cirrhophanus triangulifer, Ozark, 20 June, (Sw).

BUTTERFLIES: Epargyreus clarus, SEVIER Co, nr. DeQueen, 20 June, FRANKLIN Co, Ozark, 20 June, (SW); Autochton cellus, POPE Co, Ozark NF, 28 May, (SB); Thorybes pylades, T. bathyllus, VAN BUREN Co, Brock Cr.Cg., 28 May, (SB); Erynnis juvenalis, BAXTER Co, Country Life Mobil Pk., 28 Apr., (MO); Erynnis martialis, VAN BUREN Co, 28 May, (SB); Pyrgus communis, FRANKLIN Co, Scott Co, nr. Waldron 20 June, (SW); Polites origenes, MARION Co, Bull Shoals Lk, 29 May, (SB); Poanes hobomok, P. zabulon, POPE Co, 28 May, (SB), Amblyscirtes linda, POPE Vo., 28 May (SB); Amblyscirtes vialis, VAN BUREN Co., Co., (SB), SCOTT Co, (SW); Papilio polyxenes, SEBASTIAN Co, nr. Ft. Smith, MADISON Co, Withrow Springs SP, LITTLE RIVER Co, Forman, 20 June, (SW); Heracles crespontes, Battus philenor, POPE Co, (SB); Pterourus glaucus, SCOTT Co, SEVIER Co, (SW); Eurytides marcellus, Withrow Springs SP, 20 June, (SW); Artogeia rapae, LOGAN Co, Booneville, 20 June, (SW); Colias eurhythme, LOGAN, SCOTT, LITTLE RIVER, POLK (nr. Mena, 20 June) Co's, (SW); Falcapica midea, Country Life Mobile Pk., 17 Apr. (MO); Eurema lisa, SCOTT Co, (SW); Leptotes marina, MARION Co, 26 May (SB); Libytheana carinenta bachmani, SEVIER Co, (SW); Speyeria cybele, Carroll Co, Eureka Spr, Madison Co, Willow Spr. SP, 20 June, (SW); Junonia coenia, POLK Co, (SW); Asterocampa celtis, LOGAN, SCOTT, POLK, SEVIER Co's, (SW); Anaea andria, Hermeuptychia sosybius, POPE Co, 28 May, (SB); Danaus plexippus, LOGAN Co, (SW).

LOUISIANA. Reporting: ML, SW.

MOTHS: Geometridae: Petrophora divisata, St. Tammany Ps, Slidell, 4 Mar, (SW); Orthonamma obstipata, Lafayette Ps, Lafayette, 25 Feb, (SW); Saturniidae: Automeris louisiana, Lafourche Ps, Leeville, 10 Mar, 2, 15 June, 25 July, (ML). Arctiidae: Pyrrharctia isabella, Ecpantheria scribonia, Tangipahoa Ps, nr. Hammond, 26 Feb, (SW). Noctuidae: Ascalapha odorata, Gulf of Mexico on offshore oil rig 140 miles S. of Intercostal City, La, 9 July, (ML); Spodoptera ornithogalli, St Tammany Ps, Slidell, 3 Sept., (SW); Eugrotis lubricans, Lafayette Ps, Lafayette, 3 Sept., (SW).

BUTTERFLIES: Epargyreus clarus, W. BATON ROUGE Ps, nr Ramah, 4 Sept. (SW); Phoebis sennae, St. Tammany Ps, 4 Sept. (SW); Brephidium isopthalma pseudofea, Jefferson Ps, 2 m. n. of Cheniere, 25 Sept. (ML); Anthanassa texana seminole, TERREBONNE Ps, Houma, 2 Oct., (ML); Enodia creola, W. BATON ROUGE Ps, nr Ramah, 4 Sept. (SW); Danaus gilippus berenice, Lafourche Ps, Golden Meadow, 25 Aug, Jefferson Ps, Cheniere, 4 Sept, Grand Isle, 25 Sept., (ML).





## ZONE 7: ONTARIO, QUEBEC.

Coordinator: Ross Layberry (RL)

Contributors: Carol Brotman (CB); Robert L. Bowles (RB); Bob Curry (BC); Donald G. Cecile (DC); Jeff Crolla (JC); Jon L. Dunn (JD); John Eberlie (JE); James Flynn (JF); June Gordon (JG); Ray Holland (RH); Tom Toyomi Ikeda (TI); Joseph Jones (JJ); Carolyn King (CK); Francois Lessard (FL); Paul McGaw (PM); Irene McIlveen (IM); Bill McIlveen (BM); Kevin McLaughlin (KM); Steven T. Pike (SP); Duncan Robertson (DR); Tim Sabo (TS); Ken Stead (KS); Lloyd Taman (LT); John Walas (JW); Alan Worthington (AW); Chauncey Wood (CW); Sarah Wood (SW); Kirk Zufelt (KZ).

**ONTARIO. BUTTERFLIES.** Populations of all species were very low over the whole province, except in the extreme southwest, and at Ottawa were estimated at no more than 10% of normal, presumably because of terrible weather in 1992. RL chose this year to explore the two most northerly roads in Ontario, Hwy 599/808 which runs 530 km north from Ignace and Hwy 105/Nungesser Road which runs 274 km north from Vermilion Bay, and also Hwy 527, west of Lake Nipigon and Hwy 652/Detour Lake Road northeast of Cochrane. There were no records from any of these areas: given the lousy collecting there are still not very many.

Thorybes pylades, Hwy 527, 34.5 km N Hwy 811, Thunder Bay District, 25 June (RL). Erynnis icelus, Hwy 105, 27 km SE Red Lake, Kenora District, 23 June (RL). Erynnis baptisiae, Point Pelee, Essex Co., 28 August to 5 September, previous Pelee records were strays: these were fresh, baptisiae now seems to have colonized Point Pelee (AW, BC, TS, DC, KM). Carterocephalus palaemon Hwy 105, 5 km SE Red Lake, Kenora District, 23 June (RL). Polites themistocles, Hwy 105, 24 km NW Ear Falls, Kenora District, 23 June; Hwy 527, 41 km N Hwy 811, Thunder Bay District, 25 June (RL). Polites origines, common at five locations around Ottawa, including Constance Bay Sand Hills, 2 July to 7 August (JC). Hesperia sassacus, Blind River, Algoma District, 9 July SECOND DISTRICT (BM). Poanes massasoit, Fassifern, Gellgarry Co., 5 July SECOND COUNTY (RL). Poanes viator, Camden Lake, Lennox & Addington Co., 21 July SECOND COUNTY (LT). Eurytides marcellus, Belle Point, W of Leamington, 4 July, flying over Lake Erie, observed from a Jet-Ski! (GT). Papilio machaon, 40 km N Geraldton, Thunder Bay District, 25 June (TI). Colias eurytheme, Point Pelee, 18 September, 10-25,000 migrating SW off the Tip (AW). Epidemia dorcas, Hwy 652, km 85.8 and 113, and Detour Lake Rd., km 5.8 and 8.6, Cochrane District, 28 July (RL). Satyrrium edwardsii, Enterprise, Frontenac Co., 24 July (LT). Satyrrium caryaevorum, Point Pelee, 6 July, FIRST RECORD at POINT PELEE (AW). Strymon melinus, McManus Lake, Algonquin Park, Nipissing District, 12 June, 2 nectaring on Bunchberry, strongly suspect resident status in Algonquin Park, and the foodplant Sweetfern, Comptonia peregrina (RL). Leptotes marina, Point Pelee National Park, single worn females seen 16, 17, 21 June (AW, JF, JG), then three more generations, 13 to 22 July, over an area of about 2 km (AW, BC, JF), 26 August (AW, BC) and 19 September (AW). Most likely foodplant Sweet White Clover Melilotus alba. FIRST ONTARIO RECORD, SECOND CANADIAN. Everes amyntula, Black Sturgeon Lake, Thunder Bay District, 25 June (RL). Celastrina ladon, Point Pelee, 28 April to 23 October, LATE RECORD, apparently four broods (AW); Hwy 808, Windigo Lake, Kenora District, 22 June (RL). Plebejus saepiolus widespread, often abundant on Hwys 599, 105, 527 and Nungesser Rd., 22 to 27 June, and Hwy 652, km 65.5, Cochrane District, 28 July, always near roadside Trifolium repens and T. hybridum, never on T. pratense (RL). Boloria bellona, Point Pelee, 19 September, SECOND PELEE RECORD (AW); Hwy 808, Windigo Lake, Kenora District, 22 June (RL). Chlosyne nycteis, 11 km N Black Sturgeon Lake, Thunder Bay District, 25 June (RL). Polygonia comma, Point Pelee, 22 November LATE (JF, JG). Nymphalis vau-album, Nepean, Carleton Co., 28 March EARLY (RH). Junonia coenia, Point Pelee, 10 June, EARLY (AW, SP). Asterocampa clyton, Point Pelee, 27 August, LATE (AW, BC). Erebia disa, Hwy 808, km 72, Kenora District, 22 June (RL). Oeneis chryxus, Hwy 808, km 147.3, Kenora District, 22 June, DISTRICT, this is in the centre of a 360 km gap between the most westerly Ontario and the most easterly Manitoba records (RL). Danaus plexippus, Point Pelee, 6 September, estimated 94,000+ migrating S through the Park (AW, JD, CB).

**MOTHS:** via Duncan Robertson and J. Don Lafontaine

ALUCITIDAE - Alucita hexadactyla, Matachewan, Timiskaming District, 2 to 8 May, 1 August to 21 October, extends flight period well beyond published records (LT). YPONOMEUTIDAE - Ypsolopha dentella, Kingston, Frontenac Co., 1 to 22 July (DR). SESIIDAE - Sesia spartani, Thunder Bay District, July, August in pheromone trap; Synanthedon tipuliformis, Thunder Bay, July in pheromone trap (JW). PYRALIDAE - Purausta socialis, Northumberland Forest, Northumberland Co., 31 July (JE). Scirpophagus perstrialis, Port Franks, Lambton Co., 27 July (KS). GEOMETRIDAE - Epilis truncataria, Matachewan, 4 June (LT). Ennomos subsignaria, Kingston, 6 July, large numbers day and night (DR). Erastria coloraria, Healey Lake, Muskoka District, 13 August (PM). Lambdina fervidaria Acton area, Halton Co., 8 May (IM, BM). Nepytia canosaria, Louck Lake, Parry Sound District, 15 and 16 September, large numbers in daytime, Jan McDonnell & Hilary Rollington, specimens identified by DR, RB. NOTODONTIDAE - Symmerista canicosta, Kingston, 13 September (larva) DR. ARCTIIDAE - Grammia oithona, Sparrow Lake, Simcoe Co., 21 August SECOND COUNTY (RB). Haploa reversa, Port Franks, 5 July (KS). H. colona, Port Franks, 26 July (KS). H. clymene, Port Franks, 20 July (KS). NOCTUIDAE - Renia sobrialis, Acton area, Halton Co., 16 July (IM, BM); Algoma Mills, Algoma District, 9 July (IM, BM, PM, CK). Ascalapha odorata, Huntsville, Muskoka District, 14 July, at uv light, midnight, fairly fresh (DR). Homophoberia apicosa, Scarborough, York Co., 12 June (JJ). Conservula anodonta, Healey Lake, Muskoka District, 13 August (PM). Cosmia calami, Scarborough, York Co., 22 July (JJ). Cissusa spadix, Port Franks, 7 May; Nerastria dividua, 24 July, Port Franks, FIRST CANADIAN RECORD; Acrionicta longa, Port Franks, 16 June, SECOND ONTARIO; Schinia gloriosa, Port Franks, 31 July; Chataglaea tremula, Port Franks, 6 October, FIRST CANADIAN RECORD; Magasa orbifera, Port Franks, 3 September (KS). Phytometra errestrima, Pinery Provincial Park, Lambton Co., 10 July, FIRST CANADIAN RECORD (KS). Eucrotopocnemis fimbriaris, Port Franks, 17 September, resident in a sand-dune area, FIRST CANADIAN RECORD (KZ). Mocis latipes, Port Franks, 17 September, very rare migrant (KZ). Syngrapha surena, Hwy 652, km 105, Cochrane District, 28 July (RL), boreal species known from only about ten locations from Newfoundland to Alberta (RL). Syngrapha octoscripta, Detour Lake Road, km 19, Cochrane District, 28 July (RL). The following 14 species were reported from Matachewan, Timiskaming District by LT: Zale unilineata, 8 June; Catocala antinympha, 14 to 18 August; C. coelebs, 22 August; Autographa rubida, 5 to 9 July; Acrionicta leporina, 25 June to 11 July; A. noctivaga, 12 June; Apamea vultuosa, 19 July to 18 August; A. niveivenosa, 26 July; Archanara subflava, 1 to 25 September; Xylena cineritia, 7 April; Lithophane georgii, 13 September; Epiglaea apiata, 15 September; Fishia enthea, 4 to 24 September; Xylotype acadia, 17 to 24 August. LASIOCAMPIDAE - Phyllosma americana, Hwy 652, km 105, 28 July (RL). Cryptocala acadensis, Hwy 652, km 120.2, 28 July (RL).

**QUEBEC. BUTTERFLIES:** Populations of most species were very low (FL, RL). FL collected along Route 13, north from Hwy 117 in Parc de la Vérendrye to Clova, Abitibi County, an area never before reported. He found only 14 common species, in very low numbers.

Amblyscirtes vialis, Route 13, km 54, Montcalm Co., 23, 24 June (FL). Pieris virginienensis, Parc-Paul-Sauvé, Deux-Montagnes Co., 9 May, colony first discovered last year (FL). Callophrys polios, Ile-du-Grand-Calumet, Pontiac Co., 5, 12 June (FL). Mitoura gryneus, Gatineau Escarpment, N of Eardley, Gatineau Co., 29 May (4 seen) and 4 June (6 seen). This is about 1.6 km W of the original Quebec location discovered in 1990. On June 4, 4 individuals were nectaring on a white-flowered bramble (Rubus sp.), along with one fresh female of Erora laeta (JC). This is the first nectaring record that I have seen for laeta. Chlosyne nycteis, Route 13, km 54,

## ZONE 8: MIDWEST: MINNESOTA, WISCONSIN, MICHIGAN, IOWA, MISSOURI, ILLINOIS, OHIO, KENTUCKY, WEST VIRGINIA.

Coordinator: Les Ferge (LF)

ZONE 8: MIDWEST: MISSOURI, KENTUCKY, WEST VIRGINIA, OHIO, INDIANA, ILLINOIS, IOWA, MINNESOTA, WISCONSIN, MICHIGAN. Coordinator: Les Ferge (LF). Contributors: George Balogh (GB), Thomas W. Carr (TWC), Jim Ciha Jr. (JC), Charles V. Covell Jr. (CVC), Jim Ebner (JE), Kenneth Fritz (KF), Todd Gilligan (TG), Ronald V. Harms (RH), Edward (Ted) Herig (EH), Terry Herig (TH), Robert Kriegle (RK), Karl and Dorothy Legler (KL), Gary Manley (GM), Eric H. Metzler (EHM), Steve Mueller (SM), Mogens C. Nielsen (MN), David K. Parshall (DKP), John W. Peacock (JWP), Roy W. Rings (RWR), Mark Rzeszotarski (MR), Tom Rocheleau (TR), Mark D. Schmidt (MDS), Clark Schultz (CS), Ernest M. Shull (ES), Jeff Smith (JS), Larry E. Smith (LES), Fred Stehr (FS), Ann Swengel (AS), Stephen R. Uecke (SRU), Edward Voss (EV), John Weber Jr. (JW), James R. Wiker (JRW), John H. Wilterding (JHW).

MISSOURI and WEST VIRGINIA: No reports.

KENTUCKY: The following records are highlights from a detailed report provided by CVC. The state survey now stands at 2340 species.

MOTHS: GEOMETRIDAE - Pero zallisaria, SPHINGIDAE - Eumorpha fasciata (L. Gibson, R. Henderson, R. Watkins), NOCTUIDAE - Parapamea buffaloensis, 11 Sep, Hickman Co.

BUTTERFLIES: A. lyciades, 18 Aug, Nelson Co. E. baptisiae, 19 Aug, Whitley Co. N. lherminier, 12 Sep, Fulton Co. L. accius, H. leonardus, 10 Sep, Christian Co. P. origenes, 18 Aug, Nelson Co; 19 Aug, Jefferson Co; 10 Sep, Christian Co. A. logan, 18 Aug, Nelson Co. P. zabulon, 11 Sep, Hickman Co (L. Gibson, R. Henderson). P. yehl, 11 Sep, Fulton Co. E. dion, 11-12 Sep, Fulton Co. E. ruricola metacomet, 11 Sep, Hickman Co. A. aesculapius, 11 Sep, Fulton Co, on ironweed flowers. P. ocola, 11 Sep, Fulton Co. P. virginianensis, 29 Apr, Nelson Co. Z. cesonia, 8 Oct, Jefferson Co, 3 seen. P. sennae, 19 Aug, Laurel Co; 6 Sep, Jefferson Co; 10 Sep, Christian Co; 12 Sep, Graves, Lyon, Caldwell Cos. E. nicippe, 11 Sep, Fulton Co. H. hyllus, 18 Aug, Nelson Co; 12 Sep, Fulton Co. C. cecrops, 17 Jul, Oldham Co; 10 Sep, Christian Co. C. ebenina, 8, 22 Apr, Bullitt Co. L. bachmanii, 11 Sep, Fulton Co. C. bellona, 28 Apr, Nelson, Jefferson Cos; 12 Sep, Fulton Co, further west than seen before in KY (R. Zebold). C. nycteis, 11 Sep, Hickman Co. L. arthemis astyanax x L. archippus hybrid, 11 Sep, Hickman Co, near where CVC saw these two species mating 3 years ago (B. Gregg). E. portlandia missarkae, E. creola, 11 Sep, Fulton Co, at bait. E. anthedon, 10 Sep, Christian Co. S. appalachia, 11 Sep, Fulton, Hickman Cos, abundant. C. gemma, H. hermes sosybius, 10 Sep, Christian Co.

