

NEWS

of the LEPIDOPTERISTS' SOCIETY

No. 2 Mar./April 1985

EDITOR

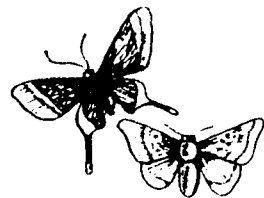
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SEASON SUMMARY GOALS (as set forth in the June 10, 1984 report of the Season Summary Committee)

The goals of the Season Summary Committee, appointed by the Executive Council in Columbus, Ohio, in July 1983, were to examine and restate the purposes of the Season Summary, to establish uniformity in the reporting from the various zones, and to assure the usefulness of the data recorded, with effort toward economies of space and costs withall.

The goals of the Season Summary should be

- To publish annually in the NEWS, in a uniform format, and segregated by reasonably defined geographical zones, reports of:
 - occurrences new for an area: range extensions (geographic and altitudinal), flight season variations, county and state records;
 - scarce or choice species;
 - unusual population variations;
 - new biological data: food-plants, predator/parasite observations, behavioral notes, etc., in very condensed form;
 - migratory species;
- To select material on the basis of the value for permanent record, rather than mere passing interest;
- To encourage widespread member participation.

ZONE REPORTS

ZONE 1 THE FAR NORTH: ALASKA, YUKON and NORTHWEST TERRITORIES. Coordinator: Kenelm W. Philip. Contributors: C.D. Ferris, P. Milligen, J. & L. Troubridge, D. Winter, and collectors for the Alaska Lepidoptera Survey. Previously unreported localities or species are emphasized; collecting was by ALS volunteers unless noted. Note regarding Alaska Lepidoptera Survey: K. Phillip and C. Parker spent 16 June through 8 July collecting along the lower Dempster Highway, Yukon Territory. A vehicle breakdown forced cancellation of plans to visit the Richardson Mountains, and collecting was concentrated at Windy Pass and North Fork Pass, Ogilvie Mountains (plus some unplanned collecting in the Blackstone River valley where the breakdown occurred). The weather was not particularly good (except for the period spent trapped near the Blackstone River bridge)--but by all accounts it was much better in June and the first week of July than for most of the rest of the summer! Twelve ALS volunteers were active in Alaska, yielding 405 specimens.

NORTHWEST TERRITORIES. Weather: At Coppermine the season was about two weeks ahead of normal, and about four weeks ahead of 1983, weather was sunny 9-12 and 19-26 July. At Holman the season was about a week and a half ahead of Coppermine, but there was only one sunny day from 12-19 July (high 45-50F., lows about 25F.).

BUTTERFLIES: Holman (Victoria Island), 12-19 July, Troubridges report; Colias hecla, C. thula, C. nastes, Lycaena phlaeas, Agriades franklinii, Oeneis bore, O. melissa. Holman Island (south of Holman, Victoria Island), late July, Milligen reports; Colias hecla, C. thula, C. palaeno, Lycaena phlaeas?, Boloria napaea, Clossiana improba, C. chariclea (abundant). Coppermine, 9-12 & 19-26 July, Troubridges report; Papilio machaon, Pontia occidentalis, Colias hecla, C. boothii, C. palaeno, C. nastes, Lycaena phlaeas, Lycaeides argyrognomon, Vacciniina optilete, Agriades franklinii, Boloria napaea, Clossiana frigga, C. polaris, C. chariclea, Coenonympha kodiak, Oeneis bore, O. polixenes, Erebia rossii, E. disa, E. fasciata. Yellowknife (Prelude Lake-Cameron River), no date, Milligen reports; undeter. copper, Celastrina ladon, Polygonia faunus, Nymphalis antiopa, Clossiana chariclea (abundant), Erebia discoidalis (abundant).

YUKON TERRITORY. Weather: The season in the Ogilvie Mountains was well advanced by 22 June. The weather in late June and early July was 'normal' (which included daily 10AM-4PM thunderstorms much of the time). At the end of the first



1984 Season Summary



week in July the weather broke, and the rest of July was (Ferris) "generally miserable--low clouds, fog, cold, windy and rain!" New collecting site: Windy Pass, kilometer 155 Dempster Highway. This site has been collected before by a number of people, but it has not been described, and no general species list has been given to date. Windy Pass is an area of limestone and shale scree hills rising out of tundra, lying in the northern Ogilvie Mountains. Elevations range from about 3500 feet at the crest of the pass to nearly 6000 feet a few miles south of the pass. There is some vegetation on the hills, but in many areas the transition from lush tundra to barren scree is very abrupt--and the general impression of the region is of an almost lunar landscape. Warning to motorists--the road is surfaced with shale fragments in this part of the highway, and many drivers have complained of an inordinate number of flats. There is a good turn-off in a defunct gravel pit at the crest of the pass.

BUTTERFLIES: Benson Creek (mile 18 Dempster Highway), 10-11 July, Ferris reports; Pterourus glaucus, Pontia occidentalis, Artogeia napi, Colias philodice, C. palaeno, Glaucopsyche lygdamus, Lycaeides argyrognomon, Plebejus saepiolus, Vacciniina optilete, Phyciodes pratensis. North Fork Pass (kilometer 82.5 Dempster Highway), 4350--5200 feet, 16-17 June & 5,7-8 July, Philip and Parker report; Parnassius evermanni, Pontia occidentalis, Artogeia napi, Colias hecla, C. nastes, C. palaeno, Celastrina ladon, Agriades franklinii, Boloria napaea, Proclossiana eunomia, Clossiana freija, C. chariclea, Oeneis bore, O. polixenes, Erebia lafontainei, E. theano. Blackstone River valley (kilometer 114.5-117.5 Dempster Highway, near Blackstone River bridge), 3400 feet, 17-21 June, Philip and Parker report; Papilio machaon, Artogeia napi, Colias palaeno, Euchloe creusa, Everes amyntula, Celastrina ladon, Glaucopsyche lygdamus, Clossiana frigga, C. freija, Oeneis bore (abundant), Erebia rossii (abundant), E. fasciata, E. lafontainei. Windy Pass (kilometer 155 Dempster Highway), 3150-5050 feet, 22 June-4 July (Philip & Parker) and 12-15 July (Ferris); Parnassius evermanni, Papilio machaon, Pontia occidentalis, Artogeia napi, Colias philodice, C. hecla, C. nastes, C. gigantea, C. palaeno, Euchloe creusa, Glaucopsyche lygdamus, Lycaeides argyrognomon, Vacciniina optilete, Agriades franklinii, Boloria napaea, Proclossiana eunomia, Clossiana improba, C. polaris, C. freija, C. distincta, C. chariclea, Coenonympha kodiak, Oeneis uhleri, O. bore, O. melissa, O. excubitor, O. polixenes, Erebia rossii, E. disa, E. fasciata, E. mackinleyensis, E. youngi, E. lafontainei, E. occulta, E. theano. Ogilvie River (kilometer 208 Dempster Highway), 2000 feet, 2-4 July, Parker reports; Papilio machaon, Pterourus glaucus, Artogeia napi, Colias philodice, Everes amyntula, Lycaeides argyrognomon, Phyciodes pratensis, Coenonympha kodiak, Oeneis bore, Erebia theano.

ALASKA. Weather: In the Interior, spring was a bit late. June was average, and early July was clear and very warm. The rest of July, and much of August, had a lot of rain (which is the usual pattern for the Interior).

BUTTERFLIES: NORTH SLOPE; 11 miles up Katakaturuk River, 16-17 June, additional species (see 1983 Annual Summary), Clossiana polaris. INTERIOR; Tetlin, 28 June-20 July, Erynnis persius, Pterourus glaucus, Artogeia napi, Colias philodice, C. palaeno, Everes amyntula, Celastrina ladon, Glaucopsyche lygdamus, Limnitis arthemis, Clossiana freija, C. titania, Erebia disa; Kuskokwim Mountains, 8-38 miles east and 14 miles south to 5 miles north of Iditarod, 16 June-12 July, Papilio machaon, Pontia occidentalis, Artogeia napi, Colias nastes, C. palaeno, Vacciniina optilete, Limnitis arthemis, Boloria napaea, Clossiana chariclea/titania, Oeneis polixenes, Erebia rossii. SOUTHEASTERN ALASKA; Mile 27 Haines Highway, 23 September, Nymphalis vau-album abundant.

MOTHS: NORTH SLOPE; Kongakut River 16 miles SSW Demarcation Bay, 28 June, Pararctia subnebulosa. In addition, Winter reports the following determinations from 1979: NORTH SLOPE; Ridge north of Galbraith Lake, 9 July, Lasiestra leucocycla albertensis, Xestia liquidaria (= Barrovia fasciata), X. lyngei [all det. by J.D.Lafontaine], Olethreutes schuiziana, O. prob. species nova in inquietana group [both det. by P.T.Dang]. BROOKS RANGE; Chandalar Shelf at Atigun Pass, 7 July, Syngrapha ignea [det. by J.D.Lafontaine]. INTERIOR; Eagle Summit, 2 July, Sympistis zetterstedti; Steese Highway, mile 77, 2 July, Syngrapha montana (alleged western limit Saskatchewan) [both det. by J.D.Lafontaine].



ZONE 2 PACIFIC NORTHWEST: IDAHO, OREGON, WASHINGTON, BRITISH COLUMBIA. Coordinator: J. H. Shepard (JHS). Contributors: R. L. Crawford (RC), C. R. Crowe (CRC), H. G. Davis (HD via JHS), D. L. Eiler (DLE), C. D. Ferris (CDF), C. S. Guppy (CSG), T. L. Hellyer (TH via JP), J. Hinchliff (JH), D. Knight (DK), S. R. Leffler (SL via JP), E. J. Major (EJM via JP), D. V. McCorkle (DM), R. McKown (RM via JP), S. McKown (SM via JP), J. P. Pearson (JPP), J. P. Pelham (JP), M. A. Peterson (MAP), T. M. Pike (TMP), R. M. Pyle (RP), J. Reichel (JR), T. Rogers (TR via JHS), D. Shorey (DS via JH), F. Sperling (FS), D. L. Threatful (DT via JHS), W. Wehling (WW), E. F. Wicker (EW via JHS), Dave Winter (DW). General Collecting Conditions: None of the contributors commented with their reports. However from general remarks by other correspondents apparently all of Idaho, Oregon, Washington and southern British Columbia were unusually wet and cool until late June when the weather turned warm and sunny until late in the summer. Many species were taken unusually late. Northern British Columbia had a poor summer. On the North Coast of BC many moth species were two months late and still out in November (JHS).

MIGRATORY SPECIES: None reported except some sightings of D. plexippus in eastern and western Washington. Washington and British Columbia collectors specifically commented on the lack of Vanessa species.

IDAHO. CDF collected mainly in Valley & Lemhi Counties and DLE mainly in Boise County all of which are relatively well known counties in Idaho. All Clark Co. are from Howard Cr. Rd., 6800', 25 July (CDF). All Valley Co. records not otherwise specified are from Payette N. F., just N of McCall, 5300', 23 July (CDF).

BUTTERFLIES: P. clodius ssp., CLARK Co.; P. beckeri, I-84 Rest Area just S of I-86 Jct., CASSIA Co., 10 Aug. (DLE); P. protodice, vic. Bannack Pass, 8300'-8700', LEMHI Co., 25 July (CDF); E. dorcus florus, CLARK Co.; E. nivalis ssp., VALLEY Co.; E. mariposa ssp., VALLEY Co.; E. claudia, Targhee N. F., Sawtell Mtn., 7800'-9800', FREMONT Co. and STATE RECORD, 26 July (CDF); S. egleis ssp., Sawtell Mtn., FREMONT Co., 26 July (CDF); S. atlantis ssp., and S. hydaspes sakuntala, CLARK Co.; P. mylitta, Warm Springs Lake to Deadwood Summit, 5600'-6700', VALLEY Co., 23-24 July (CDF); P. p. pratensis, VALLEY Co.; O. chalcedona ssp., VALLEY Co.; H. gillettii, CLARK Co. and VALLEY Co.; V. virginensis, VALLEY Co.

OREGON. Collecting by the four contributors was concentrated in the NE corner of the state. Three of these, C. Crowe, D. Eiler & D. Shorey, found a remarkable total of twenty-five County Records for Wheeler Co. This was previously the least known County in eastern Oregon and doubles the known species for the County. All D. Shorey records for Wheeler Co. are from the town of Spray, no date given, with one exception noted below. All D. Eiler records for Wheeler Co. are U.S. 20 at Mountain Cr., 11 mi. W of SR-19 Jct., 18 Aug., except as noted below.

BUTTERFLIES: E. persius ssp., Nestucca R., 1 mi. NW of Rocky Bend, TILLAMOOK Co., 16 April (CRC), Pearson Cr., F. S. Rd. 54, UMATILLA Co., 16 July (CRC), Stahl Cr., F. S. Rd. 21, WHEELER Co., 10 July (CRC); P. communis, Kinzu Rd., 13½ mi. E of Fossil, WHEELER Co., 9 July (CRC); A. vialis, Bear Cr., 1 mi. NW of Galena, Co. Rd. 20, GRANT Co., 12 July (CRC); P. zelicaon, Stahl Cr., WHEELER Co., 10 July (CRC); P. rutulus, Jct. Co. Rd. 36, 2 mi. SE of Galena, GRANT Co.,

12 JULY (CRC), WHEELER Co. (DS); P. eurymedon, WHEELER Co. (DS); N. menapia, US 26, N ascent of Ochoco Summit, just outside Ochoco N.F., WHEELER Co., 18 Aug. (DLE); A. napi marginalis, WHEELER Co., 18 Aug. (DLE); A. rapae, US 26 nr. John Day R., 6 mi. E of Dayville, GRANT Co., 18 Aug. (DLE); A. rapae, US 26 nr. John Day R., 6 mi. E of Dayville, GRANT Co., 18 Aug. (DLE), WHEELER Co., 18 Aug. (DLE), WHEELER Co. (DS); E. ausonides, Jct. F. S. Rd. 21 & Wineland Cr., WHEELER Co., 9 July (CRC); A. sara stella, WHEELER Co. (DS); C. eurytheme, WHEELER Co. (DS); L. cupreus, WHEELER Co. (DS); E. helloides, 3 mi. E of Fossil, WHEELER Co., 9 July (CRC); I. augustus iroides, Pittsburg, 3 mi. NNE of Veronia, COLUMBIA Co., 30 April (CRC); I. eryphon, WHEELER Co. (DS); S. melinus setonia, WHEELER Co., 18 Aug. (DLE); P. saepiolus, Kinzua Rd., 16½ mi. E of Fossil, WHEELER Co., 9 July (CRC); S. cybele leto, WHEELER Co., 18 Aug. (DLE), 3 mi. W of Service Cr., WHEELER Co. (DS); P. tharos pascoensis, Bear Cr., 1 mi. NW of Galena, Co. Rd. 20, GRANT Co., 12 July (CRC), Grande Ronde R. at Slick Cr. nr. Troy, WALLOWA Co., 18 July (JH); P. pratensis (campestris), Shelton St. Pk., Hwy. 19, WHEELER Co., 8 July (CRC); E. editha edithana, Frog Heaven Meadow & Four Corners, off Hwy. 244, UMATILLA Co., 19 July (JH); P. satyrus, WHEELER Co. (DS); N. antiopa, Kinzua Rd., 13½ mi. E of Fossil, WHEELER Co., 9 July (CRC); A. milberti, Jct., F. S. Rd. 21 & Wineland Cr., WHEELER Co., 9 July (CRC); V. virginiensis, WHEELER Co. (DS); V. annabella, WHEELER Co. (DS); V. atalanta, WHEELER Co. (DS); C. sthenele paulus, WHEELER Co., 18 Aug. (DLE); C. oetus oetus, WHEELER Co., 18 Aug. (DLE); D. plexippus, Hwy. 207, John Day R. nr. Service Creek, WHEELER Co., 8 July (CRC), WHEELER Co., 18 Aug. (DLE).

WASHINGTON. The outstanding find of the year was a new State Record for O. yuma (see below). In addition to this year's collecting, many county records from older collections are recorded by County, year and collector. These were not available at the time of the publication of the recent Washington State Checklist.

BUTTERFLIES: E. clarus, COWLITZ Co., 1962 (CRC), SPOKANE Co., 1961 (TR), STEVENS Co., 1979 (RM); E. persuius, SPOKANE Co., 1963 (TR); P. ruralis, FERRY Co., 1977 (SM), Deep River Mainline, PACIFIC Co., 27 April (RP); P. communis, East Wenatchee, DOUGLAS Co., 14 Sept. (RP); P. catullus, STEVENS Co., 1976 (SM); H. nevada, KITTITAS Co., 1955 (DM), Simcoe Butte, KLICKITAT Co., 1 July (JPP, MAP); P. sabuleti, Wenatchee, CHELAN Co., 9 June (TH), East Wenatchee, DOUGLAS Co., 7 Oct. (RP), SPOKANE Co., 1962 (TR); P. mardon, Conboy Lake N. W. R., Willard Spring Tr., KLICKITAT Co., 19 June (RP); P. mystic, SPOKANE Co., 1964 (TR); O. yuma, Dry Falls Lake, E shore, Grand Coulee, GRANT Co. & STATE RECORD, 22 July (JP, JPP), 28 July (MAP), Perch L., N. shore, Grand Coulee, 22 July (JP, JPP), Deep Lake, W shore, Grand Coulee, 29 July (JPP, MAP), Mirror Lake, 100', W shore, Grand Coulee, 22 July (JP, JPP), 28 July (JP, EJM, JHS, SMS), 29 July (JPP, MAP), Trail from Interpretive Center to Dry Falls Lake, 28 July (JP) was the only specimen taken more than 20 feet from larval foodplant, several ovipositions on Phragmites communis L. (JP), one larva in rolled leaf (JP), first instar larvae diapausing (JP); E. ruricola, KLICKITAT Co., 1958 (DM), THURSTON Co., 1979 (SL); A. vialis, SPOKANE Co., 1968 (TR); P. oregonius, South Prairie, SKAMANIA Co., WEST, 1 Sept. (MAP), SPOKANE Co., 1968 (TR); P. zelicaon, SPOKANE Co., 1963 (TR); P. indra indra, Palouse Falls St. Pk., FRANKLIN Co., April-May & 1 Aug., 1983 (WW); N. menapia, St. Hwy. 20, E of Colville, STEVENS Co., 8 Aug. (MAP); A. napi, SPOKANE Co., 1963 (TR); E. ausonides, SPOKANE Co., 1963 (TR); A. sara stella, SPOKANE Co., 1962 (TR); C. philodice, FERRY Co., 1966 (JHS), Nisqually Delta N.W.R., Dike Tr., T18N R1E sec.6, THURSTON Co., 16 Sept. (RP); C. eurytheme, Lava Cr., SKAMANIA Co., 16 Sept. (MAP), Nisqually Delta N.W.R., THURSTON Co., 16 Sept. (RP); S. behrii columbia, GRANT Co., 1979 (SM); S. californica, Mirror Lake, Grand Coulee, GRANT Co., 29 July (JPP); S. saepium okanogana, South Prairie, SKAMANIA Co., 16 Sept. (MAP); M. spinetorum, STEVENS Co., EX. pupa Feb. 5 (EW); I. augustus iroides, GRANT Co., 1983 (SM); I. polios, OKANOGAN Co., 1980 (SM); E. comyntas, SPOKANE Co., 1961 (TR), STEVENS Co., 1979 (RM) both are new STATE RECORDS determined by genitalia; C. argiolus, FERRY Co., 1977 (RM); E. battoides glaucon, GRANT Co., 1979 (SM), PEND OREILLE Co., 1976 (JHS); G. lygdamus columbia, Palouse Falls St. Pk., FRANKLIN Co., 28 May (WW); P. icarioides pembina, Palouse Falls St. Pk., FRANKLIN Co., 28 May (WW); P. saepiolus, SPOKANE Co., 1964 (TR); A. mormo mormo, GRANT Co., 1979 (SM), 6 mi. S of Wawawai County Pk., WHITMAN Co., 25 Aug. (WW); S. cybele leto, GRANT Co., 1978 (SM); S. zereue picta/garretti, GRANT Co., 1978 (SM); S. callippe semivirida, GRANT Co., 1976 (RM), SPOKANE Co., 1965 (TR); S. erleis nr. macdunnoughi, Elbow Lake, T34N R35E sec. 1/12, FERRY Co., 13-14 Aug., 1983 (SM), NORTHERN record; S. mormonia washingtonia, Pine Cr., Mt. St. Helens, SKAMANIA Co., 19 Aug. (MAP); S. m. erinna, Tiger Mdws., PEND OREILLE Co., 6 Aug. (JPP, MAP); C. selene, SPOKANE Co., 1963 (JHS); C. palla, SPOKANE Co., 1940 (TR); P. tharos pascoensis, BENTON Co., 1960 (JHS), SPOKANE Co., 1961 (TR); P. pallida barnesi, FERRY Co., 1980 (SM), GRANT Co., 1976 (RM); P. zephyrus, Abercrombie Mtn. Tr., 7080'-7120', STEVENS Co., 5 Aug. (MAP); N. yau-album watsoni, FERRY Co., 1977 (SM), SPOKANE Co., 1962 (TR); N. californica, GRANT Co., 1972 (SL), LEWIS Co., 1960 (JHS); V. annabella, SPOKANE Co., 1958 (TR); V. atalanta, FRANKLIN Co., 1960 (JHS); SPOKANE Co., 1965 (TR); L. archippus lahontani, Hwy. 26, 10 mi. E of Washtucna, ADAMS Co., 9 Aug. 1983 (WW); L. lorquini burrisonii, GRANT Co., 1983 (SM), ISLAND Co., 1898 (WSU via JHS); C. oetus oetus, GRANT Co., 1955 (HD); O. chryxus chryxus, N end of Crowell Ridge, 6680'-6853', PEND OREILLE Co., 8 Aug. (MAP).

BRITISH COLUMBIA. CDF, TMP, JHS, FS and others from the National Meetings who did not report to the SS collected various of the following now classic areas in northern B.C.: Atlin region, Liard Hot Springs, Summit Lake and Pink Mt., getting many of the expected species despite the late season. A few exceptional catches are noted below. Also TMP, JHS & DW collected the Peace River Valley in B.C. yielding three subspecies Provincial records. The Provincial species record of the year is E. magdalena by D. Threatful.

BUTTERFLIES: T. pylades, 7 km. N of Grasmere, SOUTHEAST, 2 July (JHS); H. comma ssp., Torrens R. at BC-Alta. border, 9 July (FS); A. napi, Torrens R. at BC-Alta. border, 9 July (FS); A. rapae, 30 km. SW of Pink Mt. (town), DISTRICT, 20 Aug. (FS), 50 km. W of Chetwynd, 20 Aug. (FS); E. creusa, Torrens R. at BC-Alta. border, 9 July (FS); C. alexandra, 7 km. N of Grasmere, SOUTHEAST, 2 July (JHS); C. meadii, Torrens R. at BC-Alta. border, 9 July (FS); L. phlaeas, Summit Lake, NORTHEAST, 31 July (TMP); E. dorcus, 26 km. E of Liard Hot Springs, DISTRICT, 12 July (TMP); G. lygdamus, Torrens R. at BC-Alta. border, 9 July (FS); L. argyrognomon, 26 km. E of Liard Hot Springs, DISTRICT, 12 July (TMP); P. saepiolus, Torrens R. at BC-Alta. border, 9 July (FS); S. cybele pseudocarpenleri, Peace R., N side of Clayhurst Ferry, PROVINCIAL, 14 July (JHS), Beaton R., 4 Aug. (TMP); S. zereue ssp., 7 km. N of Grasmere, SOUTHEAST, 2 July (JHS); C. palla ssp.?, Peace R., N side of Clayhurst Ferry, PROVINCIAL, 4 July (DW), 14 July (JHS); P. tharos, 7 km. N of Grasmere, SOUTHEAST, 2 July (JHS); P. pratensis, ssp., 7 km. N of Grasmere, SOUTHEAST, 2 July (JHS); O. anicia ssp., 7 km. N of Grasmere, SOUTHEAST, 2 July (JHS); L. lorquini, 7 km. N of Grasmere, SOUTHEAST, 2 July (JHS); C. pegala ino, Peace R., N side of Clayhurst Ferry, PROVINCIAL, 14 July (JHS), Beaton R., 4 Aug. (TMP); C. oetus, 7 km. N of Grasmere, SOUTHEAST, 2 July (JHS); E. magdalena, Dore River nr. McBride, 6500', PROVINCIAL, 15 Aug. (DT).

ZONE 3 SOUTHWEST: ARIZONA, NEVADA, CALIFORNIA. Coordinator: R. L. Langston (RLL). Contributors: G. T. Austin (GTA), W. W. Beebe (WWB), J. P. Brock (JPB), G. P. Bruyca (GPB), R. Coyle (RC), L. Crabtree (LC), K. Davenport (KD), T. E. Dimock (TED), P. J. Dymphose (PJD), D. L. Eiler (DLE), J. F. Emmel (JFE), C. D. Ferris (CDF), A. W. Fish (AWF), C. Hageman (CH), G. J. Harjes (GJH), J. M. Johnson (JMJ), C. S. Lawson (CSL), R. H. Leuschner (RHL), S. O. Mattoon (SOM),

R. P. Meyer (RPM), P. A. Opler (PAO), D. Parkinson (DP), R. Robertson (RR), P. J. Savage (PJS), A. M. Shapiro (AMS), O. Shields (OS), M. J. Smith (MJS), J. A. Steen (JAS), W. L. Swisher (WLS) and R. E. Wells (REW). Although there were several northerly strays, no unusual or spectacular migrations were reported for 1984. Therefore, the "Migratory Species" category is omitted for AZ, NV and CA. Any of these species, if significant, are included in the following sequence of Miller & Brown, 1981. County names in caps designate county records.

ARIZONA. So dry that butterflies were almost non-existent (RHL) [Cochise Co. in early May]. Season very much advanced by June (CDF) [Higher elevations of Apache Co.]. An extended dry winter and spring reduced numbers AND species found, with only 2 EARLY records. However, abundant summer rains improved the season, with LATE records extending through Sept. to mid-Oct. 1984.

BUTTERFLIES: *C. catillus albofasciatus* common, Sycamore Cyn., Santa Cruz Co., 5-7 Sept. (WWB). *C. asychis georgina*, Sabino Cyn., hilltop, Pima Co., 10 March, EARLY (GPB). *E. persius fredericki*, Oak Creek Cyn., 5000', COCONINO Co., 2 May (RHL). *P. scriptura*, 6 mi. E of Union Pass, MOHAVE Co., 17 Sept. (OS,REW). *H. laviana*, Rock Corral near Tumacacori, SANTA CRUZ Co., 14 Oct., LATE (JPB). Several *P. xanthus* plus *P. draco* by the 100s at seeps, Terry Flat Rd., Escudilla Mtn., 9400'-9600', Apache Co., 9-10 June (CDF). *P. bairdii*, 1 mi. S of Pine Flat, 4 July & Encinoso Picnic area, 5 July, both new for Oak Creek Cyn., Coconino Co. (KD). Summer form of *Eurema proterpia*, Sycamore Cyn., 13-15 Aug.--multiple ovipositions on many plants of the erect legume *Chamaecrista leptadenia*; Winter form "gundlachia" emerging 5-7 Sept. from pupae on various dessicated herbs (WWB). *E. dina westwoodi*, Sunnyside Cyn., Huachuca Mtns., COCHISE Co., 25 May, EARLY (WWB). *Arawacus jada*, Sycamore Cyn. near Ruby, SANTA CRUZ Co., 5 Aug. (JPB) & 13 Aug. (WWB). A single *L. bachmanii larvata*, 6 mi. E of Union Pass, Mohave Co., 17 Sept. (OS,REW). *E. hegesia hoffmanni*, Sycamore Cyn., SANTA CRUZ Co., 7 Sept., LATE (WWB). *H. charitonius vasquezae*, Box Cyn., Santa Rita Mtns., Pima Co., 20 Aug. (GPB). *J. nigrosuffusa* common, 7 mi. W of Eager, APACHE Co., NORTH, 8 July (JPB)--tremendous flight northward in 1984 with records from others--Very common San Rafael Valley, Sta. Cruz Co., 1 Aug. (GPB). *B. astyanax arizonensis*, Hualapai Mtn. Park, MOHAVE Co., WEST, 17 Sept. (OS,REW)--confirms previous sight record. 4th state record for *M. amymone*, Sycamore Cyn., 6 Sept. (WWB)--same cyn. as 1983. *O. alberta daura* already in rags by 9-10 June, Terry Flat Rd., Escudilla Mtn., 9400'-9600' (CDF).

MOTHS: SPHINGIDAE- *Erinnyis crameri*, Ariz. State Univ. campus, Tempe, Maricopa Co., 13 Nov. (GPB). SATURNIIDAE- A single ♀ *Adeloneivaia isara* (Ceratocampinae), Guadalupe Cyn., Peloncillo Mtns., COCHISE Co., 3 July (John Palting via MJS)--New STATE & U.S. record [Identified from specimens by MJS from Sonora, Mex., det. by Claude Lemaire, France]. CTENUCHIDAE- *Lycomorpha* prob. *grotei* extremely common, South Fork Cyn. vic. Portal, Cochise Co., 13-14 June (CDF). ARCTIIDAE- *Phragmatobia fervida* ex larvae off clover (*Melilotus* sp.) 15 Aug. 82, Garden Cyn., Huachuca Mtns., COCHISE Co. (MJS); Reared to adults by MJS & N. MacFarland (NM), emgd. in late 82 & early 83; More larvae found by NM, same loc., in mid-summer 83--New STATE & U.S. record [Det. by Doug Ferguson, USNM]. NOCTUIDAE- *Lacinipolia lepidula* & *Homorthodes reliqua*, Mingus Mtn., Yavapai Co., 26 June (RR); *Xestia bolteri*, 30 mi. N of Williams, Coconino Co., 24 June (RR); *Morrisonia diplogramma* & *Fotela fragosa*, Ash Cyn., Huachuca Mtns., Cochise Co., 4-5 May (RHL); *Schinia gaurae*, Oak Creek Cyn., Coconino Co., 27 June (RR); *Zale phaecopna*, Oak Creek Cyn., 5000', 2-3 May (RHL). LASIOCAMPIDAE- *Gloveria howardi*, Copper Cyn., Huachuca Mtns., Cochise Co., 31 July and Peña Blanca, Santa Cruz Co., 1 Aug. (GPB). GEOMETRIDAE- *Nemoria latirosaria*, 3 species of *Hydriomena* (one undescribed), *Perizoma* new species and *Prochoerodes accentuata*, Oak Creek Cyn., 2-3 May (RHL); *Eupithecia edna*, *E. classicata* and *Antepione comstocki*, Ash Cyn., 4-5 May (RHL).

NEVADA. Winter relatively dry and spring came early with a number of EARLY records. Late spring and early summer very dry, which greatly affected the summer broods of many species. From late June through August, moist tropical air over most of NV, with rainfall far above normal--record wet summer for Las Vegas with 5 major floods! Several species had abnormal fall broods. Nonetheless, the vegetation, especially in southern NV did not recover well from the spring drought and remained dry. The first winter storm in mid-Oct. ended the season over most of the state (GTA).

