



# NEWS

of the LEPIDOPTERISTS' SOCIETY

No. 2 Mar/Apr 1992

EDITOR  
Stephanie McKown  
650 Cotterell Dr.  
Boise ID 83709  
USA

## ASSOCIATE EDITOR

## ZONE COORDINATORS

NEWS  
FROM  
EUROPE  
W. O. De Prins



- |                 |                  |                        |
|-----------------|------------------|------------------------|
| 1. Ken Philip   | 6. Ed Knudson    | 10. Dave Winter        |
| 2. Jon Shepard  | 7. Ross Layberry | 11. J.C.E. Riotte      |
| 3. Bob Langston | 8. Les Ferge     | 12. Eduardo Welling M. |
| 4. Ray Stanford | 9. Andy Beck     | 13. Boyce Drummond     |
| 5. Ron Royer    |                  |                        |

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

*Coordinator: Kenelm W. Philip. Contributors: Clifford Ferris (CF), Jack Harry, Norbert Kondla (NK), Thomas Kral, Floyd and June Preston, 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 Alaska Lepidoptera Survey: C. Ferris, K. Philip, and F. and J. Preston spent the period 10 Jun-9 Jul on the Dalton Hwy. Most of the collecting was carried out between Galbraith Lk and Franklin Bluffs. Note: For the Dalton Hwy, the initials 'FPP' are used for joint activities of Ferris, Phillip, and the Prestons; and the initials 'HK' for the joint activities of Harry and Kral. With two parties, totaling 5 collectors, spending the bulk of the collecting season on the northern part of the Dalton Hwy, we now have a good picture of the butterfly fauna of that region.*

#### YUKON TERRITORY

**BUTTERFLIES:** YUKON HWY 11 (Silver Trail) - Keno Hill (alpine tundra), 29-30 Jun, 2 Jul (NK), additional species (see 1989, 1990 SS), *Pyrgus centaureae* (sight record), *Colias canadensis*, *Clossiana titania*, *Basilarchia arthemis*. *Parnassius eversmanni* was very abundant. KLUANE LK REGION - Duke Rvr, mile 1099 Alaska Hwy, 3-7 Jul (NK), additional species (see 1979, 1987 SS), *Colias canadensis*, *Lycaeides idas*, *Agriades rusticus*, *Phyciodes pratensis*, *Coenonympha kodiak*, *Erebia disa*.

**ALASKA.** Weather: Interior Alaska had a hot summer with many forest fires, which blanketed much of the Interior with a dense pall of smoke in late June and early July. the Prudhoe Bay area had a cool, foggy summer with very few collecting days. The North Slope south of the coastal plain had an early spring followed by mixed weather - the collecting season was essentially over by 10 July.

New collecting localities: Oil Spill Hill, mile 320 Dalton Hwy (an undistinguished-looking low knob of tussock tundra) proved to be an excellent collecting site for both *Colias* (several species found flying along the buried gas pipeline next to the oil pipeline, where a lush growth of legumes has taken over the backfill) and for *Oeneis excubitor*, present along both the pipeline and the hwy. At mile 385.6 Dalton Hwy, opposite Franklin Bluffs, the densely flowered flats along the Sagavanirktok river supported a lush butterfly fauna during the (rare) periods of warm, clear weather.

**BUTTERFLIES:** NW ALASKA - Cape Krusenstern (WNW of Kotzebue), 8 Jun, 8, 22, 29 Jul, *Pieris napi*, *Colias hecla*, *C. thula*, *C. nastes*, *C. philodice*, *Euchloe creusa*, *Clossiana chariclea*, *Erebia youngi*(?), *Oeneis bore*. DeLong Mountains, 13 mi E of Feniak Lk (68°16'N, 157°45'W), 27 Jun, *Colias nastes*, *Agriades rusticus*, *Clossiana polaris*, *Erebia youngi*, *E. occulta*.

**NORTH SLOPE** - Opposite Franklin Bluffs, mile 385.6 Dalton Hwy, 27 Jun, 6 Jul (FPP), *Colias hecla*, *C. thula*, *C. nastes*, *C. palaeno*, *Euchloe creusa*, *Glaucopsyche lygdamus*, *Clossiana polaris*, *C. improba*, *C. chariclea*, *Erebia rossii*, *E. disa*, *E. fasciata*, *Oeneis bore*, *O. polixenes*. Sagwon Hills, mile 354.7 Dalton Hwy, 23, 26-27 Jun, 5-6 Jul (FPP, HK), *Hesperia manitoba*, *Parnassius eversmanni*, *Papilio machaon* (common), *Pieris napi*, *Colias hecla* (sight), *C. thula*, *C. palaeno*, *Euchloe creusa*, *Glaucopsyche lygdamus*, *Clossiana polaris*, *C. frigga*, *C. freija*, *C. chariclea*, *Erebia rossii*, *E. disa*, *E. fasciata*, *E. lafontainei*, *Oeneis bore* (common), *O. melissa*, *O. excubitor*, *O. polixenes*. Happy Vy, mile 334.4 Dalton Hwy, 22-23 Jun (FPP), *Papilio machaon*, *Pontia occidentalis*, *Pieris napi*, *Colias thula*, *Glaucopsyche lygdamus*, *Clossiana polaris*, *C. freija*, *Erebia rossii*, *E. disa*, *E. fasciata*, *E. lafontainei*, *Oeneis bore*. Ice Cut, mile 325 Dalton Hwy, 22-23, 27 Jun, 4-5 Jul (FPP), *Pieris napi*, *Colias hecla*, *C. thula*, *C. nastes*, *C. philodice*, *C. palaeno*, *C. gigantea*, *Euchloe creusa*, *Lycaeides idas*, *Glaucopsyche lygdamus*, *Clossiana freija*, *Coenonympha kodiak*, *Erebia rossii*, *E. disa*, *E. fasciata*, *E. lafontainei*, *Oeneis bore*, *O. polixenes*. Sagavanirktok Rvr floodplain just N of Oil Spill Hill, mile 322 Dalton Hwy, 29 Jun, 2-3 Jul (HK), *Hesperia manitoba*, *Papilio machaon*, *Colias hecla*, *C. thula*, *C. nastes*, *C. philodice*, *C. palaeno*, *C. gigantea*, *Euchloe creusa*, *Lycaeides idas*, *Glaucopsyche lygdamus*, *Proclassiana eunomia*, *Clossiana frigga*, *C. chariclea*, *Nymphalis antiopa*, *Coenonympha kodiak*, *Erebia rossii*, *E. disa*.



# 1991 Season Summary



E. lafontainei, Oeneis bore. Oil Spill Hill, mile 319.7 Dalton Hwy, 23,28 Jun, 4 Jul (FPP), Hesperia manitoba, Papilio machaon, Pieris napi, Colias hecla, C. thula, C. nastes, C. philodice, C. palaeno, C. gigantea, Euchloe creusa, Lycaeides idas, Glaucopsyche lygdamus, Everes amyntula, Clossiana frigga, C. freija, C. chariclea, Coenonympha kodiak, Erebia rossii, E. disa, E. fasciata, E. lafontainei, Oeneis bore (common), O. excubitor (common), O. polixenes, O. philipi. Base of Slope Mtn, mile 301 Dalton Hwy, 28 Jun (FPP), Pieris napi, Colias hecla, C. palaeno, Lycaeides idas, Erebia theano. Slope Mtn, mile 302 Dalton Hwy, 24-25, 28-29 Jun, 3 Jul (HK), Hesperia manitoba, Parnassius eversmanni, Papilio machaon, Pieris napi, Colias hecla, C. thula, C. nastes, C. philodice, C. palaeno, Euchloe creusa, Lycaeides idas, Glaucopsyche lygdamus, Agriades rusticus, Vacciniina optilete, Boloria napaea, Procllossiana eunomia, Clossiana frigga, C. improba, C. freija, C. chariclea, Coenonympha kodiak, Erebia rossii, E. disa, E. fasciata, E. youngi, E. lafontainei, Oeneis bore, O. excubitor (common). Much of collecting may have been at base of mountain -- elevation was not specified. Toolik Lk, 18-21, 29 Jun, 2-3, 8 Jul (FPP), Hesperia manitoba, Parnassius eversmanni, Papilio machaon, Pontia occidentalis, Pieris napi, Colias hecla, C. thula, C. nastes, C. palaeno, C. gigantea, Euchloe creusa, Lycaeides idas, Glaucopsyche lygdamus, Vacciniina optilete, Boloria napaea, Procllossiana eunomia, Clossiana polaris, C. freija, C. chariclea, Nymphalis antiopa, Erebia rossii, E. disa, E. fasciata, E. theano, E. youngi, E. lafontainei, Oeneis bore, O. excubitor, O. melissa. Ridge just N of Galbraith Lk, mile 276.2 Dalton Hwy, 19-21, 29 Jun (FPP), additional species (see 1979, 1981, 1986 SS), Glaucopsyche lygdamus, Parnassius eversmanni was very abundant and fresh on 19 June, Erebia mackinleyensis and E. occulta were quite rare, Clossiana distincta was not seen. Galbraith Lk access road at mile 274 Dalton Hwy, 21-23, 26-27, 29 Jun, 4-5 Jul (HK), Parnassius eversmanni, Papilio machaon, Pieris napi, Colias hecla, C. thula, C. nastes, C. palaeno, Euchloe creusa, Glaucopsyche lygdamus, Agriades rusticus, Everes amyntula, Vacciniina optilete, Boloria napaea, Procllossiana eunomia, Clossiana polaris, C. freija, C. chariclea, Nymphalis antiopa, Erebia rossii, E. disa, E. fasciata, E. theano, E. youngi, E. lafontainei, Oeneis bore, O. polixenes. Galbraith Lk (probably W side of Lk), 21-23, 26 Jun, 4-5 Jul (HK), Pyrgus centaureae, Parnassius eversmanni, Papilio machaon, Pieris napi, Colias hecla, C. thula, C. nastes, C. palaeno, C. philodice, C. gigantea, Euchloe creusa, Lycaeides idas, Celastrina argiolus, Glaucopsyche lygdamus, Boloria napaea, Procllossiana eunomia, Clossiana polaris, C. freija, C. chariclea, Nymphalis antiopa, Coenonympha kodiak, Erebia rossii, E. disa, E. fasciata, E. mackinleyensis, E. theano, E. lafontainei, Oeneis bore. Note: there are currently 44 sp of butterflies known to occur on the North Slope - and 40 of these were found on the North Slope section of the Dalton Hwy in 1991. The 4 North Slope sp not found on the northern Dalton were: Lycaena phlaeas, Clossiana distincta, Polygonia gracilis, and Oeneis uhleri. It is interesting that Nymphalis antiopa is well established on the North Slope.

**BROOKS RANGE** - Roche Moutonee Crk, mile 265 Dalton Hwy, 20,27 Jun, 4 Jul (HK), Parnassius eversmanni, Pieris napi, Colias hecla, C. thula, C. palaeno, Lycaeides idas, Boloria napaea, Procllossiana eunomia, Clossiana polaris, C. improba, C. freija, C. chariclea, Erebia rossii, E. disa, E. fasciata, E. youngi. Atigun Rvr, mile 253 Dalton Hwy, 19-20, 27 Jun (HK), Parnassius eversmanni, Pieris napi, Colias hecla, C. thula, C. nastes, Agriades rusticus, Boloria napaea, Procllossiana eunomia, Clossiana polaris, C. freija, C. chariclea, Erebia rossii, E. disa, E. fasciata, E. youngi, E. lafontainei, E. occulta, Oeneis melissa, O. polixenes. North side of Atigun Pass, mile 248 Dalton Hwy, 19,27 Jun (HK), Parnassius eversmanni, Pieris napi, Colias hecla, C. thula, C. nastes, Clossiana polaris, C. freija, C. chariclea, Erebia youngi, E. occulta, Oeneis melissa, O. polixenes. South edge Chandalar Shelf, mile 237 Dalton Hwy, 19 Jun (HK), Pieris napi, Clossiana polaris, C. improba, C. freija, Erebia fasciata, E. lafontainei, E. occulta. North of Nuturwik Crk, mile 231.4 Dalton Hwy, 17 Jun (FPP), additional sp (see 1981 SS), Pieris napi, Clossiana freija, Polygonia gracilis, Erebia disa, E. fasciata, E. lafontainei. Nuturwik Crk, mile 227 Dalton Hwy, 5 Jul (HK), Hesperia manitoba, Colias hecla, C. thula, C. philodice, C. palaeno, C. gigantea, Lycaena phlaeas, Lycaeides idas, Glaucopsyche lygdamus, Everes amyntula, Clossiana chariclea, Phyciodes pratensis, Polygonia gracilis, Coenonympha kodiak. Base of Sukakpak Mtn, mile 203.5 Dalton Hwy, 17 Jun (FPP), Erynnis persius/afranius, Pieris napi, Colias canadensis, Celastrina argiolus, Glaucopsyche lygdamus, Clossiana frigga, C. polaris, Nymphalis antiopa, Erebia discoidalis, Oeneis jutta. Ferris assigns the E. 'persius' from this site to afranius. Koyukuk Rvr & Wiseman, mile 188 Dalton Hwy, 6 Jul (HK), Hesperia manitoba, Erynnis persius, Pieris napi, Colias hecla, C. philodice, C. palaeno, C. gigantea, Lycaena dorcas, Lycaeides idas, Everes amyntula, Plebeius saepiolus, Vacciniina optilete, Clossiana chariclea, Phyciodes pratensis, Polygonia gracilis, Basilarchia arthemis, Coenonympha kodiak, Oeneis jutta.

**INTERIOR ALASKA** - Finger Rock, mile 97.5 Dalton Hwy, 18 Jun (HK), Papilio machaon, Incisalia augustinus, Celastrina argiolus (sight record, common), Boloria napaea, Clossiana polaris, C. improba, Nymphalis antiopa, Erebia discoidalis. Yukon Rvr crossing, mile 56 Dalton Hwy, 18 Jun, 6 Jul (HK), Hesperia manitoba, Erynnis persius, Pterourus glaucus, Colias philodice, C. palaeno, Euchloe ausonides, Lycaena dorcas, Celastrina argiolus (sight record), Procllossiana eunomia, Nymphalis antiopa (sight record), Basilarchia arthemis, Oeneis jutta.

**MOTHS:** All coll by CF. **NORTH SLOPE** - Opposite Franklin Bluffs, mile 385.6 Dalton Hwy, 6 Jul, Aspilates orciferarius (Geom). Sagwon Hills, mile 354.7 Dalton Hwy, 26 Jun, 5 Jul, Rheumaptera subhastata (Geom), Pachnobia sp. (wockeji?) (Noct). Ice Cut, mile 325 Dalton Hwy, 27 Jun, 5 Jul, Scopula sentinaria, S. frigidaria (Geom), Pararctia lapponica (Arct). Oil Spill Hill, mile 319.7 Dalton Hwy, 28 Jun, Synedoida sp. (adumbrata?) (Noct). Toolik Lk, 21, 29 Jun, 3, 8 Jul, Rheumaptera subhastata, Scopularia sentinaria, S. frigidaria, Entephria polata (?) (Geom), Gynaephora rossii (Lyman), Achnarta quieta, Syngrapha alticola (?), Sympistis lapponica, Pachnobia scropulana, Lasionycta sp nr subdita (Noct).

**BROOKS RANGE** - North of Nuturwik Crk, mile 231.4 Dalton Hwy, 17 Jun, Geometridae - Aspilates orciferarius. Base of Sukakpak Mtn, mile 203.5 Dalton Hwy, 17 Jun, Epelis truncataria, Xanthotype abrasaria (Geom).

**ZONE 2 Pacific Northwest: IDAHO, OREGON, WASHINGTON, BRITISH COLUMBIA.** Coordinator: Jon H. Shepard (JHS). Contributors: Ray Albright (RA), Sue Anderson (SA), Alan Barron (AB), Lars Crabo (LC), David L. Eiler (DLE), Pat Ensor (PE), C.D. Ferris (CDF), John Hinchliff (JH), Lloyd Janz (LJ), Norbert Kondla (NK), Gary Lindberg (GL), Hans K. Loechelt (HKL), Jon P. Pelham (JPP), Robert M. Pyle (RMP), Thea L. Pyle (TLP), Harold Rice (HR), Sigrid M. Shepard (SMS), Steve Summers (SS), Ron Wahl (RW). General Collecting Conditions: Weather conditions until late May were normal. June was unusually cool and damp delaying the emergence of June and early to mid-July species by up to three weeks. However, species numbers were normal or above normal when weather was sufficiently warm to permit observations.

**MIGRATORY SPECIES:** Except for one observation of D. plexippus and one of A. campestris the only migratory species reported was V. cardui but it made up for all the others by its huge numbers, the largest the coordinator has seen in thirty years except in Baja California. JHS and JPP observed 10's of thousands in Baker Co, OR on the Snake Rvr in late May. This was also noted by DLE in Boise and Canyon Cos, ID; and by CDF in Franklin Co, ID. JH observed that all of OR was covered by the migration. NK reported seeing fresh specimens on 27 Jun at Racing Rvr in NE BC and on 8 Sept S of Fort St. John (both new district records). While collecting in the Atlin district, NK did not see V. cardui, though it has been recorded there in previous years.

**IDAHO.** CDF managed to be in ID during poor weather conditions but did report that the Bannock Pass area of Lemhi Co had reduced species numbers. DE again collected in central ID with one new Co record. RMP and TLP managed one State and several Co records. The coordinator has just prepared a checklist of ID butterfly species which totals 155 species with 18 potential species still not recorded. Twelve of the species would be found along the southern Cos bordering Utah!

**BUTTERFLIES:** T. lineola, wet meadow N of Lick Crk Rd, nr Little Payette Lk, T18N R3E S2, VALLEY Co, STATE, 5 July (TLP), P. sabuleti, O. sylvanoides, P. protodice, C. philodice, L. melissa, V. cardui, C. pegala, D. plexippus, all from W of Teton, MADISON Co, 6 Aug (RMP,RW). P. multicaudata and P. rapae, Sugar City, MADISON Co, 6 Aug (RMP,RW). A. milberti, Midland Rd nr Mason Cr, N of Nampa, CANYON Co, 14 Jun (DLE).

**OREGON.** JH prepared the OR section of the Season Summary with several new Co records including several missed from previous years. JHS and JPP collected the Snake Rvr Cn opposite Baker, OR in late May and found one side cn (that cattle had been excluded from) inhabited by the usual butterflies previously recorded for Baker Co in late spring. The surrounding areas (BLM and private) have sustained extensive habitat destruction (trashed) due to overgrazing.

**BUTTERFLIES:** T. m. nevada, Blue Buck Spgs, T30S R12E S34, 7000', LAKE Co, 18 Jul (SS). H. erictorum, Camp Hancock Field Sta, Hwy 216, T7S R19E S35, 1900', WHEELER Co, 6 May 1990 (SA). A. campestris, S. Hood Rvr at River Bend Fruit Company stand, HOOD RIVER Co, no date given (RMP). P. multicaudata, Pistol Rvr Rd, 6 mi E of Hwy 101, T38S R14W S24, 100', CURRY Co, 16 Jun 1986 (AB). S. auretteum, 2 mi S of Lakeview, Hwy 395, T39S R20E S35, 4800', LAKE Co, 1 Jun 1981 (RA). I. mossi windi, Pistol Rvr Rd, 3 mi E of Hwy 101, T38S R14W S21-22, 100', CURRY Co, 11 Apr (AB). I. polia obscura, Pistol Rvr SP, T38S, R14W S19,30, 50', CURRY Co, 30 Mar (AB). 1.5 mi E Lehman Spgs, T5S R33E S1, 4600', UMATILLA Co, 10 Jun (JH). L. i. atrapraetextus, State Hwy 7, vic Dooley Mtn, 5000', BAKER Co, 2 Aug (HR). P. lupini, Winter Ridge, Grizzly Pk, T30S R16E S3,11, 6400-6700', LAKE Co, 19 Jul (SS). A. mormo, mouth of Minam Rvr at Wallowa Rvr Jct, T2N R41E S29, 2600', WALLOWA Co, 10 Sep (HH). S. e. mmoecki, FS Rd 025 and FS Rd 7645, Silver Lk Ranger Dist, T31S R12E S3 and T30S R13E S5, 6500' and 5400', LAKE Co, 18 Jul (SS). C. l. oregonensis, Old Fort Rd, at Hidden Vy Rch, T37S R8E, 4500', KLAMATH Co, 21 Jul (SS). C. acastus, Table Rock, E base E of Silver Lk, T28S R16E S6,7, LAKE Co, 23 Jun (SS). N. antiopa, Harbor, E of Brookings, T41S R13W S5, 0-50', CURRY Co, 10 Dec 1984 (AB). A. milberti, Quail Prairie Mtn, Chetco Rvr Rd, T38S R11W S30, 3000', CURRY Co, 23 Jun 1990 (AB). V. virginensis, Metolius Rvr, 5 mi N of Camp Sherman, T12S R9E S14, 2900', JEFFERSON Co, 26 Jul 1986 (GL). D. plexippus, Smith Rock SP, 3 mi E of Hwy 97, T14S R13E S11, 2900', DESCHUTES Co, 17 Jul 1986 (SA).

**MOTHS:** All LC. A. sansoni, JACKSON. A. pseudogamma, JACKSON, HARNEY. H. rufostrigata, LAKE. P. milleri, JACKSON.

**WASHINGTON:** No comments on general conditions.

**BUTTERFLIES:** P. ruralis, Finney Crk, Rockport, SKAGIT Co, 11 Jun and 6 Jul (HKL). H. juba, off I-5, Kalama, T6N R1W S7, COWLITZ Co, 25 Sep (RMP). H. titus, Sprague Lk, T20N R31E S7, ADAMS Co, 14 Aug (RMP). S. c. semivirida, Steptoe Butte SP, WHITMAN Co, 20 Jun 1970 (GL). V. cardui, 0.6 mi N of Beebe Bridge, Hwy 2, T27N R23E S21, DOUGLAS Co, 29 Sep (TLP). D. plexippus, Gallagher Flats above Columbia Rvr on SR 97, 2.8 mi N of Beebe Bridge, T27N R23E S9, CHELAN Co, 27 Sep (TLP). L. arthemis, Kennewick, BENTON Co, STATE, 10 June (PE). Note: The coordinator and others have seen this specimen and verified locality. It may be a gene throwback of a hybrid as the nearest known arthemis record is in British Columbia some 300 miles north.

**MOTHS:** All LC. N. pacifica, KITTITAS. C. verilliana, YAKIMA, STATE. A. sansoni, YAKIMA. A. thoracica, KITTITAS. A. ethnica, KITTITAS, OKANOGAN (1988). L. thaxteri, GRAYS HARBOR. P. cinerea, WHATCOM. S. funesta, YAKIMA. T. edwardsii, CLALLAM, STATE. L. multilinea, CLALLAM.

**BRITISH COLUMBIA:** CDF and NK had poor collecting in northern BC due to poor summer conditions.

**BUTTERFLIES:** JHS and SMS again collected the extreme SE of the province and recorded the following SE records at Sage Crk Cg and Procter Lk all on 7 Jul. T. pylades, P. zelicaon, P. eurymedon, E. ausonides, N. antiopa, Sage Crk Cg, SE. L. arthemis, Sage Crk Cg, DISTRICT and SE. C. palaemon, I. eryphon, G. lygdamus, P. campestris, V. cardui, Procter Lk, SE. E. comyntas, C. l. benjamini, Procter Lk, PROVINCIAL. S. egleis, Procter Lk PROVINCIAL, 21 Jul 1990 (JHS, SMS). P. themistocles, Hwy 93, 3 mi N Roosville, DISTRICT and SE, 6 Jul, (JHS,SMS). P. mystic, Hwy 93, 3 mi N Roosville, SE, 6 Jul, (JHS,SMS). V. cardui, Racing Rvr at Alaska Hwy, DISTRICT, 27 Jun (NK).

**MOTHS:** JHS, SMS and LJ again collected moths in SE BC with both Provincial and District records but too numerous to list in the Season Summary. No other reports of moths were sent to the coordinator.

**ZONE 3 SOUTHWEST: ARIZONA, CALIFORNIA, NEVADA.** Coordinator: Robert L. Langston (RLL). Contributors: George T. Austin (GTA), Richard A. Bailowitz (RAB), Grag Ballmer, Jim P. Brock (JPB), Hoe H. Chuah (HHC), Ken Davenport (KD), Thomas E. Dimock (TED), John F. Emmel (JFE), Clifford D. Ferris (CDF), Timothy P. Friedlander, Gregory S. Forbes, S.R. Forbes, Kenneth C. Hansen, Ron H. Leuschner (RHL), Sterling O. Mattoon, R.P. Meyer (RPM), Dale Mitchell, Lauritz Muehlbach (LM), Bill Neill, Scott North (SN), William D. Patterson (WDP), Kilian Roever (KR), Arthur M. Shapiro (AMS), Oakley Shields (OS), W.P. Sochor, Ray E. Stanford (RES), John Steiner, Paul M. Thompson (PMT), James P. Tuttle (JPT), John B. Vernon (JBV), Wayne H. Whaley and Robert J. Wutken.

Where initials do NOT appear above, there are only one or a few citations and often the data was received fide another lepidopterist. The butterfly species follow the taxa and sequence of Ferris, C.D., 1989, *Lep. Soc. Memoir No. 3*. The moth species have each Family name noted. NORTH, WEST, HIGH, LOW (in capitals) = Range extensions. EARLY and LATE denotes early or late records for the species as a whole, or in relation to its elevation or north-south distribution.

**ARIZONA:** Contributors: RAB, JPB, HHC, KD, CDF, RLL, RHL, RPM, D. Mitchell, LM, KR, RES, JPT, JBV and W.H. Whaley. One STATE record is included with eleven COUNTY records for butterfly species. These were mostly NORTH range extensions from Mexico, but some were found further WEST and NORTHWEST. One STATE and COUNTY record was reported for a moth, while others were new locales and several rarities cited.

Winter of 1990-1991 was moderately wet in southern AZ (RAB). Jan - Mar had above normal rainfall in SE AZ, with a cooler than normal Apr and May (JPB). Winter rains may account for spring flights in SE AZ of some influx species (RAB). Summer rains began on schedule, but fizzled early with Jul being the driest since the 1920s; the lack of rain reduced nectar sources except in canyon bottoms where many species were found on flowers far from their normal haunts, creating higher than normal species counts; there were 67 species on the pre-(Lep Soc)meeting XERCES Count, Garden Cn, Cochise Co, 31 Jul (JPB). In Santa Cruz Co, 4-10 Aug, the weather was mixed with the tail end of the monsoons; vegetation not nearly so lush as in 1990, and burned out on hillsides plus various side canyons (CDF). The post-meeting XERCES Count, Patagonia region, 6 Aug, recorded a new high of 94 species, beating out the 1991 Gilpin Co, Colorado count of 93 species (RES). Western Maricopa and Yuma Counties very dry and hot 6-7 Aug, with only 5 species observed (RLL). Rain was at or below normal in Aug and Sep, with very few influx species appearing in SE AZ (JPB). An average or better monsoon season would have continued the Mexican influence in SE AZ; by the end of Aug, vegetative conditions looked horrible (RAB).

**MIGRATORY SPECIES:** Libytheana bachmanii larvata: Arizona-Sonora Desert Museum, 16 mi W of Tucson Pima Co, 5 Aug (RES) and Patagonia region, Santa Cruz Co, 6 Aug (RAB,RES, others on XERCES Count), but not in migratory numbers either location. Vanessa cardui: Mostly ♂♂, 15 to 20/minute past a 12' wide gateway in a N-S fence, main flight 1130 - 1630 hrs, flying E to W, Chino Vy at 4700', Yavapai Co, 2, 3 Apr (LM); slightly fewer on 9 Apr

(almost all ♀♀), main flight 1230 - 1600 hrs, going E to W & NW, same location (LM); observed early to mid-afternoon flying S to N, Youngtown (Sun City), 1150', Maricopa Co, 3 May (LM); observed mid-afternoon flying S to N at Prescott, 5300' and Chino Vy, 4700', Yavapai Co, 7 May (LM); observed mid-afternoon, fewer than in previous flights, flying S to N, Chino Vy, 12 May (LM). About 40 in Oak Creek Cn, Coconino Co, 31 Jul (RES); small numbers in Box Cn, Pima Co, 5 Aug (JPB, HHC, RLL, others); about 40 in the Patagonia region, Santa Cruz Co, 6 Aug (RES, others on XERCES Count); only 2 at Imperial Dam, Yuma Co, 7 Aug (RLL); fair numbers near Flagstaff, Coconino Co, 8 Aug (RES); late Jul and early Aug, a few observed in both Phoenix and Tucson -- although present in much of AZ, no migrations were reported in the summer and fall of 1991. Nymphalis californica and Danaus plexippus: None reported by any of the contributors.

**BUTTERFLIES:** Chioides catillus albofasciatus, Box Cn, Santa Rita Mtns, Pima Co, 4 Aug (RHL), 5 Aug (RLL). Cogia mysie, Box Cn, 24 Jul (JPB) -- ties for earliest date in Bailowitz and Brock, 1991. C. mysie, Sycamore Cn, Santa Cruz Co, 2 Aug (HHC) -- about middle of flight period. Spring flight of Bolla clytius (a rare influx species), Atascosa Mtns, Santa Cruz Co (RAB). Erynnis meridianus, Oak Creek Cn, 4800-6080', Coconino Co, 31 Jul (RES); Loma Linda, 7700', Santa Catalina Mtns, Pima Co, 31 Jul (RLL); Hualapai Mtns, Mohave Co, 3-4 Oct, LATE (KD). Spring flights of Systasea pulverulenta, EARLY, Pyrgus oileus and Heliopetes lavianus, Atascosa Mtns, Santa Cruz Co (RAB). H. lavianus, California Gulch, Santa Cruz Co, 27 Apr common!, 4 May common! (JPB). Pholisora catullus, Whiteriver, 5200', 26 May, 2nd record for Navajo Co (KR). P. graciellae, fairly common, 3 mi N of Parker, La Paz Co, 27 Jul (JBV) -- part of a type series cited from Yuma Co, but this locality now La Paz Co (RLL). Spring flight of Ancyloxypha arene, Atascosa Mtns, Santa Cruz Co (RAB). Copaeodes aurantiacus larva on Leptochola dubia (Poaceae), Sycamore Cn, Santa Cruz Co, 10 Sep (JPB). Hesperia juba, Nixon Rsvr, 6500', Unikaret Mtns, MOHAVE Co, 25 Aug (KR). Ochloides sylvanoides, Mt Logan, 6600', Unikaret Mtns, MOHAVE Co, 25 Aug (KR). Atrytonopsis lunus, Carr Cn, Huachuca Mtns, Cochise Co, 31 Jul (JBV) and Box Cn, Santa Rita Mtns, Pima Co, 5 Aug (HHC, RLL). Amblyscirtes simius, Canelo town site, Santa Cruz Co, 8 Aug (CDF). A. oslari, Garden Cn, Sawmill Cn, Cochise Co, 1 Aug (HHC). A. oslari and A. nereus, Sycamore Cn, Santa Cruz Co, 4 Aug (CDF). A. nereus, Carr Cn, Cochise Co, 31 Jul (JBV). Sparse flight of Panoquina ocola in Oct, Atascosa Mtns, Santa Cruz Co (RAB). Agathymus arxna larvae from Agave palmeri (Agavaceae), Canelo Work Center, Santa Cruz Co, 4 Aug, adults emerged 9-14 Sep (HHC). Papilio polyxenes coloro (= rudkini, yellow form ♂ released), Hassayampa Rvr Preserve nr Wickenburg, 2200', Maricopa Co, 1 Aug (RES). P. indra minori has been found in northern APACHE Co (W.H. Whaley fide RES). Neophasia menapia, nr Flagstaff, Coconino Co, 8 Aug, LATE for fresh (RES). Spring flights of Eurema boisduvalianum and E. nise nelphe, Atascosa Mtns, Santa Cruz Co (RAB). E. n. nelphe, Patagonia region, new for this XERCES Count, but not new for Santa Cruz Co, 6 Aug (RES). Nathalis iole larvae on Bidens ferulaefolia (Asteraceae), NEW HOST, California Gulch, Santa Cruz Co, 27 Apr (JPB). Chlorostyrmon simaethis sarita, Tohono Chul Park, Tucson, Pima Co, 14 May (JPB). Spring flight of Arawacus jada (a rare influx species), Atascosa Mtns, Santa Cruz Co (RAB). Emesis ares, Copper Cn, Huachuca Mtns, Cochise Co, 31 Jul (JBV). Calephelis arizonensis, Box Cn, Pima Co, 30 Jul (JBV), 5 Aug (RLL). A single ♂ Heliconius charitonius vasquezae, Sycamore Cyn, Santa Cruz Co, 19 Aug 1990 (D. Mitchell fide CDF). Thessalia theona thekla larvae on Castilleja tenuiflora (Scrophulariaceae), NEW HOST, 3 mi W of Peña Blanca Lk on Ruby Rd, Santa Cruz Co, 27 Apr (JPB). Anthanassa tulcis, Guadalupe Cn, 4200', Peloncillo Mtns, COCHISE Co, 7 Sep (KR). Vanessa virginiensis is a regular breeding resident in Phoenix, MARICOPA Co (KR fide RES). V. atalanta rubria, Hualapai Mtns, MOHAVE Co, 3 Oct (KD). Junonia nigrosuffusa is a rare immigrant in Phoenix, MARICOPA Co, (KR fide RES). A worn nigrosuffusa, Ash Fork, 5140', 6 July (RPM) -- few records for Yavapai Co (RLL). A fresh nigrosuffusa within the piñon-juniper belt on the upgrade to Hualapai Mtn Park, MOHAVE Co, 18 Aug (RPM). Basilarchia weidemeyerii angustifascia, Oak Creek Cn, 4800-6080', Coconino Co, 31 Jul (RES). Anaea andria, 1 mi N of Peridot, 2600', GILA Co, 17 May (KR) and Cottonwood Crk, 4900', Cochise Co, 21 Jun (KR). A severely damaged Morpho polyphemus flying low in the open over riparian vegetation and stream, Sycamore Cn, Atascosa Mtns, SANTA CRUZ Co, STATE, USA, and NORTH, 19 Aug 1990 (D. Mitchell fide CDF). Cylopsis henshawii, Patagonia region, Santa Cruz Co, 6 Aug, LATE (RAB, RES, others on XERCES Count). Cercyonis meadii mexicana, Hualapai Mtns, Mohave Co, 3 Oct, LATE (KD).

**MOTHS:** SPHINGIDAE -- Ova & 1st instar larvae of Eumorpha typhon on wild grape (Vitis sp), Harshaw Crk, Santa Cruz Co, 27 Jul - 1 Aug (JPT). adults of E. typhon, E. achemon and Sphinx dollii, Sycamore Cn, Santa Cruz Co, 4-10 Aug (CDF). S. dollii common and S. asella taken, Harshaw town site, Santa Cruz Co, 7 Aug (CDF). SATURNIIDAE -- Automeris pamina common, mainly ♀♀, Sycamore Cn, Santa Cruz Co, 4-10 Aug (CDF). A. pamina, A. iris hesselorum and Automeris sp nr colenon, Harshaw Crk, 27 Jul - 1 Aug (JPT). Sphingicampa albolineata, hubbardi and montana, same data (JPT). Both hubbardi and montana of unusual abundance, Sycamore Cn, 4-10 Aug (CDF). CTENUCHIDAE -- Syntomeida hamponi and ARCTIIDAE -- Pygarctia murina, Estigmene albida (??), Arachnis aulaea and Epantheria suffusa, Sycamore Cn, 4-10 Aug (CDF). Halysidota davisii, Harshaw town site, Santa Cruz Co, 7 Aug (CDF). NOCTUIDAE -- Lichnoptera decora and Catocala jessica, Sycamore Cn, 4-10 Aug (CDF). C. violenta, Pinery Cn, 5500', Cochise Co, 10 Aug (CDF). Matigramma adoceta, 5-6 May and Melipotis cellaris, 5-6 Aug, Madera Cn, Santa Cruz Co (RHL). LASIOCAMPIDAE -- Dicogaster coronada, Box Cn, Pima Co, 4-5 Aug (RLL, others) and abundant with Gloveria gargamelle, Sycamore Cn, Santa Cruz Co, 4-10 Aug (CDF). GEOMETRIDAE -- Eupithecia biedermannata, 5-6 May and E. sperryi, 5-6 Aug, Madera Cn (RHL). Eudule unicolor, Box Cn, Santa Rita Mtns, Pima Co, 5 Aug (RLL). A single specimen of the uncommon Psaliodes fervescens, Pinery Cn, 5500', Chiricahua Mtns, Cochise Co, 10 Aug (CDF). MEGALOPYGIDAE -- Megalopyge opercularis, Sycamore Cn, 4-10 Aug (CDF). OLETHREUTIDAE -- Eucosma dilatana and many Epinotia infuscana, Madera Cn, 5-6 May (RHL) -- Type Locality for infuscana is Mendocino Co, CA and the disjunct distribution is noted in the Olethr. revision (RHL). CHOREUTIDAE -- Tortyra slossonia, Madera Cn (lodge), SANTA CRUZ Co, STATE and WEST, 5-6 Aug (RHL) -- major range extension since all others from southern Florida. Det. exact as compared with Florida material (RHL).

**CALIFORNIA:** Contributors: G Ballmer, KD, TED, JFE, G. Forbes, S. Forbes, K. Hansen, RLL, RHL, S.O. Matoon, RPM, B. Neill, SN, WDP, AMS, OS, RES, W.P. Sochor, J. Steiner, PMT, JBV and R.J. Wutken.

One STATE record is included with fourteen COUNTY records for butterfly species. Rarities and range extensions are reported for moth species, plus several EARLY records. Freeze of 20 Dec 1990 - 4 Jan 1991 was the worst since 1913, with Davis, Yolo Co having an official low of 16°F, but unofficially down to 9.8°F (AMS). Recorded 12°F in Arcata, Humboldt Co during the Dec 1990 cold spell (SN). Early 1991 warm and dry, no snow in foothills and quite a few really early flights (AMS). Warming into the 70s in Feb in the Bay Area (73° on 13th, 78° on 24th, San Francisco), also with early flights (RLL). At Jerseydale, 3500', Mariposa Co, Jan was warm, mild and dry, but some rain in Feb (OS). Good rains, plus 4.5" of snow in Jerseydale in Mar, and coolish mid-Apr -- mid-May (OS). Precipitation well below normal in Humboldt Co, with much of the rainfall in late spring rather than winter, so collecting was difficult in the early season (SN). remarkably cold, wet Mar (16" of rain in Vacaville, Solano Co), major storm 23-26 Mar put everything down and the foothill season never recovered (AMS). One of the coolest summers in history in the Central Valley (AMS), and abnormally cool in the Bay Area (RLL). Then a record-shattering Oct heat wave (AMS), with 96°F the hottest all year in San Francisco on 9 Oct (RLL). This was followed by a cold wave 22 Oct, with snow in the Sierra Nevada 25-26 Oct, which ended the season above 6000' (AMS). In Jerseydale, 4.5" of rain in late Oct, cold and very windy late Nov, mild early Dec (OS). Generally mild in Bay Area Nov-Dec, with multivoltines still flying 31 Dec (RLL).

**MIGRATORY SPECIES:** Pontia protodice: Central Valley extremes 16 Feb -- 1 Dec, West Sacramento, Yolo Co (AMS); larvae on Caulanthus simulans (Cruciferae), Toll Road Cn, 3000', San Jacinto Mtns, Riverside Co, 22 May (JFE); adults general in CA, sea level to 9000', best year since 1977 (AMS); low numbers in Newark, Alameda Co, and Alviso, Santa Clara Co, 6 Jul (J. Lane, RLL, J. Steiner, others -- South S.F. Bay XERCES Count); only one report from immediate coastal CA (below) in 1991, with just 1 ♂ in San Bruno Mtns, San Mateo Co, 12 Aug (RLL); Snow Camp Rd, 2000', 2 Oct and Essex Hill,

350', Arcata, 12 Oct, COASTAL, both Humboldt Co (SN). *Nymphalis californica*: Virtually no torties in CA (AMS); winter hibernant, Skyline College, San Mateo Co, 6 Feb (RLL); low numbers at Jerseydale, 3500', Mariposa Co, Feb, early Apr, no migration (OS); hibernants appeared San Bruno Mtns, 25 Feb, ovipositing on *Ceanothus thrysiflorus* 7 Mar, but no buildup and last seen 29 Mar (RLL); low numbers, Jerseydale, mid-Oct, no migration (OS). *Vanessa cardui*: Several worn adults flying NW, well before the Mar rains, San Bernardino, 13 Feb (JFE); worn adults San Bruno Mtns, 26 Feb, then abundant, worn May - early Jun (RLL); small larvae in huge numbers on *Pectocarya recurvata* (Boraginaceae) and one larva on *Plantago insularis* (Plantaginaceae - NEW Family), reared to adult on same, near Chuckwalla Spg, Clipper Mtns, San Bernardino Co, 15 Apr (JFE); hundreds on both sides of summit of the Greenhorn Mtns, near Alta Sierra, Kern Co, 21 Apr - cold, cloudy and much snow still on ground (JBV); a few late Feb-Mar-Apr, then a huge surge beginning 3 May, Davis, Yolo Co, migrating SE to NW (AMS); sudden influx of NW-NNW migrations at Jerseydale, Mariposa Co, 2 May, major peak 6 May (425-525/30 min/100'), minor peaks 12, 25, 27 May and 2 Jun (50/30 min/100'), ending by mid-Jun (OS); common, mostly worn, Novato, Marin Co, 6 May (JBV); fresh adults appeared San Bruno Mtns, 10 Jun, very common Jul-Aug (RLL); common the entire summer, in numbers unprecedented in AMS's 20 years here, with larvae present all summer, sea level to treeline (AMS); larvae noted on *Cirsium* sp, Vidette Crk, 10800', Tulare Co, 27 Jul - HIGH for larvae (JFE); no one else commented on the super-abundance of *V. cardui* in Orange Co - very numerous in Garden Grove, Orange Co, Aug-early Sep (W.P. Sochor); major southward migration mid-Sep onward, at all elevations (AMS); worn to fresh adults common, nectaring, Kelso Dunes, E Mohave Desert, San Bernardino Co, 29 Sep (JFE); common, worn to fresh, Bear Crk Tr, SW of Olema, Marin Co, 6 Oct (JBV); reappeared Jerseydale in late Aug. Abundant in Sep at thistles, rarely migrating S-SSE, rare late Oct, ending mid Nov (OS); fair numbers San Bruno Mtns, Sep-Oct, last seen 19 Nov (RLL); North Sacramento, Sacramento Co, 20 Dec, LATE (AMS); few worn adults still nectaring, Hemet, Riverside Co, 26 Dec, LATE (JFE). *Danaus plexippus*: In Kern Co, apparently overwintering adults killed by 17°F temperatures in Dec, 1990 (KD); adults seen at Lk Ming on 7 Feb - apparently moving inland from the coast (KD); one, Brisbane, San Mateo Co, 13 Feb (RLL); Gates Cn, Vaca Hills, Solano Co, 24 Feb (AMS); worn flybacks, San Bruno Mtns, 3 Apr - 6 May (RLL); several fresh, White Cn, Mt Diablo, Contra Costa Co, 29 Jun (RLL, J & Kathy Schick, XERCES Count); Summit Castle Peak, 9100', Nevada Co, 11 Jul - HIGH, but not 1st record here (AMS); very abundant all summer, and on 16 Sep, an estimated 5000 on Composites in the Suisun Marsh, Solano Co (AMS); abundant at thistles in Jerseydale, Mariposa Co in Sep (Peak 25 Sep when 100 seen), steady decline thru Oct (OS); 25+ migrating south, Bear Crk Tr SW of Olema, Marin Co, 6 Oct (JBV); last seen San Bruno Mtns, 18 Nov (RLL).