OHIO: Records included here were compiled on behalf of the Ohio Lepidopterists by EHM. The reporting of microlepidoptera increased again this year, thanks partly to an identification day (ID Day) conducted by the members of The Ohio Lepidopterists in early December 1993. Many moths were identified utilizing the collections of The Ohio Lepidopterists and Ohio State University, as well as the combined talents of the members. Extraordinarily large numbers of Colias were observed in two localities. Along State Route 38 in Madison Co, butterflies killed by cars lined the roadsides on 27 and 29 Aug, with 30 per lineal foot counted, or 316,800 per mile (KF). On 3 Sep in Marion Co, clouds of Colias were also seen, with an average of 505 live C. eurytheme, 135 P. rapae plus 21 dead Colias counted on both sides of a quarter mile stretch of road (JWP).

MOTHS: OECOPHORIDAE - Ethmia monticola fuscipedula, 15 May PORTAGE Co, STATE (RWR). COLEOPHORIDAE - Coleophora spissicornis, 12 Jun, LORAIN Co (JCJ). COSSIDAE - Prioxystus macmurtrei, 30 May, HAMILTON Co (RWR). TORTRICIDAE - Olethreutes permundana, 18 Jul, PORTAGE Co (RWR). Phaneta radiatana, Eucosma alboguttana, 30 May, PORTAGE Co (RWR). Epiblema desertana, 27 May, PORTAGE Co (RWR). Ancylis metamelana, 10 Jul PORTAGE Co (JCJ). A. burgessiana, 29 May, ROSS Co (JCJ). Dichrorampha simulana, 26 Aug, PORTAGE Co (JCJ). Argyrotaenia alisellana, 26 Jun, PORTAGE Co (JCJ). PYRALIDAE - Hellula rogatalis, 13 Aug, GREENE Co, STATE (EHM). Chalcoela iphitalis, 20 Aug, MEDINA Co (JCJ). Pyrausta niveiciliialis, 23 May, BELMONT Co (JCJ). Microcrambus kimbali, 28 Aug, PORTAGE Co (JCJ). Eulogia ochrifrontella, 2 Jul, PORTAGE Co (JCJ). PTEROPHORIDAE - Platyptilia pallidactyla, 29 May, ROSS Co (JCJ). Oidaematophorus homodactylus, 6 Jun, PORTAGE Co (JCJ). GEOMETRIDAE - Euchlaena amoenaria, 30 May, 6 Aug, ROSS Co, STATE (JCJ). SATURNIIDAE - Citheronia regalis, 7 Aug, RICHLAND Co (LES). Dryocampa rubicunda, 12 Jul, RICHLAND Co (LES). Automeris io, 17 Jul, RICHLAND Co (LES). Antheraea polyphemus, 10 Jul, RICHLAND Co (LES). Actias luna, 15 Jul, RICHLAND Co (LES). Callosamia promethea, 4 Aug, RICHLAND Co (LES). Callosamia angulifera, 27 Jul, RICHLAND Co (LES). Hyalophora cecropia, 26 Aug, RICHLAND Co (LES). NOTODONTIDAE - Gluphisia linteri, 4 Apr, PORTAGE Co (RWR). NOCTUIDAE - Cissusa spadix, 19 Apr, HAMILTON Co (RWR). Melipotis indomita, 9 Jul, LUCAS Co, STATE (TWC). Ascalapha odorata, 6 Sep, PORTAGE Co (RWR). Eutelia pulcherrima, 24 May, HAMILTON Co (RWR). Archanara oblonga, 9 Aug, PORTAGE Co (RWR). Hydraecia stramentosa, 9 Aug, PORTAGE Co (RWR). Bellura gortynoides, 15 May, PORTAGE Co (RWR). Elaphria festivoidea (a), 30 May, PORTAGE Co (RWR). Cosmia calami, 22 Jul, PORTAGE Co (RWR). Lithophane disposita, 31 Mar, PORTAGE Co, very rare in Ohio (RWR). L. pexata, 30 Apr, PORTAGE Co, 2nd state record (RWR). Euxoa bostoniensis, 18 Sep, PORTAGE Co (RWR). E. redimicula, 16 Aug, PORTAGE Co (RWR).

BUTTERFLIES: E. icelus, 29 June, TRUMBULL Co (SRU). P. communis, N. lherminier, 13 Aug, ROSS Co (DKP). P. zabulon, 15, 19, 23 Aug & 8 Sep, TRUMBULL Co (SRU). H. cresphontes, 13 Aug, ROSS Co (DKP). P. philea, 11 Sep, RICHLAND Co, 2nd state record, first confirmed Ohio specimen (LES). F. tarquinius, 25 Jul, TRUMBULL Co (SRU). Satyrium acidicum, 4 Jul, WYANDOT Co (DKP). S. caryaeorum, 7 Jul, GEAUGA Co (MR). C. cecrops, 18 Aug, FAIRFIELD Co (LES). S. melinus humuli 19 Sep, TRUMBULL Co (SRU). L. marina, 15 Aug LAWRENCE Co, STATE (DKP). C. neglecta-major, 10 May, HOCKING Co (DKP). N. vau-album j-album, 9 Jul, ASHLAND Co, 19 Aug, RICHLAND Co (LES). V. virginianensis, 10 & 15 Jul, 2 Aug, 19 Sep, TRUMBULL Co (SRU). S. aphrodite, 15 Aug, GALLIA Co (DKP). C. nycteis, Co. 22 June, 4 July, TRUMBULL Co (SRU). E. phaeton, 14 June, WYANDOT Co (DKP). A. celtis, 29 Aug, TRUMBULL Co (SRU). A. clyton, 28 July, RICHLAND Co (LES). E. anthedon, 18 Aug, RICHLAND Co (LES); 13 Aug, FAYETTE Co (DKP).

INDIANA: The records appearing below were received from ES, who reported untimely cold and wet weather, and found only 48 species of butterflies and 115 species of moths. He did not see E. marcellus and H. cresphontes, or any species of hairstreaks.

MOTHS: APATELODIDAE - Apatelodes torrefacta, 20 May, Wabash Co. SATURNIIDAE - Citheronia regalis, 8 Jul, Wabash Co. Sphingicampa bicolor, Automeris

io, 4 Jul, Wabash Co. NOCTUIDAE - *Catocala judith*, 26 Aug, Brown Co. *Plusia balluca*, 4 Jul, Wabash Co. *Papaipema inquaesita*, 7 Oct, Wabash Co, at sugar bait. *Spodoptera ornithogalli*, 27 Jun, Wabash Co. *Pyreferra hesperidago*, *Sunira bicolorago*, 7 Oct, Wabash Co.

**BUTTERFLIES:** *E. brizo*, 17 May, Kosciusko Co. *E. icelus* and *horatius*, 16 July, Union Co. *N. lherminier*, 25 Aug, Brown Co. *H. phyleus*, 18 Sep, Wabash Co. *A. logan*, 3 Jul, Kosciusko Co. *E. ruricola metacommet*, 6 Jun, Union Co. *B. philenor*, 13 Jun, Kosciusko Co. *C. philodice* and *eurhythme*, 9 May to 26 Oct, common from mid-summer on. *H. hyllus*, 29 Jun, Wabash Co. *L. bachmanii*, 8 Aug, Kosciusko Co. *C. bellona*, 16 Jul, Union Co. *E. phaeton*, 16 Jun, Wabash Co. *A. milberti*, 29 Mar, Wabash Co. *V. cardui*, 7 Aug, Kosciusko Co. *V. atalanta*, 20 Apr, Wabash Co. *E. anthedon*, 20 Jun, Wabash Co. *S. euridyce*, 19 Jul, Wabash Co. *S. appalachia leeuwi*, 7 Aug, Kosciusko Co.

**ILLINOIS:** The following records are from JRW, who had a productive season despite excessive rainy weather and difficulties getting to some sites due to the extensive flooding in central and southern Illinois. Butterflies, especially Satyridae, were found in fairly good numbers, and a number of southern stray moths were recorded.

**MOTHS:** OECOPHORIDAE - *Ethmia monticola fuscipede*, 9 Jun, IROQUOIS Co, 2nd county in state. *E. longimaculella*, 9 Jun, IROQUOIS Co, STATE. SESIIDAE - *Synthedon acerni*, 8 Jul & 24 Aug, IROQUOIS Co. COSSIDAE - *Inguromorpha basalis*, 16-17 Jun, Union Co. *Givera anna*, 22 Jun, Union Co. TORTRICIDAE - *Eucosma robinsonana*, 13 Jun, MENARD Co. *E. giganteana*, 3 Jul, Menard Co. MEGALOPYGIDAE - *Norape ovina*, 22 Jul, Union Co. ZYGAENIDAE - *Pyromorpha dimidiata*, 29-30 May, Union Co. LIMACODIDAE - *Parasa indeterminata*, 8 Jul, IROQUOIS Co. PYRALIDAE - *Pyrausta bicoloralis*, 24 Aug, IROQUOIS Co. GEOMETRIDAE - *Metanema determinata*, 9 Jun, IROQUOIS Co. LASIOCAMPIDAE - *Tolyte notialis*, 23 Aug, IROQUOIS Co. *Artace cribraria*, 21 Jun, 19 & 22 Jul, Union Co. SPHINGIDAE - *Agrius cingulata*, 16 Jun, Union Co, EARLY. *Sphinx franckii*, 15 Jun-16 Aug, Union Co. *S. gordius*, 8-9 Jun & 8 Jul, IROQUOIS Co. *Pachysphinx modesta*, 9 Jun, IROQUOIS Co. *Erynnis ello*, 21 Jul & 16 Aug, Union Co. *E. obscura*, 16-18 Aug, Union Co. *Eumorpha fasciata*, 22 Jul & 9, 16, 19 Aug, Union Co. *Darapsa versicolor*, 18 May, 22 Jul, 9-17 Aug, Union Co, unusually common. *Xylophanes tersa*, 23 Aug, IROQUOIS Co (V. LaGessee via JRW). NOTODONTIDAE - *Odontotia elegans*, 22-23 Aug, IROQUOIS Co. ARCTIIDAE - *Phragmatobia lineata*, 8 Jul & 22 Aug, IROQUOIS Co. NOCTUIDAE - *Phytometra rhodaria*, 23-24 Aug, IROQUOIS Co. *Hypsorophia monilis*, 15 May, UNION Co. *Gonodonta pyrigo*, 22 Jul, UNION Co, STATE. *Hypocala andremona*, 10 Aug & 10 Sep 1991, Union Co. *Ascalapha odorata*, 16 Jun (EARLY), 22 Jul-19 Aug, Union Co, a total of ten individuals. *Catocala consors*, 21 Jun, UNION Co. *C. luctuosa*, 20 Jul, MASSAC Co. *C. parta*, 24 Aug, IROQUOIS Co. *C. abbreviatella*, 3 Jul, Menard, Iroquois Cos. *C. nuptialis*, 22 Jun, UNION Co. *Stiria rugifrons*, 22 & 24 Aug, IROQUOIS Co. *Schinia trifascia*, 23 Aug, IROQUOIS Co.

**BUTTERFLIES:** *E. horatius*, 14 May, IROQUOIS Co. *H. sassacus*, 9 Jun, Iroquois Co; 10 June, KANKAKEE Co, 2nd county in state. *P. byssus*, 18 Jun, Union Co. *P. yehi*, 22 June, ALEXANDER Co, 2nd state record. *E. bimacula*, 2 Jul, Will Co. *A. aesculapius*, 29 May, Jackson Co; 11 Aug, ALEXANDER Co. *A. belli*, 16 May, Jackson Co, 12 Aug, Union Co. *P. protodice*, 27 Jun, Mason Co. *C. eurhythme*, 2 Dec, Menard Co, LATE. *Z. cesonia*, 4-5 Sep, Mason Co (1 fm rosa). *E. nicippe*, 4 Sep, Mason Co. *S. idalia*, 27 Jun, Mason Co. *C. selene*, 9 Jun, Iroquois Co. *E. phaeton ozarkae*, 17 Jun, Johnson Co. *A. andria*, 17 Jun & 21 Jul, Johnson Co, adults & larvae. *E. creola*, 29 May & 18 Jun, Jackson Co; 21-22 Jun & 11 Aug, ALEXANDER Co; 12 Aug, Union Co. *S. appalachia*, 20-21 Jul, MASSAC Co.

**IOWA:** Moth records were contributed by GB, who collected at Big Sand Mound, a sand prairie and wetland nr Mississippi Rvr in Muscatine Co, and in mesic to wet prairie remnants in Howard and Story Cos. Butterfly records are from RH.

**MOTHS:** TORTRICIDAE - *Eucosma palabundana*, PYRALIDAE - *Pyrausta laticlavata*, *Pseudoschoenobius opalescalis*, *Thaumatopsis pectinifer*, GEOMETRIDAE - *Glenoides texanaria*, 11 Sep, Muscatine Co. NOCTUIDAE - *Nola cereella*, *Crymodes burgessi*, *Meropleon ambifuscum*, *Spartiniphaga inops*, 11 Sep, Muscatine Co. *Papaipema silphii*, 16 Sep, Story Co. *P. necopina*, *maritima*, *rigida* & *sciata*, 13 Sep, Howard Co. *Abagrotis barnesi*, 11 Sep, Muscatine Co. *Schinia septentrionalis*, 12 Sep, Clinton Co, nectaring on Asters during day on limestone prairie.

**BUTTERFLIES:** *P. viator*, 19 Jul, Palo Alto Co, common. *F. tarquinius*, 4 Sep, Pocahontas Co. *S. acadica*, 18 Jul, Pocahontas Co. *G. lygdamus*, 15 May, Pocahontas Co; 31 May, BUENA VISTA Co.

**MINNESOTA:** Records provided by JW.

**BUTTERFLIES:** *A. numitor*, 11 Jul, Cass Co; 18 Jul, Clearwater, Hubbard Cos. *P. mystic*, 8 Jul, Hubbard Co, on blue flag iris. *P. napi*, 12 Jul, Wadena Co. *E. olympia*, 25 May, Hubbard Co. *F. tarquinius*, *H. hyllus*, 18 Jul, Clearwater Co. *C. nycteis*, 11 Jul, Cass Co; 12-14 Jul, Hubbard Co, very scarce where plentiful in previous seasons. *S. euridyce*, 11 Jul, Cass Co; 18 Jul, Clearwater Co.

**WISCONSIN:** Cool and very rainy conditions characterized the season, with butterfly numbers generally well below average (JE, KL, CS). Only a few migrant butterfly species were recorded, with *E. lisa* and *J. coenia* the only ones reported in numbers (KL, HK). Several migrant moth species were found, with *Magasa orbifera* the most widespread, first appearing in late June, with numerous fresh individuals seen late in the season in many counties (LF, HK, TR).

**MOTHS:** HEPIALIDAE - *Sthenopsis argenteomaculatus*, 15-20 Jul, Oneida Co (JS). SESIIDAE - *Synanthedon acerni*, 15-20 Jul, Oneida Co (JS). THYATIRIDAE - *Habrosyne gloriosa*, 22 Jun, Dane Co (TR). GEOMETRIDAE - *Palaeocrita merricata*, 23 Apr, PORTAGE Co, STATE, det GB (HK). *Metarranthus angularia*, 27 May, Outagamie Co, det GB (HK). *Cyclophora nanaria*, 17 Aug, WAUKESHA Co, STATE, det GB, (HK). *Orthonama evansi*, 11 Aug, WALWORTH Co, STATE, det GB (HK). *Acasis viridata*, 28 Jul, Walworth Co, det GB (HK). EPIPLEMIDAE - *Calledapteryx dryopterata*, 16 Jun, OUTAGAMIE Co, STATE, det GB (HK). SPHINGIDAE - *Ceratomia catalpa*, 24 Aug, Dane Co (TR). *S. luscitiosa*, 21 Jun, BAYFIELD Co (LF). *Eumorpha achemon*, 28 Jun, Dane Co (TR). ARCTIIDAE - *Apantesis carlotta*, 7 Aug, Sauk Co (LF). *Grammia celia*, 29 May, PORTAGE Co (HK). *Pygarctia spraguei*, 22 Jun, PORTAGE Co (HK); 26 Jun, Jackson Co (LF). NOCTUIDAE - *Macrochilo litophora*, 12 Jul, WAUKESHA Co, in fen, det GB (HK). *Ophiuche minualis*, 17 Sep, WAUKESHA Co, STATE, det GB (HK). *Tathorhynchus exsiccatius*, 19 Jul, WAUKESHA Co, STATE, det GB (HK). *Phytometra ernestinana*, 13 & 18 Jul, WAUKESHA Co (HK); 28 Aug, Sauk Co (LF). *Eudocima materna*, 12 Sep, ASHLAND Co, STATE, a stray or accidental specimen of this tropical species on Outer Is in Lk Superior (M. & J. Van Stappen via LF). *Mocis latipes*, 12 Sep, MANITOWOC Co (LF); 22 Sep, PORTAGE Co (HK). *M. texana*, 16 Jul, MANITOWOC Co (LF); 27 Jul, WAUKESHA Co (HK). *Catocala luciana*, 16, 23 & 29 Aug, Outagamie Co (HK). *C. abbreviatella*, *C. whitneyi*, 7 Aug, LATE, Sauk Co (LF). *C. amestris*, 13 Jul & 10 Aug, Waukesha Co (HK); 15 Jul, Dane Co (TR); 7 Aug, Sauk Co (LF). *Ctenoplusia oxygramma*, 12 Sep, MANITOWOC Co (LF); 16 Sep, PORTAGE Co (HK). *Rachiplusia ou*, 21 Sep, BAYFIELD Co (LF). *Autographa mappa*, 8 & 10 Jul, FOREST Co (TR). *Syngrapha epigaea*, 16 Jul, MANITOWOC Co (LF). *S. viridisigma*, 16 Jul, MANITOWOC Co (LF); 10 Aug, Forest Co (TR). *S. rectangula*, 13 Aug, MANITOWOC Co (LF). *Oruza albocostaliata*, 4 Jul, JACKSON Co, 2nd state record (HK). *Amyna octo*, 15 Jul, DANE Co (TR). *Acronicta tritona*, 21 Jun, BAYFIELD Co (LF); 27 Jun, MARINETTE Co (HK). *A. superans*, 18 Jul, WAUKESHA Co (HK). *A. longa*, 22 May, JACKSON Co, STATE (LF). *Apamea cristata*, 8 Jul, FOREST Co, STATE (TR). *A. inordinata*, 12 Jun & 15 Jul, MANITOWOC Co, dunes (LF). *A. impulsu*, 8 & 10 Jul, FOREST Co (TR). *A. lateritia*, 8 Jul, FOREST Co (TR). *Selicanis cinereola*, 20 Sep 1992, MONROE Co, STATE, det R. W. Poole & E.