BUTTERFLIES: *S. zampa*, Newberry Mtns., Clark Co., 7 March, EARLY--previous 15 April (GTA). *P. ruralis*, Hwy. 28, Carson Range, CARSON CITY [= the former ORMSBY Co.] (GTA). *P. catullus*, Eureka, EUREKA Co., 25 June (PAO). *P. eunus* near *wrightii*, Hwy. 722 at Reese R., LANDER Co., 3 June; Big Smoky Valley, NYE Co., 9 July (previous NYE Co. records were of *alinea*); I-80 at Truckee R., STOREY Co., 7 Sept. (GTA). *P. eunus alinea*, Ash Mtns., NYE Co., 12 Aug., EARLY--previous 12 Sept. (GTA). *H. uncus* near *macswaini*, several locations in Denio area, HUMBOLDT Co., 31 May (GTA,CH,GJH). *H. uncus* paler than *lasus* phenotypes (NEW subsp.), Railroad Valley, NYE Co., 10 July (GTA). *H. pahaska martini*, Anderson Cyn., Highland Range, Lincoln Co., 23 June, NORTH for NV (GTA). *P. sabuleti* ♂♂ mostly orange both surfaces (NEW subsp.), Alkali Valley W of Denio, HUMBOLDT Co., 25 Aug. (GTA). *O. yuma*, Preston, WHITE PINE Co., 10 July; E end Walker R. Cyn., LYON Co., 14 Aug.; Dunphy, EUREKA Co., 26 Aug. (all GTA). *B. p. philenor*, several records in Clark Co., 17 Aug.-17 Sept. (GTA,PJD,CSL,RR,OS,REW) plus Johnnie Mine area, Spring Mtns., NYE Co., 15 Sept. (GTA). Huge population explosion of *P. polyxenes coloro*, Clark Co., Aug.-Sept.; Adults far from normal habitat, even visiting yards in Las Vegas--Larvae numerous on *Thamnosma*, having stripped leaves & much of stem epidermis by late Sept. (GTA); Abundant 14 mi. W of Davis Dam, 16, 17 Sept. (OS,REW); Also *coloro* along Hwy. 266, 6.4 mi. W of US 95, ESMERALDA Co., 11 Sept. (GTA). *P. indra nevadensis*, Peavine Cyn., Toiyabe Mtns., NYE Co., 12 April, EARLY--previous 4 May (GTA,CSL)--flew in large numbers subsequently through much of the Toiyabes. *P. multicaudata*, Cabin Cyn., Virgin Mtns., Clark Co., 29 March, EARLY--previous 26 April (GTA,GJH,CSL). *E. hyantis lotta*, Silver Zone Pass, 5300' Elko Co., 13 June and with *E. ausonides*, Austin Summit, 7400', Lander Co., 25 June (PAO). *A. sara thooa*, 2 mi. S of Thomas Cyn., Sonoma Range, HUMBOLDT Co., 9 May (GTA)--previous Humboldt Co. *sara* were *browningi* from further north. *C. alexandra edwardsi*, Austin Summit, 25 June (PAO) and Spring Valley, Lincoln Co., 22 Sept., LATE (GTA). *P. sennae marcellina*, Newberry Mtns., 6 mi. E of US 95, Clark Co., 3 Sept. (GTA)--many adults ovipositing with larvae and pupae on *Cassia armata* (FIRST recorded BREEDING in NV); By 13 Sept. fresh adults and more widespread in Newberrys (GTA,PJD,CSL,PJS,OS,REW); Only 2 adults on 13 Oct., LATE and one seen N of Searchlight, 3 Nov., LATE (GTA); 0.8 mi. N of Panaca Jct. & 1.8 mi. S of Caliente, LINCOLN Co., NORTH for NV., 22 Sept. (GTA). *Eurema nicippe*, huge numbers during Sept. in Newberry Mtns. (with *marcellina*), also many larvae & pupae on *Cassia armata*; A few recorded from Newberrys NORTH to 24 mi. N of Beatty, NYE Co., 6 Sept. (GTA). *T. arota schellbachi*, Meadow Valley Wash, Grapevine Cyn., Lincoln Co.--furthest SOUTH for NV, 23 June (GTA). *H. grunus*, Kennedy Point, Lake Tahoe, Washoe Co., 10 Sept., LATE--previous 23 Aug. (GTA). *C. affinis*, Indian Cr., Schell Creek Range, White Pine Co., 10 May, very EARLY--previous 8 June (GTA). *S. columella istapa*, Ash Meadows, NYE Co., 17 June--STATE RECORD (GTA). *E. battoides* ssp., Peavine Cyn., Toiyabe Mtns., 12 April, EARLY (GTA,CSL)--previous 4 May for this phenotype. *G. piasus nevada*, Bob Scott Summit, 7300', and Austin Summit, 7400', both Lander Co., 25 June (PAO). *I. a. acmon*, Anderson Cyn., Highland Range, LINCOLN Co., 23 June (GTA)--previous records for Co. have been *texanus*. *Calephelis wrighti*, large numbers in Newberry Mtns., Aug.-Sept. with larvae on *Bebbia juncea* (GTA,CSL,PJS); Eldorado Cyn., Clark Co., NORTH, 13 Sept. (GTA,CSL)--first NV record out of Newberry Mtns. *L. bachmanii larvata*, Fallon, CHURCHILL Co., NORTH, 23 Aug. and US 95, 11.2 mi. N of Clark Co. line, NYE Co., 11 Sept. (GTA). *E. claudia*, Scossa Ranch, DOUGLAS Co., 26 July (John Noble via REW); 2 locs. in Lincoln Co.,

Sept. (GTA); 2 locs. in Clark Co., Aug. (GTA,RR), Oct. (PJD). T. leanira near alma, 3.2 mi. S of Goldfield Summit, Esmeralda Co., 6 Sept.; Johnnie Mine area, Nye Co., 15 Sept. (GTA); and in the Spring Mtns., Clark Co.--Lee Cyn., 14 Sept. (RC) plus Red Spring, 16 Sept., all LATE (GTA). [FALL BROOD, apparently first records anywhere for alma, although in AZ fulvia is regularly bivoltine.] Chlosyne californica, huge numbers in Sept., Newberry Mtns., with many larvae on Viguiera; Ranged northward to Pahrump, 30 Aug. & Johnnie Mine area, 15 Sept., both NYE Co.; Meadow Valley Wash & Pahrangat Valley, Lincoln Co., NORTH, 23 Sept. (all GTA). C. calif. X C. lacinia HYBRID, Sacatone Wash, Newberry Mtns., 3 Sept. (GTA). C. lacinia crocale, 5 mi. S of Elgin, LINCOLN Co., NORTH, 22 Sept. (GTA)--first NV record out of Clark Co. Numerous Melitaea neumogeni in lower Kyle Cyn., Clark Co., 17 Aug. (RR); 14 mi. W of Davis Dam, Clark Co., 16-17 Sept. (OS,REW); GTA noted fresh examples in Clark Co. from mid-Aug. till early Nov. (more than one fall brood?). Two E. chalcidona kingstonensis seen in Sept., LATE, Newberry Mtns., representing a fall brood (GTA). E. anicia morandi, Kyle Cyn. Cpgd., LOW elev., 27 June (GTA). E. editha monoensis, Desert Cr., Sweetwater Range, LYON Co., 8 May (GTA). P. satyrus, 2 mi. S of McDermott, HUMBOLDT Co., 22 July and I-80 at Truckee R., STOREY Co., 7 Sept. (GTA). C. pertipeda dorothea, Anderson Cyn., Highland Range, Lincoln Co., NORTH, 27 June (GTA).

MOTHS: Blacklighting for 63 night by GTA--numerous species taken, but many remain undetermined. Cited below by RLL are only those species with at least partial locality data. SPHINGIDAE- Manduca sexta, Clark Co. and Hemaris diffinis, Lyon Co. (GTA). Huge response of Hyles lineata to summer rains in Clark Co. with the large numbers of larvae crossing roads making front page of Las Vegas newspaper; Some 10 foodplants recorded and fair numbers of adults at blacklight (GTA). SATURNIIDAE- Hyalophora euryalis, Douglas Co., Aug. (GTA). Hemileuca neumogeni, Harris Springs Rd. 1 mi. S of Kyle Cyn. Rd., CLARK Co., 17 Sept. (REW); Four locations in CLARK Co. on 5 dates in Sept. (GTA). ARCTIIDAE- Arachnis picta, Kyle Cyn., 28 June, EARLY & 20 Aug. (RR); Eighteen additional arctiid species determined for NV (GTA has records). NOCTUIDAE- Schinia pallicincta, Kyle Cyn., 4000', 17 April & again 20 Aug. (RR); Among many, 40 noctuid species determined for NV (GTA has records). NOTODONTIDAE- 12 species. LYMANTRIIDAE- 3 species. LASIOCAMPIDAE- 5 species (GTA has records).

CALIFORNIA. Extreme drought in San Joaquin Valley and the deserts, with no rain from late Dec. 83 to mid-April 84 (KD). Record rainfall in July and Aug. in the southern mountains and deserts resulting in unusual late season records (KD). In southern CA the first six months was one of the poorest spring and early summer seasons ever (JFE). Virtually no rain from mid-Dec..83 to late June 84, then a series of thunderstorms through Sept. in the deserts and mtns. (JFE). By early Sept. extensive areas of lush "summer" annuals, with several lep. species in huge numbers (JFE). In northern CA the rains also stopped in Dec. 83 for the rest of the winter. Snowpacks in the Sierra Nevada poor, and dry north winds set in early, bringing on a hot, dry spring (AMS). All of northern CA in the higher elevations dramatically down in numbers and species (SOM). Also hot in the mtns. with many thunderstorms as moisture spilled up from AZ and southern CA (AMS).

BUTTERFLIES: E. clarus common, Hi Mtn. to 1 mi. below summit, San Luis Obispo Co., 2 June and 1 worn, Chews Ridge, MONTEREY Co., 16 July (KD). P. leo, Jerseydale, MARIPOSA Co., 11 Aug..(OS). T. pylades, Susan R. 1 mi. W of Susanville, LASSEN Co., 9 June (LC). E. brizo lacustra, SSE of Bob's Gap, Los Angeles Co., 14 March, EARLY (JFE). E. tristis, Santa Fe Rd. at Chowchilla R. & 8 mi. SE of Raymond, MADERA Co., 15 June (PAO). A single ♂ E. persius, betw. Chuchupate Cpgd. & Frazier Mtn., 6500'-7500', VENTURA Co., & SOUTH, 1 July (JAS).. [E. afranius known from So. Ca., Emmel & Emmel, 1973, but this still a separate species--Miller & Brown, 1981.]. E. pacuvius lilium & P. ruralis, 5 mi. E of Bass L., MADERA Co., 15 June (PAO). P. scriptura, 6.3 mi. S of Alpaugh, TULARE Co., 23 Aug..(KD). P. catullus, Chowchilla R., MADERA Co., 15 June (PAO) and Pleasanton, ALAMEDA Co., 27 June (KD). P. alpheus oricus, Opal Cyn., Inyo Mtns., Inyo Co., 18 May, adults plus ova on Atriplex canescens (JFE). C. palaemon mandan, Little Volcano Mtn. 13 mi. SE of Quincy, 3 June (OS) and Meadow Valley Forestry Field Stn., 4100', Plumas Co., 1-3 June (RC, JMJ, RHL, RLL, SOM & others). P. sabuleti, 9 mi. E of Bass L., MADERA Co., 15 June (PAO). P. s. tecumseh, Lang Crossing, 5000', Nevada Co., 9 Aug.; 1 ♂ between broods & 2nd brood last half Sept. (AMS). P. melane on serpentine at 4200' above Washington, Nevada Co., 19 Sept., HIGH for so far north (AMS). Euphyes ruricola (= vestris), Meadow Valley, Plumas Co., 1-3 June (JMJ, C. Miles, RHL & others). L. eufala, 4 mi. E of Cuyama, 31 Aug.--first recent coll'n. for San Luis Obispo Co., and confirms Lopez Cyn. record in LACM (KD) and larva on cultivated Carex spissa, Hemet, Riverside Co., 22 Sept. (JFE). B. p. philenor, Squaw Mtn. 20 mi. NE of Baker, 15 Sept. & Keystone Cyn., New York Mtns., 16 Sept., both San Bernardino Co. (JFE); 2nd stray for Kern Co. taken after tropical storm, Edison, 1.5 mi. E of Bakersfield, 20 Sept. (KD); Ova on cultivated Arts. calif., Hemet, Riverside Co., 22 Sept. (JFE). B. p. hirsuta, San Bruno Mtns., San Mateo Co., 4 Feb., EARLY (RLL); Lang Crossing, 5000', HIGH, Nevada Co., 19 May (AMS); Jackson, 1310', Amador Co., 28 Apr., 4 July (REW). P. polyxenes coloro, above Hanging Rock Cyn., Last Chance Range, Inyo Co., NORTH, 18 May (JFE); First time seen in large numbers in Kern Co.--from near Mojave to Jawbone Cyn. & Cantil--over 30 on 20 Sept., still common 27 Sept., 3 Oct., incl. some "comstocki" (KD); Morongo Cyn., San Bernardino Co., 27 Sept. (DLE); Ova, young larvae on Ruta graveolens, 23 Sept., large larvae present to 31 Dec., LATE, Hemet (JFE). P. zelicaon, 4.5 mi. E of Jesus Maria, CALAVERAS Co., 7 April (REW). P. cresphontes, one adult near Citrus grove, but no evidence of breeding, Hemet, 15 Sept. (JFE); Few adults, larvae in 83-84, Edison & near Shafter, Kern Co. (KD, RPM have details). P. multicaudata, near Chilkoat Cpgd. 5 mi. E of Bass L., MADERA Co., 15 June (PAO). N. menapia, 2 mi. N of Bass L., 15 June, EARLY (PAO) and Jerseydale, Mariposa Co., 20 June, EARLY to 16 July (OS). P. occidentalis "calyce", Loyalton, Sierra Co., 23 March, EARLY for 5000' (AMS). A. cethura morrisoni 12♂, 1♀, 2.5 mi. N of McKittrick, Kern Co., 29 Feb., EARLY (WLS). Z. cesonia, ova, larvae on Dalea searsiae, Wildhorse Cyn., Mid Hills, San Bernardino Co., 16 Sept. (JFE). P. sennae marcellina widespread in Colorado & Mojave Deserts most of Sept., westerly flights in Riverside & San Bernardino Cos. in mid-Sept. (JFE); Frequent in Orange Co. to coast, summer months to Oct. (AWF, JAS); 7 mi. SE of Santa Maria, Santa Barbara Co., 25 Sept. (WLS); Straying into San Joaquin Valley, 19 Sept.-9 Oct., over 250 in Mojave Desert 20 Sept. & common on 3 Oct., all Kern Co. (KD). Eurema nicippe successfully overwintered & breeding by 1000s on Kern Co. desert--adults common & worn by 9 March, near Cinco (KD); Intrusion into San Joaquin Valley first time on record--6 mi. S of Greenfield, 25 Aug. & Edison, 20 Sept. (KD); Lone Pine Cr., Inyo Co., NORTH, 8 Sept. and Tulare, TULARE Co., 16 Sept. (KD); Joshua Tree Nat'l. Mon., Riverside & San Bernardino Cos., 27 Sept. (DLE); Huntington Beach, Orange Co., 14 Oct. (JAS). L. rubidus & L. helloides, 7 mi. E of Bieber, Lassen Co., 21 Aug. (DLE). H. grunus, 2 mi. N of Bass L., MADERA Co., 15 June (PAO); Hwy. 4 near Hathaway Pines, 23-24 Aug. & Big Trees State Park, 24 Aug., both CALAVERAS Co. (DLE). A. halesus estesi, NW rim Santa Barbara Cyn., 3280', Santa Barbara Co., 9 March (WLS). S. fuliginosum, Hwy. 88, 0.25 mi. W of Maidens Grave, WEST for Sierra Nevada, 14 July (REW) and Carson Spur, 8000', 11 Aug. (RLL, DP)--both Amador Co. S. californica, sylvinus, auretorum & saepium, 8 mi. SE of Raymond, plus tetra, 5 mi. NNE of Coarsegold, 3000', 15 June (PAO)--all 5 Satyrium new for MADERA Co. S. auretorum spadix, McPherson Peak, SANTA BARBARA Co., 7 July 83 (WLS). A fresh ♀ M. nelsoni, Jerseydale, Mariposa Co., 17 Sept., abortive LATE emg.--main brood April-June (OS). I. fotis doudoroffi, 1 mi. W of Hwy. 41 summit near Atascadero, 7 April--first record of adults for San Luis Obispo Co. (KD). I. fotis windi, S Yuba R. 1 mi. NE of Washington, 2700', LOW, Nevada Co., 24 March, EARLY (RLL, DP). S. columella istapa, Keystone Cyn., New York Mtns., NORTH, 16 Sept. (JFE) and Pinyon Crest, Riverside Co., 6 Oct. (RHL). B. exilis, Santa Fe Rd., Chowchilla R., MADERA Co., 15 June (PAO). L. marina, Suisun Marsh, 4 Aug. & Gates Cyn., 26

Aug., both Solano Co. (AMS)--infrequent this far north. H. ceraunus gyas assoc/w Prosopis juliflora, 23 Aug. to mid-Sept., Kern River Basin, 8 mi. WSW of Bakersfield (RPM). H. isola alce assoc/w P. juliflora, 25 April; worn ♀♀, 23 Aug. to mid-Sept., WSW of Bakersfield (RPM); Ova, larvae on Dalea searlsiae, Keystone Cyn., 16 Sept. (JFE); Cinco, Kern Co., 27 Sept., 3 Oct. (KD). E. amyntula, 1 mi. W of Susanville, LASSEN Co., 12 May (LC). P. sonorensis, S. Yuba R. at Washington, 2650', 24 March (RLL,DP). G. lygdamus ssp. ova on Astragalus lentiginosus, Squaw Mtn., San Bernardino Co., 1 April (JFE). G. L. columbia, 5 mi. E of Bass L., MADERA Co., 15 June (PAO). P. saepiolus, Chiquito Pass & 7 mi. E of Bass L. and with A. glandon podarce, 9 mi. E of Bass L., MADERA Co., 15 June (PAO). P. s. hilda, atop Frazier Mtn., 8013', VENTURA Co., & NORTH for this ssp., 1 July (AWF). Calephelis wrighti, Caruthers Cyn., New York Mtns., 14 Sept. (OS) and Cornfield Spring, Providence Mtns., 17 Sept. (JFE)--both San Bernardino Co. L. bachmanii larvata assoc/w Celtis reticulata, Cornfield Spring, 17 Sept. (JFE); W shore, Koehn Dry L., 27 Sept.--first Kern Co. record since 1963 (KD); Smith Cr. dry wash, S edge of Banning, Riverside Co., 7 Oct. (DLE). A. vanillae incarnata, Gates Cyn., Vaca Hills, Solano Co., 12 May (AMS) and several in Tulare, TULARE Co., 16 Sept. (KD). E. claudia, just off Hwy. 14 near Cinco, KERN Co., 20 Sept. (KD). S. egleis, atlantis irene & mormonia arge, N above Carson Pass, 8800', Alpine Co., 12 Aug. (RLL,DP). T. leanira alma larvae on Castilleja chromosa, Squaw Mtn., San Bernardino Co., 1 April & adults Opal Cyn., Inyo Co., 18 May (JFE) and FALL brood, Opal Cyn., 3 Sept. (D. Giuliani). Chlosyne californica adults common Squaw Mtn., 15 Sept. & Hemet, 23 Sept., FALL brood (JFE), Riverside & San Bernardino Cos. on 27 Sept. plus Smith Cr. dry wash, Banning, 7 Oct., LATE (DLE). C. lacinia crocale 2.5 mi. E of Lakeview, 1400', NW of Hemet, Riverside Co., 23 Sept. (AWF,JAS). E. c. chalcedona on Plectritris macrocera (Valerianaceae), Gates Cyn., 21 April--a post-diapause larval use--other hosts at Gates Cyn., all scrophi are Diplacus aurantiacus, Scroph. calif., Castilleja affinis & Penstemon lewisi (AWS). FALL adults of E. c. kingstonensis, Keystone Cyn., New York Mtns., 16 Sept., LATE (JFE). E. editha monoensis adults common, egg mass on Collinsia parviflora, SW above Curtz L., 5700', Alpine Co., 14, 30 April (OS,REW) and swarming N of Mill Cr. Cpgd., 6250', Mono Co., 2 May--also on parviflora (OS,REW). P. faunus rusticus, near Chilkoot, Cpgd., 5 mi. E of Bass L., MADERA Co., 15 June (PAO). P. orea (det. SOM,RLL), Meadow Valley Forestry Field Stn., 4100', PLUMAS Co., 2 June (RR). A. milberti furcillata, Drakesbad, Lassen N.P., PLUMAS Co., 24 June (LC). J. coenia, 1 mi. W of Susanville, LASSEN Co., 8 Oct. (LC). Many adult coenia with only 2 nigrosuffusa, Cornfield Spring, Providence Mtns., 17 Sept. (JFE)--on Mauvandyia antirrhiniflora (Scroph.), 22 larvae reared to adults--18 typical coenia, 4 intermediate to nigro. (JFE). C. sthenele paulus, Susan R. Cyn., 2 mi. W of Susanville, LASSEN Co., 14 July (LC) and Adin Pass, 5170', Modoc Co., 21 Aug. (DLE). Good numbers of fresh O. nevadensis, Meadow Valley FFS, Plumas Co., 1-3 June, EARLY (RC,JMJ,RLL,SOM,RR,REW, etc.). D. gilippus strigosus, Ventura River at 180', VENTURA Co., 26 Sept. (TED).

MOTHS: SPHINGIDAE- Sphinx gerhardi (?) & S. perelegans, June Lake, Mono Co., 3 June (RHL). Proserpinus clarkiae, Susan R. 1 mi. W of Susanville, LASSEN Co., 19 May (LC). SATURNIIDAE- Saturnia mendocino attracted to caged ♀ all over Amador Co. up to 4000'; 2 locs. in Calaveras Co.; 1 loc. each in El Dorado & Tuolumne Cos.--all in March (REW has data). Above includes 109 ♂♂, 2 mi. W of Salt Springs Res., Amador Co., 11 March (REW). Coloradia pandora, Hwy. 88, 1 mi. E of Cooks Station, 5000', 6 Sept. (REW). Hemileuca eglanterina on Adenostoma fasciculatum (new foodplant genus), Hwy. 104 S of Lone, Amador Co., 28 Apr.; on Ribes velutinum, vic. Green Cr., Mono Co., 1 May; on Holodiscus boursieri (new genus), vic. Monitor Pass, Alpine Co., 26 April (all REW). [Positive & verified as all were 1st instar larvae and egg masses found on the named hosts--REW.] ARCTIIDAE- Cisthene perrosea & liberomacula, Pala & Rainbow, 500-800', San Diego Co., 30 Sept. (RHL). NOCTUIDAE- Acronicta grisea revellata, A. barnesi & Papestra invalida, Meadow Valley Forestry Field Stn. [MVFFS], Plumas Co., 1-3 June (RHL). P. meodana & P. quadrata, June Lake, 3 June (RHL); P. quadrata, San Bruno Mtns., San Mateo Co., 23 July (RLL). Eurois occulta, Pinecrest, TUOLUMNE Co., 8 July (RR). Copablepharon absidium & Admetovis oxymorus, June Lake, 30 June (RR). Adelphagrotis indeterminata innotabilis, 30 Sept. and Nola apera exposita, 4 Feb., Pala/Rainbow (RHL). Egira baueri, Salt Point, SONOMA Co., 26 Feb., LATE (RR). Lasiestra infuscata, Sonora Pass, Tuolumne Co., 8 July (RR). Anarta sierrae, Saddlebag L., Mono Co., 8 July (M. Grinnell, RR). Anepia plumusata, MVFFS, 2 June (RR). Pseudanarta singula, 6 Oct. and Eublemma minima, 19 May, Pinyon Crest, Riverside Co. (RHL). Copicullia increta, 6 May and Cucullia dorsalis, 17 March, Aguanga, 2000', Riverside Co. (RHL). Aseptis perfumosa larvae found & reared on Adenostoma fasciculatum, Walter Springs, Napa Co., April (RR). Hydroecia immanis, San Bruno Mtns., 26 Oct. (RLL). Schinia tertia, Aguanga, 30 Sept. (RHL). Autographa olivacea, El Segundo, Los Angeles Co., 24 March (RHL). Zale minerea norda, MVFFS, 1-3 June (RHL, RLL, RR, etc.). The Black Witch, Ascalapha odorata, Bakersfield, 4 Sept. (KD) and near Mariposa, Sept. (R. Mendershausen via OS). Synedoida biformata, June Lake, 3 June (RHL). NOTODONTIDAE- Hyperaeschra stragula ochreate & Nadata gibbosa, MVFFS, 1-3 June (RHL, RLL). Gluphisia septentrionis wrighti, Aguanga, 26 Aug. (RHL). LASICAMPIDAE- Gloveria medusa ♀ at light, Pala/Rainbow, 30 Sept. (RHL). Phyllodesma coturnix, MVFFS, 1-3 June (RHL). THYATIRIDAE- Euthyatira semicircularis griseor, MVFFS, 1-3 June (RHL). Bycobia verdugoensis, Pala/Rainbow, 4 Feb. (RHL). GEOMETRIDAE- Brephos infans oregonensis, Washington, 2650', Nevada Co., 24 March (RLL). Memoria obliqua hennel, MVFFS, 1-3 June (RHL, RLL, RR, etc.). Eupithecia kasloata! & Hydriomena perfracta monoensis, June Lake, 3 June (RHL). Sericosema wilsonensis meadowsaria (the AZ ssp.!), Pinyon Crest, Riverside Co., 19 May (RHL). Semiothisa puertata fm. grossbecki, Pala/Rainbow, 30 Sept. (RHL). Tornos benjamini fieldi, Aguanga, 26 May (RHL). Phigalia plumigeraria, San Bruno Mtns., 27 Feb. (RLL). Xanthotype barnesi, Meadow Valley, Plumas Co., 3 June (RHL). PYRALIDAE- Uresiphita reversalis defoliating French Broom, Cytisus monspessulanus, San Bruno Mtns., all stages all year (RLL). Pyla nigricola, Carson Spur, 8000', Amador Co., 11 Aug., LATE (RLL). OLETHREUTIDAE- Chimoptesis chrysopyla, Eaton Cyn., Pasadena, Los Angeles Co., 25 Feb. (RHL). LASPEYRESIDAE- Many Grapholita conversana, Kern River Cyn. at 2000', Kern Co., 15 April (RHL) and scarce, San Bruno Mtns., March (RLL). G. edwardsiana on Lupinus arboreus, Pt. Richmond, Contra Costa Co., 27 April (RLL). ETHMIIDAE- Ethmia plagiobothrae, Kern R. Cyn., 15 April (RHL). Pyramidobela angelarum, Eaton Cyn., 23 March (RHL). PLUTELLIDAE- Plutella interrupta, June Lake, 3 June (RHL). OPOSTEGIDAE- Opostega bistrigulella, Eaton Cyn., 23 March (RHL). LAMPRONIDAE- A few Tanysaccus politella, Kern R. Cyn., 15 April (RHL). ADELIDAE- Many Adela eldorado Kern R. Cyn., 15 April (RHL). HEPIALIDAE- Hepialus californicus at light from night before, San Bruno Mtns., 15 Feb. (RLL). H. hectoides at light! 2 June (RHL) and cop. pairs at dusk, 1-3 June, MVFFS (D. Wagner, JMJ, RLL, C. Miles, RR, etc.).



ZONE 4 ROCKY MOUNTAINS: ALBERTA, MONTANA, WYOMING, UTAH, COLORADO and NEW MEXICO. Coordinator: Ray E. Stanford (RES). Contributors: Donald E. Bowman (DEB), F. Martin Brown (FMB), Steven J. Cary (SJC), Peter L. Eades (PLE), J. Donald Eff (JDE), David L. Eiler (DLE), Clifford D. Ferris (CDF), Michael S. Fisher (MSF), Clyde F. Gillette (CFG), Richard L. Hardesty (RLH), Richard Holland (RH), Joel M. Johnson (JMJ), Samuel A. Johnson (SAJ), Richard L. Klopahinske (RLK), Steven J. Kohler (SJK), Ronald H. Leuschner (RHL), Craig Odegard (CO), Paul A. Opler (PAO), Floyd W. and June D. Preston (F/JP), Richard C. Rosche (RCR), Patrick J. and Susan F. Savage (P/SS), James A. Scott (JAS), Ernest H. Williams (EHW). Coverage of moths was less extensive than in most prior years. Butterfly contributions included 938 data points and 229 species; there were 392 COUNTY records and 11 STATE records. CDF and the Prestons were especially active,

submitting data from Alberta and all Zone 4 states except Utah. Several parties were active on the prairies this year, with many new records: SJK and PAO in MT; CDF, PAO, RCR and RES in WY; DEB, EMB, SAJ, PAO, JAS and RES in CO; and SJK and RES in MN. DEB and CO are welcomed as new contributors; thanks are extended to them as well as all others for data submitted. The season was described in general as wet and cool, with late spring and early fall compressing the summer into about two months. Collecting varied from good (CO, NM, UT) to poor (Alberta). Few exotic species and no significant migrations were reported. The Summary format is as in previous years. Determinations are by the contributor, and dates are 1984, unless noted to the contrary. Capitalization of the County name designates a County Record.

ALBERTA. Contributors: CDF, RHL, F/JP. The 1984 annual meeting of the Lepidopterists' Society was held at Fairview in early July, with 57 registrants and their families, yet the reports from the province are fewer than any previous year. It apparently rained nearly continuously from May to October.

BUTTERFLIES: No range extensions or migrations were reported. Sixty-two data points were received, representing 39 species. All of the following data are from CDF except as noted otherwise. E. persius ?borealis, Hwy 40 at Hay River Rd., 28 June. P. centaureae, Prospect Mtn., nr Cadomin, 19 July. A. logan lagus, Lost River, 12 July (RHL). H. comma nr manitoba, Hwy 40 at Hay River Rd., 28 June; Prospect Mtn, nr Cadomin, 19 July. C. palaemon, Hwy 40 at Hay River Rd., 28 June. P. phoebus smintheus, Kananaskis Hwy at Savannah Crk., 20 July. E. creusa, Prospect Mtn., nr Cadomin, 19 July. C. meadii elis, Prospect Mtn., nr Cadomin, 19 July. C. alexandra cline between astraea and christina, Cardinal River and Prospect Mtn., 19 July. C. nastes streckeri, Prospect Mtn., 19 July. L. (E.) mariposa, same data. L. idas scudderi, Prospect Mtn., 19 July, and Savannah Crk at Kananaskis Hwy, 20 July. S. atlantis beani, Prospect Mtn., 19 July. B. (P.) eunomia dawsoni, same data. B. (C.) frigga, Hwy 40 at Hay River Rd., 28 June. B. (C.) freija, Hwy 40 at Hay River Rd., 28 June; Prospect Mtn., 19 July. B. (C.) titania grandis, Prospect Mtn., 19 July. E. (O.) a. anicia, same data. C. oetus charon, Kananaskis Hwy at Savannah Crk., 20 July. E. disa mancinus, Hwy 40 at Hay River Rd., 28 June. O. c. chryxus, Prospect Mtn. and Cardinal River, 19 July. O. jutta ssp (probably nr ascerta), Hwy 40 at Hay River Rd., 28 June; Prospect Mtn., 19 July. O. taygete (=bore), Prospect Mtn., 19 July.