**BUTTERFLIES:** *Systasea zampa*, Mitchell Caverns, Providence Mtns, San Bernardino Co, 29 Sep (JFE). *Erynnis brizo lacustra*, 2 mi NW of North Fk Cg (2mi N of Fouts Spgs, Colusa Co) just over the line in GLENN Co, 13 April (WDP fide RES). *Pholisora libya*, Sacramento Spgs NE of Sacramento Mtns, San Bernardino Co, 15 Apr (JFE). *Hesperia juba*, Sugar Pine, MADERA Co, 24 May (KD). *H. comma yosemite*, Stony Crk, Tulare Co, 13 Sep, LATE (KD), and *harpalus-yosemite* dark intergrade, Donner Pass, Nevada Co, 29 Sep, LATE (AMS). *Polites themistocles*, 0.5 mi E of Bartle, Siskiyou Co, 17 Jun (JBV). *Atalopedes campestris*, Branscomb, 22 Jun - confirms old J.W. Tilden record for Mendocino Co (RLL). *Euphyes vestris harbisoni* pupa in nest on *Carex spissa* (Cyperaceae), upper King Crk, 4400', HIGH, Cuyamaca Mtns, San Diego Co, 3 Jun (G. Ballmer, JFE). *Amblyscirtes vialis*, Sugar Pine, MADERA Co and SOUTH, 3 Jul (KD). *Panoquina errans*, Solana Beach, San Diego Co, 8 Aug (RLL). A single female *Parnassius phoebus behrii*, E end Donner Pass, Nevada Co, 9 Aug - not 1st record, but rare here (AMS). *Heraclides crespontes*, Hemet, Riverside Co, first specimen 5 May, then common mid-Jun until mid-Oct (JFE) - obviously well established in the citrus groves of the San Jacinto Vy. *H. crespontes*, 2 mi N of Bard, Imperial Co, 7 Aug (RLL) - usual INLAND habitat; San Diego Wild Animal Park SE of Escondido, mid-Sep, and Encinitas, COASTAL, SAN DIEGO Co, 25 Sep, perched on lemon tree, 21 Sep, on *Bougainvillea* (S. Forbes fide G. Forbes). *Pterourus multicaudatus*, 2 mi SW of Verdi, NV inside CA in SIERRA Co, 1 Jul (WDP fide RES) and a stray from the hills, Suisan Marsh, Solano Co, 28 Aug (AMS). Fresh *Pieris napi* (heavily veined *venosa* and faintly marked summer form), together, east slope of Mt Vision above Inverness, Marin Co, 14 Jun (JBV). One fresh ♂ *napi* (summer form) observed, Bear Crk Tr SW of Olema, Marin Co, 6 Oct, LATE - unusual fall emergence!! (JBV). *P. napi microstriata*, Gates Cn, Vaca Hills, Solano Co, unusual synchronized mass emergence on 24 Feb (AMS) and common, Sugar Pine, Madera Co, 24 May (KD). Larvae of both *Anthocharis sara* and *Paramideia lanceolata australis* on *Caulanthus simulans* (Cruciferae), Toll Rd Cn, 3000', San Jacinto Mtns, Riverside Co, 22 May (JFE). *P. lanceolata*, Briceburg, 1450', Mariposa Co, 28 March (PMT) and abundant, Groves Prairie Rd at 3800', Humboldt Co, 6 Jun (SN). Numerous ova of *Colias eurytheme* on ornamental *Caesalpinia*, Mitchell Caverns, Providence Mtns, San Bernardino Co, 29 Sep (JFE). *C. o. occidentalis* blends with *chrysomelas* abundant at 5600-6000', North Trinity Mtn, Humboldt Co, 13 July (K. Hansen, SN) - quite different from those 40 mi S on South Fork Mtn (SN). *C. o. chrysomelas*, Letts Lk, 4000', Colusa Co, 20 Jun (PMT). *Zerene eurydice*, Washington, 2650', Nevada Co, 1 Sep, 6 & 19 Oct, HIGH for north (AMS). Almost certainly overwintering adults of *Z. eurydice*, 12 Jan, EARLY and *Eurema nicippe*, 3 Feb, EARLY, both Hemet, Riverside Co (JFE). *Eurema mexicana*, upper King Crk, 4400', Cuyamaca Mtns, San Diego Co, 2 Jun (G. Ballmer, JFE). *Gaeides xanthoides*, Washington, 26540', Nevada Co, 16 Jun and Alta, 2800', Placer Co, 22 Jul, both HIGH, rare in foothills (AMS). *G. xanthoides*, near & at Little Bear Wallow Mdw, plus nr Bear Wallow Mdw, N of Forest Glen, TRINITY Co, 20 Jul (WDP fide RES) - small and heavily marked, but told they are *xanthoides* (WDP) - however, *editha* not known from Trinity Co, either (RLL). *Epidemia mariposa*, North Trinity Mtn, 4800' & 6000', HUMBOLDT Co, 29 Jul (S. O. Mattoon, SW). *Hermelycaena hermes*, upper King Crk, 4400', HIGH, Cuyamaca Mtns, San Diego Co, 3 Jun (G. Ballmer, JFE). An outbreak of thousands of *Satyrion tetra* just S of Johnsondale, 5000', Tulare Co, late Jun (RPM) - a continuous flow several meters across, dry stream bed at the base of a hillside covered with *Cercocarpus* (RPM). *Callophrys viridis*, San Bruno Mtns, San Mateo Co, 19 Feb, EARLY, 14 May, LATE (RLL). *Mitoura nelsoni* adults assoc/w *Cupressus arizonica stephensi* (no *Calocedrus* in vicinity), upper King Crk, San Diego Co, 3 Jun (G. Ballmer, JFE). *Incisalia augustinus iroides*, Hemet, Riverside Co, 9 Feb, EARLY and San Bruno Mtns, 7 March, EARLY for north (RLL). *I. mossii windi* larvae on *Sedum obtusatum* (Crassulaceae), Donner Peak, 8000', HIGH, Placer Co, 23 Jul (JFE). *Strymon columella istapa*, Bard (postoffice), Imperial Co, 7 Aug (RLL). *Everes amyntula*, Coarsegold, MADERA Co, 3 July (KD). A single ♂ *Celastrina argiolus echo*, Kensington, Contra Costa Co, 28 Nov, LATE and a fresh ♂, San Bruno Mtns, 5 Dec, EARLY for 1992 season (RLL). *Philotes sonorensis*, S Yuba Rvr at Lang Crossing, 5000', Nevada Co, 26 Feb, but heavy snow in March, no adults or ova found 5 visits in Apr and May - colony may be extirpated (AMS). *P. sonorensis* ova on *Dudleya edulis* (Crassulaceae), upper King Crk, San Diego Co, 3 Jun (G. Ballmer, JFE). *Euphilotes battooides* ssp, North Trinity Mtn, 6000', HUMBOLDT Co, 29 Jul (S.O. Mattoon, SN). Colonies of *E. bernardino* near Bishop, Inyo Co (WDP fide RES). *E. enoptes bayensis* nectaring on *Eriogonum nudum*, (Polygonaceae), Groves Prairie Rd nr 7 mi marker, Humboldt Co 6 Jun (SN). *Glaucopsyche piasus*, North Trinity Mtn, at 5800', HUMBOLDT Co, 18 Jun, 3 Jul (SN). Fresh *Icaricia icarioides pardalis*, Point Richmond, Contra Costa Co, 21 Jun, LATE (RLL, XERCES Count Day). *I. lupini*, North Fork Red Cap Crk, 12 May and four larvae on *Eriogonum nudum* (Polygonaceae), Salmon Summit Rd near 9 mi marker, both HUMBOLDT Co, 12 May (K. Hansen, SN) and common 13 Jul, with ♀♀ ovipositing on *Dodecatheon jeffreyi* (Primulaceae) (K. Hansen, SN). *Agraulis vanillae incarnata* survived the Dec 1990 freeze - West Berkeley, Alameda Co, several 21 Jun (RLL, XERCES Count Day), but not seen until 13 Oct, Davis, Yolo Co - 4th record (AMS); a single ♂ stray, San Bruno Mtns, 1 July (RLL). *Speyeria cybele pugetensis* ♀♀ abundant, tr to Mill Crk Lk, North Trinity Mtn, Humboldt Co, 2 Sep (SN). Fresh *Thessalia leanira oregonensis*, Dutch Flat Rd 1 mi W of Hat Crk, Shasta Co, 17 Jun (JBV). *Chlosyne lacinia crocale*, Bard (postoffice), Imperial Co, 7 Aug (RLL). *Charidryas whitneyi* (= *damoetus malcolmi*) adults at Vidette Crk, 10800', Tulare Co, 27 Jul (JFE) and pre-diapause larvae on *Solidago multiradiata* (Asteraceae), Barney Lk, 10240', nr Mammoth Crest, Mono Co, 25 Aug (JFE) - note: This is the Type Locality of *Melitaea malcolmi* J.A. Comstock, as per George Malcolmi's field notes (JFE). At least 5 fresh ♂♂ *Euphydryas chalcedona*, San Bruno Mtns, San Mateo Co, 9 Oct, LATE, unusual fall emergence!! (RLL). *E. chalcedona* with *E. editha* nr *baroni* common on *Eriodictyon californicum*, Route 162, 3 mi S of Covelo, Mendocino Co, 2 Jun (JBV). *E. editha rubicunda* common, Coarsegold, Madera Co, 14 May (KD). *Aglais milberti*, Essex Hill, 350', Arcata, Humboldt Co, COASTAL, WEST, 27 Jun (SN), but only one seen at Monitor Pass, 8300', Alpine Co (AMS). *Vanessa annabella* ovipositing (4 ova in one minute) on *Alogyne huegelii* var "Santa Cruz" (Blue Hibiscus, Malvaceae), Green Thumb Nursery, Ventura, Ventura Co, 7 Aug (TED). *Junonia coenia* with a slow recovery after Dec, 1990 freeze: two in South San Francisco, San Mateo Co, 15 Mar (RLL); one at Willow Slough, Yolo Co, 31 March (AMS);

none until 29 June, then a slow repopulation reaching about 10% of normal late summer and autumn (AMS); extraordinary late emergences, West Sacramento, 20 Dec, and Gates Cn, 24 Dec, LATE (AMS). A fresh ♀ Adelpha bredowii californica, just NE of Tioga Pass and the Yosemite NP entrance, 9920', very HIGH, MONO Co, 11 July (R.J. Wuttken fide RES). A stray Asterocampa celtis antonia, San Bernardino Mtns (fide JFE), SAN BERNARDINO Co, STATE and WEST (T. P. Friedlander, J. Res. Lep. 25 (4):252, 1987(88)). Coenonympha californica, Washington, 2650', Nevada Co, 2 Nov, VERY LATE (AMS) and San Bruno Mtns at 900', San Mateo Co, 11 Nov, EVEN LATER (RLL). Oeneis nevadensis iduna common, Sprague Mdw, Eel Rvr, 22 June (RLL, D. Parkinson) and 8 mi N of Gualala, 200', both Mendocino Co, 25 June (PMT). O. chryxus stanislaus, St Mary's Pass, 10500', Alpine Co, 3 Aug (B. Neill). O. ivallida, Donner Peak, 8000', Placer Co, 23 July (JFE) and Vidette Crk, 10800', Tulare Co, 27 Jul (JFE). Danaus gilippus strigosus, Solana Beach, San Diego Co, 8 Aug, COASTAL (RLL) and adults still common, Hemet, Riverside Co, 26 Dec, LATE (JFE).

**MOTHS:** ARCTIIDAE -- Cisthene perrosea, liberomacula & dorsimacula, Silverwood Sanctuary nr Lakeside, San Diego Co, 18 Sep (RHL). Crambidia dusca, Silverwood Sanct, 15 Oct -- Type Locality "San Diego", but has not been collected in over 50 years (RHL). Very dark ♂♂ Diacrisia vagans, San Bruno Mtns, San Mateo Co, 8 Feb, EARLY (RLL). NOCTUIDAE -- Egira hiemalis & Pieroma cinerea at lights, San Bruno Mtns, 30 Dec, EARLY for 1992 season (RLL). The diurnal Annaphila abdita nr summit, 1300', San Bruno Mtns, 16 Jan, EARLY (RLL). Cryphia viridata, nanooides & possible n sp near oaklandiae, Silverwood Sanct, 18 Sep (RHL). Cryphia albipuncta, Silverwood Sanct, 15 Oct -- Type Locality "San Diego", but none on record in over 50 years (RHL). A single ♂ Ascalapha odorata, Ventura, 180', Ventura Co, 4 Aug, 12:15 pm (TED) -- by hand, 8" high on light-colored tiles, side of store -- still there after mid-day and not frightened away by all the shoppers (TED). DIOPTIDAE -- An early outbreak of Phryganidia californica along San Mateo Crk & Crystal Spgs Rd, San Mateo Co, 12 Jun (RLL) and abundant adults East Bay Area, late Oct (RLL). GEOMETRIDAE -- The diurnal Epirrhoe plebeculata, San Bruno Mtns, 16 Jan, EARLY (RLL). PYRALIDAE -- Apomyelois bistriatella, Silverwood Sanct, San Diego Co, 18 Sep (RHL) (Note: Many or all of the Silverwood Sanctuary species (above) are lichen feeders, and RHL was set up in a grove of old oaks covered with lichens.). Dioryctria albovitella, Angelus Oaks nr Big Bear Lk, San Bernardino Co, 17 Aug (RHL). Diastictus fracturalis, Milagra Ridge, San Mateo Co, 27 Apr (RLL). COSSIDAE -- Givera mucida, Silverwood Sanct, 18 Sep -- a desert species which is unusual this close to the COAST (RHL).

**NEVADA:** Contributor: GTA.

Ten COUNTY records for butterfly species. No moths were reported. No one other than George Austin reported for NV in 1991. Hence all data below is from the GTA contribution.

This was the 5th straight year with below average precipitation. In all, the season was late; a cold storm with a week of below normal temperatures in Jun seemed to delay the season even more. This resulted in many taxa first appearing and peaking later than usual. For example, there were still numbers of Euphydryas anicia in early Jul and of Speyeria callippe in mid-Jul. Neominois ridingsii were fresh and in large numbers in central NV in early Jul. Also, species which typically are common at the beginning of Jul (such as Papilio rutulus, Basilarchia weidemeyeri) were scarce until late in the month (GTA).

**MIGRANTS AND STRAYS:** Outstanding were the number of "southern" species noted further north in the Great Basin -- note that 5 species of these (Zerene cesonia, Eurema nicippe, Nathalis iole, Leptotes marina & Hemiargus isola alce) were taken together at Archie Spg, Egan Rg, White Pine Co, 19 Jul! Pontia protodice: Huge numbers in the Great Basin through mid-Jul. Zerene cesonia: Four records NORTH of the Mojave Desert: ELKO Co: 2.1 mi W of Jiggs, 19 Jun; EUREKA Co: Diamond Mtns, US 50, 0.6 mi w of Pinto summit, 20 July; Lander Co: Toiyabe Mtns, Kingston Cn, 22 Aug; White Pine Co: Egan Rg, Archie Spg, 19 Jul. Eurema nicippe: Four records NORTH of the Mojave Desert: LANDER Co: Toiyabe Mtns, Grass Vy Rd, 4.5 mi N of US 50, 20 Jul; MINERAL Co: White Mtns, US 6, 0.2 mi E of Montgomery Pass, 23 Aug; Nye Co: Toiyabe Mtns, Summit Cn, 23 Aug; WHITE PINE Co: Egan Rg, Archie Spg, 19 Jul. Nathalis iole: Ten records NORTH of the Mojave Desert: CHURCHILL Co: Desatoya Mtn, Buffalo Pass Rd, 8.9 mi S from NV 722, 4 Jul; DOUGLAS Co: Carson Vy, Scossa Rch, 24 Aug; Lander Co: Simpson Park Mtns, 20 Jul; LYON Co: East Walker Rvr, Rd 028 to Hawthorne, 1.5 mi E of NV 338, 16 Jun and Pine Grove Hills, 0.5-1.2 mi E of NV 338, 25 Aug; White Pine Co: Schell Creek Rg, 22 Jun, Cherry Crk Rg, 21 Jun and Egan Rg (3 records), 18-19 Jul. Libytheana bachmanii: Small numbers in the Las Vegas area, Clark Co in late Oct. Vanessa cardui: The highlight of the year was its migration -- the largest movement that GTA has seen in NV; first noted in southern NV in late Apr and continuing into Jun; further north in NV, the numbers were incredible through Jun into early Jul, after which they were still present everywhere, but in lesser numbers; during Jun, this species appeared to outnumber "resident" species by at least 20 to 1 everywhere (GTA).

**BUTTERFLIES:** Pontia occidentalis was virtually absent in NV. Colias eurytheme was scarce in NV in spring to late summer (in mid-Jul, Nathalis iole outnumbered it); however, eurytheme had a very large fall flight in the deserts of Clark Co, with numbers noted from late Sep to late Oct. Mitoura spinetorum, EUREKA Co, Diamond Mtns, Windfall Cyn, 20 Jul. Brephidium exile was very scarce in the Great Basin. Leptotes marina, Two records NORTH of the Mojave Desert: Eureka Co, Diamond Mtns, 20 Jul; White Pine Co, Egan Rg, Archie Spg, 19 Jul. Hemiargus isola alce, Nine records NORTH of the Mojave Desert: CHURCHILL Co, Desatoya Mtns, Buffalo Pass Rd, 6.9 mi S of NV 722, 4 July; Nye Co, Toiyabe Mtns, 22 Jul; White Pine Co, 7 records, 22 Jun, 17-20 Jul. Vanessa annabella was virtually absent in NV (GTA).

**ZONE 4. ROCKY MOUNTAINS: ALBERTA, MONTANA, WYOMING, UTAH, COLORADO and NEW MEXICO.** Coordinator: Ray E. Stanford (RES), assisted by Katharine A. Stanford (KAS). Contributors: Charlotte Albright (CA), Valeriu Albu (VA), George T. Austin (GTA), Karölis Bagdonas and his famous "Flying Circus" (BFC, including Davin Bagdonas, Halena-Maija Bagdonas, William Bagdonas, Wayne Bushonville, Nancy Allen, Pamela Chapman, Todd Dehm, Nate Gibson, Mitch Johnson, Patrice Lussy, George McNaughton, Dan Regelski), Larry D. Beutler and his family (LDB), John H. Brandt (JHB), F. Martin Brown (FMB), Peter F. Brussard and Hugh Britten (B&B), Steven J. Cary (SJC), Hoe H. Chuah (HHC), Terhune S. Dickel (TSD), Boyce A. Drummond (BAD), David L. Eiler (DLE), Scott L. Ellis (SLE), Marc Epstein (ME), Clifford D. Ferris (CDF), Michael S. Fisher (MSF), Gregory S. Forbes (GSF), Timothy P. Friedlander (TPF), Clyde F. Gillette (CFG), Jack L. Harry (JLH), John I. Hetzler (JIH), Richard W. Holland (RWH), Joel M. Johnson (JMJ), Samuel A. Johnson (SAJ), Steven J. Kohler (SJK), Norbert G. Kondla (NGK), Robert C. Mower (RCM), Paul A. Opler (PAO), Floyd W. and June D. Preston (F/JP), Robert M. and Thea Pyle (RMP), Kilian Roever (KR), the late Bernard Rotger (BR), Patrick J. Savage (PJS), James A. Scott (JAS), Charles P. Slater (CPS), Ray E. Stanford and family (RES), Andrew D. Warren and his family (ADW), Ernest H. Williams (EHW), Michael E. Young and his family (MEY). Total 42, the highest since 44 in 1980 (mid-30's are the rule). In the 13 years I have been Zone 4 coordinator, 3 others in addition to yours truly have contributed EVERY year: CDF, SJK, JAS; I thank them for their support, and of course all of the others (nearly 60). For the 13 years we have recorded 393 butterfly species, 368 of them with new county records. The only significant missing species during this period are Erynnis scudderii, Heliopterus domicella and lavianus, Hesperopsis graciellae, Staphylus hayhurstii, Amblyscirtes fimbriata, Nyctelius nyctelius, Agathymus evansi, Eurema dina, Chlorostrymon simaethis, Microtia elva, Enodia anhedon. Potential State records are listed below. The average bf spp/Co in Zone 4 is 95.17, compared with 115.73 in Zone 3 (AZ, CA, NV). We have lots of work to do; it is embarrassing that the Rocky Mtn region is probably the worst known part of North America. We did record 10 new bf spp for the Zone in 1991, incl 17 State/Province records and 326 county/district records, (excluding subspecies and aberrational names) the latter the best since 901 in 1986. The total bf CRs since 1977 is 5828, almost incredible, but still look at Zone 3 and see how far we have to go. Eventually I will try to prepare similar statistics for moths. The 1991 Zone species totals are 242 bf spp and 99 moth spp, compared with the best years 1985 with 264 bf spp and 217 moth spp, and 1986 with 268 bf spp and 123 moth spp. Two bf CRs completed all counties of a particular State in 1991, P. communis in WY and S.



*atlantis* in UT. By next year, moth data will be up to date so that any new data can be evaluated in terms of CRs and SRs; it will be clear below that we have started seriously. The following contributors sent data from 4 or more States: DLE, PAO, RES; data from 3 States were submitted by CDF, MSF, PJS, and ADW. 1991 was a fine season in our Zone, with abundant moisture and generally good weather (frequent showers are normal). The year for all records is 1991 except as noted. Thanks to the many contributors, who together disproved the Law of Regressive Achievement, which states "Last year's was always better"; the comparative statistics speak for themselves.

**ALBERTA.** Contributor: NGK. The "old guard" is back; NGK has submitted data for 10 of the last 13 years, and his sage comments on AB fauna are welcome. New maps are expected soon. 1991 was a poor year up there, seemingly also true for MT and WY. All observations received are reported here.

**BUTTERFLIES:** *Parnassius clodius*, SW Alberta, PROVINCE. *Colias nastes*, Grande Mtn/Grande Cache, 28 Jul. *C. meadii*, same data. *C. christina*, also same data, uncertain whether ssp of *alexandra* or *occidentalis* according to the "experts". *Agriades glandon rusticus* (also a taxonomic problem, being reviewed currently by FMB), same data. *Speyeria mormonia*, *Boloria napaea*, *B. eunomia*, same data. *Vanessa cardui*, major invasion like in 1973 and 1983 (yes, they cannot count very well—it should have been 1993!). *Erebia epipsodea*, *Oeneis melissa* and *O. polixenes*, Grande Mtn/Grande Cache, 28 Jul. *O. alberta*, common at Wintering Hills 26 Apr EARLY and Kleskun Hill 6 May. *Papilio rutulus* and *Lycaena editha* are still dubiously reported from Alberta (I believe that they will both be confirmed). Total bf spp in Alberta: about 156 (D. Threatful).

**MONTANA.** Contributors: CA, SJK, RMP. No comments on collecting conditions.

**BUTTERFLIES:** 60 total data points, 15 species and 12 Co records. 186 spp are known from MT, 7 from all counties and 74.11 avg spp/Co. The "worst" Co is McCone with 31 spp, and 9 counties are still under 40; Carbon Co is still tops with 137 spp. Additional spp and where expected include *Erynnis juvenalis* E, *E. martialis* E, *Heliopetes ericetorum* SW, *Ancyloxypha numitor* E, *Yvretta rhesus* E, *Hesperia dacotae* E, *Atalopedes campestris* SE, *Polites sabuleti* SW, *P. origenes* E, *Poanes hobomok* E, *P. taxiles* SE, *Atrytone arogos* SE, *Atrytonopsis hianna* E, "*Amblyscirtes*" *simius* E, *Colias occidentalis* W, *Zerene cesonia* SE, *Eurema mexicana* E, *Satyrion behrii* SW, *S. calanus* E, *S. californicum* SW, *Hemiargus isola* SE, *Everes comyntas* E&W, *Boloria napaea* W, *Polygona interrogationis* E, *P. comma* E, *Junonia coenia* SE, *Asterocampa celtis* E, *Enodia anthedon* E, *Megisto cymela* E, *Erebia disa* NW, *Oeneis macounii* N, *O. polixenes* S&N. 1991 records: *Oarisma garita*, Blacktail Crk, SE of Dillon, 2 Jul (SJK), & Elk Lk, 6800', 17 Jul (CA), BEAVERHEAD Co, SW; hills S of Polson, LAKE Co, 6 Jun (SJK). *Thymelicus lineola*, Big Sky resort, MADISON Co, STATE, 2nd ZONE 4 record, 3 Aug (Thea L. Pyle/RMP). *Polites sonora*, Gemstone Mine, 5500', Granite Co, 15 Jul (CA). *Pontia sisymbrii*, 15 mi N of Helena, LEWIS & CLARK Co, 15 May (P&D Anderson/SJK). *Euchloe hyantis*, hills S of Polson, LAKE Co, NE, 22 May (SJK). *Colias gigantea*, W of Priest Pass, POWELL Co, 17 Jul (SJK). *Lycaena cuprea* & *L. nivalis*, Big Timber Cn, 6000', Sweet Grass Co, 23 Jul (CA). *Glaucopsyche piasus*, Hellgate Gulch, 5600', BROADWATER Co, 16 Jun (B. Vogel/SJK); hills S of Polson, LAKE Co, 3 Jun (SJK). *Euptoieta claudia*, nr Kings Hill, Little Belt Mts, CASCADE Co, 7 Aug (SJK). *Speyeria egleis*, Porphyry Mtn, 8000', Meagher Co, 24 Jul (CA). *Boloria titania*, Antone Peak, Snowcrest Rg, BEAVERHEAD Co, SW, 23 Jul (SJK). *Vanessa annabella*, 2 mi N of Townsend, BROADWATER Co, 24 Sep (SJK); Skelly Gulch, 6800', 16 mi NW of Helena, LEWIS & CLARK Co, 25 Aug (B. Vogel and Andersons/SJK). *Coenonympha haydeni*, Red Rocks Lk, 6600', Beaverhead Co, 16 Jul (CA). *Oeneis jutta*, Porphyry Mtn, 8000', Meagher Co, 24 Jul (CA). A butterfly count in Ravalli Co on 13 Jul produced 592 individuals of 43 species.

**MOTHS:** *Synedoida* sp, Morrel Mtn, 7300', Powell Co, 14 Jul (CA, det L. Crabo).

**WYOMING.** Contributors: CA, BFC, LDB, DLE, CDF, MSF, PAO, PJS, RES, ADW, EHW (total 11, one more than in 1990). Collecting was generally late and poor due to heavy rains and cool temperatures.

**BUTTERFLIES:** 130 data points were received, including 20 Co records and a few range extensions. 210 spp are currently known from WY, 5 from all Cos with the addition of *Pyrgus communis* in 1991; there are now 89.50 avg spp/Co with a projection of 102 which is conservative. Additional spp to be expected include *Hesperopsis alpheus* SC, *Ancyloxypha numitor* E, *Thymelicus lineola*, *Ochlodes yuma* SW, *Euphyes bimacula* SE, *Amblyscirtes aenus* SE, *Megathymus yuccae* SE, *Battus philenor* SE, *Colias occidentalis* W, *Dione vanillae* SE, *Speyeria nokomis* SW, *Phyciodes pictus* SE, *Polygona comma* E, *Asterocampa clyton* SE, *Satyrodes eurydice* E, *Megisto cymela* E, *Oeneis alberta* anywhere. The "worst" Co (and the largest!) is Sweetwater with 45 spp, & the best is CDF's yard, Albany Co with 141 spp. 1991 records: *Erynnis martialis*, 2 taken, East Fk, FREMONT Co, WEST & 2nd STATE, 5 Jun (BFC). *E. afranius*, Wapiti Ridge, nr Valley, PARK Co, 15 Aug 1990; Fremont & Half Moon Lks, SUBLETTE Co, 5 Jul 1990 (both BFC). *Pyrgus ruralis*, Shoshone Rvr Vy, 5 mi N of Valley, PARK Co, 15 Jun & also 1990 (BFC). *P. communis*, gas station in Meeteetse, PARK Co, 18 Aug 1989, finally known from all WY Cos (BFC). *Hesperia ottoe*, CROOK Co, NE & 2nd STATE, 18 Jul (PJS). *H. nevada*, 5 mi S of Thermopolis, HOT SPRINGS Co, 15 Jun 1990; Fremont & Half Moon Lks, SUBLETTE Co, 15 Jun 1990 (both BFC). *Atrytone logan*, 10 mi SW of Mule Crk Jct, NIOBRARA Co, 28 Jun (PJS). *Papilio b. bairdii*, Cement Ridge, Black Hills, 6600', CROOK Co, NE & 2nd STATE, 18 Jul (PJS). *Euchloe olympia*, Happy Jack Rd, 6090', W of Cheyenne, Laramie Co, 9 Jun; Palmer Cn Rd, 6200', 17.2 mi W of Wheatland, Platte Co, 28 May (both RES). *Colias pelidne*, Big Horn Mts, 7389', Sheridan Co, 19 Jul (CA). *C. gigantea*, Beartooth Butte, Park Co, 25 Jul (EHW, det CDF). *Lycaena cuprea*, FR 010, 1 mi W of Hwy 14, Big Horn Mts, SHERIDAN Co, 16 Jul (PJS). *L. hyllus*, over 300 seen, Beck's Pond, 8 mi S of Dubois, FREMONT Co, WEST, mid to late Aug 1990 (BFC); this species seems to be expanding its range westward very rapidly, and may soon be found in the Central Valley of California! *L. mariposa*, Big Horn Mts, 8000', Sheridan Co, 19 Jul (CA). *Callophrys affinis*, Trails End Cg, Elkhart Park, 9350', HIGH (watch for it on Diamond Peak, 9710', Moffat Co, CO!), SUBLETTE Co, 22 Jul (LDB). *Incisalia mossii*, East Fk, FREMONT Co, WEST, 5 May (BFC). *I. eryphon*, Happy Jack Rd, W of Cheyenne, 7630', Laramie Co, 9 Jun (RES). *Glaucopsyche lygdamus*, Elkhart Park, Sublette Co, 2 Aug 1990, LATE (ADW). *Plebeius idas*, Big Horn Mts, 7800', BIG HORN Co, 19 Jul (CA). *Speyeria cybele leto*, 5 taken, Fremont & Half Moon Lks, SUBLETTE Co, 8-10 Aug (BFC). *S. hydaspes*, Big Horn Mts, 7800', Big Horn Co, 19 Jul (CA). *S. egleis*, same data (CA). *Euphydryas anicia*, common, Happy Jack Rd, W of Cheyenne, 7630', Laramie Co, 9 Jun (RES); interesting mixture of phenotypes from *capella* to *bernardetta*. *Basilarchia weidemeyerii*, Beartooth Butte, Park Co, 25 Jul (EHW). *Cercyonis pegala*, 0.7 rd mi S of MT border, Hwy 212, 10400', VERY HIGH (CO record is 8100', it is rare above 6500'), 31 Jul (Brady J. Beutler/LDB), PARK Co. *Coenonympha ochracea*, worn, flying with 2nd-generation *inornata*, nr Buckhorn, WESTON Co, 4 Jul (MSF). *Erebia epipsodea*, Happy Jack Rd, W of Cheyenne, 7630', Laramie Co, 9 Jun (RES). *Neominois ridingsii*, 6 seen, Shoshone Rvr Vy, 5 mi S of Buffalo Bill Rsvr, PARK Co, 15 Jun 1990 (BFC). *Oeneis uhleri*, Palmer Cn Rd, 16.2 mi W of Wheatland, 5600', Platte Co, 28 May (RES). *Danaus plexippus*, common, Pinedale, Fremont & Half Moon Lks, SUBLETTE Co, 8-10 Aug (BFC). A butterfly count in Park Co on 25 Jul produced 632 individuals of 38 species (EHW).

**MOTHS:** All 10 data points received are included here. *Acossus undosus*, 10 recorded from East Fk, FREMONT Co, late Jul-early Aug (BFC). *Euxoa auxiliaris*, very abundant throughout the region May-Jul (BFC); also recorded from Big Horn Co (CA). *Hyalophora gloveri*, FREMONT & Teton Cos, 11-13 Jun (BFC). *Hyles lineata*, known from Albany, Converse, Fremont, Natrona & Teton Cos (BFC, PAO). *Smerinthus cerisyi*, Fremont, Park, Teton & Yellowstone NP (BFC, DLE). *Sphinx vashiji*, East Fork, FREMONT Co, Jun-Jul (BFC). *Syngrapha ignea*, Big Horn Mtns, 9200', BIG HORN Co, 19 Jul (CA, det L. Crabo).

UTAH. Contributors: GTA, LDB, DLE, CFG, JLH, JMJ, RCM, PAO, PJS, RES, ADW (cf 15 in 1990, highest in 13 years, mainly more moth data). It was probably about an average season in terms of numbers and flight periods, but better in terms of new information gained. Spring was cool, wet, and emergences late (CFG).

BUTTERFLIES: 187 data points were received (cf the 3 highest years, 353 in 1982, 228 in 1985 and 277 in 1986), including 85 Co records for 57 spp in 28 of the 29 Cos. Millard Co led the parade with 10 CRs, and only Tooele Co came up empty, but an observation from it is included below so as to list something from all 29. The State totals (mine) are currently 212 known butterfly and skipper spp, and 101.86 avg spp/Co, or 91.77% of my projection; I show the most spp (139) in Wa and the fewest (78) in Cb. Potential species additions include the following, some of which have been sought already but not others: Zestusa dorus S, Pyrgus xanthus SE, Celotes nessus S, Atrytonopsis python S, Hesperia viridis E, Stinga morrisoni SE, Carterocephalus palaemon NE, Colias pelidne NE, Lycaena mariposa NE, Coenonympha haydeni NE, Boloria bellona NE, Euphydryas gillettii NE, Thymelicus lineola N, Strymon columella SW, Basilarchia lorquini NW. Now for the spp that WERE found! Epargyreus clarus, Clear Crk Cn, Raft Rvr Mtns, BOX ELDER Co, NW, 15 Jul (PJS). Thorvbes pylades, Willow Cn, E of Mona, 6500', JUAB Co, 14 Jun 1983 (JMJ, det RES). T. mexicana, Red Crk, 8000', 11 mi N of Fruitland, DUCHESNE Co, 13 Jun (RES); FR 041, Dragon Ridge, S of Joes Vy Rsvr, EMERY Co, 23 Jun (PJS); FR 100, Ridge N of Water Cn, E of Fillmore, MILLARD Co, 12 Jul (PJS); Hwy 29 nr White Dugway, W of Joes Vy Rsvr, Sanpete Co, 23 Jun (PJS, confirming a somewhat dubious old record from the Smithsonian). Erynnis icelus, Pin Hollow, Old Woman Plateau, SEVIER Co, 10 Jun 1982 (JMJ, det RES). E. brizo, Willow Cn, E of Mona, 6200', JUAB Co, 21 May 1990 (JMJ, det RES). E. telemachus, one female, US 91, 7000', 40.2 mi SW of Duchesne, Carbon Co, 13 Jun (RES); Hwy 91 (or 191, or 33, HELP!), 3.4 mi NE of Carbon Co line, about 8000', DUCHESNE Co, 23 Jun (PJS); Bob Hill Knoll, EMERY Co, 6 May 1987 (JMJ, det RES); Willow Cn, E of Mona, JUAB Co, 14 Jun 1983 (JMJ, det RES). E. persius, Hop Crk, E Tintic Mtns, JUAB Co, 18 May 1985 (JMJ, det RES). Pyrgus ruralis, 1.2 mi W Summit Spgs, 8400', 8.2 mi S of Manila, DAGGETT Co, 4 Jun 1990 (JLH); 0.6 mi SE of Bountiful Peak, 9000', MORGAN Co, 25 Jun 1990 (JLH). P. scriptura, Calf Crk, GARFIELD Co, 19 Jun (PJS). Oarisma garita, Rilda Cn, WNW of Huntington, EMERY Co, 1 Jul 1984 (JMJ, det RES). Hesperia juba, one male, 5 mi N of Fruitland, 7200', along Red Crk Rd, Duchesne Co, 13 Jun (RES). H. nevada, divide betw George Crk and Onemile Crk, Raft Rvr Mtns, BOX ELDER Co, NW, 1 Jul (PJS); Rilda Cn, WNW of Huntington, EMERY Co, 23 Jun 1987 (JMJ, det RES); Hwy 29 nr White Dugway, W of Joes Vy Rsvr, SANPETE Co, 23 Jun (PJS). Polites sabuleti, Ferron, 5950', Emery Co, 15 Jun (RES). P. draco, below Scofield Dam, 7800', CARBON Co, 15 June (RES). P. themistocles, 2 females, UT 14, 12.0 mi E of Cedar City, IRON Co, 16 Jul (GTA; probable earlier record by PJS). Ochloides yuma, Gandy Salt Marsh, MILLARD Co, 17 Aug (PJS); Callao, 4300', Tooele Co, 10 Aug (looked also just S into Juab Co without luck) (JLH); St George, Washington Co, 5 Jun 1988, EARLY, bivoltine there (PJS). Poanes taxiles, Pistol Rock Cg, Chalk Crk, MILLARD Co, 12 Jul (PJS). Parnassius clodius, CARBON and EMERY Cos, SE, 1991 (CFG, data pending); 3.3 mi N of Deadman Mtn, 8700', Summit Co, 24 Jun 1990 (LDB). Papilio haidii fm brucei, Hwy 153, 9 mi W of Junction, PIUTE Co, 27 Jul (PJS with Cliff Miles). P. zelicaon, Tushar Mtns, BEAVER and PIUTE Cos, 25 Jul (PJS). P. eurymedon, 2 mi NE of Bountiful Peak, 7600', MORGAN Co, 16 Jun 1986 (JLH). Pontia sisymbrii, 3.2 rd mi above Dixie NF bndry, N slope Boulder Mtn Rd, 8300', HIGH, WAYNE Co, 21 May 1982 (CFG). P. beckerii, along Colorado Rvr 5 mi NE of Moab, 4350', Grand Co, 16 Jun (RES), fresh male of summer form. Euchloe hyantis (lotta), N side UT 24, 5.4 mi E Piute Co line, 8300', WAYNE Co, 20 May 1982 (CFG). Colias occidentalis wasatchia (= pseudochristina), SALT LAKE Co, Utahensis 6(4):47; CFG requests additional records and the opportunity to examine material. Nathalis iole, 2.5 mi E of Jacobs Rsvr, Aquarius Plateau, 11000', probably HIGH, Garfield Co, 17 Aug (JLH) (The all-time Rocky Mtn HIGH, sorry John Denver, is probably 13000' in Boulder Co, CO, 1949 by the nearly legendary P. Sheldon Remington); Death Cn Rd, House Rg, MILLARD Co, 14 Jun (PJS). Lycaena phlaeas, alpine phenotype, not uncommon, high elevation, Tushar Mtns, BEAVER and PIUTE Cos, STATE, far SOUTH, 7 Aug (PJS). L. nivalis, FR 100, E of Fillmore, MILLARD Co, 22 Jul (PJS). Satyrium fuliginosum, Dry Lk Rd, 1.5-2.5 mi S of Hwy 143, IRON Co, far SOUTH, common, 11 Jul (PJS). S. behrii, FR 113, 7 mi W of Marysvale, 7200', PIUTE Co, 9 Aug (PJS). Callophrys sheridanii, 1 mi NE of Dove Crk Pass, 6700', BOX ELDER Co, NW, 21 May 1989 (JLH). C. affinis, FR 100, E of Fillmore, MILLARD Co, 12 Jul (PJS). Mitoura spinetorum, UTAH Co, Utahensis 6(4):46 (CFG). Incisalia eryphon, along Red Crk Rd, common, several localities, always assoc w/Piñon (Pinus edulis, perhaps a newly recognized foodplant), 5-8 mi N of Fruitland, 72-7400', Duchesne Co, 13 Jun (RES); 6 mi N of Blanding, SAN JUAN Co, 27 May (PAO); along US 40, 6.8 mi W of Fruitland, 7100', both Piñon and Limber pine (P. flexilis) in area, WASATCH Co, 13 Jun (RES). Hemiarctus isola, 0.4 mi W of Cane Wash, 5800', 6 mi SW of Window Blind Peak, EMERY Co, 25 May (JLH); 6.5 mi W of I-15 in small cn W of Fayette, SANPETE Co, 26 Sep (JMJ); 6.7 mi W of Lapoint, 5600', UINTAH Co, 18 Aug (JLH). Everes amyntula, along Red Crk Rd, 4.5-11.0 mi N of Fruitland, 7-8000', DUCHESNE Co, 13 Jun (RES). Euphydryas battoides, UTAH Co, Utahensis 6(4):46 (CFG). E. bernardino martini, 1 mi N of St George, 7 May 1985 (PJS); ?earlier record by JPB; Beaver Dam Wash and 2.0 mi NW of Castle Cliff, April 1989-1990 LDB, UT Lep 2(2):1-2, WASHINGTON Co, STATE, ZONE 4. E. rita emmeli, 9 mi N of Kanab, KANE Co (confirmatory), 15 Aug 1987 (PJS). Glaucopsyche piasus, Red Crk Rd, 11 mi N of Fruitland, 8000' DUCHESNE Co, 13 June (RES). Agriades glandon rusticus, E of Bear Lk Summit, Hwy 89, 7300', RICH Co, 26 Jun 1979 (RES). Plebejus saepiolus, Left Fork Dove Crk, 1.4 mi ENE of Dove Crk Pass, 6400', BOX ELDER Co, 1 Jun 1986 (fer rb JLH/CFG). Plebejus shasta, 2.1 mi SE of Francis Peak, 8200', MORGAN/Davis Co, 29 Jul (JLH). Euptoieta claudia, very worn female, along Colorado Rvr, 5 mi NE of Moab, 4350', Grand Co, 16 Jun (RES). Speyeria cybele (leto), Onemile Crk, Raft Rvr Mtns, 15 Jul (PJS); 1 mi NW of Willard, 4230', LOW (beating previous low of 4235' in MT by RES by a net-handle!), 25 Aug (JLH), both BOX ELDER Co, NW. S. zerene, FR 123, 10 mi W of Marysvale, 9500', PIUTE Co, 9 Aug (PJS). S. callippe, 2.4 mi ESE of Francis Peak, 8000', 6 Jul 1989 (JLH); 1.9 mi S of Parrish Crk Research Ctr, Bountiful Peak Rd, 7400', 16 Jul 1990 (LDB), both DAVIS Co. S. atlantis, nr bndry zone of wasatchia/chitone, FR 123, 10 mi W of Marysvale, 9500', PIUTE Co, 9 Aug (PJS); now known to me from all 29 counties. Boloria selene, a brief status report including 3 county records for my maps, from Utahensis 4(1):16 by CFG. The CRs are vic Park City, 6900', SUMMIT Co, 5 Aug 1893, A.J. Snyder, MD; marshlands W of Brigham City, BOX ELDER Co, and vic Huntsville, WEBER Co, A.D. Boyle; also a better record from Salt Lake Co, by J.W. Sugden, MD. These are all old records, and any recent ones should be sent to CFG and to me, please. Euphydryas editha, 6 CR additions and 2 CR deletions: divide betw George Crk and Onemile Crk, Raft Rvr Mtns, BOX ELDER Co, 1 July (PJS); delete DAVIS and WEBER Co reported in 1988 and earlier as misdeterminations (JLH); FR 041, Dragon Ridge, S of Joes Vy Rsvr, EMERY Co, 23 Jun (PJS); 2 mi W of Alton, KANE Co, SOUTH, 20 Jun (PJS); end of Death Cn Rd, House Rg, MILLARD Co, 14 Jun (PJS); BSA Camp Bear Lk, E shore of Bear Lk, 6000', RICH Co, 26 Jun 1979 (RES); Hwy 29 nr White Dugway, W of Joes Vy Rsvr, SANPETE Co, 22-23 Jun (PJS). Chlosyne lacinia, UTAH Co, NORTH, reported in Utahensis 6(4):46 (CFG). C. californica, Big Mtn, 5 mi SE of Enterprise, Washington Co, 7200', HIGH, NORTH, 3 Jul, LATE (PJS). C. acastus, Red Crk Rd, 5 mi N of Fruitland, 7200', Duchesne Co, 13 Jun (RES). C. gorgone, Farmington, 4800', DAVIS Co, 27 May 1990, now rare in the Salt Lake City Vy and the first recent record known to me (JLH). Phyciodes sp being studied by PAO and PJS, Wa Co and perhaps other sites, data pending publication, STATE (see AZ and CO). P. mylitta, Argyle Cn, 1.1 rd mi E of UT Hwy 33, 8800', HIGH, DUCHESNE Co, 10 Jul 1982 (CFG); 6.5 mi W of I-15 in small cn W of Fayette, SANPETE Co, 26 Sep (JMJ); Kamas, Rhodes Vy, 6500', Summit Co, Oct 1950 (USU/CFG). Polygonia satyrus, 1 mi NW of Oowah Lk, 8200', La Sal Mtns, SAN JUAN Co, SE, 21 Aug 1990 (JLH). Nymphalis californica, War God Spg, S side Navajo Mtn, 8700', SAN JUAN Co, SE, 5 Jun 1982 (KR/CFG). Vanessa virginiensis, Saddle Crk, 10 rd mi NNE Hardware Rch, 6500', CACHE Co, 6 Jul 1985 (RCM/CFG). Basilarchia a. archippus (not obsoleta), Moab, 4300', Grand Co, 16 Jun (RES). Cercyonis pegala, Gandy Salt Marsh, Snake Vy, MILLARD Co, 30 Jul (PJS). C. sthenele, 6.5 mi W of I-15 in small cn W of Fayette, SANPETE Co, 26 Sep (JMJ). Oeneis uhleri, small phenotype very much like occurs in MT (per RES), common, high elevations, Tushar Mtns, BEAVER and PIUTE Cos, STATE, far SW, 25 Jul (PJS). O. chryxus, Sego Cn Rd, 15 mi N of Thompson nr Ute Indian Rsvn, GRAND Co, SE, 23 Jun (PJS); Shingle Mill PG, S Fork Chalk Crk, 6300', LOW, MILLARD Co, 10 Jun 1982 (CFG). Danaus gilippus, Hwy 153, 9 mi E of Beaver, BEAVER Co, 25 Jul (PJS); Spring Cn, 5.8 rd mi W of Helper, 6800', CARBON Co, 14 Jun (RES); along Colorado Rvr, 5 mi NE of Moab, 4350', Grand Co, 16 Jun (RES); 0.1 mi NW mouth S Walker Cn, 6500', W side Canyon Rg, MILLARD Co, 1 Sep 1982 (CFG).



**MOTHS:** 16 data points, 16 species, 12 CRs, 5 SRs, 8 observers, 4 sending reports. Now over 510 spp known, and well over 1500 expected. A couple of the best-known spp are indicated below. Chlorosea nevadaria (Geom), North Cg, Bryce Cn NP, GARFIELD Co, STATE, 19 Jun 1990 (DLE). Estigmene acrea (Arct), nr W fork Dry Lk Fork (Rvr), 0.6 mi NNE Desert Peak, 9200', TOOELE Co, 6 Sep 1990, 2 larvae on Lupinus sp, ex pupa 20 May 1991 (CFG/RCM). Grammia turbans obliterata, E fork Bear Rvr, nr WY, SUMMIT Co, STATE, 23 Jun, larvae on Senecio sp, ex pupa 20-22 Aug, (LDB). Hemihyalea labecula (Arct), Diamond Fork, Wanrhodes Cn, UTAH Co, 19 Aug, common (JMJ). Hyles lineata, 4.0 mi N of Price, in field along US 6, 5650', CARBON Co, 14 Jun (RES); this sp is now recorded from all UT Cos except Be, Du, Ka, Mi, Mo, SJ, Ws and Wy; only Sphinx vashti is as well known among UT Sphingidae. Hypoprepia incuba (Arct), Canyon Rd, 0.3 mi NE of Kanab, KANE Co, 26 Jul (RCM). Marmopteryx marmorata (Geom), North Cg, Bryce Cn NP, GARFIELD Co, STATE, 18 Jun (JMJ). Nadata gibbosa (Noto), Diamond Fk, Wanrhodes Cn, UTAH Co, STATE, 20 Jun (JMJ). Nemoria d. darwiniata (Geom), North Cg, Bryce Cn NP, GARFIELD Co, STATE, 18 Jun 1990 (DLE). Pachysphinx occidentalis, Lytle Rch, Beaver Dam Wash, Washington Co, 13 Apr, EARLY (JMJ). Paonias myops, 10 mi S of Eureka, E Tintic Mtns, Juab Co, 23 Jun (JMJ). Parasemia plantaginis (Arct), S Willow Crk, Stansbury Mtns, TOOELE Co, not STATE but needs to be added to checklist in Utahensis, 6 Jul (KBT/RCM). Platyprepia virginialis (Arct), Eagan Fish Hatchery, 3 mi S of Bicknell, WAYNE Co, 27 Jul (C. A. Miles/RCM). Sphinx chersis, Lytle Rch, Beaver Dam Wash, Washington Co, 13 Apr, EARLY (JMJ). S. dollii, 10 mi S of Eureka, E Tintic Mtns, Juab Co, 23 Jun (JMJ). Turuptiona permaculata (Arct), Canyon Rd, 0.3 mi NE of Kanab, KANE Co, 26 Jul (RCM).

**COLORADO.** Contributors: VA, BFC, JHB, FMB, B&B, HHC, TSD, BAD, DLE, SLE, ME, CDF, MSF, TPF, JIH, SAJ, PAO, F/JP, BR, JAS, CPS, RES, ADW, MEY. Total 24, the highest ever, including 1977 when the Lep Soc meeting was here and it rained all summer! This year (1991) was nicer, with lots of rain but mainly sunny mornings so collecting was the best since 1986. Flowers and birds were everywhere in record numbers, but we remain a relatively poorly-known State in terms of Lepidoptera, especially moths. The future potential is enormous.