Quinter (J. Maxwell via LF); 17 Sep, JACKSON Co (LF). *Chortodes defecta*, 23 Aug, KEWAUNEE Co, STATE (JHW). *Archanaera laeta*, 11 Aug, WALWORTH Co (HK). *Papaipema speciosissima*, 17 Sep, JACKSON Co, 2nd state locality (LF). *P. nepheleptena*, 17 Sep, WAUKESHA Co (HK); 25 Sep, 6 Oct, PORTAGE Co (HK). *P. beeriana*, 17 Sep, Waukesha Co, 4th state locality (HK). *P. unimoda*, 19 Sep, BAYFIELD Co, NORTH (LF). *Hydraecia micacea*, 11 Jul, FOREST Co (TR). *Fagiana littera*, 9 Jul, WAUKESHA Co (HK). *Magusa orbifera*, 25 Jun & 24 Aug, Dane Co (TR); 7 Aug, SAUK Co; 11-12 Sep, MANITOWOC Co (LF); 18 Jul-20 Oct, FOREST, KENOSHA, MARINETTE, PORTAGE, Waukesha, WALWORTH Cos, common at many sites (HK). *Chytonix sensilis*, 22 Jul, JACKSON Co (LF); 26 Jul, JEFFERSON Co (HK). *Plagiomimicus pityochromus*, 10 Aug, WAUKESHA Co (HK). *Xylena thoracica*, 19 & 21 Sep, *Lithophane disposita*, 18 Sep, BAYFIELD Co (LF). *L. oriunda*, 24 Oct, PORTAGE Co, 2nd state record (HK). *L. thaxteri*, 19 Sep, BAYFIELD Co (LF); 5 & 20 Oct, PORTAGE Co (HK). *Xystocheilus rufago*, 10 Apr, SAUK Co (LF); 23 Apr & 1 May, PORTAGE Co (HK). *Psectraglaea carnosus*, 19 & 21 Sep, BAYFIELD Co (LF). *Chaetoglaea sericea*, 9 Sep & 20 Oct, PORTAGE Co (HK); 19 & 21 Sep, BAYFIELD Co (LF). *Hillia iris*, 17 Sep, Waukesha Co (HK); 19 Sep, BAYFIELD Co (LF). *Homohadena badistriga*, 13-14 Jul, Waukesha Co (HK); 13 Aug, MANITOWOC Co (LF). *Oncocnemis riparia*, 15 Jul, MANITOWOC Co, dunes (LF). *Trichoclea artesta*, 12 Jun & 15 Jul, Manitowoc Co, dunes (LF). *Sideridis congermana*, 22 May, JACKSON Co (LF). *Melanchnra pulverulenta*, 21 & 24 Jun, BAYFIELD Co (LF). *Lacanobia nevadae*, 24 Jun, Bayfield Co (LF). *L. radix*, 23 & 25 Jun, BAYFIELD Co, STATE, (LF); 27 Jun, MARINETTE Co (HK). *Trichordestra rugosa*, 21 & 24 Jun, BAYFIELD Co (LF). *Anhimella contrahens*, 16 Jul, MANITOWOC Co (LF); 8 & 30 Jul, Outagamie Co (HK). *Copablepharon longipenne*, 13 Aug, Manitowoc Co, dunes (LF). *Euxoa quebecensis*, 24 June, Bayfield Co, sand beach (LF). *E. aurulenta*, 11-12 Jun & 15 Jul, MANITOWOC Co, STATE, dunes (LF). *Xestia oblata*, 8-9 Jul, FOREST Co (TR). *Paradiarsia littoralis*, 27 Jun, Marinette Co (HK); 8 Jul, FOREST Co (TR). *Schinia indiana*, 4 & 6 Jun, MONROE Co (J. Maxwell, LF). *S. bina*, 23 Jun, Portage Co, on orange and yellow hawkweed flowers (HK). *S. lucens*, 13 & 26 Jul, WAUKESHA Co; 19-21 Jul KENOSHA Co (HK). *S. nundina*, 7 Aug, SAUK Co (LF). *S. chrysellus*, 13 Sep, PORTAGE Co, STATE, verified by GB (HK).

**BUTTERFLIES:** *H. comma laurentina*, 10 Aug, Forest Co (TR); 14-15 Aug, Florence Co (HK). *H. metea*, 22 May, JACKSON Co (LF); 1 Jun, Burnett Co (TR); 3 & 10 June, LATE, Marinette Co (HK). *P. verna*, 1 Aug, Fond du Lac Co; 4 Aug, Outagamie Co (HK). *P. virginensis*, 21 May, MENOMINEE Co (HK). *Z. cesonia*, 1 Jun, Waukesha Co, 1 male (JE). *E. lisa*, 23 Jun & 7 Jul, Waukesha Co (JE); 4 Jul, Jackson Co; 18 Jul, Kenosha Co (HK); 19 Jul, Dane Co, 20 Jul, Trempealeau Co, 13 Aug, Grant Co (KL). *I. irus*, 11 May-1 Jun, Jackson Co (AS, TR); 11 May-5 Jun, Wood Co (AS). *I. henrici*, 22 May, Marinette Co (HK); 1 Jun, Burnett Co (TR). *E. amyntula*, 28 May-1 Jun, Burnett Co, abundant (TR). *H. isola*, 21 Jul, Kenosha Co (HK). *L. idas nabokovi*, *P. saepiolus*, 28 Jun, Marinette Co (HK). *C. muticum*, 1 Aug, Fond du Lac Co (HK). *S. idalia*, 11 Jul-25 Aug, Green, Iowa Cos (AS). *C. eunomia dawsoni*, 21 Jun, Bayfield Co, ovipositing on cranberry (LF); 22 Jun DOUGLAS Co, photo (KL). *C. titania grandis*, 1 Aug, Douglas Co (TR). *J. coenia*, 14 Jul-28 Aug, Jackson, Kenosha, Marinette, Outagamie & Walworth Cos (HK). *C. tullia inornata*, 21 Jun, ST CROIX Co, abundant (KL); 10 Jul, FOREST Co (TR).

**MICHIGAN:** Weather was cooler and wetter than normal, with rain eight inches above normal by October. Emergences were delayed about two weeks during most of the season. Butterfly species and numbers were down, except *T. lineola*, which was exceptionally numerous. Noctuids, especially Hadeninae, were numerous, but *Catocala* were down. Several southern Noctuids were taken in late season (MN).

**MOTHS:** OECOPHORIDAE - *Ethmia bipunctella*, 13 Aug, Mackinac Co, dunes, lakeshore, a European introduction (GB). TORTRICIDAE - *Olethreutes osmundana*, 3 Jul, Kalamazoo Co, wet forest (GB). *Eucosma palabundana*, 11 Jun, Muskegon Co; 13 Aug, Mackinac Co (GB). *Archips dissitana*, 12-13 Aug, ANTRIM Co (FS). PYRALIDAE - *Scoparia penumbrales*, 12 Jun, Muskegon Co, wet coniferous forest (GB). *Acentria nivea*, 3 Jul, KALAMAZOO Co, bog; 14 Aug, MACKINAC Co, fen, an aquatic European introduction (GB). *Prionapteryx nebulifera*, 8 Aug, Allegan Co, dunes; 13 Aug, Mackinac Co, dunes, lakeshore (GB). *Crambus alienellus labradoriensis*, *C. awemellus*, 14 Aug, Mackinac Co, fen (GB). GEOMETRIDAE - *Archiearis infans*, 1 May, Otsego Co (EH, MN). *Hypomecis umbrosaria*, 11 Jun, MUSKEGON Co, savanna (GB). SATURNIIDAE - *Actias luna*, 11-14 Aug, Barry, Cass Cos, 2nd brood (EH, TH, MN). *Hyalophora columbia*, 18-23 Jun, Chippewa, CRAWFORD, LUCE, Schoolcraft Cos (EH, TH, MN). SPHINGIDAE - *Ceratomia hageni*, 13 Aug, Cass Co (MN); 18 Sep, Cass Co, mature larva on Osage orange (EH). *Sphinx canadensis*, 6 Jun-14 Aug, Cass, GOGEBIC, HILLSDALE Cos (EH, MN). *S. luscitiosa*, 17 Jun, Otsego Co (RK). *Darapsa versicolor*, 24 Jul-14 Aug, Cass, HILLSDALE Cos (EH, MN). ARCTIIDAE - *Grammia williamsi*, 13 Aug, Mackinac Co, dunes, lakeshore (GB). *G. oithona*, 11 Aug, BARRY Co (MN). *G. phyllira*, 11 Jun, Muskegon Co, savanna; 13 Aug, Mackinac Co, common on dunes (GB). NOCTUIDAE - *Macrochilo bivittata*, 14 Aug, Mackinac Co, dunes, lakeshore (GB). *Anomis erosa*, 7-11 Oct, Cass Co (MN). *Zale metatoides*, 12 Jun, Muskegon Co, dunes (GB). *Z. calycanthata*, 13 May, Otsego Co (MN). *Mocis texana*, 6 Oct, Cass Co (MN). *Catocala coelebs*, 20-21 Aug, Cheboygan, Otsego Cos (EH, MN). *C. nebulosa*, 13 Aug-17 Sep, Cass Co (EH, MN). *C. amestris*, 31 Jul-18 Aug, Barry Co (TH, MN). *C. dulcicola*, 3 Jul, Cass Co (MN). *C. micronympha*, 13 Aug, CASS Co, 2nd state record (EH). *Abrostola ovalis*, 11 Aug, Barry Co (MN). *Agrapha oxygramma*, 27 Aug-17 Sep, Cass Co (MN). *Autographa mappa*, 19 Jul, GOGEBIC Co (MN). *Exyra fax*, 3 Jul, KALAMAZOO Co, bog (GB); 18 Aug, Barry Co (MN). *Anterastria teratophora*, 11 Aug, Barry Co (MN). *Amyna octo*, 7 Oct, Cass Co (MN). *Eutelia pulcherrima*, 6 Jun, Cass Co (MN). *Acronicta parallela*, 12 Jun, Muskegon Co, dunes (GB). *Apamea vulgaris*, 6 Jun, Cass Co, det E. Quinter (MN). *A. apamiformis*, 13 Aug, Cass Co (MN). *Eremobina jocasta*, 14 Aug, CASS Co (MN). *Oligia obtusa*, 11 Aug, BARRY Co (MN). *Meropon ambifuscum*, 26 Aug, Barry Co (MN). *Chortodes inquinata*, 24 Jul, HILLSDALE Co (MN). *Papaipema cerina*, *astuta*, 6-7 Oct, Cass Co (MN). *P. speciosissima*, 15 Sep, Clinton Co (EH). *P. rutila*, 19 Sep-7 Oct Cass Co (MN). *P. sciata*, *P. beeriana*, 24 Sep, Monroe Co (MN). *Iodopepla u-album*, 13 Aug, Mackinac Co, dunes, lakeshore (GB). *Bellura obliqua*, 18 Jun, SCHOOLCRAFT Co (MN). *Lithophane amanda*, 12 Jun, ANTRIM Co (FS). *L. patefacta*, 1 May, 6 Oct, Cass, Otsego Cos (MN). *L. signosa*, 6-23 Oct, CASS, LENAWEE Cos (MN). *Epiplaea apiata*, 6 Oct, Cass Co (MN). *Brachionycha borealis*, 1 May, Otsego Co (MN). *Adita chionanthi*, 21 Aug, Cheboygan Co (MN). *Sideridis congermana*, 18 Jun, SCHOOLCRAFT Co (MN). *Polia nimbosea*, *imbrifera*, 19 Jul, GOGEBIC Co (MN, FS). *Melanchnra pulverulenta*, 18-19 Jun, Chippewa, Schoolcraft Cos (MN). *Lacanobia nevadae*, 18-19 Jun, Chippewa, LUCE, Schoolcraft Cos (EH, MN). *L. radix*, 18 Jun, Schoolcraft Co (MN). *Papestra quadrata ingravis*, 22 May-19 Jun, Chippewa Co (MN). *P. biren*, 18 Jun, LUCE, Schoolcraft Cos (MN). *Hadena capsularis*, 6 Jun, Cass Co (MN). *Anarta luteola*, 22 May, Chippewa Co (RK, MN). *Leucania linita*, 19 Jun-13 Aug, Cass, CHIPPEWA Cos (MN). *Ulolonche culea*, 6-19 Jun, Cass, CHIPPEWA, SCHOOLCRAFT Cos (MN). *Copablepharon longipenne*, 27 Aug, Oceana Co, dunes (GB). *Euxoa detersa*, 26 Aug, Charlevoix Co, commonly and vigorously visiting by day flowers of *Solidago houghtonii*, a threatened species of goldenrod (EV). *Hemipachnobia subporphyrea*, 3 Jul, Kalamazoo Co, bog (GB). *Abagrotis barnesi*, 27 Aug, Oceana Co, dunes (GB). *Metalepsis fishii*, 1-22 May, Chippewa, Otsego Cos (MN). *Schinia bina*, 13 Jun, Oceana Co (GB); 2 Jul, CHEBOYGAN Co, jack pine plains, on flower head of *Hieracium venosum* (EV).

**BUTTERFLIES:** *E. baptisiae*, 24 Jul, HILLSDALE Co (MN). *P. origenes*, 3 Jul, St. Joseph Co (MN). *I. henrici*, 22 May, Chippewa Co (RK). *I. eryphon*, 22 May, Chippewa, Mackinac Cos (TH, RK, MN, FS, EV). *L. melissa samuelis*, 4 Jun, Allegan Co (MN). *C. muticum*, 24 Jul, Hillsdale Co (MN). *C. eunomia dawsoni*, 18-19 Jun, Chippewa, Luce Cos (EH, RK, MN). *C. frigga*, 18 Jun, Luce Co (EH, RK, MN). *N. mitchellii*, 3 Jul, Cass Co (TH, MN). *O. jutta ascerta*, 18-19 Jun, Chippewa, Luce Cos (EH, RK, MN).



# ZONE 9: THE SOUTHEAST: TENNESSEE, MISSISSIPPI, ALABAMA, VIRGINIA, NORTH CAROLINA, SOUTH CAROLINA, GEORGIA, FLORIDA.

Coordinator: Andy Beck (AFB)

ZONE 9: THE SOUTHEAST: TENNESSEE, MISSISSIPPI, ALABAMA, VIRGINIA, NORTH CAROLINA, SOUTH CAROLINA, GEORGIA, FLORIDA AND BERMUDA.

Coordinator: Andy Beck (AB)

*Contributors: Bill Hark (WH), Jerry Nagel (JN), Harry Pavulaan (HP), Charles Sekerman (CS), Richard Smith (RS), Steve Williams (SW), Tom Williams (TW). Most contributors commented on the drought in Dixie, speculating on how or if it was affecting flight periods, larval development, etc. The drought was not felt in FL. We welcome one new contributor, JN, who is conducting a faunal survey in NE TN. Abbreviations: Bch. - Beach, Co. - county, Cos. - counties, CR - County Road, Crk. - creek, det. - determined by, E - east, el. - elevation, exc. - except, FR - Forest Road, Hwy - highway, I - interstate highway, Is. - Island, mi. - mile(s), N - north, nr. - near, NW - northwest, ovip. - ovipositing, Rd. - Road, Riv. - River, sic - correct as is, SP - State Park, sp. - species (singular), ssp. - subspecies (singular), VHW - ventral hindwing, W - west*

**MIGRATORY SPECIES:** Urbanus proteus - Evidence from several contributors (AB, JN, HP) suggests a strong flight late into the season for this skipper in the southeastern states. Phoebis sennae eubule - HP reports a strong, undirected flight along the coastal counties of SC from 30 Sep to 4 Oct, with an individual seen in Herndon, Fairfax Co., VA on 7 Oct. He also reports adults of this species seen frequently in Washington, DC area "all summer." AB confirms a strong flight in NE FL, although not as strong or directed as in some years. P. p. philea was active this year, with records from Sarasota, Sarasota Co. FL, nectaring on Hibiscus sp. (Malvaceae) 31 Aug (TW), Jacksonville, Duval Co. FL, (several late summer sightings by AB) and even in SC (see below.) Danaus plexippus - HP reports a strong flight toward the NW (sic) along I-95 in SC, especially the northern half of the state, 30 Sep. On 5 Oct, HP saw a single adult flying N along Myrtle Bch., Horry Co. SC.