MOTHS: Since all records are from RHL, they are presented in chronological order to save space. Lesser Slave Lake, 4 July: 40 specimens of 10 species. Eight mi. S of Fairview, 5-6 July, 73 specimens of 37 species, including Paonias excaecata borealis and Perispasta caecalialis, despite rain. Red Deer River nr Trochu, 9 July: 256 specimens of 100 species including Nola cilicoides euryppennis, Homohadena stabilis, H. infixa fifia, Septis commoda alberta, S. impulsu, Horisme incana, Euchlaena obtusaria, Madusaria ochrearia. Lost River, 12 July: Euxoa cooki and 25 other species. Cypress Hills, 13 July: Polia nevadae canadensis, Cryptocala acadensis, Heliothis onanis, Syngrapha ignea (day flyer), Scopula sentinaria.

MONTANA. Contributors: CDF, MSF, RLH, SJK, CO, PAO, F/JP, EHW. Spring was cold and wet, summer short, and fall early. Reported are 118 data points for butterflies, representing 74 species and 103 new COUNTY records. There were no STATE records or moth data received.

BUTTERFLIES: No migrations or unusual abundance were reported. With the new data, the average number of species per county is 54.95, compared with a projected average of about 112 by SJK. Everyone is urged to visit Montana and swing nets or cameras, and send the data to Steve Kohler! E. icelus, Running Wolf Rd., 13 mi. SW of Stanford(!), Lewis & Clark NF, JUDITH BASIN Co., 26 June (CDF). P. communis, 1 mi. W of Ridge, POWDER RIVER Co., 19 August (PAO); 4-6 mi. SE of Elliston, Helena NF, POWELL Co., 26 July (MSF); nr Sanders, TREASURE Co., 1 June (SJK); 20 mi. W of Circle, McCONE Co., 12 August (SJK); 15 mi. W of Jordan, GARFIELD Co., 13 August (SJK); nr Forsyth, ROSEBUD Co., 13 Sept. (SJK). P. r. ruralis, Cottonwood Crk., E of Warm Spgs., DEER LODGE Co., 22 May (SJK). P. peckius (=coras), Kalispell, FLATHEAD Co., various dates, 1980-1984 (RLH). H. comma nr harpalus, 2 mi. N of Ridge, CARTER Co., 19 Aug., and 1 mi. W of Ridge, POWDER RIVER Co., 19 Aug. (PAO). H. leonardus pawnee, 4 mi. W of Ridge, POWDER RIVER Co., 19 Aug. (PAO). H. nevada, det RES, Hwy 212 at Rock Crk. Overlook, 9200', CARBON Co., 19 July 1982 (EHW). O. garita, nr Galen, DEER LODGE Co., 17 July (SJK). C. palaemon, Running Wolf Rd., 13 mi. SW of Stanford, Lewis & Clark NF, JUDITH BASIN Co., 26 June (CDF). P. phoebus nr smintheus, det SJK, upper Tootsie Crk., Sweetgrass Hills, LIBERTY Co., 29 June 1972 (L. Thompson/SJK). P. bairdii (oregonius) dodi, det CDF, Lone Pine State Park, 3500', Flathead Co., 11 May 1980 (RLH); Mt. Brown summit, Sweetgrass Hills, LIBERTY Co., 26 July 1972, LATE (L. Thompson/SJK). P. bairdii oregonius, Keystone Gulch, 5 mi. W of Superior, MINERAL Co., 24 May (SJK). P. zeliccon nitra (dark form), Lone Pine State Park, 3500', Flathead Co., 4 July (RLH). P. glaucus canadensis and P. r. rutulus, sympatric, Running Wolf Rd., 13 mi. SW of Stanford, JUDITH BASIN Co., 26 June (CDF). N. menapia, Spanish Crk., GALLATIN Co., 6 Sept. 1983 (T. Valente/SJK). P. protodice, 20 mi. W of Circle, McCONE Co., 12 August (SJK). P. occidentalis, nr Galen, DEER LODGE Co., 17 July (SJK). E. ausonides coloradensis, upper Tootsie Crk., Sweetgrass Hills, LIBERTY Co., 29 June 1972 (L. Thompson/SJK). E. olympia, Loma, CHOUTEAU Co., 31 May (SJK). A. sara julia, Devil's Chimney, Sweetgrass Hills, LIBERTY Co., 8 July 1972, LATE (L. Thompson/SJK). C. eurytheme, 20 mi. W of Circle, McCONE Co., 12 August (SJK); 15 mi. W of Jordan, GARFIELD Co., 13 August (SJK); 10 mi. E of Terry, PRAIRIE Co., 13 Sept. (SJK); 1 mi. W of Ridge, POWDER RIVER Co., 19 August (PAO). C. philodice, 20 mi. W of Circle, McCONE Co., 12 August (SJK); 15 mi. W of Jordan, GARFIELD Co., 13 August (SJK); 10 mi. E of Terry, PRAIRIE Co., 13 Sept. (SJK); this is now the most widely known species in MT, with records from all but Richland and Sheridan counties. C. alexandra, 2 mi. N of Ridge, CARTER Co., and 4 mi. W of Ridge, POWDER RIVER Co., 19 August (PAO). C. interior, 4-6 mi. SE of Elliston, POWELL Co., 26 July (MSF). C. pelidne skinneri, worn, same data (MSF). L. (G.) xanthoides dione, Bozeman, GALLATIN Co. and SW, 29 July 1983 (T. Valente/SJK). L. (G.) editha montana, 4-6 mi. SE of Elliston, POWELL Co., 26 July (MSF). L. (H.) hyllus (=thoe), Bozeman, GALLATIN Co., 1 August 1983 (T. Valente/SJK); nr Galen, DEER LODGE Co. and SW, 17 July (SJK); this species seems to be expanding its range westward, even into Idaho. L.(E.) helloides, 20 mi. W of Circle, McCONE Co., 12 August (SJK). L. mariposa penroseae, 4-6 mi. SE of Elliston, Powell Co., 26 July (MSF). S. fuliginosum semiluna, Colter Pass, PARK Co., 24 July (MSF). S. sylvinus, Squaw Crk., GALLATIN Co., 28 August 1983 (T. Valente/SJK). C. sheridanii neoperplexa, W of Charlo, LAKE Co., 16 April (SJK); Cottonwood Crk., E of Warm Spgs., DEER LODGE Co., 22 May (SJK). M. spinetorum, Running Wolf Rd., 13 mi. SW of Stanford, Judith Basin Co., 26 June (CDF). M. s. siva, nr Sanders, TREASURE Co., 1 June (SJK). I. eryphon, Running Wolf Rd., 13 mi. SW of Stanford, JUDITH BASIN Co., 26 June (CDF). I. mossii schryverii, nr Rogers Pass, LEWIS & CLARK Co., and EAST, 30 May (SJK). I. polios obscurus, 20 mi. W of Choteau, TETON Co., 20 May (SJK); nr Georgetown Lake, DEER LODGE Co., 22 May (SJK). S. melinus, 20 mi. W of Circle, McCONE Co., 12 August (SJK); 15 mi. W of Jordan, GARFIELD Co., 13 August (SJK). G. piasus toxema, Running Wolf Rd., 13 mi. SW of Stanford, JUDITH BASIN Co., 26 June (CDF). G. lygdamus oro, Loma, CHOUTEAU Co., 31 May (SJK). P.(L.) m. melissa, 20 mi. W of Circle, McCONE Co., 12 August (SJK); 15 mi. W of Jordan, GARFIELD Co., 13 August (SJK); this species is now known from all counties in eastern MT. P. icarioides, 20 mi. W of Choteau, TETON Co., 20 May (SJK). P. i. pембина, Running Wolf Rd., 13 mi. SW of Stanford, JUDITH BASIN Co., 26 June (CDF). E. claudia, 1 mi. W of Ridge, POWDER RIVER Co., 19 August (PAO); 20 mi. W of Circle, McCONE Co., 12 Aug. (SJK). S. cybele leto, Iron Crk., E Butte, Sweetgrass Hills, LIBERTY Co., 19 Aug. 1972 (L. Thompson/SJK); 4-6 mi. SE of Elliston, Powell Co., 26 July (MSF). S. aphrodite,

20 mi. W. of Circle, McCONE Co., 12 August (SJK). *S. atlantis* subspecies, same data NORTHEAST (SJK). *S. zerene garrettii* and *S. edwardsii*, upper Tootsie Crk., Sweetgrass Hills, LIBERTY Co., 29 June 1972 (L. Thompson/SJK). *S. egleis* ssp, Mt. Brown, Sweetgrass Hills, LIBERTY Co., 29 June 1972 (L. Thompson/SJK). *S. mormonia eurynome*, Devil's Chimney, Sweetgrass Hills, LIBERTY Co., 8 August 1972 (L. Thompson/SJK). *B. (C.) bellona*, Running Wolf Rd., 13 mi. SW of Stanford, JUDITH BASIN Co., 26 June (CDF). *B. (C.) epithore borealis*, 4-6 mi. SE of Elliston, Powell Co., 26 July (MSF). *E. editha* ssp, 5 mi. W. of Dixon, SANDERS Co., 29 May (SJK). *C. palla calydon*, upper Tootsie Crk., Sweetgrass Hills, LIBERTY Co., 29 June 1972 (L. Thompson/SJK). *C. gorgone carlota*, nr Galen, DEER LODGE Co., 17 July (SJK). *P. tharos* "A" phenotype, 20 mi. W of Circle, McCONE Co., 12 August (SJK); 15 mi. W of Jordan, GARFIELD Co., 13 August (SJK); 2 mi. N of Ridge, CARTER Co., 19 August (PAO); 1 mi. W of Ridge, POWDER RIVER Co., 19 August (PAO). *P. tharos* "B" (= *morpheus* or *pascoensis*), Running Wolf Rd., 13 mi. SW of Stanford, Judith Basin Co., 26 June (CDF). *P. satyrus*, Deep Crk., 15 mi. E of Townsend, BROADWATER Co., 14 Sept. (SJK). *P. zephyrus*, nr Jefferson City, JEFFERSON Co., 14 Sept. (SJK). *P. oreas*, Deep Crk., 15 mi. E of Townsend, BROADWATER Co., 14 Sept. (SJK). *P. f. faunus*, Running Wolf Rd., 13 mi. SW of Stanford, JUDITH BASIN Co., 26 June (CDF); Deep Crk., 15 mi. E of Townsend, BROADWATER Co., 14 Sept. (SJK); nr Jefferson City, JEFFERSON Co., 14 Sept. (SJK); Centennial Valley, 20 mi. E of Monida, BEAVERHEAD Co., 21 Sept. (SJK). *N. antiopa*, Deep Crk., 15 mi. E of Townsend, BROADWATER Co., 14 Sept. (SJK); 15 mi. W of Jordan, GARFIELD Co., 13 August (SJK); nr Jefferson City, JEFFERSON Co., 14 Sept. (SJK); 1 mi. W of Ridge, POWDER RIVER Co., 19 August (PAO). *E. a. archippus*, 2-3 mi. SW of Dillon, BEAVERHEAD Co., 25 July 1982 (CO). *C. tullia inornata*, 10 mi. S of Choteau, TETON Co., 30 May (SJK); S of Fort Peck, McCONE Co., 31 May (SJK); 5 mi. N of Box Elder, HILL Co., 31 May (SJK); nr Sanders, TREASURE Co., 1 June (SJK); Running Wolf Rd., 13 mi. SW of Stanford, Judith Basin Co., 26 June (CDF--ssp not indicated). *C. haydenii*, same data (CDF); 4-6 mi. SE of Elliston, Powell Co., 26 July (MSF). *C. pegala ino*, above Devil's Chimney, East Butte, Sweetgrass Hills, LIBERTY Co., 19 August 1972 (L. Thompson/SJK); 20 mi. W of Circle, McCONE Co., 12 Aug. (SJK); 15 mi. W of Jordan, GARFIELD Co., 13 Aug (SJK). *C. sthenele paulus*, det CDF, Jct. Deep Crk. Rd. and Spotted Bear Rd., E side of Hungry Horse Rsvr., Flathead Co., 10 Aug. 1980 (RLH); Hwy 141, POWELL Co., 28 July 1980 (RLH); these are not such surprising records, since many Great Basin species extend northeastward thru MT into SE Alberta and SW Saskatchewan. *C. m. meadii*, 4 mi. W of Ridge, POWDER RIVER Co., 19 August (PAO); 20 mi. W of Circle, McCONE Co., 12 August (SJK). *N. ridingsii*, Cottonwood Crk., E of Warm Spgs., DEER LODGE Co., 28 June (SJK). *O. uhleri varuna*, 20 mi. W of Choteau, TETON Co., 20 May (SJK). *O. chryxus*, very dark phenotype, Lone Pine State Park, 3500', Flathead Co., 4 July (RLH). *D. p. plexippus*, 2 mi. N of Ridge, CARTER Co., 19 Aug. (PAO); 1 mi. W of Ridge, POWDER RIVER Co., 19 August (PAO); nr Galen, DEER LODGE Co., 17 July (SJK).

WYOMING. Contributors: DLE, CDF, RHL, PAO, F/JP, RCR, RES, EHW. As elsewhere in Zone 4, the season was compressed, with a late spring, much rain in summer, and early fall frost. Most species were in normal abundance on sunny summer days. We miss the usual report from the BFC.

BUTTERFLIES: No migrations or unusual abundance were reported. *P. protodice* and *C. philodice* are now known from all 24 counties. Two STATE records and 110 COUNTY records were noted. *E. c. clarus*, *T. pylades* and *E. afranius*, S-Bar Cn., NIOBRARA Co., 30 June (RCR). *P. c. communis*, 5 mi. E of Tensleep, WASHAKIE Co., 2 Sept. (PAO). *P. catullus*, S-Bar Cn., NIOBRARA Co., 30 June (RCR); Upper Piney Cn. Rd., CAMPBELL Co., 18 August (PAO); 12 mi. NW of Thermopolis, HOT SPRINGS Co., 3 Sept. (PAO/RES). *A. oslari*, S-Bar Cn., NIOBRARA Co., 30 June (RCR). *A. hianna turneri*, Devil's Tower, Crook Co., 29 May (CDF). *E. vestris* ssp, S-Bar Cn., NIOBRARA Co., 30 June (RCR). *O. sylvanoides napa*, Dead Indian Crk., Sunlight Basin, PARK Co., 9 August 1980 (EHW); Buffalo, JOHNSON Co., 1 Sept. (PAO/RES); old highway, upper Tensleep Cn., WASHAKIE Co., 2 Sept. (RES). *P. sabuleti*, Tensleep, WASHAKIE Co. and STATE, 2 Sept. (PAO/RES). *H. iuba*, Buffalo, JOHNSON Co., 1 Sept. (RES); 11.2 mi. E of Tensleep, WASHAKIE Co., 2 Sept. (PAO/RES); 8 mi. N of Thermopolis, HOT SPRINGS Co., 2 Sept. (PAO/RES). *H. u. uncas*, S-Bar Cn., NIOBRARA Co., 28 August (RCR); Rochelle Hill Rd., WESTON Co., 18 August (PAO). *H. comma* nr *harpalus*, Upper Piney Cn. Rd., CAMPBELL Co., 18 August (PAO); upper Tensleep Cn., 12 mi. E of Tensleep, WASHAKIE Co., 1 Sept. (PAO/RES); 8 mi. N of Thermopolis, HOT SPRINGS Co., 2 Sept. (PAO/RES); S-Bar Cn., NIOBRARA Co., 28 August (RCR); Dickinson Park, 9360', Shoshone NF, Fremont Co., 6 August (CDF, subspecies unspecified). *H. p. pahaska*, Devil's Tower, CROOK Co., 24 June (CDF). *H. leonardus pawnee*, S-Bar Cn., NIOBRARA Co., 28 August (RCR). *O. g. garita*, S-Bar Cn., NIOBRARA Co., 30 June (RCR). *P. phoebus sayii*, S-Bar Cn., NIOBRARA Co., 6 July 1973 (RCR); Hwy 414, 15 mi. S of Mountain View, in Juniper-Sagebrush habitat, Uinta Co., 10 Aug. (DLE). *P. zelicaon* (yellow and black forms), 1 mi. S of Pine Bluffs, LARAMIE Co., 26 May (PAO/RES). *P. i. indra*, nr Hat Creek, NIOBRARA Co., 30 June (RCR). *P. multicaudatus*, S-Bar Cn., NIOBRARA Co., 30 June (RCR). *N. menapia*, Cheyenne, LARAMIE Co., August (fide CDF). *P. (A.) rapae*, Pine Bluffs (town), LARAMIE Co., 30 Sept. (PAO); Buffalo, JOHNSON Co., 1 Sept. (RES); Tensleep, WASHAKIE Co., 2 Sept. (PAO/RES); Shoshoni, FREMONT Co., 3 Sept. (PAO/RES); 15 mi. S of Mountain View, UINTA Co., 10 August (DLE). *P. occidentalis*, 11.2 mi. E of Tensleep, WASHAKIE Co., 2 Sept. (PAO/RES); several records including Douglas, CONVERSE Co., 17 July 1964 (RLH). *P. beckerii*, 15 mi. E of Worland, WASHAKIE Co., and 8 mi. N of Thermopolis, HOT SPRINGS Co., both 2 Sept. (PAO/RES). *P. sisymbrii nordini*, Devil's Tower, CROOK Co. and STATE for ssp, 10-18 May (CDF). *E. ausonides palaeoreios*, Devil's Tower, Crook Co., 29-31 May (CDF). *E. olympia*, Devil's Tower, Crook Co., 10-12 May (CDF); nr Clifton, 3800', WESTON Co., and along old Hwy 85 nr Rattlesnake Ridge, 4000', NIOBRARA Co., both 28 May (PAO/RES). *C. eurytheme*, Buffalo, JOHNSON Co., 1 Sept. (PAO/RES); upper Tensleep Cn., WASHAKIE Co., 2 Sept. (PAO/RES); 4 mi. E of Shoshoni, FREMONT Co., 3 Sept. (PAO/RES); S-Bar Cn., NIOBRARA Co., 30 June (RCR). *C. a. alexandra*, 5 mi. N of Cheyenne, LARAMIE Co., 31 August (PAO); S-Bar Cn. and Hat Crk., NIOBRARA Co., 30 June (RCR). *C. gigantea harroweri*, Dickinson Park, 9360', Shoshone NF, Fremont Co., 6 August (CDF). *C. pelidne skinneri*, Canyon Crk. Bog, 9300', Shoshone NF, Fremont Co., 9 August (CDF). *L. phlaeas arctodon*, Bears Ears Trail, Adams Pass to Mt. Chauvenet, 11,000-11,800', FREMONT Co. (confirmatory), 7-8 August (CDF). *L. (C.) editha montana*, bilateral gynandromorph, Meadowlark Ski Area, WASHAKIE Co., 2 Sept. (PAO). *L. (H.) hyllus (=thoe)*, 9 mi. NW of Thermopolis, HOT SPRINGS Co. and WEST, 2 Sept. (PAO). *L. (C.) heteronea*, Boulder Park Cg., 20 mi. E of Tensleep, WASHAKIE Co., 2 Sept. (PAO/RES); several records, Camel Crk. Cg., 8-30 July 1966-1968, CONVERSE Co. (RLH). *L. (E.) helloides*, Rochelle Hill Rd., WESTON Co., 18 August (PAO); just S of Ucross, JOHNSON Co., 1 Sept. (RES); Tensleep, WASHAKIE Co., 2 Sept. (PAO/RES); these mainly fresh specimens from presumably multivoltine populations. *L. (E.) dorcas florus*, worn, Meadowlark Ski Area, WASHAKIE Co., 2 Sept. (PAO/RES); Dickinson Park, 9360', Shoshone NF, Fremont Co., 6 August (CDF). *S. (H.) titus immaculosus*, upper Tensleep Cn. along old highway, WASHAKIE Co., 2 Sept. LATE (RES). *S. fuliginosum*, same data, WASHAKIE Co., LATE (PAO); Meadow Crk., CONVERSE Co., 24 July 1970 (RLH). *M. s. siva*, S-Bar Cn., NIOBRARA Co., very common, 30 June (RCR). *H. isola alce*, Bears Ears Trail, nr Mt. Chauvenet, 11,800' HIGH ALT, FREMONT Co., 7-8 August (CDF). *G. piasus daunia*, S-Bar Cn., NIOBRARA Co., 30 June (RCR). *L. m. melissa*, Tensleep, WASHAKIE Co., 2 Sept., now known from all WYO counties except Goshen Co. (PAO/RES). *P. saepiolus whitmeri*, Meadowlark Ski Area, WASHAKIE Co., 2 Sept. (PAO/RES); Cottonwood Cn., 40 mi. W of Hwy 20, 7000', HOT SPRINGS Co., 3 Sept (PAO). *P. shasta minnehaha*, nr Hat Creek, NIOBRARA Co., 30 June (RCR); Bears Ears Trail, Adams Pass to Mt. Chauvenet, 11,00-11,800', HIGH ALT, Fremont Co., 7-8 August (CDF). *A. m. mormo*, 22 mi. NW of Thermopolis, HOT SPRINGS Co. and NORTH, and Hwy 20 along Boysen Rsvr., FREMONT Co., 3 Sept. (PAO/RES). *E. claudia*, 22 mi. NW of Thermopolis, HOT SPRINGS Co., 2 Sept. (RES). *S. cybele* nr *leto*, 5 mi. E of Tensleep, WASHAKIE Co., 2 Sept. (RES). *S. aphrodite ethne*, S-Bar Cn., NIOBRARA

Co., 30 June (RCR). S. edwardsii, Hwy 16 at Spotted Horse Crk., CAMPBELL Co., 1 Sept. (RES); 22 mi. NW of Thermopolis, HOT SPRINGS Co., 3 Sept. (PAO/RES). S. coronis halcyone, S-Bar Cn., NIOBRARA Co., 30 June (RCR). S. atlantis nr tetonia, Cottonwood Cn., 7000', 40 mi. W of Hwy 120, HOT SPRINGS Co., 3 Sept. (PAO). S. mormonia eurynome, melanic aberrant female, 10 mi. W of Buffalo, Johnson Co., 1 Sept. (PAO/RES); 22 mi. NW of Thermopolis, HOT SPRINGS Co., 2 Sept. (RES). B. napaea halli, Bears Ears Trail, Adams Pass to Mt. Chauvenet, 11,000-11,800', FREMONT Co. (confirmatory), 7-8 August (CDF). B. (C.) frigga sagata, Elkhart Park, SUBLETTE Co., 15 July 1968 (RLH). B. (C.) improba harryi, Bears Ears Trail, Adams Pass to Mt. Chauvenet, 11,000-11,800' (type locality), Shoshone NF, Fremont Co., 7-8 August (CDF). E. (Q.) editha alebarki, many records, 7100-7400', including 3 mi. SW of Point-of-Rocks, CONVERSE Co., 26 May-2 July 1964-1966 (RLH). C. d. damoetas, same data as improba (CDF). C. porgone carlota, 8 mi. N of Thermopolis, HOT SPRINGS Co. and WEST, 2 Sept. (PAO/RES). P. tharos (A phenotype), 10 mi. NE of Douglas, CONVERSE Co.; Rochelle Hill Rd., WESTON Co.; Upper Piney Cn. Rd., CAMPBELL Co., all 18 August (PAO); nr Clearmont, SHERIDAN Co., 1 Sept. (PAO/RES); just S of Ucross, JOHNSON Co., 1 Sept. (PAO/RES); Tensleep, WASHAKIE Co., 2 Sept. (PAO/RES); 22 mi. NW of Thermopolis, HOT SPRINGS Co., 2 Sept. (PAO/RES); nr Clifton, 3800', 16 mi. SSE of Newcastle, WESTON Co., 28 May (PAO/RES). P. pallida ssp closest to p. pallida, Rochelle Hill Rd., WESTON Co., 18 August (PAO). P. progne, Cold Springs, 23 June 1963, and Rabbit Creek, 28 July 1964, both CONVERSE Co., determination by C F dosPassos and CDF (RLH). P. zephyrus, 22 mi. NW of Thermopolis, HOT SPRINGS Co., 3 Sept. (RES). N. antiopa, Pine Bluffs (town), LARAMIE Co., 30 Sept. (PAO). V. cardui, 22 mi. NW of Thermopolis, HOT SPRINGS Co., 3 Sept. (PAO/RES). L. (B.) w. weidemeyerii, Boulder Park Cg., 20 mi. E of Tensleep, WASHAKIE Co., 2 Sept. (PAO/RES). L. (B.) w. oberfoelli, S-Bar Cn., NIOBRARA Co., 30 June (RCR). C. pegala, 22 mi. NW of Thermopolis, HOT SPRINGS Co., 2 Sept. (PAO/RES). C. sthenele nr masoni, 2 mi. W of Tensleep, WASHAKIE Co. and EAST, 2 Sept. (RES). C. m. meadii, upper Piney Cn. Rd., CAMPBELL Co., 18 August (PAO); 2 mi. S of Arvada, SHERIDAN Co., 1 Sept. (RES); Devil's Tower, Crook Co., 18-19 August (CDF). E. callias, same data as improba (CDF). N. r. ridingsii, S-Bar Cn., NIOBRARA Co., 30 June (RCR); 11.2 mi. E of Tensleep, WASHAKIE Co., 2 Sept. LATE-perhaps bivoltine? (RES). O. melissa beani, O. taygete edwardsii and O. polixenes brucei, all sympatric, same data as improba (CDF). D. plexippus, 9 mi. NW of Thermopolis, HOT SPRINGS Co., 2 Sept. (PAO/RES).

MOTHS: No specific reports. Catocala were rare compared to 1983 (CDF).

UTAH. Contributors: DLE, MSF, CFG, JMJ, P/SS. A wet season followed a heavy snowpack, except that spring was dry in the southwest corner. No MOTH data were received.

BUTTERFLIES: Only 39 data points were received, including 14 COUNTY records and 3 STATE records. CFG provided some very interesting statistics. For example (I added skippers), there are 192 documented species in the state, with an average of 95.59 species per county. By comparison, Colorado has 250 sp and 95.57 sp/co. (RES data); Nevada has 190 sp and 98.24 sp/co. (fide G.T.Austin); and California has 233 sp and 95.17 sp/co. (from various sources). CFG also reported having recorded 103 new county records, but listed only two; it is therefore uncertain what the true total is, since there may be some duplication between his data and what others sent to me. Many of the following county records may therefore be merely confirmations, but they are my only data base. H. comma harpalus, Bear Lake, Rich Co., 28 July (MSF). B. p. philenor, Castle Cliff, Beaver Dam Mtns., Washington Co., 21 and 28 Sept. (P/SS). P. polyxenes coloro (=rudkini), nr Welcome Spgs., Beaver Dam Mtns., Washington Co., 20 Feb. EARLY (for UT; AZ record, 16 Jan. 1972, fide R.A.Bailowitz; P/SS). P. multicaudatus, Cedar Wash., Beaver Dam Mtns., Washington Co., 31 March EARLY (AZ, 7 March 1979, RAB; P/SS). N. menapia, RICH Co. (J.L.Harry/JMJ); Price Cn. Rec. Area, CARBON Co., 31 July (C.A.Miles/JMJ). A. pima, nr Welcome Spgs., Beaver Dam Mtns., Washington Co., 10 March EARLY (AZ, 23 Jan. 1972, RAB; P/SS). P. sennae marcellina, Castle Cliff, W slope Beaver Dam Mtns., 21 Sept. (P/SS), WASHINGTON Co. and STATE. L. (C.) rubidus, Price Cyn. Rec. Area, CARBON Co., 31 July (C.A.Miles/JMJ). L. (C.) heteronea, Nebo Loop Rd., Juab Co., 3 Aug. (JMJ); 0.3 mi. S of Salt Gl. xg, 8200', WAYNE Co., 6 August (E.C.Dial/CFG); Sheep Crk. Geol. Area, DAGGETT Co., 9 Aug. (DLE). A. halesus, larvae found on mistletoe on juniper, Johnson Pass, Tooele Co., August (J.L.Harry); reared to pupae and adults by JMJ et al. S. saepium provo, Price Cyn. Rec. Area, CARBON Co., 31 July (C.A.Miles/JMJ). S. sylvinus putnami, creek at Hwy I-84 exit to Henefer, SUMMIT Co., 10 August (DLE). C. sheridanii neoperplexa, mouth of Red Pine Cyn. in Whiterocks Cyn., 7500', Uintah Co., 21-22 May 1983 (P/SS). I. augustus iroides, same data (P/SS). I. fotis, nr Welcome Spgs., Beaver Dam Mtns., Washington Co., 10 March, EARLY (even beats AZ!) (P/SS). E. amyntula, Pin Hollow, Old Woman Plateau, Sevier Co., 10 June 1982 (JMJ). E. rita pallescens, Little Sahara Sand Dunes St. Park, JUAB Co., 8 Aug. (JMJ). P. saepiolus, Sam's Crk., 7000' and Johnson Cyn., 7500', W slope Deep Crk. Mtns., 22 June 1982 (P/SS). P. glandon rustica, Johnson Cyn., 7500', W slope Deep Crk. Mtns., 1-15 July 1982 (P/SS). L. bachmanii (probably larvata), Castle Cliff, Beaver Dam Mtns., WASHINGTON Co. and STATE (confirmatory), 21 and 28 Sept. (P/SS). S. n. nokomis, flood plain just N of Vernal, Uintah Co., 29 July (MSF). S. atlantis wasatchia and S. zereene platina, Flaming Gorge Natl. Rec. Area, Daggett Co., 9 August (DLE). Chlosyne californica, wash 0.9 mi. W of Castle Cliff, W slope Beaver Dam Mtns., 21 Sept. (P/SS); N end of Welcome Spg. rd., 4300', NW Beaver Dam Mtns., date pending (CFG), WASHINGTON Co. and STATE. V. cardui, almost absent in 1984 cf explosion in 1983 (JMJ, P/SS). C. pertepida dorothea, 3 mi. up Indian Cyn. along Hwy 33 from its junction with Hwy 6 nr Price, CARBON Co., date pending (C.A.Miles/JMJ). O. c. chryxus, nr Summit Spgs. Guard Station, Sheep Crk. Cyn. Rd. west of Hwy 44, DAGGETT Co., 9 Aug. (DLE).