**BUTTERFLIES:** Over 1000 data points were received, the highest ever, including 2 STATE records, 162 COUNTY records (the highest ever), 149 species (the highest ever), and 91 CR spp (also highest), from 57/63 counties (ho hum, highest!). State totals are now 264 spp, 6 known from all counties, and 104.25 avg spp/Co or 92.18% of projection. Another 400 CRs should be fairly easy with lots of work. The county with the most spp is EP 191, and the fewest Cr/Ki 41. Potential additional STATE species include Erynnis baptisiae NE, Celotes nesus S, Staphylus hayhurstii E, Atrytonopsis pythos S, Amblyscirtes cassus S, A. texanae SE, Eurema proterpia SE, Sandia mcfarlandi SE, Ministrymon leda SW, Chlosyne lacinia SE, Poladryas m. minuta, SE, Polygonia progne NE, Asterocampa clyton E, Enodia anthedon NE, Megisto rubricata SE; others from the N and W are extremely unlikely. Five Fourth-of-July daily counts (4JBC) were done, with the following abbreviated results (see Xerces publication for details): Cal-wood 34 spp, 321 ind; Ft Collins 64 spp, 740 ind; Gilpin 93 spp, 2034 inds; High Line 47 spp, 4710 inds incl 2834 P. rapae !; Rocky Mtn NP 41 spp, 380 inds. Summary of 1991 species records: Epargyreus clarus, Carrizo PG, BACA Co, SE, 13 Jul (PAO); Koper's Tr, Rifle Cn, GARFIELD Co, 21 Jun (JIH); Holyoke, 3720', Phillips Co, 27 Aug, fresh female (?2nd generation) (RES). Erynnis icelus, E Fork San Juan Rvr, 7600-8000', ARCHULETA and MINERAL Cos, 10 Jun 1960 (BR/CU Mus/RES). E. brizo, Idaho Spgs, CLEAR CREEK Co, 27 May 1966 (BR/CU Mus/RES). E. telemachus, E Fork San Juan Rvr, 8000', MINERAL Co, 10 Jun 1960 (BR/CU Mus/RES). E. martialis, Lewis Crk Trail, 6200', 3.2 mi W of Wetmore, CUSTER Co, 11 Jun (ADW); Mt Zion, 7200', Jefferson Co, 22 Apr (ADW). E. funeralis, wet spots along road, Rifle Cn, GARFIELD Co, NORTH for W Slope, Jun-Sep 1985-1989 (JIH); Apex Gulch, 6500', Jefferson Co, 30 Jun (JAS); roadsides, Black Cn Nat Mon, MONTROSE Co, Jul 1987 (JIH); nr Florissant, 8400', TELLER Co, data pending publication (BAD). E. afranius, hilltop W of Ferndale PG, 7800', ROUTT Co, 23 Jun 1979, with persius - they should read the book! (RES); nr Florissant, 8400', TELLER Co, data pending publication (BAD). Pyrgus centaureae, CO 65 at Delta/Mesa Co line, 10839', Grand Mesa, 29 Jul (KAS); GARFIELD Co pending data (JIH); Wolf Crk Pass, 10850', MINERAL Co, 13 Jul 1961 (BR/CU Mus/RES). P. ruralis, Triangle Park, 9800', Rifle Cn, GARFIELD Co, early-mid Jul, exact data pending, 1st new Co for this poorly-known but probably widespread montane sp in decades (JIH). P. scriptura, Zapata Rch, 16 mi E of Mosca, 7700', ALAMOSA Co, 1 Jul (HHC). Pholisora meicana, Woodmen Vy, 7100', El Paso Co, 31 May, 1st record in several years for this rarity (ADW). Hesperopsis alpheus, 4 mi N of Wigwam, 5300', EL PASO Co, NE, 31 May (ADW). Piruna pirus, CO 65, oak woodland S of Mesa, 6000', MESA Co, 29 Jul (RES). Hylephila phyleus, Fowler, 4350', OTERO Co, SW, 19 Oct; Lamar, 3622', PROWERS Co, SE, 20 Oct (both PAO, RES, 3rd and 4th STATE, CRs). Yvretta rhesus, not uncommon, prairies along Quincy and Smoky Hill Rd, Arapahoe and ELBERT Cos, 19-28 May (JAS). Stinga morrisoni, few out fresh, Crystola Hill, 9600', Teller Co, 19 May (RES). Hesperia uncas, hills 1.6 mi N of Manzanola, nr CO 207, 4300', Crowley Co, 9 May, EARLY (RES). H. juba, Denver, DENVER Co, 7 Oct 1960 (BR/CU Mus/RES). H. comma oroplatea, Cotopaxi Crk, 6600', Fremont Co, 19 Aug (RES); ochracea, Lory SP, 7 mi NW of Ft Collins, 5600', Larimer Co, 14 Oct, LATE (PAO); harpalus, CO 65, oak woodland S of Mesa, 6000', Mesa Co, 29 Jul (RES). H. pahaska, fresh male, Clear Crk Cn, 6000', Jefferson Co, 21 Sep so 2nd gen (RES). H. viridis, Paonia Rsvr, near Somerset, 6200', GUNNISON Co, 1 Aug 1982 (BFC). H. ottoe, Chimney Gulch, 6200', Mt Zion Rd, Jefferson Co, 7 Jul (RES). H. leonardus montana, nr Deckers, 6800', Jefferson Co, 16 Aug, only 1 seen (RES); pawnee, Clear Crk Cn, 6000', Jefferson Co, 26 Sep, last ragged female of season (RES); Flagler SWA, 4700', Kit Carson Co, 26 Aug, one fresh male (RES). H. nevada (?), Nederland, 8400', Boulder Co, 31 Aug, VERY LATE (?aberrant comma, which was found with it) (VA). Atalopedes campestris, Cucharas Rvr in Walsenburg, 6250', HUERFANO Co, 5 Jul; Denver, 26 Oct (almost LATE); Sand Crk Park, 5330', ADAMS Co, 4 Jul (all RES; now all prairie counties). Polites peckius, Sand Crk Park, 5330', Adams Co, 4 Jul; Denver, 21 Oct, LATE (previous 14 Oct); Ft Collins, 4986', Larimer Co, 22 Jun (all RES). P. sabuleti, 3 mi SE of Ft Collins, 4850', Larimer Co, 12 Oct, LATE for E Slope, still fresh! (PAO). P. sonora, spring areas, Black Cn Nat Mon, MONTROSE Co, SOUTH, late Jun 1987, EARLY (JIH). P. themistocles, Denver, 26 Oct, LATE (previous 11 Oct); Wray, 3662', Yuma Co, 26 Aug (both RES). Ochlodes yuma, Vermilion Crk, 5930', 4 mi SE mp 9, 9 mi N jct CO 10/318, only 5 mi from WY which would be STATE, 1 Sep (ADW). P. hobomok wetona, Lewis Crk Tr, 6200', 3.2 mi W of Wetmore, Custer Co, 11 Jun (ADW). Atrytone logan, Carrizo PG, Baca Co, only recent record, 13 Jul (PAO); Cherry Crk at Monaco St, 5330', DENVER Co, (after years of looking in vain!), 9 Jul (RES); Limon, 5365', LINCOLN Co, 14 Jul (RES); Messex SWA, S Platte Rvr nr Hillrose, 4000', WASHINGTON Co, 25 Jun (RES); Wray, 3516', Yuma Co, 27 Jun (RES). A. arogos, Chimney Gulch, 6200', Mt Zion Rd, Jefferson Co, 10 Aug, LATE (ADW). Euphyes vestris, nr Arkansas Rvr, 9050', HIGH, SW of Weston Pass, LAKE Co, 2 Aug 1982 (BFC). Atrytonopsis hianna, Lewis Crk Tr, 6200', 3.2 mi W of Wetmore, Custer Co, 11 Jun (ADW). "Amblyscirtes" simius, 4 mi N of Wigwam, 5300', El Paso Co, 31 May, common (ADW). Amblyscirtes nysa, Cn nr SR 12, 7050', 3 mi W of Weston, LAS ANIMAS Co, STATE, NORTH, 1 Jul (HHC). A. phylace, 1 fresh female (rare to see!), Mt Zion, 7200', Jefferson Co, 30 Jun (RES). Lerodea eufala, Lamar, 3622', PROWERS Co, SE, 2nd STATE, 20 Oct, LATE (PAO), 2 fresh males taken. Megathymus yuccae browni, chaparral/yucca slopes above fish hatchery, Rifle Cn, GARFIELD Co, NORTH, 18 Apr 1990 (JIH). Battus philenor, Cherry Crk at Arapahoe Rd, 5400', ARAPAHOE Co, 4 Jun, VERY EARLY, one fresh female (ADW); nr Las Animas, 4050', BENT Co, 8 Jul 1990 (Marina Graves/RES); nr Florissant, 8400' TELLER Co, data pending publication (BAD). Papilio bairdii fm brucei, Dragon Pt, 0.3 mi S Rim Rd, 7000', Black Cn Nat Mon, MONTROSE Co, 28 Jun 1987 (JIH). P. zelicaon (yellow form), Zapata Rch, 7700', 16 mi E of Mosca, ALAMOSA Co, 1 Jul (HHC); nr downtown Colorado Spgs, 6020', El Paso Co, 28 Jun 1982, only 3rd known CR (Luke S. Sheffer/SAJ). P. z. fm nitra, W Cheyenne Rd, Colorado Spgs, 6200', EL PASO Co, SOUTH, 16 Jun 1984 and 23 Jun 1991 (JIH). P. indra, N Cheyenne Cn, Colorado Spgs, 6200', EL PASO Co, (confirmatory CR), mid-June 1964 (JIH). P. glaucus, the BACA Co record in the 1990 Summary is also LATE (PAO, sorry Paul!); 1 male, Tintynot, 7050', JEFFERSON Co, 2 Jul, only about the 3rd record in the foothill region, rutulus country (JAS); Holyoke, 3720', Phillips Co, 27 Aug (RES). P. rutulus, CO 17 nr Archuleta Co line, 10000', CONEJOS Co, 13 Jun 1990 (DLE). P. multicaudatus, large fresh female, Clear Crk Cn, 6000', Jefferson Co, 13 Oct, VERY LATE (previous 24 Sep); known from all prairie counties (RES). P. eurymedon, SW of Weston Pass, 9400', LAKE Co, 21 Jul 1981 (BFC). Neophasia menapia, middle cn floor, assoc Douglas Fir (Pseudotsuga menziesii), Rifle Cn, GARFIELD Co, late Jul - mid Aug 1985-89, first new CR in many years (JIH); NW of Pine, 6900', Jefferson Co, 16 Aug (RES); nr Estes Park, 7800',

Larimer Co, 20 Sep, LATE (previous 15 Sep) (ADW). Pontia occidentalis, Sand Crk, 5330', Adams Co, 6 Jul (ADW, det PAO); Alamosa, 7546', ALAMOSA Co, 9 Aug (RES); Flagler SWA, 4700', 4.0 mi E of Flagler, KIT CARSON Co, 9 Oct (RES); several, Manzanola and Swink, OTERO Co, 19 Oct, LATE for prairies (PAO); South Fork, 8000', RIO GRANDE Co, 9 Aug (RES). Euchloe ausonides, CO 17 nr Archuleta Co line, 10000', CONEJOS Co, 13 Jun 1990 (DLE). E. olympia, ridge at Walsenburg, 6800', HUERFANO Co, 2 May; Eads, Kiowa Crk, 4250', KIOWA Co, 8 May; breaks W of US 385, 4025', 18.4 mi N of Burlington, KIT CARSON Co, 6 May; 16 mi S of Last Chance, along W side of CO 71, 5400', LINCOLN Co, 6 May; 12 mi S of Last Chance, hilltop W of CO 71, 5425', WASHINGTON Co, 6 May; hilltop SE of Wray, 3725', YUMA Co, 6 May (all RES). Colias meadii, upper elevations of Rifle Cn, including Triangle Park, 10800', GARFIELD Co, 20 Jul 1990 and earlier yrs (JIH); W side of Loveland Pass, 11800', Summit Co, 30 Aug, LATE above treeline (RES). C. alexandra, Cherry Crk SRA, 5600', Arapahoe Co, 30 May (ADW); Dory Hill (RES cabin), 9000', Gilpin Co, 26 Sep, LATE (previous 13 Sep) (RES). C. scudderii, E Portal, 9400', Gilpin Co, 17 Aug (RES). Zerene cesonia, a major influx this year, with over 20 records received; more observers probably could have recorded it in all 63 counties! Summary: Sand Crk, 5335', Adams Co, 10 Jul, 1 fresh female (RES); above fish hatchery, Rifle Cn, GARFIELD Co, 20 Jun 1990 (JIH); Cucharas Rvr in Walsenburg, 6250', Huerfano Co, 5 Jul, 1 fresh male (RES); Jefferson Co, 6-8000', several records, 27 May - 26 Sep (PAO,JAS); 1 fresh male fm rosa, Apex Gulch, 6400', 28 Sep (almost LATE)(ADW); Burlington, 4150', Kit Carson Co, 27 Jun, 1 fresh male (RES); Limon, 5365', LINCOLN Co, 14 Jul, worn male netted (RES); Pueblo, 4725', Pueblo Co, 8 Jun (JAS); Keystone, 9400', SUMMIT Co, 30 Aug (RES); several seen, Wray (3662') and Bonny Rsvr SP (3700'), Yuma Co, 26 Aug (RES); the only missing prairie counties are El, Ph, Ot, and Wa. Phoebis sennae, Weston Pass, 11800', not quite HIGH (see 1990 Summary), LAKE Co, 21 Jul 1981 (BFC); Tomichi Pt, Black Cn Nat Mon, MONTROSE Co, 28 Jun 1987 (JIH). Eurema nicippe, a good year, with nearly a dozen records from 6 counties, 8 May thru Jul; Sand Crk, 5335', Adams Co, 6 Jul (ADW); Wild Horse Crk, Kit Carson, 4285'. CHEYENNE Co, 8 May and 27 Jun (RES); nr Dory Hill, RES cabin, 8900', Gilpin Co, 30 Jun (RES with Audubon group); top of Mt Zion, 7200', Jefferson Co, 30 May, not usually on hilltops (ADW); Limon, 5365', LINCOLN Co, 24 Jun (RES). E. mexicana, an explosion year with nearly 20 records from 9 counties; Sand Crk, 5335', Adams Co, 6 Jul (RES,ADW); Wild Horse Crk, Kit Carson, 4285', CHEYENNE Co, 21 and 27 Jun (RES); Elizabeth, 6500', ELBERT Co, 24 Jun (RES); nr Dory Hill, RES cabin, 8900', Gilpin Co, 30 Jun (RES with Audubon group); Frazer Mdw Trhd, 8400', Gilpin Co, 7 Jul (KAS on 4JBC); 8 mi W of Hot Sulphur Spgs, 7650', Grand Co, 29 Jun (ADW); nr Entrance Station, Black Cn Nat Mon, MONTROSE Co, 18 Jul 1987 (JIH); the only missing prairie counties are Ba, Ot and Wa. Nathalis iole, CO 94, 10 mi E of Colorado Spgs, 6200', El Paso Co, 18 Aug (RES); common in Limon, Lincoln Co, and Flagler, Kit Carson Co, 9 Oct (RES). Lycæna cuprea, rockslides below plateau rim (?nr Triangle Park, 10000'), Rifle Cn GARFIELD Co, late Jul, full data pending (JIH); rockslide below Tomichi Pt, 7200', LOW, Black Cn Nat Mon, MONTROSE Co, 12 June 1987, VERY EARLY, a very peculiar record requiring further study (JIH). Lycæna xanthoides, Cherry Crk SRA, 5600', Arapahoe Co, 11 Aug, LATE (previous 6 Aug) (ADW); Kit Carson, 4285', Cheyenne Co, 21 Jun (RES); Coal Crk Cn, 7600', HIGH, Jefferson Co, 7 Jul (PAO); PAO's backyard, Ft Collins, Larimer Co, 22 Jun (RES). L. editha, East Portal, 9400', Gilpin Co, 17 Aug (RES). L. hyllus, nr pond, Flagler SWA, 4700', KIT CARSON Co, 24 Jun (RES); with the 3 other prairie copper spp (xanthoides, rubida, helooides), Limon, 5365', Lincoln Co, 14 Jul (RES). L. rubida, Vail, 8200', Eagle Co, 24 Sep, LATE (previous 22 Sep) (ADW). L. heteronea, nr Florissant, 8400', TELLER Co, data pending publication (BAD). L. dorcas castro, E Portal, 9400', Gilpin Co, 26 Sep, LATE (previous 22 Sep) (RES). L. helooides, 1.6 mi N of Manzanola, 4200', Crowley Co, and Fowler, 4350', Otero Co, 19 Oct (RES); Lewis Crk Tr, 6200', 3.2 mi W of Wetmore, CUSTER Co, 11 Jun (ADW); Elizabeth, 6500', 24 Jun, and Hwy I-70, nr Agate, 5440', 9 Oct, ELBERT Co (RES); marsh above beaver dams, Rifle Cn, GARFIELD Co, early Jul data pending (JIH); CO 64 at White Rvr, 5270', RIO BLANCO Co, 22 Aug (M. G. Kippenhan and B. C. Kondratieff /ADW); nr Florissant, 8400', TELLER Co, data pending publication (BAD, perhaps castro?); contributors are asked to submit data for the low elevation form as helooides, and the high elevation form as dorcas, florus or castro so I can keep my records straight, even if they believe that all are helooides (RES). Hypaurotis crysalus, very common in 1990 in Douglas and El Paso Cos (ADW), but rare in 1991 (RES,ADW); Rock Crk, El Paso Co, 6 Oct, LATE (R. S. Twarkins/ADW); rare and worn, 6 mi E of N La Veta Pass, 8400', Huerfano Co, 20 Aug (RES). Satvrium titus, common, Mt Zion, 7200', Jefferson Co, 7 Jul (RES et al.). S. calanus godarti, Tintown, 6850', Jefferson Co, 4 Sep, LATE (previous 28 Aug) (JAS). S. liparops, Sand Crk, 5335', Aurora, ADAMS Co, 6 Jul (PAO), as usual, found on chokecherry; Cucharas Rvr in Walsenburg, 6250', HUERFANO Co, SOUTH, 5 Jul (RES), again on chokecherry. S. acadicum, fresh, willow areas at Bonny Rsvr and Wray, Yuma Co, 3516-3750', 27 Jun (RES). S. sylvinum, Cucharas Rvr in Walsenburg, 6250', HUERFANO Co, 5 Jul (RES); now I need to find a viceroy in the same place sometime! Callophrys affinis, 4 mi SE of jct US 40/CO 50, 7650', Grand Co, 14 Jul, LATE (previous 28 Jun) (ADW). C. apama with tendency toward affinis, 9 mi NE of Grover, 5455', Weld Co, 8 Jun (RES). Mitoura siva, Cedar Pt, 5950', ELBERT Co, 24 Jun, in a small natural stand of juniper (RES); CO 64 at White Rvr, 5270', Rio Blanco Co, 22 Aug, VERY LATE (previous 1 Aug; ?2nd generation) (M. G. Kippenhan and B. C. Kondratieff/ADW); nr Florissant, 8400', TELLER Co, data pending publication (BAD). M. spinetorum, Peaceful Vy Boy Scout Reh, 2 mi SE of Elbert, 6800', LOW, ELBERT Co, EAST, 6 Jun (ADW); Crystola Hill, 9600', Teller Co, 19 May (RES). Incisalia polia, Crystola Hill, 9600', Teller Co, 19 May (RES). Strymon melinus, oak woodland above fish hatchery, Rifle Cn, GARFIELD Co, Jun-Jul, full data pending (JIH); Mt Zion, 7200', Jefferson Co, 24 Mar, VERY EARLY (previous 6 Apr) (ADW). Brephidium exile, a great year both E and W, with over 20 records received including 9 CRs; Norfolk Glen Park, 5400', Aurora, ADAMS Co, 7 Oct (ADW,RES); Cherry Crk SRA, 5600', ARAPAHOE Co, 21 Sep (ADW); Carrizo PG, BACA Co, SE, 13 Jul (PAO); Kit Carson, 4285', Cheyenne Co, 27 Jun (RES); Dolores Rvr, 6400', 6 mi ESE of Cahone, DOLORES Co, 20 Jul 1988 (MSF); Cottonwood Rd at Cherry Crk, 5800', DOUGLAS Co, 7 Oct (ADW); Elizabeth, 6500', ELBERT Co, 7 Oct (ADW); Johnson Park, 5500', nr Hwy I-70 and Wadsworth Blvd, JEFFERSON Co (hard to get CRs there anymore!), 8 Oct (RES); Flagler, 4950', KIT CARSON Co, 9 Oct (RES); E side of Colona, 6600', HIGH, OURAY Co, 14 Aug 1987 (MSF); Lamar, 3622', Prowers Co, 20 Oct, almost LATE (RES); the only missing prairie counties are Lr, Lo and Ph. Leptotes marina, another nonoverwintering species with a great year, about 12 records received; Sand Crk Park, 5300', Adams Co, 6 Jul - 7 Oct, not uncommon (RES); 2 mi S of Las Animas, 3900', Bent Co, 8 May (RES, not quite EARLY); Kit Carson, 4285', CHEYENNE Co, 21 Jun (RES); Cucharas Rvr in Walsenburg, 6250', Huerfano Co, 5 Jul (RES); Clear Crk Cn, 6800', Jefferson Co, 21 Sep (RES); Burlington, 4160', KIT CARSON Co, 10 Oct (RES); Smith-Viestenz Park, 8 mi W of Loveland, Larimer Co, 13 Oct, almost LATE (PAO); Limon, 5365', LINCOLN Co, 14 Jul (RES); S Platte Rvr, across hwy from Plains Museum, 3950', Sterling, LOGAN Co, 28 Jun (RES); Brush, 4100', MORGAN Co, 11 Oct (RES); the only missing prairie counties are Ph and Wa. Everes comyntas, common along US 385 at Bonny Rsvr (3700') and Wray (3662'), Yuma Co, 26 Aug (RES). E. amyntula, common and fresh (certainly 2nd generation), Woodmen Vy, 7200', El Paso Co, 18 Aug (RES). Celastrina argiolus, Crystola Hill, 9600', TELLER Co, 19 May (RES); there is an earlier record from the Pikes Peak Research Station according to BAD. C. sp nr neglecta-major, Cherry Crk SRA, 5600', ARAPAHOE Co, 1 Jul (ADW); DENVER record for "argiolus" is probably this entity, pending confirmation; female in DMNH coll, det RES,ADW; High Line Canal, 5500', nr Spring Gulch, DOUGLAS Co, 11 Jul 1976 (ME); Johnson Park, 5500', nr I-70/Wadsworth Blvd, Jefferson Co, 7 Jul (RES); nr Horsetooth Rsvr, 5600', LARIMER Co, NORTH, late Jun 1985-1991 (PAO); must check Don Eff's coll at CU Museum, because he surely got it in BOULDER Co, keep tuned. Euphilotes rita coloradensis, Piney Crk at jct Smoky Hill Rd, 6250', DOUGLAS Co (finally!), 17 Aug (RES); undetermined rita pending data and verifications, GARFIELD and MONTROSE Cos (JIH). Agriades glandon rusticus, East Portal, 9400', Gilpin Co, 26 Sep, not quite LATE (RES). Plebejus acmon, Sand Crk, 5335', Aurora, Adams Co, 6 Jul (ADW); 2 mi S of Las Animas, Bent Co, 19 Oct (PAO, RES); US 85, 6000', 3-4 mi S of Sedalia, Douglas Co, 3 Oct (RES); Burlington, 4150', Kit Carson Co, and Wray, 3516', Yuma Co, 27 Jun (RES), rare this early on prairies, but JAS found several at Lowry Bombing Rg, Arapahoe Co, on 26 May; nr Crook, 3700', LOGAN Co, 25 Jun (JAS); S of Nee Granda Rsvr, 3975', Kiowa Co, 20 Oct, LATE (previous 19 Oct above, PAO,RES). P. shasta, High Point, Black Cn Nat Mon, MONTROSE Co, late Jun, data pending (JIH); Wilson Peak, 11500', SAN MIGUEL Co, 17 Jul 1962 (SLE). Apodemia mormo, CO 94, 10 mi E of Colo Spgs, 6200', El Paso Co, 18 Aug (RES); nr Cotopaxi, 6400', Fremont Co, 19 Aug (RES); nr US 160, 8400', 6 mi E of N La Veta Pass, Huerfano Co, 20 Aug (RES); 2 mi SE of mp 9, 9 mi N jct CO 10/318, 6200', Moffat Co, 1 Sep, very common (ADW). A. nais, worn male taken, nr cave on Koper Tr, GARFIELD Co, NORTH, 1 Aug 1989 (JIH); Mt Zion, 7200', Jefferson Co, 30 Jun, EARLY except for old Boulder Co record without data (RES). Heliconius charitonius, N Cheyenne Cn, Colo Spgs, 6200', EL PASO Co, 4th STATE, 18 Jul 1979, collected (JIH).

Dione (Agraulis) vanillae, an extraordinary year for this non-breeding species in our region; parking lot at Peoria/6th Ave, 5350', Aurora, ARAPAHOE Co, 19 Jul, fresh male sighting (RES); Gold Camp Rd, nr Colo Spgs, El Paso Co, 7 Jul 1990 (E. Scharnberg/ADW); Chimney Gulch, 6200', Mt Zion Rd, Jefferson Co (2nd CR and first in over 20 yrs), 7 Jul, joint sighting of chipped male (RES,ADW); Limon, 5365', LINCOLN Co, 14 Jul, male taken (RES); nr Florissant, 8400', TELLER Co, data pending publication (BAD). Speyeria idalia, Kit Carson Co, 14 Jul 1990 (S. E. Dolansky/ADW, ties EARLY); nr Florissant, 8400', HIGH, TELLER Co, data pending publication (BAD). S. nokomis, Lion's Spg, 6800', Black Cn Nat Mon, Montrose Co (first recent record), 20 Aug 1987, netted/released (JIH). S. e. cybele, nr S Platte Rvr at Julesburg, 3490', Sedgwick Co, 27 Aug, LATE for ssp (RES); S. e. carpenteri, reduced numbers, San Juan NF, Montezuma Co, 15 Aug (CDF). S. aphrodite, Gunnison Pt, Black Cn Nat Mon, MONTROSE Co, late Jun 1987 (JIH). S. edwardsii, common in Denver metro region, espec Arapahoe Co in Jun (ADW); on thistle at wet place 4600', 22.0 mi NW of Kit Carson, CHEYENNE Co, 27 Jun (RES); Cg area, Black Cn NM, MONTROSE Co, late Jun-early Jul 1987 (JIH). S. coronis, last worn female of the season, on rabbitbrush, Clear Crk Cn, 6000', Jefferson Co, 8 Oct, LATE (previous: several earlier records same year and place)(RES); nr Entrance Station, Black Cn Nat Mon, MONTROSE Co, late Jun-early Jul 1987 (JIH). S. zereue, Nederland, 8400', Boulder Co (rare on E Slope), 31 Aug, almost LATE (VA); SW of Weston Pass, 9400', LAKE Co, 26 Jul 1980 (BFC). S. hydaspes, rocky aspen mdw, 10000', Rifle Cn, GARFIELD Co, SOUTH, 4 Aug 1990 & earlier yrs (JIH). S. mormonia, E Portal, 9400', Gilpin Co, 2 Oct, almost LATE (RES). Boloria eunomia, aspen glade above Little Box, Rifle Cn, presumably about 10000', Jul 1985-1990, data pending, GARFIELD Co, NW (JIH). B. improba acrocneuma, with dots now in 4 Cos an armchair lepidopterist might think that this insect occurs over several hundred square miles, but do not be fooled! B&B have made a thorough study, and the true distribution is a few small colonies scattered in the San Juan high country, many in danger of extinction by natural forces alone despite Endangered status and ban on collecting. I predict about 3 more county dots, each representing at most a few dozen individuals. Here is a brief summary of new information: CHAFFEE/GUNNISON Co line, fide JAS and B&B; SAGUACHE Co (B&B), data pending publication. B. selene, nr beaver ponds, Rifle Cn, again probably about 10000', GARFIELD Co, late Jun-mid Jul 1985-1990, data pending (JIH). B. bellona, Colo Rvr at Hot Sulphur Spgs, 7700', Grand Co, 28 May 1990, EARLY (ADW). B. frigga, Loveland Pass, 11950', CLEAR CREEK Co, 6 Jul (HHC); above Little Box, 8500', Rifle Cn, GARFIELD Co, WEST, 24 Jun 1986 (JIH). B. freija, mdw below Triangle Park, probably slightly below 10000', GARFIELD Co, WEST, 1st CR in 25 yrs, late Jun 1985-1990 (JIH). Poladyras arachne, 1 male each time, Mt Zion, 7200', Jefferson Co, 30 Jun and 21 Sep (RES). Thessalia leanira alma, hillside above cattle guard, Rifle Cn, GARFIELD Co, NORTH, Jun 1985-1990, data pending (JIH). T. fulvia, Quebec St/6th Ave, 5350', E Denver, DENVER Co, 30 Jun (MEY); Huerfano Rvr at Hwy I-25, 5980', Huerfano Co, 5 Jul (RES); hills 0.3 mi S jct US 350/CO 71, 4500', Otero Co, 9 May, EARLY for E Slope, suggesting 3 generations on the plains (RES). Chlosyne damoetas, Horseshoe Mtn, 12500', 10 mi W of Fairplay, Park Co, 2 Jul, EARLY, and 4 Jul, over 70 seen (ADW). C. gorgone, pupae found under rocks, 0.5 mi E of Tynytown, 7000', Jefferson Co, 27 May, reared to adults (ADW et al.). C. nycteis, E Portal, Black Cn Nat Mon, MONTROSE Co, mid-Jul 1987 (JIH). Phyciodes texana, Apex Gulch, 6400', Jefferson Co, 22 Jun, EARLY (ADW); Limon, 5365', LINCOLN Co, 24 Jun (RES); 2 records in a single year are very unusual. P. tharos (A), Rd BB/CO 71, 4650', Crowley Co, 19 Oct, LATE (previous 16 Oct) (RES). P. undet sp under study, MESA and MONTEZUMA Cos (PAO,PJS). P. campestris, pupae under rocks, same data as C. gorgone above (ADW). P. pictus, 2 mi S of Las Animas, 3900', Bent Co, 8 May, EARLY (RES); abundant, 2 mi N jct I-25/CO 16, El Paso Co, 30 Jul 1990 (B. B. Brinkman, ADW). P. vesta, nr Florissant, 8400', TELLER Co, data pending publication (BAD). P. mylitta, Dolores Rvr, 6400', 6 mi ESE of Cahone, DOLORES Co, 20 Jul 1988 (MSF); middle elevations at mud, Rifle Cn, GARFIELD Co, probably 2 generations Jun, Aug 1985-1990, data pending (JIH); W Unawep Cn, 5800', 9 mi E of Gateway, MESA Co, 19 Aug 1968, LATE (MSF); nr Entrance Station, Black Cn Nat Mon, MONTROSE Co, 1 Jun thru Jul 1987 (JIH). Polygonia interrogationis, below Two Buttes Dam, 4300', Baca/Prowers Co line, 20 Oct (RES); 2 mi S of Las Animas, 3900', Bent Co, 8 May, EARLY (no doubt flies much earlier)(RES); Cherry Crk/Monaco St, 5330', Denver Co, 9 Jul, rare for several years (RES); fresh female, Central City, 8100', GILPIN Co, 30 Sep 1990 (CPS); common and fresh, Limon, 5365', Lincoln Co, 14 Jul (RES); ranger residence rd, Black Cn Nat Mon, MONTROSE Co, only 2nd W Slope record, 28 Jul 1987 (JIH); nr Florissant, 8400', HIGH, TELLER Co, data pending publication (BAD). P. comma, one seen where there were formerly dozens, Lodgepole Crk in Ovid, 3520', Sedgwick Co, 27 Aug (RES). P. satyrus, Sand Crk in Aurora, 5335', Adams Co, 6 Jul (PAO); one individual each visit, Cucharas Rvr in Walsenburg, 6250', Huerfano Co, 5 Jul & 20 Aug (RES); known from all E Slope foothill counties but seems to be replaced by comma further east. P. faunus hylas, only 1 seen where dozens are usually on thistles, Indian Crk Cg, 7600', Douglas Co, 4 Sep (RES); Clear Crk Cn, 6200', LOW, Jefferson Co, 21 Sep (RES). P. oreas nigrozephyrus, 1 fresh male taken, Clear Crk Cn, 6800', JEFFERSON Co, (confirmatory), 21 Sep (RES); one taken, Rifle Cn, GARFIELD Co, 19 May (JIH). Nymphalis californica, below Little Box, Rifle Cn, GARFIELD Co, only 2nd W Slope record (oddly), 12 Jul 1990 (JIH). N. milberti, one taken on marigolds, Burlington, 4160', KIT CARSON Co, 10 Oct (RES). Vanessa virginianensis, N of Cheyenne Wells along US 385, 1.6 mi S of Kit Carson Co line, 4210', CHEYENNE Co, 27 Jun (RES); one each females seen on marigold flowers, Ordway & Crowley, 4300', Crowley Co, 19 Oct (RES); Apex Gulch Park, 6500', Jefferson Co, 21 Oct, almost LATE (RES); Burlington, 4150', Kit Carson Co, 27 Jun (RES); fresh female, Limon, 5365', Lincoln Co, 24 Jun (RES); known from all prairie Cos except Otero Co. V. cardui, explosion year like 1973 and 1983, on the wing at least from 1 May through 21 Oct, with records from one observer for 46 counties (RES)! JAS noted northeastwardly migration in early May, but no southward flight later, as was noted in earlier peak years; they overwinter as adults here frequently (JAS) or almost always die out (RES). A beautiful, fresh aberration of the form "elymi", illustrated on Plate 42 of Comstock's of California, was taken on a thistle flower in Limon, 5365', LINCOLN Co, STATE & ZONE, 27 Jun (RES). V. annabella, fresh male, along Hwy I-70 nr Agate, 5440', ELBERT Co, 9 Oct; Limon, 5365', Lincoln Co, 14 Jul, flying among garden hollyhocks; hilltop W of Ferndale Pg, 7800', US 40, Routt Co, 12 Jun (all RES). Junonia coenia, Sand Crk, 5335', Aurora, Adams Co, 6 Jul (ADW); Carrizo Pg, Baca Co, 13 Jul (PAO); Holyoke, 3720', PHILLIPS Co, 11 Oct, LATE (previous 10 Oct)(RES); Wray, 3516', Yuma Co, 27 Jun, EARLY (previous 6 Jul)(RES); known from all prairie Cos except LA, Wa, We. Adelpha bredowii, a nearly unbelievable 6 individuals seen, Beaver Crk SWA, 6100', 7 mi NNE of Penrose, FREMONT Co, 15 Sep, LATE (previous 11 Sep) (S. E. Dolansky and R. S. Twarkins/ADW); oak thickets above fish hatchery, Rifle Cn, GARFIELD Co, NORTH, 21 Jul 1988 (JIH); Rimrock Tr, Black Cn Nat Mon, MONTROSE Co, 20 Jul 1987 (JIH). Anaea andria, Sand Crk, 5335', Aurora, Adams Co, 7 Jul 1990 (ADW); below Two Buttes Dam, 4300', Baca/Prowers Co line, 20 Oct (PAO); fair female, Wild Horse Crk, in tree, 4285', Kit Carson, CHEYENNE Co, 27 Jun (RES); Fountain Crk, 1 mi S of downtown Colo Spgs, El Paso Co, 16 Sep (M. Graves/RES); fair male, Kiowa Crk, Eads, 4250', Kiowa Co, 8 May (RES). Asterocampa celtis, ssp antonia, Picture Cn, Baca Co, 12 Jul (PAO); ssp montis, CLEAR CREEK Co, probably Clear Creek Cn just W of Jefferson Co line, about 7050' where hackberry trees occur (RES), cited by TPF in J Res Lepid 25(4):252, 1987(1988); bivoltine in EL PASO Co, with remembrances from decades ago by FMB (in litt) and more recent records from SAJ including nr Colo College, Colo Spgs, 8 Jul 1983 (L. S. Sheffer) and Sep records (SAJ); ssp celtis, gardens of Plains Museum, Sterling, LOGAN Co, 28 Jun (RES). Cyllopsis pertepida, Woodmen Vy, 7200', El Paso Co, 18 Aug; nr Cotopaxi, 6700', Fremont Co, 19 Aug (both RES). Cercyonis pegala, Huerfano Rvr at Hwy I-25, 5980', & Cucharas Rvr in Walsenburg, 6250', HUERFANO Co, 5 Jul (RES); now known from all prairie Cos. C. meadii, nr Cotopaxi, 6700', Fremont Co, 19 Aug (RES); Morrisania Mesa, 6000', nr Rifle Cn, GARFIELD Co, NW, 10 Jul 1986, EARLY, into Aug (JIH). C. oetus, worn female, Indian Crk Cg, 7600', Douglas Co, 3 Oct, LATE (previous 1 Oct) (RES). Erebia epipsodea alt fm "brucei", fresh male!, W side Loveland Pass, 11800', Summit Co, 30 Aug, LATE (previous 23 Aug) (RES). E. callias, 1 worn male, same data, LATE (previous 27 Aug) (RES). E. theano, male, Weminuche Pass, ARCHULETA Co, 1st CR in decades (old preachers never die!), 24 Jul 1940 (BR/CU Mus/RES). Neominois ridingsii, Cedar Pt, 5950', Elbert Co, 24 Jun (RES); summit of Mt Zion, 7200' (first ever seen there!), Jefferson Co, 7 Jul (ADW); many records from nearby Lookout Mtn and Cabrini Shrine. Oeneis uhleri, open spruce forest below Triangle Park, 9500', Rifle Crk drainage, GARFIELD Co, NW, 16 Jul 1986 (JIH). O. gryxus, common in odd yr, Horseshoe Mtn, 12500', 10 mi W of Fairplay, Park Co, 4 Jul (ADW); although found mainly in even years, I got a series at Guanella Cg, nr Guanella Pass, 11200', Clear Crk Co, 30 Jul 1967, so the biology is not simple (RES). O. melissa, Horseshoe Mtn, 12500', Park Co, 28 Jun 1989, EARLY, eclipsing 1 Jul 1943 record of the late C. F. dosPassos, whose contributions to our science are legion (ADW). O. polixenes, same data, also EARLY, eclipsing a record of another (but living) legend, J. Donald Eff on 3 Jul 1953 in another county (also ADW). They have departed into their own countries by another way (apology to St Matthew 2:12). Danaus plexippus, uncommon in 20 counties, 6 May

thru 20 Oct (RES); we are still missing records from 6 counties. *D. gilippus*, a great year (see UT also) with nearly 20 records received from 12 counties from 27 Jun thru 14 Sep; larva on milkweed, photographed, Sand Crk, 5335', Adams Co, 6 Jul (PAO); Cherry Crk SRA, 5600', Arapahoe Co, 30 Sep 1989, tie with RES for LATE (ADW); wet place along US 40, 4600', 22.0 mi NW of Kit Carson, CHEYENNE Co, 27 Jun (RES); Chimney Gulch, 6200', Mt Zion Rd, Jefferson Co, 30 Jun (RES with Audubon group); Cucharas Rvr in Walsenburg, 6250', HUERFANO Co, 5 Jul (RES); Holyoke, 3700', PHILLIPS Co, 27 Jun (RES); nr Florissant, 8400', TELLER Co, data (perhaps HIGH?) pending publication (BAD); known from all prairie counties except Cr, El, Li and Ot. Thus endeth the reading; sic transit gloria mundi!

**MOTHS:** 115 data points were received, of 45 in 1990 and 38 in 1989, from 6 contributors; 66 spp are listed, many of which are COUNTY or even STATE records. We expect to have maps available by next year. TSD thanks J. G. Franclemont and J. D. Lafontaine for help with determinations, as in previous years. Over 1500 moth species are now known from Colorado, and the total should reach 2000 by that year. *Acopa carina* (Noct), BENT Co, Sep 1990 (PAO/TSD). *Agonopterix alstroemeriana* (bless you!; *Strongylocentrotus drobachensis*, a conch, still has the longest name), a member of Oecophoridae, Boulder, BOULDER Co, 30 Aug (VA). *Amphipoea americana* (Noct), Conifer, JEFFERSON Co, 1 Sep (VA). *Ascalaphus odorata* (Noct), 2 more individuals, Brandt Rch, 12 mi NE of Alamosa, Alamosa Co, 18-19 Jul (JHB). *Bertholdia trigona* (Arct), Boulder, BOULDER Co, 30 Aug, and Deckers, DOUGLAS Co, 1 Sep (VA). *Brachylomia discinigra* (Noct), GRAND Co, Aug (TSD). *Catocala ilia*, oak-pine woodland N of US 160, 8400', 6 mi E of N La Veta Pass, HUERFANO Co, seemingly rare in Colorado, 20 Aug (RES). *C. relictata*, GRAND Co, Sep (TSD). *Clostera paraphora* (Noto), GRAND Co, Jun (TSD). *Coloradia luskii*, (Satur), RMNP, LARIMER Co, NORTH, 3rd STATE, 17 Jun (PAO). *Crambidia casta* (Arct), Evergreen, JEFFERSON Co, 31 Aug (VA). *Crambodes talidiformis* (Noct), Deckers, DOUGLAS Co, 1 Sep (VA). *Crocigrapha normani* (Noct), MORGAN Co, May (TSD). *Dichrorampha simulana* (Tort), Evergreen, JEFFERSON Co, 31 Aug (VA). *Dicestra trifolii* (Noct), Pueblo, PUEBLO Co, 2 Sep (VA). *Doa ampla* (Doidae), nr TL, Lookout Mtn, Jefferson Co, 7 Jul, second straight yr (DEB, TSD, PAO). *Enargia decolor* and *E. infumata* (Noct), GRAND Co, Aug (TSD). *Erannis tiliaria* (Geom), RMNP, LARIMER Co, 9 Oct (PAO). *Eubaphe unicolor* (Geom), Boulder, BOULDER Co, 30 Aug (VA). *Eucirroedia pampina* (Noct), OURAY Co, Sep (TSD). *Eucosma hyponomeutana* (Tort), nr Roggen, WELD Co, 22 Aug (DEB, PAO), a "lost" sp descr from CO by Walsingham in 1895 (PAO). *Euproserpinus wiesti* (Sph), now rare at site E of Greeley, Weld Co because of weedy overgrowth (BFC). *Euxoa albipennis*, *E. declarata*, *E. idahoensis* and *E. servita* (Noct), Evergreen, JEFFERSON Co, 31 Aug (VA). *E. auxiliaris*, The Awful Miller!, had a major infestation of CO and neighboring States in 1991; records are on hand from 21 counties, and it was undoubtedly present in hundreds over every square meter in the State, mainly 25 May thru 5 Jul (RES); so many were flying on 12 Jun across I-70 W of Denver up to Empire that visibility was reduced to 100 ft and headlights were necessary at noon, and the pavement was slick with dead moths. Front page articles appeared in all regional newspapers, and the flight even made at least one of the major national news weeklies. At last, the year of the Miller is gone. *E. brunneigera excogita* and *E. permixta*, GARFIELD Co, Jul (TSD). *E. perpolita*, Boulder, BOULDER Co, 30 Aug (VA). *E. teleboa*, OURAY Co, Sep (TSD). *Evergestis simulatilis* (Pyr), Boulder, BOULDER Co, 30 Aug (VA). *Faronta diffusa* (Noct), Deckers, DOUGLAS Co, 1 Sep (VA). *Gnaphaela vermiculata* (Arct), diurnal at Keystone, 9400', SUMMIT Co, 30 Aug (RES). *Hemileuca eglanterina annulata*, CO 94, 6200', 10 mi E of Colo Spgs, EL PASO Co, 18 Aug, hundreds flying (RES). *H. nevadensis*, common along willow-lined prairie streams in Ad, Ap, Dn, KC, Li, Ph and Yu Cos, 5-10 Oct, ?LATE (RES). *Heterocampa rufinans* (Noto), GARFIELD Co, Jul (TSD). *Hyles lineata* (Sph), many records statewide from 6 May thru 10 Oct. I currently have records from Ad, Ba, Be, Bo, Cr, Cy, Dn, EP, Gu, Hi, Hu, Ja, Je, Ki, KC, Li, Lr, Mf, Mg, Ot, Ph, Pi, Pr, Ro, Te, We, and Yu Cos (ever see one at your porchlight, Andy?). *Itame sulphurea* (Geom), Morrison, JEFFERSON Co, 1 Sep (VA). *Lochmaeus bilineata* (Noto), PAO's yard, LARIMER Co, STATE, Jul (TSD). *L. manteo*, GARFIELD Co, STATE, Jul (TSD). *Loxostege cereralis* (Pyr), Nederland, BOULDER Co, and Evergreen, JEFFERSON Co, 31 Aug (VA). *L. sticticalis*, Colo Spgs, EL PASO Co, 3 Sep (VA). *Lycia rachelae* (Geom), RMNP, LARIMER Co, 6 Apr (PAO). *Manduca quinquemaculata* (Sph), Boulder, Boulder Co, 30 Aug (?LATE for adults)(VA). *Melemaea magdalena* (Geom), RMNP, LARIMER Co, 2-12 Oct (PAO). *Meleneta antennata* (Noct), GARFIELD Co, Jul (TSD). *Melittia grandis* (Sesiidae), Carrizo Pg, BACA Co, STATE, 13 Jul (B. C. Kondratieff, M. Leatherman/PAO). *Metaltetra miserulata* (Noct), LARIMER Co, Sep 1989 (PAO/TSD). *Oncocnemis chandleri* (Noct), Buffalo Crk, JEFFERSON Co, 1 Sep (VA). *Oligia indirecta* (Noct), LARIMER Co, Jul (TSD). *Platysenta albolabes* (Noct), LARIMER Co, Jun 1990 (PAO/TSD). *Polia purpurissata* (Noct), Conifer, JEFFERSON Co, 1 Sep (VA). *Pseudanthoecia tumida* (Noct), BOULDER, DOUGLAS, JEFFERSON Cos, 30 Aug - 1 Sep (VA). *Pyrausta socialis perpallidialis* (Pyr), Deckers, DOUGLAS Co, 1 Sep (VA). *Schinia albafascia* and *S. trifascia*, Pueblo, PUEBLO Co, 2 Sep (VA). *Scoparia normalis* (Pyr), Evergreen, JEFFERSON Co, 31 Aug (VA). *Semioscopis aureorella* (Oecophoridae), RMNP, LARIMER Co, 6 Apr (PAO). *S. inornata*, 11.5 mi NW of Masonville, LARIMER Co, 23 Apr 1989 (PAO). *Spodoptera exigua* (Noct), GRAND Co, Aug (TSD). *Theresea flavicosta* (Noct), Ellicott, EL PASO Co, 2 Sep (VA). *Tolyte distincta* (Lasio), Boulder, BOULDER Co, 30 Aug (VA). *Tricholita chipeta* (Noct), OURAY Co, Sep (TSD). *Xylomoia chagnoni* (noct), LARIMER Co, Jul (TSD).

**NEW MEXICO.** Contributors: SJC, DLE, CDF, MSF, GSF, RWH, PAO, KR, PJS, RES. The total of 10 is second only to 13 in 1989, the year of the Albuquerque Lep Soc mtg. There were only 7 contributors in 1990. 1991 was a typical collecting season, good in many respects (SJC).

**BUTTERFLIES:** 168 data points were received (88 spp), compared with 91 (39) in 1990 and 185 (50+) in 1989. There were 8 STATE and 46 COUNTY records, for 45 spp and a total of 16 Cos. State totals are now 314 spp (cf 325 in AZ), still 16 known from all Cos, and 106.61 avg spp/Co or 86.67% of projection. Hidalgo Co now leads with 164 spp, and Lea Co lags with a mere 43. There are nearly 40 potential additions to the STATE species list, mainly strays in the far southern Cos, but the following are considered likely further north: *Hesperia ottoe* NE, *Polites mystic* NW, *Papilio glaucus* NE, *Lycæna xanthoides* NE, *L. hyllus* NE, *Callophrys comstocki paradoxa* NW, *Plebejus shasta* NC, *Dryas julia* in RWH backyard, *Speyeria coronis* NC, *Chlosyne damoetas* NC, *Polygonia oreas nigrozephyrus* NC. No 4JBC's were done in NM(hint). *Urbanus proteus*, Cottonwood Cn, 5400', Guadalupe Mtns (beware, reader, there are 3 such in NM!), HIDALGO Co, STATE, ZONE 4, 23 Sep 1990 (KR); also Whitmire Cn, 5400', Hidalgo Co, 2 Oct 1990 (KR). *U. dorantes*, 5 records, Guadalupe Mts, Animas Mts and Animas Vy, 4400-5600', Hidalgo Co, 1 Sep - 21 Oct, LATE, 1990 (KR). *U. procyne*, Cottonwood Cn, 5400', Guadalupe Mts, Hidalgo Co, 23 Sep 1990, 2nd SR/CR (KR). *Thorybes pylades*, Tesuque Crk, SANTA FE Co, 8 Apr (SJC). *T. mexicana*, delete SIERRA Co record published in 1990 Summary; it is a specimen of *Cogia caicus*, which is not new (PAO). *Cogia hippalus*, delete GRANT Co record published in 1988 Summary; it is also *caicus*, obviously a difficult nut to crack even among the authorities (CDF). *C. caicus*, Cooke's Peak, LUNA Co, 8 Apr 1989, EARLY (RWH); common, Animas Mts, Hidalgo Co, 27-29 Apr (SJC, RWH, PAO, RES). *Systasea zampa*, Black Bill Cn, 6600', Animas Mts, 29 Apr (RES). *Erynnis brizo*, Animas Mts, HIDALGO Co, 12 Apr (SJC). *E. juvenalis clitus*, Animas Mtns, 7-8000', Hidalgo Co, 28-29 Apr, LATE! (SJC,RWH,PAO); undoubtedly has 1 or 2 more broods, as it does in AZ and MX. *E. meridianus*, Animas Mtns, 7000-8565', Hidalgo Co, 28-29 Apr (SJC,RWH,PAO,RES). *E. horatius*, Tesuque Crk, SANTA FE Co, 4 Jul (SJC). *E. pacuvius*, Animas Mtns, 7000-8565', HIDALGO Co, SW, 28-29 Apr (SJC,RWH,PAO). *E. afranius*, Indian Crk, 6800', Animas Mts, HIDALGO Co, SW, 28 Apr (RWH). *Pyrgus oiléus*, Animas Mts, 5200-6800', HIDALGO Co (confirm), 27-28 Apr, EARLY (SJC,RWH,PAO, RES). *P. philetas*, Animas Mts, 6200-7000', Hidalgo Co, 27-28 Apr, EARLY (SJC,RES). *P. scriptura*, Hatchet Rch, 4200', Hachita Vy, HIDALGO Co, SW, 25 Aug 1990 (KR). *Heliopterus* sp, either *ericetorum* (would be CR) or *lavianus* (would be CR and SR), but cannot count either, Deer Crk, 5800', Animas Mtns, HIDALGO Co, 27 Apr (PAO, sighting of fresh male). *Celotes nessus*, Deer Crk, 5200', Animas Mts, Hidalgo Co, 27 Apr (RWH). *Hesperopsis alpeus*, Playas Vy, 4400', 10 mi E of Animas, Hidalgo Co, 29 Jul 1990 (KR). *Lerema accius*, Whitmire Cn, 5400', Guadalupe Mtns, HIDALGO Co, SW, 23 Sep 1990 (KR); expanding its range westward into NM, CO and AZ, and soon may pop up in S CA! *Ancyloxypha arene*, Glenwood, CATRON Co, NW, dates pending (R. A. Bailowitz/SJC). *Oarisma garita*, Meadow Crk, 7400', N of Signal Peak, GRANT Co, SW, 8 Jul 1978 (CDF). *O. edwardsii*, Tesuque Crk, Santa Fe Co, 4 Jul (SJC); SIERRA Co, data pending (RWH). *Adopaeoides prittwitzii*, Cloverdale, 5210', HIDALGO Co, STATE, ZONE 4, 22 June (KR).