**ALABAMA (AL):** Contributor: SW

**MOTHS:** SPHINGIDAE - A. cingulatus 23 Oct and X. tersa 14 Oct, Grand Bay, Mobile Co.

**BUTTERFLIES:** PIERIDAE - P. protodice 11 Sep, along I-65, Montgomery Co.; C. eurytheme along interstate hwy 4 Sep in Baldwin, Lowndes and Mobile Cos., 11 Sep in Lee & Montgomery Cos.

**FLORIDA:** Contributor: CS

**MOTHS:** SPHINGIDAE - H. thysbe 25 Sep, Hwy 98 W of Perry, Taylor Co.

**BUTTERFLIES:** HESPERIIDAE - P. o. origenes 17 Sep, CR 388, 5.5 mi. E of West Bay, Bay Co.; 18 Sep, Hwy 267, 1 mi. W of Newport, Wakulla Co.; A. l. logan 18 Sep, CR 388, 5.5 mi. E of West Bay, Bay Co.; common on 21, 22 Sep, FR 75 nr. Lake Delancey, Putnam Co.; P. b. byssus 23 Sep, Daytona Beach, Volusia Co.; Hwy 98 nr. Jefferson Co. line, Taylor Co.; P. yehl 17 Sep, CR 388, 5.5 mi. E of West Bay, Bay Co.; 25 Sep, Hwy 98 W of Perry, Taylor Co.; E. arpa 17 Sep, CR 388, 5.5 mi. E of West Bay, Bay Co.; 18 Sep, Hwy 267, Leon Co.; 21, 22 Sep, FR 75 nr. Lake Delancey, Putnam Co.; 22 Sep, nr. Salt Springs, Marion and Putnam Cos.; 22, 23 Sep, Daytona Beach, Volusia Co.; 24 Sep, Hwy 19 nr. Hwy 98, Citrus Co.; 27 Sep, CR 457, 6 mi. E of Destin, Walton Co.; E. pilatka and E. dion 27 Sep, CR 457, 6 mi. E of Destin, Walton Co.; E. berryi common on Bidens sp. (Asteraceae) 22, 23 Sep, Daytona Beach, Volusia Co.; APATURIDAE - A. alicia flew into shirt pocket 20 Sep, Gainesville, Alachua Co.; SATYRIDAE - C. pegala abbotti 27 Sep, CR 457, 6 mi. E of Destin, Walton Co.

**GEORGIA (GA):** Contributor: SW

**MOTHS:** PSYCHIDAE - T. ephemeraeformis 9 Sep; LIMACODIDAE - Isa textula 7 Sep; PYRALIDAE - Helvobotys helvialis 9 Sep, Herculia olinalis 6 Sep; GEOMETRIDAE - Pleuroprucha insulsaria 9 Sep (all Atlanta, Fulton Co.); SATURNIIDAE - D. rubicunda 7 Sep nr. High Falls SP, Butts Co.; NOTODONTIDAE - Lochmaeus manteo 5 Sep, Atlanta, Fulton Co.; NOCTUIDAE - (all 7 Sep, Conley, Clayton Co. exc. as noted) Caenurgina erechtea, Mocis latipes, Catocala coccinata, Autographa precatonnis, Baileya australis, Crambodes talidiformis, Spodoptera exigua, S. frugiperda, S. eridania, Galgula partita (9 Sep), Pseudaletia unipuncta (abundant), Agrotis subterranea, Schinia septentrionalis 7 Sep, nr. High Falls SP, Butts Co., S. arcigera 10 Sep, Morrow, Clayton Co.

**BUTTERFLIES:** HESPERIIDAE - 5 Sep, Helen, White Co.: E. c. clarus, P. communis, L. accius, and A. campestris huron common, nectaring at Lantana sp. (Verbenaceae); 9 Sep, Atlanta, Fulton Co.: E. horatius, P. communis, A. numitor, A. l. logan, P. yehl common in wooded clearings with flowers, and A. vialis; LIBYTHEIDAE - L. b. bachmanii

**NORTH CAROLINA (NC):** Contributors: RS, SW

**BUTTERFLIES:** HESPERIIDAE - T. bathyllus, T. confusus and A. loammi 8 Aug 1992, Green Swamp, Brunswick Co. L. eufala 15 Aug, along Hwy 211, Middle Riv., Brunswick Co.; PIERIDAE - P. protodice 18 Oct, Maggie Valley, 4500' el. NYMPHALIDAE - A. vanillae nigrior nectaring on Verbena brasiliensis (Verbenaceae) 15 Aug, along Hwy 211, Middle Riv., Brunswick Co., L. a. arthemis 18 Oct, Maggie Valley, 4500' el.

**MISSISSIPPI (MS):** Contributor: SW

**BUTTERFLIES:** PIERIDAE - Z. c. cesonia 11 Sep, I-10, Hancock Co.

**BUTTERFLIES:** (See additional records under "Migratory Species," above) **HESPERIIDAE** - E. zarucco nectaring at Camphorweed (Heterothea subaxillaris, Asteraceae) 10 Aug, 3-4 mi. W of Awendaw, Charleston Co.; L. accius 4 Oct, nectaring on goldenrod (Solidago sp., Asteraceae,) Ashepoo, Colleton Co.; 4-5 Oct, Myrtle Bch., Horry Co.; L. eufala common in and nr. salt marshes 4-5 Oct, Hunting Is., Beaufort Co.; P. ocola very common, Hwy 170 fishing pier on Broad Riv. nr. Beaufort, Beaufort Co.; **PIERIDAE** - P. p. philea nectaring on "large red flowers" downtown, 2 Oct, Beaufort, Beaufort Co. **NORTH;** **LYCAENIDAE** - S. melinus humuli (ssp. field det. HP based on size of VHW orange spot), 30 Sep to 4 Oct, very abundant along coastal dunes on Hunting Is., Beaufort Co.; 5 Oct, nectaring on ornamental periwinkle (Vinca sp., Apocynaceae) in urban setting, Myrtle Bch., Horry Co.; B. isophthalma pseudofea 30 Sep to 3 Oct, Hunting Is. and nearby salt marshes along Hwy 21, Beaufort Co.; C. virginianensis 3-4 mi. W of Awendaw, Charleston Co.; **NYMPHALIDAE** - A. vanillae nigrior 10 Aug, Steed Crk. Rd. W of Awendaw, Charleston Co., common nectaring at Zinnia sp. (Asteraceae) on Isle of Pines, Charleston Co.; **HELICONIIDAE** - H. c. charitonius very common 1-4 Oct, Hunting Is., Beaufort Co.; **DANAIDAE** - D. gilippus berenice 1 and 3 Oct, Hunting Is., Beaufort Co.; 5 Oct, Myrtle Bch., Horry Co.

TENNESSEE (TN): Contributor: JN

**BUTTERFLIES:** **HESPERIIDAE** - U. proteus 3 encounters 27 Aug-8 Oct, Washington Co. and on Unaka Mt., 4500' el. (8 Oct) Unicoi Co.; **PIERIDAE** - E. nicippe ovip. on Cassia sp. (Favaceae) 23 Jul, Johnson City (el. 1500'), Washington Co.; 8 Oct atop Unaka Mt., 4500' el., Unicoi Co.; **NYMPHALIDAE** - A. vanillae nigrior 8 Oct atop Unaka Mt., 4500' el., Unicoi Co.; S. a. a. aphrodite 21 Jul, Roan Mt. (6500' el.), Carter Co.; C. b. bellona 29 Jun, Roan Mt. (3500' el.), Carter Co.

VIRGINIA (VA): Contributor: WH

(All are sight records on Aster sp. (Asteraceae), 25 Oct, Berkely Plantation, Charles City Co. in a 30-minute period): **YPONOMEUTIDAE** - Atteva punctella; **HESPERIIDAE** - E. c. clarus, U. proteus, P. communis; **PIERIDAE** - P. rapae, C. p. philodice, P. sennae eubule; **NYMPHALIDAE** - V. cardui, J. coenia, B. a. archippus (very worn); **DANAIDAE** - D. plexippus.

**ZONE 10: THE NORTHEAST: NEWFOUNDLAND, LABRADOR,  
MARITIMES, NEW ENGLAND, NEW YORK, PENNSYLVANIA,  
NEW JERSEY, MARYLAND, DELAWARE, DISTRICT OF COLUMBIA.**  
Coordinator: Mark Mello (MM)

**Contributors:** Ashton Berdine via RS), William Boscoe (WB), Brian Cassie (BC) Robert Dirig (RD), Eva Doane (ED) via James Hedbor, American Museum of Natural History (AMNH) via HP, Mark Fairbrother (MF), John Falez (JF), Robert Gardner (RG), William David Garrahan, Jr. (WG), John Grehan (JG) and M. Scott Griggs (MG) via James Hedbor, George Hensel (GH), Henry Hensel (HH), James Hedbor (JH), Chris Leahy (CL) via BC, Curtis & Jenny Lehman (C&JL), John T. MacRoy (JTM), Gerald McWilliams (GM), Joanne Michaud (JM), Roger Williams Park Museum (RWPM) via Harry Pavulaan (HP), Edward Peters (EP), Howard Romack (HR) via JH, Frank Rutowski (FR), Michael Sabourin (MS) via JH, Marc Schenk (MSh) via HP, Cal Schildknecht (CS), Dale F. Schweitzer (DFS), Richard Smith (RS), Martin Turgeon (MT), Ernest Williams (EW), W. Dave Winter (WDW) **Determinations:** Donald Davis (DD), P. Dang (PD), Douglas Ferguson (DF), Ronald Hodges (RH), J. Donald Lafontaine (JDL), Bernard Landry (BL), Jean-Francois Landry (JL), David Wagner (DW)

**GENERAL:** The northeast had a cool, wet spring followed by a very dry summer.

**MIGRATORY SPECIES:** Monarchs appear to have rebounded throughout the northeast from the low numbers seen in 1992. Reported as common in fall migration by several contributors (MM in Massachusetts, EW in New York, CS in Pennsylvania, JF in Maryland). Phoebis sennae recorded from most eastern states from Massachusetts south.

**NEW BRUNSWICK:**

**MOTHS:** Polix coloradella 9 July, Mathidana newmanella 1 January!, adult in basement poss. brought in on firewood, Helcystogramma fernaldella 10 June and Glyphipterix sistes viridimontis 26 Mar, St. Bastille, Madawaska Co (MT); Sphinx drupiferarum (2), East Iroquois River, Madawaska Co, 3 July, (MT); Eumorpha fasciata, Edmundston, Madawaska Co., 15 Sept (HH); Phragmatobia assimilans, East Iroquois River, 15 Apr, from larva, (MT); Apantesis virguncula 8 July & Idia sp. (same as unnamed sp. in Owlet Moths of Ohio) 6 Aug, St. Bastille (MT); Syngrapha altera, Syngrapha epigaea and Syngrapha surena, State Lake, Restigouche Co, 15 May, larvae on Vaccinium (HH & MT); Acrionicta radcliffei 2 May & Platysenta vecors 14 July, St. Bastille (MT); Lithomoia germana Edmundston City, Madawaska Co., early June, larvae on Spiraea (HH); Oncocnemis piffari, St. Bastille, 12 Aug (MT) & Edmundston City, early June (HH), larvae on Spiraea; Metalepsis fishii, Fredericton, n.d., ova reared on Vaccinium; Ufeus satyricus St. Bastille, 18 Oct (MT)

**NOVA SCOTIA:**

**MOTHS:** Holomelina aurantiaca, Apantesis doris, 19 June; Elaphria georgei, 15 June; Trichosilia geniculata, Euxoa redimicula, 25 August; Euagrotis forbesi, 24 August, Springville, (GH)

**VERMONT:**

**MOTHS:** except for X. capax, all records via James Hedbor. Nemopogen multistriatella 14 July and Chloropleca vesaliella 11 Aug, Underhill, Chittenden Co (JG), det (DD); Haplotinea (= Episcardia) insectella S. Burlington, Chittenden Co, 7 July (MS), det (DD); Agonopterix lythrella Grand Isle, Grand Isle Co, 21 Aug, and Underhill 11 & 26 Aug (JG); Holcocerina immaculella S. Burlington, 10 June (MS), det (JL); Coleophora albovanescens Underhill, 7 & 14 July (JG), det (JL); C. lineapulvella S. Burlington, 8 Aug (JG), det (JL); Pseudotelphusa belangerella Colchester, Chittenden Co, 26 May - 2 June (MS), det (RH); Ptycerata busckella S. Burlington, 4 July (MS), det (RH); Dichomeris furia Emerald Lake St. Park, Bennington Co, 28 Aug (JG), det (RH); Bactra maiorina S. Burlington, 17 July (JG), det

(MS); Endothenia heinrichi Colchester, 4 July (MS), det (PD); Aterpia approximana New Haven, Addison Co, 12 July (ED), det (MS); Aphelia alleniana Mollys Bog, Lamoille Co, 30 June (JG), det (MS); Loxostege commixtalis Peachum Bog, Caledonia Co, 10 July (JG), det (MS); Crambus youngellus Franklin Bog, Franklin Co, 30 June (JG), det (BL); Parapediasia teterrella, S. Burlington, 1 Sept (JG), det (BL); Acigona comptulatalis 18 Aug (JG) & Adaina ambrosiae 25 Aug (MG), Grand Isle, det (BL); Oidaematophorus stramineus Underhill, 4-12 Aug (JG), Grand Isle, 18 Aug (MG), det (BL); Itame argillacearia Bryant Mtn, Addison Co, 28 June (JG); Itame inextricata ("inceptaria" of Forbes) Molly Bog, 30 June (JG); Itame anataria, S. Burlington, 14 July (JG); Metarranthis warnerae & Apantesis celia Grand Isle, 22 June (JH), det (JL); Palthis asopialis N. Dorset, Emerald Lake St. Park, 28 Aug (JG); Abrostola ovalis Grand Isle, 3 July (MG); Rhizedra lutosus S. Burlington, 20 Oct (JG), det (DFS); Oligia crytora Underhill, 7 & 14 July (JG), det (JDL); O. minuscula Colchester Bog, 4 Sept (JG); Meropleon diversicolor S. Burlington, 2 Sept & Colchester, 4 Sept (JG); Papaipema speciosissima Colchester Bog, 9 Sept (JG), det (MS); Lithophane amanda Lincoln, Addison Co, 2 May (JG), det (JDL); L. oriunda Grand Isle, 16 Apr (MG), det (DFS); Xylotype capax (STATE) near E. Middlebury, Addison Co, 1 male at blacklight, 7 Oct (DFS); Euxoa redimacula Grand Isle, 18 Aug, Xestia youngii Franklin Bog, 5 Sept, Hemipachnobia subporphyrea Bakersfield & Franklin Bogs, Franklin Co, 20-21 June & Fairlee, Orange Co, 12 June, and Protolampra brunneicollis Grand Isle, 18 Aug (JG), det (JDL)

**BUTTERFLIES:** Poanes viator & Euphyes dion, Grand Isle, 17 July (MG); Incisalia irus & Erora laeta, Sandgate, Bennington Co., 7 May, (HR)

#### **MASSACHUSETTS:**

**MOTHS:** Yponomeuta plumbella Wellfleet, BARNSTABLE CO (STATE), 5 Aug 1983 (MM), det (DW); Cicinnus melsheimeri 17 June & Anisota stigma 17 June-21 July Camp Cachalot, Plymouth Co (MM); Sphinx canadensis, Berkshire Co, 10 July (DW); Hormisa bivittata 2 Aug, H. louisiana 16 June & Colobochyla interpuncta 25 May, Hockomock Swamp, Plymouth Co, 2 Aug (MM); Acronicta lanceolaria Ft Devens, Worcester Co, 10 June (EP); Apamea ophiogramma Ft Devens, WORCESTER CO, 15 July (EP) & Rochester, PLYMOUTH CO, 28 June (MM); Xylomoia chagnoni Ft Devens, 15, 23 July (EP); Papaipema stenocelis (by permit) Hockomock Swamp, common on shrubs bordering Woodwardia virginica just after dusk, not coming to light until 10:30 PM, 9 Sept (MM); Fagitana littera Ft Devens, 8 June (EP) & Hockomock Swamp, 25 May-23 July (MM); Spodoptera latifascia (STATE ?) 8 Oct, Lithomoia solidaginis 7 Sept, Calophasia lunula on milkweed at dusk, 15 July and Cryptocala acadensis 24 July, Ft Devens (EP); Noctua pronuba Dedham, Norfolk Co, 50 individuals at MV light trap from 21 June - 1 Sept (WDW)

**BUTTERFLIES:** Phoebis sennae extremely large fall immigration in 1993, sightings from Bristol, Barnstable, Plymouth and Essex Counties as far N. as Gloucester (via BC and MM); Glaucopsyche lygdamus Gloucester, Essex Co, 30 May - June 8 (CL via BC) & BERKSHIRE CO, 26 June (MF via BC)