COLORADO. Contributors: DEB, FMB, PLE, JDE, DLE, CDF, MSF, SAJ, RLK, PAO, F/JP, JAS, RES. It was again a good year for Lepidoptera in Colorado, with a heavy snowfall and late spring. Frosts in early October ended the season. We are happy to welcome PAO as a new resident lepidopterist. He made several important discoveries in 1984.

BUTTERFLIES: No migrations were observed. V. cardui, abundant a year earlier, was scarce in 1984. This species, E. protodice and C. eurhythme were observed in Cheyenne Co.; these three species are now known from all 63 Colorado counties. There were 64 new COUNTY records but no STATE records. The 1984 Gilpin County count on 15 July produced 94 species, not a record but second only to our 97 species on 12 July 1981. We missed the BFC this year, and hope they come back. E. c. clarus, Holyoke, PHILLIPS Co., 22 July (SAJ). E. telemachus, upriver from oaks but verified determination, 5 mi. W of Guffey, PARK Co., 24 June 1983 (SAJ). E. funeralis, on Apocynum flowers, Star Ranch, 7500', EL PASO Co., 25 July (SAJ). E. afranius, W of Parachute, GARFIELD Co., 12 May (JAS). P. communis, Hwy 385, 25.3 mi. S of Burlington, CHEYENNE Co., 16 Sept. (RES). P. catullus, 2 mi. S of Holyoke, PHILLIPS Co., 22 July (SAJ); Rd. 49, 32.7 mi. S of Burlington, CHEYENNE Co., 17 Sept. (RES). E. bimacula, Mail Creek, Ft. Collins, 7 July, and 1.5 mi. NE of Wellington, 21 July, both LARIMER Co. and WEST (PAO). P. sabuleti, early summer and 4 August, Mail Creek, Ft. Collins, LARIMER Co. (PAO); Barr Lake, confirmatory ADAMS Co., 29 August, and 1 mi. NW of Brighton, WELD Co., 2 Sept. (JAS); these are the first prairie records for sabuleti except for an old Barr Lake specimen in the DMNH collection which I had considered to be mislabeled; additional records are requested. A. campestris, 20 mi. W of Burlington, KIT CARSON Co., 16 Sept. (RES). H. comma oroplata, Great Sand Dunes NM, ALAMOSA Co., 25 August (MSF). H. ottoe, 2 mi. S of Holyoke, PHILLIPS Co., 22 July (SAJ); bilateral gynecandromorph (male L, female R), Baldwin Gulch, Douglas Co., 4 July (MSF). H. leonardus pawnee, Hwy 71, 9 mi. S of Limon, 5500', on Liatris blossoms, LINCOLN Co. and SE, 16 Sept. (RES). H. p. pahaska, Soldier Cyn., Lory St. Park, Larimer Co., 8 July (RES). P. pirus, 2 mi. S of

Windsor on Poudre Rv., WELD Co., 14 July (PAO). *M. texanus texanus*, WELD Co., 1 June (DEB). *P. polyxenes asterius*, Burlington, KIT CARSON Co., 16 Sept. (RES). *P. b. bairdii*, Coal Mine Pt., Black Mesa (TL of *P. indra minori*), Mesa Co., 26 May (RLK). *P. zelicaon nitra* (black form), Cover Mtn. summit, 10,150' HIGH ALT, PARK Co., 28 July LATE (SAJ). *P. g. glaucus* (black female), Ft. Collins, Larimer Co., 23 August (PLE). *P. multicaudatus*, Frazer Mdw. Trail, Golden Gate St. Park (park record), Gilpin Co., 15 July (RES). *P. (A.) rapae*, CHEYENNE and KIOWA counties, 17 Sept. (RES). *A. sara julia*, Frazer Mdw. Trail, Golden Gate St. Park (park record), Gilpin Co., 7 July (RES); 1.2 mi. S of Copper Mtn. ski area, 10,000', Summit Co., 23 July LATE (RES). *C. m. meadii*, common, Loveland Pass, Clear Creek/Summit Co., 4 August (RES). *C. g. scudderii*, 4 mi. SW of Fremont Pass, 10,500', Lake Co., 23 July (RES); E of Rabbit Ears Pass, 9400', Jackson/Grand Co. line, 8 August (DLE). *P. sennae*, one male seen, Limon, LINCOLN Co., 16 Sept. (RES). *E. (P.) lisa*, Bonny Rsvr., YUMA Co., 22 July (SAJ). *N. iole*, Paradox Cyn., 5100', Montrose Co., 7 May 1983 EARLY (RES); Kit Carson, CHEYENNE Co., 17 Sept. (RES). *L. (H.) hyllus (=thoe)*, Hwy 287, 6.5 mi. SE of Limon, LINCOLN Co., 16 Sept. (RES). *L. (G.) editha*, E of Rabbit Ears Pass, 9400', Jackson/Grand Co. line, 8 August (DLE). *L. (E.) nivalis*, Blue Rv. Cg., 8600', Summit Co., 6 July (RES). *L. (E.) helloides*, 2 mi. N of Olathe, 5300', MONTROSE Co., 27 Sept. (RLK); Bijou Crk, ELBERT Co., 22 August (JAS); 0.5 mi. E of Limon, LINCOLN Co., 21 Sept. (PAO). *H. titus*, common on prairies and foothills; 2 mi. S of Holyoke, PHILLIPS Co., 22 July (SAJ). *S. calanus godarti*, Clear Creek Cyn., Jefferson Co., no oaks in miles, NORTH, 15 July (PAO,JAS). *S. liparops*, common in foothills W of Ft. Collins, Larimer Co., 8 July (PAO,RES). *S. californica*, Skyline Drive, Larimer Co., 8 July (RES). *S. acadica*, Highline Canal at 6500 S Broadway, Arapahoe Co., 1 July (MSF); Lakewood, Jefferson Co. (JAS). *I. eryphon*, Hwy 90 at E Fork Dry Crk., 7650', MONTROSE Co., 20 May (RLK). *M. spinetorum*, common, St. Louis Crk. Cg., Grand Co., 21 June (JDE); Winter Park, Grand Co., 6 July (RES); Frazer Mdw. Trail, Golden Gate St. Park (park record), Gilpin Co., 7 July (RES). *S. melinus*, 2 mi. S of Holyoke, PHILLIPS Co., 22 July (SAJ); Nee Sopah Rsvr., S of Eads, KIOWA Co., 22 Sept. (PAO); *melinus* is now known from all prairie counties in Colorado, but remains scarce in the mountains and on the west slope. *B. exilis*, near Grand Junction airport, MESA Co., 24 August 1983 (RES). *H. isola*, Nee Sopah Rsvr., KIOWA Co., 22 Sept. (PAO). *E. comyntas*, Cheyenne Wells, CHEYENNE Co., 17 Sept. (RES). *E. enoptes ancilla*, Blue Rv. Cg., 8600', SUMMIT Co., 6 July (RES). *C. pius daunia*, Chimney Gulch, 6200', Jefferson Co., 20 May (RES). *P. (L.) m. melissa*, Hwy 385, 25.3 mi. S of Burlington, CHEYENNE Co., 16 Sept. (RES); Nee Sopah Rsvr., KIOWA Co., 22 Sept. (PAO). *P. (I.) shasta pitkinensis*, Loveland Pass, Clear Crk./Summit counties, 4 Aug. (RES). *A. morio* ssp, Wright Rsvr., TELLER Co., 5 August (SAJ). *S. idalia*, fresh male taken, Buckhorn Gulch, 12.2 mi. NW of Masonville, Larimer Co., 11 July (JDE), a very rare catch in Colorado! *S. aphrodite ethne*, very common in 1984 throughout the front range foothills; over 500 seen in Larimer Co., 8 July (RES). *S. mormonia eurynome*, female taken at Barr Lake, ADAMS Co., 8 Sept (JAS); this high elevation species moves down to lower elevations in late summer. *B. (C.) improba acrocneema*, alive and well at the TL, Uncompahgre Peak, Hinsdale Co., 19 July. *T. leanira fulvia*, Hwy 385, 8 mi. S of Holyoke, PHILLIPS Co., 22 July (SAJ). *C. a. acastus*, 6 mi. SE of Salida, 7900', San Isabel NF, Fremont Co., 18-19 June (CDF). *C. gorgone carlota*, Hwy 385, 25.3 mi. S of Burlington, CHEYENNE Co., 16 Sept. (RES); Nee Sopah Rsvr., KIOWA Co., 22 Sept. (PAO); larvae seen on *Helianthus pumilus* (JAS). *P. tharos* ("A" phenotype), Hwy 385, 25.3 mi. S of Burlington, CHEYENNE Co., 16 Sept. (RES); Eads, KIOWA Co., 21 Sept. (PAO). *P. tharos morpheus (=pascoensis)*, mated with *P. tharos* "A" in the laboratory, and ate *Aster laevis* (JAS). Data from these crosses are still pending. *P. p. picta*, Holyoke, PHILLIPS Co., 22 July (SAJ). *P. comma*, Poudre Rv., Ft. Collins, LARIMER Co., 1 July (PLE); Red Rocks Park, JEFFERSON Co. and WEST, 7 July (JAS); Limon, LINCOLN Co. and SW, 16 Sept. (RES); this species seems to be establishing itself in the metropolitan Denver area as *P. interrogationis* did several years ago. *P. oreas nigrozephyrus* Scott, Hwy 90 at E Fork Dry Creek, 7650', MONTROSE Co., 20 May (RLK); Horsetooth SP, 6000', Larimer Co., 8 July (PAO); reared on *Ribes inezme* (JAS). *N. antiopa*, Limon, LINCOLN Co., 16 Sept. (RES). *V. atalanta*, his back yard, Colorado Springs, El Paso Co., 5 April EARLY (FMB); Nee Sopah Rsvr., KIOWA Co., 22 Sept. (PAO). *J. coenia*, Nee Sopah Rsvr., KIOWA Co., 22 Sept. (PAO). *L. (B.) a. archippus*, Limon, LINCOLN Co., 16 Sept. (RES). *A. andria*, Nee Sopah Rsvr., KIOWA Co., 22 Sept. (PAO). *C. pertepida dorothea*, Coal Crk. Cyn., Jefferson Co., 15 July (PLE). *C. pegala boopis*, Big Horse Crk. at Hwy 94, LINCOLN Co., 6 August (SAJ); Burlington, KIT CARSON Co., 16 Sept. (RES). *C. meadii alamosa*, Great Sand Dunes NM, Alamosa Co., 25 August (MSF). *E. c. callias*, Loveland Pass, 4 August (RES). *N. r. ridingsii*, Rocky Flats, Jefferson Co., 13 July (JDE). *O. c. chryxus*, 4 mi. SW of Fremont Pass, 10,500', Lake Co., 23 July (RES). *O. jutta reducta*, Winter Park, 8700', Grand Co., 6 July (RES).

MOTHS: All CDF records are from 6 mi. SE of Salida, 7900', San Isabel NF, Fremont Co., 18-19 June, at UV light. *Antheraea polyphemus olivacea*, (CDF); Douglas Co., 7 Aug. (DEB). *Agapema homogena*, Clear Creek Co., 18 June (DEB). *Hemileuca nevadensis*, Bonny Rsvr., Yuma Co., 11 Oct (DEB). *Hyles gallii*, Jefferson Co., 15 June (DEB). *Proserpinus juanita*, Douglas Co., 5 July (DEB). *Sagenosoma elsa*, LAS ANIMAS Co. and probably STATE, 7 May 1977 (DEB). *Sphinx asella*, Clear Creek Co., 26 June (DEB). *S. gordius*, Golden, Jefferson Co., 15 July 1965 (DEB). *S. vashti* (CDF). *S. separata*, Douglas Co., 7 August 1982 (DEB). *Apantesis arge*, Bonny Rsvr., Yuma Co., 19 Sept. 1981 (DEB). *A. blakei*, Golden, Jefferson Co., 3 Aug. 1961 (DEB). *A. figurata*, Golden, Jefferson Co., 26 July (DEB). *A. oithona*, Rifle, Garfield Co., 4 August 1962 (DEB). *A. phyllira*, Golden, Jefferson Co., 7 July (DEB). *A. vittata*, Bonny Rsvr., Yuma Co., 5 May 1962 (DEB). *A. parthenice*, Golden, Jefferson Co., 6 August (DEB). *Arachnis picta*, Walsenburg, Huerfano Co., 9 August (DEB). *Ectypia clio*, Walsenburg, same data (DEB). *Platarctia parthenos*, Clear Creek Co., 26 June (DEB); Aspen Springs, Gilpin Co., 14 July (RES).. *Nadata gibbosa* (common), *Nacophora quernaria*, *N. mexicanaria*, *Biston betularia* (CDF).

NEW MEXICO. Contributors: DEB, SJC, CDF, RH, F/JP, RES. The season was normal, except that less summer moisture than normal was found in the southern half of the state. However, in mid June, Caballo Reservoir on the Rio Grande was exceptionally high.

BUTTERFLIES: RH did a systematic study of the species in the Jemez Mtns., and SJC collected a lot of new data from the neglected plains counties. A total of 191 data points were received, representing 87 species. There were 6 STATE records and 104 COUNTY records. *P. protodice*, *C. eurytheme*, *N. iole* and *H. isola* are now recorded from all NM counties (Cibola Co. is excluded pending more data); *P. communis* is known from all but Luna Co. *A. casica*, Rock Hound St. Park, LUNA Co., 8 August (SJC). *S. zampa (=evansi)*, same data (SJC). *P. catullus*, Frio Draw, CURRY Co., 26 August (SJC); Lovington, LEA Co., 12 Sept. (SJC); 6 mi. SE of Roswell, CHAVES Co., 13 Sept. (SJC). *L. eufala*, Mesilla Dam, DOÑA ANA Co., 28 Sept. 1980 (G. Forbes/SJC). *A. simius*, 20 mi. S of Cuba, Sandoval Co., 30 July (RH). *A. a. aenus*, Guaje Cyn., 6500', SANTA FE Co., 3 June (RH); 6 mi. E of Chicomata Mtn., 9200', HIGH ALT., RIO ARRIBA Co., 26 May (RH). *A. oslari*, Guaje Cyn., 6500', SANTA FE Co., 9 June (RH); 1 mi. N of Guaje Pines cemetery, 7600', Los Alamos Co., 9 June (RH). *A. cassus*, 1 mi. N of Guaje Pines cemetery, 7400', LOS ALAMOS Co., 1 July (RH). *A. eos*, Gilman, Guadalupe Cyn., Sandoval Co., 5600', 22 July (RH). *A. hianna turneri*, 1 mi. N of Guaje Pines cemetery, 7600', LOS ALAMOS Co. (confirmatory), 9 June (RH). *A. vierecki*, Tetilla Park, 7000', SANTA FE Co., 2 June (RH); Guaje Cyn., 7200', LOS ALAMOS Co., 18 June (RH). *A. python*, Reindija Cyn., 7000', LOS ALAMOS Co., 3 June (RH). *E. vestris kiawah*, Guaje Cyn., 6500', SANTA FE Co., 18 June (RH). *A. logan lagus*, Frio Draw, CURRY Co., 14 July (SJC). *O. sylvanoides napa*, Regina, SANDOVAL Co. and STATE (confirmatory), 7500', 12 August (RH); Mesa Puleo, 8000', RIO ARRIBA Co., 12 August (RH). *O. yuma* ssp, Rio

Grande Gorge, TAOS Co., EAST and STATE, 12 August (SJC). *P. themistocles*, nr Bear Wallow Lookout, 8900', Catron Co., 10 June (CDF); Rio Grande Gorge, TAOS Co., 22 Sept. (SJC). *A. campestris*, Frio Draw, CURRY Co., 14 July (SJC); Las Cruces, DOÑA ANA Co., 9 Nov. 1963 (J.L.Lopez/SJC). *H. u. uncas*, Caprock Park, Quay Co., 26 August (SJC). *H. viridis*, same data, QUAY Co. (SJC). *H. pahaska*, Guaje Cyn., 7200', Los Alamos Co., 18 June (RH). *H. woodgatei*, Cochiti Cyn., 5900', Sandoval Co., 2 Sept. EARLY (RH); Dome Lookout, 8400', Sandoval Co., 7 Oct. LATE (RH). *Y. rhesus*, common, SE corner of Abiquiu Grant, 8000', Rio Arriba Co., 27 May (RH). *H. p. phyleus*, Lovington, LEA Co., 12 Sept. (SJC); Albuquerque, Bernalillo Co., 31 Oct. LATE (RH). *O. edwardsii*, Rio Grande Gorge, TAOS Co., 23 July (SJC); 1 mi. N of Guaje Pines cemetery, Los Alamos Co., 1 July (RH). *E. p. philenor*, Caprock Park, Quay Co., 26 August (SJC). *P. polyxenes*, nr Caballo Dam, SIERRA Co., 9 Sept. 1979 (G.Forbes/SJC); clinal form close to *coloro*, Mangus Spgs., 4850', Grant Co., 15-17 June (CDF). *P. bairdii*, 1 mi. N of Guaje Pines cemetery, 7600', Los Alamos Co., 9 June (RH). *P. eurymedon*, 1 mi. N of Guaje Pines cemetery, 7400', Los Alamos Co., 1 July (RH). *P. crespontes*, Mangus Spgs., 4850', Grant Co., 15-17 June (CDF). *A. monuste*, Las Cruces, DOÑA ANA Co. and STATE, 15 Oct. 1973 (D. Propst/SJC). *P. rapae*, Los Alamos, LOS ALAMOS Co., 7200', 1 July (RH). *P. napi* ssp, Guaje Cyn., 7000', Los Alamos Co., 9 June (RH); *P. n. mogollon*, Willow Crk. and Bear Wallow Lookout, 8900', Mogollon Mtns., Catron Co., 10 June (CDF). *Z. cesonia*, Frio Draw, CURRY Co., 26 August (SJC); Caprock Park, QUAY Co., 14 July (SJC). *P. sennae*, Caprock Park, QUAY Co., 26 Aug. (SJC). *E. nicippe*, Chaparral Park, Lovington, LEA Co., 12 Sept. (SJC); Hwy 39 at Revuelto Crk., QUAY Co., 22 July (SJC). *C. philodice*, 8 mi. N of Hobbs, LEA Co., 12 Sept. (SJC); Hwy 18 at Frio Draw, CURRY Co., 14 July (SJC). *E. salome*, Guadalupe Cyn., HIDALGO Co. and STATE, 8 Sept. (SJC). *E. nise*, Guadalupe Cyn., HIDALGO Co. and STATE, 11 Nov. LATE (SJC). *L. (C.) heteronea*, Regina, SANDOVAL Co. and SOUTH, 7500', 12 August (RH). *P. alcestis oslari*, Mangus Spgs., 4850', Grant Co., 15-17 June (CDF); *P. alcestis alcestis*, 13 mi. SW of Nara Visa, QUAY Co., 15 June 1975 (K. Roeber/SJC). *H. titus*, Paliza Cyn., 7800', Sandoval Co., 21 July (RH). *S. behrii*, Guaje Cyn., 6500', SANTA FE Co., 18 June (RH). *S. sylvinus putnami*, Mesa Puleo, 8000', RIO ARRIBA Co., 12 August (RH); 2 mi. SE of Abiquiu, 5800', Rio Arriba Co., 5 August (RH). *M. leda*, Willow Crk., Mogollon Mtns., CATRON Co., 10 June (CDF). *C. apama*, Guaje Cyn., 7200', LOS ALAMOS Co., 18 June (RH). *M. s. siva*, Rio Grande Gorge, TAOS Co., 12 August LATE (SJC). *I. polios obscurus*, Calavaras Cg., 7600', Santa Fe NF, Sandoval Co., 7 June (CDF). *S. melinus*, Hwy 18 at Frio Draw, CURRY Co., 14 July (SJC); Caprock Park, QUAY Co., 26 August (SJC). *B. exilis*, Hwy 39 at Revuelto Crk., QUAY Co., 22 July (SJC); Hwy 18 at Texas state line, LEA Co., 17 Oct. (RES). *L. marina*, Caprock Park, QUAY Co., 14 July (SJC); Frio Draw, CURRY Co., 26 August (SJC). *C. argiolus cinerea*, N McKittrick Cyn., Eddy Co., 7 Oct. (SJC). *E. spaldingi*, 6.5 mi. S of Tres Piedras, TAOS Co., 28 July (SJC); Las Cieneguitas, 21 mi. W of Española, 8000', common, Rio Arriba Co., 3 August (RH). *P. (L.) melissa*, 10 mi. W of Organ Mtns., DOÑA ANA Co., 29 Sept. 1975 (D. Jackson/SJC). *P. icarioides buchholzi*, Willow Crk., Mogollon Mtns., Catron Co., 10 June (CDF). *L. bachmanii*, 3 mi. W of Cochiti Pueblo, 5400', SANDOVAL Co., 26 August (RH). *S. aphrodite ethne*, 5 mi. W of Los Alamos, LOS ALAMOS Co., 31 July (SJC). *S. atlantis nikias*, Guaje Cyn., 7000', LOS ALAMOS Co., 9 June EARLY (RH). *B. (C.) titania helena*, 3-5 mi. NE of Seven Spgs., common, SANDOVAL Co. and SW, 8500', 15 July (RH). *T. leanira fulvia*, Tetilla Park, 7000', Santa Fe Co., 2 June (RH); Caprock Park, QUAY Co., 26 August (SJC). *C. lacinia adjutrix*, 3 mi. SE of Clovis, CURRY Co., 11 Sept. (SJC). *C. lacinia* (probably *crocale*), 1 mi. W of Santo Domingo Pueblo, 5000', common, SANDOVAL Co., 3 Sept. (RH). *C. acastus*, Rio Grande Gorge, TAOS Co., 3 Sept. LATE (SJC). *C. nycteis drusus*, Guaje Cyn., 8000', LOS ALAMOS Co., 18 June (RH). *P. mylitta*, Guaje Cyn., 7200', LOS ALAMOS Co., 18 June (RH). *P. interrogacionis*, Frio Draw, CURRY Co., 26 August (SJC); Cowles, SAN MIGUEL Co., 8 June 1937 (Q.A.Hare/SJC). *P. satyrus*, Eagle Crk., Lincoln Co., 12 July 1980 (G.Forbes/SJC). *N. antiopa*, Hwy 18 at Texas State line, LEA Co., 17 Oct. (RES); Frio Draw, CURRY Co., 26 August (SJC). *V. cardui*, 10 mi. E of Eddy Co. line, US Hwy 60/180, LEA Co., 29 May 1983 (SJC); 1 mi. S of Frio Draw, Hwy 18, CURRY Co., 14 July (SJC); Caprock Park, QUAY Co., 26 August (SJC). *J. coenia*, Clayton Lake St. Park, UNION Co., 22 July (SJC); Frio Draw, CURRY Co., 26 August (SJC); 6 mi. SE of Roswell, CHAVES Co., 13 Sept. (SJC); San Lorenzo, RIO ARRIBA Co., 7000', 28 May (RH); Golondrinas, SANTA FE Co., 18 Aug. (RH). *J. nigrosuffusa*, Las Cruces, DOÑA ANA Co., 2 June 1983 (G.Forbes/SJC); Rock Hound St. Park, LUNA Co., 1 May 1983 (SJC). *B. a. archippus*, Golondrinas, 5800', common, SANTA FE Co. (confirmatory), 18 August (RH); 2 mi. SE of Abiquiu, RIO ARRIBA Co., 5 August (RH); Ponderosa, 6000', Sandoval Co., 25 August (RH). *M. petreus*, Guadalupe Cyn., HIDALGO Co. and STATE, 11 Nov. (SJC). *A. andria*, Frio Draw, CURRY Co., 14 July (SJC); Caprock Park, QUAY Co., 26 August (SJC); 1 mi. W of Santo Domingo Pueblo, 5000', Sandoval Co., 3 Sept. (RH). *A. aidea*, Sitting Bull Falls, EDDY Co., 6 Oct. (SJC). *A. clyton texana*, Rattlesnake Spgs., EDDY Co. and STATE, 8 Oct. (SJC). *C. pertepida dorothea*, Reindija Cyn., 7000', LOS ALAMOS Co., 3 June (RH). *C. pegala texana*, Caprock Park, QUAY Co., 14 July (SJC); 1.5 mi. S of Española, SANTA FE Co., 28 July (SJC); Golondrinas, 5800', SANTA FE Co. (confirmatory), 18 August (RH). *O. c. chryxus*, Calavaras Cg., 7600', Santa Fe NF, Sandoval Co., 7 June (CDF). *N. r. ridingsii*, Lobato Mesa, 9000', Rio Arriba Co., common, 30 June (RH). *D. p. plexippus*, Chaparral Park, Lovington, LEA Co., 12 Sept. (SJC); Broadview, CURRY Co., 26 August (SJC); Caprock Park, QUAY Co., 26 August (SJC). *D. gilippus strigosus*, 8 mi. E of Ft. Sumner, DE BACA Co., 11 Sept. (SJC).

MOTHS: *Hemileuca grotei*, Dome Lookout, Sandoval Co., 11-14 Oct. (RH); Ft. Wingate, McKinley Co. and WEST, 30 Sept. 1975 (RH). Cherry Crk. Cyn., 6800', Pinos Altos Mtns., Grant Co., 14 June; at least 22 species, including *Apantesis f-pallida* and *Syrphodia viridiufaria* (CDF). Mangus Spgs. 4850', Grant Co., 15-17 June; *Apantesis geneura*, *Ectypia clic*, *Spilosoma virginica*, *Catocala chelidonia*, *Catocala frederici*, *Prionoxystus robiniae* (CDF). *Hemileuca chinatiensis*, White's City, EDDY Co. and possibly STATE, 15 Oct. 1980 (DEB). *H. oliviae*, UNION Co., 19 Oct. (DEB). *Sphinx separata*, Torrance Co., 12 Aug. (DEB). *Darapsa myron*, Las Vegas, San Miguel Co., 11 Aug. (DEB). *Apantesis blakei*, Quay Co., 16 April (DEB).

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 ZONE 5 PLAINS: SASKATCHEWAN, MANITOBA, NORTH DAKOTA, SOUTH DAKOTA, NEBRASKA, KANSAS. Coordinator: Richard C. Rosche (RCR). Contributors: Clifford D. Ferris (CDF), Gary M. Marrone (GMM), Paul A. Opler (PAO, via RES), Jim Reiser (JR, via SS), Dorothy J. Rosche (DJR), Mark E. Rosche (MER), Mark and Dennis Skadson (MDS, via GMM), Stephen Spomer (SS), Ray E. Stanford (RES), and Eric G. Unkenholz (EGU, via GMM). COUNTY, STATE (in caps) = new county, state records. NORTH, SOUTH, EARLY, LATE, etc. (in caps) are also considered unusual by the contributor and/or coordinator. Abbreviations: coll.=collected; Cyn.=Canyon; L.=Lake; max.=maximum; S.R.A.=State Recreation Area.

SOUTH DAKOTA. BUTTERFLIES: *Ancyloxypha numitor*, near Hill City, PENNINGTON Co., 1st Black Hills record, WEST, 3 Sept. (RCR). *Hesperia nevada*, Deerfield, Black Hills, PENNINGTON Co., STATE, 9 July 1983 (GMM; determined by William W. McGuire). *Poanes hobomok*, 20 seen and coll. Hot Brook Cyn., Black Hills, Fall River Co., 23 June (RCR). *P. taxiles*, Cascade springs, Black Hills, FALL RIVER Co., 26 June (RCR). *Atrytonopsis hianna turneri*, Robinson Flats, 26-28 May (RES,PAO) and Battle Mtn. at Hot Springs, 23 June (RCR), Black Hills, Fall River Co. *Amblyscirtes simius*, 3 coll., 10 mi. west of Oelrichs, Fall River Co., 26 June (RCR). *Megathymus texanus leussleri*, 6 seen and coll., 10 mi. west of Oelrichs, 26 June (RCR). *Papilio bairdii*, Oahe Dam, STANLEY Co., EAST, 26 Aug. (GMM). *Heraclides crespontes*, seen and photographed, Newton Hills State Park, LINCOLN Co., 10 June, 9 Aug., and 1 Sept. (MDS) and several coll. 6 mi. west of

Yankton, YANKTON Co., 16 Aug. 1983 (EGU) - only one previous record for State (GMM). Neophasia menapia, 12 coll. and 50 seen in 4-mile stretch of roadside near Pringle, Black Hills, Custer Co., 7 Aug. (RCR). Colias alexandra alexandra, near Hill City, Black Hills, PENNINGTON Co., STATE, 3 Sept. (RCR). Polygonia interrogationis, Oahe Dam, STANLEY Co., WEST, 8 July (GMM). Aglais milberti, max. 50 seen, Terry Peak, Black Hills, Lawrence Co., 7 Aug. (RCR). Basilarchia arthemis astyanax, 3 mi. south of Oahe Dam, STANLEY Co., WEST, 14 Aug. (GMM). B. archippus, Hot Brook Cyn. at Hot Springs, FALL RIVER Co., 2 Sept. and seen near Hill City, PENNINGTON Co., 3 Sept., 1st Black Hills record (RCR). Asterocampa celtis, Oahe Dam, STANLEY Co., WEST, 8 July (GMM); Cascade Springs, FALL RIVER Co., 1st Black Hills record, 26 June (RCR).

MOTHS: Hyles gallii, near Rocheford, Black Hills, Pennington Co., 7 Aug. (RCR). Alypia langtoni, Terry Peak, 7077', Black Hills, Lawrence Co., 3 July (RCR).