*Hylephila phyleus*, Animas Vy, 5100', Hidalgo Co, 24 Aug 1990 (KR). *Hesperia comma*, nr Signal Peak, 8800', GRANT Co, SOUTH/SW, 29 Jul 1978 (CDF). *H. pahaska*, Animas Mtns, 6500-8565', Hidalgo Co, 27-29 Apr, EARLY (SJC,RWH,PAO,RES). *H. viridis*, SIERRA Co, data pending (RWH). *Atrytonopsis deva*, Indian Crk, 5800-7000', Animas Mtns, Hidalgo Co, 28 Apr (PAO, det SJC,RWH,PAO,RES). *A. pittacus*, many localities, Animas Mtns, 5200-6900', Hidalgo Co, 27-29 Apr (SJC,RWH,PAO,RES). *Amblyscirtes oslari*, small fresh male, Black Bill Cn, 5900', HIDALGO Co, SW, 29 Apr, EARLY (RES). *A. eos*, Animas Mtns, 5200-6500', Hidalgo Co, 27-28 Apr (SJC,RWH,PAO,RES). *Agathymus neumoegei*, LUNA Co, 7 Oct 1990, data pending (RWH). *Megathymus yuccae*, sighting of unknown ssp, Indian Crk, 5800', Animas Mtns, Hidalgo Co, 28 Apr (RES). *M. streckeri*, SANDOVAL Co, data pending (RWH). *Papilio bairdii* fm *brucei*, one on flowers among many black *bairdii*, 25 mi NNE of Ft Defiance, 7600', Chuska Mtns, SAN JUAN Co, SW, 2nd STATE, 15 Aug (MSF). *P. rutulus*, Deer Crk, 5200', Animas Mtns, Hidalgo Co, 27 Apr, EARLY (RES). *Neophasia menapia*, USFS 35/309 off US 180, Gila/Apache NF, Catron Co, 13 Aug, common (CDF). *Pieris rapae*, Black Bill Cn, 6600', Animas Mtns, Hidalgo Co, 29 Apr (RES); fresh female taken in this wilderness habitat. *Pontia sisymbrii*, Animas Peak, 8565', Hidalgo Co, 29 Apr (SJC). *Zerene cesonia*, Lobo Cn, Mt Taylor, CIBOLA Co, 7 Jul (SJC); now known from all but Le and LA counties. *Anteos clorinde*, 12 sightings in Hidalgo Co, Jul-Aug 1990, captures in earlier yrs (KR). *A. maerula*, Cottonwood Crk, 5200', Animas Mtns, 20 Jul 1990, and 2 additional sightings, Hidalgo Co (KR). *Phoebis philea*, 2 certain sightings, 1 mi W of Cloverdale, 10 Jul 1990, and Clanton Draw, 18 Jul 1990, HIDALGO Co, SW (KR). *P. agarihe*, common, with several captures and over 20 additional sightings, Guadalupe Mtns, Little Hatchet Mtns and Animas Vy, Hidalgo Co, 10 Jul (EARLY), 29 Jul and Aug 1990 (KR). *Eurema daira*, Whitmire Cn, 5400', Guadalupe Mtns HIDALGO Co, STATE, ZONE 4, Jul 1991 (KR). *E. lisa*, Guadalupe Cn, 4400', Guadalupe Mtns, HIDALGO Co, SW, 1 Sep 1990 (KR). *E. boisduvaliana*, same data, HIDALGO Co (confirm); old record of *E. salome* probably belongs here also, a misdetermination. *Ministrymon leda*, Indian Crk and Pine Cn, 5800-7000' Animas Mtns, Hidalgo Co, 28 Apr EARLY (PAO). *Mitoura spinetorum*, Caballo Mtns, SIERRA Co, data pending (RWH). *Incisalia augustinus*, high elevations of Animas Mtns, Hidalgo Co, 29 Apr (SJC,RWH,PAO). *Eroria quaderna*, Animas Mtns, HIDALGO Co, 13 Apr (SJC) and 29 Apr (SJC,PAO). *Brephidium exile*, Animas Peak, 8565', HIGH, 29 Apr (SJC); Trigo Cn, TORRANCE Co, 13 Jul (SJC). *Everes comyntas*, typical "eastern" morph which I believe is monotypic, Gray Rch Cienega, 5086', HIDALGO Co (confirm), SW, 30 Apr (SJC,RWH,PAO,RES). *E. amyntula herri*, Animas Mtns, 6500', Hidalgo Co, 27 Apr (PAO, det SJC,RWH,PAO,RES); 1 mi W of Kingston, 6400', Sierra Co, 26 Apr (RWH, det SJC, RWH, PAO, RES). *Glaucopsyche lygdamus*, SIERRA Co, data pending (RWH). *Lycacides melissa*, SIERRA Co, data pending (RWH). *Plebejus saepiolus*, small stream at mp 179, US 64, 11.5 mi E of US 84, Rio Arriba Co, 13 Jun 1990, EARLY (DLE). *P. icarioides*, SIERRA Co, data pending (RWH). *Calephelis arizonensis*, Animas Mtns, HIDALGO Co, STATE, EAST, ZONE 4, 22 Jun (SJC). *Emesis zela cleis*, Deer Crk, 5200', 27 Apr, EARLY (RWH), and Pine Cn, 28 Apr (SJC), both Animas Mtns, Hidalgo Co. *Apodemia mormo* ssp, Mangas Spg, Grant Co, 19 May (R. A. Fisher/CDF); Animas Mtns, 5800-6600', Hidalgo Co, 27-29 Apr (SJC,RWH,PAO,RES); 1 mi W of Kingston, 6400', Sierra Co, 26 Apr (PAO). *Libytheana bachmanii*, Animas Peak, 8565', HIGH, Hidalgo Co, 29 Apr (RWH,PAO). *Heliconius charitonius*, Guadalupe Cn, 4400', Guadalupe Mtns, HIDALGO Co, SW, 1 Sep 1990 (KR). *Dione (Agraulis) vanillae*, Animas Mtns, Hidalgo Co, 27-29 Apr, EARLY (SJC,RWH,PAO,RES). *Euptoieta hegesia*, 3 mi W of Cloverdale, 5300', Guadalupe Mtns, Hidalgo Co (confirms CIS record, det PAO), 24 Aug 1990 (KR). *Euphydryas anicia hermosa*, Animas Mtns, HIDALGO Co, SW, STATE and ZONE 4 for subspecies, 12 Apr (SJC). *Poladryas m. minuta*, along Cimarron Rvr E of Folsom (and close to CO, which would be a STATE record!), UNION Co, NE, 15 Jun 1988 (JPB/PJS). *Thessalia fulvia*, Deer Crk, 6300', Animas Mtns, Hidalgo Co, 27 Apr, EARLY (SJC,PAO). *T. cyneas*, Animas Mtns (presumably high elevation), HIDALGO Co, STATE, EAST, ZONE 4, 19 Jul (SJC). *Chlosyne lacinia*, various phenotypes of the *crocale* persuasion, Mangas Spg, Grant Co, 14 Aug, fresh (CDF); lower elevations of Animas Mtns, Hidalgo Co, 28-29 Apr (SJC,RWH,PAO,RES). *C. acastus sabina*, 1 mi W of Kingston, 6400', Sierra Co, 26 Apr (SJC,RWH,PAO). *Phyciodes (Anthanassa) texana*, Animas Mtns, 5200-8565', HIGH, Hidalgo Co, 27-29 Apr (SJC,RWH,PAO,RES); 1 mi W of Kingston, 6400', SIERRA Co, 11 Apr (SJC) and 26 Apr (SJC,RWH,PAO,RES). *P. tharos* (A), Gray Rch Cienega, 5086', HIDALGO Co, SW, 30 Apr (SJC,RWH,PAO,RES), also taken in 1990 (SJC). *P. yesta*, Animas Mtns, HIDALGO Co, SW, 12 Oct, LATE (SJC). *Polygonia satyrus*, Lobo Cn, Mt Taylor, CIBOLA Co, 7 Jul (SJC); Black Bill Cn, 6600', Animas Mtns, Hidalgo Co, 29 Apr (SJC,RWH); SIERRA Co, data pending (RWH). *Nymphalis californica*, 1 mi W of Kingston, 6400', SIERRA Co, 11 Apr (SJC). *N. milberti*, Mangas Spg, GRANT Co, SW, dates pending (R. A. Fisher/CDF). *Vanessa annabella*, Animas Peak, 8565', HIGH, Hidalgo Co, 29 Apr (SJC). *Junonia nigrosuffusa* including *coenia* intermediates, 3 mi W of College Rch, Jornada Rg, Doña Ana Co, 29 Jul (GSF); common, Mangas Spg, Grant Co, 14 Aug (CDF); Deer Crk, 5200', Animas Mtns, Hidalgo Co, 27 Apr, EARLY (RWH). *Siproeta epaphus*, specimen in Oregon State Univ coll, DOÑA ANA Co, STATE, NORTH, ZONE 4, USA (fide PAO). *Mestra amymone*, Cottonwood Cn, 5400-5600', Guadalupe Mtns, Hidalgo Co, 23 Sep and 21 Oct, LATE (KR). *Hamadryas februa*, Clanton Draw, 5400', Guadalupe Mtns, HIDALGO Co, STATE, WEST, ZONE 4, 2nd USA, 19 Jul 1990 (KR). *Anaea andria*, Black Bill Cn, 5900', Animas Mtns, Hidalgo Co, 29 Apr, sighting (RES); SIERRA Co, data pending (RWH). *Cylopsis pertepida*, Mills Cn, Harding Co, 25 May 1990 (KR). *C. pyracmon*, Guadalupe Cn, 4500', Guadalupe Mtns, HIDALGO Co, STATE, EAST, ZONE 4, 13 Oct (SJC); the relationship of this sp and *henshawi* needs careful study. *Erebia epipsodea*, small stream at mp 179, US 64, 11.5 mi E of US 84, Rio Arriba Co, 13 Jun 1990, EARLY (DLE). *Danaus gilippus*, Animas Mtns, 5200-8565', HIGH, Hidalgo Co, 27-29 Apr, EARLY (SJC,RWH,PAO,RES). *D. eresimus*, Animas Crk, 4700', 20 mi S of Animas, Hidalgo Co, second CR/SR, 2 Oct 1990, LATE (KR).

**MOTHS:** Received were 14 records, 14 species, 2 STATE records and 4 COUNTY records from 4 contributors; the Hidalgo Co material is still being determined. I have no clue how many spp are known or anticipated in NM; maybe next year? *Agapema homogena* (Satur), Maverick Cg, 9000', Cimarron Cn SP, COLFAX Co, NE, 11 Jun 1990, 2 males at light (DLE). *Arachnis picta* (Arct), same data, not new (DLE). *Catocala amatrix* and *C. euphemia*, Mangas Spg, Grant Co, 14 Aug (CDF). *Halisdota davisii* (Arct), same data (CDF). *Hemileuca juno* (Satur), diurnal and common, 2-5 mi W of USDA Headquarters, Jornada Rg, Doña Ana Co, 13 Nov, LATE a seldom-reported sp described from AZ (GSF). *Hyalophora gloveri*, same data as *Catocala* (CDF). *Loxostege quaestoralis* (Pyr), Sandia Mtns, BERNALILLO Co, STATE (probably; unk in AZ), 4 Feb, ?EARLY, gone by 13 Feb (RWH). *Manduca rustica* (Sph), same data as *Catocala* (CDF). *Paonias excaecatus* (Sph), Maverick Cg, 9000', Cimarron Cn SP, COLFAX Co, NE, 12 Jun 1990 (DLE). *Quadrina diazoma* (Lasio), same data as *Catocala* (CDF). *Selenisa sueroides* (= *Selenis monotropa*) (Noct), Mangas Spg, GRANT Co, STATE (known from AZ and TX), 14 Aug 1990 (CDF). *Sphinx istar* and *S. separata* (Sph), same data as *Catocala* (CDF).

I close with a quote from Dr. Seuss (Theodor Seuss Geisel, MD, 1904-1991), who died at the end of the 1991 collecting season, and to whom this section is dedicated: "Oh me! Oh my! Oh me! Oh my! what a lot of funny things go by."

**ZONE 5 PLAINS: SASKATCHEWAN, MANITOBA, NORTH DAKOTA, SOUTH DAKOTA, NEBRASKA, KANSAS.** Coordinator: Ronald Alan Royer (RAR). Contributors: Brian Berendes (BB), Tanya Bray (TEB), Rodney Breitbach (RB), John E. Christie (JEC), David Cook (DC), Larry Cook (LC), Neil Dankert (NED), Vern Davis (VD), Brent G. Elliot (BGE), Jeff Germer (JCG), Donald C. Henne (DCH), Henry Hensel (HH), George Holland (GH), Ronald R. Hooper (RRH), Abran J. Kean (AJK), Joseph E. Kean (JEK), John Koziol (JK), Paul Klassen (PK), Jean Legge (JL), Ron Leuschner (RHL), Doug Long (DRL), Marilyn Lutz (ML), Paul DeWaal Malefyt (PDM), Gary Marrone (GMM), William Miller (WEM), Hal Nagel (HGN), James Oberfoell (JO), Barbara Peitzmeier (BAP), Jim Reiser (JMR), Lupe Rodehorst (LMR), Keith Roney (KR), Dorothy Rosche (DJR), Richard C. Rosche (RCR), Adam J. Royer (AJR), Daniel Grant Royer (DGR), Jesse A. Royer (JAR), Heath Sanmann (HS), Patrick J. Savage (PJS), James A. Scott (JAS), Dennis Skadsen (DS), Dayton Spomer (DTS), Steve Spomer (SMS), Ray E. Stanford (RES), Jim Strand (JS), Peter Taylor (PT), Nick Theis (NDT), Eric Volden (EV), Ralph Wall (RLW), Stephen G. Williams (SGW), Joe Zarki (JZ).



WMA = Wildlife Management Area; GPA = Game Production Area; RNA = Research Natural Area; > = more than; c = collected; s = seen; I = Interstate; mm = mile marker; bl = black (ultraviolet) light. Capital letters indicate first record of occurrence.

**SASKATCHEWAN.** During the spring and part of the summer, there was plenty of rainfall interspersed with moderate sunny weather, and no really hot weather. *Lepidoptera* were generally found in moderate numbers, but there was an unusual decrease in *Catocala*.

**MIGRATORY SPECIES:** *Vanessa cardui* were plentiful, with the first migrant being noted on 9 May (early for the province). An invasion of *Euxoa auxiliaris* swarmed around southern Saskatchewan in May.

**BUTTERFLIES:** *Amblyscirtes hegon*, Armit (E of Hudson Bay), PROVINCE, 1c, 22 Jun (RRH). *Epargyreus clarus*, Armit (E of Hudson Bay), NORTHEAST, 1c, 21 Jun (RRH). *Charidryas harrisii*, Armit (E of Hudson Bay), NORTH, 2c, 21 Jun (RRH). *Enodia portlandia*, Regina, 1c, 25 Jun (KR).

**MOTHS:** *Catocala antinympa*, Bjorkdale (2nd Saskatchewan record, 1c, 18 Aug (JK).

**MANITOBA:** A mild Apr got the season off to an early start. A severe storm with sub-zero temperatures 1-2 May did not appear to affect spring flights but may have caused the lower numbers observed from mid-Jul onward. Otherwise the season was "normal", the drought of past years apparently over. Don Henne reported very good moth collecting throughout the summer, with a warm May and "rapid degree-day accumulation" producing *Saturniid* larval maturity by the end of Jul, several weeks earlier than noted in previous years. In forest regions, population levels of most butterfly species were normal except that many *Nymphalidae*, especially *Nymphalis* spp., were down in numbers. In the agricultural areas, most species numbers were down once again, many former species not seen at all. There was extensive spraying of insecticides again due to a grasshopper outbreak. There was one provincial and Canadian record, for the moth *Pygarctia spraguei* (Arc). Provincial Coordinator: PK. Contributors: JEC, BGE, DCH, HH, GH, and PT. Records not otherwise designated are attributable to PK.

**MIGRATORY SPECIES:** There was a strong migration of *Vanessa cardui* from early May well into Jun, the first significant migration in a number of years. They were locally abundant in late Jun north to Long Point on northern Lk Winnipeg. Later, sunflower fields produced large numbers, a nuisance for highway travel, but causing only minimal damage to the crops. This "population explosion" was noted in the newspapers. *Vanessa atalanta*, in contrast, was scarce throughout the season. *Danaus plexippus* was first seen 26 May, and was fairly common from Jun to mid-Aug in southern Manitoba, but uncommon in the southeast. Two other migrants were observed but not collected; one of them (*Atalopedes campestris*) constitutes a provincial record.

**BUTTERFLIES:** *Epargyreus clarus*, Starbuck, 5 Jun; Kola, 11 Jun. *Erynnis juvenalis*, uncommon, Sandilands PF, 5-24 May. *E. martialis*, locally common, Sandilands PF, 24 May-18 Jun. *Carterocephalis palaemon mandan*, fairly common southern Manitoba. *Ancyloxypha numitor*, Pinawa, 17 Jun, EARLY (PT); locally common Northwest Angle PF, 19 Jun. *Thymelicus lineola*, abundant, East Braintree, early Jul (PT); very abundant, Northwest Angle PF, 15 Jul. *Hesperia pawnee*, Rathwell, NORTHEAST, 17 Aug. *H. dacotae*, Fannystelle, 24 Jun; Oak Lk, 3 Jul (new localities). *H. sassacus manitoboides*, locally uncommon as usual, Lk Brereton, 31 May; Piney and Northwest Angle PF, 19 Jun. *Atalopedes campestris* one female photographed nr East Braintree, PROVINCE, 9 Jul (PT). *Atrytone logan logan*, Fannystelle (new locality), 13 Jul. *Euphyes vestris metacomet*, exceptionally abundant (270 counted along 9 km stretch of road, two km of walking at 10 locations), East Braintree, 9 Jul (PT); very abundant (6 on one flowering stem, every thistle stem with at least one), Northwest Angle PF, 15 Jul. *Atrytonopsis hianna*, locally common, Pine Ridge, 24 May. *Papilio polyxenes*, common, Oak Hammock Marsh, 19 Jul (BGE, DCH). *P. kahli* (rarely seen of late), 1 male c, Elm Crk, 28 May; 1 female c (1s), Oak Lk, 3 Jul. *Feniseca tarquinius*, more common than usual, Sandilands PF, 18-24 May. *Epidemia epixanthe michiganensis*, locally common, Milner Ridge, 25 Jul. *Satyrium acidicum*, more common than usual, Pinawa, 4 Jul-4 Aug (PT). *Celastrina argiolus*, unusually abundant (200+ observed on 2 km trail), Pinawa (PT). *Euptoieta claudia*, Winnipeg, 15 Aug (BGE). *Agraulis vanillae*, 1s, Shilo, 10 Jun (second provincial record) (GH). *Clossiana eunomia dawsoni*, locally abundant, Onanole, 12 Jun. *C. freija*, 1c (2nd known Manitoba specimen east of Red Rvr), Sandilands PF, 18 May. *Charidryas harrisii*, common, Piney and Northwest Angle PF, 19 Jun; abundant Lk Brereton, 20 June. *Euphydryas phaeton*, colony discovered by Peter Taylor, (total of 16 s and c (PT, PK)); only 3c in Manitoba previously, East Braintree, 7-15 Jul. *Basilarchia archippus*, Oak Hammock Marsh, 1 Aug; 2 km S of Teulon, 22 Aug (BGE). *Enodia anthedon borealis*, in tamarack bog, Belair, 29 Jun (DCH); abundant 1st half of Jul (PT). *Satyroides eurydice*, in tamarack bog, Belair, 29 Jun (DCH). *Erebia discoidalis*, common, Sandilands PF, 18 May. *Oeneis macounii*, uncommon, Onanole, 12 Jun. *O. jutta ridgingiana*, 1c, 1s, Onanole, 12 Jun (usually only found in even-numbered years in southwestern Manitoba).

**MOTHS:** SPHINGIDAE -- *Hyles galli*, Minnedosa, 8 Jun (BGE); Marchand, 12 Jun (JEC, DCH); Ritchot Park (bl), 18 Jun (DCH); Glenboro, 20 Jun (JEC, DCH). *Ceratonia undulosa*, Ritchot Park (bl), 18 Jun (DCH); Lockport, 23 Jun (DCH). *Darapsa myron*, Ritchot Park (bl), 18 Jun (DCH). *Darapsa pholus*, Ritchot Park (bl), 18 Jun (DCH); Anola (bl), 28 May (DCH). *Paonias myops*, Anola (bl), 28 May (DCH); Minnedosa, 8 Jun (BGE); Dufresne, 14 Jun (DCH); Ritchot Park (bl), 18 Jun (DCH); Glenboro, 20 Jun (JEC, DCH). *Paonias excaecatus*, 20 Jun (JEC, DCH). *Smerinthus cerisyi*, Minnedosa (bl), 6 & 8 Jun (BGE); Dufresne, 14 Jun (DCH); Glenboro, 20 Jun (JEC, DCH); 4 mi N and 4.5 mi E of Anola (bl), 22 Jun (DCH). *Sphinx luscitiosa*, Minnedosa (bl), 8 Jun (BGE); La Broquerie, 12 Jun (DCH); Anola, 14 Jun (DCH). *Smerinthus jamaicensis*, Anola, 28 May (DCH); Minnedosa (bl), 8 Jun (BGE); Glenboro, 20 Jun (JEC, DCH). *Pachysphinx modesta*, Minnedosa (bl), 6 Jun (BGE); Glenboro, 20 Jun (JEC, DCH). *Hemaris thysbe*, common (bl), Pinawa, 19 Jun (DCH). SATURNIIDAE -- *Antheraea polyphemus* adults were observed in nearly all Manitoba localities in Jun. These include Vivian, 28 May (DCH); Winnipeg, 29 May (DCH); Stonewall, 4 Jun (DCH); Middlechurch, 4 Jun (DCH); Marchand, 12 Jun (DCH); La Broquerie, 12 Jun (DCH); Dufresne, 14 Jun (DCH); Ritchot Park, very common at bl, 18 Jun (DCH); Cypress Rvr, 20 Jun (JEC, DCH); Glenboro, 20 Jun (JEC, DCH); Belair (bl), 14 Aug (BGE). *Actias luna*, Vivian, 28 May (DCH); Winnipeg, 5 Jun (fide DCH). *Automeris io*, Vivian, 28 May (DCH); Marchand, 12 Jun (DCH); La Broquerie, 12 Jun (DCH). *Anisota virginensis*, no adults collected, but heavy larval infestation observed at Belair for third consecutive year. ARCTIIDAE -- *Ctenucha virginica*, Minnedosa, 6 and 8 Jun (BGE); Ritchot Park (bl), 18 Jun (DCH); Cypress Rvr, 20 Jun (JEC, DCH). *Lophocampa maculata*, Minnedosa, 6 and 8 Jun (BGE); Cypress Rvr, 20 Jun (JEC, DCH). *Lophocampa tessellaris*, Glenboro, 20 Jun (JEC, DCH). *Pyrrharctia isabella*, Marchand, 12 Jun (DCH); Anola, 14 Jun (DCH); Ritchot Park (blacklight), 18 Jun (DCH). *Apantesis virginicula*, Glenboro, 20 Jun (JEC, DCH); 4 mi N and 4.5 mi E of Anola (bl), 22 Jun (DCH). *Spilosoma virginica*, Minnedosa, 8 Jun (BGE). *Estigmene acrea*, *Hypoprepia fucosa*, *Isia isabella* and *Hyphantria cunea* all collected at lights, Glenboro, 20 Jun (JEC, DCH). *Pygarctia spraguei*, NATION, PROVINCE, Glenboro (at lights), 20 Jun (JEC, DCH). *Hypoprepia fucosa tricolor*, common, Winnipeg (bl), 1 Jul (BGE). COSSIDAE -- *Prionoxystus robiniae*, Minnedosa (bl), 8 Jun (BGE). NOTODONTIDAE -- *Pheosia rimosa*, Ritchot Park (bl), 18 Jun (DCH). GEOMETRIDAE -- *Xanthotype sospeta*, common, Cypress Rvr, 20 Jun (JEC, DCH). *Sicya macularia*, 4 mi N and 4.5 mi E of Anola (bl), 22 Jun (DCH); Lockport, 23 Jun (DCH). *Rheumaptera* sp., Winnipeg (bl), 4 Jul (DCH). *Biston betularia cognataria*, Glenboro, 20 Jun (JEC, DCH). NOCTUIDAE -- *Catocala manitoba*, Winnipeg (bl), 18 and 20 Jul (DCH). *Catocala myra*, Winnipeg (bl), 1 Jul (DCH). *Plusia contexta*, Winnipeg (bl), 20 Jun (DCH). *Euxoa tessellata*, Winnipeg (bl), 20 Jun (DCH). *Anagrapha falcifera*, 2 km S of Teulon and Oak Hammock Marsh, 22 Aug (BGE). The following noctuids were reported by HH from the Northern Study Center, 24 km east of Churchill, 3-30 Jul: *Synggrapha octoscripta*, *S. selecta*, *S. u-aureum*, *S. viridisigma*, *S. diasema*, *S. interrogationis*, *S. alticola*; *Plusia putnami*; *Apamea zeta exulis*; *Hyppa rectilinea xylinooides*; *Simpistis zetterstedti* Kolthoff; *Dicestra farnhami*; *D. trifolii*; *Polia rogenhoferi*, *P. propodea*, *P. richardsoni*; *Malanchra pulverulenta*; *Papestra quadrata ingravis*; *Anartomima secedens secedens*; *Lasionycta leucocycla albertensis*,



L. phoca, L. subdita, L. taigata; Euxoa dissona, E. westermanni, E. lidia thanatologia; Agrotis ruta; Diarsia dislocata; Rhyacia quadrangula quadrangula; Xestia scropularia; X. okakensis okakensis, X. tecta tecta, X. ursae, X. quieta, X. fabulosa, X. rhaetica homogena, X. mixta, X. speciosa aklavicensis, X. perqueritata, X. imperita.

**NORTH DAKOTA:** Strong southerly spring winds brought several immigrant species to the state during May and Jun. The season produced generally good collecting, with many resident species also found in higher than usual numbers. Most notable among several extensions of known range was discovery of 10 additional sites for Hesperia dacotae, including two populations far to the northwest of previous records, in northern MOUNTRAIL and southern BURKE Counties. The latter of these, at Lostwood NWR, is just 35 air miles from the Saskatchewan border. A total of 214 county records and one state record (Charidryas nycteis reversa) were tallied. State Coordinator: RAR. Contributors: RB, DC, LC, VD, JL, PDM, GMM, JO, AJR, DGR, JAR, JS. Records not otherwise designated are attributable to RAR.

**BUTTERFLIES:** Epargyreus clarus, BENSON Co, 16 Jun; EMMONS Co, 17 Jun (LC); McKENZIE Co, 21 and 26 Jun (JO, RAR); McLEAN Co, 26 Jun (JS); SIOUX Co, 30 Jun (JL). Thorybes pylades, McKENZIE Co, 26 Jun (JO). Erynnis icelus, BENSON Co, 16 Jun. Pyrgus communis, SIOUX Co, 30 Jun (JL), 17 Jul (JO); McINTOSH Co, 8 Aug. Pholisora catullus, EMMONS Co, 2 Jun (RAR), 17 June (LC); PIERCE Co, 7 Jul; SIOUX Co, 17 Jul (JO). Ancyloxypha numitor, Upper Souris NWR, NORTHWEST, 15 Aug. Oarisma garita, BURLEIGH Co, 8 Jun; ROLETTE Co, 10 Jul. Hesperia uncas, SIOUX Co, 30 Jun (JL); LOGAN Co, SOUTHEAST, 8 Aug (AJR, RAR). Hesperia comma, LOGAN Co, 8 Aug (AJR, RAR); McHENRY Co, 11, 12 Aug. Hesperia leonardus pawnee, common, Ward and McHENRY Cos, 12 Aug (JAR, RAR). Hesperia dacotae, just emerging, swarming at Indian Hemp and White Prairieclover, McHenry Co, 26-29 Jun; also, STUTSMAN Co, 30 Jun (DC, LC, RB); WELLS Co, 3 Jul; Lostwood NWR, BURKE Co, NORTHWEST, 4 Jul (JAR, RAR); MOUNTRAIL Co, 4 Jul (JAR, RAR); ROLETTE Co, 10 Jul (AJR, JAR, RAR). (These records bring the ND total to 30 sites in 16 counties.) Polites coras, Rolette Co, 10 Jul (AJR, JAR, RAR). Polites themistocles, RICHLAND Co, 17 Jun; ROLETTE Co, 10 Jul; McHENRY Co, 27-29 Jun and 6 Jul; PEMBINA Co, 10 Jul. Polites mystic, TRAILL Co, 21 Jun (JS); SIOUX Co, 30 Jun (JL); STUTSMAN Co, 30 Jun (DC); GRIGGS Co, 5 Jul; McHENRY Co, 6 Jul; ROLETTE Co, 10 Jul. Wallengrenia egeremet, CASS Co, 1 Jul. Atalopedes campestris, BARNES Co, (JL); McHENRY Co, 7 Jul. Atrytone arogos, first encounters in several years; 1c, 2 mi NNW Sawyer, Ward Co, 27 Jun; 1c, 4 mi N McLeod, Ransom Co, 6 Jul. Atrytone logan, McLEAN Co, 26 Jun (JS); BURKE Co, 26 Jun; MOUNTRAIL Co, 26 Jun; GRIGGS Co, 5 Jul; PIERCE Co, 7 Jul; ROLETTE Co, 10 Jul; PEMBINA Co, 10 Jul; SIOUX Co, 30 Jun (JL), 16 Jul (JO). Poanes massasoit, 1c (male), Richland Co, 2 Jul; uncommon to common, several new sites, Ransom Co, 1-21 Jul (AJR, JAR, RAR). Poanes hobomok, McKENZIE Co, 21 Jun (JO, RAR); BURLEIGH Co, 22 Jun (LC). Poanes viator, 5c (all males), Richland Co, 2 Jul; ranging from uncommon to abundant at several new sites, Ransom Co, 1-21 Jul (AJR, JAR, RAR). Euphyes dion, 2c (males) and 1c (female), at two sites, Ransom Co, 13 Jul (JAR, RAR), representing the 3rd, 4th and 5th examples known from the state. Euphyes ruricola, McKENZIE Co, 4 Jul (JO); SIOUX Co, 30 Jun (JL), 16 Jul (JO). Papilio polyxenes, BARNES Co (JL); RANSOM Co, 6 and 11 Jul; ROLETTE Co, 10 Jul; McINTOSH Co, 8 Aug; BURLEIGH Co, 14 Aug (JS). Papilio bairdii, 1c (male), MERCER Co, 10 May (GMM). Papilio zelicaon (fm "nitra"), 1c (male) MERCER Co, 10 May (GMM). Pterourus glaucus produced a second brood for the second year in a row as far northwest as Ward Co, including new records in BENSON Co, 16 Jun (late 1st brood) and adjacent RAMSEY Co, 10 Jul (2nd brood); also RICHLAND Co, 21 Jul (2nd brood). Pterourus multicaudatus, SIOUX Co, 16 Jul (JO). Pontia protodice, BENSON Co, 16 Jun. Pontia occidentalis, LOGAN Co, 8 Aug. Pieris rapae, BENSON Co, 16 Jun; TRAILL Co, 21 Jun (JS); DUNN Co, 2 Jul (JO); SIOUX Co, 16 Jul (JO). Euchloe olympia, BURLEIGH Co, 20 May 1990 (DC). Colias philodice, GRIGGS Co, 5 Jul; PIERCE Co, 7 Jul; SIOUX Co, 15 July, (JO); BENSON Co, 20 Jul; NELSON Co, 20 Jul. Colias eurhytheme, BENSON Co, 16 Jun; MOUNTRAIL Co, 4 Jul; GRIGGS Co, 5 Jul; SARGENT Co, 5 Jul; PIERCE Co, 7 Jul; SIOUX Co, 15 Jul (JO); McINTOSH Co, 8 Aug. Feniseca tarquinius, 1 pr c, Mirror Pool Swamp, RANSOM Co, 12 Jul (AJR, RAR). Gaeides xanthoides, SIOUX Co, 30 Jun (JL); STUTSMAN Co, 30 Jun (DC); DICKEY Co, 30 Jun (DC); Lostwood NWR, BURKE Co, 4 Jul. Hyllocaena hylus, SIOUX Co, 30 Jun (JL); NELSON Co, 20 Jul; RICHLAND Co, 17 Jun and 7 Aug; McINTOSH Co, 8 Aug. Harkenclenus titus, RICHLAND Co, 1 Jul; SIOUX Co, 30 Jun (JL), 16 Jul (JO); NELSON Co, 20 Jul. Satyrium acadicum, STUTSMAN Co, 30 Jun (DC); NELSON Co, 20 Jul. Satyrium edwardsii, SIOUX Co, 17 Jul (JO); NELSON Co, 20 Jul. Satyrium calanus, SIOUX Co, 17 Jul (JO). Satyrium liparops, Apple Crk Twp, BURLEIGH Co, 23 Jun (DC); DICKEY Co, 30 Jun (LC); SIOUX Co, 30 Jun (JL), 17 Jul (JO). Incisalia polia obscura, nr "Ice Caves", BILLINGS Co, 11 May (PDM, RAR). Hemiargus isola, BENSON Co, 16 Jun. Everes comyntas produced several new records in an unusually good year; BARNES Co (JL); DUNN Co, WEST, 28-30 May (JO); Wood Lk Rec Area, BENSON Co, 16 Jun; SIOUX Co, 16 Jul (JO); EMMONS Co, 8 Aug; LOGAN Co, 8 Aug. Everes amyntula, Wood Lk Rec Area, BENSON Co, EAST, 16 Jun. Celastrina argiolus, BENSON Co, 16 Jun; RICHLAND Co, 17 Jun; NELSON Co, 20 Jul; EMMONS Co, 8 Aug. Glaucopsyche lygdamus, EMMONS Co, 2 Jun. Lycaeides melissa, RICHLAND Co, SOUTHEAST, 17 Jun; TRAILL Co, 21 Jun (JS); SIOUX Co, 30 Jun (JL), 16 Jul (JO). Apodemia mormo, locally abundant, Slope Co, and uncommon McKENZIE Co, NORTHEAST, 18 Aug. Euptoieta claudia, RICHLAND Co, (fide RES in lit), confirmed 18 Jun 1991 (RAR); SIOUX Co, 30 Jun (JL); LOGAN Co, 8 Aug; McHENRY Co, 12 Aug. Speyeria cybele, BENSON and NELSON Cos, 20 Jul. Speyeria aphrodite, SIOUX Co, 16 Jul (JO); BARNES Co, 22 Jul; LOGAN and McINTOSH Cos, 8 Aug. Speyeria idalia, BOWMAN Co, summer 1990 (JO); MORTON Co, Aug 1990 (VD); SARGENT Co, 2 and 5 Jul; DICKEY Co, excellent melanic male, 30 Jun (GMM), also 14 Jul (JAR); SIOUX Co, 15 Jul (JO); LOGAN Co, 8 Aug. Speyeria edwardsii, SIOUX Co, 30 Jun (JL); MORTON Co, UND student collection, 27 Jul. Clossiana selene, Wood Lk Rec Area, BENSON Co, 16 Jun; STUTSMAN Co, 30 Jun (DC); ROLETTE Co, 10 Jul; McINTOSH Co, 8 Aug. Charidryas nycteis nycteis, abundant, BARNES Co, and common, RICHLAND Co, 16, 17 Jun. C. nycteis reversa, Turtle Mtn SF, BOTTINEAU Co, STATE for ssp. reversa, 10 Jun, also Wood Lk Rec Area, BENSON Co, 16 Jun. Charidryas harrisii hanhami, uncommon, "Karlsruhe Bog", McHenry Co, 27 Jun; also uncommon, Wood Lk Rec Area, BENSON Co, 16 Jun. Phyciodes tharos tharos, BENSON Co, very worn, 16 Jun but in peak, 20 Jul; Lostwood NWR, RICHLAND Co, 2 and 12 Jul; BURKE Co, 4 Jul; GRIGGS Co, 5 Jul; PEMBINA Co, 10 Jul; NELSON Co, 20 Jul; SIOUX Co, 15 Jul (JO); LOGAN and EMMONS Cos, 8 Aug. Phyciodes t. pascoensis, Graham's Is SP, BENSON Co, 16 Jun; BARNES and RICHLAND Cos, SOUTHEAST, 17 Jun. Phyciodes batesii, Blue Butte, 26 Jun (JO); McHENRY Co, 11, 15 and 27 Jun (JAR, DGR, RAR); BENSON Co, EAST, 16 Jun. (Previously reported Pembina and Cass Co records for this species have proven to be erroneous, and it is thus known only from W and NW ND.) Polygonia interrogationis, RANSOM Co, 21 Jul. Polygonia comma, 1s, McHENRY Co, 9 June; 1c Wood Lk Rec Area, BENSON Co, 24 Jun. Polygonia progne, McKenzie Co, NORTHWEST, 8 and 21 Jun (JO, RAR); RICHLAND Co, 18 Jun. Nymphalis vau-album, RAMSEY Co, UND student collection, 28 Sep. Nymphalis antiopa, SIOUX Co, 17 Jul (JO). Aglais milberti, RICHLAND Co, (fide RES, in lit). Vanessa virginiensis, McHENRY Co, 29 Jun. Vanessa cardui sustained an abundant spring migration throughout ND, resulting in the following county records: EMMONS Co, 2 Jun (RAR), 17 Jun (LC), 8 Aug (RAR); HETTINGER Co, 13 Jun; BENSON Co, 16 Jun, 20 Jul; RANSOM Co, 17 Jun; RICHLAND Co, 18 Jun and 6 Jul; McHENRY Co, 27 Jun; STUTSMAN Co, 30 Jun (DC); McKENZIE Co, 4 Jul (JO); PIERCE Co, 7 Jul; SIOUX Co, 30 Jun (JL), 16 Jul (JO); LOGAN and McINTOSH Cos, 8 Aug. Vanessa atalanta, BENSON Co, 16 Jun; McKENZIE Co, 21 Jun (JO); SIOUX Co, 30 Jun (JL). Basilarchia arthemis, DUNN Co, Killdeer Mtns, 2 July; also Little Missouri SP, 22 Jun 1990. Basilarchia archippus, BENSON Co, 16 Jun; Lostwood NWR, BURKE Co, 4 Jul. Asterocampa celtis, BARNES Co (JL); RICHLAND Co, 17 Jun; SIOUX Co, 30 Jun (JL). Satyroides eurydice, STUTSMAN Co, 30 Jun (DC); BENSON Co, 20 Jul. Megisto cymela, BENSON Co, 16 Jul. Coenonympha inornata, BURLEIGH Co, 2 Jun; EMMONS Co, 2 Jun; BENSON Co, 16 Jun; RICHLAND Co, SOUTHEAST, 17 Jun. Cercyonis pegala, BILLINGS, STARK Cos. (fide RES in lit); SARGENT Co, 2 and 5 Jul; GRIGGS Co, 5 Jul; DICKEY Co, 14 Jul; SIOUX Co, 15 Jul (JO); BENSON and NELSON Cos, 20 Jul; LOGAN and McINTOSH Cos, 8 Aug. Oeneis uhleri varuna, BURLEIGH and EMMONS Cos, 2 Jun. Oeneis alberta, 3c (males), 3 mi SE Bismark, BURLEIGH Co, SOUTHEAST, 13 May (DC). This almost certainly constitutes the southeasternmost prairie record for this species on the continent. Danaus plexippus, BENSON Co, 16 Jun; BURKE Co, 26 Jun; SARGENT Co, 2 Jul; SIOUX Co, 17 Jul; EMMONS, LOGAN and McINTOSH Cos, 8 Aug.

SOUTH DAKOTA. Excellent conditions existed statewide for butterflies during 1991. *Atalopedes campestris* was unusually common. Five state records and 131 county records were added. The most significant are listed below. State Coordinator: GMM. Contributors: BB, AJK, JEK, ML, JO, PJS, DS, RES, SGW and JZ. All records not otherwise indicated are attributable to GMM.

MIGRATORY SPECIES: A spring migration of *Vanessa cardui* was quite evident. Several individuals were first observed on 31 Mar nr Oahe Dam, Stanley Co. At noon on 3 Apr, during peak migration, an estimated one *V. cardui* per minute was seen flying in a northeasterly direction. The flight continued at least through 5 Apr. *Zerene c. cesonia*, *Junonia coenia* and *Anaea andria* accounted for eight new county records, an indication that they also made northward migrations this year. An early record for *Danaus plexippus* was also noted on 13 May, 2 mi S of Oahe Dam, Stanley Co.

BUTTERFLIES: *Epargyreus clarus*, Lk Herman, LAKE Co, 22 Aug (AJK, JEK); Newton Hills SP, LINCOLN Co, 24 Aug (AJK). *Staphylus hayhurstii* (det RES), 3c nr Yankton, YANKTON Co, STATE, 8 Aug, (AJK). *Pyrgus communis*, ROBERTS Co, 6 Jul. *Pholisora catullus*, CODINGTON Co, 20 Jul; GREGORY Co, 13 Jul (AJK). *Ancyloxypha numitor*, Hot Spgs, FALL RIVER Co, 1 Aug (AJK, BB); Lk Osceola, KINGSBURY Co, 20 Jul; nr Deadwood, LAWRENCE Co, 22 Jun; Badlands NP, SHANNON Co, 17 Aug (ML). *Hesperia uncas*, McPHERSON Co, 29 Jun. *H. ottoe* (det. RES), Hwy 79, 11 mi S of Fairburn, CUSTER Co, 29 Jun (PJS). *Polites peckius*, YANKTON Co, 9 Sep (AJK, BB). *Polites themistocles*, YANKTON Co, 9 Aug (AJK, BB). *Wallengrenia egeremet*, Gary Gulch GPA, DEUEL Co, 9 Jul. *Atalopedes campestris*, Gary Gulch GPA, DEUEL Co, 9 Jul; Lk Herman, LAKE Co, 22 Aug (AJK, JEK); Roubaix Lk, LAWRENCE Co, 14 Sep; nr Sica Hollow SP, MARSHALL Co, 5 Jul; ROBERTS Co, 6 Jul; STANLEY Co, 13 Aug; YANKTON Co, 9 Aug (AJK, BB). *Atrytone logan lagus*, Rosette GPA, EDMUNDS Co, 30 Jun; nr Sica Hollow SP, MARSHALL Co, 5 Jul; WALWORTH Co, 29 Jun. *Poanes massasoit*, one fresh female, nr Rosholt, ROBERTS Co, 6 Jul (AJK, GMM). Only record for the state since early 1900s. *Poanes viator*, four fresh males collected nr Rosholt, ROBERTS Co, 6 Jul (AJK, GMM). *Euphyes vestris*, DAY Co, 4 Jul; PERKINS Co, 15 Jul (JO); WALWORTH Co, 29 Jun. *Atrytonopsis hianna*, PERKINS Co, 27 May (AJK). *Amblyscirtes vialis*, MEADE Co, 27 May (AJK); PERKINS Co, 27 May (AJK); GREGORY Co, 13 Jul (AJK, BB); SULLY Co, 26 May (JEK). *Lerodea eufala*, Sioux Falls nr Longfellow School, Minnehaha Co, 23 Aug (AJK). *Papilio bairdii* (black form, det RES), one male, FS Rd 456, Sawmill Spgs, 4 mi W of Jewel Cave Nat Mon, CUSTER Co, STATE, EAST (PJS). *P. zelicaon nitra*, fm "nitra", BUTTE Co, 25 May (GMM, RES). *Heraclides cresphontes*, MINNEHAHA Co, 25 Aug (AJK). *Pterourus glaucus*, Gary Gulch GPA, DEUEL Co, 9 Jul; HAND Co, 20 Jul; HYDE Co, 19 Jul; Lk Osceola, KINGSBURY Co, 20 Jul. *Pieris napi oleracea*, new ssp for STATE, 1 male and 1 female, Sica Hollow SP, MARSHALL Co, 5 Jul (AJK); 1 fresh female, Sica Hollow SP, ROBERTS Co, 5 Jul (JEK). *P. rapae*, Rosette GPA, EDMUNDS Co, 30 Jun. *Euchloe olympia*, Orman Dam, BUTTE Co, 25 May (GMM, RES, AJK); Little Bend Rec Area, SULLY Co, 26 May (JEK). *Colias philodice*, GREGORY Co, 13 Jul (AJK). *Colias eurytheme*, Gary Gulch GPA, DEUEL Co, 9 Jul; Rosette GPA, EDMUNDS Co, 30 Jun. *Colias alexandra*, 1 white female and 13 males collected, Red Cn, Fall River Co, 1 Aug (AJK, BB). *Zerene c. cesonia*, Orman Dam, BUTTE Co, 25 May (RES); Hwy 79, 11 mi S of Fairburn, CUSTER Co, 29 Jun (PJS); 1s, Rapid City, PENNINGTON Co, 8 Jun (AJK); 1s, Cascade Falls, FALL RIVER Co, 28 Jul (AJK); 7c (all males), Sheps Cn, FALL RIVER Co, 28 Jul (AJK); 3s, 1c, Red Cn, FALL RIVER Co, 29 Jul (AJK); 3c nr Yankton, Yankton Co, 9 Aug (AJK, BB). *Pyrisitia lisa*, 1c, Pierre, HUGHES Co, 14 Aug (AJK). *Lycaena phlaeas*, Badlands NP, JACKSON Co, 1 Jun (JZ). Only third record for state. *Gaeides xanthoides dione*, nr Crystal Spgs Ranch, DEUEL Co, 8 Jul. *Hylolycaena hyllus*, nr Crystal Spgs Rch, DEUEL Co, 8 Jul. *Harkenclenus titus*, SULLY Co, 13 Jul; WALWORTH Co, 29 Jun. *Satyrrium acadicum*, BROWN Co, 1 Jul; GREGORY Co, 13 Jul (AJK). *Satyrrium edwardsii* (det RES), 1 pr c, ROBERTS Co, STATE, 5 Jul (AJK). *Satyrrium callanus*, Gary Gulch GPA, DEUEL Co, 9 Jul; Sica Hollow SP, MARSHALL Co, 5 Jul (AJK). *Satyrrium caryaeorum* (det RES), 1c (female), Terry Vy nr Terry Peak, LAWRENCE Co, STATE, 18 Jun 1989 (AJK). This record constitutes a significant westward extension of range for this species. *Mitoura siva*, common, Hwy 34 nr Cheyenne Rvr, HAAKON Co, 24 May (AJK). *Leptotes marina*, 2c nr Cleghorn Spgs Fish Hatchery, PENNINGTON Co, 2 Aug (AJK, BB). *Hemiargus isola alce*, Orman Dam, BUTTE Co, 25 May (GMM, RES, AJK); Hwy 34 nr Cheyenne Rvr, HAAKON Co, 24 May (AJK), HAMLIN Co, 20 Jul; HUGHES Co, 14 Aug (AJK, BB); Roubaix Lk, LAWRENCE Co, 14 Sep; Cleghorn Spgs Fish Hatchery, PENNINGTON Co, 8 Jun; STANLEY Co, 31 May; YANKTON Co, 9 Aug (AJK, BB); ZIEBACH Co, 24 May (AJK); GREGORY Co, 13 Jul (AJK). *Everes c. comyntas*, Lk Herman, LAKE Co, 22 Aug (AJK, JEK); Newton Hills SP, LINCOLN Co, 24 Aug (AJK). *Everes amyntula valeriae*, Red Cyn, FALL RIVER Co, 1 Aug (AJK, BB). *Celastrina argiolus*, Lk Osceola, KINGSBURY Co, 20 Jul. *Glaucopsyche lygdamus oro*, Orman Dam, BUTTE Co, 25 May (GMM, RES, AJK). *Icaricia acmon*, Orman Dam, BUTTE Co, 25 May. *Euptoieta claudia*, CAMPBELL Co, 29 Jun. *Speyeria c. cybele*, STANLEY Co, 2 Sep; HUGHES Co, 17 Aug (AJK). *Speyeria idalia*, CAMPBELL Co, 29 Jun; HYDE Co, 19 Jul; males common, Swan Crk Lakeside Use Area, WALWORTH Co, 29 Jun. *Speyeria edwardsii*, Orman Dam, BUTTE Co, 25 May (GMM, RES). *Speyeria callippe calgariana*, CAMPBELL Co, 29 Jun. *Clossiana bellona*, nr Sica Hollow SP, MARSHALL Co, 5 Jul. *Phyciodes tharos*, PERKINS Co, 15 Jul (JO). *Phyciodes pascoensis*, nr Sica Hollow SP, MARSHALL Co, 15 Jul. *Euphydryas anicia bernadetta*, Orman Dam, BUTTE Co, 25 May (GMM, RES, AJK). *Polygonia interrogationis*, Gary Gulch GPA, DEUEL Co, 9 Jul; GRANT Co, 8 July; Lk Herman, LAKE Co, 22 Aug (AJK, JEK); Sica Hollow SP, MARSHALL Co, 5 Jul. *Polygonia comma*, HYDE Co, 19 Jul; Lk Herman, LAKE Co, 22 Aug (AJK, JEK). *Nymphalis antiopa*, Nisland, BUTTE Co, 25 May. *Vanessa virginiensis*, GREGORY Co, 13 Jul (AJK). *Vanessa cardui*, CAMPBELL Co, 29 Jun; PERKINS Co, 27 May. *Vanessa atalanta rubria*, Orman Dam, BUTTE Co, 25 May (GMM, RES, AJK); ZIEBACH Co, 24 May (AJK, GMM). *Junonia coenia*, BROWN Co, 1 Jul; Waubay NWR, Day Co, 29 Jun (DS); Rosette GPA, EDMUNDS Co, 30 Jun; Pierre, HUGHES Co, 18 Jul (AJK); YANKTON Co, 9 Aug (AJK, BB). *Basilarchia arthemis astyanax*, Lk Osceola, KINGSBURY Co, 20 Jul. *Basilarchia archippus*, GREGORY Co, 13 Jul (AJK); HYDE Co, 19 Jul; nr Deadwood, LAWRENCE Co, 22 Jun; YANKTON Co, 9 Aug (AJK, BB). *Anaea andria*, Badlands NP, SHANNON Co, 16 Aug (JZ). *Asterocampa cellis*, GREGORY Co, 13 Jul (AJK); Lk Osceola, KINGSBURY Co, 20 Jul. *Asterocampa clyton*, 2c, several s, Lk Osceola, KINGSBURY Co, NORTHWEST, 20 Jul; Lk Herman, LAKE Co, 22 Aug (AJK, JEK). *Enodia anhedon*, Gary Gulch GPA, DEUEL Co, 9 Jul; Newton Hills SP, LINCOLN Co, 24 Aug (AJK); Big Sioux Rvr, MINNEHAHA Co, 23 Aug (AJK). *Satyrodes eurydice*, nr Sica Hollow SP, MARSHALL Co, 6 Jul. *Cercyonis pegala*, CAMPBELL Co, 29 Jun; HYDE Co, 19 Jul; GREGORY Co, 13 Jul (AJK, BB). *Cercyonis oetus*, PERKINS Co, 15 Jul (JO). *Oeneis uhleri varuna*, Orman Dam, BUTTE, Co, 25 May (GMM, RES, AJK). *Danaus plexippus*, GREGORY Co, 13 Jul (AJK).

MOTHS: *Anagrapha falcifera*, abundant, Custer SP, Custer Co, and also noted for Fall River and Pennington Cos, 28 May (SGW). *Glena cribrataria*, Rapid City, Pennington Co, 28 May (SGW).