#### **RHODE ISLAND**

**MOTHS:** Catocala innubens Providence, Providence Co, 23 Aug (WG)

**BUTTERFLIES:** Lerema accius (STATE) Warwick, Kent Co, 14 Sept 1919, (RWPM C.B. Lewis collection via HP); Euphyes dion Richmond, Washington Co, in cranberry/sedge bog, 6 July (HP); E. bimacula (STATE) N. Scituate, Providence Co, July 1932 (AMNH G. & J. Sperry collection via HP); Papilio glaucus black female form, Middletown, Newport Co, several sightings July-August & Papilio troilus aberrant form "radiatus", Middletown, 24 Aug 1992 & N. Kingstown, Washington Co, 26 Aug 1992 (MSh via HP); Feniseca tarquinius (STATE) Providence, 2 Sept 1930 & Lincoln, 15 Aug 1931, Providence Co, (RWPM via HP), & N. Scituate, 9 June 1932 (AMNH via HP); Lycaena hyllus (STATE) Providence, n.d. (RWPM via HP); Epidemia epixanthe 50% nominotypical epixanthe and 50% michiganensis Richmond, 6 July (JM via HP); Parrhasius m-album W. Kingston, Washington Co, 8 July 1992, FIRST MID-SUMMER BROOD RECORD - CONFIRMS 3 BROODS IN STATE (HP); Polygonia faunus (STATE) 1910 & P. progne (STATE) n.d., N. Scituate, (AMNH via HP); Speyeria idalia Jamestown, Newport Co, nectaring on Privet, 1st wk Aug 1991 (via HP); S. atlantis (STATE) Cranston, Providence Co, 1909 & N. Scituate, 1910, Phycioides selenis (STATE) 1912 & Melitaea harrissi (STATE) 9 June, 1932, N. Scituate (AMNH via HP)

#### **CONNECTICUT:**

**MOTHS:** Samia cynthia male & female (escapes?), Vernon, Tolland Co, 5 July (WG)

#### **NEW YORK:**

**MOTHS:** Ennomos subsignaria outbreak in SW part of state (also N. central PA), 4-10 July, "like snow falling on MV trap" (JTM); Noctua pronuba Clinton Co, July (?coll via DFS)

#### **BUTTERFLIES:**

Papilio glaucus black female form, Olean, Cattaraugus Co, 3 July, Artogeia virginensis Olean, 8 May & Hylolycaena hyllus Olean, 23 June (JTM); Satyrion acadica Brentwood, 10 July 1992, 5-10 July, in association with Salix bebbiana (NEW HOST) ovip. on potted plant in confinement, yielded adults in 1993 (HP); Leptotes marina (EAST) Erie Co, 25 Aug 93 (RD); Coenonympha inornata Utica, Oneida Co, 25 June (EW)

#### **NEW JERSEY:**

**MOTHS:** All records are from vicinity of Dividing Creek, Cumberland Co, from DFS. Lyctosis sinuosa larva on Vaccinium (corymbosum?) 17 Apr 1992, moth in June; Pero zalissaria last instar on Solidago sempervirens, 24 Sept, eclosed in Nov.; Eusarca fundaria numerous on salt marshes 12-15 Nov (LATE); Nemoria lixaria antepenultimate larvae on Acer rubrum 22 Feb 1992 & 28 Mar (eclosed 2 Jun); Tarachidia semiflava larvae on Chrysopsis marina June & early July, moths in late July - early Aug, September 1992 & 1993; Acontia terminimacula larvae on Kosteletzkya virginica, also accepted Hibiscus syriaca 25 July, moths in Aug; Spartiniphaga carterae Burlington & Ocean Cos, in stands of Calamovilfa brevipilis, 15-26 Sept 1992 & 1993; Papaipema duovata on salt marshes 14 Nov (LATE); Anomogyna dilucida larvae on Vaccinium spp. ("highbush and a few on lowbush) in dry woods, @ 95% mature by 15 May; Abagrotis alternata larvae on Vaccinium mostly in Apr, 1992 & 1993 with few early as late January, making mass switch to Quercus as soon as buds swell

**BUTTERFLIES:** Colias eurytheme, Jersey City, Hudson Co, ovip. on Acacia baileyana (NEW HOST), 4 July, eggs did not hatch, Celastrina ladon Jersey City, ovip. on flower buds of Buddleia davidii (NEW HOST) newly hatched larvae ate buds readily but died overnight (FR)

## PENNSYLVANIA:

**MOTHS:** Ennomos subsignaria Willow Grove, outbreak, 9 July (see NY), (WB); Nemoria lixaria 3 (STATE) Chrome serpentine barrens, Chester Co, 15 Oct 1992 (DFS), 1 det (DF); Cyclophora nanaria (STATE), Artace cribraria, Renia sp. near discoloralis (Forbes, 1954) 3 (STATE, LATE) and Lithophane patefacta 2 southern subsp, Chrome serpentine barrens, 15 Oct 1992, (DFS)

**BUTTERFLIES:** Urbanus proteus Pittsburgh, ALLEGHENY CO, WEST PA, 27 Aug & 5 Sept (C&JL); Erynnis baptisiae Presque Isle State Park & Fairview, ERIE CO, 5 Aug - 6 Oct, 1 ovipositing on Vicia sp, 2 Sept, Polites mystic Marienville, FOREST CO, 25 June & Euphyes conspicuus 2M, 1F, State Game Lands, ERIE CO, 11 July (GM); Papilio polyxenes 7 Jun, oviposited & reared to adult on Cosmos bipinnatus, confirm. natural ovip. choice in wild (C&JL); P. glaucus black form, Fairview, 30 Sept & Boloria selene Marienville, FOREST CO, 25 June (GM); Euptoita claudia Fairview, 14 June & 9 Aug - 4 Sept (GM) & Gettysburg, Adams Co, early Oct (CS)

## MARYLAND:

### BUTTERFLIES:

Erynnis brizo Lusby, CALVERT CO, 15 & 25 May (JF); Hesperia metea Plum Point, CALVERT CO, 16 June (JF); Panoquina ocola 2M in marsh on Veronia noveboracensis, Columbia, HOWARD CO, 4 Sept (RS); Peiris rapae, Germantown, Montgomery Co, larvae on Cleome sp, NEW HOST IN MD, 1992 (HP), also on this plant in Massachusetts (MM); Satyrrium liparops St. Leonard, CALVERT CO, 22 June (JF); Incisalia henrici abundant at Lusby, Calvert Co & Dameron, St. Marys Co, 8 May (RS), also Green Ridge St Forest, Allegany Co, 28 Apr (RG via RS); Erora laeta Piclic Ridge, Green Ridge St Forest, ALLEGANY CO, 28 Apr (RG); Calephelis borealis, Green Ridge St Forest, 3,4,10 July freq. to abundant throughout forest (RG & RS); Nymphalis vau-album Green Ridge St Forest, 3 July (RG) & 4 July (RS), also Finzel, Garrett Co. 25 June, common (AB via RS)

## DISTRICT OF COLUMBIA:

**BUTTERFLIES:** Danaus plexippus pupae on A. currasavica NEW HOST? 1992 (HP)

## ZONE 11: HAWAII and PACIFIC ISLANDS.

Coordinator: David Preston

No report was received.

## ZONE 12: THE NORTHERN NEOTROPICS: MEXICO, CENTRAL AMERICA, ANTILLES.

Coordinator: Eduardo Welling M. (EW)

"Welling reporting from Houston, Texas comments that for the second year in a row there were no reports from his zone."

## ZONE 13: SOUTH AMERICA

Coordinator: Boyce Drummond

Contributors: none. No reports for Zone 13 were received for 1993.



Most of the abbreviations used in the text are decipherable. However, some members and coordinators have unique abbreviation systems. The following is a list of some of the abbreviations (without punctuation) that have been used by contributors, coordinators and the editor:

assoc = associated with  
bl = black (ultraviolet) light  
Cg = campground  
Cn = canyon  
Co = County  
COUNTY (in Caps) = COUNTY RECORD  
Crk = Creek  
det = determined by  
fk = fork  
fm = form

FR = forest road  
Is = Island  
Lk = Lake  
Mdw = meadow  
mp = milepost  
mv = mercury vapor lamp  
NF = National Forest  
Nat Mon = National Monument  
NEW HOST = New Hostplant  
nr = near

NWR = National Wildlife Refuge  
PF = Provincial Forest  
PG = picnic ground  
Rch = ranch  
rd mi = road miles  
Rg = range  
Rsvn = reservation  
Rsvr = reservoir  
rt = route  
Rvr = river



Sea Sum = Season summary  
SF = State Forest  
SHP = state historical park  
SP = state park  
Spg(s) = Spring(s)  
STATE = STATE RECORD

SRA = state recreation area  
SWA = state wildlife area  
Tr = trail  
Trhd = trailhead  
Twp = Township  
vic = vicinity

Vy = valley  
WMA = wildlife management area  
♂ = male  
♀ = female

# Bonanza King Canyon Closed to Collecting

by Sam Sun

1521 Joseph Court, La Habra, CA 90631  
(310) 694-2982

Bonanza King Mine Canyon, in the remote Providence Mountains of Southern California, has long been the favored collecting site for such butterflies as *Papilio indra martini* and *Euphydryas chalcedona kingstonensis* as well as strays from Arizona. However, on a trip to the canyon on May 7, 1994, I found the canyon posted as follows:

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## Bureau of Land Management - Notice of closure:

Notice is hereby given in accordance with 43 CFR 8364.1 that the following described public lands within the Bonanza King Mine Canyon... are closed to the collecting, possessing, killing, or transporting of butterflies or any part of their life cycle or the collecting of plants they need for their survival.

San Bernardino Meridian

T. 11 N., R. 14 E., Sections 31 and 32

The BLM may approve scientific research by qualified persons, which could include limited collecting, if this research is deemed important and is compatible with the preservation of the species.

Violations ... punishable by a fine not to exceed \$1000 and/or imprisonment not to exceed 12 months.

Effective: May 8, 1994

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The notice was also published in the Federal Register on May 5, 1994, p. 23225, along with the following supplementary information:

"The Martin's Swallowtail butterfly (*Papilio indra martini*) is under threat by poaching on lands managed by the BLM. The estimated number of females in the population is about 20, and no larvae were known to survive to an adult stage in 1993. The butterfly currently is not a listed or candidate species. The Martin's swallowtail butterfly is known to occur within a very restricted area within the Providence Mountains... The entire known range is circumscribed by a three by five mile rectangle. The butterfly is prized by collectors, and its value is enhanced by its rare status. Poaching by collectors is a threat. Poachers will often collect plants, eggs, or larvae to be raised in captivity. Swallowtails are very susceptible to disease when raised in captivity on harvested plants. If larvae do not survive, poachers must collect again. Since this butterfly is not protected under the Endangered Species Act, this disclosure will help prevent individuals from attempting to collect the Swallowtail butterfly under the pretense of collecting other butterflies that are found in the area."

Although many collectors have anticipated the closure of the entire Providence Mountains with the pending National Park legislation, this notice cuts short the 1994 collecting season for the highly coveted *P. i. martini*.

The closure was prompted by the concern for the survival of *P. i. martini* as a species. Since its description in 1966 by Drs. John and Thomas Emmel, the butterfly has only been documented from Bonanza King Mine Canyon and neighboring Gilroy Canyon. Sightings have been made of adult butterflies south to Mitchell Caverns State Park, but no reports of breeding areas have come from there. The area from Mitchell Caverns to Gilroy Canyon is already protected as state parklands, leaving Bonanza King Canyon as the only unprotected locality for *martini*. The U.S. Fish and Wildlife service had apparently requested the canyon closed to all traffic, but the Bureau of Land Management (BLM) compromised with an emergency closure of the canyon to butterfly and plant collecting, circumventing the usual 30 day appeals process. Michael McGill, at the Needles BLM office, notes that collecting in other canyons in the Providence Mountains is still legal, and even encouraged to an extent as the discovery of other strongholds of the *martini* will alleviate the current high levels of concern. Chris Nagano, at the Fish and Wildlife Sacramento office, reports no action at this time to list the *martini* as an endangered or threatened species, but noted that such action can occur in the future if necessary.

For the past two years, Dr. Jack Levy has been surveying *Papilio indra martini* populations in Gilroy Canyon to attempt to establish a figure for the butterfly's population size. His preliminary estimates are that the Providence Mountains are hosting 20 pairs of adult *martini* annually. It must be stressed that this figure is only a rough estimate, based on limited data, and may be off by as much as an order of magnitude. Even so, it is typically considered that a population of at least several hundreds is needed to preserve the biological diversity in the gene pool. Dr. Levy is continuing his research, and welcomes any information collectors may have about the numbers and status of the butterfly.

Collectors familiar with the *Papilio indra* complex feel that much of the concern is an overreaction. Some feel that only one canyon out of the many in the Providence Mountains is being collected, affecting only a small portion of the population. However, there are no reports of *martini* from the neighboring New York or Granite Mountains, nor are there any firm reports of *martini* from other canyons in the Providence Mountains. Stronger arguments about the recent decline in the *martini* population rest on the weather. The butterfly hibernates in the pupal stage through the summer and winter, and emerge in spring with good rains and warmth. This year especially, the emergence was probably cut off by a cool spell in the latter parts of April. This past winter has been dry as well, further affecting emergences. However, since the pupa are known to be able to hibernate as long as six or seven years, and perhaps longer, a low emergence one year does not translate directly to declining numbers. Recent reports are that *indra* collecting has been down this year throughout the California, Nevada, and Arizona deserts.

For those who are interested, I can provide a 3x5" color print of the signage at the canyon, and a copy of the Federal Register notice. Send a SASE to my address given above, and \$1 for reproduction costs.

Other contacts include: Dr. Jack Levy, 2411 Brigden Road, Pasadena, CA 91104; Michael McGill, Needles BLM Office, (619) 326-3896; and Kate Symonds or Ray Brandsfield, U.S. Fish and Wildlife Service, Ventura Office, (805) 644-1766.

# Election Results

## Election of Officers, 1994

753 valid ballots (plus 4 that were totally invalid) were received prior to the deadline of 15 January 1994. The names of successful candidates are in boldface type.

### President:

<b>Frederick W. Stehr</b>	708
void	2
no vote	39
write-ins:	
M. Deane Bowers	1
Clyde F. Gillette	1
Davaid Wagner	1
Ben Zeigler [sic!]	1

### Vice Presidents: (3) -- no more than one per country is permitted

<b>Thomas C. Emmel (USA)</b>	559
<b>Kauri Mikkola (Finland)</b>	363
<b>Bernard Landry</b>	236
Boyce Drummond(USA)	497
John W. Brown (USA)	462
void	5
no vote	9
write-ins:	
Daniel Herbin	1
Leroy C. Koehn	1
Javier Olivares Villegas	1
Bryce Richfield	1
Nancy Stamp	1

### Executive Council, Members-at-Large (3):

<b>Susan J. Weller</b>	401
<b>Jon H. Shepard</b>	350
<b>M. Alma Solis</b>	317
Raymond W. Neck	417 (withdrew for health reasons prior to tabulation of ballots)
Ernest H. Williams	311
Andrew D. Warren	251
void	8
no vote	21
write-ins:	
Frank M. Bodnar	1
Leslie Ferge	1
Linda Fink	1
Roderick R. Irwin	1
Joel M. Johnson	1
Barbara Peitzmeier	1
Micheal [sic] Ricard	1
Michael Sabourin	1
Richard Skalski	1
David L. Wagner	1

### Karl Jordan Medal Representative for 1995:

Richard L. Brown	684
write-ins:	
Charles Kondor Sr.	1
J. D. Lafontaine	1
Steve Stone	1
Ernest H. Williams	1

Respectfully submitted,  
William D. Winter, Secretary  
31 January 1994



## Officers of the Society are now as follows:

### Until 4 August 1994:

President: Paul Opler  
Immediate Past President: Ray Stanford  
Vice Presidents (3): Cheng-Shing Lin  
Jorge E. Llorente-Bousquets  
Frederick W. Stehr

### After 11 July 1993:

President: Frederick W. Stehr  
Immediate Past President: Paul Opler  
Vice Presidents (3): Thomas C. Emmel  
Kauri Mikkola  
Bernard Landry

### Full Calendar Year:

Secretary: Michael J. Smith  
Assistant Secretary: Julian P. Donahue  
Treasurer: Robert J. Borth  
Assistant Treasurer: Eric H. Metzler  
Publications Manager: Ron Leuschner  
Sponsored Memberships Sec'y: Floyd W. Preston

### Members-at-Large, Executive Council:

(terms expire at Annual business Meeting in year indicated)

1994: Charles V. Covell, Jr.

Linda S. Fink

Scott E. Miller

1995: Eric H. Metzler

Robert K. Robbins

J. Benjamin Ziegler

1996: John V. Calhoun

Robert C. Lederhouse

William E. Miller

1997: Susan J. Weller\*

Jon H. Shepard\*

M. Alma Solis\*

### Editorial Committee:

Paul Opler (chairman)  
Stephanie S. McKown (NEWS)  
John Brown (JOURNAL)  
William Miller (MEMOIRS)  
Frederick W. Stehr (at large)

### Karl Jordan Medal Representative:

1994: Susan J. Weller

1995: Richard L. Brown

\* term begins at end of Annual business Meeting, 4 August 1994.

## The NABA-Xerces Fourth of July Butterfly Count, 1993

The 19th annual NABA-Xerces 4th of July Butterfly Count was held in the summer of 1993, administered by the North American Butterfly Association (NABA). Volunteer participants conducted a one-day census of all butterflies observed at sites within their 15-mile diameter count circle. Most counts were held in late June and July.

The 211 4th of July Butterfly Counts held in 1993 represent a considerable increase (12%) from the 189 counts in 1992 -- since 1990 the program has grown 70%. The 1993 counts occurred in 40 states (39 in 1992) and 4 Canadian provinces (same as in 1992), as well as one

state of Mexico(same as in 1992) and, for the first time, 1 European country(Bavaria, Germany). Wisconsin was the state with the most counts(15, same as in 1992), followed by New York(14 1993 counts; 10 in 1992). Four counts(Berkeley, CA; Gilpin County, CO; High Line, CO; Lower Pearl River,LA/MI) have been held for all 19 years of the count program. The sum of people participating in each count was 1,653, although some people are tallied more than once, since they participated in two or more counts. This is a 27% increase from the 2,197 participants in 1992.