NEBRASKA. BUTTERFLIES: Erynnis brizo, Indian Cave State Park, NEMAHA and RICHARDSON Cos., 27 Apr. (SS). E. afranius, Bull Cyn., BANNER Co., 1st Wildcat Hills record, 26-28 May (RES,PAO). Poanes viator, northwestern Cherry Co., 15 July - 2nd recent record, the other being at Smith L., Sheridan Co., 30 July 1982 (RCR). Euphyes bimacula, Lisco, Garden Co., 25 July (RCR). E. ruricola metacomet, Dead timbers S.R.A., DODGE Co., 7 July (SS); max. 250, West Ash Creek Cyn., 11 July (RCR). Amblyscirtes vialis, Lewellen, GARDEN Co., 24 July (RCR). Lerodea eufala, Lincoln, LANCASTER Co., 25 Sept. 1983 (SS). Megathymus texanus leussleri, 2 coll. and seen, north of Hay Springs, SHERIDAN Co., 27 June (DJR,RCR). Parnassius phoebus sayii, female coll. Monroe Cyn., Sioux Co., where it was 1st record in recent years, 24 June (CDF). Papilio bairdii, Gallagher Cyn. S.R.A., DAWSON Co., 15 July-7 Sept. 1983, EAST (SS, JR). Pontia sisymbrii nordini, Bull Cyn., BANNER Co., 1st Wildcat Hills record, 26-28 May (RES,PAO). Euchloe ausonides palaeoreios, Bull Cyn., BANNER Co., 1st Wildcat Hills record, 3 June (SS). Colias alexandra alexandra, male hybrid x C. philodice, Sowbelly Cyn., Sioux Co., 11 Aug. (SS). Zerene cesonia, West Ash Creek Cyn., 11 July (RCR); Monroe Cyn., 16 Aug. (CDF). Mitoura gryneus, Rock creek S.R.A., JEFFERSON Co., 17 May 1983, WEST - 1st found in state in 1981 (SS, JR). Incisalia eryphon, Nebraska Nat'l. Forest near Halsey, THOMAS Co., 21 May 1983, EAST (SS, JR). Leptotes marina, Gallagher Cyn. S.R.A., DAWSON Co., 23 July 1983 (SS, JR); Shell L., CHERRY Co., 15 July (RCR). Echinargus isola alce, "hundreds", Clear Creek area, Garden Co., 25 July (DJR,RCR). Plebejus acmon, Nebraska Nat'l. Forest near Halsey, THOMAS Co., 28 May 1983 (SS, JR). Speyeria idalia, unusually common and widespread throughout, even into dry foothill canyons late in season. S. zerene, Monroe Cyn., 17 July and West Hat Creek Cyn., Sioux Co., 30 July, 1st recent records (RCR). S. callippe, mouth Monroe Cyn., 17 July, very few modern records for state (RCR). Clossiana selene sabulocollis, est. 65 in 1-mile stretch of roadside ditch near Shell L., 3 Aug. (RCR); abundant, Smith L., 11 Aug. (SS) - 2d brood. Occidryas anicia bernadetta, melanic, Monroe Cyn., 2 June (SS). Junonia coenia, Ash Hollow, Garden Co., 24 July (RCR). Basilarchia arthemis astyanax, Nebraska Nat'l. Forest near Halsey, THOMAS Co., WEST, 12 Aug. (SS). Satyrodes eurydice, max. 60-65 in short walk, Shell L., 15 July (RCR). Cercyonis meadii (possible mexicana), Monroe Cyn., 16 Aug. (CDF) - very few state records. C. oetus, Monroe Cyn., 17 July (RCR), few previous state records.

MOTHS: Gloveria arizonensis, noted 9-16 July with max. of 4 on 14 July, 12 miles south of Chadron, Dawes Co., NORTHEAST, 3rd consecutive year (RCR). Coloradia pandora, noted 2-30 Aug, max. 500 on 17 Aug., eggs on 20 Aug., 12 miles south of Chadron (RCR). Antheraea polyphemus, 12 miles south of Chadron, DAWES Co., 19 July (RCR). Paonias excaecatus, 12 miles south of Chadron, DAWES Co., 3 Aug. (RCR). Proserpinus juanita, West Ash Creek Cyn., DAWES Co., 11 July (RCR). Catocala meskei, Clear Creek area, KEITH Co., 26 Oct., LATE (RCR).

MIGRATORY SPECIES: Vanessa cardui, very scarce all season after being unusually common during 1983.



ZONE 6 SOUTH CENTRAL: OKLAHOMA, TEXAS, ARKANSAS, LOUISIANA. Coordinator: Edward C. Knudson (ECK). Contributors: H. David Baggett (HDB), Richard Boscoe (RB), Vernon A. Brou (VB), Frank Fee (FF), H.A. Freeman (HAF), Mecky Furr (MF), Richard Holland (RH), John Kemmer (JK), Tom Kral (TK), Tom Neal (TN), Mike Rickard (MR), Ray Stanford (RS), Charlie Stevens (CS), Paul Tuskes (PT), Robert Warren (RW), Chuck Zeiger (CZ). County in CAPS indicates county record. STATE = State record. SOUTH = Southernmost record.

OKLAHOMA. The only report for Oklahoma was submitted by H.A. Freeman, who received Catocala sp. from Robert Warren.

MOTHS: Catocala epione, C. consors, C. illecta, C. lacrymosa, C. junctura, C. insolabilis, C. paleogama, C. amica lineala, C. jair, C. coccinata, 2 mi. N of McAllister, Pittsburg Co., June and July at sugar bait and light.

TEXAS. Following one of the coldest Decembers on record, Texas experienced a dry, fairly warm spring, with severe drought conditions reported in the south and far west. By midsummer, however, most of the state had received adequate rainfall, with above normal amounts in the far west and panhandle areas.

BUTTERFLIES: The annual meeting of the Southern Lepidopterists' Society was held on Oct. 20, in Bentsen State Park, with 115 butterfly species observed or collected by participants (HDB, RB, FF, ECK, TK, TN, MR, RS, CS, CZ, and others). Only a few choice catches are listed here. Chionodes zilpa, Bentsen S.P., 29 Oct. (TK); Cabares potrillo, Santa Ana NWR, 21 Oct. (ECK, MR), 24-28 Oct. (TK); Panoquina evansi, McAllen, Hidalgo Co., 20 Oct., sight (MR, ECK); Appias drusilla, Bentsen S.P., 29 Oct. (TK), Peñitas, Hidalgo Co., 21 Oct. (ECK); Ganyra josephina josepha, Bentsen S.P., 27-30 Oct. (TK); Pontia sisymbrii, (first reported from Texas in 1983 season summary), McKelligan Canyon, El Paso Co., 25 March [1981], 27 February [1983] (RH); Anteos maerula, Santa Ana NWR, 12-28 Oct. (FF, RB); Gaeides xanthoides dione, 10 mi. S of Allison, Wheeler Co., 23 June (ECK, MR); Harknlenus titus, 5 mi. S of Allison, 23 June (MR); Thereus spurina?, Santa Ana NWR, 28 Oct. (TK); Xamia xami, Palmito Hill, Cameron Co., Oct. (FF, RB); Strymon rufofuscus, Zapata, Zapata Co., Oct. (FF, RB); Thessalia fulvia, 5 mi. S of Shamrock, Wheeler Co., 23 June (ECK, MR); Chlosyne janais, Bentsen S.P., 20 Oct. (RS); Junonia evarete, Santa Ana NWR, 21 Oct. (ECK, MR), 31 Oct. (TK); Siproeta stelenes biplagiata, Bentsen S.P. & Santa Ana NWR, 20-29 Oct. (HDB, RB, FF, ECK, TK, MR, CS); Anartia fatima, Santa Ana NWR, 21 Oct. (HDB); Adelpha fessonia, Santa Ana NWR, Oct. 20-30, (RB, FF, TK); Biblis hyperia aganisa, Peñitas, 21 Oct. (ECK, MR); Marpesia petreus, Peñitas, 21 Oct. (ECK, MR, RS); Smyrna sp., Santa Ana NWR, 21 Oct., sight (MR); Cercyonis meadii mexicana, Davis Mts., 19 Aug. (ECK).

MOTHS: All records are by ECK at UV light, unless otherwise noted. Due perhaps to above normal rainfall, summer and fall moth collecting in west and north Texas was the best in recent years. **TINEIDAE-** Phaeoses sabinella, Bellaire, HARRIS Co., 15 Sept.; Opogona arizonensis, Ft. Davis, JEFF DAVIS Co., 19 Aug. **LYONETIIDAE-** Euprorra argentilineella, Santa Ana NWR, Hidalgo Co., 18 Nov.; Bucculatrix trifasciella, Bellaire, HARRIS Co., STATE, 6 May. **OECOPHORIDAE-** Autosticha kytensis, Bellaire, HARRIS Co., STATE, 6-12 May; Menesta melanella, Lake Tawakoni, HUNT Co., 15 July. **COSMOPTERIGIDAE-** Tanygona lignicolorella, Bellaire, HARRIS Co., STATE, 12 May; Eralea albalineella, Lake Brownwood, BROWN Co., 30 April; Limnaecia phragmitella, Southmost, CAMERON Co., 2 June, SOUTH. **GELECHIIDAE-** Aristotelia hexacopa, Sierra Diablo WMA, CULBERSON Co., STATE, 18 Aug.; Chionodes kinkaidella, Big Bend Nat'l. Pk., BREWSTER Co., STATE, 1-6 April; Strobisia proserpinella, Garland, Dallas Co., 2 June (HAF). **ALUCITIDAE-** Alucita hexadactyla?, Big Bend Nat'l.

Pk., 6 May; Santa Ana NWR, 21 Oct. CARPOSINIDAE- Bondia comonana, Sierra Diablo, CULBERSON Co., STATE, 2 May, 18 Aug. GLYPHPTERIGIDAE- Glyphipterix circumscriptella, Laguna Park, BOSQUE Co., STATE, 29 April (Heppner det.). ACROLEPIIDAE- Acrolepiopsis reticulosa, Sierra Diablo WMA, CULBERSON Co., STATE, 18 Aug. TORTRICIDAE- Corticivora parva, Bellaire, HARRIS Co., STATE, 25 April. LIMACODIDAE- Epiperola perornata (second Texas rec.), Santa Ana NWR, 6 May (PT). PYRALIDAE- Neodavisia melusina, Santa Ana NWR, 18 Nov.; Phobus incertus, Ft. Davis, JEFF DAVIS Co., STATE, 3 May; Psorosina hammondi, Lake Brownwood, BROWN Co., STATE, 30 April; Sosipatra thurberiae, Big Bend Nat'l. Pk., BREWSTER Co., STATE, 6 April. GEOMETRIDAE- Anacamptodes pseudohorse, U.S. Record, Big Bend Nat'l. Pk., BREWSTER Co., STATE, 6 April (Rindge det.); Itame ribearia, Lake Marvin, HEMPHILL Co., STATE, 23 June; Euaspilates spinataria (second Texas rec.), Sierra Diablo, 18 Aug.; Synchlora gerularia, Santa Ana NWR, 18 Nov.; Semaeopus marginata, Santa Ana NWR, 18 Nov. SATURNIIDAE- Sphingicampa bicolor, Rio Hondo, Cameron Co., 28 Sept. (PT); S. heiligbrodti, Santa Ana NWR, 26 April (PT); S. blanchardi, Rio Hondo, 28 Sept. & Santa Ana NWR, 26 April (PT); S. albolineata, Southmost, 2 June; Coloradia pandora davisii, Sierra Diablo WMA, 18 Aug.; Hemileuca maia peigleri, Lake Travis, Travis Co., 25 Nov. & 10 mi. S of Burnet, Burnet Co., 25 Nov. (PT); H. grotei, same as preceding, and Wimberly, Hays Co., 24 Nov. (PT). SPHINGIDAE- Sphinx libocedrus, Lake Brownwood, 30 April; S. dollii, Laguna Park, 29 April; S. drupiferarum, Lake Marvin, 23 June; Smerinthus saliceti, Big Bend Nat'l Pk., 4 April. NOTODONTIDAE- Oligocentria coloradensis, Davis Mountains, Jeff Davis Co., 15 July (TN). ARCTIIDAE- Ecpantheria muzina, Santa Ana, 21 Oct. NOCTUIDAE- Remodes curviluna, U.S. Record, Bentsen State Pk., HIDALGO Co., STATE, 20 Oct. (Poole det.); Renia rigida, Ft. Davis, JEFF DAVIS Co., STATE, 19 Aug.; Anomis editrix, Santa Ana NWR, 18 Nov. (bait); Ephyrodes cacata, Santa Ana, 18 Nov. (bait); Massala obvertens, Santa Ana, 17 Nov. (bait); Lesmone formularis, Santa Ana, 18 Nov.; Latebraria amphipyroides, Santa Ana NWR, HIDALGO Co., possible STATE, 24 Oct. (bait) (TK); Thysania zenobia, Santa Ana NWR, 24 Oct. (bait) (TK); Ophisma tropicalis, Bentsen State Park, 20,21 Oct. (HDB,ECK); Mimophisma delunaris, Santa Ana NWR, 18 Nov. (bait); Catocala vidua, Bellaire, HARRIS Co., 29 Oct.; C. meskei, Lake Marvin, HEMPHILL Co., STATE, 23 June (HAF det.); C. frederici, Sierra Diablo WMA, 18 Aug.; C. illecta, Paducah, Cottle Co., 22 June; H.A. Freeman submitted two Catocala lists, the more interesting species reported being C. delilah, C. herodias, C. coccinata, C. verrilliana, C. jair, all 6 mi. W of Dripping Springs, Hays Co., May, June (JK); and C. innubens, C. epione, C. vidua, C. lacrymosa, C. neogama loreta, C. amatrux, C. alabamae, all Garland, 21 May-6 Oct. (HAF); Tripudia inquaesita, C. chihuahua, Acontia arida, A. sedata, all Big Bend Nat'l. Pk., 6 April; Acronicta thoracica, Davis Mts., 15 July (TN); Cryphia sarepta, Ft. Davis, 19 Aug.; Agroperina lutosa, Spartiniphaga includens, Amphipoea erepta, Amphipyra glabella, all STATE records, Lake Marvin, HEMPHILL Co., 23 June; Azenia implora, Lythrodus radiatus, Aleptinoides ochrea, Alpine, Brewster Co., 17 Aug.; Stibadium ochoa, Cirrhophanus papago, Cucullia eucaena, Emarianna cucullidea, Davis Mts., 19,20 Aug.; Trichoclea ruisa, Orthosia tenuimacula, Tricholita baranca, Garner State Pk., Uvalde Co., 6 Oct.; Derrima stellata, Tennessee Colony, Anderson Co., 16 June; Schinia bina, S. sexplagiata, S. miniana, S. hulstia, S. obliqua, all Davis Mts., 19,20 Aug.

ARKANSAS. Only report received was from Mecky Furr. Additional records from ECK and MR.

BUTTERFLIES: All from Wapanocca Nat'l. Wildlife Refuge (MF), unless otherwise indicated. Epargyreus clarus, 11 June, also 2-5 mi. east of Devil's Den State Pk., Washington Co., 2 July (ECK,MR); Polites themistocles, Pompilus verna, Atrytone logan, all near Devil's Den S.P., 2 July (ECK,MR); Eurytides marcellus, July 21,28 (LATE), also near Devil's Den S.P., 2 July (ECK,MR); P. glaucus, 28 April, 29 June; P. troilus, 28 April-28 July; Artogeia rapae, 11,29 June; Harknclenus titus, Satyrium edwardsii, near Devil's Den S.P., 2 July (ECK,MR); Everes comyntas, 28 April, 29 June; Libytheana bachmanii, 11 June, 21,28 July; Speyeria cybele, near Devil's Den S.P., 2 July (ECK,MR); Basilarchia archippus, 29 June-7 Sept.; Anaea andria, 28 April, 12 May; Asterocampa celtis, 11 June, 21,28 July; A. clyton, 29 June-7 Sept.; Enodia portlandia missarkae, 7 Sept.; Cercyonis pegala, 21 July, also near Devil's Den S.P., 2 July (ECK,MR).

MOTHS: SATURNIIDAE- Anisota virginensis, Wapanocca Nat'l. Wildlife Refuge, Crittenden Co., 21 July, larvae common on Oak. SPHINGIDAE- Specodina abbotti, same locality, 28 July, both MF.

LOUISIANA. Vernon Brou reports 1984 one of the driest years on record for SE La., however, Sphingidae and Catocala found in record amounts. Saturniidae in lowest numbers in 24 years.

MOTHS: SATURNIIDAE- Automeris louisiana, 3 mi. S of Golden Meadow, LaFourche Par., 7 April, 11 July, 1 Oct. (PT). The following is a list of new STATE records provided by Brou, nearly all from 4.2 mi. NE of Abita Springs, ST. TAMMANY Par. (dates not given). ERIOCRANIIDAE- Dyseriocrania griseocapitella; TINEIDAE- Diachorisia velatella, Nemapogon rileyi, N. acapnopennella, Cephitinea obscurostrigella, Setomorpha rutella; GRACILLARIIDAE- Micrapteryx salicifolella, Caloptilia rhoifoliella, C. blandella, C. violacella, C. belfrageella, C. stigmatella; OECOPHORIDAE- Antaeotricha unipunctella, Pseuderotis obliterella, Decantha boreasella; COSMOPTERIGIDAE- Cosmopterix nitens, Pyroderces badia; CELECHIIDAE- Battaristis vittella, Dichomeris bipunctella; SESIIDAE- Pennisetia marginata; TORTRICIDAE- Zomaria rosaochreana, Z. interruptolineana, Phaenocarpa niveiguttana, P. inspersa, Olethreutes osmundana, O. fasciatana, Rhyacionia adana, Phaneta annetteana, P. ambodaidaleia, Eucosma glomerana, E. cocana, E. fratruelis, E. circulana, Pelochrista scintillana, Epiblema obfuscana, E. grossbecki, Gretchena nymphana, Hedya separatana, Archips magnoliana, Acleris maculidorsana; COSSIDAE- Fania nana; PYRALIDAE- Eudonia heterosalis, Parapognx diminutalis, Helvibotys helvialis, Pyrausta volupialis, P. niveiciliaris, P. inornatalis, Somatania pellucidalis, Desmia subdivisalis, Neoleucinodes prophetica, Diaphania indica, Omiodes martyralis (prob. U.S. Record), Palpita gracilialis, Lygropia rivalulis, Framinghamia helvalis, Herpetogramma centrostrigalis, Patissa sordidalis, Argyria auratella, A. diplomachalis?, Haimbachia squamulella, H. placidella, Herculia infimbrialis, Penthesilea sacculalis, Nephoterix subfuscella, Plodia interpunctella, Sosipatra rileyella, Tampa dimidiatella, Atacosa glareosella, Homosassa platella, Peoria bipartitella; GEOMETRIDAE- Exelis dicolus, Anacamptodes ephyrraria, Euchlaena muzaria, Metarranthis refractaria, M. lateritiaria, Caripeta aretaria, Probole alienaria, Nemoria extremaria, Scopula purata; SPHINGIDAE- Erinnys dominionis; NOTODONTIDAE- Heterocampa varia; ARCTIIDAE- Apantesis virgo, Cygnia inopinatus, C. tenera; NOCTUIDAE- Zanclognatha martha, Z. cruralis, Lomanaltes eductalis, Sigela eiodes, Gabara distema, Goconodonta pyrgo, Argyrostromis contempta, A. sylvarum, Catocala crataegi, C. lincolnana, C. jair, Nola phylla, Tarachidia parvula, Parastichtis discivaria, Meropleon ambifusca, Cirrhophanus triangulifer, Minofala instans, Lithophane unimoda, Lacanobia legitima, L. beani, Lacinipolia implicata, Euxoa inconcinna, Loxagrotis acclivis, Heliothis turbatus. (Various determinations of above material by J.F.G. Clarke, R.W. Hodges, J.C. Shaffer, E.G. Munroe, D.C. Ferguson, D.R. Davis, and others).

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ZONE 7 ONTARIO/QUEBEC. Coordinator: R.A. Layberry (RL). Contributors: Y-P. Dion (YD), D.E. Elder (DE), W.J.D. Eberlie (JE), W.M. Edmunds (WE), T.T. Ikeda (TI), J. Kamstra (JK), J.D. LaFontaine (JDL), M.K. Matheson (MM), M.J. Oldham (MO), J. Prideaux (JP), M. Runtz (MR), D. Schweitzer (DS), D.A. Sutherland (DAS).

ONTARIO. All butterflies and moths, especially sphingids, Saturniids and migrant butterflies, were in unusually low numbers, in Eastern Ontario, but moths were extremely abundant in SW and NW Ontario, as were Buckeyes (*J. coenia*) in southern Ontario.

BUTTERFLIES: *Hesperia comma laurentina*, Quibble Lake, Rainy River District, June 10 (JP). *Polites origines*, Toronto Islands, York Co., June 30, July 31 (WE). *Pompeius verna*, Gesto, Essex Co., July 21 (TI); Toronto, York Co., July 13 (WE). *Atrytone logan*, Ojibway Prairie, Windsor, Essex Co., July 1 (TI); Toronto, York Co., July 13 (WE). 1 *Poanes hobomok* and 2 *Thymelicus lineola* were found dead, trapped inside flowers of Showy Lady Slipper Orchid, *Cypripedium reginae* at White Lake Fen, McNab Twp., Renfrew Co., July 2 (RL). *Euphyes dion*, Winchester Springs, Williamsburgh Twp., Dundas Co., July 17 (RL). *Artogeia virginensis*, Bobs Lake, Bedford Twp. and Sharbot Lake, Oso Twp., Frontenac Co., May 19 (RL); Big Rideau Lake, Leeds Co., May 27 (JK). *Euchloe olympia*, Yogi Bear, Lambton Co., May 12 (TI). *Epidemia epixanthe*, Alfred Bog, Prescott Co., July 8 (RL); Brockville Bog, Leeds Co., June 28 & Wainfleet Bog, Niagara R.M., June 24 (JK). Many pupae of *Satyrium edwardsii* and a few 5th instar larvae found in leaf litter at base of saplings of Black Oak (*Quercus velutina*), attended by small ants (*Lasius* sp.) seen feeding at dorsal honey glands of larvae, Lambton Mills, Toronto, York Co., June 23 (WE). *Satyrium caryaevorum*, Beverly Swamp, Wentworth Co., July 19 (TI). *Mitoura gryneus*, 15 km N of Kingston, Frontenac Co., June 23 (TI). *Everes comyntas*, Quibble Lake, Rainy River Dist., June 10 (JP). *Lycaeides idas*, Huronia creek, Rainy River Dist., June 26 (JP). *Libytheana bachmanii*, strays, at Colborne, Northumberland Co., Aug. 6 (JE) & Kanata, March Twp., Carleton Co., Sept. 8 (RL), a range extension of at least 200 miles NORTHEAST. *Phyciodes batesii*, Wainfleet Bog, Niagara R.M., June 24 (JK). *Junonia coenia*, Iroquois Island, Matilda Twp., Stormont Co., June 20 (DAS), COUNTY record. *Satyrodes appalachia*, S. of Uphill, Carden Twp., Victoria Co., July 8 (DAS); Beverly Swamp, Wentworth Co., July 14 & Gesto, Essex Co., July 21 (TI); Long Swamp, Huntley Twp., Carleton Co., July 5; Grantley, Williamsburgh Twp., Dundas Co., July 17; Cedar Swamp North and South of Phragmites Fen, Marlborough Twp., Carleton Co., July 22; 5½ miles NW of Pakenham, Lanark Co., Aug. 3 (all RL). *Erebia disa*, Thunder Bay, Thunder Bay District, June 20 (JP). *Oeneis macounii*, Shebandowan, Rainy River Dist., June 24, 25 (JP).

MOTHS: SPHINGIDAE- MM took 16 Sphingids at Arner and Leamington, Essex Co., including *Eumorphia achemon* and *E. pandorus*; DE took 19 Sphingids at Atikokan, Rainy River Dist., including *Ceratonia undulosa*, June 17-July 18, *Sphinx canadensis*, June 20-July 18, *S. luscitiosa*, June 20-July 12, *S. drupiferarum*, July 1 (first Atikokan record), *Cressonia juglandis*, June 19, and *Proserpinus flavofasciata*, June 9. SATURNIIDAE- New colony of undescribed *Hemileuca* discovered at Richmond Fen, Marlborough Twp., Carleton Co. Larvae were feeding on Dwarf Birch (*Betula pumila*), White Meadowsweet (*Spiraea alba*) and Willow (*Salix* spp.), presumably after running out of the normal foodplant Buckbean (*Menyanthes trifoliata*), July 15 and 22. Many thousands of adults were in flight Sept. 16 and 23 (RL). GEOMETRIDAE- *Hydriomena prifracata*, Ottawa, Carleton Co., June 2, most southerly Ontario record (JDL). GELOCHIIDAE- In April, 5 species of *Semioscopis*, including second and third Canadian records of *S. merrickella*, April 13 and 27, Ottawa (JDL) (first record is from British Columbia). HEPIALIDAE- *Hepialis mustelinus*, three specimens, July 22-24, Ottawa, only Ontario record this century (JDL). NOCTUIDAE- *Idia denticulalis*, July 23, 1983, Sharbot Lake, Frontenac Co., three specimens, first CANADIAN record (JDL); MM reported 25 species of *Catocala* from Essex Co., including *C. serena*, Aug. 4 and 5, *C. nebulosa*, Aug. 10, third Canadian record, and *C. insolabilis*, July 28 and Aug. 12, third Canadian record; *C. semirelictata* and *C. coelebs*, Aug. 24, Atikokan, Rainy River Dist. (DE); *C. neogama*, Aug. 26, at Ottawa, Carleton Co. (JDL) and Arnprior, Renfrew Co. (MR), most northerly Ontario records; *C. habilis*, Sept. 10, Ottawa (JDL); *C. connubialis*, Pinery Provincial Park, Lambton Co., first ONTARIO record (DS); *Hypocaena defecta*, July 23, Ottawa (JDL); *Papaipema baptisiae*, Aug. 18, Ottawa (JDL); *Schinia gloriosa*, Pinery Provincial Park, Lambton Co., first CANADIAN record (DS).

QUEBEC. **BUTTERFLIES:** *Poanes viator*, Bristol Ridge, Pontiac Co., July 26 (RL); *Amblyscirtes hegon*, Jarnac, Mulgrave Twp., Papineau Co., June 17 (RL); *Papilio brevicauda gaspeensis*, Mount Albert, Gaspésie Park, July 14 (YD); *Euchloe olympia*, common at Luskville Falls, Gatineau Park, and many ova on *Arabis divaricarpa*, June 3, and two fifth-instar larvae on *A. divaricarpa* at Mountain Road, Gatineau Park, June 13 (RL); *Colias interior*, common, Laurentides Park, July 22 (YD); *Epidemia epixanthe*, Hopkins Hole, Gatineau Park, Aug. 19, LATE (RL); *Satyrium acadica*, Poltimore, Portland Twp., Papineau Co., Aug. 26, LATE (RL); *Lycaeides idas*, Laurentides Park, July 23 (YD); *Clossiana titania grandis*, common, Laurentides Park, July 22 (YD); *Phyciodes batesii*, Lac Campbell, Denholm Twp., Gatineau Co., June 10 (RL); *Polygonia satyrus*, Notre-Dame-de-la-Salette, Portland Twp., Papineau Co., June 10 (RL); *Satyrodes appalachia*, common, Caldwell, Bristol Twp., Pontiac Co., July 26 (RL); *Oeneis chryxus*, 1 male, Laurentides Park, July 22 (YD); *O. taygete gaspeensis*, very common, Mount Albert, Gaspésie Park, July 14 (YD); *O. Polixenes polixenes*, rare, Mount Albert, Gaspésie Park, July 14 (YD).



ZONE 8 MIDWEST: MISSOURI to MINNESOTA to MICHIGAN to WEST VIRGINIA. Coordinator: M. C. Nielsen (MN).. Contributors: T. Allen (TA), G. Balogh (GB), J. Bess (JB), R. Bracher (RB), J. Calhoun (JC), C. Covell Jr. (CC), L. Ferge (LF), L. Gibson (LG), T. Herig (TH via MN), D. Hess (DH), G. Holbach (GH), J. Hooper (JH), J. Jordison (JJ), R. Leary (RL), V. Lucas (VL), E. Metzler (EM), W. Miller (WM), J. Mow (JM), S. Mueller (SM), D. Oosting (DO), J. Parkinson (JP), D. Parrshall (DP), J. Peacock (JPe), J. Perona (P via MN), J. Riddlebarger (JR), Y. Sedman (YS), E. Shull (ES), E. Voss (EV), W. Westrate (WW), J. Wiker (JW), J. Wilkie (W). **GENERAL COMMENTS:** A colder winter than last year followed by a cool, wet spring in many sections. Fewer reports were received with many finding butterflies in lower numbers than in 1983; many found *P. coenia* up this year, while *V. cardui* was all but absent in most areas. *Catocala* appeared to be making a comeback from the past few seasons. Southern strays were less common in northern areas. *D. plexippus* continued to be down in numbers, and no migrations were reported. All new county records are capitalized. STATE indicates state record. SP = State Park; SF = State Forest.

MISSOURI. No reports!

KENTUCKY. Four collectors responded: Covell submitted brief accounts of several trips from April to Oct., and continued to add to the state lepidopteral survey, now standing at 2,085 species; Gibson found *Catocala* to be rebounding and was successful taking many *Papaipema* species in light traps.

BUTTERFLIES (CC): *P. communis*, 12 May, 8 Sept., Fulton Co.; *N. lherminier*, 12 May, Fulton Co.; *P. yehl*, *E. dion*, 8 Sept., Fulton Co.; *A. belli*, 8 Sept., FULTON Co.; *F. midea*, 20 Apr., Bullitt Co.; *A. nicippe*, 8 Sept., Fulton Co. (most ever seen in one loc.); *C. ebenina*, 20 Apr., Bullitt Co.

MOTHS: *Glaphyria peremptalis*, 5 July, BOONE Co., STATE (LG); *Idamea scintillularia*, 15 Aug., BOONE Co., STATE (LG); *Catocala robinsoni* fm. *missouriensis*, *flebilis*, *angusi*, *maestosa*, *lacrymosa*, *luctuosa*, 1-3 Sept., Barren Co. (WM); *C. unijuga*, 14 Sept., HICKMAN Co. (JH); *D. aeroides*, *balluca*, 13 July, HARLAN Co., STATE (VL); *P. buffaloensis*, 14 Sept., MENIFEE Co. (LG); *P. polymniae*, 12 Oct., Meade Co. (LG); *P. rutila*, *marginidens*, *furcata*, *nelita*, *cerussata*,

31 Aug.-11 Oct., Menifee Co. (LG); S. gaurae, 18 Aug., BULLITT Co. [adults/larvae on G. biennis, filipes-1st record since 1914 (LG)].

WEST VIRGINIA. Allen submitted a list of less common butterflies as part of a book of WV butterflies in progress. Abbreviations used: PHA = public hunting area, Pk = Park, Ck = Creek, Lk = Lake, SP = State Park.

BUTTERFLIES (TA): A. cellus, 12 June, Big Ugly PHA, LINCOLN Co.; N. lherminier, 14 June, Summersville Dam, NICHOLAS Co.; L. accius, 27 Aug., Charlestown, JEFFERSON Co., STATE; P. ocola, 21 Sept., Coonskin Pk., KANAWHA Co.; A. nicippe, 27 Aug.-16 Oct., Shenandale Spgs., JEFFERSON Co., Waiteville, MONROE Co., Rt. 33, E of Seneca Rocks, PENDLETON Co.; H. hyllus, 16 June, Huttonsville Prison, RANDOLPH Co.; A. halesus, 28 Apr., Fork Ck. PHA, BOONE Co. ('81 STATE record); C. cecrops, 7 May, Fork Ck. PHA, BOONE Co., 23 Aug., Burnsville Lk., BRAXTON Co.; I. augustus, 10 Apr., Sugar Grove, PENDLETON Co.; I. nippon, 25-27 Apr., Bluestone SP, SUMMERS Co., Larenim Pk., MINERAL Co.; C. ebinina, 2-25 Apr., E Lynn Lk., WAYNE Co., Bluestone SP, SUMMERS Co., Fork Ck. PHA, BOONE Co.; C. borealis, 20 Aug., Larenim Pk., MINERAL Co.; S. diana, 1 Aug.-14 Sept., Cranberry Glades, POCAHONTAS Co., Rt. 41 N of Nallen, NICHOLAS Co., Quinwood, GREENBRIER Co., Waiteville, MONROE Co.; C. harrisii, 7 July, Pigs Ear, POCAHONTAS Co.