NEBRASKA. Several periods of prolonged strong southerly winds in May are presumed responsible for an amazing number of southern species encountered early in the season. Strays continued to be reported until first frost in late Oct. Collections of resident species also went well, with a fair number of surprises. *Euphyes* spp flew 1-2 weeks earlier than normal, and thus went uncollected. *Hesperia* spp on the other hand, were well represented. Twenty-five contributors accounted for 127 butterfly species, including 225 county and three state records. This brings the state average to more than 42 spp/Co and the state total to 188 spp. Few moth reports were received. Rosche's 1989 "Partial List of Nebraska Moths" with updates now lists 584 spp, probably less than half the actual number. Special thanks to RES for butterfly identifications and to RHL and WEM for moth determinations. State Coordinator: NED. Contributors: TEB, DB, JCG, TH, RHL, DRL, WEM, HGN, BKP, LJP, BAP, JMR, LMR, DJR, RCR, HS, JAS, DTS, SMS, RES, NDT, EV, RLW, SGW. Unless otherwise indicated, records are attributable to NED.

MIGRATORY/STRAY BUTTERFLIES: *Erynnis funeralis*, 1c, 1s, FURNAS Co, 4 and 19 Jul (DRL); 1c LANCASTER Co, 23 Sep (SMS). *Hylephila phyleus*, Lancaster and Furnas Cos, earliest 14 Jul (SMS, DRL). *Atalopedes campestris*, common to abundant in May and Jun, less numerous later. *Lerodea*

eufala, 2c, KEARNEY Co, 28 Aug. Battus philenor, 1c THAYER Co, 29 May (JCG); 3c Furnas Co, 27 Jun and 7 Jul (first records since early 1960s) (DRL). Zerene cesonia, unusually widespread, including new records from YORK, THAYER, NANCE, CEDAR, GARDEN and HOOKER Cos, the earliest being 5 Apr (NED, JCG, LMR, NDT). Phoebis sennae, occasional to common in eastern third of state after Jun (JMR); 1c, THAYER Co, 29 Jun (JCG); 1c, THURSTON Co, 31 Aug (SMS); latest, 23 Sep in Bellevue, Sarpy Co (BKP). Eurema mexicana, 1c, PHELPS Co, 2 Jun (NED, LMR); 4c, BANNER Co, 21 Jun (JMR). Eurema lisa, 1c THAYER Co, 17 Jun (JCG); 1c, YORK Co, 7 Jul (NDT); 1c PHELPS Co, 13 Aug (RLW). Eurema nicippe, 1c, THAYER Co, 4 Jun (JCG); 1c Furnas Co, 14 May (DRL); 1p, Schramm SRA, SARPY Co, 30 Jul (BKP). Nathalis iole, common mid-Jul to mid-Oct (NED); 1s, Ashfall SP, ANTELOPE Co, 29 Jun (RCR). Ministrymon leda, 1c, SHERIDAN Co, STATE, 24 Jun 1989 (JMR, det RES) – this specimen was erroneously reported as Calycopis cecrops in the 1989 Season Summary. Leptotes marina, 1c, YORK Co, 28 May (NDT). Hemiargus isola, common and widespread after late May, with new records from CEDAR, POLK, BANNER, NANCE and HOOKER Cos (NED, JCG, JMR, LMR, NDT). Libytheana bachmanii, 1c, THAYER Co, 4 Jun (JCG); 1c POLK Co, 4 Jun (NED, LMR); 1c FRONTIER Co, 8 Jun (DRL). Agraulis vanillae, 1c, BUFFALO Co, 10 May; 1c YORK Co, 28 May (JCG). Phyciodes texana, 1c BUFFALO Co, 10 May (RLW). Phyciodes phaon, 1c, YORK Co, 28 May (NDT). Junonia coenia, occasional specimens, the earliest 4 Jun, with new records from ARTHUR, GRANY, THAYER and NANCE Cos, (NED, JCG, LMR, RCR). Danaus plexippus, average to good numbers in fall migration (NED, SMS); peaking about 6 Sep, approx 200s, Fontenelle Forest, Sarpy Co (BKP). D. gilippus, 3c, Furnas Co, 21 Jul (DRL).

**RESIDENT BUTTERFLIES:** Staphylus hayhurstii, 1c, Lewis and Clark Lk nr Bloomfield, KNOX Co, 16 May 1987 (BAP). Erynnis horatius, 1c, 4.25 mi SE of McCool Jct, YORK Co, WEST, 28 Apr and 4 Jun (NDT, det RES); 3c Blackbird Hill, THURSTON Co, 31 Aug (SMS). Erynnis baptisiae, > 12c/s, nr Gavin's Point Dam, CEDAR Co, 26 May (NED, LMR); 1c, nr Holbrook, FURNAS Co, 21 Jul, (DRL). Ancyloxypha numitor, best year in more than 20 years in western Nebraska; > 25 c/s, Dominick Lk, GRANT Co, 2 Aug (RCR); 1c, Bridgeport SRA, MORRILL Co, 8 Aug (RCR). Hesperia uncas, 1c, Wildcat Hills SRA, Scotts Bluff Co, 11 Jun (JMR); 1s, 5 mi S Gothenburg, DAWSON Co, 14 Jun (SMS); 1c, 1s, I-80 East Wayside Area, mm100, DEUEL Co, 24 Aug (NED, JMR). Hesperia ottoe, 4c, nr Holbrook, FURNAS Co, 4 Jul (DRL); 1c, 2 mi S Fullerton, NANCE Co, 4 Jul (NED, LMR). Hesperia leonardus pawnee, new records for SCOTTS BLUFF, BANNER, CHEYENNE and DEUEL Cos, 24 Aug (NED, JMR). Hesperia pahaska, 2c Ash Hollow SHP, Garden Co, 15 Jun (JCG, NDT). Hesperia comma, abundant, > 50c, Wildcat Hills SRA, Scotts Bluff Co, also in lesser numbers in Banner and CHEYENNE Cos, 24 Aug (NED, JMR). Polites origenes, 1c, McCool Jct, YORK Co, 26 May (NDT); 1c, Rowe Sanctuary, BUFFALO Co, 29 Jun (HGN). Poanes zabulon, 1c, nr Thayer, YORK Co, 8 Aug (HS). Poanes taxiles, 1c, 6 mi SSE Sparks, CHERRY Co, 6 Jul, (LMR). Poanes viator, 3c, 2 mi E Pleasanton, BUFFALO Co, 3 Jul (NED); 2c, Rte 250 at Niobrara Rvr, Sheridan Co, 19 Jul (RCR). Euphyes ruricola, 2c, Blackbird Hill, THURSTON Co, 31 Aug (SMS). Atrytonopsis hianna, 12c, nr Gavin's Point Dam golf course, CEDAR Co, and 1c, Devil's Nest, KNOX Co, 26 May (NED, LMR). Megathymus coloradensis, larval tents found at Ash Hollow SHP, GARDEN Co, and also 5 mi W, 1 mi S Big Springs, DEUEL Co, 23 and 24 Aug (NED, JMR). Eurytides marcellus, 1s, Fontenelle Forest and 1s, Bellevue, both SARPY Co, 22 May and 12 Jun (BKP). Papilio polyxenes asterias, larvae found on and reared from Musineon tenuifolium, Bull Cn, BANNER Co, 21 Jun (NED, JCG, JMR, NDT). Heraclides cresphontes, 1s, 5 mi E Hebron, THAYER Co, 29 Jul (JCG); 1s, Ponca SP, DIXON Co, 9 Jun (BKP, LJP). Euchloe olympia, 1c, 3 mi E Hebron, THAYER Co, 11 May (JCG). Colias alexandra, 1c, Bull Cn, BANNER Co, 21 Jun. Chalceria rubida, 1c, 13 mi S Mullen, HOOKER Co, 23 Jun. Epidemia helleoides, 1c, 2.25 mi SSW McCool Jct, YORK Co, 23 May (NDT); 2c, Swan Lk, ARTHUR Co, 10 Aug (RCR); 2c/2s, 7 mi W Stapleton, LOGAN Co, 13 Jul 1990 (RCR). Harkenclenus titus, 6c/s, nr Branched Oak Lk, SEWARD Co, 16 Jun (DTS, SMS). Satyrium calanus, 1c, 3 mi E Hebron, THAYER Co, 7 Jun (JCG); 5c, Middle Crk at HWY 34, SEWARD Co, 16 Jun (SMS). Satyrium liparops, 3c, 13 mi S Mullen, HOOKER Co, 23 Jun (NED, NDT); 1c, Wildcat Hills SRA, SCOTTS BLUFF Co, 7 Jul (JMR). Callophrys apama, 1c, Bull Cn, BANNER Co, STATE, 21 Jun and 5 Jul (NDT, JMR, det RES). Mitoura siva, 1c, Devil's Nest, KNOX Co, EAST, 26 May (LMR); 5 siva/grvnea c, 5.5 mi S Gothenburg, Dawson Co, 15 Jun (JAS). Mitoura grynea, 1c, Nebraska NF, THOMAS Co, NORTHWEST, 28 Jun (RLW) - grynea and siva are now both found at this location as well. Everes amyntula, 2c, Sowbelly Cn, SIOUX Co, STATE (confirms previously uncertified reports), 7 Jun 1989 (JMR, det RES). Icaricia icarioides, 6c, Bull Cn, BANNER Co, 21 Jun (NED, JCG, JMR, NDT). I. acmon, 1c, 13 mi S Mullen, HOOKER Co, 23 Jun (JMR); 2c, Spring Valley Lk, ARTHUR Co, 28 Jul 1990 (RCR). Clossiana selene, 6c/s, 7 mi W Stapleton, LOGAN Co, 13 Jul 1990 (RCR); 1s, Dismal Rvr SW of Mullen, Hooker Co, 14 Jul 1990 (RCR). Clossiana bellona, 1c, 5 mi S, 11 mi W Verdigre, KNOX Co, 23 Jun 1990 (BAP). Phyciodes picta, 1c, 5 mi S Gothenburg, DAWSON Co, 4 Jun (SMS). Polygonia progne, 1c, Headworks Park nr Genoa, NANCE Co, 22 Apr; 1c, 3 mi E Hebron, THAYER Co, 4 Jun (JCG). Aglais milberti, 2c, Bull Cn, BANNER Co, 21 Jun (JMR). Asterocampa clyton, numbers reduced from the 1990 population boom; new records from CASS, THAYER and THURSTON Cos (JCG, SMS). Enodia anthedon, 1c, McCool Jct, YORK Co, 12 Jun (NDT); 1c, 3s, nr Fullerton, NANCE Co, 4 Jul (NED, LMR). Satyroides eurydice, 114s, East Middle Crk and County Line Marsh, Keya Paha and BROWN Cos, 6 Jul (Niobrara Vy Preserve XERCES Count).

**MOTHS:** Sixty-four species (mostly Tortricidae, Pyralidae and Noctuidae) were added to Rosche's 1989 listing for the region. A few of the more interesting reports are as follows: APATELODIDAE: Olceclostera angelica, 1c, Knox Co, 3 Jul (BAP). LASIOCAMPIDAE: Malacosoma disstria, 1c, Knox Co, 23 Jun 1990 (BAP). SPHINGIDAE: Sphinx chersis, 1c, Knox Co, 23 Jun 1990 (BAP). S. vashti, 1c, Lk McConaughy, Keith Co, 15 Jun (RLW). Deidamia inscripta, 1c, nr Kearney, Buffalo Co, 15 and 22 May (NED). NOTODONTIDAE: Dasylophia anguina, 1c, Knox Co, 13 Jul 1990 (BAP). ARCTIIDAE: Ecpantheria scribonia, 1p, Indian Cave SP, Richardson Co, 5 Jul (BKP, LJP). NOCTUIDAE: Papaipema baptisiae, 1c, nr Kearney, Buffalo Co, 25 Jul (NED). Agrotis daedalus, 1c, Smith Lk, Sheridan Co, 9 Jun 1990 (NED). Schinia lucens, 1p, Nine Mile Prairie, Lancaster Co, 29 Jun (BKP, LJP).

**KANSAS:** No report was filed for Kansas.

#### **ZONE 6: OKLAHOMA, ARKANSAS, TEXAS, LOUISIANA.**

**Coordinator:** Ed Knudson (ECK). **Contributors:** Valeriu Albu (VA), Bagdonas "Flying Circus" (BFC incl: Karolis Bagdonas, Patrice Lussy, Everett Wilson, Todd Dehm, Dan Regelski, Jimmy Long, & Ned Sekinger), Richard Boscoe (RB), Charles Bordelon, Jr. (CB), Steven Bransky (SB), Hoe Chuah (HC), Ken Davenport (KD), Jeremy Kuhn (JK), Michael Lefort (ML), Paul Opler (PAO), Charles Sekerman (CS), Ann Swengel (AS), Jim Tuttle (JT), and Steve Williams (SW). USA = new United States record; bait = bait trap or station; sight or photo = sight or photo record; ? = questionable determination;

**OKLAHOMA:** Only one contributor (SW).

**BUTTERFLIES:** (All from Pushtamaha Co, 13 Jun) Epargyreus clarus, Amblyscirtes belli, Papilio cresphontes, Colias philodice, Asterocampa celtis, Basilarchia archippus, B. arthemis astyanax (abundant), Nymphalis antiopa, Polygonia comma (abundant), P. interrogationis, Cercyonis pegala.

**MOTHS:** (All from Oklahoma Co, Oklahoma City, 13 Oct) Geometridae: Prochoerodes transversata, Pleuroprucha insulata; Notodontidae: Nadata gibbosa; Noctuidae: Charadra derjens.

ARKANSAS: Only one contributor (SB).

BUTTERFLIES: (All from Marion Co, 18-25 Aug unless otherwise stated). Epargyreus clarus, Achalarus lyciades, Hylephila phyleus, Atalopedes campestris, Wallengrenia otho, Papilio polyxenes, Pterourus glaucus, Phoebus sennae, Zerene cesonia are all MARION Co, records. Other interesting species included: Pterourus troilus, Marion Co, 5 Apr; Phoebis sennae, BAXTER Co, 14 Apr; Speyeria cybele (females only), Polygonia comma, P. interrogationis, Phyciodes tharos, Junonia coenia, Basilarchia arthemis astyanax, Baxter Co, 23 Apr, Asterocampa celtis, Calycopis cecrops.

MOTHS: (All from Marion Co, 19-25 Aug, unless otherwise indicated). Geometridae: Mellilla xanthomatata; Sphingidae: Darapsa myron, Hemaris diffinis, Hyles lineata; Arctiidae: Apantesis vittata, A. phalerata, Baxter Co, 23-15 Apr. Noctuidae: Hypsoropha hormos, Argyrostromis anilis, Scolecocampa liburna, Nedra ramulosa, Elaphria grata, Schinia trifascia.

TEXAS: Contributors: VA, BFC, RB, CB, HC, KD, ECK, JK, PAO (in letter from Ray Stanford), CS, AS, JT, SW. Most of Texas had above average rainfall for the year, a trend that appears to be continuing through early 1992. Your coordinator has not seen the west Texas mountains any greener in 18 years. Two hundred butterfly species were reported state wide, including many new county records. Space will not permit me to list all of these. Nearly the same number of moth species were reported, including new state records and an apparent new US record. As usual, to conserve space, I will be listing the county only once for each locality, except in the case of new county records.

BUTTERFLIES: Epargyreus clarus, GALVESTON Co, High Island, 21 Sep (SW); WALKER Co, Huntsville, Sep, Oct (BFC); UPSHUR, CHEROKEE, RUSK Cos, 10-22 Jun (KD). Urbanus proteus, 26 Oct; U. dorantes, JEFFERSON Co, China, 19 Oct (CB). Astrartes fulgurator azul, Cameron Co, Rio Hondo, 12 Oct, larvae on Karwinskia humboltiana, reared to adults (RB). Achalarus lyciades, RUSK Co, 10-22 Jun (KD). A. casica, Jeff Davis Co, Davis Mts, 3 Sep (HC). A. toxeus, Starr Co, 15 mi N of Rio Grande City, 1 Sep (CB). Caberes potrillo, Cameron Co, Sabal Palm Sanctuary, 18 Oct, reared from ova on Priva leplucea (RB). Cogia hippalus, Staphylus ceos, Davis Mts, 3 Sep (CH). S. mazans, WALLER Co, Sealy, 14 Jul (SW). S. hayhurstii, UPSHUR, RUSK Cos, 10-22 Jun (KD). Carrhenes canescens, Hidalgo Co, Sta. Maria, 2 Sep (CB); Chiomara asychis, STARR Co, Sta. Margarita Rch, 8 Aug (PAO). Gesta gesta inuisus, GALVESTON Co, High Is, 14 Sep (SW); KINNEY Co, 6 mi W of Spofford, 31 Aug-3 Sep (HC, sight, by Mike Rickard). Erynnis funeralis, UPSHUR, CHEROKEE, RUSK Cos, 10-22 Jun (CB); STARR Co, Sta. Margarita Rch, 8 Aug (PAO). E. persius? (sic., prob. small baptisiae), AUSTIN Co, Sealy, 19 Sep (CS). Pyrgus philetas, Hidalgo Co, Santa Ana Refuge, 10 Oct, ova on Sida filicaulis, reared to adult (RB). Heliopetes domicella, Brewster Co, FM 2627, 5 May, (JK). Nastra therminier, UPSHUR Co, Coffeerville, 17 Jun, (KD). N. neamathla, AUSTIN Co, Sealy, 19 Sep (CS). Cymaenes odilia trebius, Santa Ana Refuge, 7 Oct (ECK); Lerema accius, UPSHUR, CHEROKEE, RUSK Cos, 10-22 Jun (KD), BROOKS Co, Falfurrias, 6 Aug (PAO). Decinea percosius, Sabal Palm Sanctuary, 18 Oct, reared to adults from confined females on grasses (RB). Yvretta carus, Davis Mts, 31 Aug-3 Sep (HC). Stinga morrisoni, Culberson Co, (confirms), Guadalupe Mts NP, Dog Cn, 12 May (ECK). Hesperia uncas, CULBERSON Co, Guadalupe Mts NP, Dog Cn, 7 Jul (ECK). Hesperia metea licinus, Freestone Co, W of Buffalo, 30 Mar (HC). Polites themistocles, WHARTON Co, 22 Jul, (SW). P. origenes, UPSHUR Co, 1 mi E of Gilmer, 12 Jun (KD). Wallengrenia otho, W. egeremet, Pompeius verna, all UPSHUR, RUSK Cos, 10-22 Jun (KD). Problema byssus, UPSHUR Co, Coffeerville, 17 Jun (KD). Poanes viator, RUSK Co, Lk Striker, 16 Jun (KD). Euphyes dukesi, ORANGE Co, Neches Rvr, 25 Jul (CB). Atrytonopsis vierecki, A. pittacus, Davis Mts, 20-23 Apr (HC). Amblyscirtes simius, Guadalupe Mts NP, Dog Cn, 7 Jul (ECK). A. aesculapius, RUSK Co, Lk Striker, 16 Jun (KD); HARDIN Co, Village Crk, 21 Sep (CB). A. vialis, UPSHUR, RUSK, Cos, 10-22 Jun (KD). A. alternata, Comal Co, New Braunfels, 4 May (VA). Lerodea eufala, BROOKS Co, Falfurrias, 6 Aug (PAO). Agathymus mariaej lajitaensis, Presidio Co, ex larvae, 1 Sep, ex pupae, 12 Oct, emerged 12-29 Oct (JK). A. estellae valverdiensis, (correction from 1990 SS), Kinney Co, adults, larvae & pupae coll. 11 & 17 Apr, emerged 11 - 30 Apr, pupae of second brood coll. 11 Sep, emerged 26 Sep-1 Oct (JK). Megathymus coloradensis reinthali, TYLER Co, Kirby SF, 23 Mar, (adults?)(CB). Megathymus c. louiseae, SCHLEICHER, TOM GREEN, IRION Cos, larvae & pupae coll. 13 Mar (JK). M. c. kendalli, Burnet Co, Marble Falls, pupae coll. 24 Mar, emerged 26-27 Mar (HC). Heraclides crespontes, UPSHUR, CHEROKEE, RUSK Cos, 10-22 Jun (KD); WALKER Co, Huntsville, Mar-Nov (BFC). Pterourus multicaudatus, TAYLOR Co, Abilene, 31 May (SW). Artogeia rapae, UPSHUR, CHEROKEE, RUSK, EASTLAND Cos, 10-22 Jun (KD). Colias philodice, DALLAM Co, Dalhart, 22 May (SW). Appias drusilla, Hidalgo Co, Sta. Maria, 16 Mar, (CB, C.R. Sassine coll). Eurema mexicanum, TYLER Co, 3 mi W US 69, 19 Oct (CB); EASTLAND Co, Eastland, 10 Jun (KD). Atlides halesus, KIMBLE Co, Junction, 16 Mar (CB); WALKER Co, Huntsville, 9 Oct (BFC). Satyrium kingi, TYLER Co, Kirby SF, 11 Jun, (CB). Calycopis isobean, UPSHUR, RUSK Cos, 10-22 Jun (KD). Mitoura grynea, Incisalia nippon, 23 Mar, I. henrici turneri, 16 Mar, leg. E. Wolf; TYLER Co, Kirby SF (CB). Zizula cyna, ZAPATA Co, Tigre Grande, 10 Aug (PAO). Calephelis virginianensis, JEFFERSON Co, China, 26 Oct (CB). C. rawsoni, KLEBERG Co, 14 mi S of Kingsville, 2 Sep (CB); SUTTON Co, Juno, 25 Aug (HC). Apodemia mormo mejicana, Brewster Co, Black Gap WMA, 17 Mar (CB); 31 Aug-3 Sep (HC); Study Butte, 22 Sep (JK). Agraulis vanillae, RUSK Co, Lk Striker, 16 Jun (KD); BROOKS Co, Falfurrias, 6 Aug (PAO); WALKER Co, Huntsville, abundant in spring and fall (BFC). Nymphalis antiopa, CHEROKEE, RUSK Cos, 10-22 Jun (KD), TAYLOR Co, Abilene SP, 31 May (SW). Siproeta stelenes, Starr Co, Hidalgo Co, various localities, 16 sightings, 24-27 Oct (AS). Euptoieta hegesia, Hidalgo Co, Anzalduas Park, 9 Oct, observed ovipositing on Passiflora foetida, reared to adults (RB); same locality, 2 Sep (CB). Erisia frisia tulcis, Sabal Palm Sanctuary, 12 Oct, reared from confined females on Justicia runyonii (RB). Charidryas gorgone carlota, SAN AUGUSTINE Co, San Augustine, 29 Jun (CB). C. nycteis, UPSHUR, CHEROKEE Cos, 10-22 Jun (KD); SAN JACINTO Co, Point Blank, 6 Jul (CB). Thessalia fulvia, NOLAN Co, 13 May (JK). Thessalia theona thekla, Davis Mts, 31 Aug-3 Sep (HC). T. chinatiensis, apparently very abundant this year, both spring and fall in Brewster Co, Study Butte, Big Bend, Black Gap (CB,HC,JK). Basilarchia arthemis astyanax, UPSHUR, CHEROKEE, RUSK Cos, 10-22 Jun (KD). B. archippus, CAMERON Co, Sabal Palm Sanctuary, 7 Aug; STARR Co, 8 Aug (PAO); UPSHUR Co, 10-22 Jun (KD); NOLAN Co, 13 May (JK). Adelpha bredowii, TAYLOR Co, Abilene SP, 31 May (SW). Dynamine dyonis, Santa Ana NWR, 14 Oct, females ovipositing on Tragia sp, reared to adults (RB); same locality, 7 Oct (ECK). Biblis hyperia, Santa Ana NWR, 14 Oct, reared to adults from confined female on Tragia (RB); same Co, Sta. Maria, 2 Sep (CB). Marpesia petreus, STARR Co, Fronton, 1 Sep, (CB). Anaea aidea, WALLER Co, NE of Sealy, 2 Sep (SW). Asterocampa c. celtis, UPSHUR, CHEROKEE, RUSK Cos, 10-22 Jun (KD); WALKER Co, Crabbs Prairie, Sep, Oct (BFC). A. clyton, CHEROKEE, RUSK Cos, 10-22 Jun (KD). Cylopsis gemma freemani, ZAPATA Co, San Ygnacio, 10 Aug (PAO). Neonympha arcolata, JEFFERSON Co, China, 12 Oct (CB). Cercyonis pegala (ssp?), LAVACA Co, 2 Jun (SW). C. p. texana, NOLAN, EASTLAND Cos, 10-22 Jun (KD). Danaus eresimus montezuma, KINNEY Co, Spofford, 3 Sep (HC).

MOTHS: Oecophoridae: Menestomorpha oblongata, STATE, CULBERSON Co, Guadalupe Mts NP, 7 Sep (ECK). Choreutidae: Prochoreutis inflatella, HARRIS Co, Tomball, 3 May (SW). Tortricidae: Cydia albimaculana, HARRIS Co, Houston, 5 Mar (ECK). C. piperana, STATE, Guadalupe Mts NP, 11 May (ECK). Argyrotaenia velutinana, Tomball, 3 May (SW). Limacodidae: Parasa chloris, Tomball, 3 May (SW). Pyralidae: Usingeriessa brunnilialis, Stegea mexicana, Comal Co, San Marcos, 3 May (VA). Petrophila bifascialis, Peripasta caeculalis, Helvibotys helvialis, Tomball, 3 May (SW). Pyrausta pseudosericealis, Bexar Co, San Antonio, 4 May (VA). Bertelia dupla, Guadalupe Mts NP, 2 Oct (abundant)(ECK). Diorcyctria pseudotsugella, STATE, Guadalupe Mts NP, Dog Cn, 9 Jun (ECK). Thyrididae: Thyris sepulchralis, Waller Co, nr Sealy, 14 Jul (SW). Meskea dyspteraria, San Antonio, 4 May (VA). Drepanidae: Oreta rosea, Houston, 8 Aug (SW). Geometridae: Itame varadaria, Mellilla xanthometata, Euchlaena johnsonaria, Ennomos subsignarius, Tomball, 3 May (SW). E. subsignarius also New Braunfels, 4 May (VA). Narraga fimetaria, San Marcos, 3 May (VA). Nacophora mexicanaria, Caripeta macularia, Eupithecia spermaphaga, STATE, Guadalupe Mts NP, Dog Cn, 8 Jun; Eupithecia insolabilis, Xanthorrhoe defensaria, STATE, same locality, 11 May (ECK). Lithostege marcata, STATE, EL PASO Co, El Paso, 8 Sep (ECK). Saturniidae: Eacles imperialis nobilis, Citheronia regalis, Walker Co, Huntsville, mid

Sep-mid Oct. Callosamia promethia, same locality, 4 Apr (BFC). Eupackardia calleta, Live Oak Co, Three Rivers, 19-22 Apr, 3rd-5th instar larvae on Leucophyllum frutescens (JT). Sphingicampa blanchardi, 5th instar larvae on Pithcellobium flexicaule; Automeris io, 5th instar larvae on Leucania pulverulenta, Cameron Co, Southmost, 19-22 Apr (JT). Sphingidae: Ceratomia catalpa, JEFFERSON Co, Beaumont, 5 Aug (CB). Sphinx istar, KINNEY Co, Bracketville, 18 Mar (BFC). Pachysphinx modesta, HARRIS Co, Houston, 20 Feb (SW). Erynnis ello, E. obscura, WALKER Co, Huntsville, mid Sep-Oct (BFC). Eumorphia pandorus, E. fasciata, WALKER Co, Huntsville, 14-28 Sep (BFC). Notodontidae: Dasylophia thwaitoides, JEFFERSON Co, Beaumont, 23 Jun (CB). Peridea angulosa, BEXAR Co, San Antonio, 4 May (CB). Arctiidae: Holometonia rubicundaria, HARRIS Co, Tomball, Houston, 3 May (SW); COMAL Co, New Braunfels, 4 May (VA). Afrida exegens?, U.S.A., STATE, Guadalupe Mts NP, Dog Cn, 8 Jun (ECK). Estigmene acrea, Nacadoches Co, Nacadoches, 22 Dec (SW). Turruptiana permaculata, Guadalupe Mts NP, 8 Jun (ECK). Euchaetes elegans, Horama panthalon texana, BEXAR Co, San Antonio, 4 May (CB). Noctuidae: Anomis editrix, Guadalupe Mts NP, 10 Aug (ECK). Litoprosopus futilis, JEFFERSON Co, Beaumont, 28 Apr (CB). Asticta victoria, STATE, Guadalupe Mts NP, Dog Cn, 7 Jul (ECK). Forsebia perlaeta, San Antonio, 4 May (VA). Ascalapha odorata, Huntsville, mid Sep-mid Oct (BFC). Zale chisoensis, Guadalupe Mts NP, 7 Jun (ECK). Ptchodis bistrigata, Harris Co, nr Katy, 2 Sep; Mocis disseverans, Houston, 28 Apr (SW). Catocala piatrix, C. desdemona, C. ilia, C. frederici, C. violenta, Guadalupe Mts NP, Dog Cn, 6-7 Jul (ECK). Allagrapha aerea, HARRIS Co, Houston, 13 Mar (SW). Cydosia aurivitta, San Antonio, 4 May (VA); Houston, 2 Oct (SW). Oruza albocostaliata, Ozarba aerea, Eumicremma minima, Tomball, 3 May; Acrionicta haesitata, Houston, 2 Oct (SW). Alypioides bimaculata, STATE, Guadalupe Mts NP, 10 Aug (ECK). Dypterygia patina, Crambodes talidiformis, San Antonio, 4 May, (VA). Elaphria grata, Tomball, 3 May (SW). Lythrodus radiatus, Stibadium manti, S. curiosum, Oalaria viridifera, Guadalupe Mts NP, 6,7 Sep (ECK). Stirioides obtusa, San Antonio, 4 May (VA). Plagiomimicus triplagiatus, STATE, El Paso, 8 Sep (ECK). Cucullia speyeri, San Antonio, 4 May (VA). C. montanae, STATE; C. lilacina, C. laetifica, Guadalupe Mts NP, 10 Aug; Dargida procincta, STATE, same loc, 7 Jul; Pseudoseptis grandipennis, STATE, same loc, 8 Jun (ECK). Heliopsis paradoxus, San Antonio, 4 May (VA). Schinia arcigera, Houston, 2 Oct (SW). Schinia luxa, STATE, El Paso, 8 Sep; S. accessa, S. roseitincta, S. miniana, S. balba, S. alencis, S. ciliata, S. hulstij, S. chrysellus, S. citrinella, Guadalupe Mts NP, 6-8 Sep (ECK).

**LOUISIANA:** Contributors: CB, ML, SW. ML reported all-time record rains for 1991. Over 100 inches in many places!

**BUTTERFLIES:** Epargyreus clarus, Tangipahoa Ps, 4 Oct (SW). Ancyloxypha numitor, Jefferson Ps, 4 Oct (SW). Hesperia meskei, STATE?, VERNON Ps, Kisachie SF, 21 Sep (CB). Battus philenor, Heraclides crespontes, Pterourus troilus, CALCASIEU Ps, 4 Oct; Pterourus palamedes, CALCASIEU, JEFF DAVIS, ACADIA Pss, 4 Oct; Papilio polyxenes asterius, JEFF DAVIS Ps, 4 Oct (SW). Anthanassa texana seminole, LaFourche Ps, Larose, 26 Oct, 16 Nov (ML). Cercyonis pegala, St. Tammany Ps, 5 Oct (SW). Danaus plexippus, CALCASIEU Ps, 4 Oct (SW).

**MOTHS:** Oecophoridae - Psilocorsis reflexella; Geometridae - Eusarca confusa, Eutrappela clemataria; Arctiidae - Lophocampa carvae, Acadia Ps, Atchafalaya Swamp, 7 Jul (SW). Utetheisa ornatix, VERNON Ps, Kisatchie NF, 21 Sep (CB). Noctuidae - Hypocala andremona, Natchitoches Ps, Kisatchie NF, 14 Oct (CB). Saturniidae - Automeris louisiana, LaFourche Ps, Leeville, adults coll, 8,9 Feb, 8,9 Mar, 30 Mar, 13 Apr, 6,7 Dec, 24,28 Dec, half grown larva on Spartina sp., all by Hilton & Joyce Gaspard (ML).

**ZONE 7: ONTARIO/QUEBEC.** Coordinator: Ross Layberry (RL). Contributors: David Beadle; Fred Bodsworth (FB); George Bryant (GB); Barbara Charlton; Bob Curry (BC); Greg Daniels (GD); Sid Daniels (SD); Robert Dobos; Jon Dunn; Nick Escott; Joseph Faggan; Robert Finlayson (RF); James Flynn; Lorraine Foot; William Foot; Kathleen Gardiner; June Gordon; Barry Harrison (BH); Bennett Hennessey; Quimby Hess (QH); G. Tom Hince; Margo Holt (MH); Nancy Ironside (NI); Alvaro Jaramillo; B. Kulon; Bill Lamond (BL); Jeff Larson (JL); Francois Lessard (FL); Michael Matheson (MM); Brian McHattie; Laurel McIver; Kevin McLaughlin; John Olmstead; N. Evelyn Rymer; Tim Sabo (TS); David Sheppard; Ken Stead (KS); Paul Syme (PS); Ron Tasker (RT); Sue Uterback; Robert Waldhuber; Alan Wormington (AW); Kirk Zufelt (KZ).

**ONTARIO.** In southern Ontario, the spring of 1991 was very early, and many butterflies were recorded as much as three weeks earlier than ever before. Only the most extreme early records have been included.

**BUTTERFLIES:** Epargyreus clarus, Windsor, Essex Co, 28 Apr, EARLY (JL). Erynnis horatius, Pelee Is, 21 Aug (KZ); Point Pelee, Essex Co, 12 Aug, 3RD POINT PELEE RECORD (BC,GB,GD,SD); LaSalle, Essex Co, 23 Aug (JL). E. marialis, Ipperwash, Lambton Co, 15 May (KS). E. lucilius, Windsor, 14 Apr, EARLY (JL). E. baptisiae, Walpole Is, Lambton Co, 31 May; Point Pelee, 17, 30 Sep (KZ), 21 Sep (BC,SD,AW); Windsor, Essex Co, 14 Apr, EARLY, 12 May, 7 Sep, 18 Oct (JL). E. persius, Moosonee, Cochrane Dist, 23, 24 Jun (KZ). Oarisma garita, Birch Is, Manioutlin Dist, 25 Jun, FIRST ONTARIO RECORD SINCE 1978 (KZ). Ancyloxypha numitor, Slate Falls Rd, Lennox & Addington Co, 30 Jun, COUNTY (RL). Hylephila phyleus, much more common than usual, LaSalle, Essex Co, 16 Jun, EARLY (JL); and at many other locations in Essex Co, 4 Aug to 23 Oct (TS,KZ,BC,AW,JL); Royal Botanical Gardens, Hamilton, Wentworth Co, 8 Sep to 9 Oct (KZ,SD). Hesperia sassacus, Lk Medad, Wentworth Co, 29 May, COUNTY, and at 10 other Wentworth Co locations until 18 Jun (AW,BL). Polites coras, SE Leamington, Essex Co, 23 Oct, LATE (AW). P. origines, Windsor, 8 Jun, EARLY (AW). Pompeius verna, Windsor, 8 Jun, EARLY (AW). Atrytonopsis hianna, Ipperwash, Lambton Co, 30 May (KS); Port Franks, Lambton Co, 28 May (KZ); Point Pelee, 21 Sep to 17 Oct (SD,BC,AW,KZ). Poanes viator and Euphyes dion, Kaladar Twp, Lennox & Addington Co, 30 Jun, COUNTY RECORDS (RL). E. dukesi, Point Pelee, 22 Jun, EARLY (AW,JL), 7, 8 Sep, FIRST RECORD OF SECOND GENERATION (BC,KZ,AW). E. vestris, Point Pelee, 7 to 22 Sep, FIRST RECORD OF SECOND GENERATION (BC,SD,AW,KZ). Calpodex ethlius, Point Pelee, 21 Sep, FIRST CANADIAN RECORD (AW,SD,BC). Panoquina ocola, Royal Botanical Gardens, Hamilton, Wentworth Co, 8 Sep, FIRST CANADIAN RECORD (BC); Point Pelee, 21 Sep (AW,SD,BC). Papilio machaon, 40 km N Geraldton, Thunder Bay Dist, 21 Jun; Moosonee, Cochrane Dist, 22, 23, 24 Jun (KZ); Longridge Point, Cochrane Dist, (60 km N of Moosonee) 29 Jul to 2 Aug, large larvae common on Scotch Lovage (Ligusticum scothium), NEW FOODPLANT (BC). Pontia protodice, Orillia Twp, Simcoe Co, 21 Sep (MH,NI). Pieris virginiensis, six new colonies in Wentworth Co, 25 Apr to 15 May (AW,BL). Euchloe ausonides, Burpee Twp, Manioutlin Is, 17, 18, 19 May (RT); Fraserdale, Cochrane Dist, 8 Jun, 320 km NE RANGE EXTENSION (SD,GD). Colias pelidne, Moosonee, 22, 23 June (KZ). Eurema lisa, Toronto, 22 Sep (BH); 5 km N of Kirkfield, Victoria Co, 27 July (TS); Hamilton, Wentworth Co, 6 July (AW); Point Pelee, 22 Jun; Windsor, 3 Jul (JL). Lycaena hylus, Point Pelee, 22 Sep, THIRD GENERATION? (AW). Satyrrium edwardsii, Windsor, 15 Jun, EARLY (AW,JL). Incisalia lanoraicensis, Alfred Bog, Prescott Co, common over a much wider area than usual (RL,BC,SD,KZ). Everes comyntas, Point Pelee, 23 Oct, LATE (AW). Lycaeides melissa, only 1 male, 1 female, St. Williams, Norfolk Co, 23 Jun (QH). Speyeria cybele, Windsor, 26 May, EARLY (JL). Charidryas nycteis, Windsor, 5 May EARLY (JL); Kaladar Twp, Lennox & Addington Co, 30 Jun, COUNTY (RL). Polygonia gracilis, Fraserdale, Cochrane District, 25 May (AW). Erebia discoidalis Abitibi Cn, Cochrane Dist, 20 May (AW). Danaus plexippus, LaSalle, 28 Apr, EARLY (JL).

**MOTHS:** COSSIDAE - Acosus centerensis, Moonbeam, Cochrane Dist, 16-29 Jun (PS). Prioxystus macmurtrei, Fournier Twp, Cochrane Dist, 16 Jun (LT). LIMACODIDAE - Prolimacodes badia, Arner, Essex Co, 27 Jun (MM). GEOMETRIDAE - Econista dislocaria, Point Pelee, 6 Jun (MM). Erastria coloraria, Long Point, Norfolk Co, 15 Jun (TS). Calothyssanis amaturraria Point Pelee, 24 Jun, FIRST CANADIAN RECORD (MM). SPHINGIDAE - Eumorphia pandorus, Hamilton, Wentworth Co, 9 Oct (BC). Xylophanes tersa, Point Pelee, 21 Sep (BC,AW); Oxley, Essex Co, 17, 23 Aug, 10 Sep (JL). NOCTUIDAE - Stiriodes obtusa, Point Pelee, 24 Jun, FIRST CANADIAN RECORD (MM). Psychomorpha epimenis, St. Williams, Norfolk Co, 5 May



(BC,KZ); 5 locations in Wentworth Co, 8-16 May (AW,BL,RF). *Heliopsis borealis*, 6.3 km E Smooth Rock Falls, Cochrane Dist, 25 May (AW). *Thioptera nigrofimbria*, Point Pelee, 3 Aug, FIRST CANADIAN RECORD (AW). *Melipotis indomita*, Long Point, Norfolk Co, 25 Aug; La Salette, Norfolk Co, 31 Aug (TS). *Synedoida grandirena*, Collingwood, Simcoe Co, 1 Jun; Long Point, 29 Jun; Point Pelee, 1 Sep (TS). *Thysania zenobia*, Point Pelee, 1 Sep (TS). *Ascalapha odorata*, Scarborough, York Co, 31 Aug (FB). *Phytometra rhodarialis*, Long Point, 29 Jun (TS).

#### QUEBEC.

**BUTTERFLIES:** *Ancyloxypha numitor*, Mont Kanasuta, Témiscamingue Co, 23 Jun (FL). *Hesperia comma laurentina*, Mont-Tremblant, Terrebonne Co, 17 Aug (FL). *Pompeius verna*, St-Armand-Ouest, Missisquoi Co, 9 Jul, 3RD QUEBEC RECORD (FL). *Poanes massasoit* and *Euphyes dion*, 2 km SW St-Zotique, Soulanges Co, 1 Jul, FIRST QUEBEC RECORDS (RL); 6, 7, 20 Jul (FL); Phillipsburg, Missisquoi Co, 9 Jul (FL). *E. bimacula*, Lac-Lapêche, Gatineau Park, Pontiac Co, 25 Jun, first local record since 1980 (FL). *Amblyscirtes hegon*, Luskville Falls, Gatineau Park, Gatineau Co, 6 Jun (FL). *Papilio brevicauda*, Cap-Chat, Gaspé-Ouest Co, 4 Jul (FL). *P. glaucus canadensis*, Lac-Castor, 2350', Monts-Groulx, Saguenay Co, 15 Jul; km 74-303, Hwy 389, Saguenay Co, 16 Jul (RL). *Euchloe olympia*, Kazabazua, Gatineau Co, 18 May, first record in a very well collected area (FL). *Colias pelidne*, bog, km 538, Hwy 389, Saguenay Co, 14 Jul (RL); Ridge at 3250', 1 km W of Mont-Carabelca, Saguenay Co, 15 Jul (RL). *C. interior*, Barraute, Abitibi Co, 24 Jun (FL); km 74, Hwy 389, Saguenay Co, 16 Jul (RL). *Satvrium edwardsii* and *S. caryaeorum*, Luskville Falls, Gatineau Park, Gatineau Co, 11 Jul (FL). *Incisalia polios*, St-Louis-de-Blandford, Arthabaska Co, 11 May; km 117, Hwy 167, Lac-St-Jean-Ouest Co, 26 May (FL). *I. henrici* and *I. lanoraicensis*, St-Louis-de-Blandford, 11 May (FL). *I. eryphon*, Parc-de-Point-Taillon, Lac-St-Jean-Est Co, 25 May; km 72 and 117, Hwy 167, Lac-St-Jean-Ouest Co, 26 May; Obaska, Abitibi Co, 2 Jun (FL). *Erora laeta*, 2 km NW Lac-St-Germain, Gatineau Co, 20 May (RL,BC,SD,KZ). *Everes amyntula*, Cap-Chat, Gaspé-Ouest Co, 14 Jun, 5 Jul; Ste-Anne-des-Monts, Gaspé-Ouest Co, 16 Jun (FL). *Celastrina ladon*, bog, km 538, Hwy 389, Saguenay Co, 14 Jul; ridge, 2900', Monts-Groulx, Saguenay Co, 15 Jul (RL). *Plebejus saepiolus*, Roulier, Témiscamingue Co, 23 Jun; Mont-Kanasuta, Témiscamingue Co, 23 Jun; Cap-Chat, Gaspé Co, 5 Jul (FL). *Agriades franklinii*, common on ridge, 3250', 1 km W Mont-Carabelca, Saguenay Co, 15 Jul (RL). *Speyeria atlantis*, km 81 and 292.3, Hwy 389, Saguenay Co, 16 Jul, (RL). *Proclissiana eunomia*, Barraute, Abitibi Co, 24 Jun (FL); bog, km 560, Hwy 389, Saguenay Co, 14 Jul (RL). *Clossiana freija*, km 72, 78, Hwy 167, Lac-St-Jean-Ouest Co, 26 May; Barraute, and Belcourt, Abitibi Co, 1 Jun (FL); bog, km 560, Hwy 389, Saguenay Co, 14 Jul (RL). *C. selene*, bog, km 560, Hwy 389, Saguenay Co, 14 Jul; roadside, km 240.5, Hwy 389, Saguenay Co, 16 Jul (RL). *C. bellona*, km 240.5, Hwy 389, Saguenay Co, 16 Jul (RL). *C. frigga*, Barraute, Abitibi Co, 1 Jun (FL); bogs, km 560 and 570.2, Hwy 389, Saguenay Co, 14 Jul (RL). *C. titania*, bog, km 570.2, Hwy 389, Saguenay Co, 14 July (RL). *Vanessa virginienensis*, 2 fifth-instar larvae, km 279, Hwy 389, Saguenay Co, 16 Jul (RL). *V. cardui*, common, km 130-548, Hwy 389, 14-16 Jul, and 3250 ft, 1 km W of Mont-Carabelca, 15 Jul (RL). *Basilarchia arthemis*, km 279 and 303, Hwy 389, Saguenay Co, 16 Jul (RL). *Erebia disa*, bogs, km 538 and 542.6, Hwy 389, 14 Jul; Lac-Castor, 2350', Monts-Groulx, Saguenay Co, 15 Jul (RL). *E. discoidalis* and *Oeneis chryxus*, Belcourt, Abitibi Co, 1 Jun (FL). *O. jutta*, Barraute, Abitibi Co, 1 Jun (FL); bogs, km 548 and 560, Hwy 389, Saguenay Co, 14 Jul (RL). *O. melissa*, caught 3, on ridge, 3250', 1 km W Mont-Carabelca, Saguenay Co, 15 Jul (RL).

**ZONE 8: MIDWEST: MISSOURI, KENTUCKY, WEST VIRGINIA, OHIO, INDIANA, ILLINOIS, IOWA, MINNESOTA, WISCONSIN, MICHIGAN.** Coordinator: Les Ferge (LF). Contributors: B.K. Allen (BA), Valeriu Albu (VA), Bob Borth (BB), Dan Bogar (DB), Edward Ballard (EB), George Balogh (GB), Steven Bransky (SB), Tom Barina (TB), Charles V. Covell, Jr. (CVC), Dave Cuhrell (DC), James Ciha (JC), Manineer Deswal (MD), David L. Eiler (DE), Irwin Elsner (IE), Jim Ebner (JE), Mike Eekoff (ME), Chip Francke (CF), Dave Fallow (DF), Loren D. Gibson (LDG), Mike Gilligan (MG), Todd Gilligan (TG), Ronald V. Harms (RH), Ted Herig (TH), Robby Johnson (RJ), David Knoll (DK), Harold Kellr (HAK), Hugo Kons, Jr. (HK), Irwin Leeuw (IL), Karl & Dorothy Legler (KL), Eric H. Metzler (EHM), Frederick C. Mosher (FM), Gary Manley (GM), Mogens C. Nielsen (MN), Tim Orwig (TO), Barbara Padelford (BP), Loren Padelford (LP), James C. Parkinson (JCP), David K. Parshall (DKP), Mary Alexis Pfitzenreuter (MP), John Perona (JP), Ron Rockwell (RR), Roy W. Rings (RWR), Tom Rocheleau (TR), Ann Swengel (AS), Brian Scholtens (BS), Clark Schultz (CS), David Smith (DS), Ernest Shull (ES), James Scout (JS), Ray E. Stanford (RES), Scott Swengel (SS), Jim Tuttle (JT), Richard Teper (RT), Sonja Teraguchi (ST), Timothy Taylor (TT), Donald J. Wright (DJW), John Weber, Jr. (JW), James R. Wiker (JRW), Reed A. Watkins (RAW), Stephen G. Williams (SGW), Chris Young (CY).

**GENERAL COMMENTS:** An early spring and above-normal temperatures were noted in several states, with many species emerging 1-2 weeks before "normal" dates. Rainfall was about average in most areas, but very dry conditions were reported in OH. The butterfly season was abruptly ended by cold and freezing conditions during the latter part of Sep in WI and IL, and cold weather hampered fall moth collecting.

1991 proved to be a record year for migrants and strays, with the influx of southern species into northern parts of the zone equaling if not exceeding that of 1987. *Hylephila phyleus* was extremely abundant in KY, and was common in IL, many IA counties, and southern WI in Aug and early Sep. *Atalopedes campestris* was reported from many localities, including the northernmost parts of WI and MN. *Phoebis sennae* was widespread and often numerous in southwestern KY, southern IL and southwestern IA, and extended into southwestern WI, where several were caught and others seen in Aug. Huge gatherings of migrating Monarchs, estimated to exceed 10000 butterflies, were witnessed in MN in Aug and IN in Sep. The most unusual strays were *Papilio machaon hudsonianus* in Upper MI (first US record), and *Danaus gilippus* in IA and Lower MI. An unusual abundance of the first brood of *Basilarchia arthemis astyanax* was observed around Louisville, KY, and in the *B. a. arthemis/astyanax* blend zone in central WI. Large swarms of *Asterocampa celtis* were reported from Carrol Co, IL and Fremont Co, IA. *Pontia protodice* apparently has continued to decline from its 1988 abundance in northern areas, being reported from just a few localities in IN, IL, and WI, but numerous in Fulton Co, KY.

#### MISSOURI:

**BUTTERFLIES:** *H. phyleus*, Jackson Co; *P. sennae* and *E. lisa*, Cass Co, and *J. coenia*, Daviess Co, all 13 Oct (SGW).