Two counts tied for the highest species diversity, with 98 species found in 1993 on both the Patagonia and Ramsey Canyon, Arizona counts. The highest diversity ever recorded on the counts north of Mexico occurred in 1992:102 on the Patagonia, Arizona count followed by 101 on the Gilpin county, Colorado count. By counting 7,023 individuals, the Cumberland, NJ count tallied the most adult butterfly individuals on a single count in 1993.

#### TO GET THE 1993 COUNT REPORT...

The 1993 count report costs \$4 (US) for members of NABA and \$6 (US) for non-members. Please mail your order(please specify year of report) with check or money order payable (in US dollars) to NABA to:

NABA International Count Co-editor  
909  
birch Street  
Baraboo, Wisconsin 53913, USA

Attention Xerces Society members: Because the administration of the count program was transferred from Xerces to NABA last year, you will no longer receive the count report as a membership benefit from Xerces. To receive the count report, you must now order it from NABA

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## A Columella Story

(A blend of butterfly science and poetry)

by C.F. Gillette

*It's a hellava wise fella*

(an experienced bf researcher)

*Out collecting with Ella*

(his female collecting companion)

*Who can find columella*

(the bf Strymon columella)

*On a plant named Malvella*

(its documented LF Malvella leprosa)

*Near the town of Coachella*

(Coachella, Ri CA)

*In California's lower cella*

(the Coachella Valley is below sea level)

P.S. Strymon columella cannot nectar the two CA Helianthella sunflowers which are out of the dotted hairstreak's CA range.

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## A New Method for Making Cyanide Killing Jars



by Robert Godefroi  
Nashua, NH 03061

Hydrogen cyanide, the toxic compound in cyanide killing jars, is easily generated by water in contact with a cyanide salt and as a gas rises and diffuses rapidly into the air. In addition to being a dangerous task, making killing jars is becoming an increasingly expensive one as the cost of cyanide salts is skyrocketing. Therefore, a method of making them that is less dangerous and more affordable would be desirable.

The generally accepted method of making a killing jar involves pouring a cyanide salt into the bottom of an empty jelly jar, covering it with sawdust, pouring a layer of wet plaster of paris, and then allowing it to dry under a chemical hood for about 24 hours. During the drying process perhaps 50% of the cyanide salt is depleted as it readily reacts with water present in the plaster of paris and escapes as hydrogen cyanide gas.

The following new method is recommended. An empty jelly jar is filled with a one inch layer of sawdust on top of which a 3/8 inch layer of plaster of paris is poured. After sufficient drying has occurred three holes are drilled using a 6" long 5/8" drill bit. Using a long stemmed funnel the holes are filled with cyanide salt and packed down using the blunt end of a Bic pen. The cyanide is covered with a thin layer of sawdust on top of which is placed a small piece of wax paper. To seal the holes a this layer of spackling is applied with the tip of a plastic knife and smoothed out with a spackling knife. The jar is closed and 5 minutes later is ready for use. Although significantly less hydrogen cyanide is generated with this process it is still recommended that it occurs under a chemical hood, especially when one considers that about 20 - 40% of the population cannot smell the sweetish, almond-like odor of hydrogen cyanide.

## The NABA-Xerces 4th of July Butterfly Count, 1994

by Ann Swengel

The 20th annual NABA-Xerces 4th of July Butterfly Count will be held this summer. These counts provide a fun-filled way for participants to help track the butterfly populations of North

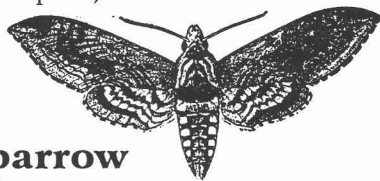
America. Volunteers select a count area with a 15-mile diameter and conduct a one day census of all butterflies sighted within that circle. The counts are usually held in the few weeks before or after the 4th of July.

The North American Butterfly Association (NABA) organizes the counts and publishes the count reports. These reports provide important information about the geographical distributions and population sizes of the species counted. Comparisons of the results over the years enable monitoring of changes in butterfly populations and study of the effects of weather and habitat changes on the different species throughout the continent. In some years, the butterfly count shows dramatic changes in butterfly populations, while other years indicate little fluctuation in butterfly numbers. Either way, butterfly counters are always curious about what next year's results will be!

No matter how much or how little butterfly watching you've done, the results of butterfly counting can be surprising and interesting. If a count already exists in your area, please join them for a day of fascinating butterfly counting. One category of participant, garden watcher, allows you to contribute to the count from the comfort of your own home. If there is no count in your area, you may start your own if you know how to identify butterflies. Otherwise, inspire a nature center or butterfly club to start one for you!

For more information on the count program, counts in your area, how to conduct a count, or about NABA, please write (A self-addressed stamped business envelope expedites response):

NABA International Count Co-editor  
909 Birch Street  
Baraboo, Wisconsin 53913, USA



## English Sparrow Denudes and Kills Hawkmoth

by Walter Krivda  
Box 864, The Pas, Manitoba, CANADA

Three years ago, in mid-June, I came upon an English sparrow attacking a Hawk Moth (*Sphinx galli intermedia*). The moth was on a store front window ledge in town.

The sparrow made many attempts to pick up the moth but could not manage it. In the process 'fluff' was flying from the moth. Rather suddenly the bird began to peck at the tussock of hair on the thorax as the moth continued to cling to the ledge. It took a long while for the bird to tear away the tussock. By this time more scales and parts of the tussock were on the ledge and on the sidewalk. The bird completely ignored me as I came nearer to see what was happening. In perhaps two minutes the "hair" was gone and the naked, shiny chitin exposed. The bird then proceeded to break the thorax with its beak. It secured a grip on the broken edge and flew off with the moth.

An engineering student tells me that this would be the easiest point of the moth's body to pick up and move it by flying. The center of gravity is in the wrong place for a sparrow to move the hawk moth by grasping it at the edge of the wings - as the bird had at first attempted.

Such tussocks occur in many genera of moths, and possibly serve as devices of protection against bird predation. As the tussocks, or parts of them, come off fairly easily they may well discourage a bird after a few attempts. The beaks and mouths of birds fill with fluff. Could these hairs be irritating? The above mentioned sparrow made attempts to clear its beak by rubbing it against the wooden window ledge where the moth had originally perched.

## Gynandromorphic Butterflies

by Oakley Shields  
Mariposa, California

Kozial (1994) records a bilateral gynandromorphic *Speria cybele* from Saskatchewan. Out of curiosity, I did a little research on this topic some years ago and so will try to answer his questions.

Bilateral gynandromorphism in wild-caught *Speyeria* is also known for *S. diana*, *S. aphrodite*, and *S. atlantis* and in lab-reared *S. nokomis* and *S. zereene*. Grey (1959) estimates that their ratio in wild *Speyeria* populations is 1 in 25,000-50,000, similar to the ratio in *Pieris* lab cultures (1 in 25,000-75,000).

Which bilateral gynandromorphic condition is more common, right side female/left side male, or the reverse? From photographs and descriptions available to me, the ratio is 50:50 for 30 different butterfly species. Six species possess examples of both conditions: *Papilio glaucus*, *Anthocharis cardamines*, *Argynnis paphia*, *Celastrina argiolus*, *Plebejus argus*, and *Quercusia quercua*.

Cockayne (1916) has studied the internal and external anatomy of various gynandromorphic *Amorpha* sphingids, and Carpenter and Cockayne (1942) describe and illustrate a bilateral *Precis sophia* in some detail. The bilateral symmetry extends throughout their internal anatomy, and bilateral gynandromorphs are said to be reproductively sterile or rarely fertile.

Bilateral gynandromorphic and sexual mosaic butterflies are known in a variety of taxa from North and South America, Africa, Eurasia, Australia, and some islands, though are apparently absent in high northern latitudes.

Gardiner (1972) obtained unusual numbers of gynandromorphs from *Pieris brassicae* lab stock that was previously contaminated by granulosis virus. Viral causation would explain, e.g., the higher incidence in lab cultures than in nature, the extreme rarity of gynandromorphs in Hesperidae whose eggs have a thick corion, and aberrant genetic alteration effects. The exact genetic mechanism involved, however, during the early cell division stages is subject to various, complex interpretations (cf. Ford, 1957; Manley, 1971; Remington, 1976; Walsten, 1977; Dornfeld, 1980).

### References

- Carpenter, G.D.H. & E.A. Cockayne. 1942. A gynandromorphous *Precis sophia* F. Ent. Mo. Mag. 78:227-231.
- Cockayne, E.A. 1916. Gynandromorphous Lepidoptera. Trans. Ent. Soc. Lond. 1916: 322-342.
- Dornfeld, E.J. 1980. The Butterflies of Oregon. Timber Press, Forest Grove, 176 pp.
- Ford, E.B. 1957. Butterflies. Collins, London, 368 pp.
- Gardiner, B.O.C. 1972. Gynandromorphism in *Pieris brassicae* L., J. Res. Lepid. 11: 129-140.
- Grey, L.P. 1959. Asymmetrical development in an argynnid. J. Lepid. Soc. 13: 14-15.
- Kozial, J. 1994. Some unusual fritillaries from saskatchewan. News Lepid. Soc. 1: 3-4.
- Manley, T.R. 1971. Two mosaic gynandromorphs of *Automeris io*. J. Lepid. Soc. 25: 234-238.
- Remington, C.L. 1976. Part male, part female: the expression of mixed sexuality in insects. discovery 11 (2): 50-59.
- Walsten, D.M. 1977. Tigers without their stripes. News Lepid. Soc. 5: 6.

# A Bilateral Gynandromorph Sexual Mosaic *Speyeria diana* (Lepidoptera: Nymphalidae)

by Irving L Finkelstein  
425 Springdale Drive NE. Atlanta, GA  
Research Associate, Florida State Collection of Arthropods,  
Gainesville, Florida

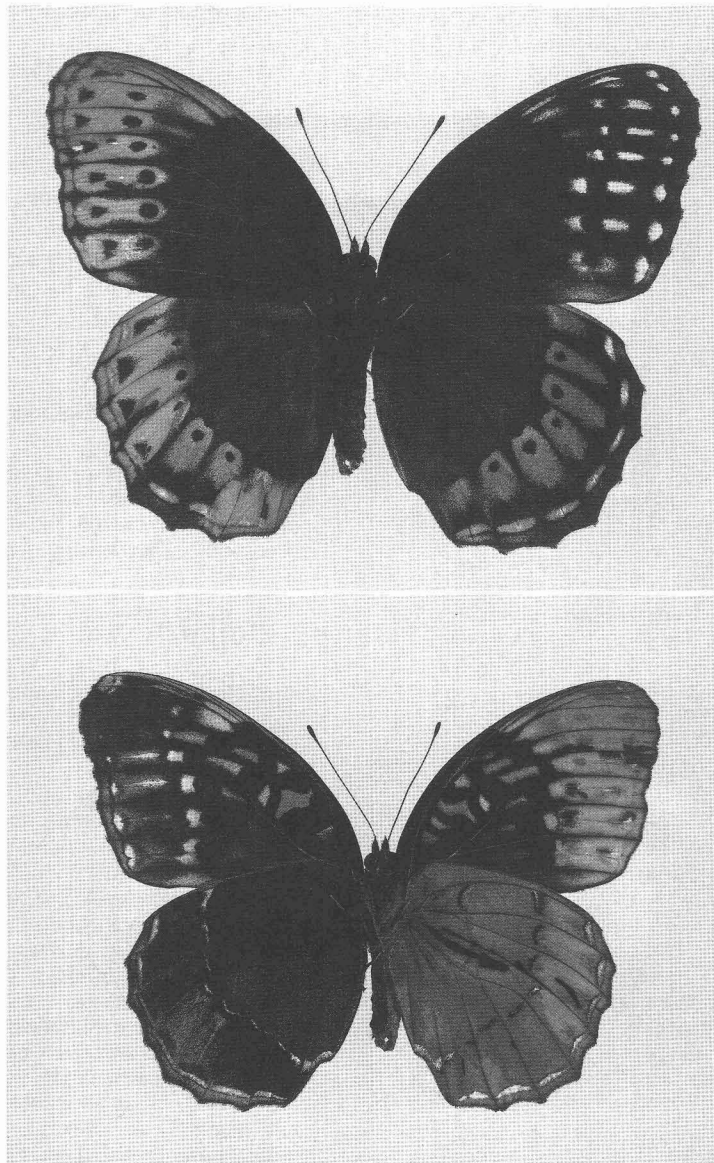
The pictured specimen of *Speyeria diana* CRAMER emerged 27 Oct. 1993, reared ex ovo. in Atlanta, Georgia, the parent female collected at Cooper Creed Wildlife Management Area, Chattahoochee National Forest, Union/Fannin Co. line, Georgia, 20 aug. 1993 by I.L. Finkelstein. Of 118 specimens (74♂, 44♀) successfully reared to the adult stage, this was the only individual displaying any aberrant characteristics. Its emergence on 27 Oct. was exactly at the midpoint of the entire lot, following the emergence of all the other males over a nine day span and preceding the emergence of the first normal females by one day. A freshly emerged bilateral gynandromorph *Speyeria diana* collected in the same area of northern Georgia 10 June 1988 suggests that in the wild too gynandromorphs may tend to emerge earlier than normal females, which are very rarely encountered at that locality before the end of June.<sup>1</sup>

Like the cited specimen collected in 1988, the reared gynandromorph is female in color and maculation to the right of the body dorsally and male to the left,

with the bilateral sexual demarcation clearly evident on the body itself, from the head down to the genitalia. Extremely unusual, however, is the dorsal mosaic maculation of the male wings, most spectacularly the hindwings, in which the female color and patterning replaces that of the male in the areas between M 3 and 2 d A, with the blue-black sheen characteristic of female wing surface spread out over a wide area of the median and basal sections of both the fore and hind wings.

The gynandromorph is currently deposited in the personal collection of I.L. Finkelstein, Atlanta, Georgia, and it is designated for donation to the Florida State Collection of Arthropods, Gainesville, Florida.

1. Fred W. Skillman, Jr. and J.B. Heppner, "Gynandromorph *Speyeria diana* from Georgia," Tropical Lepidoptera 3 (1): 34.



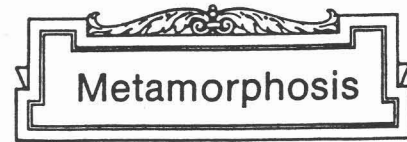
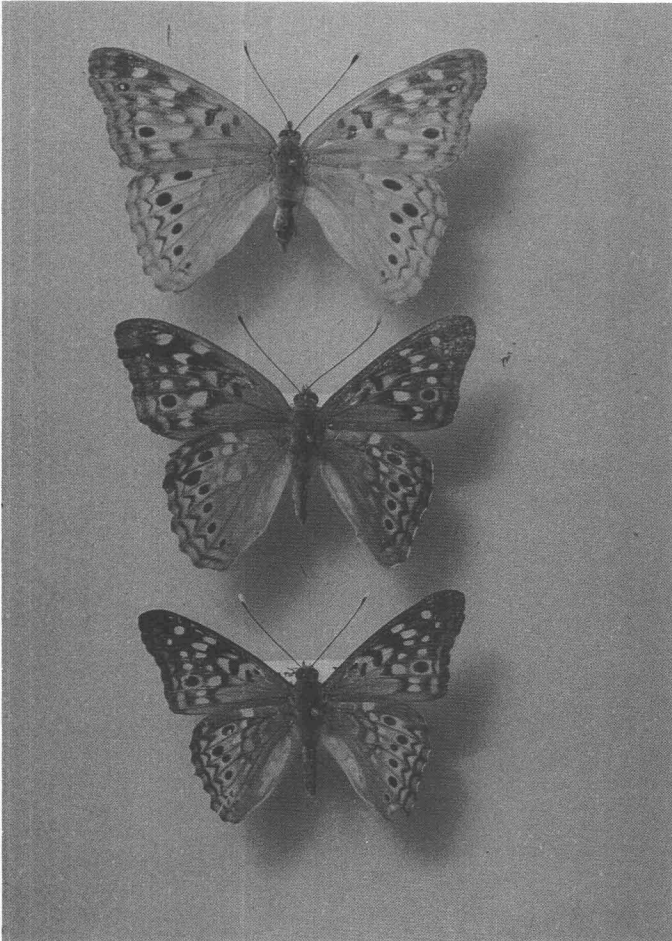
# Another Gynandromorph

by Frederick C. Mosher  
Chicago, IL

I read with interest John Kozial's story, "Some Unusual Fritillaries from Saskatchewan" (NEWS No.1 Jan/Feb 1994), in which he related his capture of a *Speyeria cybele pseudocarpenteri* bilateral gynandromorph. I am in possession of an *Asterocampa celtis celtis* specimen that I believe to be a bilateral gynandromorph; the accompanying photograph shows this specimen between a male (bottom) and a female (top) of the same species. These three specimens were all taken in Jo Davies County, Illinois, between June 11 and 20, 1991. During this time both *A. celtis* (both sexes) and *A. clyton* (males only) appeared in considerable numbers along a gravel road. Heavy rain for the week prior to this time may have been a factor in the sudden abundance of these species.