OHIO. Four reports were filed; Calhoun noted that migratory species A. campestris and P. lisa were low compared to last year, and that only one V. cardui was seen in late fall. Parshall reported spring was the worst, but summer one of the best, he has experienced. Documenting nearly 60 new butterfly county records, Dave found a local explosion of hairstreaks in central Ohio and saw J. coenia in many areas.

BUTTERFLIES: A. cellus, 19 June-2 July, Lawrence Co., many (JC); S. hayhurstii, 29 July-5 Aug., Lawrence & JACKSON Cos., common (JC); E. horatius, 28 July, UNION Co.(JC); E. martialis, 12 June, LAWRENCE Co. (JC); P. massasoit, 28 June-23 July, Clarke & LOGAN Cos. (JC,DP); E. bimacula, 25-30 June, LOGAN Co., 1st OH record in this century (DP), UNION Co., local-habitat in danger (DP); E. dukesi, 13 July, MORROW Co. (DP); P. protodice, 17 July-11 Oct., Lawrence Co., appears well estab. (JC); E. olympia, 28 Apr., LAWRENCE Co., STATE (JR), 5 May, Lawrence Co. (JC); A. nicippe, 5 May (EARLY)-12 Sept., LAWRENCE Co. (JC); E. helloides, 5-9 June, FULTON Co. (JC); I. irus, 12-19 May, Lucas Co. (JC); I. henrici, 25-29 Apr., LAWRENCE Co. (JC); I. nippon, 25-27 Apr., Lawrence Co. (JC); E. ontario, 25 June-2 July, WYANDOT Co., 4th/5th state record (DP); C. ebinina & G. lygdamus, 25 Apr.-5 May, LAWRENCE Co. (JC); C. borealis, 25 June-8 July, LAWRENCE Co., large colony (JC); C. selene myrina, 1-9 June, FULTON Co. (JC).

MOTHS: C. sepulchralis, 4 Aug., Lawrence Co. (JC); P. plebeja, L. coniferarum, 4 Aug., Lawrence Co. (JC); Crambidia pura, 4 Aug., Lawrence Co. (JC); E. nubilis, July (LATE), LOGAN Co. (DP); C. habilis, vidua, 18 Oct., HARRISON Co. (DP); L. digitalis, 24 Sept., ERIE Co., STATE (EM); Spartiniphaga inops, 24-25 Sept., Resthaven WA, ERIE Co., STATE (EM); P. silphii, 24-25 Sept., RWA, ERIE Co., STATE, larvae in roots of S. terebinthinaceum (EM); P. beeriana, 24-25 Sept., RWA, ERIE Co. (EM); H. immanis, micacea, 24-25 Sept., ERIE Co. (EM).

INDIANA. Two reported: Bracher enjoyed one of his best years with butterflies, esp. the spring and fall broods of P. glaucus, black females predominating. He tagged only six D. plexippus versus more than a hundred in previous years, and found N. antiopa still down from heavy fungus disease the year before. Shull reported 211 lepidoptera species, reflecting limited collecting opportunities compared to previous years. He found Catocala still down in Brown and Union Cos.

BUTTERFLIES (ES): P. communis, 17 Sept., N. Manchester, Wabash Co.; N. lherminier, 21 Aug., Brown Co. SP; H. phyleus, 17 Sept., N. Manchester, Wabash Co.; P. massasoit, 12 Aug., Camp Mack, Milford, Kosciusko Co.; A. napi oleracea, 15 June, Mongo Bog, LaGrange Co.; P. lisa, 20-21 Aug., Brown Co. SP & 27 Sept., Whitewater Mem. SP, Union Co.; E. dorcas, 27 Aug., Nasby Fen, Mongo, LaGrange Co. (100's); C. muticum, 22 July, Nasby Fen, Mongo, LaGrange Co.; L. bachmanii, 19 Sept., N. Manchester, Wabash Co.; E. claudia, 18 Aug., N. Manchester, Wabash Co. & 18 Sept., LaGrange Co.

MOTHS (ES): Hypsopygia costalis, 18 Sept., N. Manchester, WABASH Co.; C. regalis, 20 Aug. (worn), Brown Co. SP; Hypagyrtis esther, 20 Aug., BROWN Co. SP, STATE, (in copula); Euchaena obtusaria, 21 Aug., Brown Co. SP (in copula); Nematocampa limbata, 20 Aug., Brown Co. SP; A. figurata, 27 Sept., Whitewater Mem. SP, UNION Co.

ILLINOIS. Hess, reporting from W central counties, found Dec. one of the coldest, followed by a mild Jan. & Feb., with a cool, wet spring, delaying emergences. In general, Hess had a poor year for butterflies, recording only 74 species, although he found J. coenia and E. claudia extremely abundant. S. cybele, B. philenor and migrant species were scarce to less common compared to last year. Wiker found N. iole, C. xanthoides dione and I. henrici "holding strong," but B. philenor, S. cybele were down, with C. bellona absent in Menard Co.

BUTTERFLIES: S. hayhurstii, 12 June, Hancock Co. (DH); H. ottoe, 6-8 July, Mason & Scott Cos. (DH,JW); P. byssus, 6-20 July, Cass & McDonough Cos. (DH,JW); P. sennae eubule, 11 Sept., Greene, Jersey & Madison Cos. (DH); E. olympia, 8-9 May, Sand Ridge SF, Mason Co. (JW); F. tarquinus, 5 June-31 July, Menard Co. (JW); C. xanthoides dione, 26 June-6 July, Cass & McDonough Cos. (DH); S. liparops strigosum, 11-13 July, Menard Co. (JW); C. ebinina, 12-14 May, MCDONOUGH Co., found on Aruncus dioicus (DH); E. phaeton, 17 June, MENARD Co., possible cross with ozarkae? (JW); S. idalia, 7-8 July, Mason Co. (DH); C. gorgone carlota, 7 July, Mason Co. (DH).

MOTHS: S. bicolor, C. catalpae, 11-20 June, Hancock & McDonough Cos., common (DH,YS); C. illecta, June, Hancock Co., common (YS).

IOWA. Mow reported a very late, wet and cool spring, with all Catocala species down, though taking 24 species. His best success was at baited trees. He succeeded in mating C. relicta and obtaining 603 ova from one female. Jordison collected Catocala in Clayton and Pottawattomie counties, recording 21 species.

MOTHS: C. obscura, 17-30 Aug., Iowa Falls, Hardin Co., larvae on shagbark hickory on 22 May (JM); C. residua, 24-27 Aug., Backbone SP, Clayton Co. (JJ); C. angusi fm. lucetta, 25 Aug., Iowa Falls, Hardin Co. (JM); C. nebulosa, 8-10 Aug., Iowa Falls, Hardin Co. (JM); C. subnata, 23 July-27 Aug., Backbone SP, Clayton Co., Council Bluffs, Pottawattomie Co., Iowa Falls, Hardin Co. (JJ,JM); C. cerogama fm. rupertii, 12 Sept., Iowa Falls, Hardin Co. (JM); C. illecta, 21 July, Iowa Falls, Hardin Co. (JM); C. abbreviatella, nuptialis, 16 July, Council Bluffs, Pottawattomie Co. (JJ).

MINNESOTA. No reports!

WISCONSIN. Four reports were filed; Ferge and Parkinson sent detailed information covering widely scattered counties. Ferge concentrated on moths, especially in the southwestern quarter of the state; he found the season later this year with few Lithophanes and Eupsilas at bait in the Madison area on 12 April, and the first spring-emerging Noctuidae were not seen until 25 April. July and August were dry in southern counties, but were the best months for collecting. The

Catocala were definitely on the increase; a total of 32 species recorded, with C. piatrix, nebulosa, cara, amatrix and abbreviatella in above average numbers. Parkinson also experienced poor spring collecting with Lithophanes and elfins. Jim enjoyed a good collecting season, especially with moths at bait. He found Catocala up, but angeliings and fritillaries still slow in coming back in northern counties. Kral saw many butterfly species out in record numbers, especially Colias interior and Limenitis arthemis in Juneau County.

BUTTERFLIES: E. lucilius, 19 July, Grant & Green Cos. (JP); H. ottoe, 8-21 July, Grant & Green Cos. (JP); H. leonardus, 23-24 Aug., RICHLAND & TREMPLEAU Cos. (JP); C. interior, 8-16 June, Necedah WR (NWR), JUNEAU Co., albino males, females-1st seen in area (TK); Z. cesonia, 21 July, Green Co. (JP); M. gryneus, 3 June, Marquette Co. (RL); C. xanthoides dione, 8 July, Grant & LAFAYETTE Cos. (JP); L. marina 21 July, GREEN Co., 2nd state record (JP); L. melissa samuelis, 5 June, Adams Co. (RL); L. argyrognomon nabokovi, 1-2 July, Florence, FOREST & Marinette Cos. (JP); P. saepiolus, 1 July, FLORENCE & Forest Cos. (JP); S. idalia, 21 July, Green Co. (JP); C. selene nebraskensis, NWR, JUNEAU Co. (TK); C. frigga ssp., 28 May, Vilas Co. (JP); C. gorgone carlota, 3 June-23 Aug., Marquette & TREMPLEAU Cos. (RL,JP); C. harrisii hanhami, NWR, Juneau Co. (det. by D. Parshall-TK); L. arthemis X archippus, 17 June, 2 Aug., NWR, JUNEAU Co. (2 fresh males-TK).

MOTHS: S. bicolor, 1 June, RICHLAND Co., NORTH (LF); S. eremitis, 13 July-25 Aug., Dane, GRANT & Iowa Cos., nectaring at phlox & UV (LF,JP); H. gallii, 5 July, TREMPLEAU Co. (LF); D. anguina, 1 June-23 July, Dane & RICHLAND Cos. (LF); H. subrotata, 1 June, RICHLAND Co., NORTH (LF); S. latipennis, 23 June, RICHLAND Co. (LF); P. parthenos, 21 June, FLORENCE & Marinette Cos. (JP); C. inopinatus, 18 May-13 July, GRANT & RICHLAND Cos. (LF); C. spadix, 18 May, RICHLAND Co. (LF); M. texana, 28 July, GREEN Co. (LF); C. serena, judith, 3 Aug., Sheboygan Co. (GH); C. nebulosa, 17 Aug., TREMPLEAU Co. (LF); C. meskei, 23 Aug.-1 Sept., Sauk & TREMPLEAU Cos. (LF,JP); C. semirelicta, 2 Sept., Florence Co. (JP); C. illecta, 13 July, RICHLAND Co. (LF); C. abbreviatella, 4-19 July, Grant & TREMPLEAU Cos. (LF,JP); C. nuptialis, 17 Aug.-11 Sept., TREMPLEAU Co. (LF,JP); C. whitneyi, 21-28 July, Green Co. (LF,JP); A. ovalis, 1 June, RICHLAND Co. (LF); A. mappa, 25 June, Florence Co. (JP); S. octoscripta, 2-8 July, BAYFIELD, FLORENCE & Marinette Cos. (LF,JP); S. viridisigma, 7 July-7 Sept., BAYFIELD, FLORENCE & VILAS Cos. (LF,JP); A. langtoni, 17 June, Fond du Lac Co. (GH); L. digitalis, 2-10 Oct., DANE & IOWA Cos. (LF); P. cerina, 8 Oct., Iowa Co. (LF); P. silphii, 22 Sept., Waukesha Co. (JP); P. sciata, 2 Oct., Iowa Co. (LF); H. stramentosa, 16 Aug.-24 Sept., Florence, TREMPLEAU, VILAS & Waukesha Cos. (LF,JP); M. orbifera, 13 Oct., Dane Co. (LF); F. rubripennis, 18 Aug., TREMPLEAU Co. (LF); S. mortua, 2 Sept., GRANT Co., STATE (LF); S. lucens, 6-8 July, Grant & PIERCE Cos. (LF,JP).

MICHIGAN. Seven collectors responded--the best for the Zone, and good coverage for the state! State-wide temperatures through late September were below normal, with January, March, May and July cooler than normal. Generally, precipitation was far below normal--about 5.6 inches below by late September. Still, many experienced good collecting throughout; Nielsen recorded 94 butterfly species, the best in many years. Catocala were beginning to show an increase; Miller reported 40 species in SW counties--his best ever! H. gallii appeared in numbers throughout most of the state; Perona found gallii for the first time in 8 years at Calumet. Migrant species, P. communis, E. claudia and P. coenia were up in southern counties.

BUTTERFLIES: E. baptisiae, 30 July-16 Aug., Petersburg SGA, Monroe Co. (MN,JW); E. persius, 12-27 May, Allegan, Kalamazoo, Montcalm, Oceana & Wayne Cos. (DO,JW); P. centaureae, 12-20 May, Montcalm Co. (TH,DO), larvae on wild strawberry, 7-10 Aug., Otsego Co. (MN); P. communis, 30 Sept., Cass Co. (MN,WW); O. powesheik, 10-14 July, Jackson, Livingston & Oakland Cos. (GB,JPe,JW); H. comma laurentina, 29 June-4 Aug., Alger, Chippewa, Dickinson, Mackinac & Schoolcraft Cos. (SM,MN,JPe,JW); H. ottoe, 1-19 July, Allegan SGA, Allegan Co. (DO), nectaring on A. tuberosa and Opuntia (GB); E. bimacula, 25 June-16 July, ALPENA, Berrien, Dickinson & Schoolcraft Cos. (SM,MN,DO,JP,JW); E. dukesi, 21 July, Monroe Co. (GB); P. lisa, 11 Aug., Barry Co. (GB); E. epixanthe michiganensis, 24 June-4 July, KENT Co. (DO); I. henrici, 20-27 May, Oceana & Schoolcraft Cos. (SM,DO); I. eryphon, 9 June, Mackinac Co. (TH); E. laeta, 2 June, LEELANAU Co., fresh male in N hardwoods, S of Empire (DO); L. argyrognomon nabokovi, 24 June-23 July, Alger Co. (SM,MN,JW); L. argyrognomon ssp., 25 June, MARQUETTE Co., 1 worn female, Huron Mts. (D. Gosling via MN); L. melissa samuelis, 19-22 July, Allegan SGA, Allegan Co., Petersburg SGA, Monroe Co. (GB,JPe,JW); P. saepiolus, 23 June, Drummond Is., Chippewa Co. (MN); C. muticum, 10-27 July, Kalamazoo & Oakland Cos. (DO,JW); S. cybele krautwurmi, 24 June-4 Aug., Alger, Chippewa, Mackinac & Schoolcraft Cos. (SM,MN,JPe,JW); P. eunomia dawsoni, 20-21 June, Calumet, Houghton Co. (P), Trout Lk. Bog, Chippewa Co. (JPe); C. freija ssp., 25 May-1 June, Dickinson Co. (TH,MN,JP); C. frigga ssp., 25 June, Schoolcraft Co. (MN); P. batesii, 10 June-24 July, Alger, Chippewa & Otsego Cos. (MN,JW); N. mitchellii, 2-24 July, Cass, Kalamazoo & VAN BUREN Cos. (GB,MN,DO); O. chryxus strigulosa, 12-26 May, Iron & Nawaygo Cos. (MN,DO,JPe).

MOTHS: Psyche casta, UM Biol. Sta., CHEBOYGAN Co., STATE, abundant 1st & 2nd wks of July (EV); Leucobrepheos brephoides, 8 Apr., Otsego Co. (JB,MN); Itame abruptata, 14 July, Livingston Co. (GB); Apodrepanulatrix liberaria, 6 Oct., BARRY Co. (GB); Hemileuca near nevadensis, 22 Sept., Roscommon Co., pupal shells found in sphagnum-sedge hummocks with 100's of larvae on small Salix sp. growing in 1-1.5 ft. of water, 25 June (MN); C. angulifera, 21 July, Cass Co., 1 male at MV (MN); H. columbia, ISABELLA Co., x-cocoon (TH); D. hyloeus, 21 July-5 Aug., ALLEGAN & Otsego Cos. (GB, MN); C. hageni, 8 Aug.-1 Sept., CASS Co., STATE, 5 specimens at MV,UV (MN,WW); S. chersis, 5 Aug., OTSEGO Co. (MN); E. achemon, larva, Van Buren Co. (WM); D. versicolor, 15-21 July, Kalamazoo Co., at MV (WM); H. gallii, 30 June, CLINTON, Houghton & OTSEGO Cos. (TH,P,MN), larvae on fireweed, 4 Aug., Chippewa Co. (TH,MN); C. coelebs, 5-10 Aug., Cheboygan & Otsego Cos. (WM,MN); C. dejecta, 6 Aug., Kalamazoo Co. (WM); C. nebulosa, 18 Aug.-1 Sept., CASS, Kalamazoo, Lenawee & St. Joseph Cos. (GB,WM,TH,WW); C. relicta, 27 Oct., LATE, Otsego Co., in UV trap (MN); C. semirelicta, 8-10 Aug., Cheboygan & Otsego Cos. (WM,MN), larva reared on P. balsamifera, Dickinson Co. (MN); C. meskei, 30 July-29 Aug., CASS & Ingham Cos. (MN,WW); A. rubida, 8 June, OTSEGO Co., pair at UV (MN); A. mappa, 21 June, DICKINSON Co. (JP); S. octoscripta, 1 July, Dickinson Co. (JP); E. rolandiana, 17 Aug., BARRY Co., SW (GB); L. digitalis, 6 Oct., BARRY Co. (GB); P. buffaloensis, 10 Sept., CASS Co. (WW); P. cerina, 18 Sept.-13 Oct., Cass Co. (WW); P. speciosissima, Clinton Co., x-ova pair reared on artificial diet (MN); P. silphii, JACKSON Co., ex-larvae in roots of S. terebinthin acerum (JB,MN); P. eupatorii, 6 Oct., BARRY Co. (GB); P. limpida, 1 Sept.-6 Oct., Cass Co. (MN,WW); H. immanis, JACKSON Co., ex-larvae in roots of S. terebinthin acerum (JB,MN); S. gaurae, 5 Aug., Allegan SGA, ALLEGAN Co., '83 STATE record (JH); T. nigrofimbria, 1 Sept., CASS Co. (MN); P. carnosae, X. capax, 22 Sept., Roscommon Co. at MV (MN).

ZONE 9 SOUTHEAST: TENNESSEE, MISSISSIPPI, ALABAMA, VIRGINIA, NORTH CAROLINA, SOUTH CAROLINA, GEORGIA, FLORIDA, BERMUDEA. Coordinator: Andrew F. Beck (AFB). Contributors: H.D. Baggett (DB), J. Beckwith (JB), R.W. Boscoe (RB), J.V. Calhoun (JC), T.S. Dickel (TD), Mecky Furr (MF), R. Gillmore (RG), W.J. Garnett (WJG), W. Grooms (WG), W.T. Hark (WH), T.W. Kral (TK), M. Kutash (MK, via DB), W.A. Miller & G.C. Balogh (M&B), M.J. Smith (MS), C.W. Watson, Jr. (CW), and J. Watts (JW). Additional determinations were made by S. Adams (SA), D. Ferguson (DF), J.G. Franclemont (JF), L.D. Miller (LM), and R. Peigler (RP). Record warm temperatures in mid-Atlantic area, Fall 1984 (WH); Extreme cold snap in SE

around Christmas 1983 set no temp. records but lasted unusually long [below freezing for over 60 hrs in Gainesville, FL (AFB)]. RECORDS are in capital letters. All dates 1984 unless otherwise indicated.

TENNESSEE. BUTTERFLIES: *T. confusis*, Center Hill Lake, DEKALB Co., 6 June (MF); *S. hayhurstii*, Nolichucky Riv., WASHINGTON Co., 25 June (CW); *E. horatius*, Germantown, Shelby Co., 12 June & *N. lherminier*, Germantown, Shelby Co., 4 July (both MF); *H. leonardus*, Clay Co., 1,2 Sept. (M&B); *W. egeremet*, Germantown, Shelby Co., 9 July (MF); *P. yehl*, Clay Co., 1,2 Sept. (M&B); *A. hegon*, Dennis Cove, CARTER Co., 27 May (CW); *C. cecrops*, Germantown, Shelby Co., 2 Sept., common (MF); *C. ladon* fm *neglectamajor*, Cedar Gap, Carter Co., 2 June (CW); *C. ebenina*, Hoss Cove, Washington Co., 21 April (CW); *S. diana*, Rt. 81, 25 June and Hoss Cove, 9 July, Washington Co., Horse Crk. Rec. Area, Greene Co., 9 July, Holston Mtn., Carter Co., 19,28 July; *S. aphrodite*, Hoss Cove, Washington Co., 14 July, Horse Crk. Rec. Area, Greene Co., 14 July (all CW); *J. coenia*, Germantown, Shelby Co., 4 Sept., larvae common on *Agalinis purpurea* (MF); *E. portlandia missarkae*, Germantown, Shelby Co., 15 June, bait (MF); *C. pegala* nr. *alope*, Germantown, Shelby Co., 5 June-6 Sept., bait (MF).

MOTHS: SPHINGIDAE- *C. hageni*, Shelby St. For., Shelby Co., 30 July, 4,24 Aug. (MF). NOCTUIDAE- *C. innubens* (incl. *scintillans*), Shelby St. For., Shelby Co., 15 June, 12 July, bait (MF), Clay Co., 1,2 Sept. (M&B); *C. robinsoni*, *C. flebilis*, *C. angusi*, *C. resecta* fm *luctuosa*, *C. nebulosa*, Clay Co., 1,2 Sept. (all M&B); *C. amatrix*, Germantown, Shelby Co., 11-25 Sept., bait (MF), Clay Co., 1,2 Sept. (M&B); *C. amatrix* fm *selecta*, Germantown, Shelby Co., 11,14,25 Sept. (MF); *C. illecta*, Germantown, Shelby Co., 9-15 June, bait (MF).

MISSISSIPPI, ALABAMA. No contributions.

VIRGINIA. BUTTERFLIES: *T. confusis*, *S. hayhurstii*, Harwood Mills, YORK Co., 2 June; *P. hobomok*, Harwood Mills, YORK Co., 17 May (all MS); *C. philodice*, vic. Mt. Vernon, Fairfax Co., 1 Dec. LATE (WH); *M. hesseli*, Dismal Swamp (Virginia & N. Carolina), season-long captures, March-Aug. (WJG,WG); *J. coenia*, Fairfax Co., abundant all season (WH); *C. gemma*, 18 April & *H. sosybius*, 1 May, Harwood Mills, YORK Co. (both MS).

MOTHS: SATURNIIDAE- *A. virginianensis pellucida*, Harwood Mills Reserv., YORK Co., STATE, larva on *Quercus* sp., 20 Aug., emerged Oct., det. by RP (MS).

NORTH CAROLINA. BUTTERFLIES: *P. bulenta*, Orton Plantation, Brunswick Co., 2 Sept.; *P. viator zizaniae*, Brunswick Co., abundant in marshes, 2 Sept.; *E. dukei*, W of Wilmington, Brunswick Co., 2 Sept. (all CW); *A. loammi*, vic. Green Swamp, COLUMBUS Co., 5 May; *A. alternata*, Green Swamp, Brunswick Co., 20 April-5 May, occasional (both TK); *M. hesseli*, Sandhill Wildlife Ref., Richmond Co., 23 March (also see Virginia); *I. augustus*, Ft. Bragg, Hoke Co., 17 March; *I. irus arsace*, Green Swamp, Brunswick Co., 14 April-5 May (all TK); *C. virginianensis*, Green Swamp, Brunswick Co., 5 May (TK); *N. mitchellii*, Ft. Bragg, Hoke Co., 29 May-6 June (TK).

SOUTH CAROLINA. MOTHS: SATURNIIDAE- *C. securifera*, 7.6 mi. N of Georgetown, GEORGETOWN Co., pupae coll. 30 Dec. on *Magnolia virginianensis* (MS).

GEORGIA. No contributions.

FLORIDA. BUTTERFLIES: *A. arogos*, N of Tampa, Hillsborough Co., May (WG); *P. aaroni howardi*, Lee Co., 13-19 Aug.; *E. pilatka*, Hendry Co., 10 Aug. (both JC); *A. loammi*, N of Tampa, Hillsborough Co., May (WG); *P. panoquinoides*, Big Pine Key, Monroe Co., 4-6 April, abundant in salt marsh (TK); *H. aristodemus ponceanus*, Key Largo, Monroe Co., May, several sighted (DB); *E. nise*, Key Largo, Monroe Co., 7 April & Naranja, Dade Co., 3 Sept., 1983 (both TK); *E. atala*, recovery is strong and insect is responding well to conservation efforts in Dade Co. (AFB,DB,WG); *C. maesites*, Key Largo, Monroe Co., Nov. (WG), 18 Dec. (JC); *I. henrici margaretae*, vic. Altoona, LAKE Co., 18 March; *I. nippon*, vic. Altoona, LAKE Co., SOUTH, 18 March (both DB); *Hemiargus ammon*, Big Pine Key, MONROE Co., STATE, UNITED STATES, 5 April, tentatively det. by LM (TK); *E. monima*, Castellow Ham., Dade Co., 18 May, ovip. on *Bursera simaruba*, 25 May, adults em. 11 June (RB), plus Homestead, Dade Co., Nov. (WG), 12 Dec. (JC); *D. eresimus tethys*, HILLSBOROUGH Co., NORTH, in open greenhouse (JB via DB).

MOTHS: PYRALIDAE- *Dichogramma amabilis*, Long Key, Monroe Co., 20 Oct.; *L. corope*, 2 Sept., 17 Dec. & *C. vestigialis*, 2 June, 16 Nov., 17 Dec., Fuchs Hammock, Dade Co.; *B. iarchasalis*, Long Key, Monroe Co., 3 March, det. by DF; *D. magdalena*, Fuchs Ham., Dade Co., 11 Nov., 1982, det. by DF; *M. phaeobasalis*, No Name Key, Monroe Co., 1 April, det. by DF; *B. furva fracta*, common at Long Key & No Name Key, Monroe Co.; *Neokucinoidea torvis*, Fuchs Ham., DADE Co., STATE, UNITED STATES, date not available, det. by DF (all TD). SATURNIIDAE- *C. securifera*, Mills Cale Lk., MARION Co., 18 Aug. (MK). SPHINGIDAE- *I. cupressi*, Ocala Nat. For., MARION Co., 17 March (RG); *H. lineata*, Hernando Co., on *Gaura angustifolia* (RG). NOTONDOTIDAE- *R. bichorda*, *H. zayasi*, Key Largo & Long Key, Monroe Co., no date available, det. by JF (TD). CTENUCHIDAE- *E. affinis*, Virginia Key, Dade Co., 11 Dec.; *D. belae*, Lee Co., 13 Dec. (both JC). NOCTUIDAE- Three STATE and UNITED STATES records; *Macristis geminipunctalis*, Long Key, 18 Jan. 1985 & *Epidromia pyraliformis*, Long Key & Key Largo, 3 March & 25 Dec 1983, det. by SA, both MONROE Co. and *Aglaonice hirtipalpis*, Fuchs Ham., DADE Co., 1 Sept.-Nov., det. by SA (all TD); *C. sicheas*, Fuchs Ham., Dade Co., 15,16 April, det. by SA (TD); *C. amestris*, DUVAL Co., larva on *Amorpha fruticosa*, April; *C. messalina*, 8 mi. W of Floral City, CITRUS Co., 5 May & Torreya St. Pk., LIBERTY Co., 29 May (all DB); *S. bicolorago*, *Feralia major*, Torreya St. Pk., LIBERTY Co., 23 Dec., det. by DB (RG); *L. pilipalpis*, Fuchs Ham., DADE Co., 19 Oct., (TD); *S. rivulosa*, Fuchs Ham., Dade Co., 31 Aug. (TD).



ZONE 10 NORTHEAST: LABRADOR, NEWFOUNDLAND, MARITIMES, NEW ENGLAND, NEW YORK, PENNSYLVANIA, NEW JERSEY, MARYLAND, DELAWARE, D.C. Coordinator: Dave Winter (DW). Contributors: William Anderson (WA, via PK), Bill Boscoe (WB), Judy Broersma (JB, via PK), Ed Brower (AEB), Lars Crabo (LC), John Cryan (JC, via DS), John Fales (JF), L. Paul Grey (LPG), Bill Grooms (WG, via JF), Jim Holmes (JH), Phillip Keun (PK), Richard Knapp (RK, via DW), Ron Leuschner (RL), Gerald McWilliams (GM), Mark Mello (MM), Robert May (RM), Harry Pavulaan (HP), Alfred Spoo (AS), Calvin Schildknecht (CS), Dale Schweitzer (DS)*, Donald Tangren (DT), Reggie Webster (RW, via HP), David Wright (DMW), and Harry Zirlin (HZ). *(DS observations while under contract with The Nature Conservancy.) County records are designated by the county being capitalized.

MIGRATORY SPECIES: HP noted large numbers of *P. interrogationis* moving westward along beaches in Rhode Island in September and along the barrier beaches at Robert Moses St. Pk., Long Island, NY, 50-100 on that occasion. JF reported no north-bound Monarchs in MD in the spring, but PK sighted one, condition uncertain, at Big Savage Mt., Garrett Co., 27 May; HP reported large numbers at Beavertail St. Pk., RI in late Sept., and moving along the beaches and roosting on

the sunny side of pitch pines at Robert Moses St. Pk., 30 Sept.; JF reported a very light southerly migration along the two shores of Chesapeake Bay, 7 Sept.-4 Nov.

LABRADOR/NEWFOUNDLAND. BUTTERFLIES: LPG reported a complete fog-out for three weeks in late June-early July except for a big flight of P. napi frigida. He speculated that the complete absence of O. jutta and polixenes might represent an alternate odd-year situation.

MAINE. BUTTERFLIES: Erynnis icelus and I. augustus, new for Islesboro, 20 May (DW); I. lanoraieensis, Otisfield, Cumberland Co., 22 May (DS); C. inornata, Weld, Franklin Co., Smithfield, Somerset Co., and Augusta, Kennebec Co. (AEB, no dates), and Islesboro, 2nd brood, 21 Aug. (DW).

MOTHS: Itame nr. inextricata (the Lakehurst, NJ sp.), Freyburg, OXFORD Co., 5 July, STATE (DS); Lycia rachelae, Shapleigh, YORK Co., 23 Apr., STATE (DS); Scopula purata, by day in Folsom Pond Bog, West Newfield, York Co. (DS); H. maia, Shapleigh & Freyburg, 28 Sept. (JC); L. coniferarum, Shapleigh, 4 July (DS); P. astylus, Freyburg, 5 July (DS); Zanclognatha martha, common at Shapleigh & Freyburg, 4-5 July (DS); C. semirelictata, Islesboro, Waldo Co., 2 Sept. (DW); E. pampina, larva on Vaccinium pennsylvanicum, Shapleigh, 4 July (DS); Acronicta afflicta, Shapleigh, 4 July, Freyburg, 5 July (DS); A. lanceolaria, 3 larvae on Q. ilicifolia sprouts, Shapleigh, 4 July (DS); Apamea mixta, Freyburg, 5 July, STATE (DS); X. thoracica, Shapleigh, 23 Apr. and 3 Oct. (DS); L. chaxteri, Shapleigh, 23 Apr., West Newfield, 8 Oct., and larvae on Myrica gale, 23 June (DS); Jodia rufago, Shapleigh, 23 Apr. (DS); Chaetagnathae tremula, abundant at Shapleigh, Sept.-Oct., larvae on Vaccinium angustifolium, 23 June (DS); Leucania linda, Kennebec, YORK Co., 14 Sept., STATE (DS).