**KENTUCKY:** The following records were provided by CVC.

**BUTTERFLIES:** *H. phyleus*, 7 Sep, Fulton Co, most abundant ever seen by CVC. *P. yehi*, common, many on climbing hempweed, and *A. aesculapius*, on ironweed flowers, 7 Sep, Fulton Co. *P. protodice*, numerous, 7 Sep, Fulton Co. *P. sennae*, 6 Sep, sighted along Western KY Pkwy in Hardin, Butler, Ohio, Muhlenberg, Hopkins and Christian Cos; frequent 7 Sep, Fulton Co. *E. nicippe*, 22 Jun, Oldham Co; 7 Sep, Fulton Co. *B. arthemis astyanax*, larger than usual first brood. *E. portlandia missarkae*, *E. creola*, 7 Sep, Fulton Co. *C. gemma*, *H. sosybius*, 6 Sep, Christian Co.

**MOTHS:** All 16 Jul, Jefferson Co. ZYGAEINIDAE - *Acoloitus falsarius*, 3rd KY record. EPIPYROPIDAE - *Fulgoraacia exigua*. GEOMETRIDAE - *Idaea scintillularia*, only one other KY record.



WEST VIRGINIA: All (VA) except as noted.

BUTTERFLIES: E. nicippe, 10 Aug, S. atlantis, 19 Aug, Tucker Co.

MOTHS: GEOMETRIDAE - Semiothisa ulsterata, Dysstroma hersiliata, Hydrelia condensata, 1 Jun, Nicholas Co. SPHINGIDAE - Manduca jasminearum, 1 Jun, Nicholas Co, Xylophanes tersa, 21 Jul, Lincoln Co (JT). ARCTIIDAE - Lycomorpha pholus, 24 Aug, Pendleton Co. NOCTUIDAE - Macrochilo louisiana, 1 Jun, Nicholas Co. Catocala dejecta and nebulosa, 16 Aug, Kanawha Co. Panthea acronyctoides, Acrionicta innotata, 1 Jun, Nicholas Co.

OHIO: The OH Lepidopterists' butterfly summary was compiled by DKP, and the moth data by EHM. 1991 was a season of weather contrasts, with early spring being almost as wet as that of 1990. However, dry weather set in and lasted until late fall, similar to the record drought year 1988 but not as hot. Fourteen butterfly species emerged earlier than previously recorded: E. dion, dukesi, conspicua and bimacula, P. viator, S. edwardsii, acadicum, liparops and caryaevorum, C. borealis, C. harrisii, S. eurydice and appalachia, and C. pegala (DKP). EHM reported an excellent year for moths, with a noteworthy increase in collecting micros, especially Pyralidae and Tortricidae. Thanks to Ron Hodges, Don Davis, Jean Francois Landry, Don Lafontaine, M. Alma Solis, Klaus Bolte, P.T. Dang and Bill Miller for making so many identifications.

BUTTERFLIES: A. cellus, 27 Jul, ADAMS Co (DKP). T. pylades, 13 Jun, BELMONT Co (DKP). E. baptisiae, 25 Jun, SHELBY, CHAMPAIGN Cos; 29 Jun, PORTAGE Co (DKP). W. egeremet, 19 Jun, KNOX Co (DKP). E. dion, 29 Jun, GEauga Co. E. dukesi and vestris, 24 Jun, SANDUSKY Co (DKP). E. bimacula, 14 Jun, WYANDOT Co (DKP). E. lisa, 24 Jun, SANDUSKY Co; 1 Sep, PERRY Co (DKP). S. caryaevorum, 27 Jun, GALLIA Co and S. liparops, 9 Jun, PREBLE Co (DKP). P. m-album, 19 Jul, LAKE Co (RR). P. interrogationis, 1 Sep, PERRY Co (DKP). N. vau-album, 7 Jul, LAKE Co (RR). N. antiopa, 9 Jun, PREBLE Co (DKP). S. appalachia, Jun, LAKE Co (RR); 24 Jun, SANDUSKY Co (DKP). C. gemma, 1 Sep, PERRY Co (DKP). E. anthonon, 25-28 Jun, LAKE Co (RR).

MOTHS: The following are all new STATE records, a few SECOND STATE records are included and indicated as such. TORTRICIDAE - Bactra maiorina, 12 Jul, ERIE Co (LDG). Aterpia approximata, 8 Jun, WYANDOT Co (LDG). Olethreutes footiana, 6 Jul, PORTAGE Co (RWR). O. quadrifidus, 24 May, ERIE Co (LDG,DJW). O. valdana, 14 Jun, PORTAGE Co (RWR) and WYANDOT Co (DJW). O. malana, 6 Jul, LAKE Co (RR). O. exaeresima, 12 Jul, ERIE Co (LDG). Heyda nubiferana, 20 May, PORTAGE Co (RWR). Epiblema iowana, 24 May, ERIE Co (DJW). Sulcima helianthana, 14 Jun, WYANDOT Co (LDG). S. cinerodorsana, 16 Aug, HANCOCK Co (TG). Zeiraphera canadensis, 4 Apr, PORTAGE Co (RWR). Pseudexentera oregonana, 19 Apr, P. harcana, 6 Apr, and P. vaccinii, 4 Apr, PORTAGE Co (RWR). Rhopobota dietziana, 4 Apr, PORTAGE Co (RWR). Epinotia vertumnana, 6 Apr and Ancylis subaequana, 14 May, PORTAGE Co (RWR). Pammeme felicitana, Cydia garacana, 8 Jun, WYANDOT Co (LDG). C. lacustrina, 24 May, ERIE Co, 2nd STATE (DJW,LDG). C. gallaesaliciana, 24 May, ERIE Co (LDG). Sparganothis distincta, 1 & 9 Aug, 8 Sep, PORTAGE Co (RWR). Acleris cornana, 26 Aug and A. busckana, 23 Apr, PORTAGE Co (RWR). PTEROPHORIDAE - Adaina ambrosiae, 6 Sep, ADAMS Co, 2nd STATE (RAW). GEOMETRIDAE - Eupithecia exudata, 20 Mar, ADAMS Co (DJW). Cladara anguilineata, 29 Apr, PORTAGE Co (RWR). SPHINGIDAE - Hyles gallii, 14 Jun, PORTAGE Co, 2nd STATE (RWR). NOCTUIDAE - Syngrapha abstrusa, 9 Jun, PORTAGE Co, 2nd STATE (RWR). Tarachidia tortricina, 14 Jun, WYANDOT Co (DJW,LDG). Papaipema harrisii, reared from larvae found 13 Jul in Angelica (DJW). Anatix aggressa, 14 Sep, ERIE Co (LDG,DJW). Pachypolia atricornis, 18 Nov, HAMILTON Co (LDG). Leucania adjeta, 6 Sep, JACKSON Co (TT).

The following are some of the hundreds of new county records added this year: TORTRICIDAE - Eucosma tocullionana, 15 & 27 May, HARRISON Co (DS). PYRALIDAE - Chrysendeton medicinalis, 12 Jul, HARRISON Co (DS). LIMACODIDAE - Parasa chloris, Isa textula, 12 Jun, HARRISON Co (DS). NOCTUIDAE - Macrochilo louisiana, 24 May, ERIE Co and 14 Jun, WYANDOT Co (DJW,LDG). Catocala blandula, 20 Jun and Spragueia leo, 16 Aug, HANCOCK Co (MG,TG). Spartiniphaga includens, 14 Jun, WYANDOT Co (DJW,LDG). Apamea cristata, 20 Jun, ASHTABULA Co (RR,ST). A. lutosa, 14 Jun, WYANDOT Co (DJW). Papaipema speciosissima, 25 Sep, PORTAGE Co (RWR). P. baptisiae and cerussata, 1 Sep; P. rigida, 14 Sep, HANCOCK Co (MG,TG). Lithophane querquera, 18 Oct, ADAMS Co (LDG). Pyrrhia exprimens, 20 Jun, TRUMBULL Co (RR,ST).

INDIANA: ES reported a somewhat poor season, with fluctuating warm and cold temperatures and conditions either too wet or too dry.

BUTTERFLIES: H. phyleus, 21 Sep, Wabash Co, first record of mating in IN (ES). A. campestris, 17 Jul, Brown Co (DE); 25 Aug, 27 Sep, Wabash Co (DE,ES); 9 Oct, Spencer Co (SGW). P. viator, E. dion, 25 Jun, LaGrange Co (DE,ES); P. protodice, 14 Jun, Wabash Co (ES); 25 Jun, LaGrange Co (DE). P. sennae, 9 Oct, Warrick Co (SGW). E. nicippe, 9 Oct, Green Co (SGW). D. plexippus, 6-16 Sep, Wabash Co, tens of thousands gathered in an eight acre woods, and nectared on red clover in an adjacent field. Eight to ten thousand went south on 10 Sep, and by 17 Sep, all had departed (ES). An abundant southward migration was observed on 9 Oct while driving through Montgomery, Putnam, Owen, Greene, Daviess, Martin, Crawford, Perry, Spencer and Warrick Cos in SW IN (SGW).

MOTHS: PYRALIDAE - Crambus lyonsellus, 30 Jun, LaGrange Co, in fen (GB). SATURNIIDAE - Citheronia regalis, 15 Jun, Wabash Co (ES). SPHINGIDAE - Manduca jasminearum, 5 Jul, Union Co (ES). Ceratomia hageni, 13 Jul, third instar larvae on Osage Orange (JT); 14 Sep, LaGrange Co (GB). Hemaris gracilis, 16 May, LaGrange Co, on Phlox flowers (RT). ARCTIIDAE - Pareuchaetes insulata, 5-6 Jul, UNION Co, STATE (ES). NOTODONTIDAE - Schizura badia, 16 Jul, Brown Co (ES). LYMANTRIIDAE - Lymantria dispar, larvae found in May-Jun, WABASH Co (ES). NOCTUIDAE - Papaipema cerina, harrisii and nepheleptena, 14 Sep, LaGrange Co (GB).

ILLINOIS: JRW reported a hot season, warming up in early May and staying above normal through Aug. Most species emerged 1-2 weeks before normal. Cold weather in Sep abruptly ended the season.

BUTTERFLIES: H. phyleus, 26 Jul-16 Sep, Lake Co (SB); 17 Jul, Cook Co; 15 Aug, Mason Co; 17 Sep, Will Co (JRW). P. byssus, 2 Jul, Cook Co (JRW). E. dukesi, 31 May-2 Jun, Union Co, first record of spring brood (JRW). E. bimacula, 6-19 Jun, Will Co (JRW). A. hianna, 16 May, CASS Co (JRW). A. hegon, 1 Jun, POPE Co (JRW). A. aesculapius, 2 Jun, Jackson, Union Cos (JRW). E. marcellus, 11 Jun, Carrol Co (FM). P. protodice, 22 Jun, Iroquois Co (SB); 27 Aug, Carrol Co (AS). E. olympia, 21-25 Apr, CASS Co (JRW); 11-12 May, Lake Co (SB). P. sennae, 22 Jun, 3 Jul, IROQUOIS Co (JRW,SB); 20-22 Jul, Coles, Crawford, Shelby Cos, many fresh adults *en copula* (SB); many sightings in southern counties (JRW). I. henrici, 17 Apr, SANGAMON Co (JRW). S. idalia, 15 Aug, Mason Co, new site (JRW); 31 Jul-27 Aug, Lee/Ogle Cos (AS). N. vau-album, 20 Jun, Carroll Co (FM). J. coenia, 6-27 Jul, Lake Co (SB); 27 Aug, Carroll, Lee/Ogle Cos (AS). A. andria, 17 Apr, Sangamon Co; 24 Apr, Cass Co; 12 Sep, Jackson Co (JRW). A. celtis and clyton, swarming in early Jun, Carroll Co (FM). E. creola, 31 May-2 Jun, Jackson Co (JRW).

MOTHS: COSSIDAE - Giverra anna, 30 May, Union Co (JRW). LIMACODIDAE - Packardia geminata, 15-21 May, MENARD Co (JRW). GEOMETRIDAE - Cepphis armataria, 14 Aug, MENARD Co (JRW). EPIPLEMIDAE - Calledapteryx dryopterata, 15-20 May and 4-12 Jul, MENARD Co (JRW). SATURNIIDAE - Citheronia regalis, 30 May, Union Co, early (JRW). Anisota virginianensis, 28 May, MENARD Co; 18 Jun, KANKAKEE Co (JRW).

SPHINGIDAE - *Ceratomia hageni*, 20 Jul, Coles Co; 17 Aug, Iroquois Co (SB). *Pachysphinx modesta*, 1 Aug, MENARD Co (JRW). *Erynnis ello*, 8 Aug; *Erynnis obscura* and *Eumorphia fasciata*, 11 Sep; *Darapsa versicolor*, 30 May, all Union Co (JRW). *Xylophanes tersa*, 14 Jun, Menard Co (JRW). ARCTIIDAE - *Lycomorpha pholus*, 18 Jun, WILL Co (JRW). NOCTUIDAE - *Melipotis jucunda*, *Lesmone detrahens*, 17 Aug, Iroquois Co (SB). *Ascalapha odorata*, 8-9 Aug, Union Co (JRW). *Catocala judith*, 21 July, *C. obscura*, 14 Aug, MENARD Co (JRW). *C. ulalume*, 20 Aug 1990, Union Co, det. M.C. Nielsen (JRW). *C. angusi*, 27 Jul-9 Aug, and *C. maestosia*, 10 Sep, Union Co (JRW). *c. Nebulosa*, 10 Aug-10 Sep, Union Co (JRW). *Pachypolia atricornis*, 30 Oct 1990, SANGMON Co, second STATE record, det. G.L. Godfrey (JRW). *Schinia thoreau*, 11 Aug, UNION Co (JRW). *S. lucens*, 14 Jul, Lake Co (SB).

#### IOWA:

**BUTTERFLIES:** *O. powesheik*, 24 Jun, Palo Alto Co (RH). *H. phyleus*, 16 Jun, Fremont Co (BP); 1-29 Sep, Buena Vista, Calhoun, Carrol, Cherokee, Clay, O'Brien, Palo Alto, Pocahontas and Sac Cos (RH); Pottawattamie Co (BP), Woodbury Co (TO); Monona Co (S. Spomer via TO); Plymouth Co (B. Moritz via TO). *P. verna*, 11 Jun, Palo Alto Co (RH). *A. campestris*, 21 Aug, Kossuth, Pocahontas Cos (AS); 24 Aug, Palo Alto Co and 25 Aug, Calhoun Co (RH). *A. arogos*, 14 Jun, Palo Alto Co (RH). *P. massasoit*, 24 Jun, LYON Co (TO). *P. viator*, 8 Jul, Palo Alto Co (RH). *Z. cesonia*, 16-26 Jun, Fremont Co (BP). *P. sennae*, 3 Aug, Pottawattamie Co, 55 counted (BP); 4 Sep, Fremont, Madison, Mill Cos (BP,LP). *L. marina*, 30 May, Fremont Co (BP); 27 Jul, Pottawattamie Co, ovipositing on alfalfa (JW). *H. isola*, 30 May-26 Jun, Fremont Co (BP); 14 Jul, Humboldt Co and 21 Jul, Cass Co (RH). *G. lygdamus*, 14 May, Clay, Pocahontas Cos (RH). *L. bachmanii*, 14 Jun, Humboldt Co and 16 Jun, Pocahontas Co (RH). *S. idalia*, 26 Jun, Fremont Co and 4 Jul, Guthrie Co (BP, LP); 28 Jun-21 Aug, Kossuth, Pocahontas Cos (AS). *J. coenia*, 11 Jun, Palo Alto Co (RH); 24 Jun, LYON Co (TO). *A. celtis*, 30 May-26 Jun, Fremont Co, seen in enormous numbers, over 1000 estimated on 4 Jun (BP). *S. eurydice*, 24 Jun, LYON Co (TO). *D. gilippus*, 24 Aug, SIOUX Co, third Iowa record, last reported in 1915 (TO).

**MOTHS:** All the species listed were recorded from prairie preserves by GB. PYRALIDAE - *Mimoschinia rufofascialis*, *Lineodes interrupta*, *Euchromius ocellus*, 1 Oct, Adair Co. GEOMETRIDAE - *Glenoides texanaria* and *Lychnosea intermicata*, 28 Sep, Lucas Co. NOCTUIDAE - *Tathorhynchus exsiccatus*, 28 Sep, Lucas Co; 1 Oct, Adair Co. *Catocala habilis*, *robinsoni*, *angusi*, *vidua* and *neogama*, 28 Sep, Lucas Co. *Meropleon ambifusca*, 28-30 Sep, Lucas Co. *Lemmeria digitalis*, 29 Sep, Adair Co; 1 Oct, Union Co. *Papaipema impecuniosa*, *P. silphii*, 28 Sep, Lucas Co; 1 Oct, Adair Co. *P. maritima*, 28 Sep, Lucas Co; 29 Sep-1 Oct, Adair Co; 1 Oct, Union Co; 2 Oct, Howard Co. *P. eupatorii*, 30 Sep, Lucas Co. *P. sciata*, 29 Sep-1 Oct, Adair Co; 30 Sep, Lucas Co. *P. limpida*, 28 Sep, Lucas Co. *P. beeriana*, 1 Oct, Adair Co. *Euxoa auxiliaris*, 28 Sep, Lucas Co; 1 Oct, Union Co.

#### MINNESOTA:

**BUTTERFLIES:** *O. powesheik*, 22 Jun-8 Jul, Kittson Co; 27 Jun, Roseau Co (DC); 8 Jul, Lincoln Co (AS). *O. garita*, 8-14 June, Kittson Co (DC). *T. lineola*, 26 Jun, Roseau Co (S. Stucker via DC). *H. comma assiniboia*, 31 Jul-12 Aug, Kittson Co (DC). *H. dacotae*, 18 Jun-4 Jul, Kittson Co (DC); 11 Jul, Clay Co (AS). *A. campestris*, 23 Jun, Freeborn Co (JS via RES); 26 Jun, Kittson Co (DC). *E. ausonoides*, 16-22 May, Roseau Co (DC). *E. epixanthe*, 17-23 Jul, Roseau Co (DC). *E. dorcas*, 9-21 Jul, Kittson, Roseau Cos (DC). *E. helleoides*, 19 Jun, Kittson Co (DC). *H. isola*, 18 Jun, 1 Aug, Kittson Co (DC); 8 Jul-5 Aug, Chippewa, Lincoln, Pope Cos (AS). *E. claudia*, *V. cardui*, 8 Jul-8 Aug, Clay, Cheppewa, Lincoln, Pope and Wilkin Cos (AS). *S. idalia*, 8 Jul-9 Aug, Lincoln, Wilkin Cos (AS). *C. eunomia*, 30 May-5 Jun, *C. frigga*, 21-25 May, *C. titania*, 17-23 Jul, *E. phaeton*, 17-19 Jul and *P. satyrus*, 16 May, all Roseau Co. *E. discoidalis*, 16-22 May and *O. jutta*, 28 May-3 Jun, Roseau Co (DC). *D. plexippus*, 7 Aug, Wilkin Co, roosting by the hundreds in sunflowers, up to 20 per plant, an estimated 11,933+ migrants nectaring and roosting on 9 Aug at one prairie preserve, 557 seen at a second preserve (AS).

**WISCONSIN:** Warmer than usual spring weather accelerated the emergence of many Lepidoptera, with many species appearing 1-2 weeks earlier than normal. Jun and Jul were characterized by above-average heat, but Aug was cooler than normal. Freezing conditions statewide on 20 Sep put an early end to the butterfly season. The *B. a. arthemis/astyanax* complex was abundant in Jackson and Monroe Cos in late May-early Jun, about two weeks early. The number of Gypsy Moths trapped was somewhat less than last year, but infestations appear to be well established within several miles of the Lk Michigan or Green Bay shoreline, particularly in Door, Kewaunee, Manitowoc, Marinette, Ozaukee and Sheboygan Cos. This season was the most notable in recent years for the appearance of migrant species, equaling if not exceeding the influx of 1987. *H. phyleus*, *A. campestris*, *P. sennae*, *E. lisa*, *E. claudia* and *J. coenia* were seen in numbers.

**BUTTERFLIES:** *E. martialis*, 19-28 May, JACKSON Co, (TR,AS); 28 May-2 Jun, Burnett Co (JCP,TR); 17 Jul, Burnett Co (AS). *E. baptisiae*, 30 Jun-14 Jul, DANE Co, assoc w/*Coronilla varia* (TR,LF). *P. communis*, 24 Aug-8 Sep, Crawford Co (JCP,TR). *H. phyleus*, 31 Jul-14 Sep, Crawford Co (JCP,LF); Dane Co (LF,KL,AS); Grant Co (LF,KL,JCP,TR,AS); IOWA Co, sight (KL), Milwaukee Co (BB). *A. campestris*, 27 Jun-9 Sep, BAYFIELD, JACKSON Cos (TR); Crawford Co (JCP,LF); Grant Co (KL); OUTAGAMIE Co, sight (HK); Milwaukee Co (JE); SAUK Co (AS). *P. byssus*, 29 Jun-3 Jul, Grant Co (LF,BB,TR). *E. bimacula*, 5 Jul, Jackson Co (TR). *P. protodice*, 2 Jul-14 Sep, Dane Co (KL); Sauk Co (SS). *P. napi oleracea*, 15-17 Aug, Brown Co, late (HK); 24 Aug, Forest, Marinette Cos, two specimens with faint dark vein lines on ventral hindwing (TR); these records are a month later than usual for the summer brood, and possibly are a partial third brood. *Z. cesonia*, 12 May, OUTAGAMIE Co (HK); 14 Jul-7 Sep, Crawford Co (TR); Dane Co (KL); Grant Co (KL,TR). *P. sennae*, 4 Aug-7 Sep, Grant Co (KL,LF,JCP,TR). *E. lisa*, 17 Jun-7 Sep, Crawford, Grant Cos (JCP,LF,TR,KL); Milwaukee Co (JE); Portage Co (JCP). *N. iole*, 24 Aug-14 Sep, Crawford Co (TR,JCP). *G. xanthoides dione*, 14-25 Jun, Dane Co (DF); 30 Jun, WASHBURN Co, photo (KL). *I. irus*, 20 May, WOOD Co, ovipositing on *Lupinus perennis* bud, photo (AS). *S. melinus*, 23 Jun, Dane Co, sight (HK); 5 Jul, JACKSON Co (TR); 23 Aug, Crawford Co (JCP); 20 Aug-7 Sep, Grant Co (JCP,KL). *H. isola*, 3 Jul, GREEN Co; 17 Jul, Burnett Co; 30 Jul, IOWA, Sauk Cos, sight records of single individuals (AS); 5-31 Aug, Grant Co (KL). *L. melissa samuelis*, 23 May-3 Jun and 5 Jul-1 Aug, Burnett Co (TR,JCP); Eau Claire Co (JCP); Jackson Co (AS,KL,TR); Juneau Co (JE); Portage Co (HK). *L. bachmanii*, 31 Jul, IOWA, SAUK Cos and 5 Aug, Grant Co (KL); 1 Aug, JACKSON Co (JE). *E. claudia*, 3 Jun-7 Oct, ASHLAND, Bayfield Cos (AS); FLORENCE Co (TR); Grant Co (AS,KL); Sauk Co (SS). *S. idalia*, 3 Jul-27 Aug, Green Co (AS,BB). *C. titania*, 10 Aug, DOUGLAS Co, STATE (RJ). *P. satyrus*, 26 Jul, Vilas Co (JCP); 1 Aug, Florence Co (TR). *V. cardui*, 7 Apr, Winnebago Co, early (CS). *J. coenia*, 27 Jun-7 Sep, Bayfield, Florence, Forest Cos (TR); Brown Co (MP,KL); Grant, Iowa Cos (KL); Crawford Co (JCP); Kenosha Co (SB); Outagamie Co (HK), Sheboygan Co (LF); Winnebago Co (CS). *C. tullia inornata*, 24-30 Jun, WASHBURN Co, sight (KL); 28 Jun, FOREST Co (TR).

**MOTHS:** GEOMETRIDAE - *Nemoria bistriria*, 14 Jul 1990, GREEN Co, STATE, (TB, det GB). *Lobocleta ossulama*, 23 Aug, WINNEBAGO Co, STATE, (HK, det GB). *Thera contractata*, 13 Sep, SHEBOYGAN Co, STATE, (BB, det GB). SATURNIIDAE - *Hyalophora columbia*, 31 May, Forest Co (TR). SPHINGIDAE - *Dolba hyloeus*, 5-7 Jul, Jackson Co, many at Bouncing Bet flowers for second consecutive season (LF,TR). *Ceratomia catalpae*, 10 Jul, GREEN Co (BB,TB); 14 Jul, Grant Co (JCP); 20 Jul, Richland Co (TR); 23 Aug, IOWA Co (JCP). *Sphinx luscitiosa*, 28 May, BURNETT Co (TR). *Hemaris gracilis*, 28 May, Burnett Co (TR); 2 Jun, EAU CLAIRE Co (JCP) and JACKSON Co, at *Rubus* flowers (LF). *Eumorphia achemon*, 3-10 Jul, Green Co (BB,TB); 16 Jul, COLUMBIA Co (TR). *Xylophanes tersa*, 7 Jul, WASHINGTON Co (BB); 7 Sep, Iowa Co (TR). NOTODONTIDAE - *Schizura badia*, 2 Jul, RICHLAND Co (TR); 3 Jul, GREEN Co (BB,TB). *Hyparpax aurora*, 8 Jun, JACKSON Co (LF). ARCTIIDAE - *Apantesis carlotta*, 10 Aug, Green Co and 11-24 Aug, Sauk Co, on dry prairie (BB,TB). *Grammia celia*, 15 Jun, DOOR Co, on dunes (LF). *G. phyllira*, 17 Jun-18 Aug, DOOR, SHEBOYGAN

Cos, common on dunes (LF); 11-24 Aug, Sauk Co, common on sand prairie (BB,TB). *G. oithona*, 18 Aug, DOOR Co, on dunes (LF); 24 Aug, Sauk Co, sand prairie (BB). NOCTUIDAE - *Idia majoralis*, 28 Jun, WINNEBAGO Co and 17 Aug, BROWN Co (HK); 13 Sep, SHEBOYGAN Co (BB). *I. denticularis*, 12 Jul, Sauk Co (BB,TB). *Macrochilo bivittata*, 28 Jun, WINNEBAGO Co (HK). *M. louisiana*, 17 Aug, SHEBOYGAN Co, interdunal wetland (LF). *Phytometra ernestinana*, 8 Jun, JACKSON Co, jack pine/oak barrens, northward range extension (LF). *Ascalapha odorata*, 31 Jul, OUTAGAMIE Co (HK). *Mocis texana*, 3 Jul, Green Co (BB,TB); 29 Aug, OUTAGAMIE Co (HK). *Catocala innubens*, 11 Aug, OUTAGAMIE Co (HK). *C. coelebs*, 31 Jul, Door Co (TR). *C. vidua*, 15 Sep, OUTAGAMIE Co (HK). *C. maestosa*, 29 Aug, OUTAGAMIE Co, STATE (HK). *C. meskei*, 8 Jul-13 Sep, Outagamie Co (HK). *C. praeclara*, 2 Aug, RUSK Co (LF). *Autographa mappa*, 31 May, FOREST Co (TR). *Thioptera nigrofimbria*, 14 Sep, MANITOWOC Co (LF). *Bagisara gulnare*, 10 Jul, Green Co, on dry prairie (BB,TB). *Apamea inordinata*, 25 May, SHEBOYGAN Co and 15 Jun, DOOR Co, common on dunes (LF). *Lemmeria digitalis*, 13-21 Sep, GREEN LAKE, Marathon Cos (JCP). *Spartiniphaga inops*, 13-14 Sep, SHEBOYGAN Co (LF). *S. panatela*, 17 Jun, SHEBOYGAN Co, interdunal wetland (LF). *Papaipema lysimachiae*, 13 Sep, SHEBOYGAN Co (LF). *P. inguaesita* and *nepheleptena*, 14 Sep, MANITOWOC Co (LF). *P. eupatorii* and *rigida*, 20 Sep, GREEN LAKE Co (JCP). *Magusa orbifera*, 14 Sep, MANITOWOC Co (LF). *Xylena thoracica*, *Brachionycha borealis*, 6 Apr, JACKSON Co, jack pine/oak barrens (LF). *Eupsilia devia*, 4 Apr-4 May, Outagamie Co (HK); 6 Apr, Marathon co (JCP). *Xystopepla rufago*, 16 Apr, OUTAGAMIE Co (HK). *Anathix agressa*, 31 Aug, OUTAGAMIE Co (HK), 13 Sep, SHEBOYGAN Co, interdunal wetland, STATE (LF). *Oncocnemis riparia*, 13 Jul, SHEBOYGAN Co, common on dunes (LF). *Trichoclea artesta*, 13 Jul-17 Aug, SHEBOYGAN Co, on dunes (LF). *Sideridis maryx*, 8 Jun, JACKSON Co, jack pine/oak barrens (LF). *Anhimella contrahens*, 2 Jul, OUTAGAMIE Co, STATE, (HK, det J. Wilterding). *Copablepharon longipenne*, 17 Aug, SHEBOYGAN Co, STATE, common on dunes (LF, BB). *Eucrotopocnemis fimbriaris*, 7 Sep, WAUKESHA Co, sand prairie (BB,TB) and Grant Co, sand barrens (LF); 13-14 Sep, SHEBOYGAN, MANITOWOC Cos, on dunes (LF, BB). *Euxoa manitobana*, 13 Jul, SHEBOYGAN Co, STATE, on dunes, (LF, det J.D. Lafontaine). *Schinia indiana*, 27 May, MENOMINEE Co (HK). *S. lucens*, 23-30 Jun, COLUMBIA Co (TR); 2 Jul, WAUKESHA Co (BB,TB). *S. nundina*, 13 Jul, SHEBOYGAN Co, on dunes (LF); 14 Aug, COLUMBIA Co (TR).

**MICHIGAN:** MN compiled data from many collectors. A mild winter was followed by one of the warmest springs since 1895 and above normal precipitation. Most Lepidoptera appeared at least 10-14 days earlier than in previous seasons, with emergences continuing to be that advanced throughout the season. Summer temperatures were abnormally warm, and Sep was drier than normal. Fall collecting was ended early by cold Oct and Nov temperatures. *Catocala* populations appeared to increase, with 40 species recorded from several Lower Peninsula Cos by MN and TH. The Gypsy Moth continues to spread in the northern Lower Peninsula. An unusual influx of migrant and stray species was reported, and Monarchs were more numerous.

**BUTTERFLIES:** *C. palaemon mandan*, 30 May, GRAND TRAVERSE Co (MN). *P. viator*, 13 Jul, Midland Co (MN). *E. dion*, 9 Jul, CHEBOYGAN Co, northward range extension (BS). *P. polyxenes asterius*, 19 Jul, Keweenaw Co (JP). *P. machaon hudsonianus*, 9 Jun, CHIPPEWA Co, first USA RECORD (DB). *E. dorcas* and *helioides*, 1 Jul, Cass, St. Joseph Cos (JRW,IL). *I. irus*, 18 May, Allegan Co, worn (MN). *I. henrici*, 1 Jun, Chippewa Co, worn (MN). *I. eryphon*, 19-20 May, Keweenaw Co (GB). *G. lygdamus couperi*, 2-9 Jun, Mackinac Co (TH,MN). *L. idas nabokovi*, 9 Jun, Alger Co (MN). *L. melissa samuelis*, 18 May and 25 Jun-1 Jul, Allegan Co (TH,IL,MN,JRW). *E. claudia*, 1 Jul, Cass Co (IL,JW). *C. eunomia dawsoni*, 1-7 Jun, Chippewa, Luce Cos, reared on *Vaccinium oxycoccos* (TH,DB,MN). *V. cardui*, 13 Jul-28 Aug, Houghton Co (JP). *J. coenia*, 22 Sep, Monroe Co (MN). *A. clyton*, 13 Jul, Midland Co (CF). *C. tullia inornata*, 9 Jun, Mackinac Co (MN). *O. jutta ascerta*, 1-9 Jun, Chippewa, Luce, Mackinac Cos (DB,TH,MN). *D. gilippus berenice*, 15 Sep, SAGINAW Co, STATE (DK).

**MOTHS:** LIMACODIDAE - *Lithacodes fiskeanus*, 28 Jun, Barry Co (GB). *Parasa chloris*, 5 Jul, MONROE Co (MN). PYRALIDAE - *Pyrausta laticlavata*, 13 Jul, Muskegon Co, common on dunes (GB). *Crambus lyonsellus*, 25-28 Jun, Barry co, fen (GB). *C. youngellus*, 25 Jun, ALLEGAN Co, in fen and 3 Jul, KALAMAZOO Co, in bog, STATE (GB). *Raphiptera argillacella*, 10 May, 3 Jul and 30 Aug, Kalamazoo Co, in bog (GB). *Microcrambus minor*, 3 Jul, Kalamazoo Co, in bog and 13 Jul, Muskegon Co, on dunes (GB). *Haimbachia albescens*, 13 Jul, MUSKEGON Co, on dunes, STATE (GB). *Tetralopha scortealis*, ex larva on *Lespedeza*, emerged 9-18 Aug, Kalamazoo Co (GB). GEOMETRIDAE - *Itame sulphurea*, 3 Jul, KALAMAZOO Co, in bog (GB). *I. abruptata*, 25 Jun, ALLEGAN Co, in fen (GB). *Epelis truncataria*, 26 Apr, Kalamazoo Co, in bog (GB). *Eufidonia discospilata*, 10 May, Kalamazoo Co, in bog (GB). SATURNIIDAE - *Citheronia regalis*, 25 Jun-3 Jul, BRANCH, HILLSDALE Cos, first vouchered STATE (HAK,CY). *Anisota virginianensis*, 5 Jul, MONROE Co (MN). *Hemileuca maia*, 25 Jun, Barry Co, mature larvae on *Potentilla fruticosa* (MN); 20 Sep, LIVINGSTON Co (BA). *Hyalophora columbia*, 1 Jun, CHIPPEWA Co (TH); 6 Jun, KALKASKA Co (IE). SPHINGIDAE - *Ceratomia hageni*, 7 Sep, Cass Co (TH). *Sphinx luscitosa*, 7-22 Jun, Houghton, Otsego Cos (TH,JP). *Aelopos titan*, 19 Jul, Keweenaw Co (JP). *Hemaris gracilis*, 8 Jun, ALGER, Mackinac, Schoolcraft Cos (TH,MN). *Eumorpha labruscae*, 14 Nov, KALAMAZOO Co, third state record (MD,ME). *Hyles gallii*, 16 Jun, INGHAM Co (TH). NOTODONTIDAE - *Heterocampa guttivitta*, 17 Oct, OTSEGO Co, late (MN). *Hyparpax aurora*, 10 Jul, BARRY Co (MN). ARCTIIDAE - *Cycnia inopinatus*, 11 May, Allegan Co (GB). NOCTUIDAE - *Nigetia formosalis*, 10 Jul, Barry Co (MN). *Isozona tenuis*, 28 Jun, Cass Co (MN). *Zale calycanthata*, 11 May, Otsego Co (MN). *Mocis texana*, 8 Sep, ST. JOSEPH Co (GM). *Catocala flebilis*, 30 Aug-7 Sep, CASS Co (TH,MN). *C. dejecta*, 17 Jul, Barry Co (MN). *C. lacrymosa*, 17 Aug-7 Sep, CASS Co (TH,MN). *C. nebulosa*, 17 Aug-7 Sep, Cass, Clinton Cos (TH,MN). *C. briseis*, 18 Sep, CLINTON Co (TH). *C. meskei*, 14-21 Aug, Clinton Co (TH). *C. sordida* and *connubialis*, 5 Jul, Monroe Co (MN). *C. dulciola*, 25-28 Jun, Cass Co (MN). *Agrappa oxygramma*, 17 Aug-17 Sep, Cass Co (MN). *Syngrapha microgamma*, 1-9 Jun, Chippewa, Mackinac, Schoolcraft Cos (TH,MN). *Thioptera nigrofimbria*, 7-17 Sep, Cass Co (MN). *Cerma cora*, 22 May, Baraga Co, Pine/Oak Barrens (GB); 7 Jun, Otsego Co (MN). *Bagisara gulnare*, 30 Aug, Cass Co (MN). *Acronicta parallela*, 13 Jul, Muskegon Co, on dunes (GB). *A. quadrata*, 7 Jun, Otsego Co (MN). *Merolonche dollj*, 27 Apr-11 May, Otsego Co, reared on *Vaccinium* (TH,MN). *Oligia miniscula*, 30 Aug, Kalamazoo Co, in bog (GB). *Papaipema cerina*, 6-14 Sep, Cass, ST JOSEPH Cos (GM,MN). *P. aerata*, 17 Sep, CASS Co, second STATE, (MN, det E. Quinter). *P. leucostigma*, 17 Aug, Oceana Co (GB). *P. nepheleptena*, 6 Sep-2 Oct, Cass Co (MN). *P. circumlucens*, larvae in *Humulus lupulus* 22 Jun, Lenawee Co (MN). *P. appassionata*, 30 Aug, KALAMAZOO Co, in bog (GB). *P. maritima*, 6-7 Sep, St Clair Co and 14 Sep, St Joseph Co, prairie remnants (GB). *P. cerussata*, 2 Oct, ST JOSEPH Co (GM). *P. limpida*, 6-7 Sep, St Clair Co, prairie remnant (GB); 14 Sep, ST JOSEPH Co (GM). *P. beeriana*, 6-7 Sep, St Clair Co, prairie remnant (GB). *Plagiomimicus expallidus*, 11 Aug 1989, MUSKEGON Co, STATE, on dunes, (GB, det JD Lafontaine). *Lithophane lepida*, 17 Oct, Otsego Co (MN). *Chaetagnela sericea*, 17 Oct, OTSEGO Co (MN). *Psaphida thaxteriana*, 5 Apr, Clinton Co (TH,MN). *Melanchnra pulverulenta*, *Lacania nevadadae*, 8 Jun, Schoolcraft Co (MN). *L. radix*, 1 Jun, CHIPPEWA Co (MN). *Papestra biren*, 8 Jun, SCHOOLCRAFT Co, STATE, (MN, det T. McCabe). *Orthosia segregata*, 24 May 1987, MACKINAC Co; 21 May 1988 and 24 May 1991, CHIPPEWA Co; 19-21 May, KEWEENAW Co, STATE, (GB, det JD Lafontaine). *Agrotis manifesta*, 10 May, Kalamazoo Co (GB). *Copablepharon longipenne*, 16-17 Aug, Oceana Co, common on dunes (GB). *Euxoa intrita*, 21-22 Aug 1990, MACKINAC Co, on dunes and 24 Aug 1990, CHIPPEWA Co, alvar habitat, STATE (GB, det JD Lafontaine). *Anomogyna youngii*, 30 Aug, Kalamazoo Co, in bog (GB). *Schinia bina*, 8 Jun, ALGER Co (MN). *S. lucens*, 26 Jun, St Joseph Co (MN).

**ZONE 9 - VIRGINIA, TENNESSEE, NORTH CAROLINA, SOUTH CAROLINA, GEORGIA, FLORIDA, ALABAMA, MISSISSIPPI AND BERMUDA.** Coordinator: Andy Beck (AFB). Contributors: Many long-time contributors have taken to submitting their data exclusively to regional society publications, so we encourage you to seek these publications out for many, many additional records of interest. Thanks to this year's contributors: John Calhoun (JVC), Daniel Callahan (DC), Rick Gillmore (RG via GDW), Ron Leuschner (RHL), Charles Sekerman (CAS), Richard Smith (RHS), Steve Williams (SGW), Thomas Williams (TSW), Andy Willis (AW via GDW), and Darryl Willis (GDW).

Abbreviations used in this report are as follows: PK=park,

**GENERAL COMMENTS:** According to reports from the various contributors, collecting was generally good throughout the zone. The southern part of the zone enjoyed a very mild winter during early 1991: In Jacksonville there was insect activity throughout the year. Another common problem, drought, was no concern this season either. Again in Jacksonville, we came within 2 inches of an all-time record for yearly rainfall in 1991 (and it rained 1.5 inches on 1 Jan 1992!). Hopefully we'll have abundant new plant growth this Spring and another good collecting season in 1992. Cold weather hit the South early in 1991, with a short, very cold period in mid-Nov. Warm weather returned, and collecting was possible until late in the year. Our current winter has been mild so far. Several contributors mentioned the widespread abundance of some species. Steve Williams reported *D. plexippus*, *P. sennae eubule*, *E. claudia*, and *J. coenia* abundant throughout southern AL in midsummer and in AL, TN and GA in Oct. He saw monarchs in Escambia Co., AL, on 26 Dec. Darryl Willis reported that the *Catocala* in VA were either not very abundant this year or they flew before his collecting trip. Based on many early reports and our mild winter, I would guess that an early flight period would account for some of the missing critters. On a negative note, Richard Smith reports that a long-established colony of *Autochton cellus* in Fairfax Co, VA has apparently been extirpated through natural and man-made stresses to the habitat and foodplant.

#### ALABAMA:

**BUTTERFLIES:** (all SGW). Hesperidae - *E. clarus*, along I-65, Butler Co, Baldwin Co, Escambia Co, 5 Oct; nr Atmore, Escambia Co, 1 Jul; along I-85, Macon Co, 5 Oct; *T. confusus*, *E. juvenalis*, *E. horatius*, *P. communis*, *L. accius*, *H. phyleus*, *P. vibex*, all nr Atmore, Escambia Co, 1 Jul. Papilionidae - *B. philenor*, *P. polyxenes*, both nr Atmore, Escambia Co, 1 Jul; *P. polyxenes*, along I-65, Baldwin Co, Escambia Co, 5 Oct; *P. cresphontes*, *P. troilus*, along I-65, Baldwin Co, Escambia Co, 5 Oct; nr Atmore, Escambia Co, 1 Jul; *P. palamedes*, along I-65, Escambia Co, Butler Co, Baldwin Co, 5 Oct; nr Atmore, Escambia Co, 1 Jul; along I-85, Macon Co, 5 Oct; *E. marcellus*, nr Atmore, Escambia Co, 1 Jul. Pieridae - *P. rapae*, *C. eurytheme*, *E. lisa*, all nr Atmore, Escambia Co, 1 Jul, *E. lisa*, *A. nicippe*, along I-65, Escambia Co, Baldwin Co, Butler Co, 5 Oct; *A. nicippe*, abundant nr Atmore, Escambia Co, 1 Jul. Lycaenidae - *C. ladon*, nr Atmore, Escambia Co, 1 Jul. Libytheidae - *L. bachmannii*, nr Atmore, Escambia Co, 1 Jul. Nymphalidae - *A. vanillae nigrior*, along I-65, Escambia Co, Baldwin Co, Butler Co, 5 Oct, nr Atmore, Escambia Co, 1 Jul; *P. interrogationis*, *V. cardui*, *V. atalanta rubria*, *P. tharos*, *B. a. arthemis*, *B. archippus*, all nr Atmore, Escambia Co, 1 Jul. Apaturidae - *A. celtis*, nr Atmore, Escambia Co, 1 Jul. Satyridae - *H. hermes*, *C. pegala* ssp, both nr Atmore, Escambia Co, 1 Jul.

**MOTHS:** (all SGW). Pyralidae - *A. rantalis*, Montgomery, Montgomery Co, 1 Jul. Geometridae - *P. insularia*, Evergreen, Escambia Co, 5 Oct. Saturniidae - *Sphingicampa bicolor*, Lanett, Chambers Co, 6 Jul; *A. stigma*, Greenville, Butler Co, 6 Jul. Sphingidae - *D. hyloeus*, *D. myron*, Montgomery, Montgomery Co, 1 Jul. Arctiidae - *H. lecontei*, *H. tessellaris*, Montgomery, Montgomery Co, 1 Jul; *C. fulvicollis*, Greenville, Butler Co, 6 Jul. Noctuidae - *P. unipuncta*, Montgomery, Montgomery Co, 1 Jul; *R. aurantiago*, Greenville, Butler Co, 6 Jul.

**BERMUDA:** No reports were submitted for Bermuda.

#### FLORIDA:

**BUTTERFLIES:** Hesperidae - *E. clarus*, nr Century, Escambia Co, 7 Jul (SGW); *U. dorantes*, Homestead, Dade Co, 2 Oct; *S. hayhurstii*, rt 29 nr Big Cypress Preserve, Collier Co, 1 Oct (both CAS); *E. brizo somnus*, Green Swamp, Sumter Co, 11 Mar (JVC); *E. zarruco*, Gainesville, Alachua Co, 26-28 Sep, 4 Oct (CAS); *P. communis*, Dade City, Pasco Co, 27 Aug; E of Tarpon Spgs, Pinellas Co, 29 Sep; *P. catullus*, Dade City, Pasco Co, 27 Aug, assoc w/*Chenopodium ambrosioides* (Chenopodiaceae) (all JVC); *N. lherminier*, Gainesville, Alachua Co, 26-28 Sep, 4 Oct; Seminole Indian Rsvn, Broward Co, 1 Oct; *N. neamathla*, Gainesville, Alachua Co, 26-28 Sep, 4 Oct (all CAS); *H. attalus slossonae*, Chassahowitzka, Citrus Co & Hernando Co, 5 Aug (JVC); Gainesville, Alachua Co, 26-28 Sep & 4 Oct (CAS); *H. meskei*, Gainesville, Alachua Co, 26-28 Sep & 4 Oct (CAS); *A. arogos*, Chassahowitzka, Citrus Co, 5 Jul-6 Oct, several over-lapping broods (JVC); *A. logan*, Gainesville, Alachua Co, 26-28 Sep & 4 Oct (CAS); *P. byssus*, nr Gulf Hammock, Levy Co, 29 Jun-15 Sep, larvae on *Erianthus giganteus* & *Tripsacum dactyloides* (JVC); *P. yehl*, Gainesville, Alachua Co, 26-28 Sep & 4 Oct (CAS); *P. viator*, Gainesville, Alachua Co, 6 Oct (JVC); *E. arpa*, Gainesville, Alachua Co, 26-28 Sep, 4 Oct (CAS); *E. pilatka*, Taylor Crk Rd off rt 520, Orange Co, 3 Oct; I-95, 2 mi S Orange Co line, Brevard Co, 3 Oct (both CAS); *E. dion*, Yulee, Nassau Co, 3 Aug; E of Gulf Hammock, Levy Co, 22 Jul; *E. dukesi*, Green Swamp, Sumter Co, 11 May-9 Oct; nr Oldsmar, Hillsborough Co, 11 May-9 Oct; Green Swamp & E of Haines City, Polk Co, 11 May-9 Oct; Cabbage Swamp, Pasco Co, 11 May-9 Oct (all JVC); *A. capucinus*, Taylor Crk Rd off rt 520, Orange Co, 3 Oct, adults nectaring on morning glory (*Ipomoea* sp., Convolvulaceae) (CAS); *A. aesculapius*, nr Yulee, Nassau Co, 3 Aug; Gulf Hammock, Levy Co, 15 Sep (both JVC). Papilionidae - *P. cresphontes*, SW of Century, Cantonment, Escambia Co, 7 Jul (SGW); *P. glaucus* f. *turnus*, Gainesville, Alachua Co, 26-28 Sep & 4 Oct (CAS); *P. troilus* & *P. palamedes*, throughout Escambia Co, 7 Jul; *E. marcellus*, SW of Century, Escambia Co, 7 Jul (all SGW). Pieridae - *P. protodice*, City Is Pk, Sarasota, Sarasota Co, mid-May, locally abundant; Bradenton, Manatee Co, Mar-May, locally abundant (both TSW); nr Scottsmeer, Osceola Co, 25 May; nr Scottsmeer, Brevard Co, 27 Apr (both JVC); *C. e. eurytheme*, City Is Pk, Sarasota, Sarasota Co, mid-May (TSW); *C. cesonia*, Oldsmar, Pinellas Co, 1-3 May; nr Oldsmar, Hillsborough Co, 22 Jun; nr Gulf Hammock, Levy Co, 29 Jun (all JVC); *E. lisa*, nr Pensacola, Escambia Co, 7 Jul; *A. nicippe*, nr Pensacola & nr Century, Escambia Co, 7 Jul (all SGW); *E. दौर*, Oldsmar, Pinellas Co, 6-30 Oct & Gainesville, Alachua Co, 6-30 Oct, both showing males with white hindwings (JVC). Lycaenidae - *A. h. haleus*, Gainesville, Alachua Co, 26-28 Sep & 4 Oct; *C. simaethis sarita*, Homestead, Dade Co, 2 Oct (both CAS); *M. gryneus sweadneri*, nr Green Swamp, Polk Co, 14 Mar-17 May (unusual inland site); *I. henrici margaretae*, Green Swamp, Sumter Co & Pasco Co, 2-14 Mar; NW of Tampa, Hillsborough Co, 2-14 Mar, SOUTH (all JVC); *P. m-album*, Gainesville, Alachua Co, 26-28 Sep & 4 Oct (CAS); *C. ladon*, nr Cantonment, Escambia Co, 7 Jul (SGW); Avondale, Duval Co, 4 Apr (AFB). Riodinidae - *C. virginensis*, Seminole Indian Rsvn, Broward Co, 1 Oct; rt 41, 1 mi W of Monroe Station, Collier Co, 1 Oct (CAS). Heliconiidae - *H. charitonius tuckeri*, Gainesville, Alachua Co, 26-28 Sep & 4 Oct (CAS); Avondale, Duval Co, Feb-Nov (AFB). Nymphalidae - *A. jatrophae guantanamo*, Homestead, Dade Co, 2 Oct (CAS); along Nassau Rvr, Duval Co, 3 Aug (JVC); *S. stelenes biplagiata*, Naranja, Dade Co, 2 Oct, abundant in citrus grove (CAS). Apaturidae - *A. celtis*, nr Century, Escambia Co, 7 Jul (SGW); *A. clyton flora*, Branchborough, Polk Co, 12 May; Satyridae - *E. portlandia*, nr Yulee, Nassau Co, 3 Aug-6 Oct; Gainesville, Alachua Co, 3 Aug-6 Oct; *S. appalachia*, Green Swamp, Sumter Co, 11 May-9 Oct; nr Yulee, Nassau Co, 11 May-9 Oct; *C. pegala* ssp., E of Gulf Hammock, Levy Co, 29 Jun (all JVC).