That this specimen is in fact a gynandromorph I believe is fairly obvious, but having had no prior experience with such an animal, I have never been 100% sure. It should be noted that the antenna on the left, or "female" side, has less white at the tip than does the "male" side; this is in accordance with the difference in markings on *A. celtis* male and female antenna in my collection. Also, the left eye is smaller than the right, another difference between *A. celtis* males and females. I have never attempted to dissect the genitalia of this specimen, lacking both tools and skill necessary for the job.

I welcome any comments or requests for further information.



The Society has recently been informed of the death of:

Georg Christensen....  
of Lakonias, Greece. Mr. Christensen was a Charter Member (since 1947) of The Lepidopterists' Society.

## Announcements and Notices



**NEEDED!**

## A Volunteer For A Fascinating and Rewarding Task NEWS Editor's Term to End

My term as Editor of the the Lepidopterists' Society NEWS will end in 1994. Sooo-ooo....The Society is searching for a new editor of the NEWS. The task involves editing articles and preparation of camera ready copy for the printer. Any one who would like to be considered for the position should contact Paul Opler at (303) 223-9709..

Lep Soc has New Secretary



Michael J. Smith has accepted the position of Secretary of the Lepidopterists' Society. From now on all correspondence pertinent to the Secretary should be sent to him. His address is 7428 Holworthy Way, Sacramento, CA 95842.

## Butterfly Art at University of Kansas

William Howe of Ottawa, Kansas, will have a retrospective show of his butterfly art at Dyche Hall, University of Kansas in Lawrence which opens May 14, 1994 and closes September 11, 1994.

The Show will contain approximately 40 paintings containing butterfly art in both Natural History subjects and others in surreal and decorative styles, but butterflies used throughout.

Howe has 30 paintings in the Smithsonian in Washington, D.C., as well as many original works in entomology departments in over thirty universities and museums throughout the country. In his home state of Kansas over 300 original butterfly paintings have been sold in private homes. William H. Howe was named "Kansas Artist of the Year in 1987 for his paintings of butterflies. He paints butterflies full time and often paints the specimens he collects. He has been to Mexico to collect butterflies 68 times. He commenced drawing butterflies as an eleven year old child while an art student at the West Coast Institute of Arts and Crafts in Berkeley, California. He has done many butterfly stamps for the National Wildlife Federation in Washington, DC., and has illustrated several

books about butterflies. Mr. Howe has been a member of the Lepidopterists Society since its founding in 1947.

Stop by to view this exhibit on your way to the Lep Soc meeting in Georgia.

## Notice Regarding Proposed Constitutional Amendment

Unavoidable publication delays made it impossible to have the notice announcing the proposed amendment to the Constitution (Article X, auditing Committee) in our readers' hands the required three months before the November ballot mailing. It was therefore not included on the ballot in November 1993. The vote will necessarily be delayed until November 1994. The following is an explanation of the proposed amendment.

At its 1992 meeting the Executive Council found it impossible to interpret objectively the intent of the Constitutional requirements regarding audits. It was also apparent that we were not adhering to these requirements as written. The present text is as follows:

**"ARTICLE X. AUDITING COMMITTEE.**  
Section 1. The President shall appoint an Auditing Committee consisting of three members who shall audit the accounts of the Treasurer and render their report to the Secretary before December 31st."

What period of time is to be audited? The current calendar year? The previous calendar year? July to June? The books for the current calendar year close by the following 1 March.

Finding three competent people who can cooperate on the job in a timely fashion (and probably from separate time zones) is unlikely.

We are on record as not understanding what our Constitutional connotation of the word "audit" is. Is it an informal review of the books, or a more formal evaluation, as by a CPA?

The existing Article puts on the President the onus of getting the auditing arranged. Quite often he/she may not be appropriately qualified to make the appointments. Shifting the onus to the Treasurer puts it where it has been in recent years, as a practical matter. Formalizing what kind of review and auditing we want, and the frequency thereof, is essential.

The outgoing treasurer deserves to be able to leave office with the knowledge that his keeping of the accounts has been reviewed and found valid by a professional auditor. The incoming treasurer needs to know that he starts his term with the books in proper order.

The replacement Article (next column), written in collaboration with Treasurer Robert Borth and Assistant Treasurer Eric Metzler, has been endorsed by the Executive Council and will appear on the ballot for members' consideration at the end of this year.

**"ARTICLE X. AUDITING. Section 1.**  
Audits following the first and second years of each three-year term to which the Treasurer is elected: The Treasurer shall present to the Executive Council, for its approval, the names of one or more members qualified and willing to perform an informal review of the accounts of the Treasurer at the close of the books for that calendar year. The reviewer's report shall be rendered to the Secretary within ninety days of the closing of the books.

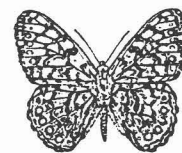
Section 2: Audit following the third year of each three-year term to which the Treasurer is elected: The Treasurer shall present to the Executive Council, for its approval, a draft contract with a qualified outside auditor for a formal audit of the third year, to be performed at the end of that three-year term. The audit report shall be rendered to the Secretary within ninety days of the closing of the books.

Section 3: The President, the Treasurer, the Secretary, or any five members of the Society, with the approval of the Executive Council, may call for an additional formal outside audit at any time."

W.D. Winter, Jr.  
Secretary

## Caribbean Wildlife Surveys Jamaica 1994

Photographic surveys of Jamaica's wildlife, including moth and butterfly collecting trips, begin on the first Thursday and third Monday in each month. Call 1-800-796-3667, at least 90 days in advance of your intended travel date, for details.



## Springtime in Eastern Australia

A natural history tour escorted by lepidopterist Julian Donahue and botanist Bob Gustafson, 7-22 October 1994, will explore the rainforest of Queensland (including a visit to Kuranda Butterfly Sanctuary), the Great Barrier Reef in two places (including Fraser Island), Lamington National Park, and Grampians National Park, with optional extension to Alice Springs and Ayers Rock. (Note: this is a study tour, definitely not a collecting trip, devoted to observation and photography of all aspects of natural history.) Land and air from Los Angeles (including many meals) \$4,250 per person. More info toll free from Geostar Travel, 1-800-624-6633.

## Arctiid Expedition

WANTED: Volunteers for Earthwatch expeditions to the cloud forests of Western Ecuador (June 10-21; June 21-July 2; July 13-24; July 24-August 4). Total cost \$1595.00 plus airfare. Will study general natural history of Arctiids, chemical and acoustic communication in Arctiids, and the adaptive coloration of Arctiids. Please contact Bill Conner, Department of Biology, Wake Forest University, Box 7325 Reynolda Station, Winston-Salem, NC 27109. Phone 910-759-5315. FAX: 910-759-6008.

## Research Notices



**Pterophoridae** Wanted to borrow for dissertation research: Preserved larvae, pupae, larva and pupa skins, and reared adult pterophorids associated with immatures or with host data. Please contact or send to Deborah Matthews, Department of Entomology and Nematology, Bldg. 970 Hull Road, University of Florida, Gainesville FL 32611. Phone 904-392-1901 ext. 185. E-mail DMLO@gnv.ifas.ufl.edu

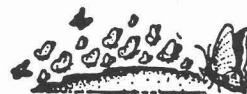
**PARASITOID PHOTOGRAPHS NEEDED** Request quality slide or prints of parasitoids attacking saturniids for inclusion in a soon to be published book on the natural history of the Saturniidae of United States and Canada. We are particularly interested in supplementing our own photographs with photos of ichneumonids and tachinids ovipositing on our native saturniids. Any photographs that are used will be fully credited. Please direct responses to the attention of Jim Tuttle, 3838 Fernleigh St., Troy, Michigan 48083; Telephone (810) 689-6687.

**Research on Nymphalini.** We are studying several aspects of the evolutionary ecology of butterflies in the tribe Nymphalini. For this reason we are seeking livestock, preferably ova, of the following species: *Aglais milberti*, *Kaniska canace*, all species of *Polygonia* except *c-album*, *interrogationis* and *comma*, all species of *Nymphalis* except (European) *antiopa*, all species of *Mynes*, *Hyparartia*, *Antanartia*, and *Symbrenthia*. We will pay a modest cash reward to cover Express-mail expenses etc., or when possible European species may be given in exchange. Contact Sören Nylin, Department of Zoology, Stockholm University, S-106 91 Stockholm, Sweden. Phone 46 8 164033. FAX 46 8 167715. E-MAIL Nylin\_S@zoologi.su.se

**Arctiid Research** WANTED: Ova larvae, pupae or gravid females of *Euchaetes egle*, and any species of *Haploa*. Also still need ova, larvae, pupae, or adult Arctiidae for Behavioral Research, especially *Cosmosoma myrodora*, *Syntomeida ipomoeae*, and *Composita fidelissima*. Please contact Bill Conner, Department of Biology, Wake Forest University, Box 7325 Reynolda Station, Winston-Salem, NC

27109. Phone (910) 759-4348 or (910) 759-5323. FAX: (910)759-6008

## Forthcoming Meetings



**The Lepidopterists' Society, Pacific Slope Section 1994 Annual Meeting**, June 10-12, 1994 Pepperdine University, Malibu, California Co-sponsored by the Lorquin Entomological Society

The original location for this meeting and 60,000 acres around it were burned by last years' brush fires. Our banquet site is still threatened by mud slides. Fortunately our new meeting location, Pepperdine University, is high and dry, safe and sound. Neither fire nor flood can keep determined lepidopterists from getting together for a weekend of camaraderie, fun, and interesting papers.

Meeting sessions will be held at Pepperdine University, high on a hill overlooking the Pacific Ocean in Malibu, California. A reasonably priced lodging and meal package is available with conference registration. Other accommodations, RV parks and camping are available in the area.

Program sessions will include submitted papers, as well as a special symposium on the Lepidoptera of the Santa Monica Mountains and Nearby Channel Islands. Papers germane to the symposium topic are particularly sought.

While large areas of the mountains were burned in last years' fires, other large areas remain in pristine condition. The winter rains started late, so collecting should still be good in early June. The meeting is timed to coincide with the new moon on June 9.

There are lots of activities available for other family members while you attend the formal sessions, including a nature day camp for kids, so bring the whole family.

For further information contact: Paul and Sandy Russell, Program chairmen, 4244 Ave. de la Encinal, Malibu, CA 90265. Phone (310) 457-4445, Fax (310) 457-4149.

**The Lepidopterists Society, 45th Annual Meeting** Callaway Gardens, Pine Mt. GA 31822. August 4-7, 1994.

Callaway Gardens will host the 45th annual meeting of the Lepidopterist Society. Callaway Gardens is a family oriented resort and provides a wide range of activities for all ages. Of special interest is the Day Butterfly Center, a tropical conservatory filled with live butterflies, plants, and birds from around the world. You will be able to observe and photograph butterflies from Malaysia, Ecuador, the Philippines, El Salvador and other countries without ever leaving Pine Mountain. Think how much this will save you on airfare alone!

Other activities include hiking trails, bike trails, fishing, golf, tennis, and swimming. Special conference rates are available at the Callaway Gardens Inn, but space is limited. A wide range of accommodations are available in Pine Mountain area including hotels to meet every budget, camping and RV sites.

Highlights of the meeting include:

- interesting and informative symposia and paper sessions
- tours of the Day Butterfly Center and it's support breeding greenhouses
- the infamous ice breaker to catch up with old friends and meet new ones
- a Southern style picnic
- a chance to share slides from your latest and greatest exploits with a special award for the funniest lep related slide.
- the annual banquet and awards presentation....and more!



For more information please fill out the questionnaire below and return it as soon as possible. You will be sent a preregistration package containing the registration form, call for papers, local collecting sites, lodging information and more. Please note that there will not be a general mailing. You must complete the form below to receive this information.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

State/Province: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Country: \_\_\_\_\_

Number of persons registering: \_\_\_\_\_ Need Lodging: \_\_\_\_\_

Attending picnic: \_\_\_\_\_ Attending banquet: \_\_\_\_\_

Will you present a paper? \_\_\_\_\_

Return to: Frank C. Elia, Day Butterfly Center, Callaway Gardens, Pine Mt., GA 31822 USA.

Phone: (706) 663-5020, FAX: (706) 663-5080.

## Name Change



Our best wishes to the former Vicki White, who got married and is now Vicki WOOD.

## Lost Life Member



Mail to Pei-Heng Wu, Formosa Insect Farm, Taipei, TAIWAN, has been returned. anyone knowing a current address is asked to inform Julian Donahue (address on outside back cover).

## New & Reinstated Members

(NOT included in 1992 Membership Directory; all in USA unless noted otherwise)

AGUADO MARTIN, LUIS OSCAR: c/Postigo 31 Mojados, 47250 Valladolid, SPAIN.

BEDFORD, JOHN R.: 16 Banff Road, Toronto, Ontario M4S 2V5, CANADA.

BORCYCZKOWSKI, HOWARD: 2543 South Brisbane Ave., Milwaukee, WI 53207

BOUCHER, DAVID V.: P.O. Box 3601, Lihue, HI 96766.

CALLEGARI, MARIO C.: P.O. Box 451, Iquitos, Loreto, PERU.

CARRIG, DOROTHY: Rural Route 01, Box 213, Caneadea, NY 14717.

CARMERI, ANDREAS: 882 Parma Way, Los Altos, CA 94024.

CROCKETT, JEFFERY R.D.: 3750 Northampton St., NW, Washington, DC 20015.

DAIGUJI, HIROMASA: Director, Japan Energy Corp., Minami-Daira 9-14-3, Hino, Tokyo 191, JAPAN.

EVERSON, LARRY: 2420 South "R" Street, Fort Smith, AR 72901.

GUNNING, RICHARD H.: 24455 Lakeshore Blvd., #1508-E, Euclid, OH 44123.

HARRIS, JOHN: 6234 Crown Avenue, Oakland, CA 94611.

HAYASHI, JOE: 815 Eucalyptus Avenue, Hillsborough, CA 94010-6316.

HILLER, ANTHONY: Mt. Glorious Biological Centre, Mt. Glorious, Queensland 4520, AUSTRALIA.

HILLER, KATIE: Mt. Glorious biological Centre, Mt. Glorious,

Queensland 4520, AUSTRALIA.

JACKS, KIMBALL C.: [address omitted by request]

JETTE, MICHAEL L.: 2334 Margaret Street, Philadelphia, PA 19137.

KAMIGAKI, KENJII: 4-32, Hiroyokoro 4 chome, Kure-shi, Hiroshima 737-01, JAPAN.

KENICHI, KEIZUMI: Shoei-Mansion A-205 Kamigato, 527-1 Showa-cho, Nakakoma-gun, Yamanashi Pref., JAPAN.

KLEM, MARGUERITW D.: P.O. Box 7064, Bradenton, FL 34210.

LASKY, RON: 9800 National Boulevard, #18, Los Angeles, CA 90034.

LAWSON, PHILLIP R.: 3905 Airport Highway, #25, Toledo, OH 43615-7137.

NADERI, ALIREZA: 23 East Khadje Nassir, First Dehglan-villa, Karaj, Tehran 31399, IRAN.

NEWFROCK, RICHARD A.: 4335 MacDougall Road, Geneva, NY 14456.

OEHLKE, DONALD C.: 34 McCan Mill Road, Pottersville, NJ 07979.

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OWEN, GRAHAM J.: 144 Boundary Street, Roseville, N.S.W. 2069, AUSTRALIA.

PHILLIPS, KANDY: 305 Sharon Drive, Fayetteville, GA 30214.

ROHRKASTE, TOM: 244 Casados Street #3, Santa Fe, NM 87501.

SOURAKOV, ANDREI: 421 Carr Hall, University of Florida, Gainesville, FL 32611-2019.

STEPAN, JIRI GEORGE: P.O. Box 63, Harrington Park, NJ 07640.

TURCANI, MAREK: Lesnicka 11 Street, SK-96900 Banska Stiavnica, SLOVAKIA.

WARD, JOSEPH P.: Rural Route 02, Box 885, Hull, GA 30646.

WATSON, FELICITY: 2053 Milan Avenue, South Pasadena, CA 91030.

WATSON, MERRYROSE: 2053 Milan Avenue, South Pasadena, CA 91030.

WEAST, ROBERT: 5324 NW 78 Court, Johnston, IA 50131-1707.

WEISS, JANET: 1211 North Wheeling Road, Mount Prospect, IL 60056.

WIRTH, CARL G.: 19037 Layden, South Bend, IN 47737.

WOSTBROCK, SHARON: 15 Bonnie court, Wallingford, CT 06492.

WRAY, DANIEL E. (Rev.): RD Box 118 A, Fischer Road, Kinderhook, NY 12106.

YAMAOKA, MASUO: 3-1, Hiratacho, Suma-ku, Kobe 6534, JAPAN.

ZNIEWSKI, TIMM: 2623 29th Avenue South, Minneapolis, MN 55406.

## Address Changes

(all USA unless noted otherwise)



BALLARD, EDGAR: 430-P Country Book Loop, San Ramon, CA 94583-4490.

BOOMER, BETTY: 6 Union Center Road, #1, Ulster Park, NY 12487-5221.

BOYD, JAMES FITZGERALD: 3608 17th Avenue South, Minneapolis, MN 55407-2806.

BRADSHAW, BRUCE: 4509 NW Apache, Riverside, MO 64150.

BROWER, ANDREW VAN ZANDT: Department of Entomology, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192.

CAPPS, DAN: 702 Whitehall Drive, Madison, WI 53714-3450.

CAUBLE, RONALD L.: 1569 Solano Avenue, Berkeley, CA 94707-2116.

CLAYTON, RODERICK K. (Prof.): 2007 Federal Avenue, Los Angeles, CA 90025-5324.

COOK, DAVID: 8250 4th Avenue SE, Bismarck, ND 58501-8601.