NEW HAMPSHIRE. BUTTERFLIES: Erora laeta, Passaconaway, Carroll Co., 10 June (HP); L. arthemis astyanax, Jefferson, Coos Co., 7 July (JH).

MOTHS: C. amyntor, West Rumney, Grafton Co., 9 July (WB); C. coelebs, Concord, Merrimack Co., 24 Aug. (LC); Plusia putnami, West Rumney, 11 July (WB); C. anodonta, Jefferson, Coos Co., 15 July (JH); Farontia diffusa (=H. albilinea), West Rumney, 9 July (WB).

MASSACHUSETTS. BUTTERFLIES: Erynnis persius, locally common, late May, no lupine present, Myles Standish St. For. (DS); P. viator, Acushnet Cedar Swamp, New Bedford, Bristol Co., common 29 July (MM), plus Fall River, Bristol Co., and Wareham & Plymouth, Plymouth Co., 19 Aug. (HP); B. philenor larvae, Cohasset, Norfolk Co., early Sept. (RK, aged 9, who read about them in a book, stepped outside, and found some on his grandmother's pipe-vine! Det. DW); E. lisa, Medfield, Norfolk Co., 20 Sept. (LC); P. m-album, Acushnet Cedar Swamp, 29 July (MM); S. idalia, Nantucket, 19-25 Aug., m/r/r study showed ca. 100 pairs ranging widely (DS).

MOTHS: Glena cognataria, N Truro, Barnstable Co., 17 Aug. (MM); Palaearctia merricata, Provincetown, BARNSTABLE Co., STATE, 25 Apr. 1983 (MM, det. DS); Metarranthis pilosaria, N Truro, 11 June (MM); Cosymbia myrtaria (not packardi), Nantucket, 22 Aug. (DS); Anisota stigma, at light and larvae on scrub oak, Myles Standish St. For., Plymouth Co., 6 July (DS); Paratreia plebeja, Wellfleet, Barnstable Co., 17 Aug. (MM); Catocala muliercula, S Dartmouth, Bristol Co., 18 Aug. & 14 Sept. (MM); C. vidua, S Dartmouth, 10 Sept.-10 Oct. (MM); C. minuta, Dedham, Norfolk Co., 11 July (DW); Syngrapha octoscripta, Nantucket, 20 Aug. (DS); Hypocoena enervata NANTUCKET Co., common 19-24 Aug. (DS); Papaipema duovata, NANTUCKET Co., 19 Oct. and Marshfield, Plymouth Co., NORTH, pupa 16 Sept. (DS); Condica cupentia, S Dartmouth, 10 Sept. (MM); Lithophane viridipallens, Wellfleet, 27 May (MM); L. tepida, Hyde Park, Suffolk Co., 23 Feb. (LC); E. vinulenta & sidus, Dover, Middlesex Co., 29 Dec. (LC); Chaetagnathae cerata, Wellfleet, 19 Oct. (MM) and Nantucket, common on fermenting beach plum, 19 Oct. (DS); Psectraglaea carnosata, Wellfleet, 19 Oct. (MM) and Nantucket, 19 Oct. (DS); Abagrotis crumbi, Nantucket, 20 August (DS).

RHODE ISLAND (all HP, unless noted). **BUTTERFLIES:** N. iherminier common in Warwick, Kent Co., 1 Jul.-22 Aug.; P. massasoit, Washington Co.; P. zebulon, Washington Co.; P. viator common in Washington and Kent Co. marshes, 30 July-16 Aug.; S. acadica common at Johnston, Providence Co., 17 July; M. hessele, Great Swamp, 7 June; P. m-album, Great Swamp, Washington Co., 6 May (RW) and 30 Aug. (HP); S. idalia, coastal Washington Co.; N. j-album, Burrillville, Providence Co., ex chrysalis, 2 July; M. cymela "I", Kent and Washington Co., 3-20 June, and cymela "II", throughout Washington, Kent & Providence Cos., 9 Jul.-13 Aug.; C. inornata, West Greenwich, Kent Co., STATE, 16 Aug.

MOTHS: Aegeria apiformis, W Warwick, Kent Co., Aug.; Melitara prodenialis, Block Island, 16 Aug. (DS); H. maia (ex larvae in June on P. serotinus), W Greenwich, Kent Co., and Arcadia, Kent Co., 6-21 Oct., plus Green and E Greenwich, 12 & 17 Oct. (DS); H. diffinis, Warwick, Kent Co., 5 Sept.; Dasychira cinnamomea common, and Papaipema baptisiae EARLY, on Block Island, 16 Aug. (DS).

CONNECTICUT (all DS). **MOTHS:** Hemileuca maia, Enfield, Hartford Co., 15 Oct.; Sphinx eremitus, Salisbury, Litchfield Co., 16 July; Hyles gallii, Salisbury, 16 July; Notodonta simplaria, Salisbury, 16 July; Macrochilo (=Hormisa) hypocritalis, Salisbury, 16 July; Philometra metonalis, Salisbury, 16 July; Zale submediana, STATE, and Z. curema, pine barrens remnants, Enfield, 11 June; Capis curvata, Salisbury, 16 July; Crymodes relicina, sand plain grasslands, North Haven, New Haven Co., 23 Sept.; Papaipema duovata pupae at four localities in New London Co., 9 Sept., eclosed 25 Sept.-22 Oct.; Chaetagnathae tremula, Enfield, 3 larvae on low bush blueberry, 11 June, eclosed Sept.; Anomogyna elimata (true southern elimata), STATE, North Haven, 23 Sept.

NEW YORK (all HZ). **BUTTERFLIES:** A. logan, Willow, Ulster Co., 8 July; L. bachmannii, Coldspring, Putnam Co., 26 June; E. claudia, Willow, 7 July; A. celtis and clyton flying together, Coldspring, 19 June.

PENNSYLVANIA. BUTTERFLIES: B. philenor in large numbers nectaring on buttonbush, Green Lane, Montgomery Co., late July (DMW); P. cresphontes noted by CS to nectar preferentially on low flowers of mountain mint (white), heal-all (blue), and garden zinnias, but rarely on tall buddleias; larvae of C. nycteis found on Vermonia novaboracensis (ironweed), 24 May and 24 July, Lititz, Lancaster Co., both times reared to maturity (AS); E. phaeton larvae found on V. novaboracensis, Lititz (AS); J. coenia in Erie Co., Waterford, 30 July, and Corry, Union City, and Waterford, 4-21 Sept. (GM); D. plexippus larvae found by CS in Gettysburg, Adams Co., only on A. incarnata, none on A. syriaca, Aug.

MOTHS: Cissusa spadix, Centre Twp. & Yellow Ck. St. Pk., Cherry Twp., Indiana Co., 7-18 May (DT); Zale duplicata, Cherry Hill Twp., 8 May (DT); Catocala flebilis & amatrix, Aultman, Indiana Co., 8-10 Sept. (DT); C. amatrix, 24 Aug. & C. minuta, 4 July, Willow Grove, Montgomery Co. (WB); Meropleon diversicolor, Aultman, 8-9 Sept. (DT); Lithophane oriunda, Marion Center, Indiana Co., 12-15 Apr. (DT); Feralia major, Starford, Indiana Co., 29 Apr. (DT); Eulotype electilis reared on Carya ovata (DT); E. grandis reared on C. tomentosa (DT); E. rolandi reared on Quercus rubra and Q. coccinea (DT); Egira dolosa, Aultman, 27-30 Apr. (DT); Metalepsis salicarum reared on Amelanchier arborea, feeding on flowers first, then fruit, then leaves (DT).

NEW JERSEY. BUTTERFLIES: C. philodice, Cedar Grove, Essex Co., LATE, 17 Dec. (RM); P. tharos, victim of Misumenops asperatus (crab spider) on blossoms of Amelanchier canadensis, Duke's Bridge, Burlington Co., 21 May (DMW); Hermeuptychia sosybius, Steelmantown Bog, Cape May Co., 9 Aug. (DMW).

MOTHS: (all DS). Glenodes texanaria, Eldora, Cape May Co., 23 Oct.; Operophtera bruceata, Lebanon St. For., Burlington Co., SOUTH, 28 Nov.; Catocala maestosa ovipositing on walnut, Eldora, 23 Oct.; Nola sorghiella, Eldora, 23 Oct.; Amyna octo, Eldora, 23 Oct.; Papaipema cerrussata, Eldora, 23 Oct.; Lithophane thaxteri, Lebanon St. For., 28 Nov.; Xylotype capax, Lebanon St. For., 28 Nov., LATE.

MARYLAND. BUTTERFLIES: E. clarus outburst in Calvert Co., count of 490 on 3 Aug. (JF); L. accius, repeatedly in Calvert Co., 27 Aug.-29 Oct. (JG) and St. Marys Co., 12-22 Oct. (WG), plus Mill Swamp, Charles Co., 25 Aug. (PK); U. proteus, ST. MARYS Co., 12-14 Oct. (JF, WG, PK); H. leonardus, Green Ridge St. For., ALLEGANY Co., 19 Aug. (PK); P. vibex, ANNE ARUNDEL Co., 9 Nov. (WG); P. bulenta, eastern shore Dorchester Co., hundreds on buttonbush at marshy edges, some on dogbane and red clover, 22 June-10 July (JF, WG, PK); P. viator very numerous at same time; P. troilus, bilateral GYNANDROMORPH, Green Ridge St. Pk., 27 May (PK); E. nicippe, Point Lookout, St. Marys Co., 27 Oct. (WA); H. hyllus, Montgomery Co., LATE on 26 Oct. (WG); M. gryneus, Calvert Co., numerous, LATE on 3 Aug. (JF); C. ladon, late start 21 April in Calvert Co., but continued LATE to 21 Sept. (JF); S. idalia, Hancock, Washington Co., 21 July (PK); N. j-album, Allegany Co., 27 June, and MONTGOMERY Co., 3 Oct. (WG); B. arthemis (typical), Green Ridge St. For., 20 June (PK); and B. a. astyanax, including a few form "proserpina", exceedingly common, Dorchester Co., 18 Sept. (took 50 females in 20 minutes for A. Platt's research), and LATE there 26 Oct. (PK).

MOTHS: H. maia, Blackwater refuge, Dorchester Co., 26 Oct. (PK); L. bombycoides, Sideling Hill, WASHINGTON Co., 22 July (PK); C. astylus Pasadena, ANNE ARUNDEL Co., 21 June (JB); Paratreia plebeja, Pasadena, 29 July (JB); Acronicta obliquata larva on Yellow Pond Lily (Nuphar sp.? variegatum or advena), Cypress Creek Bog, Anne Arundel Co., eclosed 20 July (PK).



ZONE 11 HAWAII/PACIFIC ISLANDS. Coordinator: J.C.E.Riotte [R]. Contributor: R.L.Langston [L]. Weather in 1984 for most of the year was much too dry. Only late autumn brought return to somewhat normal conditions. The consequences of the 1982 November hurricane 'IWA are slowly equalizing. However, the number of lepidoptera in general is much lower than in previous years. It may be that the hurricane created a kind of hiatus, exterminating entire generations of immature stages with the trees. Only slowly the species are building up again.

KAUAI. [R] The foregoing was especially observed in the Kokee area where previously moths were plentiful as to species and as to number. Collections in 1984 were meager. Only the most common like Semiothisa infusata (Guenée) and Pseudaletia unipuncta (Haworth) were readily present although not as common as previously. Also butterflies were rare. Seen were: Pieris rapae, Agraulis vanillae. In the lowlands, around Lihue, the picture was not much different, only among the geometrids Anacamptodes fragilaria (Grossbeck) was well represented and the sphingids Agrius cingulatus (Fabricius) and Psilogramma menephron (Cramer) were collected, the latter for the first time on Kauai at several localities and with, among others, an as yet unrecorded foodplant for Hawaii, Clerodendron.

MAUI. [R] Throughout the year teams of Bishop Museum entomologists and botanists were working and collecting on the slopes of Mt. Haleakala in several camps. The collecting here was excellent. The material is not yet worked over but it is already now certain that new geometrid and noctuid species in the genera Kauaiina, Scotorythra and Agrotis were collected. [L] reports mostly about butterflies. He found the endemic blue Udara blackburni in Iao Valley in numbers in a grassy clearing far away from any observable Acacia koa, the only known foodplant. He was also able to find Brephidium exilis, a new record for Maui, at several localities closely related with Atriplex semibaccata. This "pygmy blue" is now known from Oahu, Kahoolawe, Maui and Hawaii. Otherwise [L] found Hylephila phyleus, Erionota thrax, Papilio xuthus, Pieris rapae, Strymon bazochii, Lampides boeticus, Agraulis vanillae, Vanessa cardui, Danaus plexippus, in small to moderate numbers throughout the island. He collected in early November, shortly before the draught ended. SPECIAL EVENT: The sphingid Manduca blackburni was last caught on Maui in 1975. All efforts to find specimens since then were fruitless. It was feared that the species became extinct as much of the most frequently reported foodplant, Nicotiana glauca, was eliminated as an unwelcome weed. Botanists from Bishop Museum directed their search for larvae of this endemic hawkmoth to endemic plants of the preferred family Solanaceae and were successful in locating larvae on the endemic Nothoestrum latifolium, a medium sized tree. Larvae were photographed and reared to adult.

OAHU. [R] This island was heavily affected by the draught and butterflies again became more abundant only around Christmas. Observed in the Honolulu suburbs in the gardens and at road sides were: Hylephila phyleus, Erionota thrax, Papilio xuthus, Pieris rapae, Strymon bazochii, Agraulis vanillae, Danaus plexippus. The latter was especially numerous around the end of the year and there were more albino specimens observed than usual.



ZONE 12 NORTHERN NEOTROPICS: MÉXICO, CENTRAL AMERICA, ANTILLES. Coordinator: Eduardo C. Welling M. (ECWM). Contributors: James Brock (JB), Keith S. Brown (KSB), Richard Holland (RH), John Palting (JP), Steven Frchal (SP), Michael Smith (MS), William Swisher (WS). There is only one way to describe the 1984 collecting season, it was exceedingly wet. Welling, travelling through 19 states in México in 7 weeks, found most localities void of butterflies and many under water and mud. Ironically, informants in Belize told him that rain was scarce in parts of the interior of Belizé. Up to now it is not known if these conditions were duplicated either way in Guatemala. One would think the tremendous rainy season in Mexico would have also been the same further south. Holland reports winter weather in Sonora and Chihuahua as unusually dry, not mentioning anything about the rest of the year. It was so wet in the Yucatan peninsula many villagers didn't even bother to plant crops.

MÉXICO, SONORA. Very interesting records were made of species taken by JB, MS, RH, JP, SP. from Las Avispas microwave relay 40 miles N. of Guaymas [LA]; Highway 16/21 from Río Yaqui to Yécora [RY-Y]; along Highway 16 at 11½ miles east of the Río Yaqui [RY1½]; and between San Nicolás and Yécora [SN-Y].

BUTTERFLIES: Euchloe near ausonides at LA on March 3 (RH); Pindis squamistriga, Cyllopsis pyracmon nabokovi, C. pertepida maniola, C. nayarit, Thessalia cyneus, Chlosyne mazarum, Limenitis astyanax arizonensis, Asterocampa argus, Mitoura siva rhodope, Parrhasius m-album moctezuma, Cyanophrys longula, Apodemia phyciodoides, Emesis ares, Amblyscirtes aenus, A. cassus, A. fimbriata, Thorybes drusius, Poanes taxiles, Achalarus casica, at SN-Y from July 29 to Aug. 2 (JP, SP, MS, and JB); Dryas iulia, Thessalia theona, Chlosyne eumeda, C. mazarum, Hamadryas glauconome grisea, Doxocopa laure, Recoa zebina, Strymon bebrycia, Baeotis sp., Emesis poeas, Yvretta carus, Atrytonopsis cestus, Amblyscirtes

prenda, Mellana mexicana and other Hesperidae at RY11½ from July 28 to August 3 (JP, SP, MS, and JB); Staphylus azteca at LA on March 3 (RH).

MOths: MS did a lot of blacklighting in company of JB, JP, and SP, at RY-Y from July 28 to Aug. 2. Species preceded by an * are thought to be state records. ARSENURIDAE- *Dysdaemonia boreas, *Cairo richardsoni. ADELOCEPHALIDAE- Citheronia splendens sinaloensis, Eacles oslari, *Anisota assimilis, Sphingicampa hubbardi, *S. montana, *Adeloneivaia isara. SATURNIIDAE- *Automeris iris hesselorum, *A. colenon, *A. randa, *Antheraea montezuma, Rothschildia c. cincta, *Hylesia continua cressida (tentative identification by Dr. Claude Lemaire), *Paradirphia lasiocampina. SPHINGIDAE- Isognathus rimosa, Erinnyis crameri, *Pachylia ficus, *Aellopos clavipes, *Eumorpha satellitia, *E. vitis, *Cautethia spuria. LASIOCAMPIDAE- *Gloveria howardi larval nests were found on Quercus chihuahuensis trees 22 miles east of the Río Yaqui on Highway 16, representing a state and national record as the species had never been found since the type specimens were reared just north of Tucson, Arizona, U.S.A. Larvae of Rothschildia c. cincta and Citheronia splendens sinaloensis were found on Jatropha cordata, and Cairo richardsoni on Ceiba acuminata in the same area in Sonora.

MÉXICO, CHIHUAHUA. BUTTERFLIES: In late March RH & WS report on finding Euchloe hyantis lotta at the Sierra Presidio microwave relay 25 miles S of Ciudad Juárez and 10 miles south of Samalayuca. At the former locality Anthocharis pima was also seen. 6 miles E of Coyame and 12 miles NE of Aldama produced Apodemia mormo duryi.

MÉXICO, GUERRERO. BUTTERFLIES: KSB spent October 23 about 50 kilometers north of Acapulco on the road to Tierra Colorada, sampling patches of forest along the river. Seen were Morpho polyphemus, Taygetis mermeria, Heliconius erato petiveranus, Siproeta epaphus, Battus laodamas, Parides montezuma, photinus, erithalion trichopus, and a number of Hesperidae.

MÉXICO, TABASCO. BUTTERFLIES: KSB collected another day near Macuspana on a special project studying the Philaethria dido complex and besides that species found Lycorea cleobaea, Melinaea lilis imitata, Mechanitis menapia saturata, Eueides procula, Callithomia hezia, Napeogenes tolosa, Hyposcada virginiana, Nessaea aglaura, Parides lycimenes, Opsiphanes boisduvali, O. cassiae, Oleria paula, Heliconius hecale, H. sapho leuce, Chlosyne gaudialis, Siproeta superba, Anaea electra, Papilio torquatus, and other Parides sps., all considered of special interest by him as they are not included in the Routledge list of Rhopalocera for the state of Tabasco (Rev.Soc.Mex.Lep. 3, 57-73, 1977).

MÉXICO, YUCATÁN. Collecting in the eastern part of the state was rather poor, many species absent from sight and others low in numbers. Sphingidae and Saturniidae very, very poor in numbers. A single Melete isandra was taken in the east of the state, a new state record (ECWM).

MÉXICO, QUINTANA ROO. BUTTERFLIES: Collecting began slightly fair, then dwindled to almost nothing by late July. Highlight of the season was a series of Melete isandra from the northern part of the state, a new record (ECWM).

MOths: Blacklighting was fair in late May, but after that very poor. The yearly emergence of Saturniidae and Adelocephalidae at the beginning of the rainy season was three weeks earlier than usual, due to the fact that said season began that much early, about May 5th. Excessive rains damaged many specimens so that by the end of the month most of the things flying were very worn. Some groups of Coleoptera were at their lowest level ever seen, especially Cerambycidae.

BELIZE. ECWM collected in November, finding very few butterflies. Moths were almost absent at blacklight at the classic Middlesex, Stann Creek District locality, not even beetles were attracted to light, even in the dark of the moon.

JAMAICA, 1983. BUTTERFLIES: Reverend Robert Eisele of South Hamilton, Maine, reports on collecting from 19 to 29 November, 1983, in SURREY, CORNWALL, and MIDDLESEX counties, taking 41 species of Rhopalocera. Included are 2 Danaidae, 1 Satyridae, 6 Nymphalidae, 3 Heliconiidae, 4 Lycaenidae, 14 Pieridae, 1 Papilionidae, and 10 Hesperidae. Some of the more interesting endemics and non-endemics reported were: Calisto zangis at Irish Town, Newcastle, Hardwar Gap in Hollywell Nat. Park, in St. Andrew Parish and in the same national park area but in Portland Parish, SURREY CO.; Mestra dorcus at Plowden Hill, Manchester Parish, MIDDLESEX CO.; Adelpha abyta at Spring Garden, Trelawny Parish, CORNWALL CO.; Hypanartia paullus at Hardwar Gap, Hollywell Nat. Park, Portland Parish, SURREY CO.; Electrostrymon pan at Greenhill, Manchester Parish, MIDDLESEX CO.; Eurema messalina at Spring Garden and Troy areas in Trelawny Parish, CORNWALL CO.; Eurema adamsi at Hardwar Gap locality; Papilio andraemon at Kingston, St. Andrew Parish, SURREY CO.; Cybaeus tripunctus at several different localities being more widespread. Other Hesperidae were Polygonus leo hagar, Chioides catillus churchi, Urbanus proteus domingo, Gesta gesta gesta, Pyrgus o. oileus, Perichares philetas, Wallengrenia otho vesuria, Hylephila phyleus, and Panoquina sylvicola. Other Nymphalidae included were Junonia evarete, Anartia jatrophae, and Euptoieta h. hegesia.

ERRATA IN THE 1983 SEASON SUMMARY REPORT: Palomas and the Cerro Bolas area SW of Ciudad Juarez, where about 20 species of butterflies were taken by RH are actually in the state of Chihuahua, not Sonora. People making records of species take note. Thanks to RH for calling my attention to this late XX century goofing off on otherwise serious yearly reports! A whole sentence was omitted by the typist and not caught by the editor in proofreading. The information after SONORA should have read: Holland, collecting about 60 km south of Hermosillo, March 23-24, found a population of Euchloe closest to ausonides. Then the information about collecting at Palomas and Cerro Bolas should have followed the state of CHIHUAHUA heading.



ZONE 13 SOUTH AMERICA. Coordinator: Boyce A. Drummond. Contributors: Keith S. Brown, Jr. (KB), Gilberto Almeida (GA, via KB), Ronaldo B. Francini (RF, via KB), Evandro Gama (EG, via KB), Brian P. Harris (BH), and Zen Richins (ZR). No moth reports, but butterfly collecting was excellent in Ecuador (BH) and in many areas of Brazil (KB). KB reported significant progress on two general projects concerning neotropical butterfly evolutionary biology: (1) chromosomal studies of the Philaethria dido complex reveal that as many as 6 species may be flying under this name, sometimes 3 in the same locality; (2) progress on revision of generic and tribal relationships in the Ithomiinae was advanced greatly by observing ovipositions, or expressing eggs from females, and rearing field-encountered or hatched larvae of many key genera and species from a variety of localities in Brazil and Venezuela (specific information available from Coordinator). BH reported species composition of Mullerian/Batesian mimicry rings at three localities in Ecuador.

BRAZIL, SÃO PAULO. KB reported that Campinas area was much dryer than in 1982-83; troidine swallowtails rare except for

Parides neophilus, which invaded from west in very wet years before. In July in Campinas, Adelpha isis was caught for the first time and Methona themisto and its mimic Lycorea ilione were more common than usual. According to KB, the north face of the Serra do Japi (near Jundiá, between Campinas and São Paulo) is one of the best butterfly spots in the state, showing many species not known elsewhere in São Paulo. Several visits there in summer and fall (January-May) to low elevations yielded many species usually found only in higher mountains, including 6 species of Morpho, several unusual Brassoliniæ (Narope, Dasyophthalma), and 3 species of Prepona. RF reported several localities along coastal São Paulo to be excellent for Ithomiinae in July.

BRAZIL, PARANA. GA discovered an unexpectedly strong colony of Eueides vibilia unifasciatus in the Maringa area, extending its range over 1000 kms southward from central Mato Grosso.

BRAZIL, RIO GRANDE DO SUL. KB found collecting near Pôrto Alegre to be excellent in early April, when an abundant colony of the primitive troidine swallowtail Euryades corethrus was found in a site 20 km E of Viamão. Eggs and larvae found on Aristolochia sessilifolia were reared to adults.

BRAZIL, SANTA CATARINA. ZR collected 3 species of Heliconiinae, including P. wernickei, and 2 Morpho species in areas E and SE of São Bento do Sul in March.

BRAZIL, RIO DE JANEIRO. KB reported on a population study of the last known colony of Graphium lysithous harrisianus; in September the form platydesma (which mimics Parides ascanius, apparently extinct in the region because of habitat removal) comprised 60% of the population and form oedippus (mimicking P. nephalion and P. zacyntus, still common in the area) comprised 30% of the population. Future research will test the hypothesis that the platydesma genes should be selected against now that the model is locally extinct.

BRAZIL, ESPIRITO SANTO. KB reported that the last known colony of Heliconius nattereri (in steep humid primary forest in a reserve near Santa Teresa) was normal in April (14 seen in 1 day) and the adjacent ithomiine pocket was rich in species and individuals.

BRAZIL, PARA. KB reported that in the Serra dos Carajas (mineral area being opened for development in southern Para), good soils and perennial water, plus topographic prominence of over 500 m, gives shelter to very abundant butterflies including the farthest-east known colonies of SW Amazon species such as Napeogenes pherantes, Melinaea marsaeus, Patia (=Dismorphia) orise, Phyciodes aveyrona, and Catacore kolyma pasithea. A Univ. of Campinas ecology field course recently related all resident Heliconiini to their larval foodplants. EG has begun an extensive quantitative study on butterfly astro-orientation and migration in this region. A trip to the interior of the Ilha de Marajo (mouth of the Amazon) by KB in February confirmed the limited but marked endemism in certain butterfly groups (Ithomiinae, Heliconiini, Troidini) in strongly floodable forests near Anajas.

BRAZIL, AMAZONAS. The "Minimum Critical Size of Ecosystems" project is studying, over a 30-year period, areas of 1, 10, 100, and 1000 ha in formerly unbroken, low-productivity wet forest 80 km north of Manaus. The dynamics of butterfly communities (studied by KB) over the first four years, including before, during and after isolation of 15 reserves of various sizes, will be published in 1985 (Acta Amazonica, supplement) along with a complete list of the 375 species observed up until November 1984. Of these 375 species, at least 85 are found only on new edges or open area; indeed, most of the "common" species encountered in the disturbed habitats that neotropical collectors usually work in are just beginning to arrive on the recently overgrown new edges of the experimental reserves; they seem to be completely absent even from the canopy of the original forest, which may show only 20-40 species seen in a full day's monitoring, mostly understory (shade-loving) satyrines and ithomiines. Skippers are so rarely encountered that they are not being monitored; only Hyalothrysis and Enthaeus are regular visitors to understory flowers.

ECUADOR, PICHINCHA. BH collected 153 species in 6 days in April at Tinalandia (730 m elev.), a resort nestled in one of the last remnants of rainforest on the Western slope of the Andes, located 17 km E of Santo Domingo de los Colorados: Papilionidae (4 sp), Pieridae (15 sp), Nymphalidae (87 sp, including 14 Satyrinae, 13 Heliconiini, 20 Ithomiinae, 3 Danaeinae), Lycaeninae (7 sp), Riodininae (9sp), and Hesperidae (31 sp).

ECUADOR, TUNGURAHUA. BH collected 79 species in 3 days in April in the Baños area (1820 m elev.): Pieridae (12 sp), Nymphalidae (43 sp, including 6 Heliconiini, 6 Ithomiinae, 8 Satyrinae), Riodininae (9 sp), and Hesperidae (15 sp).

ECUADOR, NAPO. BH collected 136 species in 4 days in late April (27-30) in the Tena/Puerto Napo areas (520 m elev.): Papilionidae (8 sp), Pieridae (6 sp), Nymphalidae (69 sp, including 7 Heliconiini, 23 Ithomiinae, 16 Satyrinae), Lycaeninae (9 sp), Riodininae (30), and Hesperidae (14 sp).

UNUSUAL RECORDS OF EUREMA NICIPPE IN SOUTH-CENTRAL CALIFORNIA

The Sleepy Yellow (Eurema nicippe Cramer) is a common resident butterfly in much of southern California where it typically occurs in desert scrub or in selected urban areas where Cassia is grown as a garden ornamental. The species has been found in every month of the year in Los Angeles and San Diego Counties though the normal flight period in these areas is February to November. Numerous authors have reported that Nicippe can be found throughout the year in the deep South of the United States.

In Kern County, California, nicippe appears to be a well established "resident" in the Cinco-Cantil region of the Mojave Desert at the south end of the Sierra Nevada. Large stands of the larval foodplant (Cassia armata Watson) occur adjacent to well watered alfalfa fields,

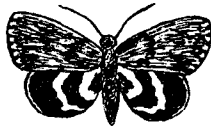
creating favorable conditions suitable for this species to breed in large numbers. Thousands of adults can be found during the warmer months in alfalfa fields, visiting wet spots or flying in the desert scrub. It is not surprising that adults of both sexes stray into the southern Sierra or even into the southern San Joaquin Valley.

Strays have been found in the southern Sierra of Kern County with regularity in recent years, especially in the Bodfish-Piute Mountains region. Other records include the desert side of Walker Pass (8 August 1977) and Kern Canyon north of Kernville (16 March 1978). Unusual heavy summer rains fell in the southern Sierra and northern Mojave Desert in 1984. Afterwards, many nicippe were observed and captured on the eastern slope of the Sierra near Lone Pine and Mt. Whitney at Lone Pine Creek and at Lubken Canyon Road in Inyo County (8 Sept. 1984) by Al Rubbert and myself.

1984 also marked the first time nicippe was observed to stray into the San Joaquin Valley. Kern County records include a specimen taken 6 miles south of Greenfield adjacent to Hwy. 99 (25 August); 2 males in an alfalfa field at Edison (20 Sept.) and a "sight record" for Bakersfield on 8 Dec. The northernmost record for the region was a female taken on lantana in Tulare, Tulare County (16 Sept.).

Can Eurema nicippe overwinter as an adult in the southern Sierra and adjacent Mojave Desert at Cinco and Cantil? There is evidence that it can, even though temperatures in these areas regularly drop to -4 or -5 degrees C. at night during December and January. At Cinco, adults were already common by March 9, 1984. Some were fresh but most were well worn, suggesting many had been on the wing for several weeks or even months. In the southern Sierra, March records of adults from north of Kernville and at Bodfish (7 March 1978) suggested the possibility of hibernating adults. This possibility was confirmed when a fresh winter form female hibernator was collected along the Kern River in a green grassy swale at Richbar (1200') in Kern Canyon, Kern County on the 25th of January, 1985!