**MOTHS:** Cosmopterigidae - C. attenuatella, Spring Hill, Hernando Co, 11 Dec; S. falcata, Key Largo, Monroe Co, 6 Dec; W. particornella, 10 mi E Tampa, Hillsborough Co, 10 Dec (all RHL). Pyralidae - H. slossonella, Key Largo, Monroe Co, 6 Dec (RHL). Geometridae - A. pergracilis, 10 mi E of Tampa, Hillsborough Co, 10 Dec, red-brown winter form, abundant (all RHL); M. chephise, Trilby, Pasco Co, 14 Apr (JVC). Saturniidae - A. stigma, Pensacola, Escambia Co, 7 Jul (SGW). Sphingidae - H. thysbe, Gainesville, Alachua Co, 28 Sep (CAS); E. fasciata, Bradenton, Manatee Co, 22 Sep (TSW); D. inscripta, Green Swamp, Sumter Co, 11 Mar (JVC); X. tersa, Bradenton Beach, Anna Maria Island, Manatee Co, 8 Oct (TSW); Pensacola, Escambia Co, 7 Jul (SGW). Arctiidae - A. ydatodes, jct rts 520 & 532, Orange Co, 12 Dec (RHL). Noctuidae - S. sanguinea, S of Williston, Levy Co, 15 Sep (JVC); U. parvula, Conley, Clayton Co, 3 Oct (SGW).

#### GEORGIA:

**BUTTERFLIES:** (all SGW). Hesperidae - E. clarus, nr High Falls SP, Butts Co, 2 Jul; nr Fort Mt SP, Murray Co, 8 Oct; E. horatius and P. communis, nr High Falls SP, Butts Co, 2 Jul; P. coras, Conley, Clayton Co, 7 Oct. Papilionidae - B. philenor, nr High Falls SP, Butts Co, 2 Jul; P. palamedes, Conley, Clayton Co, 8 Oct; nr High Falls SP, Butts Co, 2 Jul; P. polyxenes, nr High Falls SP, Butts Co, 2 Jul; nr Fort Mt SP, Murray Co, 8 Oct; P. cresphontes, nr High Falls SP, Butts Co, 2 Jul; P. glaucus, Conley, Clayton Co, 8 Oct; nr High Falls SP, Butts Co, 2 Jul; P. troilus, nr High Falls SP, Butts Co, 2 Jul; Conley, Clayton Co, 8 Oct. Pieridae - A. rapae, nr Fort Mt SP, Murray Co, 8 Oct; P. sennae eubule, E. lisa, A. nicippe, all nr High Falls SP, Butts Co, 2 Jul. Nymphalidae - A. vanillae nigrior, nr Fort Mt SP, Murray Co, 8 Oct; J. coenia & P. tharos, nr High Falls SP, Butts Co, 2 Jul & Conley, Clayton Co, 8 Oct; B. g. arthemis, nr Fort Mt SP, Murray Co, 8 Oct; Conley, Clayton Co, 8 Oct; nr High Falls SP, Butts Co, 2 Jul. Satyridae - H. hermes, nr High Falls SP, Butts Co, 2 Jul; C. pegala ssp., nr Fort Mt SP, Murray Co, 8 Oct; nr High Falls SP, Butts Co, 2 Jul.

**MOTHS:** (all SGW). Geometridae - E. confusaria & E. clemataria, Conley, Clayton Co, 3 Oct. Noctuidae - C. grynea, C. mollissima, P. unipuncta, Conley, Clayton Co, 3 Oct; P. unipuncta, E. fimbriaris, Conley, Clayton Co, 7 Oct.

#### MISSISSIPPI:

**BUTTERFLIES:** (all SGW). Hesperidae - E. clarus, by I-10, Harrison Co, 5 Oct. Papilionidae - P. cresphontes, B. philenor, by I-10, Jackson Co & Hancock Co, 5 Oct; P. troilus, by I-10, Hancock Co, 5 Oct; P. palamedes, by I-10, Harrison Co, Jackson Co, Hancock Co, 5 Oct. Pieridae - P. sennae eubule, E. lisa, A. nicippe, by I-10, Hancock Co, Harrison Co, Jackson Co, 5 Oct. Nymphalidae - A. vanillae nigrior, by I-10, Jackson Co, Harrison Co, 5 Oct; J. coenia, by I-10, Hancock Co, Jackson Co, Harrison Co, 5 Oct. Danaidae - D. plexippus, by I-10, Harrison Co, Jackson Co, 5 Oct.

#### NORTH CAROLINA:

**BUTTERFLIES:** Hesperidae - C. minimus, A. logan, rt 211 N of Supply, Brunswick Co, 21 Aug; P. byssus, Lk Waccamaw, Columbus Co, 19 Aug, fresh males & females; rt 211 N of Supply, Brunswick Co, 21 Aug; A. reversa, rt 211 S of Bolton, Columbus Co, rt 211 N of Supply, Brunswick Co, 21 Aug; O. maculata, rt 211 S of Bolton, Columbus Co, 21 Aug (all RHS). Papilionidae - P. palamedes, rt 211 N of Supply, Brunswick Co, 21 Aug, abundant (RHS). Pieridae - P. sennae eubule, Holly Shelter Game Area, Pender Co, 3 Feb, EARLY; A. nicippe, Holly Shelter Game Area, Pender Co, 3 Feb, EARLY; Castle Hayne, New Hanover Co, 3 Feb, EARLY (all HP). Satyridae - N. areolatus, rt 211 N of Supply, Brunswick Co, 21 Aug, abundant (RHS).

**SOUTH CAROLINA:** No records were submitted from South Carolina.

#### TENNESSEE:

**BUTTERFLIES:** (all SGW). Hesperidae - E. clarus, nr Monteagle, Grundy Co, 8 Oct; H. phyleus, nr Murfreesboro, Rutherford Co, 8 Oct. Papilionidae - P. troilus, nr Jasper, Marion Co, 8 Oct. Pieridae - E. lisa, Chattanooga, Hamilton Co, 8 Oct. Nymphalidae - E. claudia, nr Jasper, Marion Co, 8 Oct; P. tharos, nr Monteagle, Grundy Co, 8 Oct; B. arthemis astyanax, nr Manchester, Coffee Co, 8 Oct. Apaturidae - A. celiis, nr Manchester, Coffee Co, 8 Oct.

#### VIRGINIA:

**BUTTERFLIES:** Pieridae - A. virginianensis, Linden, Warren Co, 26 Apr, abundant; A. nicippe, Linden, Warren Co, 17 Apr, EARLY (both RHS). Lycaenidae - P. m-album, Linden, Warren Co, 17, 26 Apr (RHS). Riodinidae - C. borealis, Abingdon, Washington Co, 4 Jul (DC). Nymphalidae - V. cardui, Linden, Warren Co, 17 Apr, many in apparent migration (RHS). Danaidae - D. plexippus, Linden, Warren Co, 26 Apr, EARLY (RHS).

**MOTHS:** Thyatiridae - E. pudens, Abingdon, Washington Co, 13 Apr (DC). Geometridae - G. texanaria, Charlottesville, Albemarle Co, 7 Oct, bl (RHL); L. sinuosa, White Rocks, Giles Co, 5 Jul, bl (GDW); C. armataria, Abingdon, Washington Co, 3 Jun (DC); D. hersiliata, White Rocks, Giles Co, 1-7 Jul, mv (GDW). Sphingidae - M. jasminearum, Craig Crk, Montgomery Co, 30 Jul, abundant (GDW); P. astylus, White Rocks, Giles Co, 1 Jul, mv (RG via GDW). Arctiidae - S. dubia, Abingdon, Washington Co, 1 May 1990 (DC). Noctuidae - S. sexpunctata, Abingdon, Washington Co, 27 Jul (DC); A. flava fimbriago & A. gemmatalis, Skyland, Page Co, 6 Oct, very cold, 3700' (RHL); C. flebilis, Craig Crk, Montgomery Co, 7 Jul, EARLY (GDW); C. angusi, Craig Crk, MONTGOMERY CO, 13 Aug 1990 (RG via GDW), 21 Aug 1991 (GDW); C. residua, Craig Crk, Montgomery Co, 7 Jul EARLY (GDW); C. lacrymosa, Craig Crk, Montgomery Co, 14 Aug 1990 (RG via GDW); C. lacrymosa, Craig Crk, Montgomery Co, 21 Aug; C. neogama, Craig Crk, Montgomery Co, 3 Jul; C. marmorata, White Rocks, Giles Co, 1 Jul, tapping (all GDW); C. parta, Pandapas Pond, Montgomery Co, 12 Aug 1990 (AW via GDW); C. praeclara, White Rocks, GILES CO, 25 Jul 1988, mv (RG via GDW); C. similis, White Rocks, GILES CO, 7 Jul, mv; E. thyatroides, White Rocks, Giles Co, 3 Jul 1990, bl; S. rectangularis, White Rocks, Giles Co, 20-23 Aug, bl & mv (all GDW); E. pulcherrima, Abingdon, Washington Co, 13 May 1990 (DC); O. illocata, L. petulca, & L. baileyi, Skyland, Page Co, 6 Oct very cold, 3700'; A. badicollis, Charlottesville, Albemarle Co, 7 Oct bl (all RHL); A. brunneomedia (green form) & E. perattenta, White Rocks, Giles Co, 29 Jun-3 Jul 1990, bl (GDW).

**ZONE 10 NORTHEAST. LABRADOR, NEWFOUNDLAND, MARITIMES; NEW ENGLAND: NEW YORK, PENNSYLVANIA, NEW JERSEY, MARYLAND, DELAWARE, DISTRICT OF COLUMBIA.** Coördinator: Dave Winter (DW). Contributors: J. Boone (JB, via JDH); Richard Boscoe (RB); Bill Boscoe (WB); Tom Burke (TB, via JB); Chris Cook (ES/CC); L. Curtis (LC, via JDH); Dallas Dowhower (DD, via Jeff Frey); E. Doane (ED, via JDH); David Eiler (DE); John Fales (JF); Bob Gardner (BG, via RS); Robert Godefroi (RG); R. E. Gray (REG: few dates submitted); John Grehan (JRG, via JDH); Scott Griggs (SG, via JDH); Henry Hensel (HH); James Hedbor (JDH); Jim Holmes (JH); Warren Kiel (WK); Ross Layberry (RL); Jessica Luzatto, (JL, via JDH); Monica Miller (MM); Robert Muller (RM); Harry Pavulaan (HP); Ed Peters (EP); Don Riepe (DR, via JG); Howard Romack

(HR, via JDH); Michael Sabourin (MS, via JDH); Cal Schildknecht (CS); David Shaw (DS); Richard Smith (RS); Ed Somers (ES/CC); D. Tobi (DT, via JDH); Martin Turgeon (MT); Nick Wagerik (NW, via JG); David Wagner (DLW, via JDH); Richard Waldrep (RW, via RS); Steve Walter (SW, via JG); Ernest Williams (EW); G. Daryl Willis (GDW); Scott Winter (SPW, via DW); Amy Wright (AW, via DW); John Zuzworsky (JZ, via JG).

Determinations: P.T. Dang (PTD); D.C. Ferguson (DCF); J.F. Landry (JFL); J.D. Lafontaine (JDL); K. Mikkola (KM); A. Mutuura (AM); Michael Sabourin (MS); Dale Schweitzer (DFS). BFC = Butterfly Count (not Bagdonas Flying Circus!).

GENERAL: Reports lacking specific locality data, i.e., giving county only, or a general region of the state, are so entered at the request of the contributor, for reasons of conservation.

Many contributors commented on the unseasonable warm weather in the northeast throughout May, which resulted in premature (2-3 weeks) onset of the flight season of a great many species. The reports of "early" records were general and too numerous to include here, but are retained on file. Many late records were interpreted as representing partial second broods.

MIGRATORY SPECIES: JF reported, in SE MD, the 4th best flight of Phoebus sennae in 17 years of recording, with observations from 11 Jul to 20 Nov. JG reported numerous observations in the New York City area, and on 11 Nov, TB found an apparently frozen individual at Gilgo Beach, Suffolk Co, NY, which revived when brought indoors.

V. cardui was very common in metropolitan New York and Long Island, observed from 7 Apr to 3 Nov (JG); seen nectaring at Gettysburg, PA, 2 Nov (CS); a great many early instar larvae were seen the second week in Jun, Isleboro, ME, but almost no feeding damage was found on thistle there in late summer (DW). RL saw cardui, nr Labrador City & Wabush, Labrador, and on both summits of Smokey Mtn, where a worn individual contested airspace with several O. layete.

RS recorded monarchs in Sussex and Newcastle Cos, Delaware, 1 May. The first D. plexippus seen in Gettysburg, Adams Co, PA, by CS was 3 May; he reported an early end to reproduction and an early southward migration. Although monarchs were abundant, he found only 17 larvae from 15 Aug to 15 Sep on 960 milkweed plants inspected, compared with 43 larvae on 570 plants the same period in the previous year. On 2 Nov he saw a last adult nectaring. WK, in Coos Co, northern NH, reported such large numbers of larvae that they were eating flower heads and the developing pods of Asclepias as well as leaves; adults were still abundant after the trees were bare, in mid-Oct. Dozens of monarchs were seen roosting on a spruce tree 23 Aug at Newagen, Lincoln Co, ME (SPW).

JF noted northward migrating monarchs at Plum Point, Calvert Co, MD, 16 Apr thru 13 May, and relayed a sighting by P. Keane, 9 Apr, Anne Arundel Co, the earliest MD record. Counts through the summer were much higher than in the previous five years. The first southbound individual was seen 13 Aug, with peak numbers in mid-Sept. Following the 18-19 Aug hurricane, gross wing damage was recorded on ca. 11% of specimens, until 13 Sep, when fresh specimens began to appear.

RL saw no monarchs in eastern Quebec or Labrador in mid-Jul, and his wife saw none the first week in Aug on Prince Edward Island, in contrast to the large numbers in Ontario and western Quebec during the same period.

#### LABRADOR.

BUTTERFLIES: (all records by RL, 11-14 Jul): C. palaemon Smokey Mt, 2500', and km 5, Hwy 530; Agriades franklinii common on N and S Summits of Smokey Mt; Clossiana eunomia and selene, bog at km 12.4, Trans-Labrador Hwy; C. bellona, common at bogs from Labrador City to km 125, T-L Hwy, and Smokey Mt 2600'; C. frigga and freija, at bogs along T-L Hwy; Erebia disa, in open wet spruce bush near bog at km 125, T-L Hwy; Oeneis layete and melissa, common on both summits of Smokey Mt; O. polixenes, single specimen on N summit of Smokey Mt.

NEWFOUNDLAND. no reports.

#### NEW BRUNSWICK.

MOTHS: Semioscopis merricella 29 Apr, Ypsolopha falciferella 21 May, Acosus populi 24-26 Jun, Barbara mappana 21 May, Eucosma dorsisignata similana 27 Jul, 12 Aug, all St. Basile, Madawaska Co (MT). Five Acentria nivea 7 Aug, all caught 500' away from water, Belone Brook, Restigouche Co (MT, det KM); Amphion floridensis ova and Proserpinus flavofasciata larvae on Epilobium angustifolia 16 Jun, Thomaston Corner (HH); Syngrapha diasema from ova obtained in Schefferville, PQ, in Jul 1990, reared on birch in early instars, finished on strawberry after hibernation, adults emerging in Jun 1991 (HH); Syngrapha surena 9 Aug, Edmundston, Madawaska Co (HH); Acronicta radcliffei 29 Jun, Bellone Brook (MT); Amphipyra glabella 8 & 28 Aug, St. Basile (MT); Platysenta vecors 7 Jun, St. Basile (HH); Lithophane thaxteri 10 May, Edmundston (HH); Ferralia jocosus form furtiva 6 May, St. Basile, and 8 Jul, Bellone Brook (MT); Brachionycha borealis 2 May, Edmundston (HH); Homohadena infixus 26 Jul, Bellone Brook (MT), and 7 Aug, St. Basile (HH); Oncocnemis piffardi 5 Sep, Edmundston (HH); Stretchia plusiaeformis 11 May, St. Basile (MT).

#### NOVA SCOTIA.

BUTTERFLIES: a list of observations by REG in the vic of Fox Rvr, first week in Jul, included Polites peckius, Euphyes vestris metacomet, and Papilio g. glaucus (not canadensis).

PRINCE EDWARD ISLAND. See "migratory".

#### MAINE.

BUTTERFLIES: Poanes viator zizaniae 1 Aug, York Village, York Co, STATE (RG).

MOTHS: H. columbia finally taken, second week in Jun, Isleboro, Waldo Co (DW).

#### NEW HAMPSHIRE.

BUTTERFLIES: Erynnis lucilius Sep, Manchester, Hillsboro Co (REG); Ancyloxypha numitor 23 Jun, Lancaster, Coos Co (JH). Hesperia metea 1990, Madison, Carrol Co, Atrytone logan, Rumney, Grafton Co, and in Sullivan, Merrimack, and Cheshire Cos (all REG). Poanes viator zizaniae 1 Aug, Hampton Beach, Rockingham Co (RG). Euphyes conspicuus 1990, Deering, Merrimack Co (REG); Glaucopsyche lygdamus couperi, now known south to a line from Lebanon in Grafton Co thru Grantham, Springfield, New London, Webster, and Deerfield to Newfields in SE Rockingham Co (REG); Euptoieta claudia, Millsfield, Coos Co (REG), and 18 Jul, Jefferson, Coos Co (JH).



**MOTHS:** (all JH records are Jefferson, Coos Co and all WK records Whitefield, Coos Co, unless otherwise stated): Sthenopsis auratus 6 Jul, and Agonopterix thelmae 4-6 Sep (WK); Polix coloradella 18 Jul (JH); Olethreutes nitidana 14 Jul, and Metrea ostreonalis 3 Jun (WK); Spoladea recurvalis 3 Oct (JH) and 4 & 27 Oct (WK); Itame subcessaria 19 Jul (WK); Semiothisa continuata 30 Jun (WK); Tacparia atropunctata 16 May (WK), and 2 Jun, Church Pond Bog, Albany Twp, Coos Co (JH); Metarranthis warnerae 1 Jun, day flier (WK); Actias luna 14 Sep (JH); Sphinx drupiferarum 11 Jun (WK); Ellida caniplaga 26 Jun (JH); Apantesis figurata 18 Jun (JH, WK); 8318 Lymantria dispar males again present in moderate numbers, but no larvae or females seen (WK); Bomolocha palparia 30 Jun, Whitefield (EP); Autographa flagellum 6 Jul (JH); Harrisimemna trisignata 6 Jul (JH); Papaipema cataphracta 2 Oct (JH); Dipterygia rozmani 15 Jun (WK); Hillia iris, form vigilans 10 Aug (WK).

#### VERMONT.

**BUTTERFLIES:** Euptoietia claudia 11 Jun, S Burlington, Chittenden Co (JDH).

**MOTHS:** Sthenopsis argenteomaculatus, reared from pupae collected from stem of swamp alder, Jun, Orange Co, S. auratus common Jul 1990 at 600', flying at dusk over ferns, Jericho Forest, Chittenden Co, and previously taken at 3400', Camel's Hump Mt (all JRG). Glyphipterix linneella 3 Aug, Snake Mtn, Addison Co (MS); Ypolopha canariella 15 Aug, Underhill, Chittenden Co (JB, det JFL); Olethreutes nitidana 28 Jul, Bristol, Addison Co (ED, det MS); Gretchena deludana 9 May, Jericho (DT, det MS); Epinotia solandriana 15 Aug, Mt Mansfield, Washington Co (MS); Argyrotaena occultana 29 May, S Hero, Grand Isle Co (JDH); Choristoneura zapulata 11 Jul, S Burlington, Chittenden Co (JDH, det PTD, AM); Sparganothis tristriata 2 Aug, Bristol, Addison Co (JDH, det PTD); Homochlodes latispargaria 14 May, Jericho (JRG, det DCF). Itame coortaria 3 Jul, Metarranthis indeclinata 21 May, Patalene olyzonaria puber 11 May, Plagodis kuetzingi 23 May, all Jericho (JRG). Stamnodes gibbicostata 28 Aug, Underhill (JB, det JRG, MS); Epirrita autumnata 3 Oct, Mt Mansfield (JB, det DLW); Olceclostera angelica 27 Aug, S Hero (JDH); Sphinx eremitus 19 Jun, Burton Is SP, Franklin Co (JL); S. luscitiosa 9 Jun, Sandgate, Bennington Co, fresh female attracted several males at twilight; ova reared (HR); S. drupiferarum 4 Aug, Peacham, Caledonia Co (MS). Notodonta simplaria 12 May, and Odontesia elegans 29 May, both Jericho (JRG, det DFS). Idia denticulalis 21 Jun, N Hero (MS, det JDL); Zanclonatha martha 20 Jul, Jericho (JRG, det DFS); Plusiadonta compressipalpa 14 Aug 1990, S Hero (JDH); Zale phaeocapna 29 Apr, Jericho (DT, det DFS); Z. submediana 29 Apr, Jericho (JRG, det DFS); Catocala innubens 17 Aug, Camp Johnson, Chittenden Co (JRG); C. antinympa 8 Sep, Grand Isle (SG); C. judith 30 Jul, Bristol, Addison Co (ED); C. subnata 6 Aug, Grand Isle (SG); C. meskei 24 Jul, Grand Isle (SG); C. mira 28 Jul, Lincoln, Addison Co (LC); C. amica 31 Jul, Jericho (JRG); Ctenoplusia oxygramma 14 Sep 1990, S Hero (JDH); Diachrysis balluca 3 Jul, Lincoln, (LC); Acronicta prob. incretata (JB, det JDL); Energia mephisto 3 Jul, Lincoln (LC, det JDL); Papaipema lysimachiae 18 Aug, Camp Johnson (JRG, det DFS); P. furcata 27 Sep, S Hero (JDH, det DFS); Pyreferra citromba 3 Apr, S Burlington, Chittenden Co (JRG); Pachypolia atricornis 8 Oct, Underhill (JB); Calophasia lunula 25 May, S Hero (JDH, det DFS); Lacanobia atlantica 6 Jun, S Burlington and Lacinipolia stricta 4 Jul, S Burlington (JRG, det JDL); L. implicata 3 Sep, Lincoln (LC); Morrisonia evicta 14 May, Jericho (JRG, det DFS); Orthosia alurina 6 Apr, Jericho (JRD, det JDL); Euxoa albipennis 30 Aug, S Burlington (JRG, det DFS). Anomogyne fabulosa 25 Jun (det JDL), A. homogena 30 Jul (det JRG), A. rhaetica 7 Aug (det DFS), all Mt Mansfield (JB). Noctua pronuba, five specimens Aug 1989-91, S Burlington & Colchester, Chittenden Co, and S Hero (JDH et. al.); Schinia trifascia 18 Jul, S Burlington (JRG).

#### MASSACHUSETTS.

**BUTTERFLIES:** Poanes viator zizaniae 30 Jul, Wingershiek Beach, ESSEX Co (RG).

**MOTHS:** Trichoptopha flavocostella 31 Jul; Spoladea recurvalis 5 Oct; Idia diminuendis 8 Jul; Zanclonatha martha 13 Jul; Hormisa louisiana 17 Jul; Oruza albocostaliata 6 Jun; Acronicta modica 8 Jul; Calophasia lunula 13 May; Lacinipolia implicata 30 Aug; Orthosia garmani (no date); Ulolonche modesta 12 May; Euxoa albipennis 6 Sep, all Shirley, Middlesex Co (EP). Noctua pronuba 24 Aug, 6 Sep, Dedham, Norfolk Co (DW) and 29 Aug Holliston, Middlesex Co (DGW); larvae reared to last instar on dandelion (DGW) and to pupae on dandelion, Jerusalem artichoke, and violet (DW), but died at those stages.

#### RHODE ISLAND.

**BUTTERFLIES:** (all HP): Satyrium acadicum 15 Jul, Great Swamp, WASHINGTON Co; Mitoura hesseli 15 Jul, Great Swamp, Washington Co, the first confirmed summer brood record in the state; E. claudia was widespread: 11 Jul, W Greenwich, KENT Co, 15 Jul, Jamestown & Middletown, NEWPORT Co, and 16 Jul, Great Swamp, WASHINGTON Co; Speyeria idalia, two close observation sightings the first half of Jul, Newport Co; C. inornata 15 Jul, South Kingstown, WASHINGTON Co; 16 Jul, Cumberland, PROVIDENCE Co; and in Aug, Middletown, all very numerous.

**MOTHS:** Calophasia lunula 23 Aug, Portsmouth, Newport Co, ex larva on Linarea vulgaris (AW).

#### CONNECTICUT.

**BUTTERFLIES:** Fixenia ontaria 2 Jul, Fairfield Co (JG); Coenonympha inornata 27 May, W Cornwall, Litchfield Co, over 100 in a dense colony (RM).

#### NEW YORK.

**BUTTERFLIES:** Urbanus proteus 2 & 7 Sep, Staten Is (NW); Erynnis juvenalis 9 Jun, Altona Twp, CLINTON Co (DS); Pholisora catullus 14 Aug, Alabama Twp, GENESSEE Co (DS); Lerema accius 16 Sep - 3 Oct, five observations in New York City area (DR); Hesperia sassacus 8 Jun, Brownville Twp, JEFFERSON Co (DS); Polites themistocles 8 Jun, Ft Covington Twp, FRANKLIN Co, and 9 Jun, Indian Lk Twp, HAMILTON Co (DS); Wallengrenia egeremet and Pompeius verna both 23 Jun, Utica BFC, Oneida Co (EW); Euphyes bimaculata 3 Jul, Mendon Twp, MONROE Co (DS); Atrytonopsis hianna 10 Jun, Milton Twp, SARASOTA Co (DS); Euchloe olympia 19 May, Brownville Twp, Jefferson Co (DS), confirming the previous STATE record of R. Dirig & J. Cryan, who found a larva there in 1986, and adults in 1987; Hyllolycaena hyllus 23 Jun, Utica BFC, Oneida Co (EW); Calycopis cecrops, continued population increase throughout Long Is and New York City, including Manhattan and the Bronx (JG); L. bachmanii 16 Jul, Bennington Twp, WYOMING Co (DS), and 25 Jul, Inlet, HAMILTON Co (JG); Charidryas harrisii 8 Jun, Ft Covington Twp, FRANKLIN Co (DS); Nymphalis urticae 25-26 Aug, Jamaica Bay, Nassau Co (DR, SW, JZ: photo), European immigrant present in the area several years; Enodia anthedon 23 Jun, Utica BFC, Oneida Co (EW); Megisto cymela 8 Jun, Ft Covington, FRANKLIN Co (DS); 27 C. inornata, first brood from 29 May, second brood from 2 Aug, Chappaqua, Westchester Co (JG); DS documented the species across the state from Washington Co in the east to Erie Co in the west.

## NEW JERSEY.

**BUTTERFLIES:** Confined females of Incisalia henrici, taken 23 Apr nr Seaville, Cape May Co, and offered a choice of Vaccinia corymbosum and Ilex opaca oviposited only on Ilex, on which progeny were reared to pupae (RB).

**MOTHS:** Manduca rustica 3-9 Jul, Elmer, and Artace cribraria 6 Jun, Pennsville, both Salem Co (ES/CC).

## PENNSYLVANIA.

**BUTTERFLIES:** Lerema accius 14 Aug, Delta, York Co (BG); Atelopedes campestris at bl 6 Sep, Willow Grove, Montgomery Co (WB); E. nicippe 14 Jul, South Mt nr Gettysburg, Adams Co (CS); P. crespontes 11 Jun, Bethel Pk, Allegheny Co by MM, who noted V. atalanta back to normal numbers after a glut last year. P. tharos seen nectaring 2 Nov, Gettysburg (CS).

**MOTHS:** 7683 Artace cribraria 27 Jun, Chichester, Delaware Co (ES/CC); Citheronia sepulcralis Perry Co (DD).

## DELAWARE.

**BUTTERFLIES:** Incisalia henrici, including a few green form underside, 11 Apr, Nanticoke WLA, Sussex Co (BG).

## MARYLAND.

**BUTTERFLIES:** Urbanus proteus, early Sep to early Oct, Calvert Co (JF), and 22 Sep 1990, Germantown, Montgomery Co, oviposition on stringbean and wisteria, larvae reared to pupae on the latter (HP); Lerodea eufala 7 Sep, Point Lookout SP, ST MARY'S Co (RW), on 21 Sep (RS), and on 2 Oct (JF); Panoquin ocola 2 Oct, Perryville, CECIL Co (BG); Eurema nicippe 2 Sep, Patuxet Rvr Pk, HOWARD Co (RS), and several, Sep - Oct, Calvert Co (JF); Celastrina ladon flying 14 Feb 1990, Seneca, Montgomery Co (HP); H. sosybius 22 Aug, Jefferson-Patterson Pk, Calvert Co (JF); D. plexippus bilateral gynandromorph (rt side male) 12 Jun 1991, Perryville (BG); on 3 Sep JF noted a female monarch captured by a wheelbug (Arilas crispatus, Hemiptera). One tagged monarch in early Sep remained in JF's yard for four days, despite occasional netting and handling. Numerous ovipositions on sandvine (Ampelamus albidus) in preference to nearby Asclepias incarnata, were noted by HP, with one larva reared to maturity thereon.

**DISTRICT OF COLUMBIA.** no data were submitted.

**ZONE 11: HAWAII/PACIFIC ISLANDS.** Coordinator: J. C. E. Riotte. It was a poor year. Overall too hot. Poor caterpillars had not much to eat and therefore the butterflies were all rare and much smaller than normally. White monarchs were almost not visible this year. And can you imagine Pieris rapae of 1.5"? The so-called winter is wet and cool (the first time in 20 years). We are all interested in what will be coming. Dave Preston from the Bishop Museum collected in the mountain ranges of Oahu. He reports no change from earlier years. The climate was normal and the native butterflies, like Vanessa tameamea were flying again like usual (i.e. better than last year!).

There were no reports from any Pacific Islands.

**ZONE 12: THE NORTHERN NEOTROPICS: MÉXICO, CENTRAL AMERICA, THE ANTILLES.** Coordinator: Eduardo C. Welling, M. Contributors: James C. Brock (JB), Keith S. Brown, Peter Jump (PJ), Markus Lindberg (ML), James Mori (JM), Steven Prchal (SP), Kilian Roever (KR), Paul & Sandra Russell (P/SR), Andrew D. Warren, Ralph Wells (RW).

**WEATHER SUMMARY:** In general it appears that the northern Neotropics in 1991 were divided into a very dry half and a very wet half. West and north of the Isthmus of Tehuantepec, rain and subsequent flooding occurred throughout the year. News reports on television about flooding and wash-outs seemed unending for that area even into 1992. Apparently the exception to this was Oaxaca, as Brown reported a much dryer year than 1990.

In the Yucatán Peninsula and south into Central America it was very dry. It was the fourth consecutive year of drought for the Peninsula. Quintana Roo, for example, had one of the worst droughts on record, not having rained from May to November (usually the rainy season). Crop failure in the area was rampant (in Quintana Roo about 95%). In the central and western parts of the Yucatán Peninsula, rain fell less than 3 days each month! In Belize conditions were a little less severe.

In November the "tide turned" in northern Central America and the southern half of the Yucatán Peninsula received unrelentless rainfall through the end of the year (and into 1992) causing crop damage, flooding, etc. During the night of 3 Dec, 250 mm of rain fell on El Cayo in Belize causing widespread flooding. During that same time period slightly less than that amount fell in Mérida. It was as if Mother Nature were trying to make up for a bone-dry rainy season which is normally June through October.

## MEXICO:

**Baja California Sur:** 47 spp of butterflies including Panoquina panoquinoides errans, Nastra neamathla, Copia hippalus peninsularis, Vanessa atalanta, Apodemia mormo maxima, and Strymon bazochii, San Lucas Cove, 17.5 km S of Santa Rosalía, 11-14 Apr (JB, JM, RW).

**Sonora:** 39 spp including Pyrgus oilеus, Phyciodes phaon, tharos, and Apodemia hepburni, Route 15, 37 km S of Nogales, 9 Aug (JB). Antigonus erosus, Systasa zampa, Papilio pharnaces and Chlorostrymon telea (STATE), Route 16, 17.5 km E of Río Yaqui, on milkweed, 9, 10, 14 Aug, (JB, SP, P/SR, PJ). This brings the total number of spp found over the years in this one patch of milkweed to 110. At the same locality 87 spp were collected including Astraptes fulgerator azul, Bolia ziza, Typhedamus undulatus, and Copaeodes minimus, 30 Aug (JB, ML). Noctuana stator, Parrhasius m-album moctezuma, Thecla gazunta, phrutus, Route 16 btwn km 241-253, 13 Aug (JB, SP, P/SR, PJ). Phocides urania, Ebrietas anacreon (STATE), Dalla faula, dividuum, Mellana balsaa, Parides alopіus, Hesperocharis costaricensis, Ocaria ocrisia, Ipidecla miadora, Anteros carausius, same locality, 31 Aug - 1 Sep (JB, ML). Manataria maculata, Catasticta nimbice, plus 15 spp of Sphingidae including Xylophanes ceratomioides and Sphinx istar, Route 16, 5 km W of Yécora, 2-3 Sep (JB, ML). Forty-two spp collected including Nastra julia, Paratrytone melane vitellina, Amblyscirtes aenus, and Apodemia phycioides 20-30 km E of Yécora, 29 Sep (JB, KR).

**Oaxaca:** Brown relocated the Papilio abderus population in the forest 8-10 km N of Totontepec and again subjected it to a mark-recapture analysis. In spite of the much dryer year than 1990, the results indicated 85 males present on 20 Apr (versus 94 males on 11 April 1990). A female was seen ovipositing on

a large native Persea. Eurytides calliste and Anetia thirza were more worn and rare than last year (when females of the former were observed inspecting columnar Magnolia dealbata trees). Episcada carcinia (?salvinia) was very abundant, laying eggs on resprouting Solanum (sect. geminata).

Four days of excellent weather (22-25 Apr) in the La Esperanza, Mpio. Comaltepec region provided many opportunities to observe and photograph Papilio esperanza (all very worn, at the end of the spring brood), mostly on abundant flowers of Tournefortia bicolor and a large thistle sp. The species was most reminiscent of P. glaucus in behavior and appearance. Mating of a male esperanza x virgin female P. scamander from Brazil was quite easy, but the single egg laid did not hatch. Matings of esperanza x virgin female abderus, or abderus x scamander, were not obtained in spite of many attempts. No information was obtained on foodplants or early stages of esperanza, though an old female was observed and followed every day. When confined for a day with a variety of possible plants (mostly Magnoliaceae and Lauraceae), she did not oviposit.

The local abderus population, whose larvae were found in 1990 and 1991 on Persea rufescens, numbered at least 300 males (by mark-recapture of nearly 100, some of which moved over 2 km between recaptures). All three Calliste marked were later recaptured. Both P. esperanza and abderus were strongly attracted to a red cap and a red car. The area also included Papilio androgeus which were passing through, and P. multicaudatus (further up the mountains at km 104). Also seen were Morpho theseus, Siproeta superba (seen each day), and other interesting Nymphalidae, Lycaenidae and Hesperidae.

Sinaloa: Warren was at Mazatlán from 26 Dec 1990 through 2 Jan, 1991. 118 spp were collected including Papilio pharnaces, Parides photinus, Arawacus jada, Calycopis isobeon, Electrostrymon endymion cyphara, Cyanophrys miserabilis, Ministrymon clytie, Panthiades battus jalan, Strymon bebrycia, serapio, columella istapa, Rekoa palegon, zebina, marius, Tmolus azia, echion, Thereus oppia, Siderus tepharcus, Brephidium exilis, Anteros carausius, Baeotus hisbon, Caria ino, Lassia sula, Adelpha fessonia, Anastrus sempiternus, Mylon menippus, Pellicia arina, Phocides belus, Polythrix asine, Urbanus proce, teleus simplicius, prodicus, Ancyloxypha arene, Cymaenes odilia, Lerodea arabus, eufala, Panoquina ocola, errans, fusina evansi, sylvicola, a very dark brown Paratrytone sp, and Wallengrenia otho. 3 km W of L Guásima on Hwy 40, 7 km NE of Concordia, 28 Dec 1990 many of the above spp were found along with others including Strymon albata sedecia, Emesis tenedia, Urbanus chales and viterboana. At Villa Blanca, 10 km NE of Copala, 28 Dec 1990, Warren caught more of the previously mentioned plus Parrhasius moctezuma and Hemiargus isola.

Yucatán: The year was uneventful due to lack of rainfall. Few things were observed on the wing. On 3 Aug a trip was made to Laguna Yalahau, Mpio. Homún, only a few Eurema and Dryadula phaetusa were seen on the trail. Normally there should be a lot of mud-puddlers out by this late date.

Quintana Roo: Just as in Yucatan, Welling noticed few things until about mid Aug. Then a series of species emerged, including Anthanassa frisia, Melitaea theona, Chlosyne lacinia, Mestra amymone, Anartia jatrophae, etc. Most of these are common widespread species associated with highly disturbed areas. Species associated with forested areas were at very low levels. A mv light was set up in the forest near Nuevo X-cán on Aug 10. It attracted many of the commonest (not even worth bothering with) Sphingidae, Arctiidae, Ctenuchidae, and Noctuidae. It was noted that the mv light seemed to attract a higher percentage of Coleoptera than does bl.

BELIZE: Welling found Phyciodes phaon nr Georgeville, 5 km up the road to the Mountain Pine Ridge in the Cayo District on Nov 20 (prob. a new record for the BELIZE). Another new record was Vanessa virginiensis at Baldy Beacon and Cooma Cairn at 1000 m elevation in the same ridge, on Nov 23, flying with Hypanartia lethe. Between heavy Nov rains, the rainforest between Belmopán and Dangriga was investigated. Nothing was out when at least a number of Ithomiidae should have been present in the dark, damp forest. Citrus groves at Middlesex, Stann Creek District that usually produce many species (especially Nymphalidae), were empty except for an occasional Hamadryas feronia defending its perch on a tree trunk. At El Cayo, Cayo District, only Anartia jatrophae were present.

**ZONE 13 SOUTH AMERICA.** Coordinator: Boyce A. Drummond. Contributors: Keith S. Brown, Jr. (KS), Tom Carr (TC), Ronaldo B. Francini (RF, via KB), Brian Harris (BH, via RL), Kurt Johnson (KJ), Ron Leuschner (RL), John MacRoy (JM, via TC), Luis Pena (LP, via KJ).

Keith Brown's annual report provides additional information on places and projects reported in past SS's. These include updates on long-term projects on the biology of Papilionidae and Acraeinae, a repeat visit in late September to Acre, Brazil's western-most state, to further evaluate endemism and diversity, and a return to Amazonas for the first time in five years to assess butterfly diversity in the Biological Dynamics of Forest Fragments project. The other three brief reports include Bolivia, Argentina, and one of many Holbrook Travel trips to Rondonia, Brazil.

BRAZIL. All records by KB, except where indicated. A reasonably wet winter and not-too-dry spring gave a "bumper crop" of butterflies in many localities, but reduced the large "blooms" that sometimes occur at the beginning of the rains after a drier winter. Flowering times and intensities were usually normal, but spring shoots in many foodplants appeared up to a month later than usual. Some fall and winter flowers were much reduced, perhaps (again) due to very irregular, widely spaced and often very heavy rains in January (summer).

PAPILIONIDAE: The revision of the American Graphiini with description of the new genus Mimoides was published in October in Entomologische Zeitschrift (Frankfurt), with illustrations of many previously unknown juveniles. Mimoides microdamas (see below), Protographium asijs, Eurytides bellerophon, and Parides panthonus castilhoi (see below), were reared, but E. iphitas still has not been relocated, although several promising new sites with potential foodplants (Guatteria) were explored. Feeding experiments (in collaboration with Clécio Klitzke and Carina Berlingeri) defined potential hosts for a variety of species, both in terms of plant taxa (families and species) and larval tolerance of chemical compounds (toxins and antifeedants). Development times and larval pattern variation were determined for a number of Graphiini. Some new Heraclides crosses (astyalus x androgeus, hectorides x anchisiades, hectorides x thoas) produced fertilized eggs but no larvae.

ACRAEINAE: RF completed revision of the Brazilian Actinote by further characterizing, biologically and morphologically, Actinote zikani, magnifica, a new subspecies of the former, conspicua, alalia, 3 new species (1 extremely abundant in DEC 1991), and quadra. In addition, RF evaluated their use as biological indicators in conservation planning and monitoring. CORRECTION TO 1990 SS: The catalog of Actinote mentioned on page 36 was prepared by RF, not by KB as stated.

#### EAST COAST (RIO DE JANEIRO, ESPÍRITO SANTO).

BUTTERFLIES: On 6 DEC the Parides ascanius colony in Barra do São João was very strong, as in the last year that the region was quite dry (1987); 10 were marked, of which 6 were recaptured, with a population estimate of about 30, in an area of only 30 m<sup>2</sup>. The species was also common in Buzios this year, along with P. zacyntus. A very few older Mimoides lysithous harrisianus were present in Barra do São João in DEC, all ascanius-mimics; the area continues to be cut over and progressively becomes less able to support this endangered subspecies. At the end of DEC, the Serra de Desengano SW of Campos (RJ) was visited. The forests are well preserved and have unusual species, including the second known (remaining) RJ colony of Napeogenes cyrianassa yanetta,

flying together with Scada karschina (tropical) and Epityches eupompe and Eueides pavana (subtropical). On 31 DEC, a female Aricoris tutana was seen in early AM in deep river-canyon forest (Cachoeiras do Rio Macaé, N of Casimiro de Abreu), a non-typical habitat for this species, which is more typically found in subtropical fields.

**MOTHS:** In late November in Linhares (ES), few Papilionidae were flying, but Urania brasiliensis was laying eggs profusely, well off of tested leaves of its foodplant, Omphalea brasiliensis (in fresh growth, some fruits but no flowers); nonetheless, it was extensively attacked by parasites and predators; some eggs were even placed in spider webs! The system was studied intensively by David Lees and Louise Holloway from Britain, who did not locate it in any other site farther north in ES or Bahia.

**EASTERN SÃO PAULO (CAMPINAS, JAPI) AND SOUTHERN MINAS GERAIS.** The fall skipper census in Campinas, at the peak of the Eupatorium flowers on 7 APRIL, gave a total of only 219 species of which only 105 were skippers (no Pyrrhopyginae, 55 Pyrginae, 50 Hesperinae: 26 species with only one individual, indicating a less diverse fauna of more frequent species than in previous years). No Danainae were seen, and a new low for Nymphalinae (67) was accompanied by a few additions to the over-all list for the area, including Narope cyllarus, Prepona laertes, Michaelis jebus and Audre campestris (both apparently feeding on newly planted soybeans on the edge of the woods), and Emesis fastidiosa. A further 21 species were added to the Serra do Japi list, including high-altitude species such as Morpho portis (at 900 m!), Leptophobia aripa, Theochila maenacte itaiayae, and Justinia kora; widespread but rare tropical species such as Anteros lectabilis, Evenus regalis, and Ipidecla schausi; and a number of other species, mostly skippers, which had been expected but not captured previously. On 13 APRIL Bob Robbins (visiting KB's backyard to try to teach us something about Theclinae) captured a new genus and species of Theclinae on abundant Mikania flowers, that are invading KB's backyard now that the soccer-playing children are away at school (the other three known specimens, from the DZ-UF Parana -- collected by Olaf Mielke -- were already with him awaiting description). In September, other Mikania flowers in humid woods east of Furnas (MG) attracted thousands of butterflies including many Ithomiinae, rare Adelphas, riodinines such as Symphachia menetas and Monethe alphonus, and Magnastigma hirsuta. During AUG-SEP Parides bunicus diodorus was common by the reservoir just W of Furnas, along with Mesosemia bella (new southern range extension). None of the many gallery forests explored in this region or farther south in NE São Paulo showed Parides burchellanus (last seen in 1971) or P. panthonus jaguarae (= numa, a homonym) (last seen in the 1920s), even though P. neophilus and P. anchises foetterlei were common enough in all areas on abundant Palicourea and Psychotria blooms. The two black Parides, on the Brazilian "second" list of animals threatened with extinction, should still exist farther north in cerrados in Minas Gerais.

**WESTERN SÃO PAULO.** Three visits were made (MAR, NOV and DEC) to the type-locality (on the Rio Paraná west of Castilho) of Parides panthonus castilhoi which is known only from the 2 types captured in 1964. A single worn female was finally located on 1 DEC, on abundant Palicourea flowers in a very inaccessible gallery thicket. Fifteen eggs were oviposited on Aristolochia macrourea, A. melastoma, and A. elegans; larvae were reared on A. arcuata, present along with A. odoratissima in Castilho woods, and were typical of the species; most were pupating by mid-January.

**MATO GROSSO DO SUL.** Three short trips (JAN, MAR, NOV) to the Brazilian corner of the Gran Chaco in western Mato Grosso do Sul (high mountains to the SE of Corumbá) confirmed the peculiar fauna of this region (including Parides anchises etias, Protesilaus orthosilaus puddling along with P. protesilaus and Protographium agesilaus as well as hilltopping in early AM at 1200 m, Actinote terpsinoe, Eunica phasis in abundant migration in March, Phyciodes simois, Hypna clytemnestra corumbaensis, Memphis evelina, Chamaelimnas joviana), and finally yielded, only in very wet lowland Chaco (Maria Coelho) 4 larvae of Mimoides microdamas, one in each instar 1-4, on abundant local regrowth of Rollinia and Annona trees; no adults were seen, but all 4 larvae pupated after finishing feeding on Annona cacans in Campinas; only one (a female) has emerged to date. The larva has a very large dorsal white patch like early instars of M. thymbraeus in Mexico (one in the British Museum juveniles collection from San Bernadino, Paraguay, had been mislabeled as M. lysithous). The pupa is typical Mimoides, though lighter green than most. Heraclides hectorides was found far west in the Serra de Bodoquena. The Paraguay River divided Mechanitis l. lysimnia (in Bodoquena) from pure M. l. elisa (SE of Corumbá), with no intergradation such as occurs farther north, but Bolivian Hypothyris euclea nina was present on both sides (and indeed extends into central São Paulo).

**ACRE.** The butterfly fauna of the mouth of the Rio Tejo in extreme SW Acre was evaluated in late September: it was as rich as that of the upper part of this river (see SS 1989: p. 34), with 357 species recorded in 4 days, only 205 of these in common with Restauração (1989). These included 50 species of Ithomiinae (2 Andean), giving a total of 63 for the Juruá Extractive Reserve, the highest number known in the Amazon lowlands (Jaru, Rondônia, has about 60 once the various polymorphs and intergrades are associated). Corrected endemism values for these and Heliconiini continued only slightly positive for the Ucayali center, due to extensive mixing with Inambari genetic stock. The total Reserve list is now at 506 after only 10 person-days of observation, continuing to suggest that this region may be the richest in the Neotropics and the world (by comparison, for example, Tambopata, PERU, world record holder at the moment after many hundreds of days of collection, reached the 500 species level only after more than 30 days, has only 41 Ithomiinae after several hundred days, and has fewer total Heliconiini and Pieridae than does the Rio Tejo site after 10 days). Unusual species include Pteronymia tucuna (far from the Andes), a new subspecies of Heliconius ethilla, 3 Asterope, Parides chabrias, and Setabis (= Orimba auct.) cruentata. A large "campina" area NW of Cruzeiro do Sul was explored, without seeing Heliconius hermathena or its foodplant. In Assis, Brazil, at the Brazil/Peru/Bolivia triple point, in early October, rich hill forest showed high endemism for Inambari (17), several undescribed Ithomiinae (but no Paititia neglecta), abundant troidines including Battus belus cochabamba and Parides pizarro kuhlmanni, Papilio chiansiades, many unusual Theclinae, Rareuptychia clio (a bamboo feeder), but only 239 species in two days' sampling (about half of a good daily list in Rondonia, or near a single day's list in western Acre). The long, hot dry season in this area may keep diversity down, as it does in Mato Grosso, in spite of comparable soils and complex topography.