DERDERIAN, BERG R.: 124 Van Tassel Avenue, North Tarrytown, NY 10591-1942.

DOLASKY, STEPHEN: 411 North Walnut Street, Fountain, CO 80817.

DRUMMOND, BOYCE A., III (PhD.): Natural Perspectives, 1762 Upper Twin Rock Road, Florissant, CO 80816-9256.

FAST, JEFFREY BRIAN: 19 Oak Knoll Road, East Hampton, CT 06424-1110.

GOMEZ P., LUIS D. (Dr.): P.O. Box 4125-1000, San Jose, COSTA RICA.

HEMSTREET, DALE: 5315 B Street, Springfield, OR 97478-6153.

HOSAKA, MITSURU: Sankyo Co., 1-7-16 Kokubuncho, Sendai-city, Miyagi 980, JAPAN.

HUDSON, DAVID N.: The Highlands, Hatches Lane, Great Missenden, Bucks HP16 0JP, ENGLAND.

HUMMER, LAWRENCE R.: P.O. Box 1925, Julian, CA 92036-1925.

IWANO, HIDEOSHI: Department of Agriculture, Nihon University, 1866 Kameino, Fujisawa 252, JAPAN.

KAY, MARC A.: P.O. Box 584, Parrish, FL 34219-0584.

KEMP, JONATHAN: 65013 Highway 51, Roseland, LA 70456.

KMENTT, WALDEMAR E.: 4330 East Wood Trail, Beloit, WI 53511-7828.

KNIGHT, KENNETH R.: 813 Webster Street NW, Grand Rapids, MI 49504-3042.

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WENGER, REMO: Universitat Bern, Zoologisches Institut, Balterstrasse 3, CH 3012 Bern, SWITZERLAND.

WEYLAND, CAROL: 2318 Standish Street, St. Paul, MN 55108.

WALTON, RICHARD K.: 7 Concord Greene Street #8, concord, MA 01742-3119.



## The Market Place

Buy • Sell • Exchange • Wants



### BUY - SELL - EXCHANGE: POLICY STATEMENT

At the Executive Council meeting in Fairbanks in June 1979 it was decided that the policy regarding placement of members' notices in the NEWS should be determined by the Editor, in keeping with the purposes of the Society as outlined in the Constitution, i.e.; "...to promote the science of lepidopterology; ...to facilitate the exchange of specimens and ideas by both the professional worker and the amateur in the field, ..." (Article II). Commerce in lepidoptera is not a stated objective.

Therefore, it will be our policy to print notices which seem to meet the above criteria, just as in the past, without quoting prices (except for those of publications or lists). Notices which seem by their listing of oferta/desiderata, or by an organizational title, to be commercial in nature, will be entered in a separate section as "commercial notices", listing only name, address, and a brief indication as to material offered/desired. No mention may be made in these notices of any species on any federal threatened or endangered species list. This will include all Ornithopterans now and for the foreseeable future.

Only members in good standing may place ads. Ads will be printed only once unless entry in two (maximum) successive issues is requested. A maximum of 100 words is allowed. SASE in an ad stands for self-addressed stamped envelope. Ads may request bids by mail on a time-limited "best-offer" basis. OBO in an ad stands for "or best offer". For example: "Watching Washington Butterflies, by Pyle, 1974. \$10 OBO received by 1 Dec 1994".

The Society, as always, expects all notices to be offered in good faith and takes no responsibility for the integrity and legality of any advertiser. Any disputes arising from such notices must be resolved by the parties involved, outside the structure of the Society. However, aggrieved members may request information from the Secretary regarding steps which he/she may take in the event of alleged unsatisfactory business transactions. Furthermore, given adequate indication of dishonest activity by a member, that member can be expelled from the Society under the provisions of Article III, Section 9, of the Constitution.

Note: US Department of Agriculture (USDA) may require permits for transport of live Lepidoptera in any stage. Please inquire of your state department of agriculture and/or PPQAPHUS, Hyattsville, Maryland. Additionally, there are laws restricting the collecting/import/export of certain species in certain countries and the buyer should take the responsibility for being aware of these and all permits necessary to import, export, obtain or possess these species.

WANTED: Heinrich, C., 1956. American Moths of the Subfamily Phycitinae. Bulletin of the US National Museum No. 207. Also: Richards, A.G., 1939. A revision of the North American species of the *Phoberia-Melipotis-Drasteria* group of moths. Entomologica Americana 19; 1-99. Please write to Matthew Barnes, Avalon, Uptonery, Devon EX14 9PQ, ENGLAND

FOR SALE: My collection of *Papilio* from P. New Guinea and the surrounding islands, RARE and beautiful species. Write for price lists. Also WANTED: Contact with collectors/dealers world wide who can supply large and small quantities of all butterfly species. Send list and prices in US dollars to Torbjørn Pedersen, PO Box 4095-Aspøy, N-6021 Ålesund, Norway.

FOR SALE: Bait traps in local and tropical forms available. Adapted moth traps also available. Inquire Wm. Ward, 1474 Melbourne Dr. SE, Girard, Ohio 44420-1332. Phone 216-539-5374.

AVAILABLE: Where Are The Butterfly Gardens. This booklet lists some of the butterfly gardens to be found in North America and Canada. 1 copy \$5.75 Postpaid. Send orders to: Where Are The Butterfly Gardens, 1013 Great Springs Rd, Bosemont, PA 19010.

FOR SALE or EXCHANGE: Ova of H. cecropia, A. io, C. prometha, H. gloveri, A. pernyi and a few others S.A.S.E for reply to: Mark A. Howe, RR#1 Box 217, North Horseshoe Drive, Lake Village, INDIANA 46349.

AVAILABLE: I am in the process of upgrading the Toliver manuscript, Distribution of Butterflies in New Mexico, (J.L.S 46:241) to cover the period 1977-present, and to include northern Chihuahua and NE Sonora. A few heavily annotated, unbound, working copies are available for \$5. postage. Richard Holland, 1625 Roma NE, Albuquerque, NM 87106.

WANTED: Contacts with other butterfly and insect collectors for exchange of local specimens or locality information. Michael Lefort, 163 W 177 St, Galliano, LA 70354.

FOR SALE: cocoons for spring 1994 wintered to emerge May and June. Luna, Cecropia, and Polyphemus. Will have 1st brood Luna and Poly for delivery about 7-1-94. These will emerge by 8-1-94. Send SASE: Don Oehlke, c/o P.O., Pottersville, NJ, 07979. Phone (908) 439-2462.

FOR SALE: Many tropical butterflies including Morphos, and fantastic rare exciting specimens also Troides. Elmer Griepentrog, Elsie Rt. Box 740, Seaside, Oregon 97138

Wanted: Publications and specimens of Theclini of the world. Kuninobu Aonuma, T 380, 4-5-17 Nakagoshō Nagano City JAPAN.

WANTED: Desperately seeking: Ferguson, D.C. 1955, The Lepidoptera of Nova Scotia, and Morris, R.F. 1980 Butterflies and Moths of Newfoundland and Labrador. I am also interested in purchasing used copies of The Moths of America North of Mexico. All fascicles needed. Contact Kirk Zufelt, Unit 15, 475 Sandringham Cr., London, Ontario, CANADA N6C 5B9 or phone collect (519) 685-7164.

WANTED: Copies of the following books by Samuel H. Scudder: [1] Brief guide to the commoner butterflies of the Northern United States and Canada (1893), [2] Everyday butterflies, a group of biographies (1899), [3] The life of a butterfly (1893). State price and condition. David C. Iftner, 8 Alpine Trail, Sparta, New Jersey 07871.

FOR SALE: Wild Silk Moths of the United States by Michael Collins and Robert Weast. Hardcover. \$12.50. Saturniidae, Ecological and Behavioral Observations of Select Attacini. \$14.00. Postpaid. Robert Weast, 5324 NW 78 St Ct. Johnston, Iowa 50131.

FOR SALE: Ova: A. io, A. luna, A. harti, A. pernyi, A. polyphemus, A. selene, B. certhia, C. prometha, C. regalis, E. imperialis, H. cecropia, H. gloveri, S. paxonia, S. pyri, and A. yamamai. Others are possible. Send SASE to Mark D. Schmidt, 8780 Red Lion-Five Points Rd., Springboro, OH 45066. Willing to trade.

FOR SALE/EXCHANGE: Ova of the following Catocala species; C. residua, resecta, relicta, grynea, gracilia, insolabilis, blandula, ilia, ultronia, andromedae, and many others. Send SASE to Darryl Willis, 145 Westfield Drive, Holliston, MA 01746 for price list, or call 508-429-5378, or send fax to 508-429-0374.

WANTED: Butterfly cigarette cards and old illustrated North American Butterfly books, including Moths & Butterflies of the United States by Sherman F. Denton (1900) & Butterflies of North America by William Henry Edwards, 3 vols. (1868-1897). contact E.P. Sheskin, 2650 Ocean Pkwy, Apartment 5E, Brooklyn, NY 11235. or call (718) 891-8059.

WANTED - Photographer needs any type livestock Lepidoptera and Coleoptera in quantity expected to emerge September - December '94 for photo project. Send price quotes to: Ralph Nelson, 1247 Tenth Street, #5, Santa Monica, CA. 310 394-4771 - fax 310 394-1733.

FOR SALE: Light traps, 12 volt DC or 110 volt AC with 15 watt or 8 watt black lights. The traps are portable and easy to use. Rain drains and beetle screens protect specimens from damage. For a free brochure and price list contact; Leroy Koehn, 207 Quail Trail, Greenwood, MS 38930-7315: Telephone 601-455-5498

FOR SALE: Custom made light fixtures for permanent and/or stationary light traps. Stainless steel design; Mercury Vapor, SunLamp, Black Light, and Black Light Dark; together or any combination; Electrical control with photo-cells and /or timers. Includes plans for enclosures with rain drains and sorting trays. For more information, contact; Leroy C. Koehn, 207 Quail Trail, Greenwood, MS 38930-7315 Telephone: 601-455-5498

FOR SALE: Two wood entomology cabinets. Each cabinet will hold 21 Cornell Drawers. Constructed of 3/3" plywood with aluminum drawer tracks, rubber door seal, and a three point door latching mechanism. Neutral varnish finish. Cabinets are approx. three years old. For more information, contact; Leroy C. Koehn, 207 Quail Trail, Greenwood, MS 38930-7315 Telephone: 601-455-5498

FREE: Samia cynthia ova for restoration/re-establishment projects. Call Jeff Frey, 364 Oaklyn Rd, Lebanon, PA 17042. Phone (717) 272-6597. Or mail \$1.00 to cover postage with any reasonable request.

FOR SALE: Send SASE for list of 75-plus Natural History publications. Most are Lepidoptera books and revisions including some rare and hard to find items. Richard Heitzman, 3112 S. Harris Ave., Independence, MO 64052. Phone (816) 461-1831.

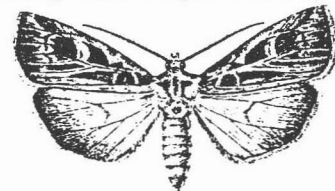
WANTED: Seeds or healthy rootstock of the following aquatic/water plants. Quillwort, Giant Bur-Reed, Reed Grass, Saw Grass, Mud Plantain, Water Oak, Sweet Gale, Mangrove, Evergreen Oak, Myrtle Oak, Laurel Oak. Write to Randy Robinette, 4528 Hatfield St., Ashland, KY 41102-9154

## MEMBER'S COMMERCIAL NOTICES

IMOGENE L. RILLO, P.O. BOX 2226, 1099 MANILA PHILIPPINES. Selling farm-bred Philippine butterfly pupae of Papilionidae, Nymphalidae, Pieridae and Danaidae. REGULAR ORDERS ONLY. Please send \$1.00 for price list and postage.

KEN THORNE, P.O. BOX 684, LAMBETH, ONTARIO, CANADA, NOL 1S0, TEL: 519-652-6696, FAX: 519-652-6259. Fine quality insect specimens from around the world. All imported and exported under the guidance of wildlife officials. A good selection of CITES listed material all with correct documentation. Price lists upon request. Please send \$1.00 for mailing charge.

TRANSWORLD BUTTERFLY COMPANY, Apartado 6951, 1000L San Jose, Costa Rica, Central America: Our NEW 12-PAGE LEPIDOPTERA CATALOG includes Neotropical, African, Palearctic and Indo-australian region butterflies. Specialists in Morphidae and Papilionidae including many bred or ranched specimens. Transworld Butterfly Company has been serving Lepidopterists worldwide for over 18 years. Latest catalog \$1 (or) one year's Catalogs + Newsletters \$6.



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**DEADLINES:** Material for the Jan/Feb issue should reach the NEWS EDITOR by **1 Dec** of the previous year, and that for the Mar/Apr Issue by **15 Feb**, for the May/June issue by **15 Apr** and for the July/Aug issue by **1 June**, the Sept/Oct issue by **15 Aug** and the Nov/Dec issue by **15 Oct**. Reports for the Season Summary must reach the Zone Coordinators listed on the front cover no later than **5 January**. The NEWS Editor accepts articles in any format, but appreciates double-spaced typewritten copy accompanied by a computer disc in any DOS format. NEWS EDITOR is **Stephanie McKown**, 650 Cotterell Drive, Boise, Idaho 83709, USA. Phone (208) 323-9547. NEWS FROM EUROPE EDITOR is **W.O. De Prins**, Diksmuidelaan 176, B-2600 Antwerpen, Belgium. Phone 03/322.02.35 (from USA use 011/32.3.322.02.35). BOOK REVIEW EDITOR is **Dr. Boyce A. Drummond**, *Natural Perspectives*, 1762 Upper Twin Rock Road, Florissant, Colorado 80816-9256, USA. Phone (719) 748-3663.

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#### INFORMATION ABOUT THE SOCIETY.....

**Membership in the Lepidopterists' Society** is open to all persons interested in any aspect of LepidopteroLOGY. Prospective members should send the TREASURER, **Robert J. Borth**, 6926 N. Belmont Lane, Fox Point, WI 53217, USA, phone (414) 351-3816, the full dues for the current year, \$25.00 US, together with mailing address and a note about areas of interest in Lepidoptera; student membership (must be certified) \$15; sustaining membership \$35; life membership \$500. Remittances must be in US dollars, payable to the Lepidopterists' Society. All members will receive the JOURNAL (published quarterly) and the NEWS (published bimonthly). A biennial membership directory will comprise the last issue of the NEWS in even-numbered years.

**Changes of address** (permanent ones only), **Additions or Changes in Telephone Numbers or Areas of Interest and Information about Mailing List Rental:** Contact the ASSISTANT SECRETARY, **Julian P. Donahue**, Natural History Museum of Los Angeles County, 900 Exposition Blvd, Los Angeles, California 90007-4057, USA.

**Information on Membership and other aspects of the Society** must be obtained from the SECRETARY, **Michael J. Smith**, 7428 Holworthy Way, Sacramento, CA 95842, USA. Home phone .

**Requests for Missed Issues** (i.e. those not delivered although dues have been paid on time) should be sent to the TREASURER, **Robert J. Borth**, address above, or the PUBLICATIONS MANAGER, **Ron Leuschner**, address below. Defective issues will also be replaced by the TREASURER. Do not request these of the NEWS or JOURNAL editors.

**Manuscripts submitted for publication in the JOURNAL** are to be sent to **Dr. John W. Brown**, EDITOR, JOURNAL of the Lepidopterists' Society, San Diego Natural History Museum, P.O. Box 1390, San Diego, California 92112, USA. Work phone (619) 942-5147, home phone (619) 422-1846. See the inside back cover of a recent issue of the JOURNAL for editorial policies. Book reviews for the JOURNAL should be sent to **Dr. Boyce A. Drummond**, Book Review Editor (address above).

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**AVAILABLE PUBLICATIONS OF THE SOCIETY....** Order from the PUBLICATIONS MANAGER, **Ron Leuschner**, 1900 John St., Manhattan Beach, CA 90266-2608, USA. Add \$2.00 postage/handling for first book (\$3.00 outside the USA), plus \$1.00 for each additional one.

**CATALOGUE/CHECKLIST OF THE BUTTERFLIES OF AMERICA NORTH OF MEXICO** (Memoir #2), **Lee D. Miller & F. Martin Brown**; includes references to original descriptions and location of type specimens. Members and subscribers: \$12 cloth, \$7 paper; non-members, \$19 cloth, \$10.50 paper.

**SUPPLEMENT TO THE CATALOGUE/CHECKLIST OF THE BUTTERFLIES OF AMERICA NORTH OF MEXICO** (Memoir #3). **Clifford D. Ferris**, editor. General notes, plus corrections and additions to the original Memoir #2. Members and subscribers: \$6; non-members \$10.

**FOODPLANTS OF WORLD SATURNIIDAE** (Memoir #4), **Steve Stone**. A listing of foodplants for more than 500 species of worldwide Saturniidae. Members and subscribers: \$7.20; non-members: \$12.

**COMMEMORATIVE VOLUME, 1947-1972:** A 25-year review of the Society's organization, personnel, and activities; biographical sketches; JOURNAL 25-year cumulative index by author, subject, and taxon; clothbound. Members and subscribers, \$8; non-members, \$12.

**1992 MEMBERSHIP DIRECTORY** (current to October 1992). Biennial directory of members and their addresses, with geographic and interest indices. Not available for commercial use. (NEWS #6 for 1992). \$5.00.

**BACK ISSUES** of the JOURNAL and of the NEWS of the Lepidopterists' Society. For a list of the available issues and their cost, postpaid, send a SASE to the PUBLICATIONS MANAGER.