Ken Davenport
Bakersfield, CA.



WHAT'S IN A NAME?

Catocala ilia is variously known as the Ilia Underwing, the Wife, and the Beloved Underwing. A patient of mine recently named her son Ilia (pronounced I-lee-a), which, she explains, is Greek for Louis.

Does this suggest that C. ilia should be known as "Loeey's Underwing"? (Common Names Committee: please take note.)

Dave Winter

From The Editor's Desk

June Preston



Another Season Summary is finished. The 1984 Summary is a little shorter than the one for 1982. I hope there are not too many errors, although some typos do have a propensity for slipping through despite multiple proofreadings. Then, after the NEWS has been printed, they stick out as if they had been typed with red ink! I want to thank all the contributors for sending in their records and my special thanks to the Zone Coordinators for all the effort expended in correlating those records. Our 5 new Coordinators have done themselves proud and we have reports from all 13 Zones this year, although there are a number of States and Provinces, especially in the Mid Continent area, that are conspicuous by the absence of any data from them. The Season Summary Revisions committee did their job well and they too should be congratulated. Any comments regarding the Summary will still be welcomed by the Editor.

Following are some more of the letters that have reached my desk.

Dear June,

I am a charter member of the Society and am 86 years old, but have had to stop field collecting although I'm still very interested in butterflies. I haven't seen much in the NEWS about butterfly habits and it might interest some members to know that some butterflies have two habits that are common to birds. Some species have territories they defend and some also have special perching places. Regarding territories, I have found

that Oeneis macounii like to inhabit Jack Pine ridges and as Jack Pines grow in poor soil they don't grow close together, so leave little glades and open spots. If you enter a glade you will often find a pair of macounii there, but only one pair! If they are scared off they will frequently return in about 5 minutes, and if another macounii enters the glade they will chase it out. As to perching places, I was walking along a river bank where there was a small flood plain with grass about waist high. I saw a Lycaena helloides sitting on a piece of grass that was about 6 inches taller than the rest of the grass. I took a swipe at it and netted it, but upon examination it was worn and had a large piece torn out of one hind wing, so I let it go and proceeded on my way along the river. About half an hour later I came back through the flood plain and saw a butterfly perched on the same taller piece of grass. I caught it also but it turned out to be the same damaged helloides I'd caught earlier, easily recognized by the torn hindwing. I can only conclude that some butterflies have their own perching places which they keep coming back to.

C. S. Quelch
Toronto, Ontario, Canada

Dear June:

Once again, someone must bring up the subject of a Universal Uniform Specimen Quality Code to be used in trading Lepidoptera. Year after year, I am continually frustrated by the quality of butterfly specimens that I receive in the mail, from collectors and dealers alike. Of course, I don't claim to be an exception, as specimens with minor wing and scale damage sometimes do slip through, especially after a good hunt. What is distressing, however, is the second-class "junk" that some people are passing off in the "A" quality range!

Might I suggest a simple and sensible system to denote the quality of specimens so there won't be any ill feelings at the receiving end. I have been using this system myself for about two years, with no complaints about quality as stated.

A simple letter and number code combination is suggested. Letter codes denote wing quality, number codes denote scale quality. Thus we have the following system: A = perfect intact wings, B = minor chips, tears, splits (no more than 2 total), C = obvious or numerous chips, tears, splits. 1 = perfect fresh scales, 2 = minor flight wear, small rub or scratch, 3 = obvious wear, large rubs or scratches.

A universal uniform specimen quality code for a specimen that is "flown" (but scales are good), and with a small chip is "B-2". "Day-one" fresh butterflies are "A-1". Specimens with noticeable chips but fresh scales are "C-1".

I might like to add that absolutely no specimens that fall in the "C" or "3" range should be kept for exchange purposes unless they are rare species, or forms of interest that are hard to get. This is a sad waste of small lives.

Also, "Bred" specimens should always be so noted, in addition to the quality code. Many reared specimens are exposed to artificial conditions in the lab or home and may not accurately represent the species as found wild in nature.

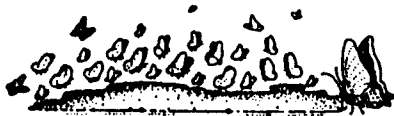
Antennae are always a pain. I usually try to include spare antennae from "reject" specimens, if there are any broken antennae prior to mailing.

Also be careful about staples! A lot of collectors try to secure specimens in envelopes by stapling around the specimen. I can't think of a worse practice, especially after I received a specimen with a staple through the wings (no doubt accidentally). Collectors should get into the habit of padding envelopes with tissue paper cut to the size and shape of the envelope. Putting more than one specimen into an envelope, including pairs, is also a bad habit. Specimens can slide together and cause damage. Placing labels into the envelope causes similar damage.

Lastly, any specimen that has dried with wings inverted, is utterly useless (especially skippers)! These should be trashed, or kept for personal study.

Hopefully, this letter will receive some serious attention from anyone who sends specimens through the mail. If anyone can come up with a more sensible system, let's hear it! At least, collectors and dealers should state in advance what they mean by "A" or "A minus", and lets have no more one-tailed Graphium marcellus under the guise of A-minus!

Yours truly,
Harry Pavulaan



Forthcoming Meetings

URBANA-CHAMPAIGN 1985, 36th ANNUAL MEETING INFORMATION UPDATE

Plans for the 36th Annual Meeting of The Lepidopterists' Society, which will be held at the University of Illinois, Urbana-Champaign, IL on 18-21 July 1985 as announced in the Jan./Feb. 1985 issue of the NEWS, are proceeding on schedule. Interest from Society members in the forthcoming meeting is high, and representatives from the Illinois State Museum, Illinois Natural History Survey, and University of Illinois are preparing to present the real Illinois (not the corn and soybean hyp) to you.

The speakers for "A Tribute to Stanley B. Fracker and Edna Mosher: Symposium on Lepidopterous Larvae and Pupae" will be John E. Rawlins (U. of Texas), Robert C. Lederhouse (Rutgers), Donald J. Harvey (U. of Texas), and George L. Godfrey (Illinois Natural History Survey). The subject matter to be covered in the program will include larval and pupal characters in "lep" systematics--historically and phylogenetically, larval defense mechanisms, sound sensory setae, and biotic hatching structures--noctuids and notodontids contrasted. This symposium is being planned to appeal to the broad interests of the Society's members, and all talks will be interestingly illustrated. Masterminding the affair will be Fred W. Stehr (Michigan State U.), beholder of extra prolegs.

It is hoped that a second symposium on behavioral/ecological aspects of butterfly oviposition will materialize.

Transportation to Urbana-Champaign should present no difficulty. The Twin Cities of Illinois are at the junction of highways I-74 and I-57 and are serviced by several airlines, Britt, Ozark, Piedmont, and Mississippi Valley. In addition, Amtrak has a major line into Champaign on its run from Chicago to New Orleans.

Air-conditioned dormitory accommodations in the Illinois Street Residence Halls are being offered through the University of Illinois. The rooms are within easy walking distance of the meeting site and close to "College Town." Cafeteria facilities (breakfast, lunch, and dinner--all that you can eat) will be available at the dorm complex for all members attending the meeting. Those registered at the dorm may purchase a discount meal plan. Individual meals for dorm guests and meals for attendees not staying at the dorm will cost slightly more. "College Town" offers an interesting array of eating establishments if you lean to the "Let's try that place!" approach.

If you prefer off-campus lodging, you may select from over 12 motels within a 1-mile radius of the University of Illinois, but most are not within easy walking distance of the meeting site on campus. Champions of camping should note that the closest camping facilities that have any appeal to collectors are near Mahomet (10 mi. W of Champaign), Monticello (25 mi. SW of Champaign), and Penfield (30 mi. NE of Urbana). Additional information regarding these sites and other off-campus accommodations will be available in the near future.

Pre-registration packets that will include all pertinent information and costs relating to the meeting will be available April 30, 1985. If you want to receive the pre-registration materials, please cut off the form on p. 11 of the Jan./Feb. 1985 issue of the NEWS and send it to George L. Godfrey, Illinois Natural History Survey, Natural Resources Building, 607 E. Peabody, Champaign, IL 61820 USA. If you misplaced the last issue, simply write to Godfrey for your pre-registration information.

1985 PACIFIC SLOPE SECTION ANNUAL MEETING

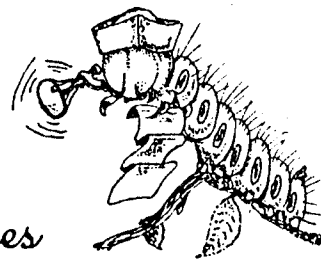
The 32nd Annual Meeting of the Pacific Slope Section of The Lepidopterists' Society will be held June 14 to 16, 1985 at Camp Norris (elev 7000'), Barton Flats, San Bernardino Mtns., California. Cost will be \$50.00 per person, including registration, all meals (Friday dinner through Sunday lunch), lodging in dormitory style cabins, coffee breaks, use of a heated and night-lighted swimming pool with life guard, etc., etc.

Formal meeting announcements and registration materials will be sent to all active Western members of The Lepidopterists' Society. All other interested persons should contact the Meeting Chairman, Julian Donahue, Natural History Museum, 900 Exposition Blvd., Los Angeles, California, 90007. Phone (213) 744-3364 Tues. through Sat.

Camp Norris is near the headwaters of the Santa Ana River in a Western Coniferous Forest and Barton Flats is a classic locality for Papilio bairdii. It is only 26 miles NE of Redlands or 2 hours E of Los Angeles. Besides the formal program there will be opportunities for both diurnal and nocturnal on-site collecting.

1985 XERCES SOCIETY MEETING

The Entomology Division of the Peabody Museum of Natural History at Yale University will host the 1985 Xerces meetings, beginning on Wed. evening, June 5th with a social and including symposia and paper sessions all day Thurs., Fri. and Sat. Field excursions are contemplated for Sun., June 9. Housing and meals will be provided in the Yale residential colleges and meetings will be in the Museum complex. For further information contact Program Chairman Charles L. Remington, Dept. of Biology, Yale University, New Haven, Connecticut 06520.



Notices

BACK ISSUES AVAILABLE

A new list of available back issues of the NEWS and JOURNAL and their prices has just been prepared. For a free copy send SASE to the Secretary or to Ron Leuschner, Publications Coordinator (addresses on outside back cover).

MOVING?

Don't let any of your publications get lost or delayed. Please remember to notify the Secretary or the Treasurer as soon as you know your new address. And don't forget to tell the Secretary your new telephone number(s) if you want this information to appear in the Membership Directory.

CHECK OUT YOUR NEW MAILING LABEL

The Society has now finished transferring its label-printing functions from Allen Press to a computer in the office of the Secretary; the new labels were inaugurated on the 1985 dues notice mailing last December, and on issues of the JOURNAL and NEWS mailed in 1985. The new labels, which now include your membership number, are generated from the same database used to compile the Membership Directory, thus ensuring consistency and uniformity in names and addresses. Since computers can also ensure the consistent perpetuation of errors, please notify the Secretary immediately if you ever detect an error in your mailing label.

ATTENTION COMMERCIAL MEMBERS

The Society's mailing list of approximately 1500 members and 150 subscribers/exchange recipients may be rented for approved commercial purposes, in either Cheshire or Avery (self-adhesive) formats. The list is updated monthly with additions and corrections. For the first time, names of former members are also available. (Reminder: the Membership Directory may not be used for commercial purposes; unauthorized commercial users of the Directory will be billed as if they had rented the entire mailing list, currently \$90.) For further details and an order form write the Secretary, Julian P. Donahue, Natural History Museum, 900 Exposition Boulevard, Los Angeles, CA 90007, U.S.A.

BUTTERFLY WATCHING IN BRITAIN

A two-week guided tour to many of central and southern England's best butterfly localities will be offered as an official post-meeting event of the Xerces Society. Bob Pyle will lead the tour along with several resident British experts. Butterfly watching, photography and conservation management will be emphasized. The dates are June 10-24, 1985, and the approximate cost \$2900 per person, from New York. Wicken Fen, Monks Wood, Syon Park and many other famous butterfly spots will be visited and lodging will be mostly in country inns. For details, write JOURNEYS!, 822 NW 23rd Ave., Portland, Oregon 97210, attn. Carmine Castro.

ICZN

The Commission, as of 3 Dec. 1984, gives 6 months notice of the possible use of its plenary powers in the following case, published in the Bulletin of Zoological Nomenclature, volume 41, part 4, on 30 November, 1984 and would welcome comments and advice from interested zoologists. Correspondence should be addressed to the Secretary, R. V. Melville, c/o British Museum (Natural History), Cromwell Road, London, SW7 5BD, ENGLAND, within 6 months of the above date, using reference number ITZN 11/5 A.N.(S.) 132.

Case No. 2115: Report on Glyphipterix Hübner, [1825] (Insecta, Lepidoptera).

The following opinions have been published by the International Commission on Zoological Nomenclature in the Bulletin of Zoological Nomenclature, volume 41, part 4, on 30 November, 1984; Reference number ITZN 59. The commission regrets that it cannot supply separates of Opinions.

Opinion No.

- 1283 (p. 227) LYMANTRIIDAE Hampson, [1893] given nomenclatural precedence over ORGYIIDAE Wallengren, 1861 and DASYCHIRIDAE Packard, 1864 (Insecta, Lepidoptera).
- 1287 (p. 238) Sesia andrenaeformis Laspeyres, 1801 (Insecta, Lepidoptera) conserved.

WEST SUMATRAN HUNTING SAFARI

If any members are visiting West Sumatra, Hunting and/or Collecting Moths can be arranged. Please contact: Widago, JLN, Pahlawan no 35., Padang Panjang, West Sumatra, Indonesia. We supply Motor Car, Mercury lamp, and Generator. \$40 US, one night.

JOURNAL UPDATE

The next issue of the JOURNAL of the Lepidopterists' Society, Vol 38, No 3, should be mailed sometime in April.

EASTERN STATES BUTTERFLY ATLAS

A limited number of atlases detailing the county by county occurrence of butterflies of the eastern 31 states are available from Paul Opler, 5100 Greenview Court, Fort Collins, CO. 80525. Please provide a self-addressed label and \$1.20 to defray postage.

HAVE YOU PAID YOUR 1985 DUES?

Don't forget that your dues for 1985 should have been paid by January 1. Members who have not paid their dues by February 15 are considered to be in arrears, and will not receive any Society publications mailed after that date until dues have been paid (By-Laws, Article I). Members still in arrears on December 31 will be dropped from membership for non-payment of dues (Constitution, Article III). Bear in mind that your Society is a membership organization, not just a magazine subscription; if you do not wish to renew your membership, the courtesy of a letter of resignation to the Treasurer will be greatly appreciated, besides saving the Society the cost of mailing reminder notices.



Research Notices

● NEOTROPICAL DALCERIDAE WANTED for revision of this small, uncommon family related to Limacodidae. Immatures especially wanted. Will borrow, buy, or trade; Please write before sending specimens. Scott Miller, c/o Entomology, NIIB 127, Smithsonian Inst'n, Washington, DC 20560, USA.

● I am compiling data about butterfly species that are potential candidates for inclusion on New York State's Endangered, Threatened and Special Concern species lists. I would appreciate any information or comments you may have regarding the distribution, abundance, habitat, etc., both past and present, especially concerning New York State, about the following species: Pieris virginianensis, Lycaena hylus, Incisalia henrici, Glaucopsyche lygdamus, Calephelis borealis, Speyeria idalia, Charidryas gorgone, Phyciodes batesii, Pyrgus centaureae wyandot, Euphyes dion and Euphyes bimacula. All sources of information will be acknowledged. Jeffrey Glassberg, 39 Highland Ave., Chappaqua, NY 10514.

● NATHALIS IOLE IN THE NORTH: Please send recent or previously unreported records of N. iole taken north of 36°, with sex and date. Research on this species' northward movements is being concluded and any additional records will be appreciated and acknowledged. Bob Pyle, Swede Park, 369 Loop Road, Gray's River, WA 98621, USA.

● Now gathering county-level occurrence data for Oklahoma and North Dakota butterflies. Information will be used for an atlas in preparation. Contributors will be provided a copy of the atlas when complete. Send data or write for forms to Paul A. Opler, 5100 Greenview Ct., Fort Collins, CO 80525. Also, I am continuing to update county records for the eastern 31 state atlas of butterflies. Additional records to the previous atlas will be welcomed.

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 VICKERY, V.R.: CHANGE city from Pin court to Ste. Anne de Bellevue.
 WILLIAMS, A.: 2059 Market St., #40, San Francisco, CA 94114, USA.
 YOUNG, MICHAEL E.: 256 Clear Falls Circle, Eagle River, AK 99577, USA.

ZAKHAROFF, NICK: CHANGE "Apartado 6488" to "Lista Correo".
 ZEBOLD, ROGER A.: 30123 Rock Creek Drive, Southfield, MI 48076, USA.
 ZIRLIN, HARRY: 39-60 54th St., #10-E, Woodside, NY 11377, USA.

The Market Place

Buy • Sell • Exchange • Wants



Items submitted for inclusion in this section are dealt with in the manner set forth on page 8 of the Jan/Feb 1985 NEWS. Please note that in keeping with the guidelines of the Society, henceforth no mention of any species on any threatened or endangered species list will be accepted in these items. Items will be accepted from members only and will be printed only once unless entry in the maximum of two successive issues is requested. Please keep items short. A maximum of 100 words is allowed. SASE calls for a 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.

WANTED TO BUY OR EXCHANGE: The Butterfly Book by Lewis, and The Butterfly Book by Smart; Any condition. Michael Zappalorti Sr., 123 Androvette Street, Staten Island, N.Y. 10309.

WANTED: Cocoons of saturnids, pupae of sphingids, for breeding; also papered, unset moths of Syntomidae, Arctiidae, Limacodidae, Sphingidae and Catocalae of USA. I offer in exchange: Living pupae of UK species; also papered unset butterfly and moth species of UK, Malaya, Kenya, etc. Ms. S. J. Patel, St. Dabeoc's Cottage, North Stow, nr. Bury St. Edmunds, Suffolk, England. Letters by return airmail appreciated. All letters answered.

FOR SALE: 7 ♂ and 3 ♀ *Papilio bairdii* form *brucei* from Nebraska, 100 pair of *Boloria selene nebraskensis* and 10 ♂ and 6 ♀ *Chlosyne theona thekla*. All specimens are A1+, reared and with full data. For prices contact Jim Reiser, 1511 David Drive, Lincoln, Nebraska 68504 or phone (402) 467-1457 anytime after 5 p.m.

FOR SALE: Pupae & Cocoons of *Actias luna*, *Philosamia cynthia*, *Automeris io*, *Callosamia promethea*, *C. angulifera*, *Eaeles imperialis*, *Hyloicus chersis*, *Cressonia juglandis*, *Hemaris diffinis*, *Paonis myops*, *Hyloicus drupiferarum*, and *Papilio glaucus*. Please send stamped envelope for price requests. Also taking preorders for pupae of *Hyloicus luscitiosa* for fall 1985. Anyone wanting this species please write with name, address and number desired. Orders will be filled on a first come, first served basis until the supply runs out. Price information on response and/or trades can be worked out. Mr. William Houtz, RD#4, Box 477, Pine Grove, PA 17963.

WANTED: Villiard, P., 1969: Moths and how to rear them. Funk & Wagnell, N.Y. 1st and 2nd (1975) edns. Purchase or exchange for Iconographia Heterocerorum Sinicorum, 4 vols (152 colour plates), 1979-83. Dr. H. Inoue, 311-2, Bushi, Iruma City, Saitama Pref., Japan.

FOR SALE OR EXCHANGE: *E. atala florida* for other desirable Nearctic Lepidoptera, esp. Lycaenidae. Limited Supply. Frank R. Bodnar, Box 52, Spring Church, PA 15686.

FOR SALE: Manitoba lepidoptera. Price list on request. I have ceased collecting and am getting rid of papered material at much reduced prices. Stephen Quelch, 20 Highgate Rd., Toronto, Ontario M8X 2B2 Canada.

FOR SALE: Pupae of *Anisota stigma*, *A. virginensis*, *Citheronia sepulchralis* and ova of some *Catocala*. Only SASE will get Price List. Also Books Wanted: Complete set of "THE CERAMBYCIDAE OF NORTH AMERICA" by E. Gorton Linsley. John M. Coffman, Rt. 1, Box 331, Timberville, VA 22853.

WANTED: All Zerene species in short or long series for research. Unsorted catches, including seconds, preferred. Will pay cash or exchange for western butterflies or moths. Please, quote prices, also if exchange is desired. John Reichel, Box 789, Revelstoke, B.C. V0E 2S0, Canada.

FOR EXCHANGE: Wild collected cocoons of *Samia cynthia* from *Ailanthus* stands in Brooklyn, New York. WANTED: Cocoons or pupae of other Saturniidae, esp. *Callosamia*, *Eupackardia*, *Rothschildia*, *Hemileuca*, *Automeris*, western *Hyalophora* and *Citheronia*. Jeff Ingraham, 55 Eighth Ave., Brooklyn, New York 11217.

WANTED: *Catocala* ova, any species, will purchase. Also desire your price list for papered *Catocala* ssp. John Jordison, 414 North 61st St., Omaha, Nebraska 68132.

WANTED: Livestock of *Prepona*, *Agrias* and *Doxocopa*; any stages required. Also contact with researchers and breeders of these Neotropical Nymphalidae. Is anyone working with these at the moment or has anything been published recently? Any information welcome, particularly foodplant data and any other details helpful to the breeder. All correspondence will be answered. Please write to: John McFeely, 90 Stonechat Avenue, Abbeydale, Gloucester, GL4 9XF ENGLAND.

EMPLOYMENT WANTED: Will do time-lapse photography, of all stages of living Lepidoptera. 3½ years experience! Contact RANDY ROBINETTE - 201 Powell Mill Rd., Apt. F-205, Spartanburg, S.C., 29301. U.S.A. Phone no; 803-574-1979.

EXCHANGE: A1 reared pairs of *Speyeria diana* from WV for other rare U.S. species of butterflies. Also, have a few A1 *Eumacrus atala* specimens for trade. Send offers to Tom Allen, P.O. Box 132, Elkins, WV 26241.

FOR SALE: Large, perfect specimens of *Q. croesus lydius* ♂, *T. hypolitus hypolitus* ♀, *Bunaea aslauga* ♀, *T. agrippina* ♂, Madagascan dragonflies, and much more. Very inexpensive. SASE please. Will trade for African Saturniidae, *Brahmaea wallichii*, *Arsenura* sp., *Teinopalpus imperialis* ♀, *Alcidis* sp., *Copiopteryx* sp. Allen Zack, U.S. Geological Survey, GPO Box 4424, San Juan, Puerto Rico 00936 Tel. 809 790-0777.

FOR SALE OR TRADE: Wild collected cocoons of *H. cecropia*. S.A.S.E. for prices. James C. Romer, 7991 E. Hampden Circle, Denver, Colorado 80237.

WANTED; Cocoons of *C. angulifera*. Can trade cocoons of *S. cynthia* or purchase outright. Paul R. Heath, 1205 Nofftz Dr., Champaign, IL 61821.

WANTED: Items philatelic pertaining to the Lepidoptera. Particularly postally used covers and meters needed as well as some stamps. Will trade or buy outright. Send holdings or list by Scott number for best offer to Vincent P. Lucas, 800 Brick Mill Run #301, Westlake, Ohio 44145, USA.

WANTED: Specimens of *Ritra aurea*, Druce (Lycaenidae) from Malaya, also ♂ specimens of *Dryas delila*, Fabricius (Heliconidae) the solid-orange, un-marked form only, from Jamaica. Thomas L. Ashby, Jr., 667 Halifax Dr., Mobile, Al., 36609.

FOR SALE OR EXCHANGE: *C. angulifera*, *C. promethea* cocoons; *Pieris virginianensis* pupae; ova of *Catocala relictata*, *cara*, *concupbens*, *residua*, *obscura*, *ilia*, *refectia*, etc. Frank R. Bodnar, Box 52, Spring Church, Pa. 15686

FOR SALE: Cocoons of *A. polyphemus*, *A. luna*, *H. cecropia*, and *C. promethea*. Send S.A.S.E. to Daniel E. Bantz, 12524 7 1/2 Mile Road, Caledonia, WI 52108 USA.

MEMBERS' COMMERCIAL NOTICES

MRS. CHANG PI-TZU, P.O. Box 873 Taipei, Taiwan (Formosa), R.O.C. Selling Formosan butterflies, moths, beetles, dragonflies, cicadas, spiders, centipedes, wasps and other dried insects, living cocoons and ova of *Papilio* and Saturniidae moths, sexual mosaics and color aberrations of Lepidoptera, seashells and colored skeletonized Magnolia leaves for collectors, educational aids, art work and museum gift shops.

DICK BURGESS, 21, Morecambe Terrace, Great Cambridge Road, Edmonton, London. N18 1LA. England. Seek to buy pupae of the larger species of American butterflies and Moths, in large or small numbers, or contact with anybody who would rear commercially for me. I also have pupae of European and Asian species for sale or exchange.

S. ELLIS, TBC, PO Box 14, Reigate, Surrey RH2 9PW, England. *Parnassius subspecies*. Write for list of *apollo*, *glacialis*, *mnemosyne*, from Europe. Over 40 species. Send \$1 for airmail return postage (check/cash).

B. L. GOOI, P.O. Box 9, Tanah Rata, Cameron Highlands, Malaysia. Selling all species of Malaysian (& occasionally, other Southeast Asian) butterflies, beetles, moths and other insects--many unclassified, for collectors and dealers, and also for artwork. Specializing in montane species of Lycaenids and beetles, both macro- and micro-species. Livestock supply of butterflies, pupae and beetles. For sale or exchange, I would like to have morphos, all colorful S. American butterflies, large beetles and bird-eating spiders. Also used postage stamps. Please write for free list. All letters answered.

JOHN McFEELY, 90 Stonechat Avenue, Abbeydale, Gloucester, GL4 9XF ENGLAND. WANTED: Reliable livestock breeders worldwide to supply newly established UK based specialist breeder/supplier. Top prices will be paid for first class live material. Please write with details of what you can offer now and for the rest of 1985, and give details of what you expect to have available in 1986 and any future livestock plans. All correspondence will be answered.

MICHAEL K.P. YEH, P.O. Box 470, Ipoh, Malaysia. 1985 new catalogue. Send Cash \$2.00 to cover postage. Lists of livestock, cocoons, beetles, butterflies, exotic insects, photography etc. Reasonably priced. Ova-Phasmida.

THOMAS GREAGER, R.D. #6 Box 56-B, Greensburg, Pennsylvania 15601. Worldwide Lepidoptera and Coleoptera for sale. Free price list sent upon request.

ADAM M. COTTON, 54, Doi Saket Gao Road, Tambon Wat Get, Chiang Mai 50000, THAILAND. Selling, wholesale only, papered butterflies, moths, beetles, insects, and arthropods of Thailand, A1 or A1B as required. All with data. Wholesale buyers will be sent full price list on request. Top quality specimens at lowest prices.

ENTOMOLOGICAL CLEARING HOUSE INC. P.O. Box 778, Hales Corners, WI 53130, Phone: 414-679-0805. Offering worldwide selection of rare and common butterflies, moths, and other insects. New arrivals include such rarities as *Papilio homerus*, *Eurytides zonaria*, *Papilio cacaica orientalis*, *Papilio ascolius*, and *P. ascolus daguanus*. Pairs of *Papilio erostratus* and *Anaea nobilis* from El Salvador. *Armandia thaidina*, *Papilio elwesi* and *P. elwesi calverieri* and other rare *Parnassius* and *Colias* from China and U.S.S.R. As always, E.C.H. will take your collection or accumulation of material that you wish to dispose of in trade or buy outright.

TRANSWORLD BUTTERFLY COMPANY (LS), Apartado 6951, San Jose COSTA RICA, Central America. Offices in Britain. Special! Rare *parnassius* list, many subspecies; *apollo*, etc. (request!). Regular catalog covers collections, wide selection of worldwide butterflies, over 250 European spp listed and 45 morphoidae listed. Small orders welcome! Mastercard accepted! Send \$1 CHECK/BILL FOR LATEST CATALOG or \$6 CHECK FOR 12 MONTHLY MAILINGS. New Spring Catalog includes \$20 coupon! State your interests please.

NUTHA SIEW, 92 Leboh Raya Perajurit 2, Ipoh Garden East, Ipoh, Malaysia. Lepidoptera and Coleoptera, Phasmidae, exotic insects. Dealer, Coll., Sell.



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DEADLINES: Material for the Jan/Feb issue should reach the NEWS EDITOR by Dec 1 of the previous year, and that for the Mar/Apr issue by Feb 15, for the May/June issue by Apr 1 and for the July/Aug issue by May 1, the Sept/Oct issue by Aug 15 and the Nov/Dec issue by Oct 15. Reports for the SEASON SUMMARY must reach the ZONE COORDINATORS listed on the front cover no later than the 5th of January. NEWS EDITOR is June Preston, 832 Sunset Dr, Lawrence, KS 66044, USA. RIPPLES EDITOR is Jo Brewer, 257 Common St, Dedham, MA 02026, USA.

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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, Eric Metzler, 1241 Kildale Square North, Columbus, OH 43229, USA, the full dues for the current year (\$18.00 US), together with mailing address and a note about areas of interest in the Lepidoptera; student membership (must be certified) \$12; sustaining membership \$25; life membership \$250. 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 must be sent to the TREASURER, Eric Metzler, address above, and only when the changes are permanent or long-term.

Information on membership and other aspects of the Society must be obtained from the SECRETARY, Julian P. Donahue, Natural History Museum of Los Angeles County, 900 Exposition Blvd., Los Angeles, CA 90007, USA. Please notify him of any additions or changes in telephone numbers or areas of interest for publication in the membership directory.

Manuscripts submitted for publication in the JOURNAL are to be sent to Dr. Thomas D. Eichlin, EDITOR, JOURNAL of the Lepidopterists' Society, Insect Taxonomy Laboratory, 1220 "N" Street, Sacramento, CA 95814, USA. 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, USA.

CATALOGUE/CHECKLIST OF THE BUTTERFLIES OF AMERICA NORTH OF MEXICO (Memoir No. 2), Lee D. Miller & F. Martin Brown: includes references to original descriptions and location of type specimens. Members and subscribers, \$10 cloth, \$5 paper; non-members, \$17 cloth, \$8.50 paper, postpaid.

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, \$6; non-members, \$10, postpaid.

1984 MEMBERSHIP DIRECTORY (current to November 1984). Biennial directory of members and their addresses, with geographic and interest indices. Not available for commercial use. (NEWS #6 for 1984). \$5.00 postpaid.

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 SECRETARY or to the PUBLICATIONS COORDINATOR.