**AMAZONAS.** In AUG-SEP, 22 of the 25 reserves of 1, 10, 100, and 1000 ha in the Biological Dynamics of Forest Fragments project north of Manaus were revisited in 16 days' work after 5 years of no sampling. Half were at least partially isolated, and 2 had been abandoned for over 7 years and were very difficult to locate and work in. A number of "standard Neotropical species" (e.g., Anartia jatrophae, Junonia evarete, lots of Hesperinae) have finally appeared in the region, after 12 years of deforestation activity, but are not to be seen near the forested reserves. In all, 6 species (4 being Riodininae) were added to the total reserves list of 452, and 8 species with only one individual previously recorded were again captured; but all 7 Theope are still known from only one specimen. The faunal turnover in non-isolated reserves was appreciable, leading to many new species on reserve lists; this effect was much smaller in isolated reserves, whose faunas are in general diminishing, probably from stochastic extinction and limited recolonization. Regrowth of larger clearings led to reduction in species lists, whereas a new large clearing in one humid reserve (non-isolated) led to a greatly expanded list, due primarily to the addition of canopy species. All five local species of Parides (chabrias, aeneas, echemon, sesostris, vertumnus) were found in a very small area on the periphery of one reserve, presumably under a flowering tree in the canopy. Hypothyris euclea, the most abundant species in 1980-86, was almost absent in the region. Roger Hutchings' thesis on two adjacent isolated reserves and a nearby non-isolated area, all 1 ha (=10,000 m<sup>2</sup> or 2.5 acres), showed much less variation over a year in the communities in the two isolated reserves, which, however, were more species-rich due to the presence of sun-loving and edge species. Only 24% of the 217 species recorded were found in all three areas; about half of the 12,344 individuals censused were found in the topographically more complex of the two isolated reserves. All 21 species newly recorded for the project reserves were Lycaenidae (18 Theclinae), equally divided in habitat among the four ecological categories (inside,

light-gap, canopy & large clearing, and edge). Peak species lists occurred in March and November in the isolated reserves, and in September in the forested hectare within a larger continuous forest. Some individuals marked in the isolated reserves were later captured in the forest.

**RONDONIA.** RL made two trips to Fazenda Rancho Grande (180 m), 62 km SE of Ariquemas: one (18-26 Apr) with a Holbrook Travel group led by George Austin, the other with BH (29 Oct - 10 Nov). In April good weather had butterflies coming strong to bait, which included squashed bananas and more exotic (and pungent) items such as Tom Allen's dead bushmaster snake. With son Kurt, RL collected 500 moths and 650 butterflies of about 185 species, including Bungalotis midas, the first record of this skipper for the local list. On the second trip, again with good weather, RL and BH collected 880 moths and 780 butterflies of at least 220 species, including two new records for this locality: an Acraeinae (BH) and Eunica tatila bellaria (RL). A rarity taken once by both RL and BH was Asterope markii. The major difference between the two trips was the increase from April to November in number of species of hairstreaks (4 vs 25) and Riodininae (26 vs 51).

**BOLIVIA.** All records by TC and JM during a trip to Bolivia 8-14 DEC 1990 (not 1991). Although the majority of Hesperidae, Lycaenidae, Riodinidae, Satyrinae, and Ithomiinae have yet to be determined, partial and tentative lists from two localities have been compiled. Locality 1: along the main highway 30-64 km S of Santa Cruz. Locality 2: Carmen Selva, 29 km N of Trinidad near the Rio Mamore.

**BUTTERFLIES:** At Locality 1 were taken 9 Papilionidae, 13 Pieridae (including 9 Eurema spp.), 4 Danainae, 7 Heliconiini, 1 Morpho, 1 Actinote, 33 Nymphalinae, Libytheana carinenta, and 9 Satyrinae (including 8 Euptychia and Pedaloides physcoa). At Locality 2 were taken many of the same species as at locality 1, plus additional species, including 8 Pieridae, 1 Heliconiini, 1 Caligo, and 5 Nymphalinae.

**MOTHS:** At Locality 1: Eacles imperialis cacticus, Psilopygida walkeri, Leucanella memusae, and Rothschildia aurota. At Locality 2: Manduca lucetius, M. rustica, Pachyloides resumens, Perigonia lusca, Aellopos titan, A. tantalus, Enyo lugubris, Eumorpha satellita, and E. adamsi.

**ARGENTINA.** KJ, accompanied by R. Eisele, D. Matusik, and 8 volunteers, collected intensively day and night between 28 January and 15 February in remote NW Argentine localities selected for possible high endemism. Just over 10,000 specimens were collected and nearly all have been prepared at the American Museum of Natural History. Numerous undescribed butterflies (in 4 families) were collected; of these, 2 new species descriptions are in press. Importantly, several tropical Brassolidae and Charaxidae species new to Argentina were recorded, but not yet identified. The following records were selected because of their (1) sure identification, (2) status as records of little known taxa or taxa new to the region, and (3) taxa having some recent literature treatment for comparisons.

**JUJUY.** Calystryma nancea collected in numbers along sole dirt track traversing Parque Nacional Callilegua (5.5-5.7 km W of Rt. 34 entrance) in mesic forest, 1600 - 2400 m, 14 FEB (formerly known only from type locality); Calystryma pryne collected frequently at Parque Nacional Callilegua, margin of mesic forest and river bottom 1600 m near Rt. 34 entrance to dirt track; Tatochila inversa and Eiseliana punona (in numbers) taken at 3200 - 4000 m ascending Cerro Amarillo, near Huacalera, in scrub-steppe, 1 FEB; new species of Terra (species name in press, 1992 J.N.Y. Entomol. Soc.) at spring-fed scrub-steppe oasis, 3650 m, ascending Cerro de las Cruces, 8-10 km E of Huacalera, 2 FEB (also taken here were unidentified Ithomiinae and two new butterfly species not assignable to genus); high Andean population of Chlorostrymon simaethis within Huacalera at 3500 m, 1-2 FEB (previously reported in Argentina only up to 500 m, in lowland chaco and chaco margins).

**SALTA.** First male of Strymon barbara, at type locality (Quebrada de Escoipe, Rt. 33 at km 23-25, 1600 m, steep xeric/mesic margin) 10 FEB; first female of Strymon coronos in "monte" mesquite 1-2 km N Cafayate, 1660 m, 11 FEB.

**TUCUMAN.** First modern records of Strymon oreala and Strymon lorrainea at Cerro San Javier, 1 km S of summit, off Rt. 338, 1250 m, mesic forest margin, 10 FEB; new Hylephila species (ID by C. D. MacNeill) and Parachilades species (genus formerly thought monotypic) located at 4200 m, Abra Inferniello, above Tafi del Valle, in scrub-steppe, collected by colleagues from Instituto Miguel Lillo, Tucuman.

**CATAMARCA.** LP forwarded to KJ a series of Strymon coronos from San Fernando, 4 NOV and SW of San Juan near Los Berros, 30 OCT. Strymon coronos (formerly known only from single "La Rioja" type and the new Salta record reported here) now appears to be a major faunal component of the "monte" scrub-steppe, occurring from Salta to Catamarca.

The Season Summary is a compilation of collecting data submitted by the general membership to the Zone Coordinators in reference to the lepidoptera that were collected in 1991. The Sep/Oct 1991 issue of the NEWS stated that these reports might include species of unusual occurrence with regard to geography, flight season, altitude, numbers; "choice" species; migrations; new food-plant observations; unusual behavior; and aberrations.

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 non-obvious abbreviations (without punctuation) that have been used by contributors, coordinators and the editor:

assoc w/ = associated with

betw = between

bl = black (ultraviolet) light

bndry = boundary

Cg = campground

CIS = California Insect Survey

Cn = canyon

Co Name (in Caps) = COUNTY RECORD

det = determined by

Dist = District

fk = fork

fm = form

FR = farm road

Is = Island

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

rt = route

SF = State Forest

SHP = state historical park

SP = state park

STATE = STATE RECORD

SRA - state recreation area

SWA - state wildlife area

Tr - trail

Trhd - trailhead

vic - vicinity

Vy - valley

WMA = wildlife management area

# Election Results

## Election of Officers, 1992

The 467 ballots received by the 15 January 1992 deadline have been counted, with the following results. The names of the **successful candidates** are in boldface type.

### President:

J. Donald Lafontaine 210  
**Ray E. Stanford** 218

### Vice Presidents:

**M. Deane Bowers** 382  
P.J. DeVries (write-in) 1  
**Hiroshi Inoue** 309  
**Ian Kitching** 284  
Reginald P. Webster 277

### Secretary:

**William D. Winter** 448

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

Benjamin H. Landing 182  
**Eric H. Metzler** 366  
Eric L. Quinter 211  
**Robert K. Robbins** 293  
**J. Benjamin Ziegler** 250

### Karl Jordan Medal Representative for 1993:

George Austin 1  
(write-in)  
John Johnson 1  
(write-in)  
**David L. Wagner** 415

### Honorary Life Member (80% vote to carry):

**Claude Lemaire** 404 (87%)

Three ballots were invalid with regard to Members-at-Large, because the member in each instance voted four names for only three available positions.

Respectfully submitted,  
William D. Winter, Secretary

## Officers of the Society are now as follows:

### Until 28 June 1992:

President: Floyd Preston  
Immediate Past President: Ron Leuschner  
Vice Presidents (3): Phillip R. Ackery  
Ebbe S. Nielsen  
Robert K. Robbins

### After 28 June 1992:

President: Ray Stanford  
Immediate Past President: Floyd Preston  
Vice Presidents (3): M. Deane Bowers  
Hiroshi Inoue  
Ian Kitching

### Full Calendar Year:

Secretary: William D. Winter  
Assistant Secretary: Julian P. Donahue  
Treasurer: Fay H. Karpuleon  
Assistant Treasurer: James P. Tuttle  
Publications Coördinator: Ron Leuschner

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

(terms expire at Annual business Meeting in year indicated)

1992: Richard A. Arnold  
Susan S. Borkin  
David L. Wagner  
1993: Karõlis Bagdonas  
Steven J. Cary  
Stephanie S. McKown  
1994: Charles V. Covell, Jr.  
Linda S. Fink  
Scott E. Miller  
1995: Eric H. Metzler \*  
Robert K. Robbins \*  
J. Benjamin Ziegler \*

### Editorial Committee:

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

### Karl Jordan Medal Representative:

1992: Jerry A. Powell  
1993: David L. Wagner

\* term begins at Annual business Meeting, 28 June 1992.



The Society has recently been informed of the following members' deaths:

### Dr. Paul D. Gerhardt...

of Mesa, Arizona, on 28 August 1991. Dr. Gerhardt had been a member of the Society for 35 years.

### Sydney R Bowden...

of West Sussex, England, in July 1991. Mr. Bowden had been a member of the Society for 39 years.

### Sandra S. Opler...

of Fort Collins, Colorado on 8 February 1992. Though not a member, she often attended Lepidopterists' Society meetings with her husband Paul.



## From the President

### A Proposed Constitutional Amendment

The Executive Council of the Society is giving serious consideration to broadening the statement of object of the Society as contained in Article II of the Constitution.

Because of the central importance of this article to the activities of the Society, we are taking the unusual step of asking for membership input before the issue is debated at the forthcoming Executive Council Meeting in East Lansing, Michigan, on 25 June 1992. Your reply to the Secretary, William D. Winter, 257 Common Street, Dedham, MA 02026-4020, or to the President, Floyd W. Preston, 832 Sunset Drive, Lawrence KS 66044 by 10 May 1992 would be greatly appreciated.

Refer to the Constitution as printed in the central pages of the 1990 Membership Directory. The intent of the proposed amendment is to allow the Society to take a more active role in **public education** and to serve as a clearing house from which information about lepidoptera may be requested. Beneficiaries of this broadened activity might include Society members, school teachers and students, science and nature centers, governmental agencies (at any level), or independent commercial or non-profit entities. Information already in the public domain could be offered as background material for class studies, science fair projects, environmental and conservation studies, etc. The Society would not assume any advocacy role nor would it certify the validity of any scientific facts. Information would be distributed only when author and source are known. The tentatively proposed wording of the relevant part of Article II is:

"....to facilitate the exchange of specimens and ideas by both the professional worker and the amateur in the field; *to compile and to distribute published information about lepidoptera to other organizations and individuals for purposes of education and conservation:* and to secure cooperation in all measures tending to that end." (New material is in italics)

There are, of course, many details to be considered, including copyright issues, possible publication by the Society of articles or pamphlets authored by members for specific educational purposes, and so forth. Our interest is to learn your reaction to the concept of this proposed broadening of the objectives of the Society.

Sincerely,  
Floyd W. Preston, President

## From the Editor's Desk

*Stephanie McKown*

The 1991 Mar/Apr Season Summary issue of the NEWS is finished and I am so thankful for those people who have helped me. I thank the former NEWS Editor, June Preston, for her help and advice. When I saw June at the Annual Meeting in Tucson last summer she encouraged me to telephone her if and when I had any questions. My telephone bills indicate that I began to have questions in October! She was always available to help.



Of course, without the diligent efforts of the 13 Zone Coordinators this issue would not be what it is. Their dedication to the immense task of compiling all the data that were submitted to them is commendable. In terms of effort expended I am sure that the number of hours spent is next to immeasurable for some.

Thanks to all the members who have sent in articles to be printed. Without the interesting items that you send I would have a very difficult task indeed.

## 4th of July Butterfly Count

The 18th annual Xerces Society Fourth of July Butterfly Count will be held this summer. Participants 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.

In 1991, 145 counts were held (an increase from 119 counts in 1990), including 39 first-year counts. These counts occurred in both the United States and Canada in 34 states and 3 provinces. Four of the counts (1 in California, 2 in Colorado and 1 on the Louisiana/Mississippi border) have been held each of the last 17 years. The number of people participating in each count adds up to a total of 1,116 counters (although some people are tallied more than once, since they participated in two or more counts). The 1991 counts reflect the unusually high numbers of Painted Ladies, also known as Cosmopolitans (*Vanessa cardui*), throughout the country. Monarchs (*Danaus plexippus*) also occurred in much higher numbers than average east of the Rocky Mountains.

The Ramsey Canyon, Arizona count had the highest number of species, with 97 different kinds found. This count also expended the most effort. The amount of time each of eight separate groups spent in the field for the Ramsey Canyon count added up to 61.5 hours! The Klamath Falls, Oregon count had the most individual butterflies observed, with a whopping 8,010 reported. The Upland Hills Farm, Michigan count fielded the most people; a remarkable 175 (167 youth campers directed by 8 leaders). The fastest rate that butterflies were censused was 725.6 butterfly individuals per hour of counting effort by the Medford, Wisconsin count.

The annually published results of the butterfly count provide important information about the geographical distribution and population size of the species counted. Comparisons of the results over the years enable monitoring of the changes in butterfly populations and the study of the effects of weather and habitat change 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 fascinating. If you know how to identify the butterflies in your area, you may start your own count. Otherwise, inspire a nature center or butterfly club to start one for you! For more information on how to conduct a count, contact a national count co-editor:

Dr. Paul A. Opler  
5100 Greenview Court  
Fort Collins, CO 80525

or  
Mrs. Ann B. Swengel  
909 Birch Street  
Baraboo, WI 53913



## News from Europe

by W. O. De Prins

Computers are currently used in almost all aspects of our daily life. Entomologists often use databases or word processors to store data from field observations, literature records etc. In many cases a lot of time is spent in entering the data in computer files. Many people, especially the younger generation, are unable to spend the time and money necessary to obtain an overview on the systematics of a certain group in a certain geographical region. Professionals often seem unreachable when the amateur needs assistance. These situations have inspired the **Committee for Candour and Cooperation in Entomology** to help amateur entomologists with computer files. These files are sent at no cost to interested persons for their own private use.

The Committee is a loose organization of individuals, attempting to summarize and condense the total information available for the use of hobby entomologists. A first list is ready now for distribution. It contains several separate lists of Palearctic and worldwide Noctuidae, which can be read, indexed and changed according to particular needs with the aid of a text program.

Part 1 of this list contains all names of genera, species and synonyms according to POOLE, 1989, *Lepidopterorum Catalogus, Noctuidae 1-3* (Noctuidae worldwide). The list requires 1.3 MBytes of disk space.

Part 2 consists of several separate lists as given in the following table:

- BECK, 1991. (unpublished data) (Europe).
- BERIO, E., 1985. *Fauna d'Italia* (Hadeninae and Cuculliinae of Italy).
- BOURSIN, Ch., 1960-1965. (unpublished data) (Palearctic Trifinae).
- CALLE, J.A., 1982. *Noctuidae espanoles* (Noctuidae of Spain).
- CORTI, A. & DRAUDT, M., 1933-1938. *Die Gross-Schmetterlinge der Erde, Bd. 3* (Palearctic Trifinae).
- ESAKI, T. et al., 1984. *Icones heterocerorum Japonicorum in coloribus naturalibus* (Noctuidae of Japan).
- FIBIGER, M., 1990. *Noctuidae Europaeae vol. 1.* (Part of Noctuidae of Europe).
- FORSTER, W. & WOHLFAHRT, T.A., 1980. *Die Schmetterlinge Mitteleuropas Band 4* (Noctuidae of Central Europe).
- HACKER, H., 1989. *Die Noctuidae Griechenlands* (Noctuidae of Greece).
- HACKER, H., 1990. *Die Noctidae Vorderasiens* (Noctuidae of Turkey, Near East).
- HARTIG, F. & HEINICKE, W., 1973. *Elenco sistematico dei nottuidi europei* (Noctuidae of Europe).
- LERAUT, P., 1980. *Liste systématique et synonymique des*

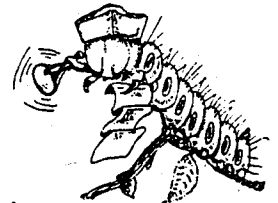
- lépidoptères de Frane, Belgique et Corse* (Noctuidae of France and Belgium).
- RUNGS, C., 1981. *Catalogue raisonné des lépidoptères du Maroc* (Noctuidae of Morocco).
- SCHNACK, K. et al., 1985. *Katalog over de danske sommerfugle* (Noctuidae of Denmark).
- STAUDINGER, O. & REBEL, H., 1901. *Catalog der Lepidopteren des Palaearktischen Faunengebietes* (Palearctic Noctuidae).
- INOUE, H. & SUGI, S., 1982. *Moths of Japan* (Noctuidae of Japan).
- WARREN E., & DRAUDT, M., 1909-1938. *Die Gross-Schmetterlinge der Erde Band 3* (Palearctic Quadrifinae).
- WILTSHIRE, 1990. *Fauna of Saudi Arabia* (Noctuidae of the Arabic Peninsula).

The names of all genera, species, subspecies and synonyms in these publications are listed as separate files. Total disk space needed is 1.3 MBytes.

Part 3 of the package consists of alphabetically sorted names from parts 1 and 2 and a total disk space of 7.2 MBytes is required.

For more information interested persons should contact the "Committee for Candour and Cooperation in Entomology", Mr. A. MANZ, Largitzenstrasse 44, CH-4056 Basel, Switzerland.

## Announcements and Notices



### New Publication

The US Forest Service has recently issued a new publication entitled "**Invertebrates of the H.J. Andrews Experimental Forest, Western Cascade Range, Oregon. V: An Annotated List of Insects and Other Arthropods**". This work is a taxonomic list of all presently known arthropods (2943 species) found at this site, but also briefly mentions ecological communities and microhabitats found in the western Cascades. The Lepidoptera fauna (492 species) includes representatives from the North Pacific Coast, California, Rocky Mountain, and Great Basin faunas. Included are 75 species of butterflies, 132 species of Geometridae, and 193 species of Noctuidae. Unfortunately, the microlepidoptera fauna is poorly surveyed at present. Copies of this publication may be obtained by writing to the US Forest Service, Pacific Northwest Research Station, 333 SW First Avenue, P.O. Box 3890, Portland, Oregon 97208-3890.

### India Tour

Julian Donahue, curator of Lepidoptera at the Natural History Museum in Los Angeles, will escort a **Natural History Tour of India** 11 October - 5 November 1992, with optional extension to Darjeeling. Julian collected and studied butterflies and birds when he lived in India. This trip will concentrate on the post-monsoon wildlife of central and southern India. Ideal for birders and general natural historians, but the trip is **NOT a collecting trip**. For further information or brochure call Geostar Travel at 1-800-624-6633, or Julian at (213) 744-3364.

## Federal Status of Karner Blue

The U.S. Fish and Wildlife Service has proposed to determine the **Karner Blue Butterfly (*Lycaeides melissa samuelis*)** to be an **endangered species**. The proposal (Federal Register, 21 January 1992, pp. 2241-2247) is a thorough and informative review of essentially everything known, published and unpublished, about this butterfly. The **deadline for comments (23 March 1992)** will have passed for most recipients of NEWS #2, as has the 6 March 1992 deadline for requesting a public hearing. Further information, including copies of the proposed listing, may be obtained from Mark W. Clough, New York Field Office, U.S. Fish and Wildlife Service, 100 Grange Place, Room 202, Cortland, New York 13045; telephone (607) 753-9334.

## New Passiflora Society

*Passiflora* plants are native to the Tropics, subtropics and extreme southern edge of the U.S. *Passifloras* are beautiful, edible, and pharmaceutical, and the exclusive host plant for the entire family of Heliconiidae. Charter membership is available in a new International Passiflora Society, recently formed by Butterfly World. Dues are \$15 for U.S. and \$20 non-U.S. Payment accepted in U.S. currency only. For further information and membership application write: International Passiflora Society, % Butterfly World, 3600 W. Sample Road, Coconut Creek, FL 33073.

## Michigan Lists T & E Lepidoptera

Lepidopterists Beware! As of 30 October 1991, the Michigan Department of Natural Resources, Wildlife Division, has listed the following species to be threatened or endangered within the state of Michigan.

Endangered: *Speyeria idalia* (Drury) Regal fritillary  
*Neonymopha michellii* French Mitchell's satyr  
*Catocala amestris* Strecker Three-staff underwing  
*Schinia indiana* (Smith) Phlox moth  
*Schinia lucens* (Morrison) Leadplant moth

Threatened: *Erynnis persius* Scudder Persius dusky wing  
*Oarisma powesheik* (Parker) Powesheik skipper  
*Hesperia ottoe* Edwards Ottoe skipper  
*Euphyes dukesi* (Lindsey) Dukes' skipper  
*Atrytonopsis hianna* Scudder Dusted skipper  
*Battus philenor* (L.) Pipevine swallowtail  
*Incisalia irus* Godart Frosted elfin  
*Lycaeides idas nabokovi* Masters Northern blue  
*Lycaeides melissa samuelis* Nabokov Karner blue  
*Papaipema silphii* Bird Silphium borer moth

Pursuant to Act No. 203, Public Acts of 1974, and promulgated rules, the law means that:

1. General collecting of these species is PROHIBITED, except for those individuals obtaining a state permit from the Michigan Department of Natural Resources, Wildlife Division;
2. Collecting voucher specimens is only permitted for NEW locations and/or for stated research purposes;
3. ALL voucher specimens must be deposited in an institutional collection; i.e. collector cannot retain any material;
4. Anyone who violates the law/regulations shall be guilty of a misdemeanor and shall be fined not more than \$1,000.00, nor less than \$100.00, or imprisoned for more than 90 days, or both!

It would appear that the program and the inclusion of some species on the list will be a likely topic for discussion at the forthcoming annual meeting in East Lansing!

Submitted by Mogens C. Nielsen

## Southern Lepidopterists' Society

The Southern Lepidopterists' Society is open to anyone with an interest in the lepidoptera of the **southeastern United States**. A quarterly newsletter (Southern Lepidopterists' News) is published and regular meetings are held at various locations throughout the region. The **Spring 1992 Field Meeting** information is published elsewhere in the NEWS. For information regarding the Society contact: Tom Neal, Secretary/Treasurer, 1705 N.W. 23rd Street, Gainesville, FL 32605 USA.

## Lost Member

Society mail being sent to **JEAN-PIERRE LAGACE** in Sherbrooke, Quebec, Canada, is being returned as undeliverable. If you have an address for Mr. Lagace please notify Julian Donahue (address on back cover).

## Philatelic Lepidopterists of America

Many of us recall the issue of a beautiful block of U.S. 13¢ postage stamps that depicted 4 different U.S. butterflies. It may surprise some to know that many countries issue stamps depicting native butterflies. An informal organization for people who enjoy collecting moth and butterfly postage stamps has been formed! Their first newsletter should be published soon. Dues are \$10/year. Contact Charles V. Covell, Jr., Dept. of Biology, University of Louisville, Louisville, KY 40292.

## Research Notices



**SILKMOTH RESEARCH.** Empty giant silkmoth cocoons (wild or reared) are needed for study and research of silk fibre identification. I need a large supply to document the effects of ancient degumming methods used by native cultures. I possess the ability to replicate those textiles as an end result of this study, if the supply can be located. The species not generally known for this use are still desired for testing. I'm currently in need to collaborate with (photo)microscopist, but would prefer notice of sale on used microscopic equipment. Contact: CAROLANNE NUTTAL, 6200 S. 97th W. Ave., Sapulpa, OK 74066.

**TROPICAL BUTTERFLY RESEARCH.** Graduate Research Assistantships available. MS Biology of Tropical Butterflies. To study the biology, evolution and conservation needs of a group of neotropical butterflies that aggregate in high elevation roosts during the dry season. Successful candidate will be expected to develop rearing protocols for 1-4 species of *Anetia* (Danainae), study characteristics of *A. briarea* and others at aggregation sites, run insect traps and collect specimens. The position will require

greenhouse and rearing activities, foreign travel (Caribbean), backpacking and camping on mountain peaks under primitive conditions, working with horses and mules, extended periods without supervision or English-speaking companions. Ability to speak or learn Spanish is critical. Under field conditions, privacy, sanitation facilities and food variety cannot be expected. **Requirements:** Acceptance by the MSU College of Graduate Studies for the Masters of Science in Entomology. A bachelor's degree in an appropriate field with a GPA of 3.0 or better, GRE scores of 1100 or better, and if not a native English speaker, TOEFL scores of 525 or better. **Stipend:** \$10,000/year (12 month), + \$2,000 out-of-state allowance first year. Limited to 2 years of support. **Start Date:** 01 June 1992. **To Apply:** Contact Dr. Michael A. Ivie, Entomology Research Lab, Montana State University, Bozeman, MT 59717-0002. (406) 994-4610.

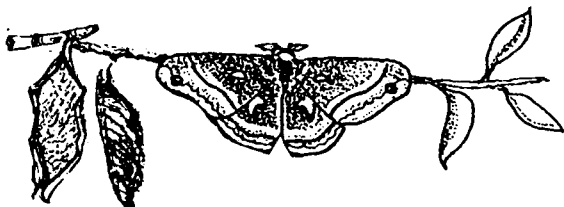
**GENE STRATTON-PORTER.** As part of the literary work of Indiana author Gene Stratton-Porter (1863-1924), I am trying to locate her Lepidoptera and botanical specimens, natural history correspondence, and any other artifacts that might survive in public or university museums, libraries, and archives. I would greatly appreciate knowing of caches of such material outside of her former homes, the Indiana State Memorials at Geneva and Rome City. In a lepidopterist context, Mrs. Porter is best known for her classics *A Girl of the Limberlost* (1909) and *Moths of the Limberlost* (1912). I am also keenly interested in the influence of these two books on incipient lepidopterists, and would greatly appreciate any personal anecdotes that seasoned lovers of Lepidoptera could share. I still seek copies of her books *Friends in Feathers* (1917) and *Jesus of the Emerald* (1923), and would be grateful for any information leading to acquisition of either. Thank you. ROBERT DIRIG, P.O. Box 891, Ithaca, NY 14851, USA.

#### BIOLOGICAL SURVEY -- JAMAICA 1992.

Caribbean Wildlife Surveys in association with the Natural History Division of the Institute of Jamaica, announces a biological survey of the montane rainforests of Jamaica commencing April 1992. Primary groups for study are moths and treefrogs at night and butterflies and anoline lizards by day. Participants will join Jamaican scientists in creating data bases to be used in determining boundaries for national parks and areas of special interest for conservation. Strong emphasis will be placed on photography in addition to the collection of representative samples from each of five main forest sites. Participation is sought from scientific institutions as well as private individuals; teams of 12-16 persons are required monthly. Dates for the next three surveys are:

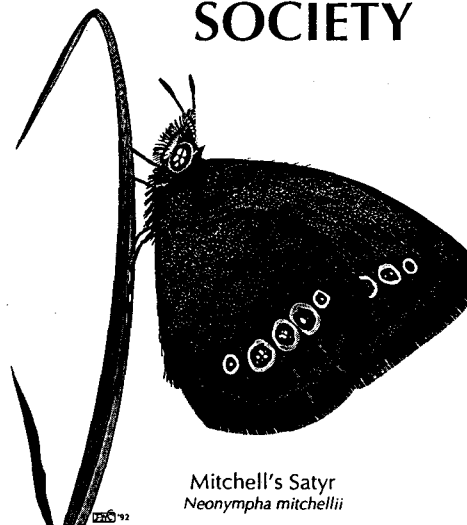
25 May - 4 June 1992. Application deadline: 31 Mar  
 29 June - 9 July 1992. Application deadline: 30 Apr  
 27 July - 6 Aug 1992. Application deadline: 31 May

Trips will be available monthly. Call in advance for dates after August. Costs, excluding airfares, are \$1,650.00 per person per survey. For details contact Dr. Tom Turner, 2321 State Road 580, Suite 6, Clearwater, Florida 34623. Phone (813) 797-0466.



## Forthcoming Meetings

### The LEPIDOPTERISTS' SOCIETY



Mitchell's Satyr  
*Neonympha mitchellii*

### 43rd Annual Meeting EAST LANSING, MICHIGAN

The Department of Entomology, Michigan State University and the Michigan Entomological Society are hosting the 43rd annual meeting on the MSU campus Thursday through Sunday, 25-28 June 1992. The annual meeting of the Michigan Entomological Society will be held in conjunction with it on Thursday, 25 June. The preregistration form and additional information is in NEWS #1, 1992. The only change that has been made is that breakfast and lunch will not be required if you stay in the dorm.

As in the past, there will be no general mailing of registration forms or a call for papers. If you are interested in attending the meeting, please fill out and return the preregistration form IMMEDIATELY. Your packet will then be mailed to you. The deadline for papers is 15 April, so don't procrastinate unnecessarily! For more information contact Fred Stehr (517) 353-8739 or Mo Nielsen (517) 355-1803, Department of Entomology, Michigan State University, E. Lansing, MI 48824-1115.

The 7th International Entomological Trade Fair & Educational Exhibition of Lyon, 3rd french town, will be held 3-5 April 1992 at the Mairie of Lyon, 8th district (townhouse) 12, Jean Mermoz Street. Educational exhibition, projection of films, drawing competition for schools & trade fair (sale, purchase, exchange). Public admission is \$5, with hours from 10am to 7pm only Saturday the 4th and Sunday the 5th. For further information, plan, hotels' list (single from \$21) contact: Bernard Courtin, 18, Sente des Chataigniers, F92380 GARCHES, France.

Kentucky Lepidopterists Field Trip to collect spring butterflies will be held Saturday 11 April 1992 in Bullitt County, KY. Possibility of night collecting also. Contact: Charles V. Covell, Jr., Dept. of Biology, University of Louisville, Louisville, KY 40292. Or call (502) 588-6771 (work) or (502) 456-6122 (home).

**The Association for Tropical Lepidoptera - 1992 Annual Meeting** will be held 10-12 April 1992 at the Florida State Collection of Arthropods in Gainesville, Florida. All sessions will be held in the Doyle Conner Auditorium at the Division of Plant Industry, Florida Dept. of Agriculture and Consumer Services, 1911 SW 34th St., Gainesville. Contact: Dr. H/John B. Heppner, Florida State Collection of Arthropods, Bureau of Entomology, FDACS, P.O. Box 147100, Gainesville, FL 32614. Telephone (904) 372-3505.

**The Southern Lepidopterists' Society Spring Field Meeting** will be held 1-2 May 1992 at Neal's Lodges on the Rio Frio in Concan (Uvalde County), Texas. If you plan to attend or need directions or other information, contact: Ed Knudson, 8517 Burkhart, Houston, Texas, 77055. Phone (713) 242-5800 (weekdays) or (713) 464-3529 (evenings and weekends).

**The Sixth Annual Meeting of the Society of Conservation Biology** will be held 27 June - 1 July 1992 at Virginia Polytechnic Institute and State University in Blacksburg, Virginia. Information on registration and housing may be obtained from: Dr. Gerald Cross, Department of Fisheries and Wildlife, VPI & SU, Blacksburg, VA 24061-0321. Or call (703) 231-8844.

**International Symposium on "Biodiversity in Managed Landscapes: Theory and Practice,"** to document case examples of theory & concepts applied at differing scales (from sites to continents) in planning, assessment, management, & monitoring, is scheduled for 13-17 July, 1992 at the Capitol Plaza Holiday Inn, Sacramento, CA. Contact: Dr. Robert C. Szaro, USDA Forest Service, Forest Environ. Research, P.O. Box 96090, Washington, DC 20090-6090. (202) 205-1524.

**Management for Biotic Diversity Workshop** will be held 13-17 July 1992, at Colorado State University, Fort Collins, CO. For more information contact: Dr. Luke George, Dept. Wildl., Humboldt State U., Arcata CA 95521. (707) 826-3430. or Dr. Richard L. Knight, Dept. Fish and Wildl. Biol., CO State U., Ft. Collins, CO 80523 (303) 491-6714.

## New Members



**AMARILLO SUAREZ, ANGELA ROCIO:** Apartado Aereo No. 52656, Santa Fe de Bogota, COLUMBIA.  
**BALLARD, EDWARD:** 616 South College Avenue, #69, Oxford, OH 45056.  
**BARSDALE, CHARLES M. (Ph.D.):** 3015 Monks Road, Pinckney, MI 48169-9002.  
**BEAM, BRENT:** 343 Auden Road, Guelph, Ontario N1E 6T2, CANADA.  
**BECKERT, JANINE I.:** 11 Buttercup Lane, Dover, MA 02030.  
**BROWN, RONALD E.:** P.O. Box 1064, Vail, CO 81658.  
**CLARK, MORRIS M.:** 575 Bobwhite Drive, Pensacola, FL 32514.  
**CLASSEY, PETER:** Clumber Cottage, Eastleach, Cirencester, Gloucestershire GL7 3NL, ENGLAND.  
**CONNOR, WILLIAM E. (Dr.):** Department of Biology, Wake Forest University, P.O. Box 7325, Winston-Salem, NC 27109.  
**EVERETT, GAIL:** 12 Dakota Street, Portland, ME 04103.  
**FOWLER, VANCE:** 113-C Purefoy Road, Chapel Hill, NC 27514.  
**FOX, ROBERT:** 4720 North Oeste Place, Tucson, AZ 85749.  
**GATES, RICHARD W., Jr.:** 3314 West Winchester Road, Springfield, MO 65807.  
**HICKS, LENNY:** Rural Route 03, Box 758, Banner Elk, NC 28604.

**HOLL, KAREN:** University Center for Environmental and Hazardous Materials Studies, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061-0415.

**JANVRIN, HARRY:** Rural Route 01, Box 138-A, Cresco, IA 52136.

**JESCHKE, GRACE:** (address omitted by request).

**KANSTRUP, M.:** 110 Patterson Avenue, Ottawa, Ontario K1S 1Y3, CANADA.

**KANTER, JODI:** 5659 Cherokee Road, Lyndhurst, OH 44124.

**LASLEY, JIM:** 467 Birchwood Drive, Berea, OH 44017.

**MGRATH, ROBERT D., Jr.:** P.O. Box 71, Dover, MA 02030.

**MCKAY, CHRIS:** (address omitted by request).

**MITCHELL, DOUGLAS M.:** 2211 Clermont Street, Denver, CO 80207.

**MOORE, KATHY:** P.O. Box 277773, Sacramento, CA 95827-7773.

**MOSELEY, BERYL:** P.O. Box 496, Macclesfield, NC 27852.

**NUTTALL, CAROLANNE:** 6200 South 97th West Avenue, Sapulpa, OK 74066.

**OLSEN, LONNIE E. (Dr.):** 4661 Gatewood Drive, Colorado Springs, CO 80916.

**PARIS, THOMSON:** 296 Sherry Crescent, Gallatin, TN 37066.

**PEDERSEN, JENS C.:** Box 1, GRP 5, RR1, East Selkirk, Manitoba, R0E 0M0, CANADA.

**PING, GLENN R.:** P.O. Box 2417, Bandar Seri Befawan 1924, BRUNEI, BORNEO.

**PEPELKA, JAMES J.:** 48 Winding Way, Morris Plains, NJ 07950.

**RAMKE, RICHARD:** 2413 La Casa, #A, Austin, TX 78704.

**RIDDLE, WILLIAM F.:** 2140 Russell, Lincoln Park, MI 48146.

**SANDERFORD, MARK V.:** Department of Biology, Wake Forest University, P.O. Box 7325 Reynolda Station, Winston-Salem, NC 27109.

**SMITH, NORMAN J. (Dr.):** 1730 South Maple Avenue, Fresno, CA 93702-4516.

**TAMPION, JOHN (Dr.):** 27 Lucastes Lane, Haywards Heath, Sussex RH16 1LE, ENGLAND.

**TARJAN, MARYLEE:** P.O. Box 69497, Seattle, WA 98168.

**VARGA-ANDRES, EUGENIO:** Calle Italia 633, San Miguel (1663), Prov. Buenos Aires, ARGENTINA.

**VERNI, DAVIDE:** v. Capo Palinuro N. 2, I-20142 Milano, ITALY.

**YOUNG, BRAD:** 40 Tuxedo Court, #105, Scarborough, Ontario M1G 3S5, CANADA.

## Address Changes



**BROWNING, COLIN A.:** 5345 SW 99th Terrace, Miami FL 33156-3431.

**CALLAGHAN, CURTIS J.:** Avenida Suba 130-25 Casa #6, Bogota, COLUMBIA.

**CASSEL, WILLIAM S. (M.D.):** 891 Beaconsfield, #1N, Grosse Pointe Park, MI 48230.

**CLARK, DALE:** 11518 Desdemona Drive, Dallas, TX 75228.

**COTTRELL, CHRISTOPHER B. (Dr.):** Entomology Department, Tobacco Research Board, P.O. Box 1909, Harare, ZIMBABWE.

**CUTHRELL, DAVID:** Dept. of Entomology, North Dakota State University, Box 5346, Fargo, ND 58105.

**De ROSA, DAVE E.:** New ZIP Code only: 91976-0365.

**FLEMING, CHARLES G. (Dr.):** Educational Computing Services, Box 66, Allegheny College, Meadville, PA 16335.

**FUKUOHJI, REN** (note revised spelling of last name): Shigai 6 ku, Tohma cho, Kamikawa Gun, Hokkaido (078-13), JAPAN.

**GERRITS, G.J.M.:** 3 Nunker Court, Forest Glen, Buderim, Queensland 4556, AUSTRALIA.

**GUPPY, CRIS:** 410-235 Michigan Street, Victoria, British Columbia V8V 1R4, CANADA.

**HARMER, CRAIG S.:** Garden's Alive, 5100 Schenley Place, Lawrenceburg, IN 47025.

**HESTERBERG, RICHARD L.:** 13225 101st Street SE, #303, Largo, FL 34643.

**HOLBACH, GEORGE F.:** N1549 Lynn Road, Adell, WI 53001-9801.

**HONG, SEI SUN:** Non-metallic Minerals Research Group, Korea Institute of Geology, Mining and Minerals, 30 Kajungdong, Yusongku, Daejon, KOREA.

**KALINOWSKI, WIESLAW L.:** 12841 St. Louis, Detroit, MI 48212-2541.

**MILLER, MONICA:** 5680 Clark Avenue, Bethel Park, PA 15102.

**MOODY, ERIC J.:** 5309 Long Sky Court, Columbia, MD 21045.

**PHILLIPSON, DONALD E.:** 13955 West 30th Avenue, Golden, CO 80401-1503.

**RAMEY, RALPH E.:** 5275 Parkmoor Drive, Westerville, OH 43081-8839.

**ROSS, DANA N.:** 709 NW 18th Street, Corvallis, OR 97330.

**SCHWAMBERGER, NEWELL:** 7053 Nebraska Avenue, Toledo, OH 43615-4132.

**SPERLING, FELIX:** Dept. of Biology, University of Ottawa, Ottawa, Ontario K1N 6N5, CANADA.

**TEMPLE, STANLEY (Dr.):** 214 East Court, Beacon Hill, Wilmington, DE 19810.

**WAITE, PETER:** Lamplight House, 47 Highstreet, Milton, Abingdon, Oxon. OX14 3EJ, ENGLAND.

provisions of Article III, Section 9, of the Constitution.

**WANTED:** To buy slides of tropical or local butterflies. Dan Lindsley, 2611 Inyaha Ln., La Jolla, CA 92037 USA.

**EXCHANGE:** I want to exchange eastern US butterflies for western species. I also have a few ex pupa pairs of Speyeria diana and Eumaeus atala for trade. Send offers to Tom Allen, P.O. Box 132, Elkins, WV 26241.

**FOR SALE or EXCHANGE:** Ova and pupae of Allancastris cerisyi, Zerynthia rumina, Euphydryas aurinia, Deiliphila elpenor, Agalia tau, Endromis versicolora, Trabalia vishnu, and butterflies from Europe, Africa, Malaysia, Indonesia. **WANTED:** Other livestock and butterflies from North America. Contact: Robert Keiser, Adh Borinstraat 36, B-2070 ZWIJNDRECHT, BELGIUM.

**WANTED:** Lepidoptera from the arctic, especially from the far north such as the Yukon. John Holoyda, 5407 N. Oketo Ave., Chicago, IL 60656 USA.

**FOR SALE or EXCHANGE:** Pupae/cocoons of the following: T. jacobaeae, Saturnia pavonia, Per. elpenor, Sphinx ligustri, Laothoe populi, Hyles euphorbiae, Hyles gallii, Agrias convolvuli, Acherontia styx, Marumba quercus, Zerynthia polyxena, Allancastris cerisyi, Papilio machaon. During the spring, ova of Sphingidae and Saturniidae are available. Request a list from: J.P. Kazenbroot, Beethovengaarde 77, 5344 CD Oss, NETHERLANDS. Telephone 4120-31235.

**FOR EXCHANGE:** Papered specimens of various Arizona Saturniids and a limited number of the following pupae: Sphingicampa raspa (albolineata), Sphingicampa montana, Citheronia splendens sinaloensis, and Agapema homogena. Wanted in Exchange: Papered Hemileuca from the western U.S. and Canada, or Citheronia sepulcralis and Anisota manitobensis. Paul Tuskes, 3808 Sioux Ave., San Diego, CA 92117. (619) 274-5829 evenings.

**FOR SALE:** light traps for use with 12-volt batteries or 120-volt AC, or both. Portable and light weight with 8, 15, or 22 watt bulbs. Beetle screen and flow-through rain drain. Excellent design and construction. For more information and pricing contact: Leroy C. Koehn, 2946 N.W. 91st Ave., Coral Springs, FL 33065 USA. (305) 344-3873.

**FOR SALE:** Collection of 650 worldwide butterflies (mainly South American), mostly Papilio. They are pinned, with data, in 15 drawers with chest. Included are 80 beetles and 30 moths. Collecting and mounting was carefully done by Carl Scherer in the 1930s. For specimen list: SASE to Erle Anderson, 1114 Ridgeway Dr., Alexandria, MN 56308 USA. Or call (612) 763-5469.

**FOR SALE:** Complete Set of Color Plates for Seitz Series carefully photocopied in color. Best offer. Contact: Richard Romeyn, W5306 Emerald Court, LaCrosse, WI 54601 USA.

**FOR SALE:** Antheraea polyphemus pupae. Contact: Chris Young, P.O. Box 603, Angola, IN 46703-0603 USA.

**FOR EXCHANGE:** Wisconsin Lepidoptera including Rhopalocera, Sphingidae, Arctiidae and Catocala. George Holbach, N1549 Lynn Rd, Adell, WI 53001 USA.

**FOR SALE:** Ova of A. polyphemus, A. io, C. promethea, C.

## 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 member's 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 offerata/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 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.

The society, as always, expects all notices to be offered in good faith and takes no responsibility for the integrity of any advertiser. Any disputes arising from such notices must be resolved by the parties involved outside of 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



regalis, E. imperialis, H. cecropia, H. Gloveri, H. euryalis, S. cynthia, and S. pyri. Send SASE for price list to Mark Schmidt, 8780 Red Lion-Five Points Rd, Springboro, OH 45066.

FOR SALE or EXCHANGE: Catocala ova: C. cerogama, cara, amatrix, vidua, neogama, habilis, angusi, obscura, flebilis, and C. coccinata. Available thru mid-April. SASE to Darryl Willis, 145 Westfield Drive, Holliston, MA 01746

FOR SALE: Pupae of Danaus plexippus, Papilio cresphontes, P. glaucus, Polygona interrogationis. Send SASE for price list. I also want ova or pupae of any Heliconiidae. Dale Clark, 11518 Desdemona Drive, Dallas, TX 75228 USA.

WANTED TO BUY: Living pupae of Attacus atlas any Argema. Also FOR SALE: Extensive collection of rare and large exotic Coleoptera. Specimens mainly Cetonid and Dynastid. Will sacrifice, must sell. Send SASE with want list to Ken Deitcher, Box 5162, Albany, NY 12205-0162 USA.

WANTED: McGuffin, W.C. *Larvae of the Nearctic Larentiinae*. Memoirs of the Entomologic Society of Canada, Vol. 8, 1958. Also WANTED: live ova of Eacles imperialis or Citheronia regalis. J.F. Burris, 4803 Davenport MW, Washington DC 20016 USA.

WANTED: Price lists from dealers and breeders (worldwide). Especially lepidoptera of the tropical & neotropical regions. Papered specimens, live ova and pupae. Contact: J.C. Pedersen, Box 1 Group 5 RR1, East Selkirk, Manitoba, R0E 0M0, CANADA.

FOR SALE: Lots of the following large pupae or top quality ex pupae imagos: Iphiclydes podalirius val., Papilio machaon from the Alps, Zerynthia polyxena latev., and Parnassius sp. Also FOR EXCHANGE: any rare European Papilionidae (top ex-pupa quality). Wanted in exchange: better ex-pupa rare Parnassidae from China & Russia or exotic tropical butterflies from the Indo-Australian region (all in pairs and perfect). Contact Uberto Nardelli, Via Cosma e Damiano 9/2, 1-38100-Vela-TRENTO, ITALY

FOR SALE: Butterflies of the South and East. Livestock of many Papilio, Nymphalidae and Pieridae available in season. Send SASE to Mecky Furr, 7925 Cross Pike, Germantown, TN 38138,

FOR SALE: Pupae and ova of A. polyphemus, A. luna, H. cecropia. Pupae available until mid-May, ova available mid-June. Send a SASE to Russell Humphrey, 224 South Huron St, Cheboygan, Michigan 49721.

WANTED: Living specimens of large Scolopendra species of centipedes from around the world and SE and SW USA. Also Texas Desert Scorpion, Centruroides hentzi plus other US scorpions. ALSO FOR SALE: Seeds of Nerium oleander --pink variety. Raised in my greenhouse. ALSO FOR SALE: Small number of Manduca sexta pupae, and deadstock pupae of M. sexta and Agrias convolvuli. Send SASE to Randy Robinette, 4528 Hatfield St, Ashland, KY 41102, USA.

FOR SALE: Insect display cases and drawers including Cornell drawers in easily assembled kits. High quality and quick assembly method. For details, send SASE to Amos Showalter, Route 4, Box 115, Waynesboro, VA 22980.

## MEMBER'S COMMERCIAL NOTICES

THE INSECT COMPANY. P.O. BOX 618. COOKTOWN. AUSTRALIA 4871. I thank all members who corresponded with me over recent months. I extend my warm wishes to everyone in 1992. As always I shall endeavour to meet your needs. We supply first quality specimens Worldwide. Latest catalogue contains many hundreds of new Lepidoptera and Coleoptera from the Australian region, Russia, Indo. Pacific, PNG, Europe, Africa and the Americas. Contains Papilionidae, Pieridae, Nymphalidae, etc. Saturniidae, Sphingidae, etc. Lucanidae, Cerambycidae, etc. Updated quarterly. Please send \$1US to help with postage. I am interested in new suppliers, small or large from around the world.

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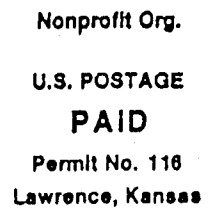
CANADIAN ORGANIZATION FOR TROPICAL EDUCATION AND RAINFOREST CONSERVATION, Box 335, Pickering, Ontario L1V 2R6 CANADA. Phone (416) 683-2116 or FAX (416) 427-1828. A UNIQUE ADVENTURE IN COSTA RICA. Stay at Cano Palma Biological Station in the northeastern Atlantic Lowland Rainforest and experience this pristine area for yourself. A Lepidopterist's paradise. For information, write, phone or FAX.

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Address Correction Requested



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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**. 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).

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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, Fay H. Karpuleon, 1521 Blanchard, Mishawaka, Indiana 46544, USA, phone (219) 258-4893, 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, Dr. William D. Winter, Jr., 257 Common Street, Dedham, Massachusetts 023026-4020, USA. Home phone (617) 326-2634.

**Requests for Missed Issues** (i.e. those not delivered although dues have been paid on time) should be sent to the TREASURER, Fay H. Karpuleon, address above, or the PUBLICATIONS COORDINATOR, 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.

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**AVAILABLE PUBLICATIONS OF THE SOCIETY....** Order from the PUBLICATIONS COORDINATOR, 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.

**1990 MEMBERSHIP DIRECTORY** (current to October 1990). Biennial directory of members and their addresses, with geographic and interest indices. Not available for commercial use. (NEWS #6 for 1990). \$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 COORDINATOR.

